US010202266C1

(12) EX PARTE REEXAMINATION CERTIFICATE (11730th)

United States Patent

Thomas et al.

(10) Number: US 10,202,266 C1

(45) Certificate Issued: *Sep. 18, 2020

(54) **LOW PROFILE COMPACT TOOL CARRIERS**

(71) Applicant: **Vermeer Manufacturing Company**, Pella, IA (US)

(72) Inventors: **Brad Thomas**, Pleasant Hill, IA (US); **Louis Hartke**, Pella, IA (US); **Greg Langenfeld**, Bettendorf, IA (US); **Matt Hutchinson**, Pella, IA (US)

(73) Assignee: **VERMEER MANUFACTURING COMPANY**, Pella, IA (US)

Reexamination Request:
No. 90/014,269, Feb. 26, 2019

Reexamination Certificate for:

Patent No.:	**10,202,266**
Issued:	**Feb. 12, 2019**
Appl. No.:	**15/704,685**
Filed:	**Sep. 14, 2017**

(*) Notice: This patent is subject to a terminal disclaimer.

Related U.S. Application Data

(63) Continuation of application No. 15/062,801, filed on Mar. 7, 2016, now Pat. No. 9,975,750, which is a continuation of application No. 14/691,649, filed on Apr. 21, 2015, now Pat. No. 9,321,386.

(60) Provisional application No. 62/118,860, filed on Feb. 20, 2015.

(51) **Int. Cl.**

E02F 3/34	(2006.01)
B66F 9/075	(2006.01)
B66F 9/065	(2006.01)
E02F 9/20	(2006.01)
B66F 9/22	(2006.01)
B66F 9/06	(2006.01)
B60P 1/48	(2006.01)
E02F 3/96	(2006.01)
E02F 9/08	(2006.01)

(52) **U.S. Cl.**
CPC ***B66F 9/065*** (2013.01); ***B60P 1/483*** (2013.01); ***B66F 9/06*** (2013.01); ***B66F 9/0759*** (2013.01); ***B66F 9/07572*** (2013.01); ***B66F 9/07577*** (2013.01); ***B66F 9/22*** (2013.01); ***E02F 3/3405*** (2013.01); ***E02F 3/3414*** (2013.01); ***E02F 3/96*** (2013.01); ***E02F 9/08*** (2013.01); ***E02F 9/205*** (2013.01)

(58) **Field of Classification Search**
None
See application file for complete search history.

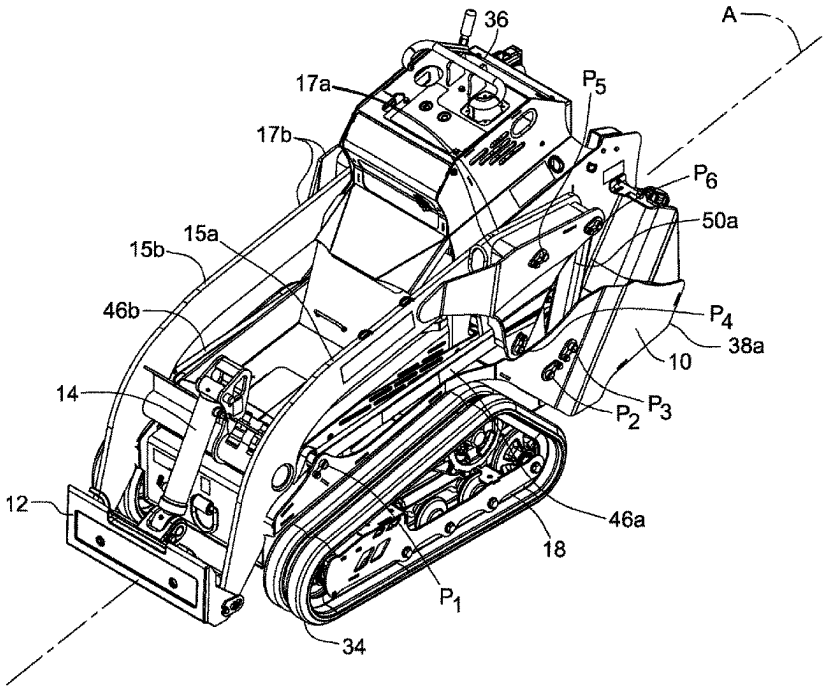
(56) **References Cited**

To view the complete listing of prior art documents cited during the proceeding for Reexamination Control Number 90/014,269, please refer to the USPTO's public Patent Application Information Retrieval (PAIR) system under the Display References tab.

Primary Examiner — Russell D Stormer

(57) **ABSTRACT**

Compact tool carriers having a loader mounted to a low-profile mainframe are disclosed. In some embodiments, the pivot points of the mainframe about which the loader is pivoted are low relative to the mainframe to reduce the mainframe size and to lower the center of gravity to improve the stability of the compact tool carrier during use.



EX PARTE REEXAMINATION CERTIFICATE

THE PATENT IS HEREBY AMENDED AS INDICATED BELOW.

Matter enclosed in heavy brackets [ ] appeared in the patent, but has been deleted and is no longer a part of the patent; matter printed in italics indicates additions made to the patent.

AS A RESULT OF REEXAMINATION, IT HAS BEEN DETERMINED THAT:

The patentability of claims **1**, **4**, **5** and **6** is confirmed.

Claims **17** and **18** are cancelled.

Claims **7**, **14**, **19** and **25** are determined to be patentable as amended.

Claims **8**, **9**, **20**, **21**, **22**, **23** and **27**, dependent on an amended claim, are determined to be patentable.

New claim **28** is added and determined to be patentable.

Claims **2**, **3**, **10**, **11**, **12**, **13**, **15**, **16**, **24** and **26** were not reexamined.

7. A loader apparatus for standing or walk-behind operator control and comprising:

a control station having operator controls toward a rear of the loader apparatus;

a loader adapted to carry a tool, the loader being moveable between a down position and a vertically raised position;

a rigid frame for supporting the control station and the loader, the rigid frame having a first side, a second side, a top, and a bottom;

a first linkage pivotally attached to the first side of the rigid frame at a first pivot point and pivotally attached to the loader at a second pivot point;

an actuator pivotally attached to the first side of the rigid frame at a third pivot point and pivotally attached to the loader at a fourth pivot point; and

a second linkage pivotally attached to the first side of the rigid frame at a fifth pivot point and pivotally attached to the loader at a sixth pivot point, wherein, as the loader travels from the down position to the vertically raised position, the first, second, third, fourth, fifth and sixth pivot points are (1) disposed between the operator controls and the bottom of the rigid frame and/or (2) disposed forward of the control station*; and*

wherein the loader apparatus does not include an operator's seat.

14. A loader apparatus for standing or walk-behind operator control and comprising:

a loader adapted to carry a tool;

a loader support for supporting the loader, the loader support having a first side and a second side, the loader being free from direct attachment to the loader support;

a *first* linkage pivotally attached to the first side of the loader support at a first pivot point and pivotally attached to the loader at a second pivot point;

an actuator pivotally attached to the first side of the loader support at a third pivot point and pivotally attached to the loader at a fourth pivot point;

a second linkage pivotally attached to the first side of the loader support at a fifth pivot point and pivotally attached to the loader at a sixth pivot point; and

a drive mechanism for propelling the loader apparatus over a supporting surface, the drive mechanism having a drive sprocket defining a rotational axis R, the rotational axis R and a bottom of the first side of the loader support being separated by a vertical distance D5, the loader support comprising a forward-most pivot point with the first pivot point or the third pivot point being the forward-most pivot point, a vertical distance between the rotational axis R and the forward-most pivot point being less than 0.75 D5*, the loader apparatus having a bottom at which the drive mechanism contacts the supporting surface, the rotational axis R and the bottom of the loader apparatus being separated by a vertical distance D1, the rotational axis R and each of the first, third and fifth pivot points being separated by a vertical distance, the vertical distance between the rotational axis R and the first pivot point being less than 1.5 times D1, the vertical distance between the rotational axis R and the third pivot point being less than 1.5 times D1, and the vertical distance between the rotational axis R and the fifth pivot point being less than 1.5 times D1.*

19. A loader apparatus for standing or walk-behind operator control and comprising:

a machine structure comprising a mainframe and an upper frame, the machine structure defining a barrier guard;

a control station having operator controls toward a rear of the loader apparatus;

an actuator pivotally attached to the mainframe;

a front linkage pivotally attached to the mainframe;

a rear linkage pivotally attached to the mainframe; **[**and**]**

a loader adapted to carry a tool, the loader being moveable between a down position and a vertically raised position, the front linkage *being pivotally attached to the mainframe at a first pivot point and* being pivotally attached to the loader at a front linkage pivot point, *the front linkage pivot point being a second pivot point,* the rear linkage *being pivotally attached to the mainframe at a third pivot point and* being pivotally attached to the loader at a rear linkage pivot point, *the rear linkage pivot point being a fourth pivot point, the actuator being pivotally attached to the mainframe at a fifth pivot point and being pivotally attached to the loader at a sixth pivot point,* wherein:

in the down position, the front linkage pivot point is (1) disposed within the barrier guard and/or (2) disposed forward of the barrier guard; and

as the loader travels from the down position to the vertically raised position, the rear linkage pivot point is (1) disposed within the barrier guard and/or (2) disposed forward of the barrier guard*; and*

a drive mechanism for propelling the loader apparatus over a supporting surface, the drive mechanism having a drive sprocket defining a rotational axis R, the loader apparatus having a bottom at which the drive mechanism contacts the supporting surface, the rotational axis R and the bottom of the loader apparatus being separated by a vertical distance D1, the rotational axis R and each of the first, third and fifth pivot points being separated by a vertical distance, the vertical distance between the rotational axis R and the first pivot point being less than 1.5 times D1, the vertical distance between the rotational axis R and the third pivot point being less than 1.5 times D1, and the vertical distance between the rotational axis R and the fifth pivot point being less than 1.5 times D1.

25. A loader apparatus for standing or walk-behind operator control and comprising:

a machine structure comprising a mainframe and an upper frame, the machine structure defining a barrier guard;

a control station having operator controls toward a rear of the loader apparatus;

an actuator pivotally attached to the mainframe;

a *first* linkage pivotally attached to the mainframe; **[**and**]** *a second linkage pivotally attached to the mainframe;*

a loader adapted to carry a tool, the loader being moveable between a down position and a vertically raised position, the *first* linkage *being pivotally attached to the mainframe at a first pivot point and* being pivotally attached to the loader at a *first* linkage pivot point, *the first linkage pivot point being a second pivot point, the actuator being pivotally attached to the mainframe at a third pivot point and being pivotally attached to the loader at a fourth pivot point, the second linkage being pivotally attached to the mainframe at a fifth pivot point and being pivotally attached to the loader at a sixth pivot point,* wherein:

in the down positon, the *first* linkage pivot point is disposed within the barrier guard; and

as the loader travels from the down position to the vertically raised position, the *first* linkage pivot point is (1) disposed within the barrier guard and/or (2) disposed forward of the barrier guard*; and*

a drive mechanism for propelling the loader apparatus over a supporting surface, the drive mechanism having a drive sprocket defining a rotational axis R, the loader apparatus having a bottom at which the drive mechanism contacts the supporting surface, the rotational axis R and the bottom of the loader apparatus being separated by a vertical distance D1, the rotational axis R and each of the first, third and fifth pivot points being separated by a vertical distance, the vertical distance between the rotational axis R and the first pivot point being less than 1.5 times D1, the vertical distance between the rotational axis R and the third pivot point being less than 1.5 times D1, and the vertical distance between the rotational axis R and the fifth pivot point being less than 1.5 times D1.

28. The loader apparatus as set forth in claim 1 wherein the loader apparatus does not include an operator's seat.

* * * * *

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
90/014,269	02/26/2019	10202266	Vermeer - 266 Reexam	3337

76656 7590 08/20/2020

Patent Docket Department
Armstrong Teasdale LLP
7700 Forsyth Boulevard
Suite 1800
St. Louis, MO 63105

EXAMINER	
STORMER, RUSSELL D	

ART UNIT	PAPER NUMBER
3993	

MAIL DATE	DELIVERY MODE
08/20/2020	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

DO NOT USE IN PALM PRINTER

(THIRD PARTY REQUESTER'S CORRESPONDENCE ADDRESS)

JAMES W. MILLER (ATTORNEY)

120 6TH STREET SUITE 2310

MINNEAPOLIS, MN 55402

EX PARTE REEXAMINATION COMMUNICATION TRANSMITTAL FORM

REEXAMINATION CONTROL NO. *90/014,269* .

PATENT UNDER REEXAMINATION *10,202,266* .

ART UNIT *3993* .

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above identified *ex parte* reexamination proceeding (37 CFR 1.550(f)).

Where this copy is supplied after the reply by requester, 37 CFR 1.535, or the time for filing a reply has passed, no submission on behalf of the *ex parte* reexamination requester will be acknowledged or considered (37 CFR 1.550(g)).

Notice of Intent to Issue Ex Parte Reexamination Certificate	**Control No.** 90/014,269	**Patent Under Reexamination** 10,202,266	
	Examiner RUSSELL D STORMER	**Art Unit** 3993	**AIA Status** Yes

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

1. ☑ Prosecution on the merits is (or remains) closed in this *ex parte* reexamination proceeding. This proceeding is subject to reopening at the initiative of the Office or upon petition. *Cf.* 37 CFR 1.313(a). A Certificate will be issued in view of
   (a) ☑ Patent owner's communication(s) filed: 7/27/2020.
   (b) ☐ Patent owner's failure to file an appropriate timely response to the Office action mailed: _____.
   (c) ☐ Patent owner's failure to timely file an Appeal Brief (37 CFR 41.31).
   (d) ☐ The decision on appeal by the ☐ Board of Patent Appeals and Interferences ☐ Court dated _____
   (e) ☐ Other: _____.
2. The Reexamination Certificate will indicate the following:
   (a) Change in the Specification: ☐ Yes ☑ No
   (b) Change in the Drawing(s): ☐ Yes ☑ No
   (c) Status of the Claim(s):
      (1) Patent claim(s) confirmed: 1 and 4-6.
      (2) Patent claim(s) amended (including dependent on amended claim(s)): 7-9,14,19-23,25 and 27
      (3) Patent claim(s) canceled: 17-18.
      (4) Newly presented claim(s) patentable: 31.
      (5) Newly presented canceled claims: 28-30 and 32-38.
      (6) Patent claim(s) ☐ previously ☐ currently disclaimed: _____
      (7) Patent claim(s) not subject to reexamination: 2-3,10-13,15-16,24 and 26.
3. ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.
4. ☑ Note the attached statement of reasons for patentability and/or confirmation. Any comments considered necessary by patent owner regarding reasons for patentability and/or confirmation must be submitted promptly to avoid processing delays. Such submission(s) should be labeled: "Comments On Statement of Reasons for Patentability and/or Confirmation."
5. ☐ Note attached NOTICE OF REFERENCES CITED (PTO-892).
6. ☐ Note attached LIST OF REFERENCES CITED (PTO/SB/08 or PTO/SB/08 substitute).
7. ☐ The drawing correction request filed on _____ is: ☐approved ☐disapproved.
8. ☐ Acknowledgment is made of the priority claim under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐None of the certified copies have
   ☐been received.
   ☐not been received.
   ☐been filed in Application No. _____.
   ☐been filed in reexamination Control No. _____.
   ☐been received by the International Bureau in PCT Application No. _____.

   * Certified copies not received: _____.
9. ☐ Note attached Examiner's Amendment.
10. ☐ Note attached Interview Summary (PTO-474).
11. ☐ Other: _____.

All correspondence relating to this reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of this Office action.

/RUSSELL D STORMER/ Primary Examiner, Art Unit 3993	Conferees: /SC/ and /GAS/

cc: Requester (if third party requester)

Notice of Intent to Issue Reexamination Certificate

Response to Arguments

Patent Owner's presumption in the footnote on page 9 of the Remarks filed July 27, 2020 is correct. Claim 1 was inadvertently listed among the rejected claims in Ground 9.

Allowable/Patentable Subject Matter

Claims 1, 4-9, 14, 19-23, 25, 27, and 31 are found to be allowable or patentable over the prior art considered during this reexamination proceeding.

STATEMENT OF REASONS FOR PATENTABILITY AND/OR CONFIRMATION

The Examiner's statement of reasons for patentability and/or confirmation of the claims found patentable in this reexamination proceeding may be found on pages 18-20 of the Office action mailed May 28, 2020 and is incorporated herein by reference.

Correspondence

All correspondence relating to this *ex parte* reexamination proceeding should be directed:

By EFS: Registered users may submit via the electronic filing system EFS-Web, at https://efs.uspto.gov/efile/myportal/efs-registered

By Mail to: Mail Stop *Ex Parte* Reexam
Attn: Central Reexamination Unit
Commissioner for Patents
United States Patent & Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

By FAX to: (571) 273-9900
Central Reexamination Unit

By hand: Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

For EFS-Web transmissions, 37 CFR 1.8(a)(1)(i) (C) and (ii) states that correspondence (except for a request for reexamination and a corrected or replacement request for reexamination) will be considered timely filed if (a) it is transmitted via the Office's electronic filing system in accordance with 37 CFR 1.6(a)(4), and (b) includes a certificate of transmission for each piece of correspondence stating the date of transmission, which is prior to the expiration of the set period of time in the Office action.

Any inquiry concerning this communication or earlier communications from the Examiner, or as to the status of this proceeding, should be directed to the Central Reexamination Unit at telephone number (571) 272-7705.

/RUSSELL D STORMER/
Primary Examiner, Art Unit 3993

Russell D. Stormer
Patent Reexamination Specialist
Central Reexamination Unit
Art Unit 3993
(571) 272-6687

Conferee: /SC/

Conferee: /GAS/

Reexamination	Application/Control No.	Applicant(s)/Patent Under Reexamination
	90/014,269	10202266
	Certificate Date	Certificate Number
		C1

Requester Correspondence Address: ☐ Patent Owner ☑ Third Party
JAMES W. MILLER (ATTORNEY) 120 6TH STREET SUITE 2310 MINNEAPOLIS, MN 55402

LITIGATION REVIEW ☑	/rds/ (examiner initials)	10 August 2020 (date)
Case Name		Director Initials
Vermeer Manufacturing Company v. The Toro Company; U.S. District - Iowa Southern; 4:19cv50; OPEN - Motion to stay pending reexam 10/25/ 2019		GAS for JRC

COPENDING OFFICE PROCEEDINGS	
TYPE OF PROCEEDING	NUMBER
None	N/A

/RUSSELL D STORMER/ Primary Examiner, Art Unit 3993	

Bibliographic Data

Application No: 90/014,269

Foreign Priority claimed: ○ Yes ◉ No

35 USC 119 (a-d) conditions met: ☐ Yes ☑ No ☐ Met After Allowance

Verified and Acknowledged: /RUSSELL D STORMER/ (Examiner's Signature) ____ (Initials)

Title: LOW PROFILE COMPACT TOOL CARRIERS

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
02/26/2019	414	3993	Vermeer - 266 Reexam
RULE			

APPLICANTS

INVENTORS

10202266,

VERMEER MANUFACTURING COMPANY, PELLA, IA, UNITED STATES

THE TORO COMPANY (3RD PTY REQ.), BLOOMINGTON, MN, UNITED STATES

CONTINUING DATA

This application is a REX of 15704685 09/14/2017 PAT 10202266

15704685 is a CON of 15062801 03/07/2016 PAT 9975750

15062801 is a CON of 14691649 04/21/2015 PAT 9321386

14691649 has PRO of 62118860 02/20/2015

FOREIGN APPLICATIONS

IF REQUIRED, FOREIGN LICENSE GRANTED**

STATE OR COUNTRY

ADDRESS

Patent Docket Department
Armstrong Teasdale LLP
7700 Forsyth Boulevard
Suite 1800
St. Louis, MO 63105
UNITED STATES

FILING FEE RECEIVED

$12,000

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

U.S. Patent No. 10,202,266
Inventors: Brad Thomas et al. Art Unit: 3993
Reexamination Control No.: 90/014,269
Filed: February 26, 2019
Confirmation No.: 3337
For: LOW PROFILE COMPACT TOOL CARRIERS
Examiner: Russell D. Stormer

July 27, 2020

AMENDMENT AND RESPONSE TO OFFICE ACTION

TO THE COMMISSIONER FOR PATENTS,

SIR:

Please enter the following amendments and consider the following remarks in the above-identified *ex parte* reexamination of U.S. Patent No. 10,202,266.

I. AMENDMENTS TO THE CLAIMS

Please amend claim 7 as follows:

7. (Amended) A loader apparatus for standing or walk-behind operator control and comprising:

a control station having operator controls toward a rear of the loader apparatus;

a loader adapted to carry a tool, the loader being moveable between a down position and a vertically raised position;

a rigid frame for supporting the control station and the loader, the rigid frame having a first side, a second side, a top, and a bottom;

a first linkage pivotally attached to the first side of the rigid frame at a first pivot point and pivotally attached to the loader at a second pivot point;

an actuator pivotally attached to the first side of the rigid frame at a third pivot point and pivotally attached to the loader at a fourth pivot point; and

a second linkage pivotally attached to the first side of the rigid frame at a fifth pivot point and pivotally attached to the loader at a sixth pivot point, wherein, as the loader travels from the down position to the vertically raised position, the first, second, third, fourth, fifth and sixth pivot points are (1) disposed between the operator controls and the bottom of the rigid frame and/or (2) disposed forward of the control station; and

wherein the loader apparatus does not include an operator's seat.

Please amend claim 14 as follows:

14. (Amended) A loader apparatus for standing or walk-behind operator control and comprising:

a loader adapted to carry a tool;

a loader support for supporting the loader, the loader support having a first side and a second side, the loader being free from direct attachment to the loader support;

a first linkage pivotally attached to the first side of the loader support at a first pivot point and pivotally attached to the loader at a second pivot point;

an actuator pivotally attached to the first side of the loader support at a third pivot point and pivotally attached to the loader at a fourth pivot point;

a second linkage pivotally attached to the first side of the loader support at a fifth pivot point and pivotally attached to the loader at a sixth pivot point; and

a drive mechanism for propelling the loader apparatus over a supporting surface, the drive mechanism having a drive sprocket defining a rotational axis R, the rotational axis R and a bottom of the first side of the loader support being separated by a vertical distance D5, the loader support comprising a forward-most pivot point with the first pivot point or the third pivot point being the forward-most pivot point, a vertical distance between the rotational axis R and the forward-most pivot point being less than 0.75 D5, the loader apparatus having a bottom at which the drive mechanism contacts the supporting surface, the rotational axis R and the bottom of the loader apparatus being separated by a vertical distance D1, the rotational axis R and each of the first, third and fifth pivot points being separated by a vertical distance, the vertical distance between the rotational axis R and the first pivot point being less than 1.5 times D1, the vertical distance between the rotational axis R and the third pivot point being less than 1.5 times D1, and the vertical distance between the rotational axis R and the fifth pivot point being less than 1.5 times D1.

Please cancel claim 17.

Please cancel claim 18.

Please amend claim 19 as follows:

19. (Amended) A loader apparatus for standing or walk-behind operator control and comprising:

a machine structure comprising a mainframe and an upper frame, the machine structure defining a barrier guard;

a control station having operator controls toward a rear of the loader apparatus;

an actuator pivotally attached to the mainframe;

a front linkage pivotally attached to the mainframe;

a rear linkage pivotally attached to the mainframe; [and]

a loader adapted to carry a tool, the loader being moveable between a down position and a vertically raised position, the front linkage being pivotally attached to the mainframe at a first pivot point and being pivotally attached to the loader at a front linkage pivot point, the front linkage pivot point being a second pivot point, the rear linkage being pivotally attached to the mainframe at a third pivot point and being pivotally attached to the loader at a rear linkage pivot point, the rear linkage pivot point being a fourth pivot point, the actuator being pivotally attached to the mainframe at a fifth pivot point and being pivotally attached to the loader at a sixth pivot point, wherein:

in the down position, the front linkage pivot point is (1) disposed within the barrier guard and/or (2) disposed forward of the barrier guard; and

as the loader travels from the down position to the vertically raised position, the rear linkage pivot point is (1) disposed within the barrier guard and/or (2) disposed forward of the barrier guard; and

a drive mechanism for propelling the loader apparatus over a supporting surface, the drive mechanism having a drive sprocket defining a rotational axis R, the loader

apparatus having a bottom at which the drive mechanism contacts the supporting surface, the rotational axis R and the bottom of the loader apparatus being separated by a vertical distance D1, the rotational axis R and each of the first, third and fifth pivot points being separated by a vertical distance, the vertical distance between the rotational axis R and the first pivot point being less than 1.5 times D1, the vertical distance between the rotational axis R and the third pivot point being less than 1.5 times D1, and the vertical distance between the rotational axis R and the fifth pivot point being less than 1.5 times D1.

Please amend claim 25 as follows:

25. (Amended) A loader apparatus for standing or walk-behind operator control and comprising:

a machine structure comprising a mainframe and an upper frame, the machine structure defining a barrier guard;

a control station having operator controls toward a rear of the loader apparatus;

an actuator pivotally attached to the mainframe;

a first linkage pivotally attached to the mainframe; [and]

a second linkage pivotally attached to the mainframe;

a loader adapted to carry a tool, the loader being moveable between a down position and a vertically raised position, the first linkage being pivotally attached to the mainframe at a first pivot point and being pivotally attached to the loader at a first linkage pivot point, the first linkage pivot point being a second pivot point, the actuator being pivotally attached to the mainframe at a third pivot point and being pivotally attached to the loader at a fourth pivot point, the second linkage being pivotally attached to the mainframe at a fifth pivot point and being pivotally attached to the loader at a sixth pivot point, wherein:

in the down positon, the first linkage pivot point is disposed within the barrier guard; and

as the loader travels from the down position to the vertically raised position, the first linkage pivot point is (1) disposed within the barrier guard and/or (2) disposed forward of the barrier guard; and

a drive mechanism for propelling the loader apparatus over a supporting surface, the drive mechanism having a drive sprocket defining a rotational axis R, the loader apparatus having a bottom at which the drive mechanism contacts the supporting surface, the rotational axis R and the bottom of the loader apparatus being separated by a vertical distance D1, the rotational axis R and each of the first, third and fifth pivot points being separated by a vertical distance, the vertical distance between the rotational axis R and the first pivot point being less than 1.5 times D1, the vertical distance between the rotational axis R and the third pivot point being less than 1.5 times D1, and the vertical distance between the rotational axis R and the fifth pivot point being less than 1.5 times D1.

Please cancel claim 28.

Please cancel claim 29.

Please cancel claim 30.

Please insert new claim 31:

31. (New) The loader apparatus as set forth in claim 1 wherein the loader apparatus does not include an operator's seat.

Please cancel claim 32.

Please cancel claim 33.

Please cancel claim 34.

Please cancel claim 35.

Please cancel claim 36.

Please cancel claim 37.

Please cancel claim 38.

II. REMARKS

The Office issued a non-final Office action on July 19, 2019 with five Grounds of Rejection. Patent Owner responded in a Response and Amendment dated October 18, 2019. The Office issued another non-final Office action on December 6, 2019 withdrawing Grounds 2-4, maintaining Grounds 1 and 5 and newly presenting Grounds 6-8. Patent Owner responded in a Response and Amendment dated March 6, 2020. In the May 28, 2020 Office action, Grounds 6-8 are withdrawn, Grounds 1 and 5 are maintained and Grounds 9-11 are newly presented.

The Office action of May 28, 2020 has been carefully considered and the following remarks are made in response.

A. AMENDMENT SUMMARY

Claims 1, 4-9, 14, 19-23, 25, 27 and 31 are subject to reexamination. Patent Owner has amended claims 7, 14, 19, and 25. Claims 17, 18 are cancelled. Claims 28-30 and 32-38 added in Patent Owner's October 18, 2019 response and the March 6, 2020 response are cancelled. Claim 31 submitted in the March 6, 2020 response is pending. Claims 1-6, 19-27 and 31 are pending with claims 1, 4-9, 14, 19-23, 25, 27 and 31 being subject to examination in this reexamination proceeding. Claims 2, 3, 10-13, 15-16, 24 and 26 are not subject to the reexamination proceeding.

No new matter has been added. In particular, none of the amendments or new claims broadens the claim scope beyond the claims of the original patent.

Support for the added claims can be found throughout the specification of the '266 Patent. In particular, support for the amendment to claim 7 and new claim 31 may be found at column 1, lines 36-38 and Figure 3. Support for the amendments to independent claims 14, 19 and 25 may be found at column 4, lines 34-43; column 5, lines 13-27; and Figures 3 and 5 of the '266 Patent.

B. ALLOWABLE SUBJECT MATTER

The Office states on pages 1 and 20 of the Office action that claims 1[1], 4-6, 14, and 32-34 are allowable. Patent Owner has amended independent claim 7 by incorporating the recitations of allowable claim 32. Independent claim 14 is amended consistent with Patent Owner's March 6, 2020 response (i.e., in its allowable format). Independent claim 19 has been amended by incorporating the recitation of allowable claim 33. Independent claim 25 has been amended by incorporating the recitations of allowable claim 34. Independent claims 1, 7, 14, 19 and 25 and claims depending therefrom are in condition for allowance in view of the indication of allowable subject matter on pages 1 and 20 of the Office action.

In view that independent claims 7, 19 and 25 have been amended to incorporate allowable subject matter, it is unnecessary to comment on the rejections of independent claims 7, 19 and 25 and claims depending therefrom under 35 U.S.C. §102 and §103. Further, because dependent claims 30, 35, 37 and 38 have been cancelled, it is unnecessary to comment on the rejections of these claims under 35 U.S.C. §112(a) (Ground 10) or 35 U.S.C. §112(b) (Ground 11). Further, it is unnecessary to address the Examiner's comment regarding the "Statement of Support" set forth on page 3 of the Office action because claims 35-38 which the Office references therein have been cancelled. It is also unnecessary to address the Examiner's objections to the drawings set forth in pages 3-4 of the Office action because claims 30, 35, 37 and 38 which were said by the Office to necessitate the drawing objections have been cancelled.

Patent Owner does not concede the propriety of any of the objections and rejections set forth in the Office action and reserves the right to contest the rejections in one or more continuing patent applications.

---

[1] Patent Owner notes that claim 1 was listed as being rejected under Ground 9 on page 15 of the Office action. Because claim 1 was listed as allowed on pages 1 and 20 of the Office action and because Ramrod cannot be said to be prior art against claim 1 even under the Office's rationale because claim 1 does not recite a "barrier guard", as best understood by Patent Owner claim 1 was listed inadvertently by the Office under Ground 9. Appropriate correction is requested if this understanding is incorrect.

III. CONCLUSION

The Patent Owner respectfully requests reconsideration and allowance of all pending claims. The undersigned request a telephone call from the Examiner if a call might expedite allowance.

The Patent Owner authorizes the Commissioner to charge any fees which may be due in connection with this Amendment to Deposit Account No. 012384 in the name of Armstrong Teasdale LLP.

Respectfully submitted,

/Michael J. Vander Molen/

Michael J. Vander Molen
Reg. No. 57,274
Armstrong Teasdale LLP
7700 Forsyth Blvd., Suite 1800
St. Louis, Missouri 63105
(314) 621-5070

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
90/014,269	02/26/2019	10202266	Vermeer - 266 Reexam	3337

76656 7590 05/28/2020

Patent Docket Department
Armstrong Teasdale LLP
7700 Forsyth Boulevard
Suite 1800
St. Louis, MO 63105

EXAMINER	
STORMER, RUSSELL D	

ART UNIT	PAPER NUMBER
3993	

MAIL DATE	DELIVERY MODE
05/28/2020	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

DO NOT USE IN PALM PRINTER

(THIRD PARTY REQUESTER'S CORRESPONDENCE ADDRESS)

JAMES W. MILLER (ATTORNEY)
120 6TH STREET SUITE 2310
MINNEAPOLIS, MN 55402

EX PARTE REEXAMINATION COMMUNICATION TRANSMITTAL FORM

REEXAMINATION CONTROL NO. *90/014,269* .

PATENT UNDER REEXAMINATION *10202266* .

ART UNIT *3993* .

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above identified *ex parte* reexamination proceeding (37 CFR 1.550(f)).

Where this copy is supplied after the reply by requester, 37 CFR 1.535, or the time for filing a reply has passed, no submission on behalf of the *ex parte* reexamination requester will be acknowledged or considered (37 CFR 1.550(g)).

Office Action in Ex Parte Reexamination	Control No. 90/014,269	Patent Under Reexamination 10202266	
	Examiner RUSSELL D STORMER	Art Unit 3993	AIA (FITF) Status Yes

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

a. ☑ Responsive to the communication(s) filed on 06 March 2020.
   ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

b. ☐ This action is made FINAL.

c. ☐ A statement under 37 CFR 1.530 has not been received from the patent owner.

A shortened statutory period for response to this action is set to expire 2 month(s) from the mailing date of this letter. Failure to respond within the period for response will result in termination of the proceeding and issuance of an *ex parte* reexamination certificate in accordance with this action. 37 CFR 1.550(d). **EXTENSIONS OF TIME ARE GOVERNED BY 37 CFR 1.550(c).** If the period for response specified above is less than thirty (30) days, a response within the statutory minimum of thirty (30) days will be considered timely.

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

1. ☑ Notice of References Cited by Examiner, PTO-892.
2. ☑ Information Disclosure Statement, PTO/SB/08.
3. ☐ Interview Summary, PTO-474.
4. ☐ _____.

Part II SUMMARY OF ACTION

1a. ☑ Claims 1,4-9,14,19-23,25-27 and 30-38 are subject to reexamination.

1b. ☑ Claims 2-3,10-13,15-16,24 and 26 are not subject to reexamination.

2. ☑ Claims 17-18 and 28-29 have been canceled in the present reexamination proceeding.

3. ☑ Claims 1,4-6,14 and 32-34 are patentable and/or confirmed.

4. ☑ Claims 7-9,19-23,25,27,30-31 and 35-38 are rejected.

5. ☐ Claims _____ are objected to.

6. ☐ The drawings, filed on _____ are acceptable.

7. ☐ The proposed drawing correction, filed on _____ has been (7a) ☐ approved (7b) ☐ disapproved.

8. ☐ Acknowledgment is made of the priority claim under 35 U.S.C. 119(a)-(d) or (f).

   a) ☐ All b) ☐ Some* c) ☐ None of the certified copies have

   1 ☐ been received.

   2 ☐ not been received.

   3 ☐ been filed in Application No. _____.

   4 ☐ been filed in reexamination Control No. _____.

   5 ☐ been received by the International Bureau in PCT application No. _____.

   * See the attached detailed Office action for a list of the certified copies not received.

9. ☐ Since the proceeding appears to be in condition for issuance of an *ex parte* reexamination certificate except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte* Quayle, 1935 C.D. 11, 453 O.G. 213.

10. ☐ Other: _____

cc: Requester (if third party requester)

Notice of Pre-AIA or AIA Status

The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Brief Summary of the Prosecution History

A Request for *ex parte* reexamination of U.S. Patent 10,202,266 ("the '266 patent") was filed by a third party Requester on February 26, 2019.

An Order was mailed March 21, 2019, granting the reexamination of claims 1, 4-9, 14, 17-23, 25, and 27, and setting a two-month period for response. Reexamination of claims 2, 3, 10-13, 15, 16, 24, and 26 was neither requested nor ordered.

A non-final Office action was mailed on July 19, 2019 rejecting claims 1, 4-9, 14, 17-23, 25, and 27. Claims 2, 3, 10-13, 15, 16, 24, and 26 were not reexamined.

A response was filed by Patent Owner ("PO") on October 18, 2019 adding new claims 28 and 29, and submitting a multitude of declarations and exhibits.

An Information Disclosure Statement was filed October 24, 2019 to submit cited litigation documents from proceedings listed on the cover sheet/signature page.

A non-final Office action was mailed December 6, 2019, rejecting claims 1, 4-9, 14, 18-23, 25, and 27-29, and indicating claim 17 as patentable/allowable.

A response was filed by PO on March 6, 2020 amending claim 14, adding new claims 30-38, and cancelling claims 17, 18, 28, and 29.

This Office action addresses the current response.

Prior Art Documents Relied Upon in this Office Action

Ramrod Compact Mini Skid Loader Solutions ("Ramrod")

U.S. Patent No. 2,277,496 to Dorkins ("Dorkins")

U.S. Patent No. 2,298,450 to Baker ("Baker")

U.S. Patent Application Publication 2008/0197588 to Azure et al. ("Azure")

Reexamination Amendment

The Statement of Support for the amendments is insufficient as to new claims 35-38. Lines 64-66 of column 3 do not mention the barrier guard, the perimeter of the machine, or the relative positioning of the various pivot points recited in these claims. The Statement does not explain how figures 2 and 3 support the pivot point limitations.

See 37 C.F.R. 1.530(e).

Drawings

The drawings are objected to under 37 CFR 1.83(a) because they do not show the claimed subject matter.

Claim 30:

The drawings do not show the operator controls for propelling the apparatus forward and for raising and lowering the loader, and they do not show these controls as "hand operator controls" as set forth in the claim.

Claim 35:

The barrier guard is defined by the perimeter of the machine structure. The drawings do not show the front linkage pivot point to be disposed forward of the barrier

guard with the loader in the down position; nor do they show the rear linkage pivot point disposed forward of the barrier guard as the loader travels from the down position to the raised position as recited in the claim.

Claim 37:

The drawings do not show a front linkage pivot point, in the down position and when viewed from the side, disposed forward of the machine structure perimeter as recited in the claim.

The drawings further do not show, as the loader travels from the down position to the raised position, the rear linkage pivot point disposed forward of the machine structure perimeter and/or the actuator pivot point disposed forward of the machine structure perimeter as set forth in the claim.

Claim 38:

As noted above, the drawings do not show the actuator pivot point disposed forward of the machine structure perimeter.

Grounds of Rejection

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112(a):

> (a) IN GENERAL.—The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor or joint inventor of carrying out the invention.

The following is a quotation of the first paragraph of pre-AIA 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Ground 10 (new)

Claims 30, 35, 37, and 38 are rejected under 35 U.S.C. 112(a) or 35 U.S.C. 112 (pre-AIA), first paragraph, as failing to comply with the written description requirement. The claim contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor or a joint inventor, or for pre-AIA the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 30:

The subject '266 patent does not describe the operator controls for propelling the loader apparatus forward and for raising and lowering the loader as being "hand operator controls" as set forth in new claim 30.

Column 1, lines 60-64:

The carrier includes a control station having operator controls for propelling the compact tool carrier forward and for raising and lowering the loader. The control station is configured for remote operation or is mounted toward the rear of the compact tool carrier and is adapted to allow for standing or walk-behind operation.

Column 3, lines 32-45:

The compact tool carrier 5 includes a control station 36 (FIG. 1) which may include controls (not all controls being shown) for propelling the compact tool carrier 5 forward and/or for raising and lowering the loader 8. The control station 36 may be mounted toward the rear of the compact tool carrier 5 (i.e., opposite the attachment plate 12) and is generally adapted to allow for standing or walk-behind operation. As used herein, "standing operation" generally refers to operation in which the operator

stands on a platform attached to the compact tool carrier, but does not inherently preclude the presence of foot controls. On the other hand, "walk-behind operation" generally refers to operation in which the operator stands on the surface supporting the compact tool carrier 5. In the illustrated embodiment, the compact tool carrier 5 includes an operator platform 37 (FIG. 2).

Also see figures 1, 2, 3, and 6. Control station 36

As noted in lines 32-35 of column 1, the compact tool carrier "includes a control station 36 (FIG. 1) which may include controls (not all controls being shown) for propelling the compact tool carrier 5 forward and/or for raising and lowering the loader 8." However, the drawings do not show any controls and the description does not state that the controls would be hand operated, nor does it preclude the presence of other control such as foot pedals.

Claim 35:

There is no disclosure in the subject '266 patent for the front linkage pivot point being disposed forward of the barrier guard (or for it to be disposed within *and* forward of the barrier guard) when the loader is in the down position. Figure 2 shows the forward linkage pivot point P4 to be squarely within the barrier guard as defined by the perimeter of the machine structure. There is no description in the patent for the pivot point P4 to be disposed anywhere else.

The patent further lacks description for the rear linkage pivot point to be forward of the barrier guard as the loader moves from the down position to the raised position as claimed. Figures 2 and 3 show the rear linkage pivot point P6 to always be disposed

within the barrier guard as defined by the machine structure perimeter, and there is no disclosure that the pivot point P6 ever travels outside this perimeter.

Page 12 of the Response asserts support for claim 35 in column 3, lines 64-66, but support for the noted subject matter is not present.

Claim 37:

The drawings do not show a front linkage pivot point, in the down position and when viewed from the side, disposed forward of the machine structure perimeter. Figure 2 shows the pivot point P4 to be within the machine structure perimeter.

The drawings further do not show the rear linkage pivot point disposed forward of the machine structure perimeter. Figures 2 and 3 show the pivot point P6 to always be disposed within the machine structure perimeter.

The drawings further do not show the actuator pivot point disposed forward of the machine structure perimeter. Figures 2 and 3 show the pivot point P5 to always be disposed within the machine structure perimeter.

The Response asserts support for claim 37 in column 3, lines 64-66, but support for the noted subject matter is not present. Figures 2 and 3 do not support the noted claim language.

Claim 38:

The drawings do not show the actuator pivot point disposed forward of the machine structure perimeter. Figures 2 and 3 show the pivot point P5 to always be disposed within the machine structure perimeter.

This is a **New Matter** rejection.

The following is a quotation of 35 U.S.C. 112(b):
(b) CONCLUSION.—The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.

The following is a quotation of 35 U.S.C. 112 (pre-AIA), second paragraph:
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Ground 11 (new)

Claims 35, 37, and 38 are rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor, or for pre-AIA the applicant regards as the invention.

Claims 35 and 37 is indefinite as to how, when in the down position, the front linkage pivot point can be disposed both *within* the barrier guard and/or the machine structure perimeter and *forward* of the perimeter as recited.

Claims 35-38 are indefinite as to how or when, as the loader travels from the down position to the raised position, any of the rear linkage pivot point, the linkage pivot point, or the actuator pivot would ever be disposed both *within* and *forward* of the barrier guard or the machine structure perimeter.

Claim 38 lacks antecedent basis for the "barrier guard" recited in lines 13-14.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:[1]

[1] In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the statutory basis for the

> A person shall be entitled to a patent unless –
>
> (a)(1) the claimed invention was patented, described in a printed publication, or in public use, on sale or otherwise available to the public before the effective filing date of the claimed invention.

Ground 1 (repeated from previous Office action)

Claims 19-23, 25, and 27 are rejected under 35 U.S.C. 102(a)(1) as being anticipated by Ramrod.[2]

Ramrod (specifically the Ramrod Model 3300) discloses a loader apparatus for standing or walk-behind operator control (Ramrod 3300 mini skid steer operated by a standing operator) and comprising:

a machine structure comprising a mainframe (mainframe 1) and an upper frame (upper frame 2), the machine structure defining a barrier guard (barrier guard 7);

a control station having operator controls toward a rear of the loader apparatus (the control station in front of the operator who stands at the rear of the Ramrod 3300);

an actuator (actuator 6) pivotally attached to the mainframe (at 6m);

a front linkage (front linkage 4) pivotally attached to the mainframe (at 4m);

a rear linkage (rear linkage 5) pivotally attached to the mainframe (at 5m) and a loader (loader 3) adapted to carry a tool (the bucket), the loader being moveable between a down position and a vertically raised position, the front linkage (front linkage 4) being pivotally attached to the loader at a front linkage pivot point (at 41), the rear

---

rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

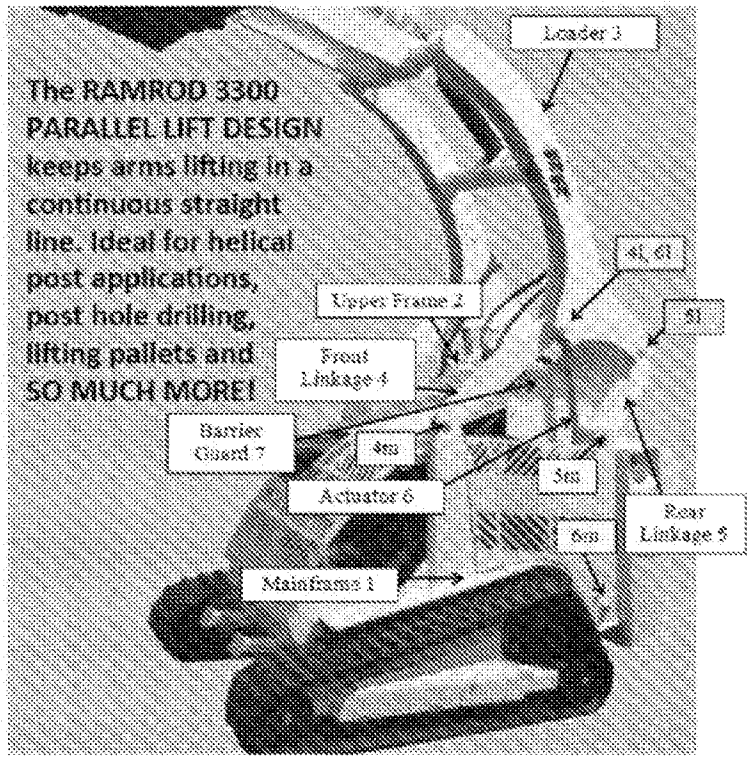
[2] The subject '266 patent is a continuation of U.S. Patent 9,975,750, which is a continuation of U.S. Patent 9,321,386, but the '266 patent is the first to introduce the "barrier guard." As such, claims reciting the barrier guard are entitled to only the September 14, 2017 filing date of the '266 patent. Ramrod has a publishing date of at least October 2016 and is prior art under 35 U.S.C. 102(a)(1).

linkage (rear linkage 5) being pivotally attached to the loader at a rear linkage pivot (at 51), wherein:

in the down position, the front linkage pivot point is (1) disposed within the barrier guard as broadly recited (41 as shown in Fig. 1) and/or (2) disposed forward of the barrier guard; and

as the loader travels from the down position to the vertically raised position, the rear linkage pivot point is (1) disposed within the barrier guard as broadly recited (51 as shown in Figs. 1-3) and/or (2) disposed forward of the barrier guard.

See the following figures reproduced from the Request.



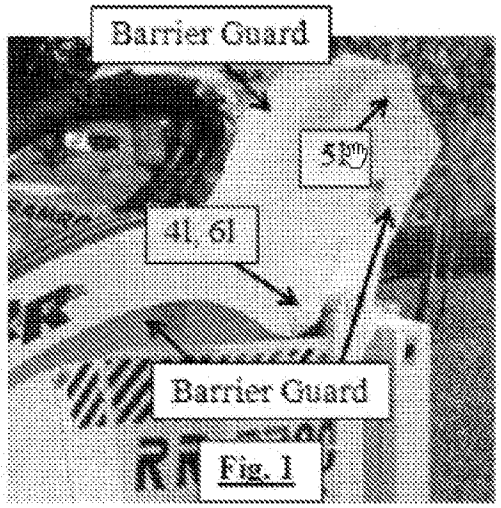


Fig. 1

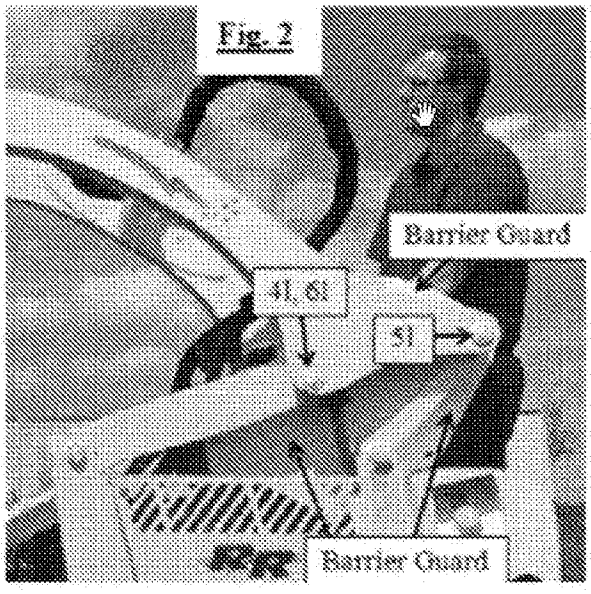


Fig. 2

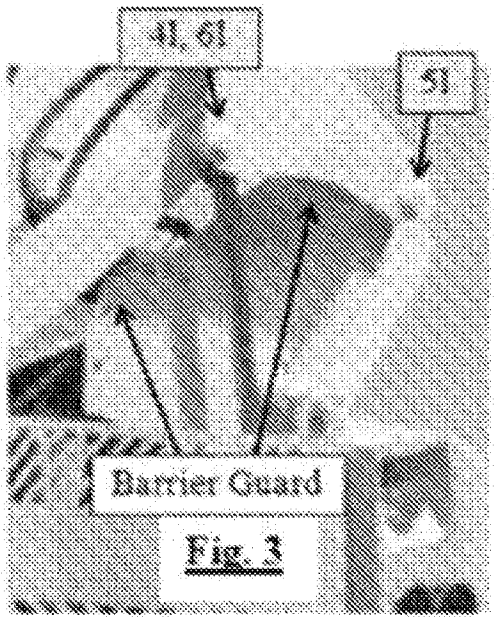


Fig. 3

With respect to claim 20, in the down position, the rear linkage pivot point is disposed within the barrier guard (51 as shown in Fig. 1).

With respect to claim 21, the actuator is pivotally attached to the loader at an actuator pivot point (at 61), wherein, in the down position, the actuator pivot point is (1) disposed within the barrier guard (61 as shown in Fig. 1) and/or (2) disposed forward of the barrier guard.

With respect to claim 22, the mainframe has a first side and a second side, the rear linkage, actuator and front linkage each being pivotally attached to the first side of the mainframe (the "first side" may be either the left or the right side of the Ramrod 3300 mini skid steer as the vertical lift linkage is duplicated on each side).

With respect to claim 23, the loader is free from direct attachment to the mainframe (Loader 3 is free to move fore-and-aft relative to mainframe 1 due to the vertical lift linkage).

With respect to claim 25, the loader apparatus for standing or walk-behind operator control (Ramrod 3300 mini skid steer for a standing operator) comprises:

a machine structure comprising a mainframe (mainframe 1) and an upper frame (upper frame 2), the machine structure defining a barrier guard (barrier guard 7);

a control station having operator controls toward a rear of the loader apparatus (the control station in front of the operator who stands at the rear of the Ramrod 3300);

an actuator (actuator 6) pivotally attached to the mainframe (at 6m);

a linkage (rear linkage 5) pivotally attached to the mainframe (at 5m); and

a loader (loader 3) adapted to carry a tool (the bucket), the loader being moveable between a down position and a vertically raised position, the linkage being pivotally attached to the loader at a linkage pivot point (at 51), wherein:

in the down positon, the linkage pivot point is disposed within the barrier guard as broadly recited (51 as shown in Fig. 1); and

as the loader travels from the down position to the vertically raised position, the linkage pivot point is (1) disposed within the barrier guard as broadly recited (51 as shown in Figs. 1-3) and/or (2) disposed forward of the barrier guard.

With respect to claim 27, the loader is free from direct attachment to the mainframe (Loader 3 is free to move fore-and-aft relative to mainframe 1 due to the vertical lift linkage).

Claim Rejections - 35 USC § 103

This application currently names joint inventors. In considering patentability of the claims the examiner presumes that the subject matter of the various claims was commonly owned as of the effective filing date of the claimed invention(s) absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and effective filing dates of each claim that was not commonly owned as of the effective filing date of the later invention in order for the examiner to consider the applicability of 35 U.S.C. 102(b)(2)(C) for any potential 35 U.S.C. 102(a)(2) prior art against the later invention.

The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

> A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

Ground 5 (repeated from previous Office action)

Claims 7-9 are rejected under 35 U.S.C. 103 as being unpatentable over Dorkins in view of Baker.

Dorkins discloses a loader apparatus comprising:

a control station having operator controls toward a rear of the loader apparatus (Dorkins, Fig. 2, the control station having the Dorkins loader controls);

a loader (Dorkins, Fig. 2, the left loader arm 26) adapted to carry a tool (Dorkins, Fig. 2, bucket 41), the loader being moveable between a down position and a vertically raised position;

a rigid frame for supporting the control station and the loader (Dorkins, Fig. 2, supporting frame 8), the rigid frame having a first side, a second side, a top, and a bottom;

a first linkage pivotally attached to the first side of the rigid frame at a first pivot point (Dorkins, Fig. 2, linkage 24 and pivot point 25) and pivotally attached to the loader at a second pivot point (Dorkins, Fig. 2, linkage 24 and pivot point 23);

an actuator pivotally attached to the first side of the rigid frame at a third pivot point (Dorkins, Fig. 2, cylinder 42 and pivot point 43) and pivotally attached to the loader at a fourth pivot point (Dorkins, Fig. 2, cylinder 42 and pivot point 45); and

a second linkage pivotally attached to the first side of the rigid frame at a fifth pivot point (Dorkins, Fig. 2, linkage 16 and pivot point 17) and pivotally attached to the loader at a sixth pivot point (Dorkins, Fig. 2, linkage 16 and pivot point 20), wherein,

as the loader travels from the down position to the vertically raised position, the first, second, third, fourth, fifth and sixth pivot points are (1) disposed between the operator controls and the bottom of the rigid frame and/or (2) disposed forward of the control station (Dorkins, Figs. 2 and 4, all six pivots 25, 23, 43, 45, 17, and 20, are disposed forward of the control station as the loader travels from the down position of Fig. 2 to the vertically raised position of Fig. 4).

The apparatus of Dorkins does not appear to be expressly described as being for standing for walk-behind operator control.

Baker teaches the provision of a platform 14 which permits the operator to stand while operating the controls of a tractor.

From this teaching, it would have been obvious to one of ordinary skill in the art at the time of the filing of the '266 patent to provide the loader of Dorkins with a platform for the operator to stand while operating the loader on in order to increase the versatility of the loader.

With respect to claim 8, the rigid frame defines a pocket toward a rear of the rigid frame to partially surround an operator (Dorkins, Fig. 2, the right fender (unnumbered) over the right front wheel 3 as shown in Fig. 2 and the corresponding left fender (unnumbered) over the left front wheel as shown in Fig. 5 of Dorkins form a pocket at least partially surrounding the operator).

As to claim 9, it would have been obvious for the operator platform on the loader of Dorkins as modified by Baker to be at least partially within the pocket to allow the standing operator to stand behind the steering wheel and loader controls.

Ground 9 (new)

Claims 1, 30, and 31 are rejected under 35 U.S.C. 103 as being unpatentable over Ramrod in view of Azure (newly cited).

Ramrod[3] (specifically the Ramrod Model 3300) discloses a loader apparatus configured for standing operator control and comprising:

[3] Elements of the Ramrod loader which correspond to the claim elements are identified using the same markings provided on pages 43-44 of the Request. The figures are reproduced on the following pages.

a loader 3, adapted to carry a tool, the loader being moveable between a down position and a vertically raised position;

a loader support 1 for supporting the loader, the loader support having a first side and a second side, the loader being free from direct attachment to the loader support;

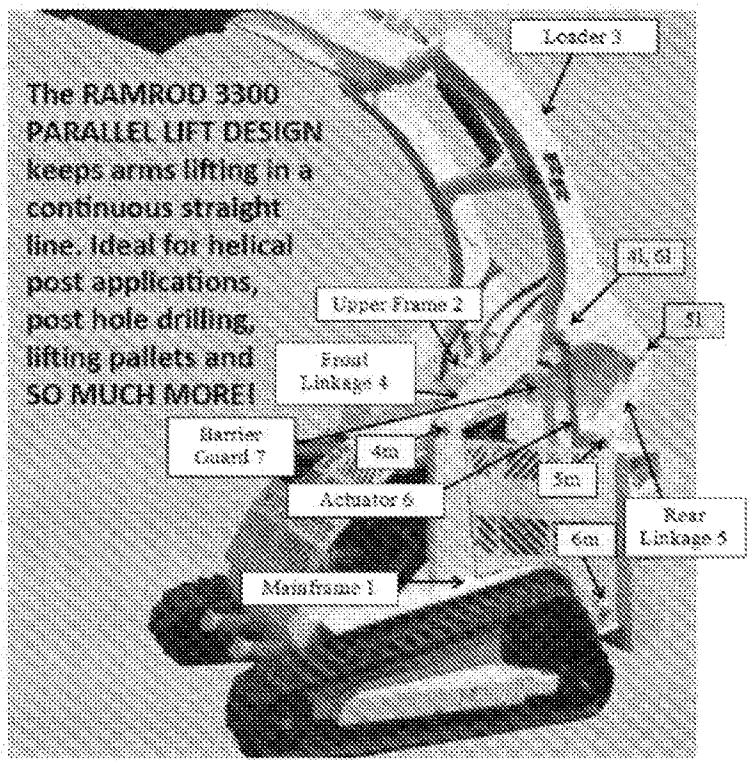
a first linkage 4 pivotally attached to the first side of the loader support at a first linkage pivot point 4m;

a second linkage 5 pivotally attached to the first side of the loader support at a second linkage pivot point 5m;

an actuator 6 pivotally attached to the first side of the loader support at an actuator pivot point 6m;

a control station (at the rear of the apparatus) having operator controls for propelling the loader apparatus forward and for raising and lowering the loader, the operator controls for propelling the loader apparatus forward and for raising and lowering the loader are hand operator controls (see marked-up figure 2); and

an operator platform (see operator standing) for standing operation of the operator controls of the control station, the operator platform being located toward a rear of the loader apparatus such that the first linkage pivot point 4m, second linkage pivot point 5m, and the actuator pivot point 6m being disposed below the operator controls of the control station as evidenced by the position of the operator's hands.



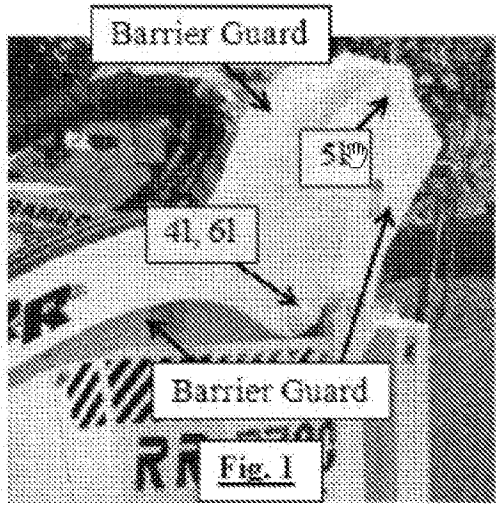


Fig. 1

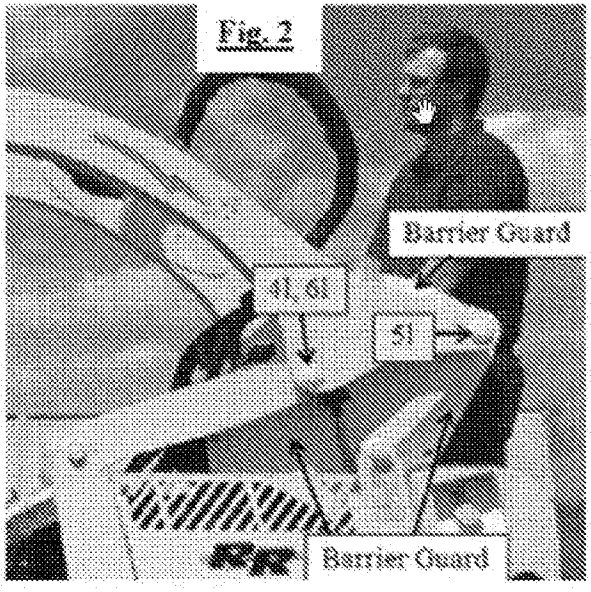


Fig. 2

The operator is shown in Ramrod to be standing while operating the apparatus, but the operator platform is not shown, and therefore it is not clear from the figures that the first linkage pivot point 4m, second linkage pivot point 5m, and the actuator pivot point 6m would be disposed forward of the operator platform.

Azure teaches a loader apparatus for standing or walk-behind operator control and having a platform assembly mounted to the rear of the apparatus. The assembly includes a platform 202 which is cantilevered from the loader apparatus and may be folded when not in use. Azure notes that the specific loader 100 is exemplary, and that the platform assembly could be utilized with other loaders or other types of working vehicles. See paragraphs 0025-26.

From this teaching it would have been obvious to those of ordinary skill in the art at the time of the invention to substitute or provide a cantilevered and foldable operator platform for the Ramrod loader apparatus such that the platform could be extended for use and folded against the apparatus when not in use. This would yield the predictable result of shortening the overall length of the apparatus for transport and/or obviate the need to add rear counterweights to the apparatus. See Azure, paragraph 0065.

Ramrod does not include a seat.

Patentable/Allowable Subject Matter

Claims 1, 4-6, 14, 32, 33, and 34 are found to be patentable/allowable over the prior art considered in this proceeding.

The following is a statement of reasons for the indication of patentable subject matter.

Patent Claim 1 is found to be patentable over the prior art for combination of elements recited, specifically including the limitation of the first and second linkage pivot points being disposed below the operator controls of the control station. Dorkins, the base reference used in the rejection of claim 1, teaches a loader having first and second

linkages (24, 16, respectively) pivotally attached to the loader support at pivot points 25, 17, respectively, as shown in figures 2-4. A control station includes hand-operated controls and foot pedals, both unlabelled. The foot pedals are shown in figure 5, and judging by the position of the operator's seat and other structural elements shown in figures 1-4, the pedals would be below the pivot points 25 and 17. Therefore, Dorkins does not meet the limitation of "the first linkage pivot point, second linkage pivot point, and the actuator pivot point being disposed below the operator controls of the control station" as set forth in claim 1.

Claim 14 has been amended to include the limitations of claim 17, which was indicated as containing allowable/patentable subject matter. The reasons for indicating allowable/patentable subject matter were set forth in the previous Office action and are incorporated by reference herein.

New Claims 33 and 34 recite the same limitations as those added to claim 14, and are allowable/patentable for the same reasons.

New Claim 32 depends from claim 7 and further recites "wherein the loader apparatus does not include an operator's seat."

Claim 7 is rejected by Dorkins in view of Baker. Dorkins discloses a loader assembly mounted to a tractor. Baker teaches a tractor having a seat which may be pivoted from a seating position to accommodate an operator while operating the tractor in a standing position on the platform 14. The seat of Baker is tiltable away from the steering wheel but is not disclosed as being removed from the tractor. A person of ordinary skill in the art considering Dorkins and Baker at the time of filing would not

have found it obvious to modify either reference to not include an operator's seat. None of the references considered during this proceeding teaches a work machine similar to Dorkins or Baker which does not include an operator's seat as recited in new claim 32.

Summary

Ground 1 is repeated without change from the previous Office action.

Ground 5 is repeated as to claims 7-9; the rejection of claim 1 and 4-6 has been deleted.

Grounds 2, 3, and 4 were not maintained in a previous Office action.

Grounds 6, 7, and 8 are not maintained in this Office action.

Grounds 9, 10, and 11 newly applied in this Office action.

With this Office action, claims 7-9, 19-23, 25, 27, 30, 31, 35, 36, 37, and 38 are rejected.

Claims 1, 4-6, 14, 32, 33, and 34 are found allowable or patentable over the prior art references considered in this proceeding.

Claims 17, 18, 28, and 29 are cancelled.

Claims 2, 3, 10-13, 15, 16, 24, and 26 remain outside the scope of this proceeding.

Response to Arguments

Applicant's arguments filed March 6, 2020 have been fully considered but they are not persuasive.

Ground 1

The argument that Ramrod is not prior art against the claims has been considered but is not persuasive.

In a recent precedential decision by the Patent and Trial & Appeal Board the evidence required during examination differs from that required in an IPR proceeding:

> As an initial matter, the previous board decisions involving the FDA Transcript were in IPR proceedings, 2 where "a petitioner is required to present evidence and arguments sufficient to show that it is reasonably likely that it will prevail in showing the unpatentability of the challenged claims." *Hulu, LLC v. Sound View Innovations, LLC*, IPR2018-01039, Paper 29 at 13 (PTAB Dec. 20, 2019) (precedential) (citing 35 U.S.C. §§ 312(a)(3), 314(a)).
> In contrast, the examination context involves a burden-shifting framework under which the USPTO can shift the burden to the applicant to come forward with rebuttal evidence or argument to overcome a prima facie case. *Ex Parte Albert*, 18 USPQ 2d 1325 (BPAI 1984) ("[T]he examiner met his burden of proof by setting forth the nominal publication date.... The Patent and Trademark Office is in no position to establish any thing beyond that. The burden is clearly upon appellants to disprove the prima facie publication date established by the examiner."); see also *In re Antor Media Corp.*, 689 F.3d 1282, 1287-89 (Fed. Cir. 2012) (establishing a burden-shifting framework regarding presumptive enablement of a prior art printed publication cited by an examiner); *In re Jung*, 637 F.3d 1356, 1362 (Fed. Cir. 2011) (establishing that the prima facie case is a procedural device that shifts the burden of production to the applicant and that the USPTO sets forth a prima facie case when its rejection satisfies the notice requirement of 35 U.S.C. § 132); *In re Rijckaert*, 9 F.3d 1531, 1532 (Fed. Cir. 1993) (establishing a burden-shifting framework regarding prima facie cases of obviousness); *In re Best*, 562 F.2d 1252, 1255 (CCPA 1977) (establishing a burden-shifting framework regarding rejections based on findings of inherency). Given the different legal frameworks and burdens for establishing a reference as prior art in IPR proceedings and examination, the Decision is not contrary to the Board decisions finding that a petitioner failed to meet its burden of showing that the FDA

> transcript is a printed publication. In other words, the framework set forth in the Hulu decision for IPR proceedings does not apply to examination.

See Appeal 2018-006082; Application 13/524,837; decision designated April 7, 2020.

Therefore, the initial burden of the Examiner was met in the first Office action mailed July 19, 2019 (see at least footnote #2 on page 3: "Ramrod has a publishing date of at least October 2016 and is prior art under 35 U.S.C. 102(a)(1)") and reiterated on page 30 of the Office action mailed December 6, 2019 ("[T]he fact that the Requester submitted Ramrod with the Request would appear to be ample evidence that the document was 'publically accessible' to those persons who were interested. See MPEP 2128.01.")

Accordingly, the burden has shifted to Patent Owner to disprove the prima facie publication date initially established in the first Office action, and to ***disprove*** the presumption and/or evidence established in the first and second Office actions that Ramrod was made available to those of ordinary skill in the art or interested members of the public.

The reference to MPEP 2129 is not understood since this section makes it clear that the mere filing of an IDS filed by an Applicant is not to be taken as an admission by Applicant that the references cited therein are prior art against Applicant's claims.

In fact, PO on page 28 misconstrues the statement in the previous Office action that "the fact that the Requester submitted the Ramrod reference with the Request would appear to be ample evidence that the document was 'publically accessible' to those person who were interested" to have something to do with filing an IDS:

> The Office cites MPEP §2128.01 for its conclusion that the fact that Toro cited Ramrod in an IDS is proof of its public accessibility (page 30 of the Office action). However, no portion of MPEP §2128.01 supports the Examiner's conclusion. In fact, MPEP §2129(IV) expressly states that citation of a document in an IDS is not an admission that the reference is prior art against the claims:
> Mere listing of a reference in an information disclosure statement is not taken as an admission that the reference is prior art against the claims.

The argument on pages 29-32 that claim 19 pre-dates Ramrod are not entirely understood.

On page 29 PO alleges "The Office contends on pages 28-29 of the Office action that the "barrier guard" recited in claim 19 must be a structural element rather than a perimeter as suggested in Patent Owner's October 18, 2019 Reponses," but no such contention appears in the Office action. PO is requested to clarify this statement.

The interpretation of the District Court as to the definition is noted, however, the Office is not bound by this definition.

As explained in MPEP 2258: "During reexamination ordered under 35 U.S.C. 304, and also during reexamination ordered under 35 U.S.C. 257, claims are given the broadest reasonable interpretation consistent with the specification and limitations in the specification are not read into the claims (*In re Yamamoto*, 740 F.2d 1569, 222 USPQ 934 (Fed. Cir. 1984)).

As noted in MPEP 2286, in *In re Trans Texas Holdings Corp.*, 498 F.3d 1290, 83 USPQ2d 1835 (Fed. Cir. 2007), the district court had issued its claim construction ruling (in a district court opinion) as to the definition of a term. The patent owner relied on that district court claim construction ruling in a reexamination proceeding, and argued that the Office was bound by that district court claim construction ruling, under the doctrine

of issue preclusion. The Federal Circuit stated that issue preclusion could not be applied against the Office based on a district court holding in an infringement proceeding, since the Office was not a party to that earlier infringement proceeding.

On page 29, PO argues further that "[n]othing in claim 19 suggests that the barrier guard includes structure other than the mainframe and upper frame which form the machine structure."

However, nothing in claim 19 suggests that the barrier guard is limited to the mainframe and the upper frame. The claim uses the term "comprising" and therefore does not preclude additional elements or structure for the recited elements. Claim 19 merely recites: "a machine structure comprising a mainframe and an upper frame, the machine structure defining a barrier guard," but the claim does not further define the mainframe or the upper frame. Despite the arguments on page 29, there is nothing in the claim to suggest that being "disposed within" or "disposed forward of" limits the barrier guard to the perimeter of the components. A perimeter of "components" is not even mentioned in the subject '266 patent. Instead, it is the perimeter of the machine structure which forms the barrier guard as described in column 4.

Therefore, claim 19 does not define the barrier guard as the perimeter of the machine structure, and such a definition cannot be imported from the specification or the drawing figures. Claim 19 does not preclude additional or different structure, and the barrier guard of Ramrod as identified in the rejection meets the claim language as broadly recited and under the broadest reasonable interpretation. Ramrod meets the limitations of:

> in the down position, the front linkage pivot point is (1) disposed within the barrier guard and/or (2) disposed forward of the barrier guard; and as the

> loader travels from the down position to the vertically raised position, the rear linkage pivot point is (1) disposed within the barrier guard and/or (2) disposed forward of the barrier guard.

Moreover, this interpretation is consistent with SAE J2752, incorporated by reference into the '266 patent, which states "the machine structure around the operator's area may be part of a barrier guard."

The arguments as to Figures 2 and 3 showing a portion of the perimeter of the machine structure are noted.

As noted in the previous Office action, the subject '266 patent defines the barrier guard as "the perimeter of the machine structure, defined by the projection of the profile onto a vertical plane passing through the longitudinal axis, forms a barrier guard as shown in FIGS. 2 and 3" in lines 1-4 of column 4. As also noted, this definition does not appear in the prior '386 or '750 patents. Therefore, only the '266 patent presents such a specific definition of what is it calls a "barrier guard."

PO argues that the drawings need only provide sufficient detail to show possession of the invention.

Unfortunately, the drawings of the '266 (namely figures 2 and 3) do not provide sufficient detail to suggest that the perimeter of the machine forms a "barrier guard" as it would be understood by those of ordinary skill in the art.

PO asserts that figures 2 and 3 of the '266 patent provide sufficient detail to show possession of the "barrier guard." The figures of the patents do not show the "barrier guard" as now defined. The entire perimeter of the machine is not shown in the drawings as evidenced by PO's inability to trace a complete outline around the portion

of the machine now argued to be a "barrier guard." See marked-up figures 2 and 3 on page 31 of the Remarks. Yet PO wishes to base the definition of the claimed "barrier guard" on the incomplete perimeter. How could one of ordinary skill in the art avoid infringing the claim when the "barrier guard" is defined as a projection of a profile onto a plane when the profile is not even shown?

There is nothing in the prior '386 and '750 patents to suggest that the entire machine periphery somehow forms a barrier guard. The "barrier guard" simply does not find support in the earlier '386 and '750 patents.

In the later-filed '266 patent, column 3, lines 62-64 state: "SAE J2752 is incorporated by reference into the '266 patent, which states 'the machine structure around the operator's area may be part of a barrier guard.'" Thus, those of ordinary skill in the art would have understood that the machine structure *around the operator's area* could form (part of) a barrier guard.

The definition of the barrier guard being formed by the projection of a profile of the perimeter of the machine structure onto a vertical plane passing through the longitudinal axis (as later described in the subject '266 patent) actually contradicts the barrier guard defined in the quoted portion of SAE J2752.

Therefore, those of ordinary skill in the art at the time of filing of the '266 patent, familiar with compact stand-on or walk-behind loaders and tool carriers, and aware of SAE-J2752, in reviewing the '386 and '750 patents would ***not*** have understood that a barrier guard was formed by "the perimeter of the machine structure, defined by the projection of the profile onto a vertical plane passing through the longitudinal axis" as defined in the '266 patent and argued by PO.

Instead, the entire machine periphery projected onto a vertical plane passing through the longitudinal axis forms nothing more than the silhouette of the machine.

Ground 5

PO argues that the modification of Dorkins in view of Baker would not have been obvious because, "as of the effective filing date of the claimed invention, those of skill in the art understood that tractors *must* be operated with the operator seated in the tractor seat to prevent falls from the tractor during operation." (emphasis added)

This argument is not persuasive because it has long been known to those who design and use tractors that it is often more desirable to stand rather than sit on a tractor during operation. Baker provides a platform 14 is facilitate such standing operation. PO's argument that tractors "must" be operated with the operator seated is clearly refuted by the teachings of Baker and others which show that an operator need not be seated to operate a tractor, and there are times when standing operation is necessary or desirable.[4]

PO argues on page 17 that "as of the effective filing date of the '266 Patent, it has been determined that standing operation of a tractor posed safety risks and that tractors *must* be operated by sitting," and after both Baker and Miller were published "the industry concluded that tractors should not be operated while standing due to the risk of falling from the tractor." (emphasis added)

[4] U.S. Patents 4,648,655, 3,667,563, 3,582,132 provide additional showings that those of ordinary skill in the art have long operated tractors in a standing position.

Those of ordinary skill in the art, such as farmers and others who use tractors in their field of work, have long known that standing operation of a tractor is necessary or desirable for certain duties, as evidenced by Baker and Miller, and the other patents noted above. These same persons of ordinary skill in the art would have known that standing operation of a tractor might be somewhat less safe than seated operation. This knowledge did not appear after Baker and Miller as asserted by PO. Nevertheless, those of ordinary skill in the art found it obvious to provide platforms and/or folding seats on tractors to facilitate standing operation, and such modifications improve the safety of a standing operator when standing operation was necessary.

PO discusses multiple references on pages 17-19 which advocate operation of a tractor in a seated position, although none of which appear to be laws which require seated operation, as PO seems to suggest with repeated use of the term "must." PO argues on page 16 that the prior art "teaches away" from standing operation.

However, as noted in *In re ICON Health & Fitness, Inc.*, 496 F.3d 1374, 83 USPQ2d 1746 (Fed. Cir. 2007), if a reference does not teach that a combination is undesirable, then it cannot be said to teach away. (emphasis added)

None of the references asserted by PO actually *teaches away* from the combination, which is to add a platform to the tractor of Dorkins as taught by Baker. At best, they warn against standing on or unseated operation of a tractor, where none of the tractors shown is provided with additional means such as a platform to facilitate standing.

Finally, it is well-known that inventions and improvements often come with tradeoffs, such as advantages and disadvantages. But as noted in *Winner Int'l Royalty Corp. v. Wang*, 202 F.3d 1340, 1349 n.8 (Fed. Cir. 2000):

> The fact that the motivating benefit comes at the expense of another benefit, however, should not nullify its use as a basis to modify the disclosure of one reference with the teachings of another. Instead, the benefits, both lost and gained, should be weighed against one another.

Those of ordinary skill in the art, before the effective filing date, would have been capable of weighing the benefits and disadvantages in making the decision to add a platform to Dorkins to facilitate standing operation as taught by Baker.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action.

The addition of new claims 30 and 31, dependent on claim 1, necessitated the new grounds of rejection.

Extensions of Time

Extensions of time under 37 CFR 1.136(a) **will not be permitted** in these proceedings because the provisions of 37 CFR 1.136 apply only to "an applicant" and not to parties in a reexamination proceeding. Additionally, 35 U.S.C. 305 requires that ex parte reexamination proceedings "will be conducted with special dispatch" (37 CFR 1.550(a)). Extensions of time in ex parte reexamination proceedings are provided for in 37 CFR 1.550(c).

Notice of Concurrent Proceedings or Litigation

The patent owner is reminded of the **continuing responsibility** under 37 CFR 1.565(a), to apprise the Office of any litigation activity, or other prior or concurrent proceeding, involving Patent No. 10,202,266 throughout the course of this reexamination proceeding. The third party requestor is also reminded of the ability to apprise the Office of any litigation activity, or other prior or concurrent proceeding, involving the subject '266 patent. See MPEP §§ 2207, 2282 and 2286.

Submissions

In order to ensure full consideration of any affidavits or declarations or other documents as evidence of patentability, such documents must be submitted in response to the first Office action on the merits (which does not result in a close of prosecution). Submissions after the second Office action on the merits, which is intended to be a final action, will be governed by the requirements of 37C.F.R. 1.116, after final rejection and by 37 C.F.R. 41.33 after appeal, which will be strictly enforced.

Correspondence

All correspondence relating to this *ex parte* reexamination proceeding should be directed:

By EFS: Registered users may submit via the electronic filing system EFS-Web, at https://efs.uspto.gov/efile/myportal/efs-registered

By Mail to: Mail Stop *Ex Parte* Reexam
Attn: Central Reexamination Unit
Commissioner for Patents
United States Patent & Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

By FAX to: (571) 273-9900
Central Reexamination Unit

By hand: Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

For EFS-Web transmissions, 37 CFR 1.8(a)(1)(i) (C) and (ii) states that correspondence (except for a request for reexamination and a corrected or replacement request for reexamination) will be considered timely filed if (a) it is transmitted via the Office's electronic filing system in accordance with 37 CFR 1.6(a)(4), and (b) includes a certificate of transmission for each piece of correspondence stating the date of transmission, which is prior to the expiration of the set period of time in the Office action.

Any inquiry concerning this communication or earlier communications from the Examiner, or as to the status of this proceeding, should be directed to the Central Reexamination Unit at telephone number (571) 272-7705.

/RUSSELL D STORMER/
Primary Examiner, Art Unit 3993

Russell D. Stormer
Primary Examiner
Central Reexamination Unit
Art Unit 3993
(571) 272-6687

Conferee: /SC/

Conferee: /GAS/

Reexamination	Application/Control No.	Applicant(s)/Patent Under Reexamination
	90/014,269	10202266
	Certificate Date	Certificate Number

Requester Correspondence Address: ☐ Patent Owner ☑ Third Party
JAMES W. MILLER (ATTORNEY) 120 6TH STREET SUITE 2310 MINNEAPOLIS, MN 55402

LITIGATION REVIEW ☑	/rds/ (examiner initials)	25 November 2019 (date)
Case Name		Director Initials
Vermeer Manufacturing Company v. The Toro Company; U.S. District - Iowa Southern; 4:19cv50; OPEN - Motion to stay pending reexam 10/25/ 2019		GAS for JRC

COPENDING OFFICE PROCEEDINGS	
TYPE OF PROCEEDING	NUMBER
None	N/A

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

U.S. Patent No. 10,202,266
Inventors: Brad Thomas et al. Art Unit: 3993
Reexamination Control No.: 90/014,269
Filed: February 26, 2019
Confirmation No.: 3337
For: LOW PROFILE COMPACT TOOL CARRIERS
Examiner: Russell D. Stormer

March 6, 2020

INTERVIEW SUMMARY

The undersigned counsel for the Patent Owner thanks the Examiner and Conferees for the telephone interview of March 4, 2020 in which this reexamination of U.S. Patent No. 10,202,266 ("the '266 Patent") was discussed. The Examiner, the conferees Gay Spahn and Sara Clarke, the undersigned counsel and Mike Munsell attended the interview.

The rejection of claims 1 and 4-9 under 35 U.S.C. §103 as obvious over U.S. Patent No. 2,774,496 to Dorkins in view of U.S. Patent No. 2,298,450 to Baker was discussed. The rejection of claims 19-23, 25 and 27 under 35 U.S.C. §103 as being obvious over U.S. Patent No. 6,474,933 to Hoechst et al. in view of U.S. Patent Publication No. 2011/0137491 to Self et al. was also discussed.

Counsel discussed potential amendments to independent claims 1, 7, 19 and 25 that may distinguish the cited references. The Examiner stated that such amendments might overcome the rejections but that he would be unable to make a final determination during the interview. Counsel noted that none of the cited references disclose a compact tool carrier. The Examiner stated that Self appeared to be a smaller machine but he was not able to make a determination without further review of the

reference. Patent Owner noted that the secondary considerations of non-obviousness that persuaded the Office to withdrawn the obviousness rejection based on the modification of the compact utility loader of Dingo in view of the vertical-lift machine of Komatsu could be submitted to rebut a rejection based on Self. No agreement was reached and Patent Owner agreed to present further evidence and arguments in Patent Owner's response to the Office action.

Respectfully submitted,

/Michael J. Vander Molen/

Michael J. Vander Molen
Reg. No. 57,274
Armstrong Teasdale LLP
7700 Forsyth Blvd., Suite 1800
St. Louis, Missouri 63105
(314) 621-5070

claim 14 has been amended to include the recitations of claim 17 which the Office considers to be allowable.

Because (1) the Office has not established that the Ramrod Brochure is a "printed publication" and (2) the provisional application from which the '266 Patent claims priority supports independent claims 19 and 25, the Ramrod Brochure is not prior art against independent claims 19 and 25. The Office must withdraw the rejections of independent claims 19 and 25 over Hoechst in view of Self because the Office's rejections reference the pivot points formed in the mainframe of Hoechst, not the pivot points in the loader as recited in claims 19 and 25.

New independent claims 35-38 are further patentable over Hoechst and Self because neither Hoechst nor Self disclose a control station supported by the mainframe.

B. AMENDMENT SUMMARY

Claims 1, 4-9, 14, 19-23, 25 and 27 are subject to reexamination. Patent Owner has amended claim 14. Claims 17 and 18 are cancelled. Claims 28 and 29 added in Patent Owner's October 18, 2019 Response are cancelled. Patent Owner has added claims 30-38. Claims 1-16, 19-27 and 30-38 are pending with claims 1, 4-9, 14, 19-23, 25 and 30-38 being subject to examination in this reexamination proceeding. Claims 2, 3, 10-13, 15-16, 24 and 26 are not subject to the reexamination proceeding.

No new matter has been added. In particular, none of the amendments or new claims broadens the claim scope beyond the claims of the original patent.

Support for the added claims can be found throughout the specification of the '266 Patent. In particular, support for the amendment to claim 14 and new claims 33 and 34 may be found at column 4, lines 34-43; column 5, lines 13-27; and Figures 3 and 5 of the '266 Patent. Support for new claim 30 may be found at column 3, lines 46-61 and Figure 2 which describe and show the controls being at the hand level of an operator. Support for new claims 31 and 32 may be found at column 1, lines 36-38 and Figure 3.

Support for new independent claims 35 and 36 which recite that the control station is supported by the mainframe may be found at column 3, lines 64-66. Support for new independent claims 37 and 38 may be found at column 3, lines 64-66 and Figures 2 and 3 which show the position of the pivot point of the actuator in the loader.

C. REJECTIONS UNDER 35 U.S.C. §102 and 35 U.S.C. §103[1]

The Office has rejected claims 19-23, 25 and 27 under 35 U.S.C. §102(a)(1) as being anticipated by "Ramrod Track Model 3300 – New Parallel Lift Design for Greater Power & Height" ("Ramrod Brochure") (Ground 1). Claims 1 and 4-9 are rejected under 35 U.S.C. §103 as being obvious over U.S. Patent No. 2,774,496 to Dorkins ("Dorkins") in view of U.S. Patent No. 2,298,450 to Baker ("Baker") (Ground 5). Claim 14 is rejected under 35 U.S.C. §103 as being obvious over U.S. Patent No. 6,474,933 to Hoechst et al. ("Hoechst") in view of U.S. Patent Publication No. 2011/0137491 to Self et al. ("Self") and in view of the brochure entitled "Vermeer S600/S600TX" ("the Vermeer Brochure") (Ground 7). Claims 19-23, 25 and 27 are rejected under 35 U.S.C. §103 as being obvious over Hoechst in view of Self (Ground 8). The pending claims are patentable over the cited references for the reasons set forth below.

1. Claims 1, 4-9 and 30-31 are Not Obvious over Dorkins in view of Baker

Independent claim 1 is directed to a loader apparatus for standing operator control. The loader apparatus comprises:

> a loader adapted to carry a tool, the loader being moveable between a down position and a vertically raised position;
>
> a loader support for supporting the loader, the loader support having a first side and a second side, the loader being free from direct attachment to the loader support;

[1] Rejection Ground 6 relates to now cancelled claims 28-29. Because claims 28-29 are cancelled, it is unnecessary to address Ground 6 and Patent Owner reserves the right to contest the rejection in one or more continuing applications.

a first linkage pivotally attached to the first side of the loader support at a first linkage pivot point;

a second linkage pivotally attached to the first side of the loader support at a second linkage pivot point;

an actuator pivotally attached to the first side of the loader support at an actuator pivot point;

a control station having operator controls for propelling the loader apparatus forward and for raising and lowering the loader; and

an operator platform for standing operation of the operator controls of the control station, the operator platform being located toward a rear of the loader apparatus such that the first linkage pivot point, second linkage pivot point, and the actuator pivot point are disposed forward of the operator platform, the first linkage pivot point, second linkage pivot point, and the actuator pivot point being disposed below the operator controls of the control station.

The Office discusses its obviousness rationale on page 37 of the Office action in which it counters Patent Owner's contention in the October 18, 2019 Response that one of skill in the art would not modify Dorkins to include an operator's platform such as the platform of Baker. In particular, the Office contends that the prior art supports its contention that one of skill in the art would be motivated to modify Dorkins to include a platform "for the operator to stand in order to increase the versatility of the loader" (page 14 of the Office action):

> Even further, note the paragraph bridging the column of page 2 of Baker which describe how the tilting seat accommodates a standing operator, who may "thus assume a position from which he may easily operate a tractor." A standing operator who "may easily operate" a tractor, would by definition have access to all of the controls. Further, note U.S. Patent 3,198,030 to Miller et al. which states that is it "frequently desirable for the driver to stand for better visibility" or other reasons, and accordingly, "the steering wheel of most tractors is positioned as a compromise somewhere between the most desirable positions for sitting and standing operation."

Page 36 of the Office action.

One of skill in the art would not modify Dorkins as suggested by the Office because, as of the effective filing date of the claimed invention, those of skill in the art understood that tractors must be operated with the operator seated in the tractor seat to prevent falls from the tractor during operation rather than standing as suggested by the Office. Further, the modification of Dorkins proposed by the Office would not have yielded the claimed invention.

a. The Prior Art

Dorkins discloses an agricultural tractor having a high lift loader (col. 1, lines 15-18). As shown in Figure 4 of Dorkins, the tractor 1 includes a loader bucket 33 pivotally connected to plates 30. The plates 30 are supported by lift arms 26 and bar 34 (col. 2, lines 45-65).

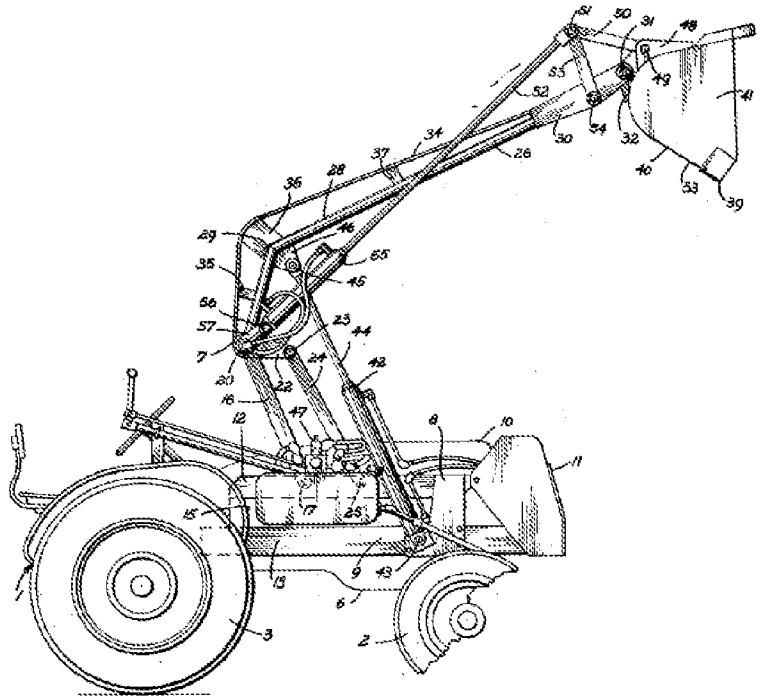


Fig. 4 of Dorkins

A cylinder 42 is pivotally connected to the supporting frame 8 of the tractor 1 and to the lift arm 26. Bucket cylinders 55 are used to tilt the bucket 33. The lift cylinders 42 and bucket cylinders 55 are controlled through a valve mechanism 47 (col. 3, lines 57- 71).

The lift arms 26 and bar 34 are connected to a sleeve 21 (Fig. 7) which rotates about a shaft 19. The shaft 19 is welded to a support link 26 which is pivotally attached to the supporting frame 8 (Fig. 4) of the tractor 1. The sleeve 21 is welded to a diagonal brace lever 22 which is pivotally connected to a diagonal brace link 24. The diagonal brace link 24 is pivotally connected to the supporting frame 8 (col. 2, lines 16-48).

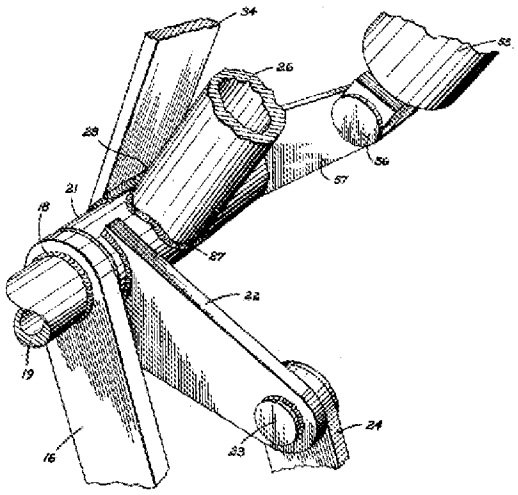


Fig. 7 of Dorkins

Baker discloses a seat 28 for an agricultural tractor that may be tilted backward. The tractor includes a platform 14 below the seat 28 (col. 2, lines 12-21).

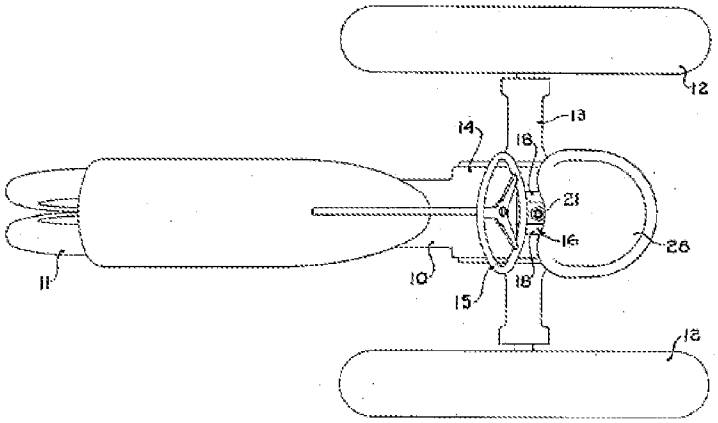


Fig. 1 of Baker

b. One of Ordinary Skill in the Art Would Not have Been Motivated to Modify Dorkins to Include an Operator Platform for Standing Operation of the Tractor because the Prior Art Teaches Away from Standing Operation

The Office contends that modifying the tractor of Dorkins to include an operator platform would "increase the versatility" (page 14 of the Office action) of the tractor. In support of its contention, the Office cites Baker which states that, by standing, an operator may "assume a position from which he may easily operate a tractor" (lines 2-5 of the right-side column on page 2). The Office further cites U.S. Patent No. 3,198,030 to Miller et al. ("Miller") which states that "it is frequently desirable for the driver to stand for better visibility" (col. 1, lines 15-19). However, as of the effective filing date of the '266 Patent, it has been determined that standing operation of a tractor posed safety risks and that tractors must be operated by sitting. The following references[2] establish that, after both Baker and Miller published (1939 and 1961, respectively), the industry concluded that tractors should not be operated while standing due to the risk of falling from the tractor:

Operator Falls

Operators sometimes fall from tractors and are crushed under the wheels or mangled by trailing equipment. The following safety practices can help prevent such injuries:

1. **Operate the tractor from the operator's platform only.** Fasten the seat belt if your tractor is equipped with a protective frame or enclosure. If you get tired of sitting, stop and take a break. Don't start the tractor engine or try to operate controls while standing beside the tractor. Always sit in the tractor seat when starting or operating controls. There have been fatalities and serious injuries to people who attempted to start the tractor while standing next to it. In some of these cases, accidental contact with the gear shift lever cause the tractors to lurch forward, crushing the victims.

Tractors are designed to carry one person, the operator. The proper place to ride is sitting in the operator's seat.

A Guide to Safe Farm Tractor Operation, NASD (2009), p. 11

* * * * *

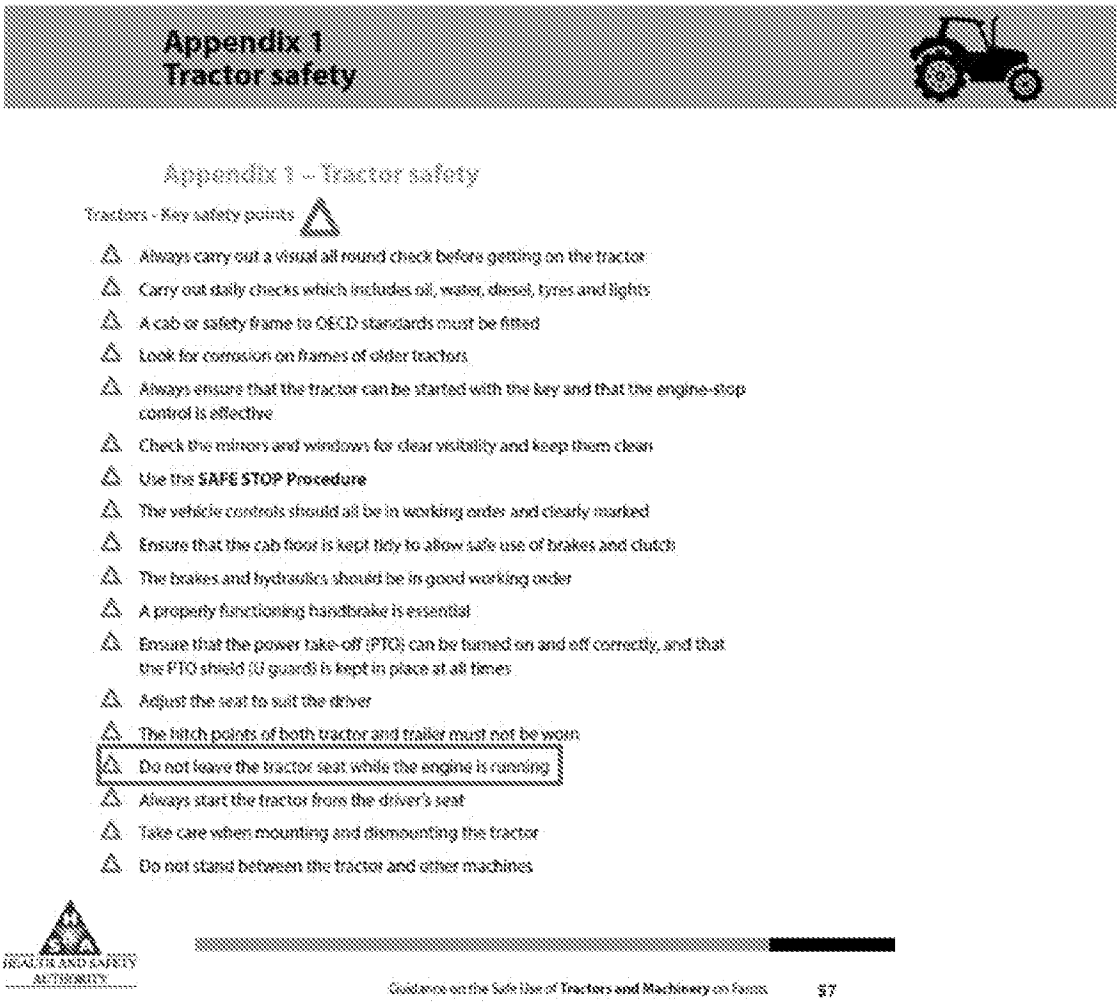
[2] Patent Owner has cited these references in an Information Disclosure Statement submitted herewith.

DANGER TO AVOID SERIOUS INJURY OR DEATH FROM FALLING OFF TRACTOR, EQUIPMENT RUN OVER, ROLLOVER AND CRUSHING BY FALLING WING OR IMPLEMENT:

- **USE ROPS** and **SEAT BELT** equipped tractors for mowing operations.
- **KEEP ROPS** lock in up position.
- **ALWAYS BUCKLE UP** seat belt when operating tractor and equipment.
- **ONLY OPERATE** tractor and equipment while seated in tractor seat.

Bush Hog Operator's Manual (2013), Safety Section 1-5.

* * * * *



Guidance on the Safe Use of Tractors and Machinery on Farms, Health and Safety Authority (2015), page 57.

* * * * *

a) Always:

i. Use SAFE STOP.
ii. Operate controls from the correct position. (Seated in the tractor).

MACHINERY GUIDELINE INSTRUCTION SHEET

Machinery group: FRONT LOADER

i. You must be fully aware of the tractor and machine controls before use.
ii. Follow the particulars listed in the tractor permit to use sheet.
iii. Only start the engine or use the machine from the driver's seat.
iv. Before starting the engine ensure that all the controls are in neutral.
v. Before transporting, check all controls on the tractor. If defective do not use.
vi. Only the operator should be on the machine.
vii. Only use tractors with ROPS (Roll Over Protection Systems).
viii. Always wear a seat belt in conjunction with ROPS.
ix. Always raise the bucket from the ground (but keep it low before moving off).
x. Always check for clearance at bridges, doorways and especially in regard to electric or telephone lines.

Prepare and Operate a Tractor with Attachments, Oaklands College (2010), pp. 2 and 15.

It is evident from these references that, as of the effective filing date of the '266 Patent, those of skill in the art had abandoned tractor designs that accommodated standing operation of the tractor such as in Baker (1939) and Miller (1961) due to the risk of falling from the tractor. Because standing operation of an agricultural tractor was considered to pose a significant safety risk that could involve death of the operator, one of skill in the art would not have modified Dorkins to include an operator's platform on which an operator would stand to operate the tractor as suggested by the Office.

c. The Proposed Combination Does Not Include Each Feature of Claim 1.

Regardless of whether one of ordinary skill in the art would have modified Dorkins in the manner suggested by the Office, the resulting combination would not have had all of the required elements of claim 1. Specifically, the proposed combination would not have satisfied the limitation that the loader apparatus include first and second

pivot points of the first and second linkages that are "disposed below the operator controls" with the operator controls being "for propelling the loader apparatus forward".

Patent Owner's submitted in the October 18, 2019 Response that the hydraulic controls of Dorkins do not propel the tractor forward and, accordingly, Dorkins does not include a control station having operator controls for propelling the apparatus forward and for raising and lowering the loader. As best understood by Patent Owner, the Office now considers both the hydraulic controls and foot pedals to be part of the control station (and thereby meets the recitation of "a control station having operator controls for propelling the loader apparatus forward and for raising and lowering the loader") but does not consider claim 1 to require that each of these controls be disposed below the first and second linkage pivot points:

> With respect to the second argument, note page 68 of the arguments where PO states that "the foot pedals that are used to control forward operation of the tractor."
>
> With respect to the arguments on pages 73-74, claim 1 does not preclude the presence of controls other than those associated with the control station, nor does it limit the control station to any particular structure or location. The tractor described in Exhibit 8 has not been shown to represent the tractor of Dorkins. The pivot points 17, 25 are shown in Dorkins to be below the operator controls asserted by PO as being solely for operating the hydraulics, and the claim language has been met.

Page 37 of the Office action.

Patent Owner submits that claim 1 recites that both the controls for raising and lowering the loader (i.e., the hydraulic controls) and the controls for propelling the loader forward (i.e., foot pedals) must be disposed below the pivot points of the first and second linkages. This is clear from claim 1 because the "operator controls" which are referenced in relation to their positon to the pivot points have earlier antecedent basis in claim 1 when those controls are described as being "for propelling the loader apparatus forward and for raising and lowering the loader":

1. A loader apparatus configured for standing operator control and comprising:

a loader adapted to carry a tool, the loader being moveable between a down position and a vertically raised position;

a loader support for supporting the loader, the loader support having a first side and a second side, the loader being free from direct attachment to the loader support;

a first linkage pivotally attached to the first side of the loader support at a first linkage pivot point;

a second linkage pivotally attached to the first side of the loader support at a second linkage pivot point;

an actuator pivotally attached to the first side of the loader support at an actuator pivot point;

a control station having operator controls for propelling the loader apparatus forward and for raising and lowering the loader; and

an operator platform for standing operation of the operator controls of the control station, the operator platform being located toward a rear of the loader apparatus such that the first linkage pivot point, second linkage pivot point, and the actuator pivot point are disposed forward of the operator platform, the first linkage pivot point, second linkage pivot point, and the actuator pivot point being disposed below the operator controls of the control station.

The operator controls for propelling the loader apparatus forward are not below the pivot points of the first and second linkages as required by claim 1. As noted in the October 18 response, the only control for propelling the loader forward shown in Dorkins is the clutch foot pedal shown in Figure 5[3]. It is evident that the pivot points 17, 25

[3] The Office has not provided any rationale as to why one of skill in the art would consider the hydraulic controls to the right of the operator to propel the loader apparatus forward.

between the first and second linkages 16, 24 and the support frame 8 of Dorkins would not be disposed below the clutch because the pivot points 17, 25 are so high that they are even *higher than the operator seat* as shown below.

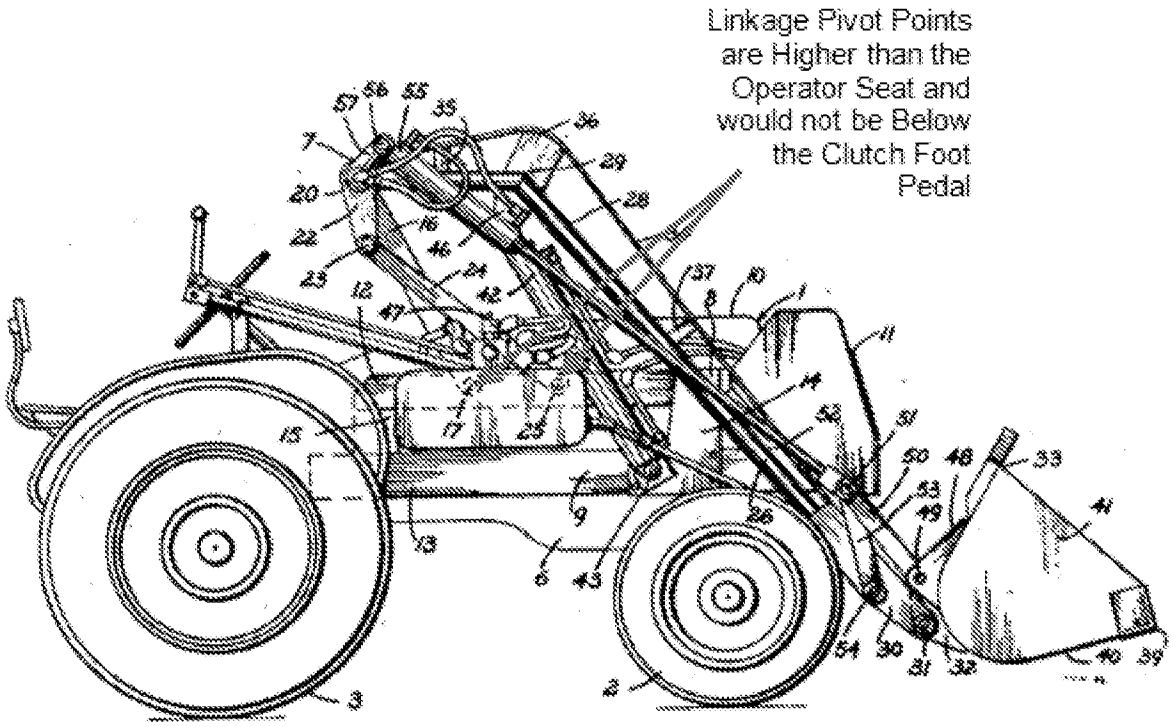


Fig. 2 of Dorkins

Because the pivot points 17, 25 between the linkages 16, 24 and support frame 8 are not disposed below the operator controls for propelling the tractor forward (i.e., the clutch foot pedal), the Office has failed to establish that the prior art included each claimed element and the rejection must be withdrawn. MPEP §2143(I)(A).

Dependent claims 4-6 incorporate the recitations of independent claim 1 by way of their dependency therefrom and are patentable over Dorkins in view of Baker for at least the reasons set forth above relating to independent claim 1.

New claim 30 recites that the operator controls for propelling the loader apparatus forward and for raising and lowering the loader are hand operator controls. As noted above, the only controls shown in Dorkins for propelling the apparatus forward are foot pedals. Because Dorkins does not include hand controls for propelling the

apparatus forward, dependent claim 30 is further patentable over Dorkins in view of Baker.

New claim 31 recites that the loader apparatus does not include an operator's seat. Because both Dorkins and Baker are tractors which include an operator's seat, dependent claim 31 is further patentable over Dorkins in view of Baker.

2. Claims 7-9 and 32 are Not Obvious over Dorkins in view of Baker.

Independent claim 7 is directed to a loader apparatus for standing or walk-behind operator control. The loader apparatus comprises:

> a control station having operator controls toward a rear of the loader apparatus;
>
> a loader adapted to carry a tool, the loader being moveable between a down position and a vertically raised position;
>
> a rigid frame for supporting the control station and the loader, the rigid frame having a first side, a second side, a top, and a bottom;
>
> a first linkage pivotally attached to the first side of the rigid frame at a first pivot point and pivotally attached to the loader at a second pivot point;
>
> an actuator pivotally attached to the first side of the rigid frame at a third pivot point and pivotally attached to the loader at a fourth pivot point; and
>
> a second linkage pivotally attached to the first side of the rigid frame at a fifth pivot point and pivotally attached to the loader at a sixth pivot point, wherein, as the loader travels from the down position to the vertically raised position, the first, second, third, fourth, fifth and sixth pivot points are (1) disposed between the operator controls and the bottom of the rigid frame and/or (2) disposed forward of the control station.

Independent claim 7 is patentable over Dorkins in view of Baker because one of skill in the art would not have modified Dorkins to include an operator's platform on which an operator would stand to operate the tractor as suggested by the Office because, at the effective filing date of the '266 Patent, standing operation of a tractor was considered to pose a significant safety risk that could involve death of the operator as discussed above relating to claim 1. Dependent claims 8-9 are patentable over Dorkins in view of Baker for at least the same reasons.

As discussed above relating to new claim 31, the tractors of Dorkins and Baker include operator seats. For at least this reasons, new dependent claim 32 is further patentable over Dorkins in view of Baker.

New claim 31 recites that the loader apparatus does not include an operator's seat. Because both Dorkins and Baker are tractors which include an operator's seat, dependent claim 31 is further patentable over Dorkins in view of Baker.

3. Claim 14 is Allowable

The Office states on pages 25-26 of the Office action that claim 17 is allowable. Patent Owner has amended claim 14 by incorporating the recitation of allowable claim 17. Claim 14 is allowable in view of the indication of allowable subject matter on pages 25-26 of the Office action.

Because independent claim 14 has been amended to incorporate allowable subject matter, it is unnecessary to comment on the rejection of claim 14 under 35 U.S.C. §103. Applicant does not concede the propriety of the rejection under 35 U.S.C. §103 and reserves the right to contest the rejections in one or more continuing applications.

4. Claims 19-23 and 33 are Novel and Not Obvious.

Independent claim 19 is directed to a loader apparatus for standing or walk-behind operator control. The loader apparatus comprises:

EX1029 / Page 70 of 915
Kubota North America Corporation et al

a machine structure comprising a mainframe and an upper frame, the machine structure defining a barrier guard;

a control station having operator controls toward a rear of the loader apparatus;

an actuator pivotally attached to the mainframe;

a front linkage pivotally attached to the mainframe;

a rear linkage pivotally attached to the mainframe; and

a loader adapted to carry a tool, the loader being moveable between a down position and a vertically raised position, the front linkage being pivotally attached to the loader at a front linkage pivot point, the rear linkage being pivotally attached to the loader at a rear linkage pivot point, wherein:

in the down position, the front linkage pivot point is (1) disposed within the barrier guard and/or (2) disposed forward of the barrier guard; and

as the loader travels from the down position to the vertically raised position, the rear linkage pivot point is (1) disposed within the barrier guard and/or (2) disposed forward of the barrier guard.

Ramrod is not prior art against claims 19-23 and 33 and these claims are patentable over Hoechst in view of Self for the reasons set forth below.

a. Ramrod is not Prior Art against Claims 19-23 and 33.

Patent Owner stated in the October 18, 2019 Response that Ramrod could not be considered to be a "printed publication" under 35 U.S.C. §102 because the Office had not established that Ramrod was disseminated or otherwise made available to the public (page 83 of the Response). In response, the Office states that there is no

requirement that the Office establish that Ramrod was publicly accessible and, regardless, the fact that Toro cited the reference in an Information Disclosure Statement is "ample evidence" that the reference was "publically accessible" to those persons who were interested:

> As to the assertion on page 83 that the Examiner must establish that Ramrod was disseminated to the public, no such requirement exists. However, the fact that the Requester submitted Ramrod with the Request would appear to be ample evidence that the document was "publically accessible" to those persons who were interested. See MPEP 2128.01.
>
> Page 30 of the Office action.

However, the MPEP and caselaw state that the Office has the burden to show that Ramrod was publically accessible and the fact that Ramrod was cited in an IDS is not evidence of public accessibility. MPEP §§ 2128 and 2152; *In re Wyer*, 655 F.2d 221, 227 (C.C.P.A. 1981); *In re Lister*, 538, F.3d 1307, 1316-1317 (Fed. Cir. 2009)

For Ramrod to be available for use under 35 U.S.C. §102, Ramrod must have been considered to be a "printed publication" as of the effective filing date of the '266 Patent:

> (a) NOVELTY; PRIOR ART.—A person shall be entitled to a patent unless—
>
> (1) the claimed invention was patented, described in a printed publication, or in public use, on sale, or otherwise available to the public before the effective filing date of the claimed invention;
>
> 35 U.S.C. §102

The MPEP states the Office bears the initial burden of proving that a document was a "printed publication" under 35 U.S.C. §102:

> As an initial matter, Office personnel should note that the introductory phrase "[a] person shall be entitled to a patent unless" remains unchanged from the pre-AIA version of 35 U.S.C. 102. Thus, 35 U.S.C. 102 continues to provide that the Office bears the initial burden of explaining why the applicable statutory or regulatory requirements have not been met if a claim in an application is to be rejected.

MPEP §2152

To establish that a reference is a "printed publication", the Office must show that the document was disseminated or otherwise made available:

> **I. A REFERENCE IS A "PRINTED PUBLICATION" IF IT IS ACCESSIBLE TO THE PUBLIC**
> A reference is proven to be a "printed publication" "upon a satisfactory showing that such document has been disseminated or otherwise made available to the extent that persons interested and ordinarily skilled in the subject matter or art, exercising reasonable diligence, can locate it." *In re Wyer*, 655 F.2d 221, 210 USPQ 790 (CCPA 1981) (quoting *I.C.E. Corp. v. Armco Steel Corp.*, 250 F. Supp. 738, 743, 148 USPQ 537, 540 (SDNY 1966))

MPEP §2128.

In re Wyer, which is cited in MPEP §2128, clearly states that it is the Office's burden to prove that the reference was "publically accessible"

> While intent to make public, activity in disseminating information, production of a certain number of copies, and production by a method allowing production of a large number of copies may aid in determining whether an item may be termed a "printed publication," they are neither always conclusive nor requisite. Each case must be decided on the basis of its own facts. Accordingly, whether information is printed, handwritten, or on microfilm or a magnetic disc or tape, etc., the one who wishes to characterize the information, in whatever form it may be, as a "printed publication" should produce sufficient proof of its dissemination or that it has otherwise been available and accessible to persons concerned with the art to which the document relates and thus most likely to avail themselves of its contents. (Philips Electronic Corp., supra 450 F.2d at 1171, 171 USPQ at 646.)

> Through demonstration of the accessibility of reproductions of appellant's application in the Australian Patent Office and in each of its sub-offices, the PTO has met this burden.

In re Wyer, 655 F.2d 221, 227 (C.C.P.A. 1981)

The Office has not provided any evidence that Ramrod was disseminated or otherwise made available as of the effective filing date of the '266 Patent. The fact that Toro possessed the document and produced it in an Information Disclosure Statement submitted with the Request for *ex parte* Reexamination is not proof that it was accessible to those of skill in the art as of the effective filing date of the '266 Patent. The IDS submitted by Toro merely lists the document. The IDS does not describe how the document was obtained or provide any evidence that the reference was publically accessible. Because there is no such evidence, the rejection under 35 U.S.C. §102 must be withdrawn:

> Because the evidence contained in the IDS neither provides substantial evidence that the Lister manuscript was publicly accessible as of the critical date nor suffices to prove a prima facie case of accessibility that would shift the burden to Dr. Lister to show inaccessibility, we conclude that the Board erred in affirming the examiner's § 102(b) rejection.

In re Lister, 538, F.3d 1307, 1316-1317 (Fed. Cir. 2009)

The Office cites MPEP §2128.01 for its conclusion that the fact that Toro cited Ramrod in an IDS is proof of its public accessibility (page 30 of the Office action). However, no portion of MPEP §2128.01 supports the Examiner's conclusion. In fact, MPEP §2129(IV) expressly states that citation of a document in an IDS is not an admission that the reference is prior art against the claims:

> Mere listing of a reference in an information disclosure statement is not taken as an admission that the reference is prior art against the claims.

The Office has not met its burden of proving that Ramrod was disseminated or otherwise made available to those of skill in the art as of the effective filing date of the '266 Patent. Citation of Ramrod by Toro in an IDS is not an admission of prior art and the IDS itself does not provide any description of how Ramrod was obtained or whether it was disseminated or otherwise available to those of skill as of the effective filing date of the '266 Patent. The Office has not provided any evidence that Ramrod was disseminated or made available to those of skill in the art as of the effective filing date of the '266 Patent and the rejection under 35 U.S.C. §102 must be withdrawn.

Regardless of whether Ramrod was publically accessible, claim 19 is supported by the provisional patent application from which the '266 Patent claims priority and, accordingly, claim 19 pre-dates Ramrod. The Office contends on pages 28-29 of the Office action that the "barrier guard" recited in claim 19 must be a structural element rather than a perimeter as suggested in Patent Owner's October 18, 2019 Reponses. The barrier guard of claim 19 does not require further structure. Claim 19 describes the location of the pivot points formed in the loader by the front linkage and rear linkage with respect to the barrier guard. This barrier guard is defined by of the "machine structure" which is comprised of the mainframe and the upper frame. Nothing in claim 19 suggests that the barrier guard includes structure other than the mainframe and upper frame which form the machine structure. Because claim 19 describes the *location* of the pivot points with respect to these components (i.e., being "disposed within" or "forward of"), it is clear that "barrier guard" is referring to the perimeter of the components. This is consistent with the claim interpretation of claim 19 of the District Court set forth in its "Order on Claim Construction"[4] dated February 26, 2020 in *Vermeer Manufacturing Company v. The Toro Company*, Case No. 4:17-cv-00076-CRW-HCA (S.D. IA. filed February 28, 2017):

[4] This Order is included in the litigation documents in the Information Disclosure Statement submitted herewith.

Barrier guard

Toro alleged that "barrier guard" is indefinite and incapable of construction. For a claim term to be indefinite, "reasonable efforts at claim construction must result in a definition that does not provide sufficient particularity or clarity to inform a skilled artisan of the bounds of the claim." *3M Innovative Props. Co. v. Tredegar Corp.*, 725 F.3d 1315, 1333 (Fed. Cir. 2013) (internal citations omitted). This type of ambiguity is not applicable to the term "barrier guard." The Court adopts Vermeer's proposed construction of "barrier guard" as "perimeter of the machine structure." A person of ordinary skill in the art can determine the scope of the claimed barrier guard.

(1) Disposed within the barrier guard and/or (2) disposed forward of the barrier guard

The parties agreed, except for the term "barrier guard," that the claim term should be given its plain and ordinary meaning. The Court has previously determined that the term "barrier guard" is not indefinite and so the entire claim term will be given its plain and ordinary meaning.

The Office should interpret the barrier guard as being the perimeter of the machine structure at least because this is consistent with the District Court's interpretation set forth in its "Order on Claim Construction."

The Office concedes that Figures 2 and 3 show a portion of the perimeter of the machine structure as defined by the mainframe and upper frame but objects that the entire perimeter is not shown (pages 28-29 of the Office action) (Figures 2 and 3 as submitted in the October 18, 2019 response being reproduced below).

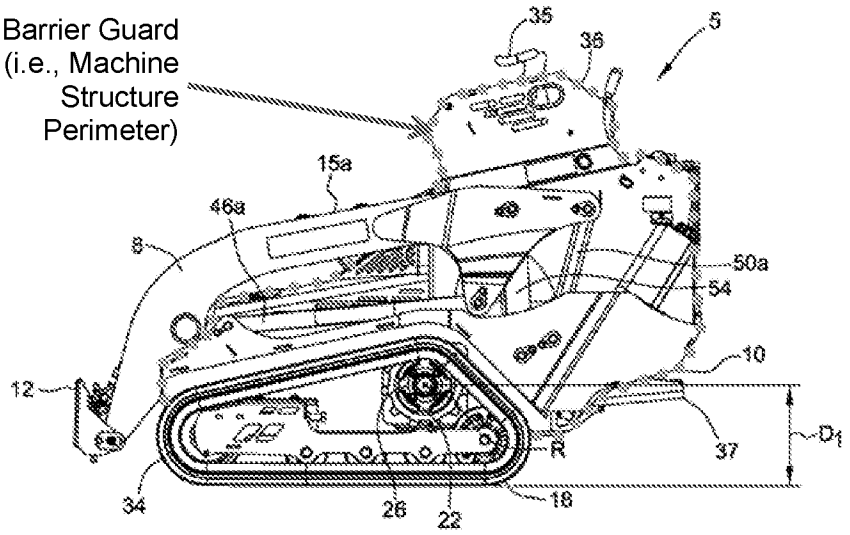


FIG. 2

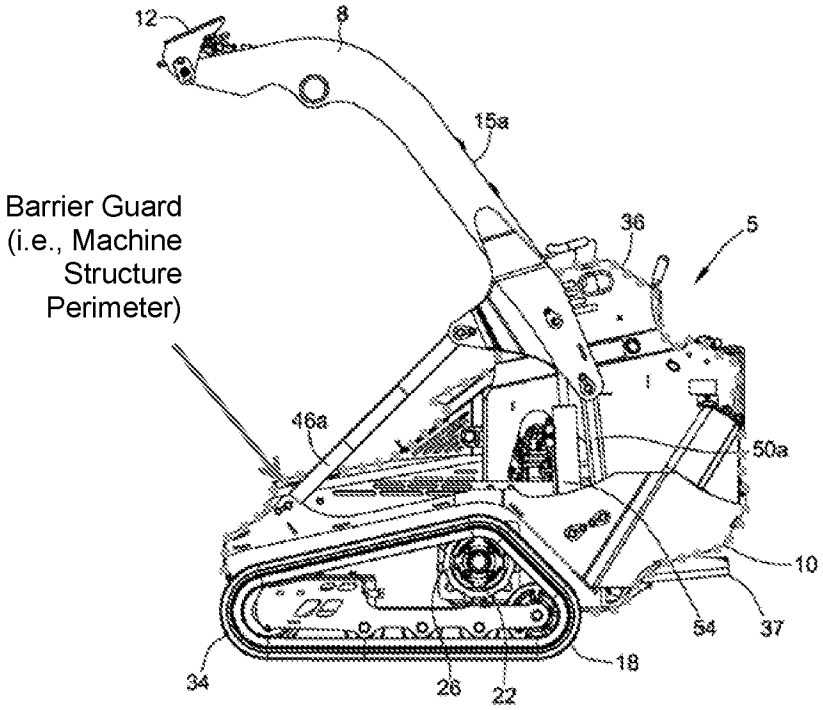


FIG. 3

However, the test for written description support is not whether an *entire* structure is shown in the drawings. The drawings must only provide sufficient detail to show possession of the invention:

> Possession of an invention may be shown "by disclosure of drawings . . . that are sufficiently detailed to show that applicant was in possession of the claimed invention as a whole."
>
> MPEP §2163(II)(A)(3)(a).

The fact that the lower portion of the perimeter of the mainframe is not shown in Figures 2 and 3 does not negate the understanding of one of skill in the art that the mainframe and upper frame have a perimeter[5]. **Figures 2 and 3 show the pivot points formed in the loader and their relation to the perimeter of the machine structure defined by the mainframe and upper frame** as recited in claim 19. Accordingly, claim 19 and claims depending therefrom are entitled to the February 20, 2015 priority date. The Ramrod Brochure is dated October 2016 which is *after* the February 20, 2015 priority date of the '266 Patent and, accordingly, the Ramrod Brochure is not prior art against claims 19-23.

Because the Office has not provided any evidence that Ramrod was disseminated or made available to those of skill in the art as of the effective filing date of the '266 Patent and because claim 19 is supported by the provisional patent application, the Office must withdraw the rejection of claims 19-23 as being anticipated by Ramrod under 35 U.S.C. §102.

b. Claims 19-23 and 33 are not Obvious over Hoechst in view of Self

With reference to Figure 1 of Hoechst, Hoechst is directed to a loader assembly 10 having an extended reach boom assembly 24. The boom assembly 24 is supported by a support link 28 connected to the main frame 4 at pivot point 32 and connected to the boom assembly at pivot point 30. A control link 50 is connected to the main frame 4 at pivot point 52 and is connected to the boom assembly 24 at pivot point 48. A

[5] Figures 5 and 6 of the provisional application show the bottom of the mainframe which partially defines the perimeter of the machine structure. There is no requirement in the patent rules or statutes or in the MPEP that a structure must be shown entirely in a *single figure* of the patent application.

hydraulic cylinder 56 is connected to the main frame at pivot point 58 and connected to the boom assembly 24 at pivot point 62 (col. 2, lines 14-62).

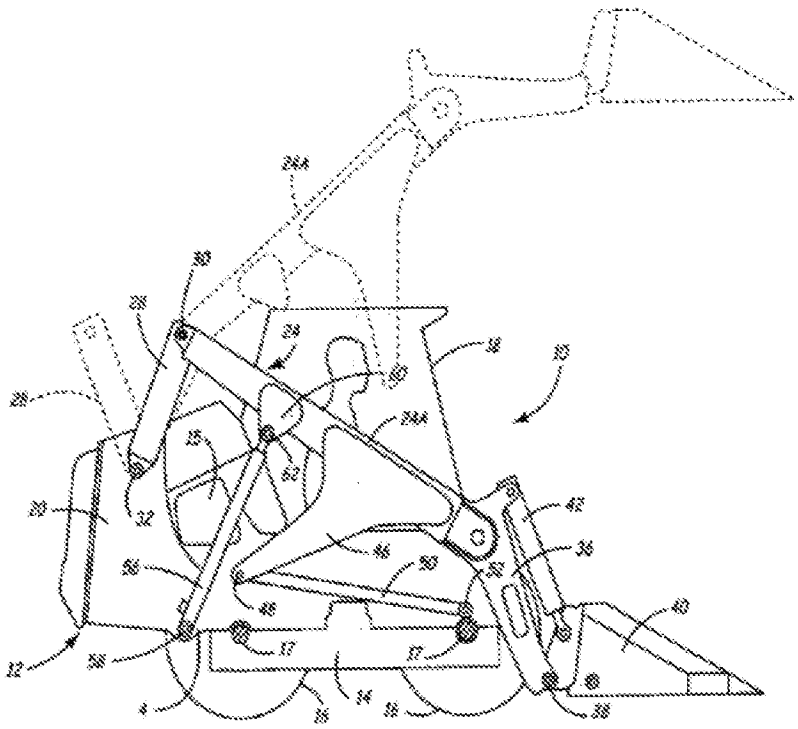


Fig. 1 of Hoechst

Self is directed to systems and methods for controlling a work machine (abstract). The system includes a remote controller 12 that controls the work machine 10. The work machine 10 includes a work tool 16 that is shown as a loader bucket (para. [0016]). The work machine 10 is a radial-lift type loader in which the bucket is moved up and down by arms 10 (para. [0017]).

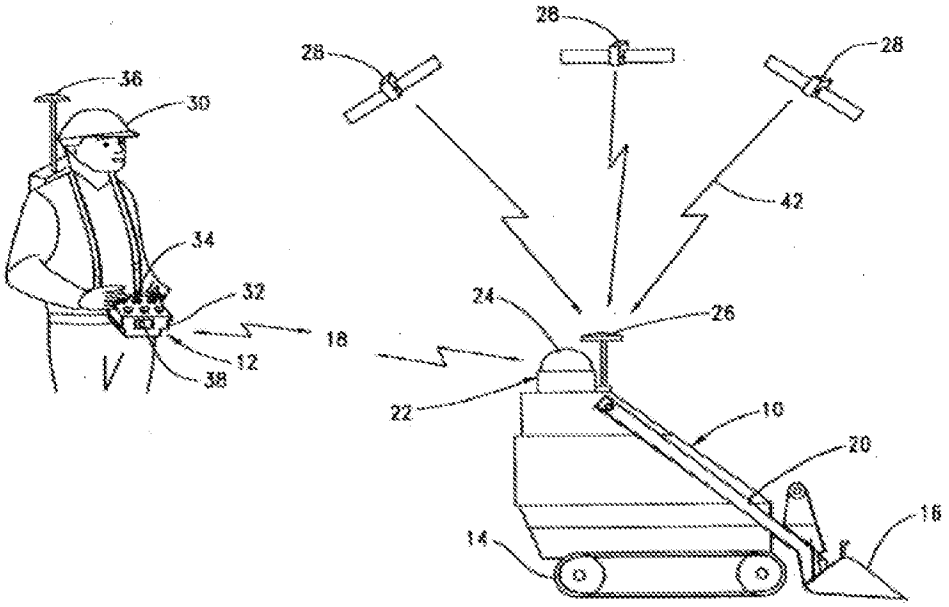


Fig. 1 of Self

Claim 19 recites a rear linkage pivotally attached to the *loader* at a rear linkage pivot point and that, as the loader travels from the down position to the vertically raised position, the rear linkage pivot point is (1) disposed within the barrier guard and/or (2) disposed forward of the barrier guard. The Office sets forth its obviousness rationale on page 24 of the Office action and states:

> the rear linkage pivot point 32 is (1) disposed within the barrier guard and/or (2) disposed forward of the barrier guard. See figures 1-3 which show that neither of the pivot points 52, 32 move from the outline of the machine and are thus disposed within the barrier guard at all times.

The Office references the pivot point formed between the rear linkage and *the mainframe* of Hoechst, not the pivot point formed between the rear linkage and *the loader* as recited in claim 19:

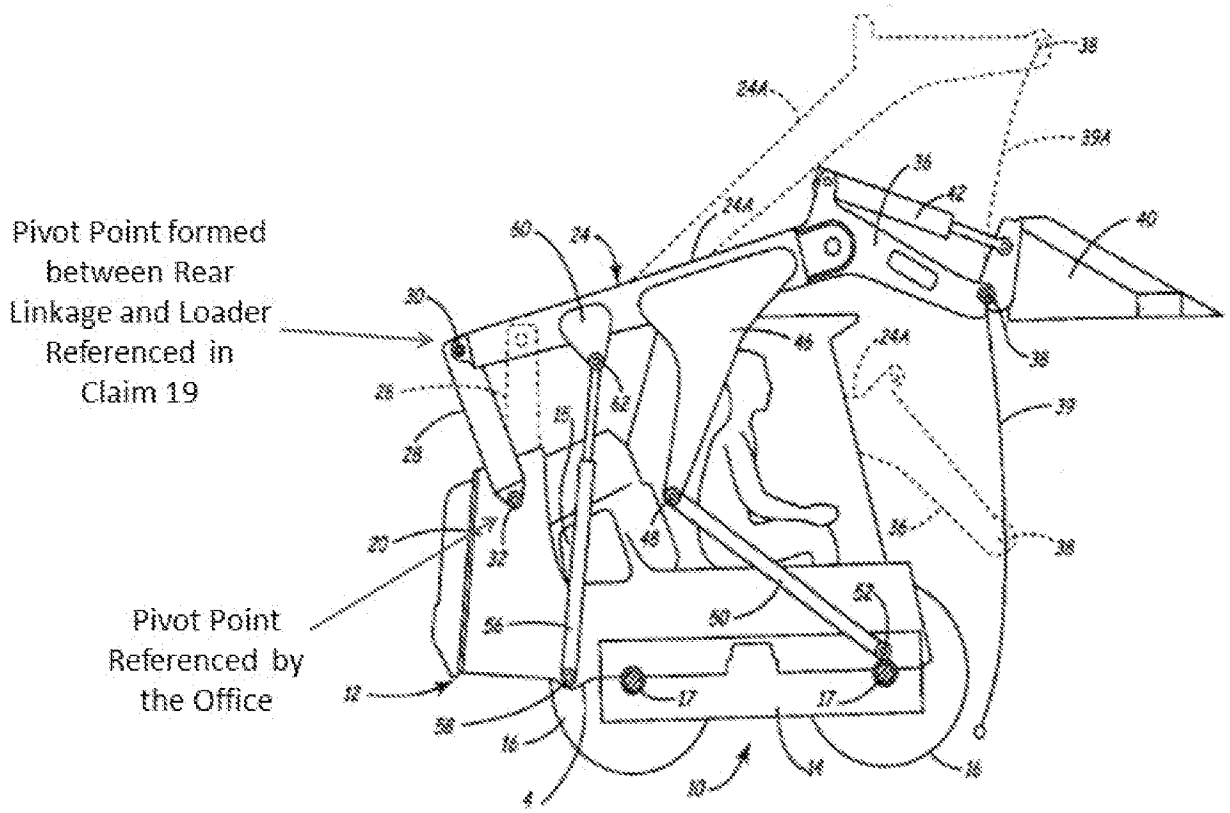


Fig. 2 of Hoechst

As shown in Figure 2 of Hoechst, the pivot point 30 formed in the loader is not (1) disposed within the barrier guard and/or (2) disposed forward of the barrier guard as the loader travels from the down position to the vertically raised position. This deficiency is not cured by Self which is cited by the Office to show standing or walk-behind operator control. Self discloses a radial lift loader, not a vertical-lift loader having first and second linkages attached to the mainframe and pivotally attached to the loader as recited in claim 19. Independent claim 19 is patentable over Hoechst in view of Self because neither Hoechst nor Self disclose a rear linkage connected to a loader at a pivot point which is (1) disposed within the barrier guard and/or (2) disposed forward of the barrier guard as the loader travels from the down position to the vertically raised position.

Dependent claims 20-23 and 33 incorporate the recitations of independent claim 19 by way of their dependency therefrom and are patentable over Hoechst in view of Self for at least the reasons set forth above relating to independent claim 19.

New claim 33 includes the recitations of claim 17. The Office states on pages 25-26 of the Office action that claim 17 is patentable over Hoechst.

5. Claims 25, 27 and 34 are Novel and Not Obvious.

Independent claim 25 is directed to a loader apparatus for standing or walk-behind operator control. The loader apparatus comprises:

> a machine structure comprising a mainframe and an upper frame, the machine structure defining a barrier guard;
>
> a control station having operator controls toward a rear of the loader apparatus;
>
> an actuator pivotally attached to the mainframe;
>
> a linkage pivotally attached to the mainframe; and
>
> a loader adapted to carry a tool, the loader being moveable between a down position and a vertically raised position, the linkage being pivotally attached to the loader at a linkage pivot point, wherein**:**
>
> in the down positon, the linkage pivot point is disposed within the barrier guard; and
>
> as the loader travels from the down position to the vertically raised position, the linkage pivot point is (1) disposed within the barrier guard and/or (2) disposed forward of the barrier guard.

Ramrod is not prior art against claims 25, 27 and 34 and these claims are patentable over Hoechst in view of Self for the reasons set forth below.

a. Ramrod is not Prior Art against Claims 25, 27 and 34.

As discussed above relating to independent claim 19, the Office has not established that Ramrod was publically accessible as of the effective filing date of the '266 Patent. Further, Figures 2 and 3 of U.S. Provisional Patent Application No. 62/118,860, from which the '266 Patent claims priority, **show the pivot points formed in the loader and their relation to the perimeter of the machine structure defined by the mainframe and upper frame**. Accordingly, claim 25 and claims depending therefrom are entitled to the February 20, 2015 priority date. For at least these reasons, the Ramrod Brochure is not prior art against claim 25 and claims 27 and 34 depending therefrom and the rejection should be withdrawn.

b. Claims 25, 27 and 34 are not Obvious over Hoechst in view of Self.

Claim 25 recites a loader apparatus having a linkage "pivotally attached to the *loader* at a linkage pivot point." Because the Office cites pivot point 52 of Hoechst which is the pivot point formed in the *mainframe*, the rejection must be withdrawn.

Dependent claim 27 incorporates the recitations of independent claim 25 by way of its dependency therefrom and is patentable over Hoechst in view of Self for at least the reasons set forth above relating to independent claim 25.

New claim 34 includes the recitations of claim 17. The Office states on pages 25-26 of the Office action that claim 17 is patentable over Hoechst.

6. New Claims 35-36 are Novel and Not Obvious.

New independent claim 35 includes the recitations of claim 19 discussed above and new independent claim 36 includes the recitations of claim 25 discussed above. Claims 35 and 36 further recite that the control station having operator controls toward a rear of the loader apparatus is supported by the mainframe. Hoechst does not disclose a control station that is disposed toward the rear of the loader apparatus. Self discloses a remote control system for controlling the machine and does not disclose a control station supported by the mainframe. Because neither Hoechst nor Self disclose a

control station that is disposed toward the rear of the loader apparatus with the control station being supported by the mainframe, independent claim 35 and independent claim 36 are further patentable over the cited references.

New claims 35 and 36 also expressly recite that the barrier guard is defined by the perimeter of the machine structure. This is consistent with the claim interpretation of "barrier guard" set forth by the District Court in its "Order on Claim Construction" referenced above in relation to claim 19.

7. New Claims 37-38 are Novel and Not Obvious.

New independent claim 37 includes the recitations of claim 35 discussed above and new independent claim 38 includes the recitations of claim 36 discussed above. Claims 37 and 38 also recite that the actuator is pivotally attached to the loader at an actuator pivot point wherein, as the loader travels from the down position to the vertically raised position, when viewed from the side, the actuator pivot point is (1) disposed within the machine structure perimeter and/or (2) disposed forward of the machine structure perimeter. Claims 37 and 38 also refer to a machine structure perimeter and do not expressly recite the barrier guard[6]. Claims 37 and 38 are further patentable over the cited references.

[6] Because the district court interpreted the "barrier guard" to be the "machine structure perimeter", these terms are co-extensive and claims 37 and 38 are not broader than claims 19 and 25 of the '266 patent which recites the term "barrier guard."

III. CONCLUSION

The Patent Owner respectfully requests reconsideration and allowance of all pending claims. The undersigned request a telephone call from the Examiner if a call might expedite allowance.

The Patent Owner authorizes the Commissioner to charge any fees which may be due in connection with this Amendment to Deposit Account No. 012384 in the name of Armstrong Teasdale LLP.

Respectfully submitted,

/Michael J. Vander Molen/

Michael J. Vander Molen
Reg. No. 57,274
Armstrong Teasdale LLP
7700 Forsyth Blvd., Suite 1800
St. Louis, Missouri 63105
(314) 621-5070

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

U.S. Patent No. 10,202,266
Inventors: Brad Thomas et al. Art Unit: 3993
Reexamination Control No.: 90/014,269
Filed: February 26, 2019
Confirmation No.: 3337
For: LOW PROFILE COMPACT TOOL CARRIERS
Examiner: Russell D. Stormer

March 6, 2020

AMENDMENT AND RESPONSE TO OFFICE ACTION

TO THE COMMISSIONER FOR PATENTS,

SIR:

Please enter the following amendments and consider the following remarks in the above-identified *ex parte* reexamination of U.S. Patent No. 10,202,266.

I. AMENDMENTS TO THE CLAIMS 3

II. REMARKS 10

A. EXECUTIVE SUMMARY 10

B. AMENDMENT SUMMARY 11

C. REJECTIONS UNDER 35 U.S.C. §102 and 35 U.S.C. §103 12

1. Claims 1, 4-9 and 30-31 are Not Obvious over Dorkins in view of Baker 12

a. The Prior Art 14

b. One of Ordinary Skill in the Art Would Not have Been Motivated to Modify Dorkins to Include an Operator Platform for Standing Operation of the Tractor because the Prior Art Teaches Away from Standing Operation 16

c. The Proposed Combination Does Not Include Each Feature of Claim 1. 19

2. Claims 7-9 and 32 are Not Obvious over Dorkins in view of Baker. 23

3. Claim 14 is Allowable 24

4. Claims 19-23 and 33 are Novel and Not Obvious. 24

a. Ramrod is not Prior Art against Claims 19-23 and 33 25

b. Claims 19-23 and 33 are not Obvious over Hoechst in view of Self 32

5. Claims 25, 27 and 34 are Novel and Not Obvious. 36

a. Ramrod is not Prior Art against Claims 25, 27 and 34. 37

b. Claims 25, 27 and 34 are not Obvious over Hoechst in view of Self. 37

6. New Claims 35-36 are Novel and Not Obvious 37

7. New Claims 37-38 are Novel and Not Obvious 38

III. CONCLUSION 39

I. AMENDMENTS TO THE CLAIMS

Please amend claim 14 as follows:

14. (Amended) A loader apparatus for standing or walk-behind operator control and comprising:

a loader adapted to carry a tool;

a loader support for supporting the loader, the loader support having a first side and a second side, the loader being free from direct attachment to the loader support;

a first linkage pivotally attached to the first side of the loader support at a first pivot point and pivotally attached to the loader at a second pivot point;

an actuator pivotally attached to the first side of the loader support at a third pivot point and pivotally attached to the loader at a fourth pivot point;

a second linkage pivotally attached to the first side of the loader support at a fifth pivot point and pivotally attached to the loader at a sixth pivot point; and

a drive mechanism for propelling the loader apparatus over a supporting surface, the drive mechanism having a drive sprocket defining a rotational axis R, the rotational axis R and a bottom of the first side of the loader support being separated by a vertical distance D5, the loader support comprising a forward-most pivot point with the first pivot point or the third pivot point being the forward-most pivot point, a vertical distance between the rotational axis R and the forward-most pivot point being less than 0.75 D5, the loader apparatus having a bottom at which the drive mechanism contacts the supporting surface, the rotational axis R and the bottom of the loader apparatus being separated by a vertical distance D1, the rotational axis R and each of the first, third and fifth pivot points being separated by a vertical distance, the vertical distance between the rotational axis R and the first pivot point being less than 1.5 times D1, the vertical distance between the rotational axis R and the third pivot point being less than 1.5 times

D1, and the vertical distance between the rotational axis R and the fifth pivot point being less than 1.5 times D1.

Please cancel claim 17.

Please cancel claim 18.

Please cancel claim 28.

Please cancel claim 29.

Please insert new claims 30-38:

30. (New) The loader apparatus as set forth in claim 1 wherein the operator controls for propelling the loader apparatus forward and for raising and lowering the loader are hand operator controls.

31. (New) The loader apparatus as set forth in claim 1 wherein the loader apparatus does not include an operator's seat.

32. (New) The loader apparatus as set forth in claim 7 wherein the loader apparatus does not include an operator's seat.

33. (New) The loader apparatus as set forth in claim 19 wherein the front linkage is pivotally attached to the mainframe at a first pivot point and is pivotally attached to the loader at a second pivot point, the front linkage pivot point being the second pivot point, the rear linkage is pivotally connected to the mainframe at a third pivot point and is pivotally attached to the loader at a fourth pivot point, the rear linkage pivot point being the fourth pivot point, and the actuator is pivotally attached to the mainframe at a fifth

pivot point and is pivotally attached to the loader at a sixth pivot point, the loader apparatus comprising a drive mechanism for propelling the loader apparatus over a supporting surface, the drive mechanism having a drive sprocket defining a rotational axis R, the loader apparatus having a bottom at which the drive mechanism contacts the supporting surface, the rotational axis R and the bottom of the loader apparatus being separated by a vertical distance D1, the rotational axis R and each of the first, third and fifth pivot points being separated by a vertical distance, the vertical distance between the rotational axis R and the first pivot point being less than 1.5 times D1, the vertical distance between the rotational axis R and the third pivot point being less than 1.5 times D1, and the vertical distance between the rotational axis R and the fifth pivot point being less than 1.5 times D1.

34. (New) The loader apparatus as set forth in claim 25 wherein the linkage is a first linkage, the first linkage being pivotally attached to the mainframe at a first pivot point and pivotally attached to the loader at a second pivot point, the linkage pivot point being the second pivot point, the actuator being pivotally attached to the mainframe at a third pivot point and pivotally attached to the loader at a fourth pivot point, the loader apparatus comprising:

a second linkage pivotally attached to the mainframe at a fifth pivot point and pivotally attached to the loader at a sixth pivot point; and

a drive mechanism for propelling the loader apparatus over a supporting surface, the drive mechanism having a drive sprocket defining a rotational axis R, the loader apparatus having a bottom at which the drive mechanism contacts the supporting surface, the rotational axis R and the bottom of the loader apparatus being separated by a vertical distance D1, the rotational axis R and each of the first, third and fifth pivot points being separated by a vertical distance, the vertical distance between the rotational axis R and the first pivot point being less than 1.5 times D1, the vertical distance between the rotational axis R and the third pivot point being less than 1.5 times D1, and the vertical distance between the rotational axis R and the fifth pivot point being less than 1.5 times D1.

35. (New) A loader apparatus for standing or walk-behind operator control and comprising:

a machine structure comprising a mainframe and an upper frame, the machine structure defining a barrier guard, the barrier guard being defined by the perimeter of the machine structure;

a control station having operator controls toward a rear of the loader apparatus, the control station being supported by the mainframe;

an actuator pivotally attached to the mainframe;

a front linkage pivotally attached to the mainframe;

a rear linkage pivotally attached to the mainframe; and

a loader adapted to carry a tool, the loader being moveable between a down position and a vertically raised position, the front linkage being pivotally attached to the loader at a front linkage pivot point, the rear linkage being pivotally attached to the loader at a rear linkage pivot point, wherein:

in the down position, the front linkage pivot point is (1) disposed within the barrier guard and/or (2) disposed forward of the barrier guard; and

as the loader travels from the down position to the vertically raised position, the rear linkage pivot point is (1) disposed within the barrier guard and/or (2) disposed forward of the barrier guard.

36. (New) A loader apparatus for standing or walk-behind operator control and comprising:

a machine structure comprising a mainframe and an upper frame, the machine structure defining a barrier guard, the barrier guard being defined by the perimeter of the machine structure;

a control station having operator controls toward a rear of the loader apparatus, the control station being supported by the mainframe;

an actuator pivotally attached to the mainframe;

a linkage pivotally attached to the mainframe; and

a loader adapted to carry a tool, the loader being moveable between a down position and a vertically raised position, the linkage being pivotally attached to the loader at a linkage pivot point, wherein:

in the down positon, the linkage pivot point is disposed within the barrier guard; and

as the loader travels from the down position to the vertically raised position, the linkage pivot point is (1) disposed within the barrier guard and/or (2) disposed forward of the barrier guard.

37. (New) A loader apparatus for standing or walk-behind operator control and comprising:

a machine structure comprising a mainframe and an upper frame, the machine structure having a machine structure perimeter;

a control station having operator controls toward a rear of the loader apparatus, the control station being supported by the mainframe;

an actuator pivotally attached to the mainframe;

a front linkage pivotally attached to the mainframe;

a rear linkage pivotally attached to the mainframe; and

a loader adapted to carry a tool, the loader being moveable between a down position and a vertically raised position, the front linkage being pivotally attached to the

loader at a front linkage pivot point, the rear linkage being pivotally attached to the loader at a rear linkage pivot point, the actuator being pivotally attached to the loader at an actuator pivot point, wherein:

in the down position, when viewed from the side, the front linkage pivot point is (1) disposed within the machine structure perimeter and/or (2) disposed forward of the machine structure perimeter;

as the loader travels from the down position to the vertically raised position, when viewed from the side, the rear linkage pivot point is (1) disposed within the machine structure perimeter and/or (2) disposed forward of the machine structure perimeter; and

as the loader travels from the down position to the vertically raised position, when viewed from the side, the actuator pivot point is (1) disposed within the machine structure perimeter and/or (2) disposed forward of the machine structure perimeter.

38. (New) A loader apparatus for standing or walk-behind operator control and comprising:

a machine structure comprising a mainframe and an upper frame, the machine structure having a machine structure perimeter;

a control station having operator controls toward a rear of the loader apparatus, the control station being supported by the mainframe;

an actuator pivotally attached to the mainframe;

a linkage pivotally attached to the mainframe; and

a loader adapted to carry a tool, the loader being moveable between a down position and a vertically raised position, the linkage being pivotally attached to the loader at a linkage pivot point, the actuator being pivotally attached to the loader at an actuator pivot point, wherein:

in the down positon, the linkage pivot point is disposed within the barrier guard;

as the loader travels from the down position to the vertically raised position, the linkage pivot point is (1) disposed within the barrier guard and/or (2) disposed forward of the barrier guard; and

as the loader travels from the down position to the vertically raised position, when viewed from the side, the actuator pivot point is (1) disposed within the machine structure perimeter and/or (2) disposed forward of the machine structure perimeter.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
90/014,269	02/26/2019	10202266	Vermeer - 266 Reexam	3337

76656 7590 03/06/2020

Patent Docket Department
Armstrong Teasdale LLP
7700 Forsyth Boulevard
Suite 1800
St. Louis, MO 63105

EXAMINER	
STORMER, RUSSELL D	

ART UNIT	PAPER NUMBER
3993	

MAIL DATE	DELIVERY MODE
03/06/2020	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

DO NOT USE IN PALM PRINTER

(THIRD PARTY REQUESTER'S CORRESPONDENCE ADDRESS)

JAMES W. MILLER(ATTORNEY)

120 6TH STREET SUITE 2310

MINNEAPOLIS, MN 55402

EX PARTE REEXAMINATION COMMUNICATION TRANSMITTAL FORM

REEXAMINATION CONTROL NO. *90/014,269* .

PATENT UNDER REEXAMINATION *10202266* .

ART UNIT *3993* .

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above identified *ex parte* reexamination proceeding (37 CFR 1.550(f)).

Where this copy is supplied after the reply by requester, 37 CFR 1.535, or the time for filing a reply has passed, no submission on behalf of the *ex parte* reexamination requester will be acknowledged or considered (37 CFR 1.550(g)).

Ex Parte Reexamination Interview Summary	Control No. 90/014,269	Patent Under Reexamination 10202266	
	Examiner RUSSELL D STORMER	Art Unit 3993	AIA (FITF) Status Yes

All participants (USPTO personnel, patent owner, patent owner's representative):

(1) RUSSELL STORMER	(3) Michael Vander Molen (for PO)
(2) Gay Spahn and Sara Clarke	(4) Michael Munsell (for PO)

Date of Interview: 04 March 2020

Type: a) ☑ Telephonic b) ☐ Video Conference
c) ☐ Personal (copy given to: 1) ☐ patent owner 2) ☐ patent owners representative)

Exhibit shown or demonstration conducted: d) ☐ Yes e) ☑ No.
If Yes, brief description: _____

Agreement with respect to the claims f) ☐ was reached. g) ☑ was not reached. h) ☐ N/A.
Any other agreement(s) are set forth below under "Description of the general nature of what was agreed to..."

Claim(s) discussed: None in particular; the independent claims in general .

Identification of prior art discussed: Dorkins, Baker, Hoechst, and Self were mentioned .

Description of the general nature of what was agreed to if an agreement was reached, or any other comments: See Continuation Sheet .

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims patentable, if available, must be attached. Also, where no copy of the amendments that would render the claims patentable is available, a summary thereof must be attached.)

A FORMAL WRITTEN RESPONSE TO THE LAST OFFICE ACTION MUST INCLUDE PATENT OWNER'S STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. (See MPEP § 2281). IF A RESPONSE TO THE LAST OFFICE ACTION HAS ALREADY BEEN FILED, THEN PATENT OWNER IS GIVEN **ONE MONTH** FROM THIS INTERVIEW DATE TO PROVIDE THE MANDATORY STATEMENT OF THE SUBSTANCE OF THE INTERVIEW
(37 CFR 1.560(b)). THE REQUIREMENT FOR PATENT OWNERS STATEMENT CAN NOT BE WAIVED.
EXTENSIONS OF TIME ARE GOVERNED BY 37 CFR 1.550(c).

/RUSSELL D STORMER/ Primary Examiner, Art Unit 3993	Conferees: /SC/, Primary Examiner, Art Unit 3993 and /GAS/	Attachment: Interview Agenda

cc: Requester (if third party requester)

Continuation of Description of the general nature of what was agreed to if an agreement was reached, or any other comments: Patent Owner (through the representatives) proposed changing "loader apparatus" to --compact tool carrier- - in independent claims 1, 7, 19, and 25. The Examiner said this woud not overcome the outstanding rejections and that the new term in the preamble would not be given weight because it does not add structure or further define the invention. The new term is more of a descriptive name for the limitations in the body of the claim and the preamble sets forth an intended use. The possibility of adding that the compact tool carrier has a mass of less than about 1500 kg was discussed, but it was noted that Self teaches (or appears to teach) such a machine.

Spahn, Gay

Subject: FW: Interview Agenda - Reexam Control No. 90/014,269
Attachments: 31681-296 Interview Agenda.pdf

Expires: Wednesday, July 14, 2021 12:00 AM

From: Michael J. Vander Molen <mvandermolen@atllp.com>
Sent: Monday, March 2, 2020 5:08 PM
To: Stormer, Russell (AU3617) <Russell.Stormer@USPTO.GOV>
Subject: Interview Agenda - Reexam Control No. 90/014,269

Examiner Stormer,

Thank you for your call this morning. Assuming 10:00 EST (9:00 CST) on Wednesday still works for an Interview, I now attached an interview agenda for our discussion. We will initiate the call to your Office on our end.

Please note that we filed an Authorization for Internet Communications in the reexamination proceeding today.

We look forward to our discussion on Wednesday.

Best regards,

Mike

Armstrong Teasdale

Michael J. Vander Molen
Intellectual Property Attorney | Partner
ph: 314-259-4734
ArmstrongTeasdale.com

*************************PRIVATE AND CONFIDENTIAL*************************
This transmission and any attached files are privileged, confidential or otherwise the exclusive property of the intended recipient or Armstrong Teasdale LLP. If you are not the intended recipient, any disclosure, copying, distribution or use of any of the information contained in or attached to this transmission is strictly prohibited. If you have received this transmission in error, please contact us immediately by e-mail (admin@armstrongteasdale.com) or telephone (314-621-5070) and promptly destroy the original transmission and its attachments. Opinions, conclusions and other information in this message that do not relate to the official business of Armstrong Teasdale LLP shall be understood as neither given nor endorsed by it.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

U.S. Patent No. 10,202,266
Inventors: Brad Thomas et al. Art Unit: 3993
Reexamination Control No.: 90/014,269
Filed: February 26, 2019
Confirmation No.: 3337
For: LOW PROFILE COMPACT TOOL CARRIERS
Examiner: Russell D. Stormer

INTERVIEW AGENDA

Time: 10:00 AM EST, March 4, 2020

Attendees: Mike Vander Molen (Reg. No. 57,274) and Mike Munsell (Reg. No. 43,820)

I. **Discuss whether Claims Corresponding to Independent Claims 1 and 7 but with Preamble Changed from "Loader Apparatus" to "Compact Tool Carrier" overcome obviousness rejection over Dorkins in view of Baker**

II. **Discuss whether Claims Corresponding to Independent Claims 19 and 25 but with Preamble Changed from "Loader Apparatus" to "Compact Tool Carrier" overcome obviousness rejection over Hoechst in view of Self**

Doc Code: ECOMM.AUTH/ECOMM.WTDW
Doc Description: Internet Communications Authorized/Internet Communications Authorization Withdrawn

PTO/SB/439 (11-15)

AUTHORIZATION FOR INTERNET COMMUNICATIONS IN A PATENT APPLICATION OR REQUEST TO WITHDRAW AUTHORIZATION FOR INTERNET COMMUNICATIONS		
	Application No.	90/014,269
	Filing Date	02/26/2019
	First Named Inventor	Patent No. 10,202,266 - Thomas
	Art Unit	3993
	Examiner Name	Russell D. Stormer
	Practitioner Docket No.	31681-296

To: Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

I. To authorize permission for Internet Communications.

☑ Recognizing that Internet communications are not secure, I hereby authorize the USPTO to communicate with the undersigned and practitioners in accordance with 37 CFR 1.33 and 37 CFR 1.34 concerning any subject matter of this application via video conferencing, instant messaging, or electronic mail. I understand that a copy of these communications will be made of record in the application file. (MPEP 502.03)

II. To withdraw authorization for Internet Communications.

☐ The authorization given on _____, to the USPTO to communicate with the undersigned and any practitioner in accordance with 37 CFR 1.33 and 37 CFR 1.34 concerning any subject matter of this application via Internet communications such as video conferencing, instant messaging, or electronic mail is hereby withdrawn. I understand that the withdrawal is effective when approved rather than when received.

I am the

☐ applicant.

☑ attorney or agent of record. Registration number 57274.

☐ attorney or agent acting under 37 CFR 1.34. Registration number _____.

/Michael J. Vander Molen/ — Signature

03/02/2020 — Date

Michael J. Vander Molen — Typed or printed name

314-621-5070 — Telephone Number

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. Juristic entities must be represented by a patent practitioner (see 37 CFR 1.31, which is applicable to any paper filed on or after September 16, 2012, that is presented on behalf of a juristic entity, regardless of application filing date). Submit multiple forms if more than one signature is required, see below*.

☑ * Total of 1 forms are submitted.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
90/014,269	02/26/2019	10202266	Vermeer - 266 Reexam	3337

76656 7590 01/21/2020

Patent Docket Department
Armstrong Teasdale LLP
7700 Forsyth Boulevard
Suite 1800
St. Louis, MO 63105

EXAMINER	
STORMER, RUSSELL D	

ART UNIT	PAPER NUMBER
3993	

MAIL DATE	DELIVERY MODE
01/21/2020	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patents and Trademark Office
P.O.Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

THIRD PARTY REQUESTER'S CORRESPONDENCE ADDRESS

JAMES W. MILLER(ATTORNEY)
120 6TH STREET
SUITE 2310
MINNEAPOLIS, MN 55402

Date: JAN 2 1 2020

EX PARTE REEXAMINATION COMMUNICATION TRANSMITTAL FORM

REEXAMINATION CONTROL NO. : 90014269
PATENT NO. : 10202266 B2
ART UNIT : 3993

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above identified ex parte reexamination proceeding (37 CFR 1.550(f)).

Where this copy is supplied after the reply by requester, 37 CFR 1.535, or the time for filing a reply has passed, no submission on behalf of the ex parte reexamination requester will be acknowledged or considered (37 CFR 1.550(g)).

Decision on Petition for Extension of Time in Reexamination	Application No. 90/014,269	Applicant(s) 10,202,266 B2	
	Examiner Russell D. Stormer	Art Unit 3993	

1. THIS IS A DECISION ON THE PETITION FILED January 16, 2020.

2. THIS DECISION IS ISSUED PURSUANT TO:
   - A. ☒ 37 CFR 1.550(c) – The time for taking any action by a patent owner in a third party requested *ex parte* reexamination proceeding will be extended only for sufficient cause and for a reasonable time specified.
   - B. ☐ 37 CFR 1.550(c) – The time for taking action by a patent owner in a patent owner requested *ex parte* reexamination proceeding will only be extended for more than two months for sufficient cause and for a reasonable time specified.
   - C. ☐ 37 CFR 1.956 – The time for taking any action by a patent owner in an *inter partes* reexamination proceeding will be extended only for sufficient cause and for a reasonable time specified.

   The petition is before the Central Reexamination Unit for consideration.

3. FORMAL MATTERS
   Patent owner requests that the period for filing a response to the Non-Final Office action mailed December 6, 2019, which set a two (2) month period to file a response (i.e., making the due date be February 6, 2020), be extended by an additional one (1) month (i.e., in which case the due date would be March 6, 2020).
   - A. Petition fee per 37 CFR §1.17(g)):
     - i. ☒ Petition includes authorization to debit a deposit account.
     - ii. ☐ Petition includes authorization to charge a credit card account.
     - iii. ☐ Other: _____.
   - B. ☒ Proper certificate of service was provided. (Not required in reexamination where patent owner is requester.)
   - C. ☒ Petition was timely filed.
   - D. ☒ Petition properly signed.

4. DECISION (See MPEP 2265 and 2665)
   - A. ☒ Granted or ☐ Granted-in-part for one (1) additional month. (See 37 CFR 1.550(c) and 37 CFR 1.956).
     - i. ☒ Other/comment : See below CONCLUSION.
   - B. ☐ Dismissed because:
     - i. ☐ Formal matters (See unchecked box(es) (A, B, C and/or D) in section 4 above).
     - ii. ☐ Petitioner failed to provide a factual accounting of reasonably diligent behavior by all those responsible for preparing a response to the outstanding Office action within the statutory time period.
     - iii. ☐ Petitioner failed to explain why, in spite of the action taken thus far, the requested additional time is needed.
     - iv. ☐ The statements provided fail to establish sufficient cause to warrant extension of the time for taking action (See attached).
     - v. ☐ The petition is moot.
     - vi. ☐ Other/comment: _____

5. CONCLUSION: **Patent Owner's response to the December 6, 2019 Non-Final Office action has hereby been extended by one (1) additional month and is now due March 6, 2020**.

   Telephone inquiries with regard to this decision should be directed to Gay Ann Spahn at 571-272-7731 in the CRU.

	/Gay Ann Spahn/ Supervisory Patent Reexamination Specialist Central Reexamination Unit

CERTIFICATE OF SERVICE

I certify that on January 16, 2020 the foregoing RENEWED PETITION FOR EXTENSION OF TIME was served on the third party requester's counsel via first class mail at:

James W. Miller
Registration No. 27,661
120 S. 6th St.
Suite 2310
Minneapolis, MN 55402-1829

Respectfully submitted,

/Michael J. Vander Molen/

Michael J. Vander Molen
Reg. No. 57,274
ARMSTRONG TEASDALE LLP
7700 Forsyth Blvd., Suite 1800
St. Louis, Missouri 63105
(314) 621-5070

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

U.S. Patent No. 10,202,266
Inventors: Brad Thomas et al. Art Unit: 3993
Reexamination Control No.: 90/014,269
Filed: February 26, 2019
Confirmation No.: 3337
For: LOW PROFILE COMPACT TOOL CARRIERS
Examiner: Russell D. Stormer

JANUARY 16, 2020

TO THE COMMISSIONER FOR PATENTS,
SIR:

RENEWED PETITION FOR EXTENSION OF TIME PURSUANT TO 37 C.F.R. §1.550(c)

Patent Owner renews its request that the Director extend the period of time for responding to the December 6, 2019 Office action for one month pursuant to 37 C.F.R. §1.550(c). Patent Owner's response is currently due February 6, 2020. With the one month extension, Patent Owner's response would be due March 6, 2020.

Patent Owner filed a first Petition for Extension of Time in this reexamination proceeding on January 8, 2020. In a Decision dated January 13, the Office dismissed the Petition and stated that Patent Owner "may refile a second request for extension of time which provides a factual accounting of reasonably diligent behavior by all those responsible for preparing a response to the outstanding Office action." Patent Owner has been diligent in preparing the response to Office action. Patent Owner's representatives have reviewed the December 6, 2019 Office action and references cited therein. Patent Owner's representatives have researched the Examiner's positions set forth in the Office action (e.g., the Examiner's position that the fact that the Requestor of

this reexamination cited the prior art in the Request for Reexamination is "ample evidence" that the document was "publically accessible" as set forth on page 30 of the Office action). Patent Owner's representatives are considering potential amendments to the claims and have considered whether further evidence including declarations under 35 U.S.C. §1.132 would support patentability of the pending claims. Patent Owner's representatives have begun to draft the response to the Office action.

Despite Patent Owner's diligent efforts, additional time is needed to facilitate preparation of the response to the Office action. The Patent Owner needs additional time to review many new documents and decisions in various concurrent proceedings. In particular, U.S. Patent No. 10,202,266 is involved in the following proceeding:

- *Vermeer Corporation v. The Toro Company*, Case No. 4:17-cv-00076-CRW-HCA (S.D. IA. filed February 28, 2017)

The patent granted from parent Patent Application No. 14/691,649, U.S. Patent No. 9,321,386, is involved in the following proceedings:

- *Vermeer Corporation v. The Toro Company*, Case No. 4:17-cv-00076-CRW-HCA (S.D. IA. filed February 28, 2017)
- A third party Request for *Ex Parte* Reexamination assigned Control Number 90/014,109.
- Another third party Request for *Ex Parte* Reexamination assigned Control Number 90/014,124. This reexamination proceeding was merged with Reexamination Control Number 90/014,109.

The patent is also related to U.S. Patent No. 9,975,570, which is involved in the following proceedings:

- *Vermeer Corporation v. The Toro Company*, Case No. 4:17-cv-00076-CRW-HCA (S.D. IA. filed February 28, 2017)

- A third party Request for *Ex Parte* Reexamination assigned Control Number 90/014,148.

A continuation of U.S. Patent No. 10,202,266 was filed on February 7, 2019 and assigned Application No. 16/270,070.

The Patent Owner needs additional time to consider recent Patent Office decisions in Reexamination Control Nos. 90/014,109; 90/014,124; and 90/014,148 (i.e., Intent to Issue a Reexamination Certificate) and to consider whether such decisions impact the response to the December 6, 2019 Office action. Patent Owner needs additional time to ensure consistency with positions in the litigation and reexamination proceedings.

Patent Owner also needs additional time to consider the prior art in Grounds 6-8 of the December 6, 2019 Office action that has not previously been applied by the Office in any of the rejections in this reexamination or in any of the related proceedings (e.g., during prosecution of U.S. Patent Application 15/704,685, which granted as U.S. Patent No. 10,202,266 which is the subject of this reexamination proceeding, or related U.S. Patent Application Nos. 14/691,649; 15/062,801; and 16/270,070 or in related Reexamination Control Nos. 90/013,915; 90/014,109; 90/014,124; and 90/014,148). In particular, the Office cites "newly cited" U.S. Patent No. 6,474,933 (Hoechst); U.S. Patent Application Publication No. 2011/0137491 (Self) and U.S. Patent No. 1,808,735 (Henneuse):

> US Patent No. 6,474,933 to Hoechst et al. ("Hoechst")(newly cited)
>
> US Patent Application Publication 2011/0137491 to Self et al. ("Self")(newly cited)
>
> U.S. Patent No. 1,808,735 to Henneuse et al. ("Henneuse")(newly cited)

Pages 2-3 of the Office action.

Patent Owner requests an extension of one month to consider decisions of the Office in the concurrent proceedings, to ensure consistency with the concurrent proceedings, to consider newly cited references, and to consider declarations and gather other evidence.

Because there is sufficient cause to grant the extension and because the requested period of time for extension is reasonable, Patent Owner requests the extension be granted under 37 C.F.R. §1.550(c). The Patent Owner authorizes the Commissioner to charge any fees which may be due in connection with this Petition, including the fee set forth in 37 C.F.R. §1.17(g), to Deposit Account No. 012384 in the name of Armstrong Teasdale LLP.

Respectfully submitted,

/Michael J. Vander Molen/

Michael J. Vander Molen
Reg. No. 57,274
ARMSTRONG TEASDALE LLP
7700 Forsyth Blvd., Suite 1800
St. Louis, Missouri 63105
(314) 621-5070

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
90/014,269	02/26/2019	10202266	Vermeer - 266 Reexam	3337

76656 7590 01/13/2020

Patent Docket Department
Armstrong Teasdale LLP
7700 Forsyth Boulevard
Suite 1800
St. Louis, MO 63105

EXAMINER
STORMER, RUSSELL D

ART UNIT	PAPER NUMBER
3993	

MAIL DATE	DELIVERY MODE
01/13/2020	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patents and Trademark Office
P.O.Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

THIRD PARTY REQUESTER'S CORRESPONDENCE ADDRESS

JAMES W. MILLER(ATTORNEY)
120 6TH STREET
SUITE 2310
MINNEAPOLIS, MN 55402

Date: JAN 13 2020

EX PARTE REEXAMINATION COMMUNICATION TRANSMITTAL FORM

REEXAMINATION CONTROL NO. : 90014269
PATENT NO. : 1020226
ART UNIT : 3993

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above identified ex parte reexamination proceeding (37 CFR 1.550(f)).

Where this copy is supplied after the reply by requester, 37 CFR 1.535, or the time for filing a reply has passed, no submission on behalf of the ex parte reexamination requester will be acknowledged or considered (37 CFR 1.550(g)).

Decision on Petition for Extension of Time in Reexamination	**Application No.** 90/014,269	**Applicant(s)** 10,202,266 B2	
	Examiner Russell D. Stormer	**Art Unit** 3993	

1. THIS IS A DECISION ON THE PETITION FILED January 08, 2020.

2. THIS DECISION IS ISSUED PURSUANT TO:
   - A. ☒ 37 CFR 1.550(c) – The time for taking any action by a patent owner in a third party requested *ex parte* reexamination proceeding will be extended only for sufficient cause and for a reasonable time specified.
   - B. ☐ 37 CFR 1.550(c) – The time for taking action by a patent owner in a patent owner requested *ex parte* reexamination proceeding will only be extended for more than two months for sufficient cause and for a reasonable time specified.
   - C. ☐ 37 CFR 1.956 – The time for taking any action by a patent owner in an *inter partes* reexamination proceeding will be extended only for sufficient cause and for a reasonable time specified.

   The petition is before the Central Reexamination Unit for consideration.

3. FORMAL MATTERS
   Patent owner requests that the period for filing a response to the Non-Final Office action mailed December 6, 2019, which set a two (2) month period to file a response, be extended by an additional one (1) month.
   - A. Petition fee per 37 CFR §1.17(g)):
     - i. ☒ Petition includes authorization to debit a deposit account.
     - ii. ☐ Petition includes authorization to charge a credit card account.
     - iii. ☐ Other: _____.
   - B. ☒ Proper certificate of service was provided. (Not required in reexamination where patent owner is requester.)
   - C. ☒ Petition was timely filed.
   - D. ☒ Petition properly signed.

4. DECISION (See MPEP 2265 and 2665)
   - A. ☐ Granted or ☐ Granted-in-part for _____. (See 37 CFR 1.550(c) and 37 CFR 1.956).
     - i. ☐ Other/comment :_____.
   - B. ☒ Dismissed because:
     - i. ☐ Formal matters (See unchecked box(es) (A, B, C and/or D) in section 4 above).
     - ii. ☒ Petitioner failed to provide a factual accounting of reasonably diligent behavior by all those responsible for preparing a response to the outstanding Office action within the statutory time period.
     - iii. ☐ Petitioner failed to explain why, in spite of the action taken thus far, the requested additional time is needed.
     - iv. ☐ The statements provided fail to establish sufficient cause to warrant extension of the time for taking action (See attached).
     - v. ☐ The petition is moot.
     - vi. ☐ Other/comment: _____

5. CONCLUSION: **Patent Owner's response to the December 6, 2019 Non-Final Office action remains due February 6, 2020; however, Patent Owner may refile a second request for extension of time which provides a factual accounting of reasonably diligent behavior by all those responsible for preparing a response to the outstanding Office action within the statutory time period in accordance with MPEP 2265, Roman Numeral VI, which indicates that "[t]he reasons MUST include a statement of what action the patent owner has taken to provide a response as of the date the request for extension is submitted."**

   Telephone inquiries with regard to this decision should be directed to Gay Ann Spahn at 571-272-7731 in the CRU.

	/Gay Ann Spahn/ Supervisory Patent Reexamination Specialist Central Reexamination Unit

CERTIFICATE OF SERVICE

I certify that on January 8, 2020 the foregoing PETITION FOR EXTENSION OF TIME was served on the third party requester's counsel via first class mail at:

James W. Miller
Registration No. 27,661
120 S. 6th St.
Suite 2310
Minneapolis, MN 55402-1829

Respectfully submitted,

/Michael J. Vander Molen/

Michael J. Vander Molen
Reg. No. 57,274
ARMSTRONG TEASDALE LLP
7700 Forsyth Blvd., Suite 1800
St. Louis, Missouri 63105
(314) 621-5070

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventors: Brad Thomas et al. Art Unit: 3993
Reexamination Control No.: 90/014,269
Filed: February 26, 2019
Confirmation No.: 3337
For: LOW PROFILE COMPACT TOOL CARRIERS
Examiner: Russell D. Stormer

JANUARY 8, 2020

TO THE COMMISSIONER FOR PATENTS,
SIR:

PETITION FOR EXTENSION OF TIME PURSUANT TO 37 C.F.R. §1.550(c)

Patent Owner requests the Director to extend the period of time for responding to the December 6, 2019 Office action for one month pursuant to 37 C.F.R. §1.550(c). Patent Owner's response is currently due February 6, 2020. With the one month extension, Patent Owner's response would be due March 6, 2020.

In Grounds 6-8 of the December 6, 2019 Office action, the Office cites prior art that has not previously been cited by the Office in any of the rejections in this reexamination or in any of the related proceedings (e.g., during prosecution of U.S. Patent Application 15/704,685, which granted as U.S. Patent No. 10,202,266 which is the subject of this reexamination proceeding, or related U.S. Patent Application Nos. 14/691,649; 15/062,801; and 16/270,070 or in related Reexamination Control Nos. 90/013,915; 90/014,109; 90/014,124; and 90/014,148). In particular, the Office cites "newly cited" U.S. Patent No. 6,474,933 (Hoechst); U.S. Patent Application Publication No. 2011/0137491 (Self) and U.S. Patent No. 1,808,735 (Henneuse):

US Patent No. 6,474,933 to Hoechst et al. ("Hoechst")(newly cited)

US Patent Application Publication 2011/0137491 to Self et al. ("Self")(newly cited)

U.S. Patent No. 1,808,735 to Henneuse et al. ("Henneuse")(newly cited)

Pages 2-3 of the Office action.

Patent Owner requests an extension of one month to consider these newly cited references and to prepare declarations and gather other evidence.

Because there is sufficient cause to grant the extension and because the requested period of time for extension is reasonable, Patent Owner requests the extension be granted under 37 C.F.R. §1.550(c). The Patent Owner authorizes the Commissioner to charge any fees which may be due in connection with this Petition, including the fee set forth in 37 C.F.R. §1.17(g), to Deposit Account No. 012384 in the name of Armstrong Teasdale LLP.

Respectfully submitted,

/Michael J. Vander Molen/

Michael J. Vander Molen
Reg. No. 57,274
ARMSTRONG TEASDALE LLP
7700 Forsyth Blvd., Suite 1800
St. Louis, Missouri 63105
(314) 621-5070

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
90/014,269	02/26/2019	10202266	Vermeer - 266 Reexam	3337

76656 7590 12/06/2019

Patent Docket Department
Armstrong Teasdale LLP
7700 Forsyth Boulevard
Suite 1800
St. Louis, MO 63105

EXAMINER	
STORMER, RUSSELL D	

ART UNIT	PAPER NUMBER
3993	

MAIL DATE	DELIVERY MODE
12/06/2019	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

DO NOT USE IN PALM PRINTER

(THIRD PARTY REQUESTER'S CORRESPONDENCE ADDRESS)

AMES W. MILLER (ATTORNEY)
120 6TH STREET
SUITE 2310
MINNEAPOLIS, MN 55402

EX PARTE REEXAMINATION COMMUNICATION TRANSMITTAL FORM

REEXAMINATION CONTROL NO. *90/014,269* .

PATENT UNDER REEXAMINATION *10202266* .

ART UNIT *3993* .

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above identified *ex parte* reexamination proceeding (37 CFR 1.550(f)).

Where this copy is supplied after the reply by requester, 37 CFR 1.535, or the time for filing a reply has passed, no submission on behalf of the *ex parte* reexamination requester will be acknowledged or considered (37 CFR 1.550(g)).

Notice of Pre-AIA or AIA Status

The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Brief Summary of the Prosecution History

A Request for *ex parte* reexamination of U.S. Patent 10,202,266 ("the '266 patent") was filed by a third party Requester on February 26, 2019.

An Order was mailed March 21, 2019, granting the reexamination of claims 1, 4-9, 14, 17-23, 25, and 27, and setting a two-month period for response. Reexamination of claims 2, 3, 10-13, 15, 16, 24, and 26 was neither requested nor ordered.

A non-final Office action was mailed on July 19, 2019 rejecting claims 1, 4-9, 14, 17-23, 25, and 27. Claims 2, 3, 10-13, 15, 16, 24, and 26 were not reexamined.

A response was filed by Patent Owner ("PO") on October 18, 2019 adding new claims 28 and 29, and submitting a multitude of declarations and exhibits.

An Information Disclosure Statement was filed October 24, 2019 to submit cited litigation documents from proceedings listed on the cover sheet/signature page.

Prior Art Documents Relied Upon in this Office Action

Ramrod Compact Mini Skid Loader Solutions ("Ramrod")

Vermeer Manufacturing Company, "Vermeer Mini Skid Steers S600/S600TX" brochure ("Vermeer Brochure")

U.S. Patent No. 2,277,496 to Dorkins ("Dorkins")

U.S. Patent No. 2,298,450 to Baker ("Baker")

US Patent No. 6,474,933 to Hoechst et al. ("Hoechst")(newly cited)

US Patent Application Publication 2011/0137491 to Self et al. ("Self")(newly cited)

U.S. Patent No. 1,808,735 to Henneuse et al. ("Henneuse")(newly cited)

Examiner-Raised Substantial New Question of Patentability

Brief Summary of the Prosecution History of the '266 Patent[1]

The subject '266 patent was filed as U.S. Patent Application 15/704,685 ("the '685 application") on September 14, 2017. The '266 patent is a continuation of U.S. Patent Application No. 15/062,801, filed March 7, 2016 and now Patent No. 9,975,750, which is a continuation of U.S. Application No. 14/691,649, filed April 21, 2015 and now Patent No. 9,321,386, which claims the benefit of U.S. Provisional Patent Application No. 62/118,860, filed February 20, 2015.

In the first Office Action, mailed April 23, 2018, claim 18 (which would issue as claim 14 of the '266 patent) was rejected on the ground of non-statutory double patenting, and claim 23 (which would issue as claim 19 of the '266 patent) was rejected as anticipated by Ulinski (U.S. Patent 3,074,572). Claims 24 and 25, which depended from claim 23, were each indicated to contain allowable subject matter.

In the Response filed October 23, 2018, Patent Owner submitted a Terminal Disclaimer to overcome the rejection of claim 18; claim 23 was amended to include the

[1] Only the pertinent claims are discussed in this Summary. A more detailed summary may be found in the Order mailed March 21, 2019 in this proceeding. See the IFW file of 15/704,685 for a complete history of the original examination.

subject matter of claim 25; and new independent claim 34 (which would issue as claim 25 of the '266 patent) "corresponds to independent claim 23 with the recitations of allowable claim 24 incorporated therein" according to the Response.

Claims 23 and 34 are reproduced below:

23. (Currently amended) A loader apparatus for standing or walk-behind operator control and comprising:

a machine structure comprising a mainframe and an upper frame, the machine structure defining a barrier guard;

a control station having operator controls toward a rear of the loader apparatus;

an actuator pivotally attached to the mainframe;

a front linkage pivotally attached to the mainframe;

a rear linkage pivotally attached to the mainframe; and

a loader adapted to carry a tool, the loader being moveable between a down position and a vertically raised position, the front linkage being pivotally attached to the loader at a front linkage pivot point, the rear linkage being pivotally attached to the loader at a rear linkage pivot point, wherein: [[,]]

in the down position, the front linkage pivot point is (1) disposed within the barrier guard and/or (2) disposed forward of the barrier guard; and

as the loader travels from the down position to the vertically raised position, the rear linkage pivot point is (1) disposed within the barrier guard and/or (2) disposed forward of the barrier guard.

34. (New) A loader apparatus for standing or walk-behind operator control and comprising:

a machine structure comprising a mainframe and an upper frame, the machine structure defining a barrier guard;

a control station having operator controls toward a rear of the loader apparatus;

an actuator pivotally attached to the mainframe;

a linkage pivotally attached to the mainframe; and

a loader adapted to carry a tool, the loader being moveable between a down position and a vertically raised position, the linkage being pivotally attached to the loader at a linkage pivot point, wherein:

in the down positon, the (front) linkage pivot point is disposed within the barrier guard; and

as the loader travels from the down position to the vertically raised position, the (rear) linkage pivot point is (1) disposed within the barrier guard and/or (2) disposed forward of the barrier guard.

These and other claims were indicated to be allowable in the next Office action.

The Notice of Allowance mailed December 26, 2018 did not include an Examiner's reasons for Allowance. Claims 18, 23, and 34 of the '685 application correspond to claims 14, 19, and 25 of the subject '266 patent.

From the prosecution history, it appears that claims 19 and 25 of the '266 patent were found allowable at least because limitations drawn to the position of the (front) linkage pivot point and the (rear) linkage pivot point with respect to the barrier guard while in the down position and/or while traveling from the down position to the raised position, were missing from the prior art of record.

Claim 14 of the '266 patent was amended to change "drive shaft" to "drive sprocket" by way of a preliminary amendment, but was not rejected over prior art, nor

was it further amended during the examination. Claim 14 was rejected only on grounds of double patenting. Notably, this claim is the only one to recite limitations drawn to the drive mechanism having a drive sprocket defining a rotational axis R, the rotational axis R and a bottom of the first side of the loader support being separated by a vertical distance D5, and a vertical distance between the rotational axis R and the forward-most pivot point being less than 0.75 D5. As such, it appears that this limitation was found to be missing from the prior art during the original examination.

SNQ Analysis

Hoechst was cited during the earlier examination of the '266 patent, and therefore is considered to be "old art."

This SNQ is based solely on patents and/or printed publications already cited/considered in an earlier concluded examination or review of the patent being reexamined. On November 2, 2002, Public Law 107-273 was enacted. Title III, Subtitle A, Section 13105, part (a) of the Act revised the reexamination statute by adding the following new last sentence to 35 U.S.C. 303(a) and 312(a):

"The existence of a substantial new question of patentability is not precluded by the fact that a patent or printed publication was previously cited by or to the Office or considered by the Office."

For any reexamination ordered on or after November 2, 2002, the effective date of the statutory revision, reliance on previously cited/considered art, i.e., "old art," does not necessarily preclude the existence of a substantial new question of patentability (SNQ) that is based exclusively on that old art. Rather, determinations on whether a

SNQ exists in such an instance shall be based upon a fact-specific inquiry done on a case-by-case basis.

In the instant proceeding, Hoechst was cited on an IDS by PO without comment at the time of filing the '685 application. Hoechst was not used in any rejection, nor was it discussed on the record by the Examiner or PO, nor was it considered during an earlier concluded review of the patent.

Therefore, Hoechst is available as prior art with respect to an SNQ.

Hoechst discloses a loader apparatus comprising a loader 24 adapted to carry a tool 40; a loader support 4 for supporting the loader, a linkage 50 pivotally attached to the first side of the loader support at a forward-most pivot point 52 and pivotally attached to the loader at a second pivot point 48; and a drive mechanism 16 for propelling the loader apparatus over a supporting surface.

The drive mechanism has a rotational axis R (the center of the axle 17), the rotational axis of the drive mechanism and a bottom of the first side of the loader support are separated by a vertical distance D5. As shown in figure 1 at least, a vertical distance between the rotational axis R and the forward-most pivot point 52 appears to be about one-half D5, which is less than 0.75 D5. As such, Hoechst appears to teach the salient limitation of claim 14.

With respect to claim 19, Hoechst further discloses a loader apparatus capable of carrying a tool 40 and comprising a mainframe 4 and an upper frame 20. The mainframe and the upper frame at least partially enclose an engine 15, and therefore may be considered to be a "barrier guard" as defined in SAE J2752 10.1.[2]

[2] 10.1 Guarding shall be provided to prevent access to areas or exposure to parts where a hazard exists to the operator during normal starting and operation of the compact tool carrier.

As shown in the figures, the front linkage 50 is pivotally attached to the loader at a front linkage pivot point 52 and the rear linkage 28 is pivotally attached to the loader at a rear linkage pivot point 32. In the down position, the front linkage pivot point 52 is disposed within the barrier guard, and as the loader travels from the down position to the vertically raised position, the rear linkage pivot point 32 is disposed within the barrier guard, as recited in claim 19.

Therefore, Hoechst has new, non-cumulative technical teachings relevant to limitations argued or found to be missing from the prior art used during the original examination, and a reasonable examiner would consider this reference to be important in determining the patentability of claims 14, 19, and 25 of the '266 patent.

Accordingly, Hoechst raises an SNQ as to claims 14, 19, and 25 (and their dependent claims) of the '266 patent.

Grounds of Rejection

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:[3]

> A person shall be entitled to a patent unless –
>
> (a)(1) the claimed invention was patented, described in a printed publication, or in public use, on sale or otherwise available to the public before the effective filing date of the claimed invention.

[3] In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the statutory basis for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

Ground 1

Claims 19-23, 25, and 27 are rejected under 35 U.S.C. 102(a)(1) as being anticipated by Ramrod.[4]

Ramrod (specifically the Ramrod Model 3300) discloses a loader apparatus for standing or walk-behind operator control (Ramrod 3300 mini skid steer operated by a standing operator) and comprising:

a machine structure comprising a mainframe (mainframe 1) and an upper frame (upper frame 2), the machine structure defining a barrier guard (barrier guard 7);

a control station having operator controls toward a rear of the loader apparatus (the control station in front of the operator who stands at the rear of the Ramrod 3300);

an actuator (actuator 6) pivotally attached to the mainframe (at 6m);

a front linkage (front linkage 4) pivotally attached to the mainframe (at 4m);

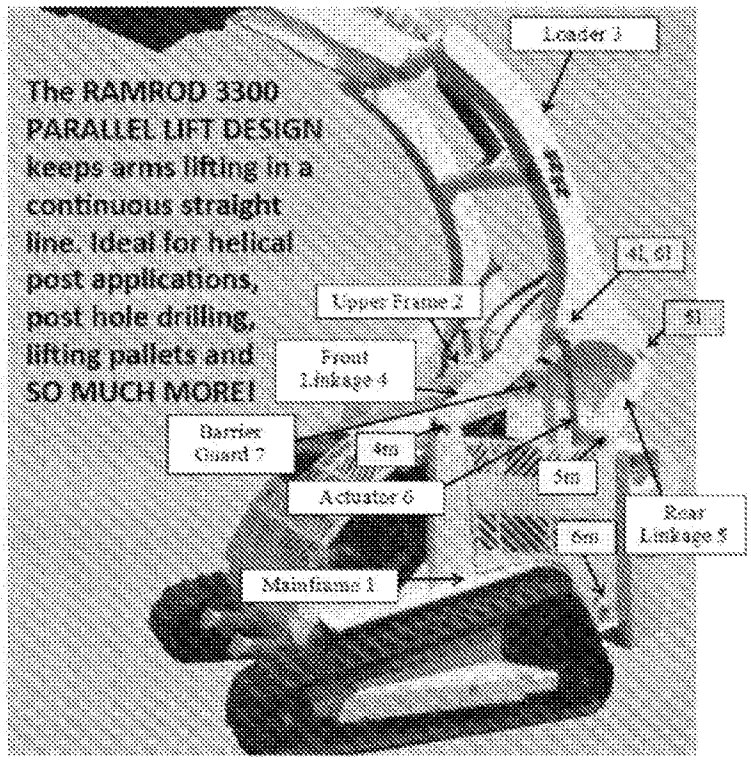
a rear linkage (rear linkage 5) pivotally attached to the mainframe (at 5m) and a loader (loader 3) adapted to carry a tool (the bucket), the loader being moveable between a down position and a vertically raised position, the front linkage (front linkage 4) being pivotally attached to the loader at a front linkage pivot point (at 41), the rear linkage (rear linkage 5) being pivotally attached to the loader at a rear linkage pivot (at 51), wherein:

in the down position, the front linkage pivot point is (1) disposed within the barrier guard as broadly recited (41 as shown in Fig. 1) and/or (2) disposed forward of the barrier guard; and

[4] The subject '266 patent is a continuation of U.S. Patent 9,975,750, which is a continuation of U.S. Patent 9,321,386, but the '266 patent is the first to introduce the "barrier guard." As such, claims reciting the barrier guard are entitled to only the September 14, 2017 filing date of the '266 patent. Ramrod has a publishing date of at least October 2016 and is prior art under 35 U.S.C. 102(a)(1).

as the loader travels from the down position to the vertically raised position, the rear linkage pivot point is (1) disposed within the barrier guard as broadly recited (51 as shown in Figs. 1-3) and/or (2) disposed forward of the barrier guard.

See the following figures reproduced from the Request.



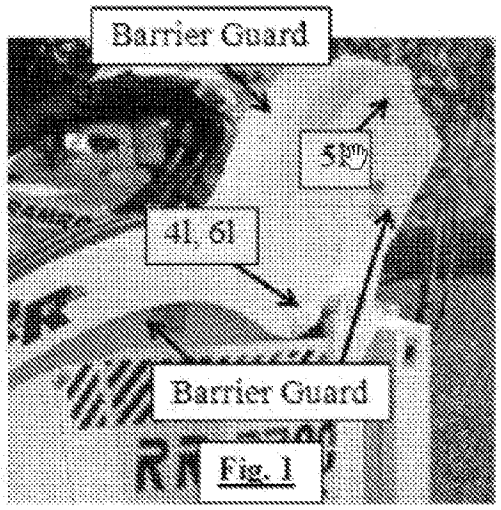
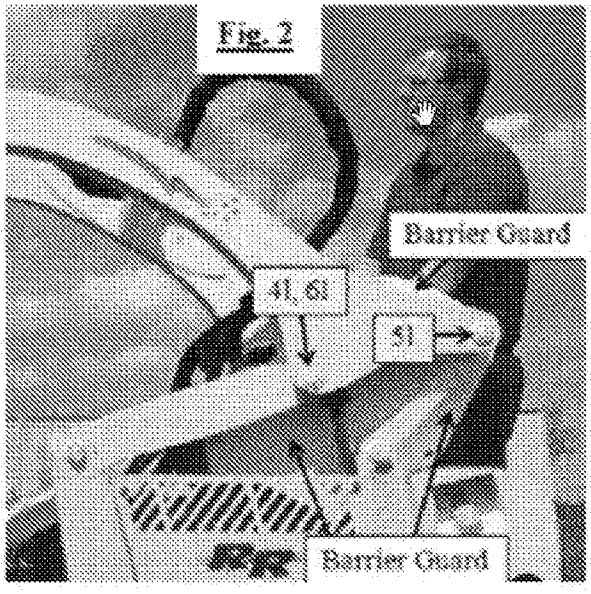


Fig. 1



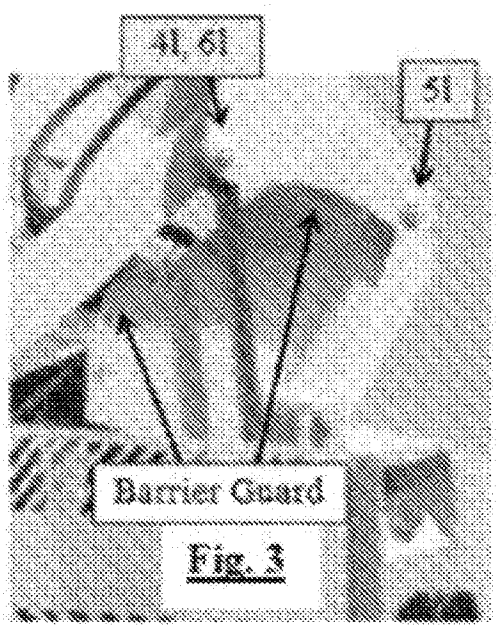


Fig. 3

With respect to claim 20, in the down position, the rear linkage pivot point is disposed within the barrier guard (51 as shown in Fig. 1).

With respect to claim 21, the actuator is pivotally attached to the loader at an actuator pivot point (at 61), wherein, in the down position, the actuator pivot point is (1) disposed within the barrier guard (61 as shown in Fig. 1) and/or (2) disposed forward of the barrier guard.

With respect to claim 22, the mainframe has a first side and a second side, the rear linkage, actuator and front linkage each being pivotally attached to the first side of the mainframe (the “first side” may be either the left or the right side of the Ramrod 3300 mini skid steer as the vertical lift linkage is duplicated on each side).

With respect to claim 23, the loader is free from direct attachment to the mainframe (Loader 3 is free to move fore-and-aft relative to mainframe 1 due to the vertical lift linkage).

With respect to claim 25, the loader apparatus for standing or walk-behind operator control (Ramrod 3300 mini skid steer for a standing operator) comprises:

a machine structure comprising a mainframe (mainframe 1) and an upper frame (upper frame 2), the machine structure defining a barrier guard (barrier guard 7);

a control station having operator controls toward a rear of the loader apparatus (the control station in front of the operator who stands at the rear of the Ramrod 3300);

an actuator (actuator 6) pivotally attached to the mainframe (at 6m);

a linkage (rear linkage 5) pivotally attached to the mainframe (at 5m); and

a loader (loader 3) adapted to carry a tool (the bucket), the loader being moveable between a down position and a vertically raised position, the linkage being pivotally attached to the loader at a linkage pivot point (at 51), wherein:

in the down positon, the linkage pivot point is disposed within the barrier guard as broadly recited (51 as shown in Fig. 1); and

as the loader travels from the down position to the vertically raised position, the linkage pivot point is (1) disposed within the barrier guard as broadly recited (51 as shown in Figs. 1-3) and/or (2) disposed forward of the barrier guard.

With respect to claim 27, the loader is free from direct attachment to the mainframe (Loader 3 is free to move fore-and-aft relative to mainframe 1 due to the vertical lift linkage).

Claim Rejections - 35 USC § 103

This application currently names joint inventors. In considering patentability of the claims the examiner presumes that the subject matter of the various claims was

commonly owned as of the effective filing date of the claimed invention(s) absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and effective filing dates of each claim that was not commonly owned as of the effective filing date of the later invention in order for the examiner to consider the applicability of 35 U.S.C. 102(b)(2)(C) for any potential 35 U.S.C. 102(a)(2) prior art against the later invention.

The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

> A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

Ground 5

Claims 1 and 4-9 are rejected under 35 U.S.C. 103 as being unpatentable over Dorkins in view of Baker.

With respect to claim 1, Dorkins discloses a loader apparatus comprising:

a loader (Dorkins, Fig. 2, the left loader arm 26) adapted to carry a tool (Dorkins, Fig. 2, bucket 41), the loader being moveable between a down position and a vertically raised position;

a loader support for supporting the loader (Dorkins, Fig. 2, supporting frame 8), the loader support having a first side and a second side, the loader being free from direct attachment to the loader support (Dorkins, Figs. 2-4, the relative motion shown for left arm 26 relative to supporting frame 8);

a first linkage pivotally attached to the first side of the loader support at a first linkage pivot point (Dorkins, Fig. 2, linkage 24 and pivot point 25);

a second linkage pivotally attached to the first side of the loader support at a second linkage pivot point (Dorkins, Fig. 2, linkage 16 and pivot point 17);

an actuator pivotally attached to the first side of the loader support at an actuator pivot point (Dorkins, Fig. 2, cylinder 42 and pivot point 43); and

a control station having operator controls for propelling the loader apparatus forward and for raising and lowering the loader (Dorkins, Fig. 2).

As shown in figures 2-4, at least, the first linkage pivot point 25, second linkage pivot point 17, and the actuator pivot point 43 are disposed below the operator controls of the control station (Dorkins, Fig. 2).

Dorkins does not appear to disclose an operator platform which might permit standing operation of the loader apparatus.

Baker teaches the provision of a platform 14 which permits the operator to stand while driving a tractor. The platform is located toward a rear of the tractor and extends behind the controls to allow the operator to stand and operate the controls as desired.

From this teaching, it would have been obvious to one of ordinary skill in the art at the time of the filing of the ‘266 patent to provide the loader of Dorkins with a platform for the operator to stand on in order to increase the versatility of the loader. Moreover, given the placement of the controls and that of the pivot points shown in Dorkins, the first linkage pivot point, second linkage pivot point, and the actuator pivot point would be disposed forward of the added operator platform.

As to claim 4, the loader apparatus of Dorkins loader arm 26) pivotally connected to the first side of the loader support as shown in figure 2.

As to claim 5, the first linkage 24 and the second linkage 16 are pivotally attached to the loader arm at pivot points 23 and 20, respectively, as shown in figure 2 of Dorkins.

As to claim 6, the loader arm of Dorkins is a first loader arm, and the loader comprising a second loader arm 26 pivotally connected to the second side of the loader support as shown in figure 1.

With respect to claim 7, Dorkins discloses a loader apparatus comprising:

a control station having operator controls toward a rear of the loader apparatus (Dorkins, Fig. 2, the control station having the Dorkins loader controls);

a loader (Dorkins, Fig. 2, the left loader arm 26) adapted to carry a tool (Dorkins, Fig. 2, bucket 41), the loader being moveable between a down position and a vertically raised position;

a rigid frame for supporting the control station and the loader (Dorkins, Fig. 2, supporting frame 8), the rigid frame having a first side, a second side, a top, and a bottom;

a first linkage pivotally attached to the first side of the rigid frame at a first pivot point (Dorkins, Fig. 2, linkage 24 and pivot point 25) and pivotally attached to the loader at a second pivot point (Dorkins, Fig. 2, linkage 24 and pivot point 23);

an actuator pivotally attached to the first side of the rigid frame at a third pivot point (Dorkins, Fig. 2, cylinder 42 and pivot point 43) and pivotally attached to the loader at a fourth pivot point (Dorkins, Fig. 2, cylinder 42 and pivot point 45); and

a second linkage pivotally attached to the first side of the rigid frame at a fifth pivot point (Dorkins, Fig. 2, linkage 16 and pivot point 17) and pivotally attached to the loader at a sixth pivot point (Dorkins, Fig. 2, linkage 16 and pivot point 20), wherein,

as the loader travels from the down position to the vertically raised position, the first, second, third, fourth, fifth and sixth pivot points are (1) disposed between the operator controls and the bottom of the rigid frame and/or (2) disposed forward of the control station (Dorkins, Figs. 2 and 4, all six pivots 25, 23, 43, 45, 17, and 20, are disposed forward of the control station as the loader travels from the down position of Fig. 2 to the vertically raised position of Fig. 4).

The apparatus of Dorkins does not appear to be expressly described as being for standing for walk-behind operator control.

Baker teaches the provision of a platform 14 which permits the operator to stand while operating the controls of a tractor.

From this teaching, it would have been obvious to one of ordinary skill in the art at the time of the filing of the ‘266 patent to provide the loader of Dorkins with a platform for the operator to stand while operating the loader on in order to increase the versatility of the loader.

With respect to claim 8, the rigid frame defines a pocket toward a rear of the rigid frame to partially surround an operator (Dorkins, Fig. 2, the right fender (unnumbered) over the right front wheel 3 as shown in Fig. 2 and the corresponding left fender

(unnumbered) over the left front wheel as shown in Fig. 5 of Dorkins form a pocket at least partially surrounding the operator).

As to claim 9, it would have been obvious for the operator platform on the loader of Dorkins as modified by Baker to be at least partially within the pocket to allow the standing operator to stand behind the steering wheel and loader controls.

Ground 6 (new)

Claims 28 and 29 are rejected under 35 U.S.C. 103 as being unpatentable over Dorkins in view of Baker as applied to claims 1 and 7 above, and further in view of Henneuse.

Dorkins is further applied in that the first linkage 25 is forward of the second linkage 17. However, Dorkins and Baker do not disclose a drive sprocket or tracks for propelling the apparatus.

Henneuse teaches an apparatus for converting the wheeled drive on an agricultural tractor to a tracked drive. The apparatus includes a drive sprocket 21 and endless tracks 19 for engaging the ground.

From this teaching it would have been obvious to one of ordinary skill in the art at the time of filing that a tractor such as that of Dorkins can be modified to substitute a drive sprocket and endless tracks for the rear wheels to yield the predictable result of better traction over an uneven ground and/or improved flotation over soft ground.

The track assembly is shown by Henneuse to steeply descend from the top of the sprocket down to the front idler wheel 15, thereby leaving the front portion of the tractor (i.e., the engine and the frame) accessible. Those of ordinary skill in the art

would have recognized that this arrangement would ensure that the addition of tracks to the tractor of Dorkins would not interfere with the mounting of the links 24, 26 and the actuator 42, and the front pivot point 25 would be above the tracks.

Ground 7 (new)

Claims 14 and 18 are rejected under 35 U.S.C. 103 as being unpatentable over Hoechst in view of Self and Vermeer Brochure.

Hoechst discloses a loader apparatus comprising a loader 24 adapted to carry a tool 40;

a loader support 4 for supporting the loader, the loader support having a first side and a second side, the loader being free from direct attachment to the loader support;

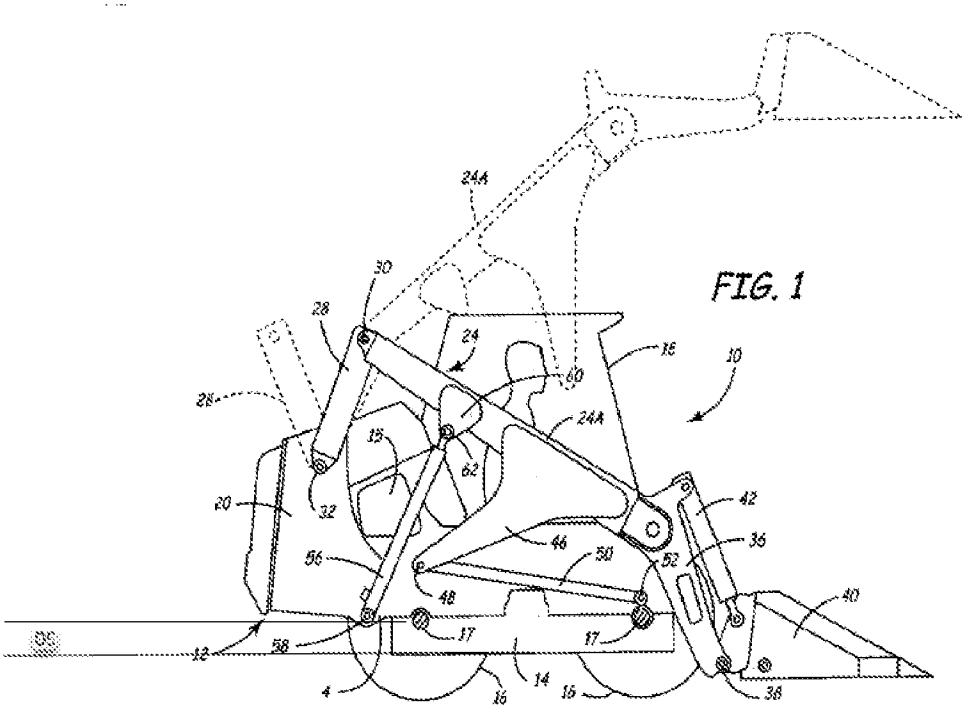
a linkage 50 pivotally attached to the first side of the loader support at a first pivot point 52 and pivotally attached to the loader at a second pivot point 48;

an actuator 56 pivotally attached to the first side of the loader support at a third pivot point 58 and pivotally attached to the loader at a fourth pivot point 62;

and a drive mechanism 16 for propelling the loader apparatus over a supporting surface.

The drive mechanism having a rotational axis R (the center of the axle 17), the rotational axis of the drive mechanism and a bottom of the first side of the loader support being separated by a vertical distance D5, the loader support comprising a forward-most pivot point with the first pivot point 52 or the third pivot point 58 being the forward-most pivot point. As shown in the marked-up figure below, a vertical distance between the rotational axis R and the forward-most pivot point 52 is clearly less than

0.75 D5. If the third pivot point 58 is considered to be the forward-most pivot point as claimed, then the vertical distance is considerably less than .75 D5.[5]



The drawings may not be considered as being to scale unless the reference specifically describes them as such, and Hoechst appears to be silent as to the scale of the drawings and it is possible one of ordinary skill in the art would not consider Hoechst to teach the specific dimensional relationships set forth in claim 14.[6]

Therefore, rather than relying solely on the drawings figures of Hoechst, one of ordinary skill in the art would rely on other factors, as explained below.

---

[5] While the pivot 58 might not appear to be the forward-most pivot, it is shown to be approximately in the same position as pivot P3 in figures 2 and 5 of the subject '266 patent. As such, the pivot 58 in Hoechst meets the limitation of being the forward-most pivot in the same manner as set forth in claim 14.

[6] The first and third pivot points in claim 14 do NOT correspond to the pivot points P1-P6 depicted in figures 1 and 5 of the '266 patent. Instead, the first and third pivot points of claim 14 appear to correspond to P1 and P2, respectively. Clearly, P2 is not the forward-most pivot point despite being claimed as such in claim 14. This rejection addresses the pivot points *as claimed* and not as disclosed in the drawing figures.

In the sentence bridging columns 2 and 3, Hoechst teaches "the moving of the hydraulic cylinder attachment pivot 58 to a position low down and to the rear of the axle 17 permits increasing the length of the hydraulic cylinder 56."

Further, in lines 53-67 of column 3, Hoechst expresses the desire to locate the pivot points as low as possible:

> By moving the pivots of the link 50 and the hydraulic cylinder 56 closer to the axles 17, they can be made longer and can provide for a longer path of movement of the boom. The rear pivot of link 50 is substantially directly vertically above the rear axle 17, and it is much closer to the axle than in previous designs. The number of structural components between the points of attachment of the boom to the loader frame and the wheel attachment point to the loader frame is reduced. The structure between these points ultimately transfers the boom loads to the ground, and the shorter load bearing paths simplifies and reduces the costs in the overall load and carrying structure.
> The linkage attachment at pivots 58 and 52 in particular and also at 32 are low in relation to the axle 17 as opposed to previous boom supports for skid steer loaders.

Since stability is an important characteristic in work machines such as a skid steer or a compact utility loader, it would also have been desirable to keep the center of gravity of the machine low. Moreover, the compact size of such machines presents limited space for attaching the arms, actuators, and linkages.

In order to increase the length of the actuator 56 and a the link 50, and/or to reduce the center of gravity of a load supported by the loader, it would have been obvious to one of ordinary skill in the art to arrange the forward-most pivot point (either pivot point 52 or 58) such that a vertical distance between the rotational axis R of the axle and the forward-most pivot point was less than 0.75 D5. Such an arrangement would lower the center of gravity of the loader and/or increase the length of the actuator and/or the link.

Finally, it is noted that there appears to be little or no criticality disclosed in the subject '266 patent as to the claimed dimensional relationships. The positioning of the pivot points on the mainframe allows the height of the mainframe to be reduced, but the description is silent as to any benefits produced by the claimed distances. See column 5, lines 14-52, for instance.

The loader of Hoechst does not appear to be adapted for standing or walk-behind operator control, and the drive mechanism does not show a sprocket.

Self teaches a control system for operating a work machine 10 such as a skid steer loader, an excavator, or a tool carrier. The system includes a control panel 12 which allows an operator to control the machine remotely, such as from a location behind the machine. As such, the work machine is a loader apparatus for standing or walk-behind operator control.

From this teaching it would have been obvious to those of ordinary skill in the art at the time the invention was filed to have modified the loader apparatus of Hoechst to be remotely operable by a person to allow for standing or walk-behind operator control in order to separate the operator from the machine. This would yield the predictable result of allowing the operator to control the apparatus from a safe distance during operations which are hazardous.

Vermeer Brochure teaches that a compact utility loader can be adapted to ride on four tires or on a pair of endless tracks. As shown in several of the figures, the drive mechanism of the endless track version (the S600TX) comprises a drive sprocket for engaging and driving the track. There appears to be little or no difference in the bodies or mainframes of the wheeled and tracked versions, and according to the specifications

of both versions, the two versions use the same or similar engines, have the same hydraulic capacity, and their transmissions use tandem hydrostatic pumps. As such, Vermeer Brochure teaches that it is a simple substitution for the drive mechanism to comprise wheels and tires, or sprockets and endless tracks.

Vermeer Brochure has shown that the use of wheels and tires, or sprockets and endless tracks, is a simple substitution and those of ordinary skill in the art could readily choose one or the other based at least in-part on the type of terrain over which the vehicle might be used.

From this teaching, it would have been obvious to modify the loader of Hoechst such that the drive mechanism comprises a drive sprocket to allow the vehicle to be used with an endless track and yield the predictable result of better traction in soft ground (as opposed to tires).

With respect to claim 18, it is first noted that the drive mechanism does not contact the supporting surface *at the bottom of the loader apparatus*, as recited in this claim. For this to be true the bottom of the loader apparatus would have to drag on the ground. Moreover, as disclosed in the '266 patent, "D1" refers to the vertical distance between the rotational axis of the drive mechanism and the supporting surface, not bottom of the apparatus. See figure 2. Finally, the limitation of "each of the first and third pivot points being separated by ***a*** vertical distance" implies a single distance and finds no support in the disclosure of the '266 patent because each of the distances D2, D3, and D4 are different. See figure 5.

Hoechst is further applied in that the loader apparatus has a bottom at which the drive mechanism contacts the supporting surface (as the claim is best understood and

with Hoechst showing a structure similar to that shown in figures 2 and 5 of the '266 patent), the rotational axis R and the bottom of the loader apparatus are separated by a vertical distance D1, the rotational axis R and each of the first and third pivot points being separated by a vertical distance, the loader support comprising a forward-most pivot point with the first pivot point 52 or the third pivot point 58 being the forward-most pivot point, the vertical distance between the rotational axis R and the forward-most pivot point are clearly shown in figure 1 to be substantially less than 1.5 times D1.

Ground 8 (new)

Claims 19-23, 25, and 27 are rejected under 35 U.S.C. 103 as being unpatentable over Hoechst in view of Self.

With respect to claim 19, Hoechst discloses a loader apparatus comprising:

a machine structure comprising a mainframe 4 and an upper frame 18 and/or 20, the machine structure defining a barrier guard as broadly recited in the claim (the outline of the loader apparatus or the outline of the mainframe and the upper frame);[7]

an actuator 56 pivotally attached to the mainframe;

a front linkage 50 pivotally attached to the mainframe;

a rear linkage 28 pivotally attached to the mainframe; and

a loader 10 adapted to carry a tool 40 and moveable between a down position and a vertically raised position.

[7] Literal support for the claimed barrier guard is found in the paragraph bridging columns 3-4 of the '266 patent: "The upper frame 39 and mainframe 10 define the machine structure around the operator's area, wherein the perimeter of the machine structure, defined by the projection of the profile onto a vertical plane passing through the longitudinal axis, forms a barrier guard as shown in FIGS. 2 and 3." It is noted that reference character 39 does not appear in figures 2 or 3, and the mainframe 10 is essentially the entire lower frame of the machine. The description of what forms the barrier guard is so vague and broad that the patent fails to define exactly what forms the barrier guard, and it is impossible to tell where the barrier guard begins and ends.

The front linkage is pivotally attached to the loader at a front linkage pivot point 52 and the rear linkage being pivotally attached to the loader at a rear linkage pivot point 32. In the down position, the front linkage pivot point 52 is (1) disposed within the barrier guard and/or (2) disposed forward of the barrier guard; and as the loader travels from the down position to the vertically raised position, the rear linkage pivot point 32 is (1) disposed within the barrier guard and/or (2) disposed forward of the barrier guard. See figures 1-3 which show that neither of the pivot points 52, 32 move from the outline of the machine and are thus disposed within the barrier guard at all times.

The loader of Hoechst does not appear to be adapted for standing or walk-behind operator control.

Self teaches a control system for operating a work machine 10 such as a skid steer loader, an excavator, or a tool carrier. The system includes a control panel 12 which allows an operator to control the machine remotely. As shown in figure 1, the control station 12 (as held by the operator) is toward a rear of the loader apparatus. As such, the work machine is a loader apparatus for standing or walk-behind operator control.

From this teaching it would have been obvious to those of ordinary skill in the art at the time the '266 patent was filed to have modified the loader apparatus of Hoechst to be remotely operable by a person using a remote controller (control station) toward the rear of the loader apparatus to allow for standing or walk-behind operator control in order to separate the operator from the machine. This would yield the predictable result of allowing the operator to control the apparatus from a safe distance during operations which are hazardous.

With respect to claims 20 and 21, in the down position, the rear linkage pivot point is disposed within the barrier guard, and in the down position actuator pivot point 58 is (1) disposed within the barrier guard and/or (2) disposed forward of the barrier guard.

With respect to claim 22, the mainframe of Hoechst has a first side and a second side; the rear linkage, actuator, and front linkage are each pivotally attached to the first side of the mainframe as shown in the figures.

The loader apparatus of Hoechst is such that the loader is free from direct attachment to the mainframe as set forth in claims 23 and 27.

With respect to claim 25, Hoechst is applied as above for claim 19 and the front linkage 50 is the linkage and the pivot point 52 is the linkage pivot point. The teachings of Self are applied to Hoechst in the same manner as for claim 19.

Summary

Grounds 1 and 5 are repeated without change from the previous Office action.

Grounds 2, 3, and 4 are not maintained in this Office action.

Grounds 6, 7, and 8 are newly applied in this Office action.

With this Office action, 1, 4-9, 14, 18-23, 25, and 27-29 are rejected.

Claim 17 is found patentable over the prior art references considered in this proceeding.

Claims 2, 3, 10-13, 15, 16, 24, and 26 remain outside the scope of this proceeding.

The following is a statement of reasons for the indication of patentable subject matter.

Claim 17 depends from claim 14 and further recites a second linkage pivotally attached to the first side of the loader support at a fifth pivot point and pivotally attached to the loader at a sixth pivot point, such that the rotational axis R and the bottom of the loader apparatus being separated by a vertical distance D1, the rotational axis R and each of the first, third and fifth pivot points being separated by a vertical distance, the vertical distance between the rotational axis R and the first pivot point being less than 1.5 times D1, the vertical distance between the rotational axis R and the third pivot point being less than 1.5 times D1, and the vertical distance between the rotational axis R and the fifth pivot point being less than 1.5 times D1.

Hoechst teaches a second linkage attached to the first side of the loader at a fifth pivot point 32, but this fifth pivot point is set high on the frame and appears to be nearly twice the distance D1 as shown in the drawing figures. It would not have been obvious to one of ordinary skill in the art to modify the location of the pivot point 32 to be lower because this would require a change in the length of the linkage 28, the boom arm 46, and/or the linkage 50, the results of which could be unpredictable. More importantly, lowering the pivot point 32 would shorten the length of the actuator 56 which contradicts Hoechst's stated goal of increasing the length of the actuator (see the sentence bridging columns 2 and 3, and also lines 53-55 of column 3).

Declarations

The declarations of Louis Hartke, Matthew Hutchinson, and Scott Prost-Domasky have been fully considered but are not persuasive to overcoming the rejections set forth in the instant Office action.

Hutchinson Declaration The rise in sales of the vertical lift loaders from 2015 to 2018 is noted. However, the number of vertical lift units sold in 2017 appears to be the same as the number sold in 2018, which indicates a drop in the percentage of units sold in 2018 as compared to 2017. The proportion of vertical lift units sold so far in 2019 appears to be the same as that of 2018, and therefore does not show the purported trend toward vertical units. The declaration asserts a trend toward vertical lift is a result of the advantages of the vertical lift design, but does not attribute the trend to any claimed features of the loader. Advantages of a vertical lift design in other types of loaders would have been known in the art, and would presumably correspond to customers' needs in compact utility loaders.

Prost-Domasky Declaration This declaration specifically addresses the combination of Dingo and Komatsu and is not pertinent to the new rejections using Hoechst and Self because Hoechst teaches a vertical lift and loader arms free from direct attachment to the mainframe without modification from a secondary reference.

Hutchinson Declaration This declaration specifically addresses the combination of Dingo and Komatsu and is not pertinent to the rejections using Hoechst and Self because Hoechst teaches a vertical lift and loader arms free from direct attachment to the mainframe without modification from a secondary reference. Arguments such as "scaling up" on page 10 are not relevant to rejections using Dorkins and Hoechst.

Moreover, while this declaration discusses the dimensions of multiple compact tool carriers, the claims considered in this proceeding are not limited to compact tool carriers as evidenced by the use of Dorkins and Hoechst. Items 11 and 13 assert a correlation to a vertical lift loader, but the claims are not necessarily drawn to such a machine.

None of the declarations can be effective to overcome the rejection over Ramrod under 35 U.S.C. 102.

Response to Arguments

Applicant's arguments filed October 18, 2019 have been fully considered but they are not persuasive.

Ground 1

The argument that Ramrod is not prior art against the claims has been considered but is not persuasive.

PO asserts on page 83 that the perimeter of the machine structure is supported in at least figures 2 and 3. While it is true that figures 2 and 3 were present in the prior applications/patents, only the subject '266 patent presents such a specific definition of what is now considered to be a "barrier guard."

It is further true that the machine shown in figures 2 and 3 would have a perimeter, or multiple perimeters depending on how one wishes to define "perimeter." For instance, why does the definition not include the loader 8 or the tracks in the "perimeter?" Regardless, one of ordinary skill in the art, looking at the drawing figures in the prior '386 and '750 patents, would not have considered the loader to have a

barrier guard specifically defined as "the perimeter of the machine structure, defined by the projection of the profile onto a vertical plane passing through the longitudinal axis, forms a barrier guard as shown in FIGS. 2 and 3" as set forth in lines 1-4 of column 4 of the '266 patent. This definition does not appear in the '386 or 750 patents.

The incorporation by reference of SAE J2752 as to what may be considered to be a barrier guard is noted, but this does not provide support for the loader shown or described in any of the patents in question as actually having a barrier guard. However, aware of the SAE standard, it is possible that one of ordinary skill in the art would have considered the area around the operator's area (which forms a pocket as set forth in claims 8 and 9 of the '266 patent, but is not described in the specification of any of the patents) to be a barrier guard.

Still aware of the SAE standard, this person of ordinary skill would not have considered a projection of a profile of the perimeter of the machine onto a vertical plane to form a barrier guard. The barrier guard of the SAE standard is a structural element, not a shadow.

It is well-settled that the drawings alone may provide a written description of an invention, but this is contingent on the drawings actually showing the structure considered to be the invention. The figures of the patents do not show the entire "barrier guard" as now defined. The entire perimeter of the machine is not shown in the drawings as evidenced by PO's inability to trace a complete outline around the portion of the machine now argued to be a "barrier guard." See marked-up figures 2 and 3 on page 82 of the Remarks. Yet PO wishes to base the definition of the claimed "barrier guard" on the incomplete perimeter. How could one of ordinary skill in the art avoid

infringing the claim when the "barrier guard" is defined as a projection of a profile onto a plane when the profile is not even shown?

As to the assertion on page 83 that the Examiner must establish that Ramrod was disseminated to the public, no such requirement exists. However, the fact that the Requester submitted Ramrod with the Request would appear to be ample evidence that the document was "publically accessible" to those persons who were interested. See MPEP 2128.01.

Grounds 2, 3, and 4

The arguments on pages 9-64 have been fully considered.

Specifically, the arguments set forth on pages 9-31 of the Remarks, and the related documents submitted with the IDS filed October 24, 2019 (the "10/24/2019 IDS") are effective to overcome the rejections of claims 1, 4-9, 14, 17-23, 25 and 29 over Dingo in view of Komatsu as set forth in Grounds 2, 3, and 4.

The reasons for withdrawing the rejections of Grounds 2-4 are as follows:

It would not have been obvious to combine the teachings of Dingo® 322 Operator's Manual and Dingo® 322 Parts Catalog (referred to collectively as "Dingo"), and Japanese Patent Application JP 11-140900 to Komatsu Ltd. ("Komatsu") to arrive at the invention set forth in claims 1, 7, 14, 19, and 25.

Each of these claims recites a loader apparatus for standing or walk-behind operator control and a combination of at least:

a loader adapted to carry a tool;

a loader support/rigid frame for supporting the loader, or a mainframe;

at least a first linkage pivotally attached to the first side of the loader support/rigid frame or the mainframe; and

an actuator pivotally attached to the first side of the loader support/rigid frame or to the mainframe.

Dingo teaches a compact tool carrier having many of the claimed features, but the loader arm is directly attached to the mainframe and the structure lacks a linkage.

Komatsu teaches an arrangement in which a loader arm is indirectly attached to a mainframe through a pair of linkages 11, 12. Komatsu shows various arrangements of the linkages and described advantages of using linkages as opposed to direct attachment. Komatsu applies these teachings to a skid-steer loader, a vehicle/machine somewhat larger than the claimed compact tool carrier and not designed for standing or walk-behind operation since the operator is seated within a cab.

The Request filed February 26, 2019 proposed a rejection of claims 1, 7, 14, 19, and 25 as obvious in view of Dingo and Komatsu. See pages 52-68. The Request notes the many advantages of a vertical lift design and describes the linkages of Komatsu. The Request asserts "it would have been a natural fit and immediately obvious to one of ordinary skill in the art to simply adapt Komatsu's vertical lift linkage to Dingo in view of the careful description by Komatsu of where it should be located… [t]he motivation for doing this would be to obtain the well-known advantages that a vertical lift linkage provides relative to the radial lift linkage of Dingo." Request, p. 13.

The Request further asserts that "all changes required to adapt Komatsu's linkage to Dingo would be well within the level of ordinary skill in the art." See page 41.

As such, it would appear that one of ordinary skill in the art would have found it obvious that Komatsu's teachings of using linkages to indirectly attach the loader arms to the mainframe could be applied to a compact tool carrier ("CUL").[8]

The rejection proposed in the Request was set forth more or less unchanged in Grounds 2-4 of the non-final Office action mailed July 19, 2019.

The documents submitted in the 10/24/2019 IDS show that Toro itself (the Requester) did not find it obvious to replace the radial lift of a Dingo-type machine with a vertical lift such as that taught by Komatsu.

Both vertical lift and radial lift loader arm arrangements are old and well-known in the loader art, as are the advantages and disadvantages of each. Examples of vertical lift arms are shown in U.S. patents to Yamada et al. and Layko et al., both cited in the subject '266 patent. Examples of radial lift arrangements are found in U.S. patent to Bares et al cited in the subject '266 patent, and in Dingo. Komatsu provides multiple examples of vertical lift arrangements in figures 1, 5-8, 11, and 12, and a radial lift in figure 13.

Vertical lift arrangements use linkages to attach the loader arms to the frame, while the arms in a radial lift are generally directly pivotally attached to the frame. The use of a pair of linkages to create a so-called four-bar linkage appears to be the most

[8] During this proceeding, terms such as "mini skid-steer loader," "compact tool carrier," and "compact utility loader" have been used (by the Requester, the Patent Owner, the Examiner, and the prior art and non-patent literature) to refer to a standing or walk-behind machine such as that set forth in the claims. CUL is used here to cover all of the other terms.

common arrangement for a vertical lift, although other arrangements are known. See the references cited in the '266 patent.

Ulinski (U.S. Patent 3,074,572; cited in the subject '266 patent) is the only reference of record which uses linkages to indirectly attach loader arms to a standing or walk-behind machine. However, Ulinski was used to reject claims during the original examination of the '266 patent and is unavailable to raise an SNQ in the instant reexamination proceeding.

A substantial number of the documents submitted in the 10/24/2019 IDS show that for years Toro worked to increase the pin height of the loader arms as one of a number of improvements on their Dingo and other machines. For example, see pages 26-29 (Toro-0000787-790) of the "W298: Next Gen TX" document included with the Supplemental Response. Many more documents are discussed on pages 9-31 of the Remarks submitted by Patent Owner. These documents show that for years Toro directed these efforts to the radial lift arms used on Dingo machines (as opposed to substituting a vertical lift arrangement for the radial lift).

Other documents filed with the Supplemental Response show that those involved at Toro knew of vertical lift arrangements as a possible solution to increasing pin height and/or lift capacity. For example, see the transcript of the video deposition of James A. Kuemper ("Kuemper;" Exhibit 1 at page 179):

> A. We want -- we wanted to be able to make higher lift capacity with more reach and a higher height than any other machine that we had before this.
>
> Q. You said anyone can put vertical lift on a machine. What is that opinion based on?

> A. Well, if you're talking about a simple four-bar linkage. I mean four-bar linkage has been around for ages. I mean I learned about four-bar linkage when I went to school out in Willmar drafting design technology.

The transcript of the video deposition of Neil B. Borenstein ("Borenstein;" Exhibit 2 at pp. 147-148) also discusses vertical lift:

> A. I think at this point was the point we -- where -- this document here is where we started talking about vertical lift.[9]
>
> Q. So before that document, you're not aware of any instance in which any Toro engineer thought of putting vertical lift on a compact utility loader, right?
>
> A. No, I can't -- I can't say that. Um, I think -- I think because the vertical lift concept is known on skid-steer loaders and compact track loaders and numerous models are marketed in both designs, we were all aware of that, and we all had thought that wouldn't it be -- you know, we'd like to -- someday that concept may be appropriate for a CUL.

As shown on pages 17-20 of the PO's Remarks, it was not until the development of the TX-1000 that Toro employed a vertical lift in a CUL. See, for example, Kuemper at pp. 88-89 where Mr. Kuemper states his belief that the concept of a vertical lift was not pursued by Toro until the TX-1000.

When Toro decided to develop a CUL with a vertical lift, they did not employ a four-bar linkage in the TX-1000. As asserted in the last paragraph of page 11 of Response, "Toro's engineers followed a completely different design path" than proposed as obvious in the Request, and that this resulted in the "design of an entirely new mainframe and vertical lift loader mechanism" as shown in U.S. Patent 9,970,176.

---

[9] Pages 144-146 were not included in Exhibit 2, and the document in question does not appear to be identified in the submitted pages of the video transcript.

Similar assertions are made by Toro on pages 2-4 of Toro's Opening Claim Construction Brief submitted with the Supplemental Response.

Indeed, a review of Toro's 9,970,176 patent (the "176 patent) shows an upper loader arm 20 indirectly attached to the machine through a pair of lower arms 22, 24, which are pivotally attached at one end to the rear portion of arm 20 at pivot points 26, 28, respectively. While the arms 24 are pivotally connected to a support beam 34 at their second ends, the second ends of arms 22 are welded to a cross beam 46. The support beam 34 is part of a support assembly 33 which is mounted on the mainframe, and as such, the loader arms 22, 24 are not pivotally attached directly to the mainframe.

Even if the arms 22, 24 are considered to be analogous to linkages, the structural arrangement of the arms 20, 22, and 24 is very different than a four-bar linkage assembly such as taught by Komatsu.

Therefore, the documents submitted in the 10/24/2019 IDS, and the discussion on pages 9-31 of the Remarks, provide *substantial and direct evidence* that those of ordinary skill in the art (the engineers, developers, managers, etc. at Toro), over the course of several years and through multiple modifications of the Dingo series of CULs, did not find it obvious to employ a vertical lift loader arm arrangement on a CUL. In addition, when those of ordinary skill in the art at Toro did design a vertical lift arrangement for a CUL, they did not find it obvious to look to larger machines for known vertical lifts (such as the four-bar linkage of Komatsu) and adapt those teachings to an existing CUL. Instead, the evidence shows that they chose to design an entirely new mainframe and vertical lift loader mechanism.

Additional evidence submitted by Patent Owner in the Response filed October 18, 2019, has also been fully considered.

In particular, the Declaration of Lois Hartke is persuasive to show that designing a vertical lift having a four-bar linkage requires considerable experimentation and a combination such as of Dingo and Komatsu would not have been obvious at least because it would require undue experimentation. See pages 6-20.

Therefore, based on the evidence presented in the 10/24/2019 IDS and pages 9-31 of the Remarks, it would not have been obvious to those of ordinary skill in the art, at the time of filing of the '266 patent, to modify Dingo in view of the teachings of Komatsu to arrive at a loader apparatus for standing or walk-behind operator control comprising at least, a loader adapted to carry a tool; a loader support/rigid frame for supporting the loader, or a mainframe; at least one first linkage pivotally attached to the first side of the loader support/rigid frame or the mainframe; and an actuator pivotally attached to the first side of the loader support/rigid frame or to the mainframe.

A such, independent claims 1, 7, 14, 19, and 25 (as well as their dependent claims 4-6, 8, 9, 17, 18, 20-23 and 27-29) are not obvious over Dingo in view Komatsu.

Ground 5

PO argues that modifying Dorkins to add a platform would 1) render Dorkins unsuitable for its intended use, and 2) still does not meet every limitation in the claim.

As to the first argument, the assertion that an operator would not be able to reach the foot pedals is a mere attorney argument and unsupported by any evidence. The

intended purpose of Dorkins is to provide a high lift loader on a tractor, not to provide a seat for the operator. Nevertheless, figure 5 of Dorkins shows there would be plenty of room for an operator to stand, especially if provided with a platform such as that taught by Baker is added. Note also that the operator's area in figure 5 of Dorkins is substantially similar in layout to the operator's area shown in figure 1 of Baker. Even further, note the paragraph bridging the column of page 2 of Baker which describe how the tilting seat accommodates a standing operator, who may "thus assume a position from which he may easily operate a tractor." A standing operator who "may easily operate" a tractor, would by definition have access to all of the controls. Further, note U.S. Patent 3,198,030 to Miller et al. which states that is it "frequently desirable for the driver to stand for better visibility" or other reasons, and accordingly, "the steering wheel of most tractors is positioned as a compromise somewhere between the most desirable positions for sitting and standing operation."

With respect to the second argument, note page 68 of the arguments where PO states that "the foot pedals that are used to control forward operation of the tractor."

With respect to the arguments on pages 73-74, claim 1 does not preclude the presence of controls other than those associated with the control station, nor does it limit the control station to any particular structure or location. The tractor described in Exhibit 8 has not been shown to represent the tractor of Dorkins. The pivot points 17, 25 are shown in Dorkins to be below the operator controls asserted by PO as being solely for operating the hydraulics, and the claim language has been met.

The secondary considerations noted on pages 74-75 are not relevant to claims 1 and 4-6 because these claims are not limited to a compact utility loader (as insinuated

on page 75, for example), and further because the combination of a loader being free from direct attachment to the loader support is shown in a single reference (Dorkins).

The arguments on pages 78-79 are noted but not persuasive for the same reasons set forth above with respect to claims 1 and 4-6.

Ground 6

The argument on page 79 is noted, but the use of tracks as recited in new claims 28-29 would have been obvious as taught by Henneuse in new Ground 6.

Ground 7

PO's arguments as to claims 14 and 18 have been considered, but are not applicable to the rejection using Hoechst in view of Self, at least because Hoechst teaches a loader which is free from direct attachment to the loader support and does not need to be modified for this structure.

Ground 8

PO's arguments as to claims 19 and 25 have been considered, but are not applicable to the rejection using Hoechst in view of Self, at least because Hoechst teaches a linkage pivotally attached to a loader and to the mainframe.

No SNQ

PO now asserts that the cited references do not present an SNQ. These arguments are not persuasive.

In the paragraph bridging pages 85-86, PO refers to MPEP 2216 and notes:

> An argument that was already decided by the Office during the original examination cannot raise a new question of patentability. *In re Swanson*, 540 F.3d 1368, 1380, 88 U.S.P.Q.2d 1996 (Fed. Cir. 2008). To determine whether a reference previously considered by the Patent Office creates a substantial new question of patentability, "the PTO should evaluate the context in which the reference was previously considered and the scope of the prior consideration and determine whether the reference is now being considered for a substantially different purpose." Id. at 1380.

PO has not presented any evidence of *an argument that was already decided by the Office* during the original examination of the '266 patent. Even though the Dingo and Vermeer documents, the Dorkins patent, and the Komatsu reference were cited on an IDS, and the IDS included the Requester's arguments (using Dingo, Komatsu, and Vermeer) from the reexaminations of the '386 and '750 patents, and the IDS was initialed by the previous Examiner, none of these documents were used in a rejection of claims during the earlier examination. Moreover, PO has not shown were any of these references, or the documents from the reexaminations, were discussed on the record by the Examiner or PO. In other words, PO asserts the "patentability question presented in Toro's Request for Ex Parte Reexamination was previously decided by the Examiner" during original examination of the '266 Patent, but has failed to present evidence to support this argument.

PO has also not presented any evidence as to the extent the references were considered by the Examiner during the earlier examination of the '266 patent.

As set forth in MPEP 609:

> Once the minimum requirements of 37 CFR 1.97 and 37 CFR 1.98 are met, the examiner has an obligation to consider the information. There is

> no requirement that the information must be prior art references in order to be considered by the examiner. Consideration by the examiner of the information submitted in an IDS **means nothing more than considering the documents in the same manner as other documents in Office search files are considered by the examiner while conducting a search of the prior art in a proper field of search**. The initials of the examiner placed adjacent to the citations on the PTO/SB/08A and 08B or its equivalent mean that the information has been considered by the examiner to the extent noted above. (emphasis added)

There is no indication in the original examination that the previous Examiner did anything more than consider the documents in the same manner as directed in MPEP 609.

According to MPEP 2216, a substantial new question of patentability may be based solely on old art, but only if the old art is presented/viewed in a new light, or in a different way, as compared with its use in the earlier examination, in view of a material new argument or interpretation presented in the request. Since none of the prior art documents argued by PO were used in a rejection during the original examination, the rejections proposed in the Request in the instant reexamination proceeding presents these references in a new light and in a different way as compared to their use in the original examination.

The SNQs raised in the Order are proper.

Arguments specific to Dorkins are advanced on pages 96-97.

The statement in the second paragraph of page 96 appears to be more of a critique of the original examination instead of an argument about the use of Dorkins in the instant reexamination proceeding.

The arguments with respect to Baker, Roeder, and Bryan are not understood since the first two patents were not analyzed as to SNQs, and Bryan was not even mentioned in the Order.

As to Ramrod, PO appears to argues on pages 97-98 that because the previous Examiner did not reject the "barrier guard" claims under 35 U.S.C. 112, first paragraph, and did not challenge the claimed priority of the '266 patent, Ramrod cannot raise an SNQ in the instant proceeding.

However, despite the continuation/priority status of the '266 patent, the specific definition of "barrier guard" does not find support in the earlier '386 and '750 patents as explained on pages 28-30 above. Absent a persuasive showing that one of ordinary skill in the art would have understood the earlier patents to disclose a "barrier guard" as now expressly defined in the '266 patent, Ramrod raises an SNQ and is properly applied in rejecting claims in this proceeding.

Extensions of Time

Extensions of time under 37 CFR 1.136(a) **will not be permitted** in these proceedings because the provisions of 37 CFR 1.136 apply only to "an applicant" and not to parties in a reexamination proceeding. Additionally, 35 U.S.C. 305 requires that ex parte reexamination proceedings "will be conducted with special dispatch" (37 CFR 1.550(a)). Extensions of time in ex parte reexamination proceedings are provided for in 37 CFR 1.550(c).

Notice of Concurrent Proceedings or Litigation

The patent owner is reminded of the **continuing responsibility** under 37 CFR 1.565(a), to apprise the Office of any litigation activity, or other prior or concurrent proceeding, involving Patent No. 10,202,266 throughout the course of this reexamination proceeding. The third party requestor is also reminded of the ability to apprise the Office of any litigation activity, or other prior or concurrent proceeding, involving the subject '266 patent. See MPEP §§ 2207, 2282 and 2286.

Submissions

In order to ensure full consideration of any affidavits or declarations or other documents as evidence of patentability, such documents must be submitted in response to the first Office action on the merits (which does not result in a close of prosecution). Submissions after the second Office action on the merits, which is intended to be a final action, will be governed by the requirements of 37C.F.R. 1.116, after final rejection and by 37 C.F.R. 41.33 after appeal, which will be strictly enforced.

Correspondence

All correspondence relating to this *ex parte* reexamination proceeding should be directed:

By EFS: Registered users may submit via the electronic filing system EFS-Web, at https://efs.uspto.gov/efile/myportal/efs-registered

By Mail to: Mail Stop *Ex Parte* Reexam
Attn: Central Reexamination Unit
Commissioner for Patents
United States Patent & Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

By FAX to: (571) 273-9900
Central Reexamination Unit

By hand: Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

For EFS-Web transmissions, 37 CFR 1.8(a)(1)(i) (C) and (ii) states that correspondence (except for a request for reexamination and a corrected or replacement request for reexamination) will be considered timely filed if (a) it is transmitted via the Office's electronic filing system in accordance with 37 CFR 1.6(a)(4), and (b) includes a certificate of transmission for each piece of correspondence stating the date of transmission, which is prior to the expiration of the set period of time in the Office action.

Any inquiry concerning this communication or earlier communications from the Examiner, or as to the status of this proceeding, should be directed to the Central Reexamination Unit at telephone number (571) 272-7705.

/RUSSELL D STORMER/
Primary Examiner, Art Unit 3993

Russell D. Stormer
Primary Examiner
Central Reexamination Unit
Art Unit 3993
(571) 272-6687

Conferee: /SC/

Conferee: /E.D.L/
SPRS, Art Unit 3993

Reexamination	Application/Control No.	Applicant(s)/Patent Under Reexamination
	90/014,269	10202266
	Certificate Date	Certificate Number

Requester Correspondence Address: ☐ Patent Owner ☑ Third Party
JAMES W. MILLER (ATTORNEY) 120 6TH STREET SUITE 2310 MINNEAPOLIS, MN 55402

LITIGATION REVIEW ☑	/rds/ (examiner initials)	25 November 2019 (date)
Case Name		Director Initials
Vermeer Manufacturing Company v. The Toro Company; U.S. District - Iowa Southern; 4:19cv50; OPEN - Motion to stay pending reexam 10/25/ 2019		

COPENDING OFFICE PROCEEDINGS	
TYPE OF PROCEEDING	NUMBER
None	N/A

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

U.S. Patent No. 10,202,266
Inventors: Brad Thomas et al. Art Unit: 3993
Reexamination Control No.: 90/014,269
Filed: February 26, 2019
Confirmation No.: 3337
For: LOW PROFILE COMPACT TOOL CARRIERS
Examiner: Russell D. Stormer
Conferees: Gay Spahn and Robert Fetsuga

October 18, 2019

AMENDMENT AND RESPONSE TO OFFICE ACTION

TO THE COMMISSIONER FOR PATENTS,

SIR:

Please enter the following amendments and consider the following remarks in the above-identified *ex parte* reexamination of U.S. Patent No. 10,202,266.

I. AMENDMENTS TO THE CLAIMS 5

II. REMARKS 6

A. EXECUTIVE SUMMARY 6

B. AMENDMENT SUMMARY 8

C. THE OBVIOUSNESS POSITION PRESENTED BY REQUESTER TORO AND ADOPTED BY THE OFFICE CONTRADICTS THE ACTUAL EXPERIENCES OF THOSE WORKING IN THE FIELD TO DEVELOP COMPACT UTILITY LOADERS—INCLUDING BOTH PATENT OWNER AND TORO. 9

1. Background 9

2. Documents Obtained by Patent Owner in the Co-Pending Litigation Directly Contradict Toro's Obviousness Arguments. 10

a. Toro's Engineers Grappled with the Problem of Lift Capacity for Over a Decade Without Pursuing Vertical Lift. 13

b. Toro's Attempts to Solve the Problem of Lift Capacity Resulted in Failed Prototypes 22

c. Toro's History of TX-1000 Development Contradicts its Obviousness Arguments. 24

d. Toro's Internal Documents Reflect Its Recognition that Developing a Compact Utility Loader with Vertical Lift was Innovative 28

D. REJECTIONS UNDER 35 U.S.C. §102 and 35 U.S.C. §103 31

1. Claims 1 and 4-6 are Not Obvious over Dingo in view of Komatsu 32

a. The Prior Art 34

b. One of Ordinary Skill in the Art Would Not have Been Motivated to Modify the Dingo 322 Tool Carrier to Include the Vertical-Lift Loader Arm Configuration of Komatsu. 37

c. One of ordinary skill in the art would not have had a reasonable expectation of success in making the modifications to Dingo 322 proposed by the Office. 48

d. Objective Evidence of Non-Obviousness Indicate Patentability. 56

i. Long Felt Need and Failures of Others 56

ii. Customer and Industry Praise 59

iii. Commercial Success 62

iv. Skepticism of Experts and Unexpected Results 63

2. Claims 1 and 4-6 are Not Obvious over Dorkins in view of Baker 65

a. The Prior Art 65

b. One of Ordinary Skill in the Art Would Not have Been Motivated to Modify Dorkins to Include an Operator Platform for Standing Operation of the Tractor because the Office's Proposed Modification would have rendered Dorkins Unsatisfactory for its Intended Purpose. 68

c. The Proposed Combination Does Not Include Each Feature of Claim 1. 70

d. Objective Evidence of Non-Obviousness Indicate Patentability. 74

3. Claims 7-9 are Not Obvious. 76

a. Claims 7-9 are not Obvious over Dingo 322 in view of Komatsu. 77

a. Claims 7-9 are not Obvious over Dorkins in view of Baker. 78

4. Claims 14, 17 and 18 are Not Obvious. 79

5. Claims 19-23 are Novel and Not Obvious. 80

a. Ramrod is not Prior Art against Claims 19-23. 81

b. Claims 19-23 are not Obvious over Dingo 322 in view of Komatsu. 84

6. Claims 25 and 27 are Novel and Not Obvious. 84

a. Ramrod is not Prior Art against Claims 25 and 27 85

b. Claims 25 and 27 are not Obvious over Dingo 322 in view of Komatsu. 85

E. THE CITED REFERENCES DO NOT PRESENT A SUBSTANTIAL NEW QUESTION OF PATENTABILITY..... 85

1. The Examiner Considered Toro's Argument that the Claims of the '266 Patent were Obvious over Dingo 322 in view of Komatsu during Examination of the '266 Patent Application..... 86

2. The Examiner Considered Toro's Argument that the Claims of the '266 Patent were Obvious over Dingo 322 in view of Komatsu in combination with the Vermeer Brochure during Examination of the '266 Patent Application. 94

3. The Examiner Considered Dorkins during Examination of the '266 Patent Application..... 96

4. The Ramrod Brochure does not raise a Substantial New Question of Patentability because the Examiner Concluded that the "Barrier Guard" recited in Independent Claims 19 and 25 is supported by the Provisional Application. 97

III. CONCLUSION 99

I. AMENDMENTS TO THE CLAIMS

Please insert new claims 28 and 29:

28. The loader apparatus as set forth in claim 1 wherein the first linkage is forward of the second linkage, the loader apparatus further comprising a drive mechanism comprising tracks for propelling the loader apparatus over a supporting surface and a drive sprocket defining a rotational axis, the first linkage pivot point being above the tracks.

29. The loader apparatus as set forth in claim 7 wherein the first linkage is forward of the second linkage, the loader apparatus further comprising a drive mechanism comprising tracks for propelling the loader apparatus over a supporting surface and a drive sprocket defining a rotational axis, the first pivot point being above the tracks.

II. REMARKS

The Office action of July 19, 2019 has been carefully considered and the following remarks are made in response. On September 5, 2019 the Office granted Patent Owner's request for a one month extension of time thereby extending the due date for response to October 19, 2019.

A. EXECUTIVE SUMMARY

Vermeer Manufacturing Company ("Vermeer" or "Patent Owner") is the assignee of U.S. Patent No. 10,202,266 ("the '266 Patent") at issue in this reexamination. The '266 Patent describes a compact tool carrier that has a vertical-lift loader arm configuration in which the loader is free of direct attachment to the loader support of the machine. Achieving this vertical-lift configuration had never before been achieved and was believed to be "difficult, if not impossible" in the industry—as stated by Requester Toro Corporation at the time of the invention.

Before Patent Owner's invention, the industry had been chasing the goal of increasing lift capacity. The engineering solutions being pursued, however, yielded only minor, incremental gains in the lift capacity of the machines. By contrast, Patent Owner's vertical-lift machine, claimed in the '266 Patent, resulted in a substantial increase in the lift-capacity of these machines. Recognizing the significance of its inventors' discovery, Patent Owner filed patent applications and has been granted three patents, U.S. Patent No. 9,321,386, U.S. Patent No. 9,975,750 and the '266 Patent.

The Office has rejected the claims of the '266 Patent as obvious over Dingo 322 Parts Catalog and Dingo 322 Operator's Manual in view of Komatsu (and, for some claims, further in view of the Vermeer Brochure). The Office has also rejected certain claims of the '266 Patent as obvious over U.S. Patent No. 2,774,496 to Dorkins in view of U.S. Patent No. 2,298,450 to Baker. The Office has also rejected some claims as lacking novelty over the Ramrod Brochure. These rejections should be withdrawn.

Materials that Patent Owner obtained in discovery regarding Toro's history of compact tool carrier development fundamentally contradict the obviousness positions

that Toro's attorneys manufactured for this proceeding. For over a decade, Toro recognized that it desperately needed to improve the lift capacity of its products. Yet, Toro's engineers never pursued vertical lift as a solution, despite the existence of references like Komatsu and Dorkins. Toro would not have struggled with the lift capacity of its own machines—including the continued release of machines with anemic performance and resultant loss of market share—if vertical lift was an "immediately obvious" solution to the problem of lift capacity as Toro now contends. And, if Toro's litigation position that combining a skid-steer vertical lift mechanism with an existing compact utility loader chassis was truly a "natural fit," Toro would have developed that machine instead of investing years of engineering effort and millions of dollars into the risky development of an entirely new vertical lift mechanism and chassis design. When viewed through the lens of Toro's actual development history, the arguments Toro's attorneys advance in their series of reexamination filings defy credulity and should be rejected.

These revelations regarding Toro's actual design history directly corroborate Toro's admission that combining the vertical lift mechanism from a skid steer machine with a compact utility loader chassis was "difficult" or "impossible" to achieve. *See* U.S. Patent No. 9,970,176 at col. 2, lines 21-26. Toro made this explicit admission in its own patent application before the need to downplay vertical lift as an invention became necessary due to Patent Owner's lawsuit.

As shown by the factual record discussed below, one of ordinary skill in the art would not have been motivated to modify or replace the radial-lift loader arms of the Dingo 322 machine (described in the two Dingo references) with any of the vertical-lift loader arm configurations taught in Komatsu. And even if it had occurred to a person of ordinary skill in the art to do so, he or she would not have had a reasonable expectation of success. Indeed, the modifications proposed by the Office would have rendered the Dingo 322 compact tool carrier unsatisfactory for its intended purpose. Secondary considerations of non-obviousness such as long felt need, customer and industry praise, commercial success, skepticism of experts and unexpected results also support the patentability of the claims.

One of ordinary skill in the art would not have been motivated to modify Dorkins to include an operator platform for standing operation of the tractor as in Baker because the proposed modification would have rendered Dorkins unsuitable for its intended purpose. Regardless, even if the modifications proposed by the Office were made, *the resulting machine would not satisfy all of the limitations of the claims*. This fundamental fact alone requires that the Office withdraw the objection. The secondary considerations of non-obviousness noted above also support the patentability of the claims over Dorkins in view of Baker.

Because the provisional application from which the '266 Patent claims priority supports the claims, the Ramrod Brochure is not prior art against the claims and the Office's rejections based on the Ramrod Brochure must be withdrawn.

Finally, Toro's Request for *Ex Parte* Reexamination of the '266 Patent should not have been granted as the Request does not raise a substantial new question of patentability because the Dingo 322 Parts Catalog, the Dingo 322 Operator's Manual, Komatsu and Dorkins were not considered for a "substantially different purpose" during examination of the '266 Patent application and because the Examiner had previously determined the claims were supported by the provisional application.

B. AMENDMENT SUMMARY

Claims 1, 4-9, 14, 17-23, 25 and 27 are subject to reexamination. The Patent Owner has added claims 28 and 29. Claims 1-29 are pending with claims 1, 4-9, 14, 17-23, 25 and 27-29 being subject to examination in this reexamination proceeding. Claims 2-3, 10-13, 15-16, 24 and 26 are not subject to the reexamination proceeding.

No new matter has been added. In particular, none of the amendments or new claims broadens the claim scope beyond the claims of the original patent.

Support for the added claims can be found throughout the specification of the '266 Patent. In particular, support for new claims 28 and 29 may be found at least at column 3, lines 21-30 and Figures 1-3 and 5 that show the pivot point at which the

forward linkage is attached to the first side of the loader support being disposed above the tracks.

C. THE OBVIOUSNESS POSITION PRESENTED BY REQUESTER TORO AND ADOPTED BY THE OFFICE CONTRADICTS THE ACTUAL EXPERIENCES OF THOSE WORKING IN THE FIELD TO DEVELOP COMPACT UTILITY LOADERS—INCLUDING BOTH PATENT OWNER AND TORO.

1. Background

Competitors in the market for compact utility loaders are under constant pressure to maximize the amount of weight that their machines can lift without adversely affecting the stability of the machine. The industry commonly refers to this lifting capability as "operating capacity" or "lift capacity."

Since their first introduction to the United States in 1998, equipment manufacturers have devoted significant resources to maximizing the lift capacity of their compact utility loader machines ("CULs"). Tackling these challenges is necessary to meaningfully compete because customers are motivated to buy machines that deliver the highest lift capacity for their size, weight, and footprint. These improvements were difficult to achieve because customers also place significant emphasis on competing machine characteristics including small size, light weight, and high maneuverability. Traditionally, increasing lift capacity required compromising one or more of these other qualities of the machine.

For years, companies relied on traditional methods for improving the lift capacity of their machines. These methods involved increasing the overall weight of the machine, increasing its length, decreasing the reach of the machine's arms, or moving the center of mass as far back as possible by shifting heavier elements to the rear of the machine. Manufacturers also resorted to selling "weight packages" consisting of chunks of metal that could be hung or welded to the back or underside of a machine to change its balance characteristics. These efforts yielded only incremental improvements in lift capacity and came at the significant expense of undesirable added machine weight

and/or loss of ground clearance and maneuverability. Owing to the significant engineering challenges presented by improving lift capacity without compromising these other important machine characteristics, lift capacity for machines of a given weight and size changed very little prior to the invention disclosed in the patent now at issue.

The obviousness arguments that Requester Toro has presented in its numerous requests for reexamination[1] disregard all this history. Instead, Toro crafts a fictional narrative in which the problem of lift capacity only recently surfaced and could be immediately addressed by browsing a menu of existing full-size skid steer machines, plucking the vertical lift mechanism from that machine, scaling it down, and bolting it to an existing compact utility loader chassis. Patent Owner has already presented evidence that undermines these litigation-motivated arguments. The history of the industry's evolution and the timeline and manner of Vermeer's development efforts demonstrate that Toro's obviousness story is fictional. For these reasons alone, Toro's invalidity arguments should be rejected.

Recently, however, Patent Owner acquired additional documents and deposition testimony from Toro that further demonstrate the fallacy of Toro's obviousness position. This new evidence sheds light on Toro's own decade-long pursuit of a solution to the problem of lift capacity—a history that directly contradicts the story Toro presented to the Patent Office. Based on this additional evidence, Patent Owner respectfully requests that the Examiner reject Toro's arguments and reaffirm the patentability of Patent Owner's claims.

2. Documents Obtained by Patent Owner in the Co-Pending Litigation Directly Contradict Toro's Obviousness Arguments.

In its reexamination papers, Toro asserts that developing a compact utility loader with a vertical lift armature would have been the "immediately obvious" solution to the problem of lift capacity. *See* Request for Ex Parte Reexamination of U.S. Patent No. 10,202,266 (Control No. 90/014,269) at 13. Toro's most recent iteration of this argument posits that a skilled artisan knew a vertical lift mechanism like that taught in

[1] *See* 90/013,915, 90/014,109, 90/014,124, 90/014,148.

1999 by Komatsu would be a "natural fit" for a compact utility loader chassis—thereby motivating a skilled artisan to immediately combine those two structures to enjoy the benefit of increased lift capacity.

Through discovery in its co-pending litigation against Toro, Patent Owner recently obtained a wealth of evidence that paints a vastly different picture than the one Toro's attorneys present in their requests for reexamination. Contrary to Toro's position that solving the problem of lift capacity was "immediately obvious," Toro's internal documents and witness testimony show that Toro's engineers tried for years—and repeatedly failed—to address that very problem. During this period, Toro only thought to increase lift capacity by developing new radial-arm prototypes, but it found those designs lacking and abandoned them. As a result, Toro was forced to rely on traditional methods of increasing lift capacity for years. By its own admission, this caused Toro to release products with inferior performance, to fall behind the competition, and to suffer significant lost market share.

New evidence also shows that once Toro finally conceived of a vertical lift machine that offered increased lift capacity, Toro's engineers followed a completely different design path than the one Toro's attorneys now propose as the "immediately obvious" solution. Instead of following the allegedly "natural" path of repurposing prior art components, Toro's engineers explicitly rejected that path and instead pursued a course that culminated in *the design of an entirely new mainframe and vertical lift loader mechanism* (see U.S. Patent No. 9,970,176). In recent depositions, Toro's witnesses admitted that—despite Toro's lengthy development history—they are unaware of a single document supporting Toro's argument in reexamination that skilled artisans would be motivated to combine the prior art in the manner it suggests. *See, e.g.*, Kuemper Dep. Tr. (Ex. 1) at 305:23-307:3 ("Q: So you've not heard of anyone basing the TX 1000 on any full-size skid-steer machines? A: No, I have not.").[2]

[2] The exhibits being submitted herewith include information that was originally designated as confidential material subject to the Court's Protective Order in the co-pending litigation. The material addressed herein has been de-designated so that Patent Owner may submit this information to the Office. But because some of the

These revelations regarding Toro's actual design history also directly corroborate Toro's admission that combining the vertical lift mechanism from a skid steer machine with a compact utility loader chassis was "difficult" or "impossible" to achieve. *See* U.S. Patent No. 9,970,176 at col. 2, lines 21-26. Toro made this explicit admission in its own patent application before the need to downplay vertical lift as an invention became necessary due to Vermeer's lawsuit. Toro's internal documents show that Toro's engineers appreciated the truth of that sentiment, which is why they never turned to the teachings of vertical lift skid steer machines to address their own struggles with lift capacity in compact utility loaders.

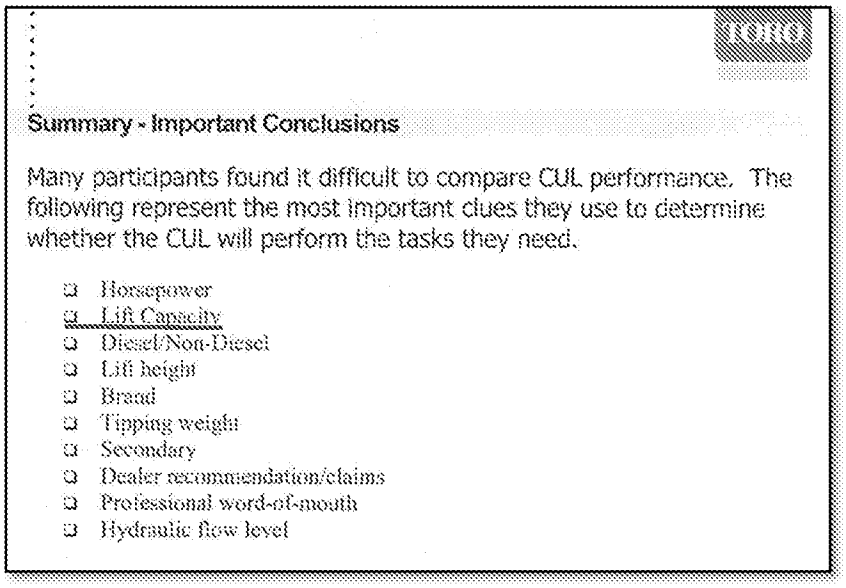
In summary, the materials that Vermeer obtained in discovery regarding Toro's history of compact tool carrier development fundamentally contradict the obviousness positions that Toro's attorneys manufactured for this reexamination. For over a decade, Toro recognized that it desperately needed to improve the lift capacity of its products. Yet, Toro's engineers never pursued vertical lift as a solution, despite the existence of references like Komatsu. Toro would not have struggled with the lift capacity of its own machines—including the continued release of machines with anemic performance and resultant loss of market share—if vertical lift was an "immediately obvious" solution to the problem of lift capacity as Toro now contends. And, if Toro's litigation position that combining a skid-steer vertical lift mechanism with an existing compact utility loader chassis was truly a "natural fit," Toro would have developed that machine instead of investing years of engineering effort and millions of dollars into the risky development of an entirely new vertical lift mechanism and chassis design. When viewed through the lens of Toro's actual development history, the arguments Toro's attorneys advance in their series of reexamination filings defy credulity and should be rejected.

---

material remains protected by the Protective Order, some of the exhibits have been redacted to obscure the protected information. A more extensive submission of litigation materials that have been de-designated is being submitted in an Information Disclosure Statement.

a. Toro's Engineers Grappled with the Problem of Lift Capacity for Over a Decade Without Pursuing Vertical Lift.

Every company that designs and manufactures compact utility loaders knows that lift capacity drives sales. Neil Borenstein, Director of Marketing for Toro's Siteworks division[3], admitted in deposition that he has been aware of the importance of lift capacity throughout his fifteen-year tenure with the company. Borenstein Dep. Tr. (Ex. 2) at 32:23-33:13 (recognizing that "consumers always demand more capacity"). Toro's internal documents also reflect this fact. For example, Toro periodically conducted consumer surveys that routinely identified lift capacity as a key driver of demand:



TORO-0000196 (Ex. 3) (emphasis added). These same surveys also routinely identified lift capacity as a compact utility loader feature most in need of improvement. *See, e.g. id. at* TORO-0000190 (identifying "Lift Capacity" as the characteristic most recently "pushed" on a compact utility loader).

For as long as customers have sought increased lift capacity, Toro has worked to satisfy that demand. *See* Borenstein Dep. Tr. (Ex. 2) at 39:20-42:25 ("Q: …all else

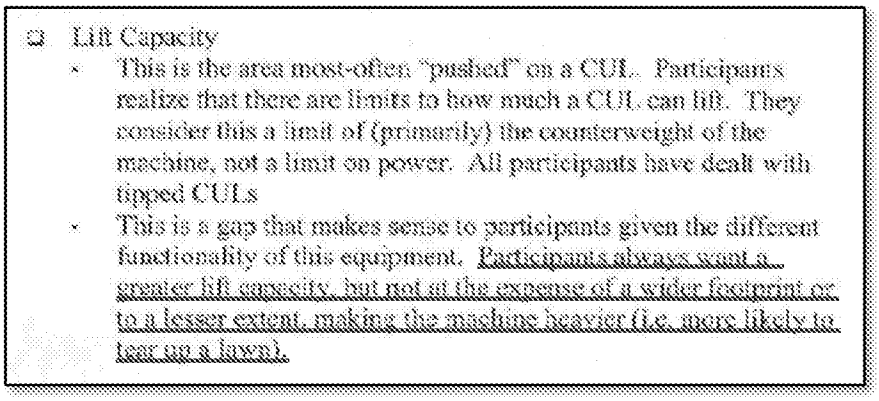
[3] Toro's Siteworks division is responsible for the design, manufacture and sale of Toro's compact utility loader machines. *See* Borenstein Dep. Tr. (Ex. 2) at 29:17-30:6.

equal, you want lift capacity to be as high as possible, right? A: If everything else is equal, you would – you would want any specification to exceed – to be as high as possible."). Toro's marketing materials tout the efforts Toro undertakes to improve its designs based on customer feedback. Those materials show that Toro's engineers have been focused on the specific problem of lift capacity for years:

> *The rest of the history of the Toro Dingo focuses on continuous improvement by listening to the wants and needs of the end user. In 2000, Toro introduced the TX 420, the first tracked, walk-behind Dingo machine. Two years later in 2002, the Dingo TX 425 was introduced to the marketplace, and proved to be an incredibly popular machine. In 2006, Toro provided yet another tracked Dingo model, the Dingo TX 525, which featured a higher rated operating capacity and a number of operator-centric upgrades. Since 2006, many other upgrades have been incorporated into the entire Dingo product line, effectively demonstrating Toro's commitment to innovation and continuous improvement.*

See Toro Press Release (Ex. 4) (emphasis added).

Increasing lift capacity posed a difficult problem because customers also wanted a machine that was small, lightweight, and maneuverable. Toro's marketing surveys reflected this:



- Lift Capacity
  - This is the area most-often "pushed" on a CUL. Participants realize that there are limits to how much a CUL can lift. They consider this a limit of (primarily) the counterweight of the machine, not a limit on power. All participants have dealt with tipped CULs
  - This is a gap that makes sense to participants given the different functionality of this equipment. Participants always want a greater lift capacity, but not at the expense of a wider footprint or to a lesser extent, making the machine heavier (i.e. more likely to tear up a lawn).

TORO-0000190 (Ex. 3) (emphasis added).

Machine characteristics such as size, weight, and maneuverability were in direct conflict with lift capacity because the traditional ways of enhancing lift capacity required compromising those other features of the machine. Toro's Marketing Director admitted that throughout its development history, Toro achieved increased lift capacity by making its machines bigger, making them heavier, and by decreasing "reach" through the use of shorter radial lift arms—things that the customer did not want:

> *Q: Other than simply adding weights to the back of the machine, are you aware of other designs proposed by Toro engineers specifically motivated by the interest of increasing lift capacity?*
>
> *A: Oh, yeah. We – we've increased lift capacity in different ways over the years.*
>
> *Q: What are those ways?*
>
> *A: We've made a bigger machine, We've made a heavier machine. Vertical lift is one of the ways.*[4] *Uh, we changed – you can change where – how far a reach it has.*

Borenstein Dep. Tr. (Ex. 2) at 233:23-234:15.

The engineering challenges presented by this lift capacity problem were so daunting that Toro's engineers worked for years without making any significant progress. For almost two decades, Toro's engineers repeatedly returned to traditional methods of enhancing lift capacity, including increasing the size and weight of their radial-armed machines.

Toro's development efforts in the early and mid-2000s typify its efforts to address the lift capacity problem. In 2000, Toro's most capable compact tool carrier was the TX-425. This machine incorporated a radial-lift arm, weighed 1,880 pounds, and advertised

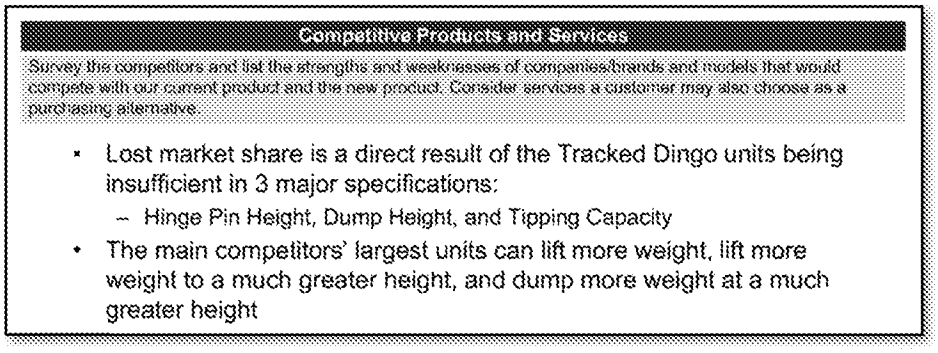
[4] Vertical lift was not pursued by Toro until 2013. *See, e.g.,* Kuemper Dep. Tr. (Ex. 1) at 29:25-30:6 ("Q: Okay. When was the first time you recall learning that there was an effort within Toro to develop a new compact utility loader that ultimately became the TX 1000? A: I believe that was in 2013.").

a lift capacity of 500 pounds. *See* TX-425 Operator's Manual at 15 (Ex. 5). Aware of its need to deliver a machine with improved lift capacity, Toro worked for the next *six years* to develop a new machine that could satisfy customer demand. *See* Borenstein Dep. Tr. (Ex. 2) at 58:5-59:11. The result of that effort was the TX-525 machine, which Toro released in 2006. This new machine still relied on a radial-lift armature, but now provided a lift capacity of 553 pounds at a total weight of 2,013 pounds. During the six year period between the release of these two machines, Toro had only been able to increase the lift capacity of its design by 53 pounds, and that improvement came at the cost of an additional 133 pounds in machine weight.[5]

Publicly, Toro presented the new TX-525 as a successful example of its ability to deliver increased lift capacity to its customers. *See, e.g.,* Ex. 4 ("*In 2006, Toro provided yet another tracked Dingo model, the Dingo TX 525, which featured a higher rated operating capacity and a number of operator-centric upgrades.").* But internally, Toro recognized that its products were inadequate and failed to meet customer expectations. In fact, internal documents generated shortly after the release of the TX-525 reflect Toro's acknowledgement that its persistent difficulties in solving the lift capacity problem were directly responsible for Toro's significant decline in market share[6]:

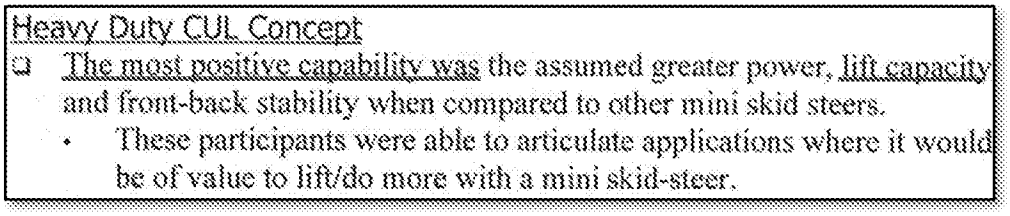
[5] Toro's TX-425 offered a lift capacity to weight ratio of 0.266. *See* Ex. 5. After six years of development work, Toro was only capable of increasing this ratio for the TX-525 to 0.275. *See* TX-525 Specifications (Ex. 6). This minimal improvement of 3.4%, despite six years of development work, pales in comparison to the 36.7% improvement offered by the later invention of a vertical lift compact utility loader. For example, Toro's TX-1000 boasts a lift capacity to weight ratio above 0.376. *See* TX-1000 Specifications (Ex. 7).

[6] The innovation of vertical lift on a compact utility loader, which is at issue in this reexamination, addresses all three of the features identified in Toro's design document: "Hinge Pin Height, Dump Height, and Tipping Capacity." *See, e.g.*, TORO-0000958 (Ex. 3).



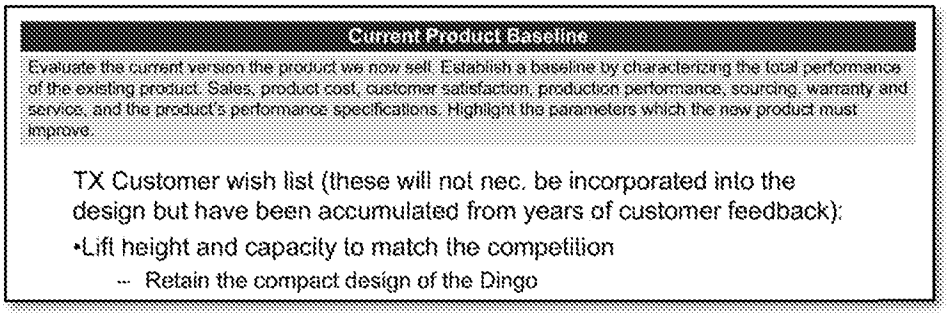
TORO-0000772 (Ex. 3).

In 2007, shortly after the release of its TX-525, Toro began work on its next generation compact tool carrier machine. During this process, Toro commissioned a round of customer marketing surveys aimed at identifying the features most in need of improvement on its machines. Unsurprisingly, customers again identified lift capacity as an important feature that required addressing:



TORO-0000175 (Ex. 3) (emphasis added).

With the results of these surveys in hand, Toro began generating design documents that would guide the development of its next generation machine. These documents reflected the difficulties Toro had experienced in meaningfully increasing lift capacity. For example, in a document Toro's engineers generated in April of 2013—five years after starting the next generation project and presumably thirteen years after beginning work on the earlier TX 525 machine—Toro's engineers ***still*** identified increased lift capacity as a top "wish list" item *and one they were not confident they could deliver in their next compact utility loader machine*:



TORO-0000781 (Ex. 3).

After Toro created this document in 2013, it went on to devote an additional two years of focused engineering work to this design project before finally developing the viable vertical lift compact utility loader it released as the TX-1000. *See* TX-1000 video, https://www.youtube.com/watch?v=7EV8_Gfs4Jw ("the all-new Dingo® TX 1000").

Considering Toro's history of trying and failing to deliver machines with enhanced lift capacity, Toro's hindsight-based assertion that vertical lift was the obvious solution to the lift capacity problem is simply not credible. Toro's development history directly contradicts its attorneys' assertion that "it would have been *a natural fit* and *immediately obvious* to one of ordinary skill in the art to simply adapt Komatsu's vertical lift linkage to Dingo…" *See* Request for Ex Parte Reexamination of U.S. Patent No. 10,202,266 (Control No. 90/014,269) at 13 (emphasis added). If this were true, Toro would have released a vertical lift compact utility loader years ago—certainly well before it suffered multiple years of lost market share as a direct result of its inability to deliver a machine with adequate lift capacity.

Notwithstanding the foregoing, in his deposition, Toro's Director of Marketing dutifully parroted the obviousness argument that Toro's attorneys developed for this reexamination. But he ultimately admitted that he could not corroborate Toro's manufactured obviousness story with a *single document* generated during Toro's decades of design work:

> *A: I think because vertical lift concept is known on skid-steer loaders and compact track loaders and numerous models are marketed in both designs,*

we were all aware of that, and we all had thought that wouldn't it be – you know, we'd like to – someday that concept may be appropriate for a CUL.

Q: Is there a single document you can point to that corroborates what you just said?

A: I don't believe there is.

Borenstein Dep. Tr. (Ex. 2) at 147:6-148:6 (emphasis added).

Mr. James Kuemper, the Principal Designer tasked with developing the vertical lift armature for Toro's TX-1000 machine, also tried to advance Toro's obviousness argument by suggesting that "anyone can put vertical lift on a compact utility loader." Kuemper Dep. Tr. (Ex. 1) at 178:18-179:1. He ultimately admitted that Toro's counsel fed him that argument:

Q: The opinion you expressed that anyone can put vertical lift on a compact utility loader, is that an opinion that you had prior to meeting with attorneys to prepare for depositions in this case?

A: It's a thing that I never even thought about before. I usually don't worry about what the competition is doing. I wasn't getting paid to worry about that.

Id. at 183:8-16.

Mr. Kuemper also later conceded that—despite years of trying to improve lift capacity—he was unaware of any Toro engineer ever proposing the use of vertical lift to solve that problem:

Q: Are you aware of instances in the past where engineers were aware that vertical lift could be put on a compact utility loader, and they opted not to?

A: None that I know of.

Q: So you're not aware of instances, for example, with the – what was the other earlier TX, TX 525?

A: 525…427

Q: So the 427 and 525, you're not aware of instances in which someone said: Maybe we should go vertical lift, or maybe we should go radial; no, let's go radial? That decision was never made, right?

A: Never even heard of it - - until the TX 1000.

* * *

Q: Going back to the conversation we were having a moment ago about the vertical lift systems, um, did you ever raise your hand in one of the engineering meetings and say: Hey, why aren't we putting vertical lift on our compact utility loaders?

A: No, I never did that.

Q: Why not?

A: Because you – normally, I was so busy with other projects, that why would I want any more work put on me than what I had already?

Q: Did – did anyone raise their hand and propose that solution that you're aware of?

A: Not that I'm aware of.

Id. at 88:7-25 and 89:20-90:9 (emphasis added).

In other words, for over a decade customers had been telling Toro that they wanted an improved compact tool carrier with greater lift capacity. Toro's marketing materials, internal engineering documents and witness testimony prove that Toro was acutely aware of this need and devoted significant resources to addressing that concern. Despite its express "*commitment to innovation and continuous improvement,*" Toro's engineers never pursued vertical lift as solution to that problem. As a result, Toro struggled for years to increase lift capacity without ever designing a single prototype or releasing a single machine that utilized vertical lift. Toro's sales faltered, its

market share fell, and it still failed for years to conceive of a way to *meaningfully* address the lift capacity problem.

During this entire period, a plethora of skid steer machines with vertical lift armatures were available on the market.[7] According to Toro's narrative, it would have been "a natural fit and immediately obvious" for one of its engineers to pluck the armature from one of those machines, scale it down, and bolt it to an existing compact utility loader chassis. *See* Request for Ex Parte Reexamination of U.S. Patent No. 10,202,266 (Control No. 90/014,269) at 13. And yet, Toro's engineers never did.

This stark contrast between Toro's obviousness argument and Toro's own development history is particularly incredible given Toro's recognition—once it began work on its vertical lift machine—that implementing vertical lift would also lower the overall cost of its machine. In its risk assessment plans, Toro's engineers specifically identified implementation of vertical lift as a *cost savings measure*:

Project Risks and Risk Management Plan

List the risks that may limit the project from achieving the goal. Consider all aspects including: marketing, competition, distribution, quality, performance, price, design, supply, etc. For each risk state the impact, the likelihood of occurring, the mitigation actions to prevent the occurrence and the contingency plan if it occurs.

Priority	Risk	Likely To Occur	Impact	Mitigation Actions	Contingency Actions
Rank	What is the issue that may impact the project?	High Medium Low	If it occurs how will it effect the project?	What are the actions being taken to prevent the occurrence or minimize the impact?	If the Risk does occur what actions will the team take?
1	Missing target costs due to expense of desired product features	High	Results in uncompetitive pricing or a product that does not meet customer requirements	Utilizing innovation like vertical lift to keep machine weight and corresponding costs down. Initiate DFMA activities as early in the design process as possible.	Compromise on product features to keep cost in balance

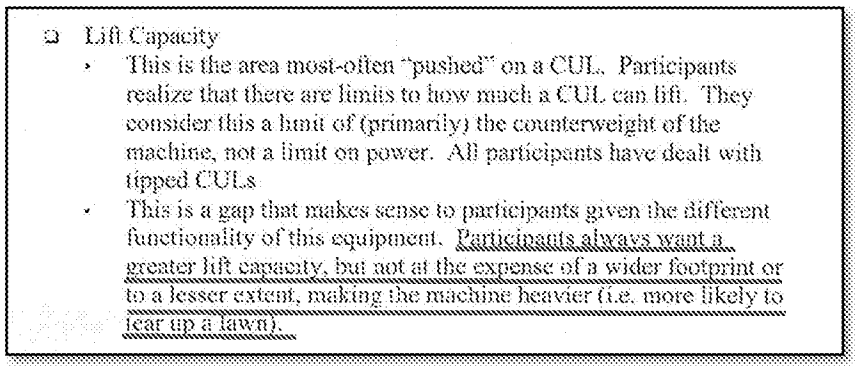
TORO-0000811 (Ex. 3) (emphasis added).

[7] *See, e.g.,* Komatsu, Mustang, Moffitt, Ulinski (Toro advances all of these references in its reexamination requests).

In other words, not only would adopting vertical lift have allowed Toro to offer machines with significantly greater lift capacity, better machine weight, size, reach, ground clearance and maneuverability, but it would also allow Toro to provide those advanced features *at a lower cost*. Considering all of this, the only explanation for Toro's failure to develop and release such a machine for well over a decade is simple—Toro's engineers had not yet conceived of a vertical lift compact tool carrier. That machine *required invention* and was not obvious.

b. Toro's Attempts to Solve the Problem of Lift Capacity Resulted in Failed Prototypes.

In 2008 and 2009, years before it would finally design and release its vertical lift TX-1000 machine, Toro conducted a round of marketing surveys that it hoped would help guide the development of its next generation machine. *See* TORO-0000170-210 (Ex. 3). These surveys reemphasized the need for enhanced lift capacity, but also made clear that customers did not want that capacity to come at the cost of machine size and weight:



- Lift Capacity
  - This is the area most-often "pushed" on a CUL. Participants realize that there are limits to how much a CUL can lift. They consider this a limit of (primarily) the counterweight of the machine, not a limit on power. All participants have dealt with tipped CULs
  - This is a gap that makes sense to participants given the different functionality of this equipment. Participants always want a greater lift capacity, but not at the expense of a wider footprint or to a lesser extent, making the machine heavier (i.e. more likely to tear up a lawn).

Id. at TORO-0000190 (emphasis added).

With the results of these surveys in hand, Toro began developing a new machine it code-named "Atlas." Despite having just received indications that customers did not want a larger or heavier machine, Atlas was conceived as a larger and heavier machine that incorporated a radial-lift armature. Toro had no choice but to follow this traditional

design path, because it had not yet conceived of enhancing lift capacity by developing a vertical lift machine.

As Toro's Director of Marketing admitted in deposition, "[w]hen we did this research, *the initial thought was to go for a bigger machine*...." Borenstein Dep. Tr. (Ex. 2) at 80:3-5 (emphasis added). Toro's Principle Designer corroborated this testimony:

> *Q: Was the Atlas program – if you know, was the Atlas program an effort to create a higher lift capacity compact utility loader?*
>
> *A: I would say, yes, because it was much larger.*

Kuemper Dep. Tr. (Ex. 1) at 138:24-139:4 (emphasis added).

For at least three years, from 2010 until 2013, Toro's engineers trudged down the well-worn path of developing a larger radial lift machine to address marketplace demand for a machine with increased lift capacity. This effort involved not just detailed design work, but also the expense associated with manufacturing a physical test machine:

> *Q: And your understanding is that there was an actual physical prototype of the Atlas machine made?*
>
> *A: I believe there was an Atlas built. I don't know how – exactly how far along they came with it.*

Id. at 139:11-18.

As soon as Toro's engineers conceived of addressing the problem of lift capacity through the development of a new vertical lift compact utility loader in 2013, Toro mothballed the Atlas project and diverted its resources to the design and development of what is now the TX-1000 machine. *See* TORO-0000803 (Ex. 3) ("refocuses spending from Atlas and the Trencher project into project W298[8]"). This shift in focus

[8] W298 was the internal Toro identifier for the TX-1000. *See* Kuemper Dep. Tr. (Ex. 1) at 28:25-29:4 ("Q: ... was there a project name or a program name that you're aware of that Toro used to refer to the TX 1000 project internally? A: I believe the project number on that we had was like a W298.").

would not have occurred if a vertical lift compact utility loader were truly obvious. If that were true, Toro would have simply focused on that design in the first place.

Patent Owner has also discovered that Toro investigated another compact utility loader design that it hoped would address the need for increased lift capacity. This other design relied on a unique weight shifting mechanism that would shift forward and backward to decrease the risk of tipping, thereby enhancing lift capacity. Although Toro has yet to produce any detailed information about this machine, Toro's marketing director confirmed that this other machine did not incorporate a vertical lift armature:

> *Q: Are you aware of Toro engineers proposing a mechanism other than a radial or vertical lift mechanism for a compact utility loader?*
>
> *A: I think at one time we had a design thought where we could move weight back and forth to increase or decrease the weight capacity.*
>
> *Q: So in other words, when the machine was lifting the load, some weight would come out the back of the machine?*
>
> *A: Yes.*

See Borenstein Dep. Tr. (Ex. 2) at 235:11-22 (emphasis added).

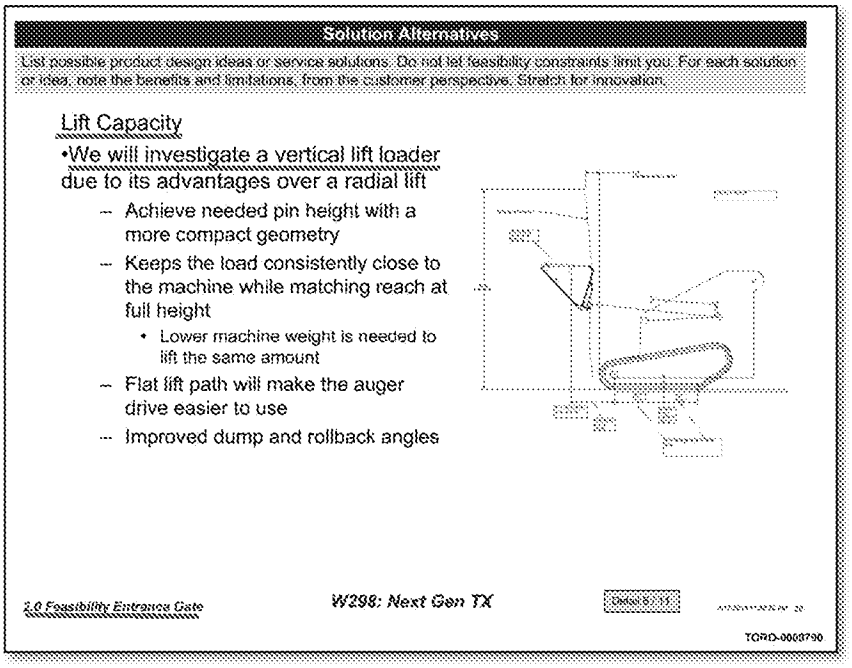
Toro's argument that "it would have been a natural fit and immediately obvious to one of ordinary skill in the art to simply adapt Komatsu's style of vertical lift linkage to Dingo" is in direct conflict with Toro's own prototyping work, which reflects the fact that Toro's engineers pursued other solutions—but not vertical lift—as a way to address lift capacity. Request for Ex Parte Reexamination of U.S. Patent No. 10,202,266 (Control No. 90/014,269) at 13 (emphasis added).

c. Toro's History of TX-1000 Development Contradicts its Obviousness Arguments.

Toro's obviousness arguments should also be rejected because Toro's engineers specifically rejected—both during the development of their machine and recently in deposition—the type of prior art combination that Toro now proposes in its

reexamination papers. When developing the TX-1000, Toro's engineers did not follow the design path Toro now advances in its reexamination requests. Instead, they recognized the need to develop an entirely new vertical lift mechanism and chassis suited to the unique requirements of a vertical lift compact utility loader. Accomplishing that goal required years of engineering work and a large investment of financial resources.[9] Toro would have no reason to invest the significant resources required to design a machine from scratch if the "natural" and "immediately obvious" solution was to simply derive a machine from parts borrowed from known prior art machines.

Recently produced design documents relating to the TX-1000 reveal that as late as April 2013, Toro's engineers were just beginning to conduct feasibility studies[10] aimed at investigating the ***possibility*** of implementing vertical lift on its next generation compact utility loader:

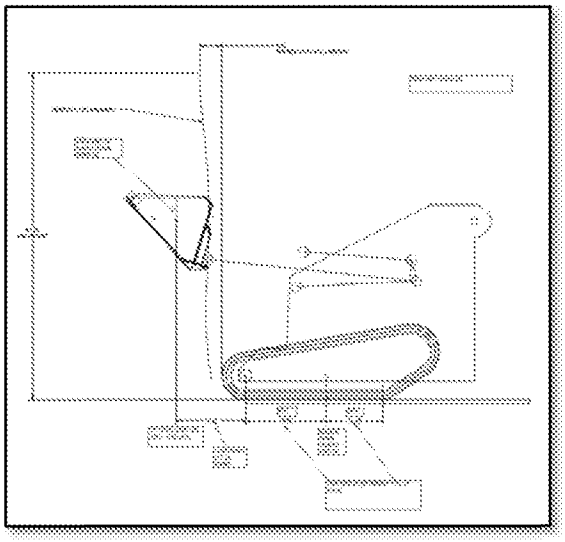


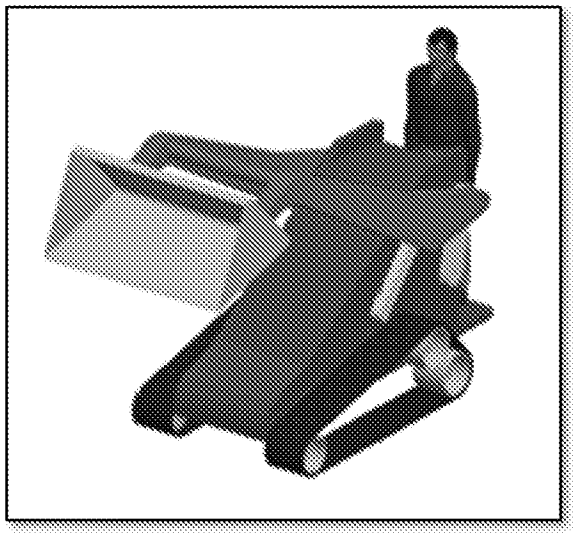
TORO-0000790 (Ex. 3) (emphasis added).

[9] Toro's design documents indicate and Toro representatives confirmed that Toro projected a total development cost of at least $2.3 million for the TX-1000. Kuemper Dep. Tr. (Ex. 1) at 189:20-190:9.

[10] As an initial matter, the need for this feasibility study makes no sense if the "natural" and "immediately obvious" avenue for increasing lift capacity was the simple combination of existing prior art components. The fact that Toro's engineers recognized the need to investigate this approach, treating it as a possibility rather than a foregone conclusion, undermines Toro's obviousness argument.

These feasibility studies included two-dimensional and three-dimensional depictions of a vertical lift system mated to a compact utility loader:



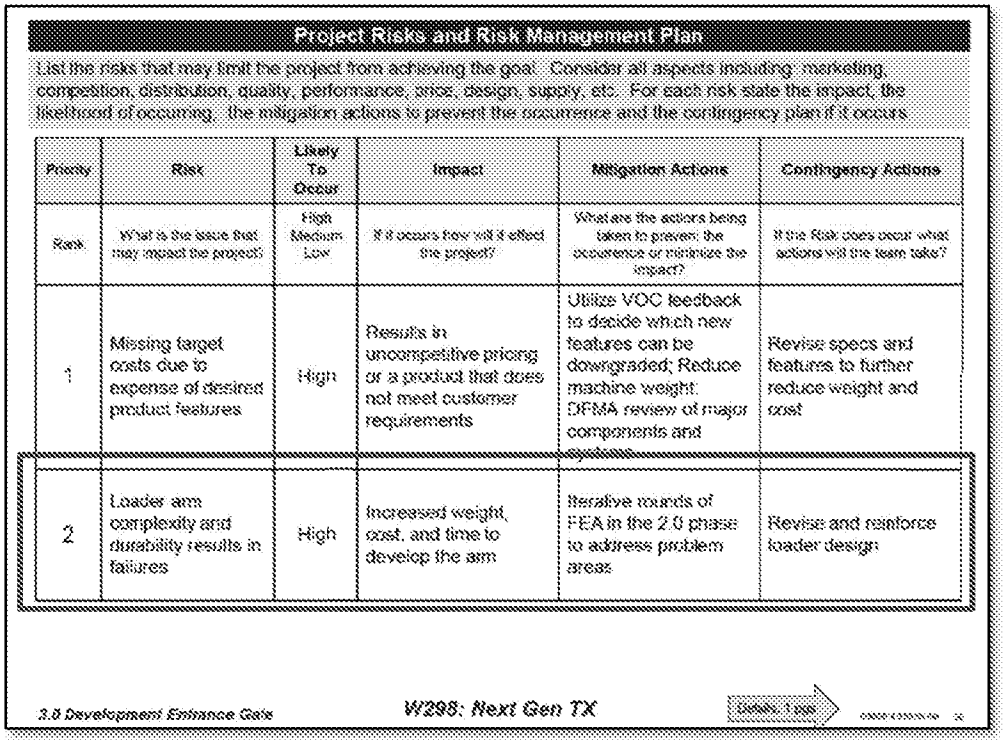


TORO-0000785-TORO-0000790 (Ex. 3).

Toro's principal designer admitted in deposition that the machine depicted in this feasibility document was "pretty crude" and that the pin locations depicted in this study were "not anywhere close to where the actual pins for the TX 1000 are…." Kuemper Dep. Tr. (Ex. 1) at 165:12-166:10. He went on to admit that it "doesn't look anything like the TX 1000" and "looks like someone just took a few blocks of this and that and threw it together to make it kind of look like a unit." *Id.* at 162:24-163:5.

These diagrams are significant because they approximate the "Frankenstein" machine that Toro's attorneys now argue a skilled artisan would produce as an obvious solution to the lift capacity problem. *See* Request for Ex Parte Reexamination of U.S. Patent No. 10,202,266 (Control No. 90/014,269) at 39-42. The fact that Toro's principal designer characterized this approach as "crude" and admitted that Toro's final machine reflects a vastly different design ethos demonstrates that Toro's litigation-motivated obviousness arguments are not realistic or consistent with the views of actual skilled artisans. As Toro's designer agreed during his deposition, "this is not an acceptable design." Kuemper Dep. Tr. (Ex. 1) at 181:7-9.

It would also make no sense for Toro to invest a significant amount of time and money into a completely new system, if the "natural fit" and "immediately obvious" solution were to simply deconstruct and recombine prior art components like LEGOs. Yet, Toro's internal documents show that the vertical lift mechanism of the TX-1000 was difficult to design, required serial redesign, and introduced significant risks to the project.[11] For example, the below excerpts from Toro's development documents in June of 2014, show that Toro considered development of a vertical lift mechanism to be a significant engineering challenge:



Project Risks and Risk Management Plan

List the risks that may limit the project from achieving the goal. Consider all aspects including: marketing, competition, distribution, quality, performance, price, design, supply, etc. For each risk state the impact, the likelihood of occurring, the mitigation actions to prevent the occurrence and the contingency plan if it occurs.

Priority	Risk	Likely To Occur	Impact	Mitigation Actions	Contingency Actions
Rank	What is the issue that may impact the project?	High Medium Low	If it occurs how will it effect the project?	What are the actions being taken to prevent the occurrence or minimize the impact?	If the Risk does occur what actions will the team take?
1	Missing target costs due to expense of desired product features	High	Results in uncompetitive pricing or a product that does not meet customer requirements	Utilize VOC feedback to decide which new features can be downgraded; Reduce machine weight; DFMA review of major components and systems	Revise specs and features to further reduce weight and cost
2	Loader arm complexity and durability results in failures	High	Increased weight, cost, and time to develop the arm	Iterative rounds of FEA in the 2.0 phase to address problem areas	Revise and reinforce loader design

3.0 Development Entrance Gate *W298: Next Gen TX* Details, 1 pgs

TORO-0000894 (Ex. 3) (emphasis added); *see also id.* at TORO-0000379, TORO-0000381-383, TORO-0000387, TORO-0000389, TORO-0000390, TORO-0000553-565, TORO-0000571, TORO-0001729, TORO-0001737, TORO-0001742-1743, TORO-

[11] Toro's Director of Marketing admitted in deposition that, to this day, its vertical lift TX-1000 machine suffers from so many quality issues that he considers the product to be a failure. *See, e.g.,* Borenstein Dep. Tr. (Ex. 2) at 141:23-143:17 (identifying the vertical lift system as one of the design elements responsible for the significant quality issues plaguing the TX-1000).

0001748, TORO-0001750-1760, TORO-0001918, TORO-0003017, TORO-0003163-3175.

Toro's argument in reexamination that vertical lift would be an obvious solution, and simple to implement, flies directly in the face of its own decade-long search for a solution coupled with the struggles it endured when trying to develop a viable vertical lift machine.

d. Toro's Internal Documents Reflect Its Recognition that Developing a Compact Utility Loader with Vertical Lift was Innovative.

The documents Patent Owner recently obtained also shed light on Toro's internal recognition of the significance of implementing vertical lift on a compact utility loader. Although Toro's attorneys downplay this accomplishment in their reexamination filings, Toro's internal documents demonstrate that it considered the development of a vertical lift compact utility loader a significant achievement. Toro's internal design documents recognize that offering vertical lift on a compact utility loader would be a "key differentiator" because it will offer an "unprecedented" lift capacity:

Competitive Product Evaluation

Provide an objective and comprehensive evaluation of competitive products available to the customer, including our product that is now in the market. Consider the total product including: performance, quality, marketing message, serviceability, ease-of-operations, appearance, finish, packaging, availability, specification statements, etc.

Tracked CULs	Toro NextGen W TX	Toro NextGen M TX	Toro S25W TX	Ditch Witch SK 750/755	Vermeer S850 TX	Vermeer S800 TX
Tipping capacity (lbs)	3,070	2,857	1,580	2,285	1,890	2,400
Rated operating capacity (35% of tip)	1,075	1,000	553	800	660	840
Hinge pin height (inches)	81	81	66	81	80	84.5
Horsepower (gross rating)	24.8	24.8	24.8	24.8 / 32.8	24.8	35.1
Max ground speed - forward (mph)	4.7	4.7	4.0	4.7	4.5	4.5
Max ground speed - reverse (mph)	4.7	4.7	2.0	4.7	4.5	4.5
Machine weight (lbs)	2,633	2,450	2,001	2,890	2,560	2,950

- Next Gen vertical lift loader arm design is a key differentiator
- Next Gen 1,000+ lb. rated operating capacity is unprecedented
  - Next Gen (wide) rated operating capacity is 28% greater than Vermeer's
- Next Gen units will weigh significantly less than Ditch Witch and Vermeer's largest units
  - Next Gen (wide) will weigh 317 lbs. less than Vermeer S800 TX
  - Doing more with a machine that has a lighter footprint

TORO-0000854 (Ex. 3) (emphasis added).

Toro's internal documents also show that Toro's engineers and marketing team considered vertical lift to be a key "innovative feature" that would allow Toro to "leapfrog the competition" by "outperforming the competition on lift capacity while retaining a smaller, more compact machine":

Proposed Solution

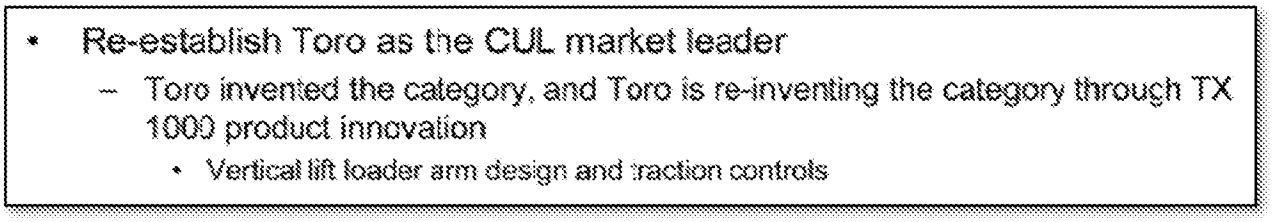
Describe in detail the recommended solution that best meets the customer needs and the business needs. Identify the fundamental system and sub-system alternatives that must be considered, and state why this choice is preferred.

Key Features that innovate and "leapfrog" the competition

- Vertical lift loader design
  - Outperform the competition on lift capacity while retaining a smaller, more compact machine
  - 1000 lb operating capacity from a sub-2,500 lb machine

Id. at TORO-0000865.

Toro's documents also show that it considered itself to be "re-inventing the category" through its development of a vertical lift compact tool carrier, and that doing so would allow Toro to re-establish itself as a leader in the compact utility loader market:



TORO-0001170.4 (Ex. 3).

These sentiments are also consistent with Toro's early marketing materials, which touted vertical lift as a significant innovation:

> *"One of the greatest innovations on the all-new Dingo TX 1000 is its exclusive vertical lift loader arm design. This new design keeps loads closer to the machine, increasing the rated operating capacity to over 1,000 lbs. Unlike radial lift arms, a load on this Dingo follows a consistent vertical lift path up to full height. That makes gauging load tolerance safe and easy, so you can lift more - with more confidence. The 81" hinge pin height also delivers increased reach at full height. And this innovative design allows Toro to increase load capacity and reach without significantly increasing machine size or weight."*

See https://www.youtube.com/watch?v=-xiDQxdR4kU at Video Description (emphasis added).

These sentiments—expressed by Toro's engineers and marketing team *before Toro became aware of Vermeer's patent* and began downplaying the significance of the innovation—directly contradict the arguments Toro's attorneys now advance in reexamination. If solving the problem of lift capacity was "immediately obvious," and simply scaling and bolting parts from various prior art machines was a "natural fit," Toro

should have implemented these changes in the routine course of its design work *years ago*. Instead, Toro tried and failed for years to solve the problem. Then, after conceiving of the idea and being forced to invest years of engineering work into a solution, Toro's engineers and business people hailed it as a game changing innovation that could "leap frog" the competition and re-establish Toro as the leader in the compact utility loader market. These are not the words of engineers and business people involved in mere routine and obvious development work, as Toro's attorneys would now have the Patent Office believe.

The entirety of Toro's development history plainly demonstrates the fallacy of its litigation obviousness arguments. For the reasons set forth throughout this response, Toro's obviousness arguments should be rejected and the patentability of Patent Owner's invention should be confirmed.

D. REJECTIONS UNDER 35 U.S.C. §102 and 35 U.S.C. §103

The Office has rejected claims 19-23, 25 and 27 under 35 U.S.C. §102(a)(1) as being anticipated by "Ramrod Track Model 3300 – New Parallel Lift Design for Greater Power & Height" ("Ramrod Brochure") (Ground 1). Claims 1, 4-9, 19-23, 25 and 27 are rejected under 35 U.S.C. §103 as being obvious over the document entitled "Dingo 322, Dingo Compact Utility Loader, Operator's Manual" ("Dingo 322 Operator's Manual"), the document entitled "Dingo 322 Compact Utility Loader, Parts Catalog" ("Dingo 322 Parts Catalog" and collectively "Dingo 322") in view of JP 11-140900 to Komatsu ("Komatsu") (Grounds 2 and 4). Claims 14, 17, and 18 are rejected under 35 U.S.C. §103 as being obvious over the Dingo 322 Operator's Manual and Dingo 322 Parts Catalog in view of Komatsu and in further view of the brochure entitled "Vermeer S600/S600TX" ("the Vermeer Brochure") (Ground 3). Claims 1 and 4-9 are rejected under 35 U.S.C. §103 as being obvious over U.S. Patent No. 2,774,496 to Dorkins ("Dorkins") in view of U.S. Patent No. 2,298,450 to Baker ("Baker") (Ground 5). The pending claims are patentable over the cited references for the reasons set forth below.

1. Claims 1 and 4-6 are Not Obvious over Dingo in view of Komatsu

Independent claim 1 is directed to a loader apparatus for standing operator control. The loader apparatus comprises:

> a loader adapted to carry a tool, the loader being moveable between a down position and a vertically raised position;
>
> a loader support for supporting the loader, the loader support having a first side and a second side, the loader being free from direct attachment to the loader support;
>
> a first linkage pivotally attached to the first side of the loader support at a first linkage pivot point;
>
> a second linkage pivotally attached to the first side of the loader support at a second linkage pivot point;
>
> an actuator pivotally attached to the first side of the loader support at an actuator pivot point;
>
> a control station having operator controls for propelling the loader apparatus forward and for raising and lowering the loader; and
>
> an operator platform for standing operation of the operator controls of the control station, the operator platform being located toward a rear of the loader apparatus such that the first linkage pivot point, second linkage pivot point, and the actuator pivot point are disposed forward of the operator platform, the first linkage pivot point, second linkage pivot point, and the actuator pivot point being disposed below the operator controls of the control station.

The Office articulates its rationale for obviousness of claim 1 over Dingo Parts Manual and Dingo Operator's Manual in view of Komatsu as follows:

> From the teachings of Komatsu, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the tool carrier of Dingo/Dingo Parts Catalog such that the loader arm was not directly attached to the mainframe and instead included a first linkage pivotally attached to the first side of the mainframe at a first linkage pivot point and a second linkage pivotally attached to the first side of the mainframe to raise the tool in a vertical lift. This would yield the predictable result of increasing the stability of the tool carrier by reducing the front-to-back travel of the center of gravity of the tool or load as taught by Komatsu.
>
> Page 9 of the Office action.

To reject a claim based on some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art references to arrive at the claimed invention, the Office must articulate the following:

> (1) a finding that there was some teaching, suggestion, or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings;
>
> (2) a finding that there was reasonable expectation of success; and
>
> (3) whatever additional findings based on the *Graham* factual inquiries may be necessary, in view of the facts of the case under consideration, to explain a conclusion of obviousness.

MPEP §2143(I)(G).

It would not have been obvious to one of ordinary skill in the art to make the modification proposed by the Office before the effective filing date of the claimed invention. The proposed modification of the Dingo 322 machine would have rendered it unsatisfactory for its intended purpose. Further, one of ordinary skill in the art would not have had a reasonable expectation of success in modifying Dingo 322 with the vertical-lift loader arm configuration of Komatsu.

The objective indicia of non-obviousness demonstrate that the claimed subject matter would not have been obvious. The evidence shows a long-felt need for increased lift capacity. As discussed above, the industry failed to satisfy this long-felt need by developing a vertical-lift loader apparatus (along with its substantial gains in lift capacity). Instead, the industry took incremental steps towards achieving minor improvements in lift-capacity. Further, the industry—including Toro and Vermeer—was skeptical as to whether a vertical-lift loader apparatus could be successfully developed. The patented invention has also garnered industry praise and enjoyed significant commercial success. All of these facts further demonstrate that the claimed invention was not obvious to one of ordinary skill in the art as of the effective filing date of Patent Owner's patent application.

a. The Prior Art

The Dingo Operator's Manual is a set of guidelines for operating a compact utility loader referred to as "Dingo 322". The compact utility loader shown in the Dingo 322 Operator's Manual includes a loader that is directly attached to the mainframe as shown in Figure 9 of the Dingo 322 Operator's Manual:

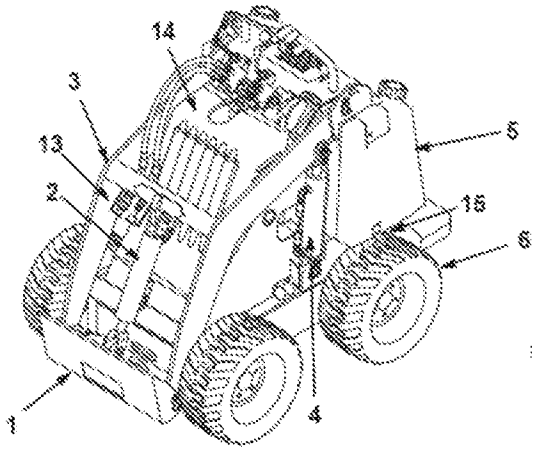
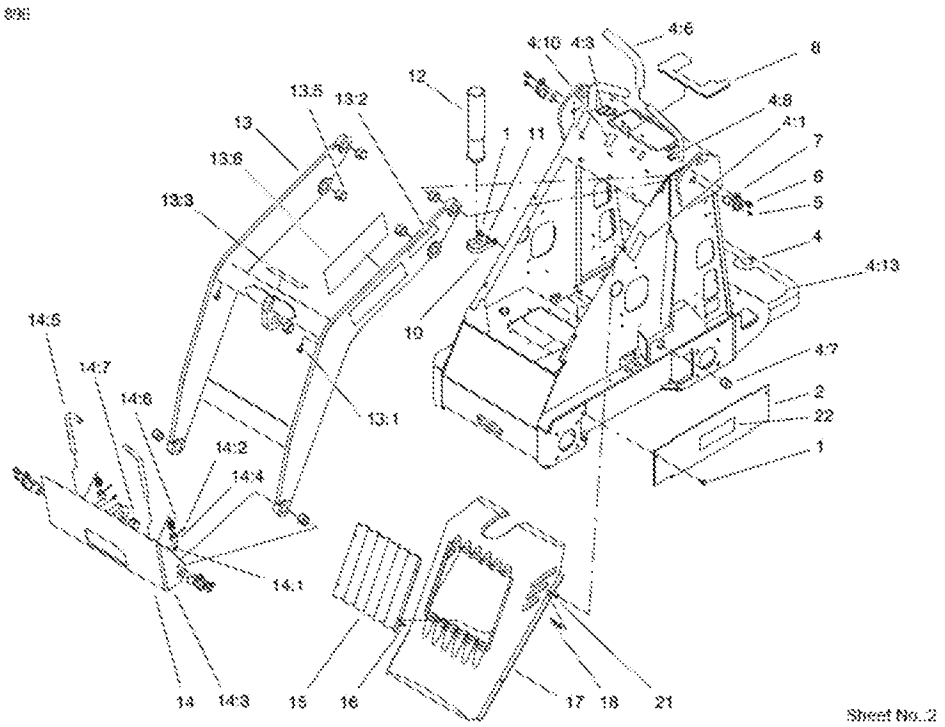


Fig. 9 of the Dingo Operator's Manual

The Dingo 322 Parts Catalog includes exploded part diagrams of various assemblies of a compact utility loader described as the "Dingo 322 Compact Utility

Loader". The compact utility loader shown in the Dingo 322 Parts Catalog includes a loader that is directly attached to the mainframe as shown on the "Frame and Loader Arm Assembly" set forth on page 1:



Page 1 of the Dingo Operator's Manual

Komatsu describes and schematically illustrates a full-sized skid steer loader (i.e., in which the operator is seated during operation). Komatsu discussed conventional skid steers having a vertical lift configuration (Figs. 11 and 12) and a radial-lift configuration (Fig. 13). The stated objective of Komatsu was to improve on these conventional designs (paras. [0006]-[0007]). The skid steer loader of Komatsu is configured such that "it is possible to get on and off when in a loaded state" (Abstract).

On page 9 of the Office action, the Office references the embodiments shown in Figures 1 and 7 of Komatsu. Figure 1 of Komatsu includes a loader that is free from direct attachment to the frame:

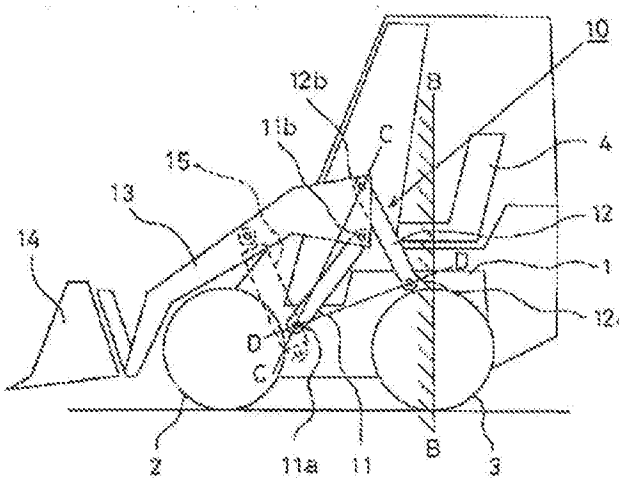


Figure 1 of Komatsu

First and second linkages are connected to the loader and the side of the frame and an actuator is connected to the loader and the front of the frame. Figure 7 of Komatsu includes a loader that is indirectly connected to the frame by first and second linkages connected to the side of the machine:

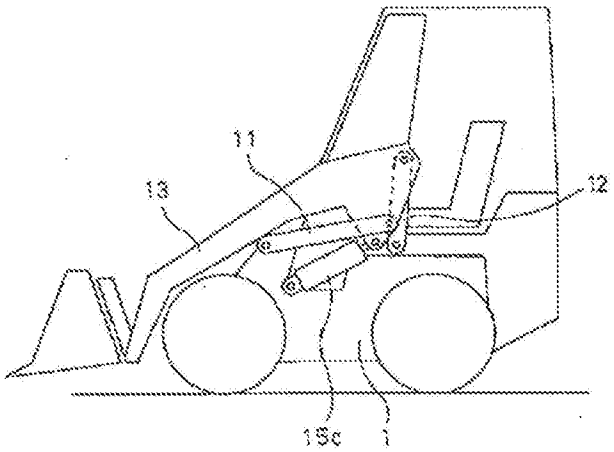


Figure 7 of Komatsu

b. One of Ordinary Skill in the Art Would Not have Been Motivated to Modify the Dingo 322 Tool Carrier to Include the Vertical-Lift Loader Arm Configuration of Komatsu.

"If a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification." MPEP 2143.01(V); *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). Here the Office's proposed modification would render the Dingo 322 tool carrier unsatisfactory for its intended purpose because the resulting machine would not achieve the lift height and reach for which the Dingo 322 was designed to achieve.

The specifications of the Dingo 322 machine are set forth in the Dingo 322 Operator's Manual and in the Dingo 322 Service Manual[12]. As shown below, Dingo 322 was designed to achieve a lift height ("height to hinge pin") of 66.0 inches and a reach of 26.0 inches when fully raised.

Specifications

Overall width	40.5 in. (103 cm)
Overall length	60.0 in. (152 cm)
Overall height	49.0 in. (125 cm)
Weight	1567 lb. (711 kg)
Rated operating capacity (with 200 lb. operator and std. bucket)	515 lb. (234 kg)
Tipping capacity (with 200 lb. operator and st. bucket)	1030 lb. (467 kg)
Wheelbase	28 in. (71 cm)
Dump height (with std. bucket)	47 in. (120 cm)
Reach—fully raised (with std. bucket)	26.0 in. (66 cm)
Height to hinge pin (std bucket in highest position)	66.0 in. (168 cm)

Page 10 of the Dingo 322 Operator's Manual

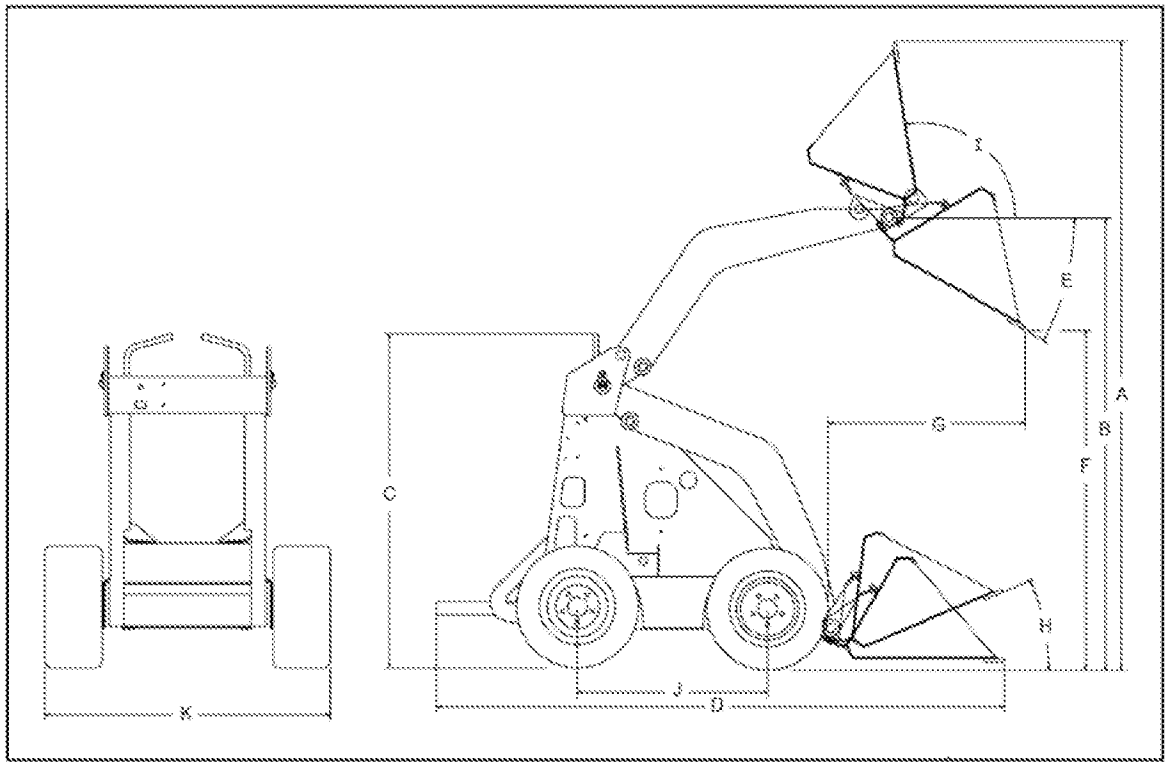
[12] Ex. 9 (Excerpts from the Dingo 322 Service Manual).

SPECIFICATIONS

Dimensions

A. Overall operating height, fully raised / 91.2" (2317mm)
B. Hinge pin height, fully raised / 66.0" (1676mm)
C. Overall height / 49.7" (1237mm)
D. Overall length / 82.2" (2089mm)
E. Dump angle / 34°
F. Dump height / 47.0" (1194mm)
G. Reach, fully raised / 26.0" (660mm)
H. Bucket rollback, ground position / 19°
I. Bucket rollback, fully raised / 97°
J. Wheelbase / 28.0" (711mm)
K. Overall width / 40.5" (1029mm)
X. Ground Clearance, front / 5.8" (147mm)
X. Ground Clearance, rear / 5.8" (147mm)
X. Reach, maximum / 28.0" (711mm)
X. Bucket rollback, carry position / 20°

X. = Dimension not shown



Ex. 9, page 2/1-2 (Dingo 322 Service Manual)

Komatsu discloses six embodiments of a vertical lift loader. In particular, Komatsu shows an embodiment of a vertical lift loader in a lowered and raised position in Figures 1 and 5 and shows additional embodiments in Figures 6-10. One of ordinary skill in the art would not have modified Dingo 322 by using any of the Komatsu vertical-lift loader embodiments because the resulting machine would not achieve a lift height of 66.0 inches and a reach of 26.0 inches.

Figures A and B depict the Dingo 322 machine[13] as altered to include the loader of Figure 1 of Komatsu[14]. The depicted loader includes the bucket of Dingo 322[15].

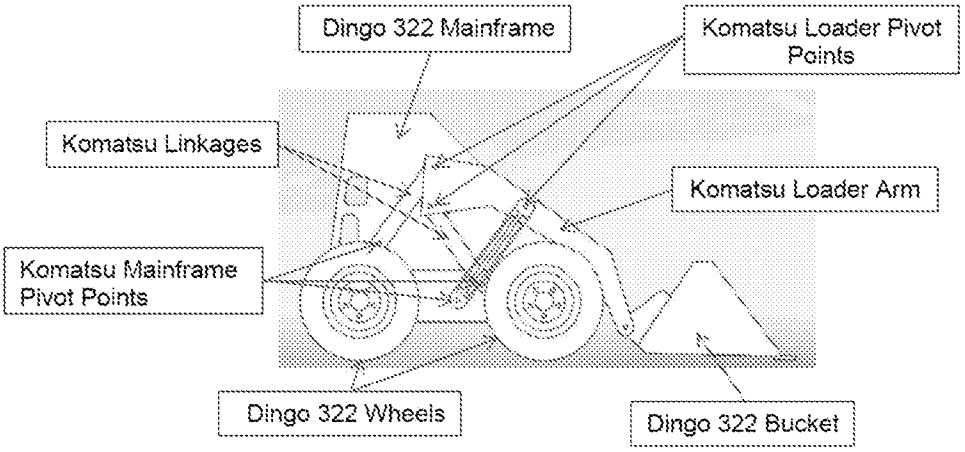


Figure A: Loader of Figure 1 of Komatsu on Dingo 322 in Lowered Position

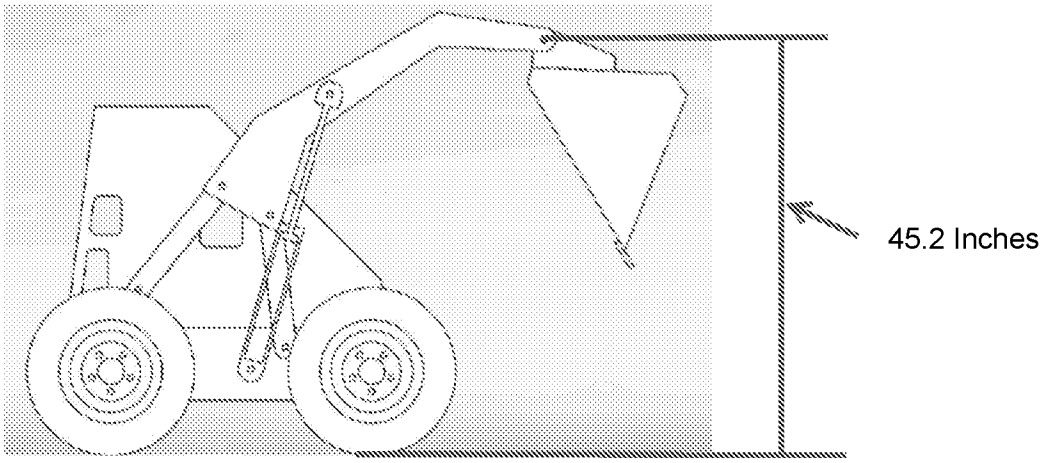


Figure B: Loader of Figure 1 of Komatsu on Dingo 322 in Raised Position

[13] As explained in the Prost-Domasky Declaration, the Dingo 322 mainframe shape and size was disclosed in the Dingo 322 Service Manual (Ex. 9).

[14] To simulate the loader of Figure 1 of Komatsu (and of the additional embodiments shown below), the loader was scaled to position the bucket flat on the ground ahead of the wheels with the pivot points being positioned within the mainframe of Dingo 322. The depicted loader includes the same loader arm as Komatsu and includes the same arrangement of the linkages and of the actuator including the respective pivot point locations in the mainframe and in the loader arm.

[15] Dingo 322 was modeled without the fuel tank limiting the available space for linkages and actuators. The Dingo 322 fuel tank would further constrain the location of the linkages and actuators.

As explained in the Prost-Domasky Declaration, the height of loader in the raised position (i.e., the “hinge-pin” height, a common metric used in the industry) was measured using the known wheel-base measurement of Dingo 322 as a reference. When in the raised positon, the loader of Figure 1 of Komatsu would result in a hinge-pin height of 45.2 inches. This hinge pin height is significantly lower than the 66.0 inch hinge pin height of Dingo 322 and of other commercial loaders as discussed further below.

The embodiments of the loader of Figures 6 and 8-10 of Komatsu when used on the Dingo 322 machine are shown in Figures C-F below:

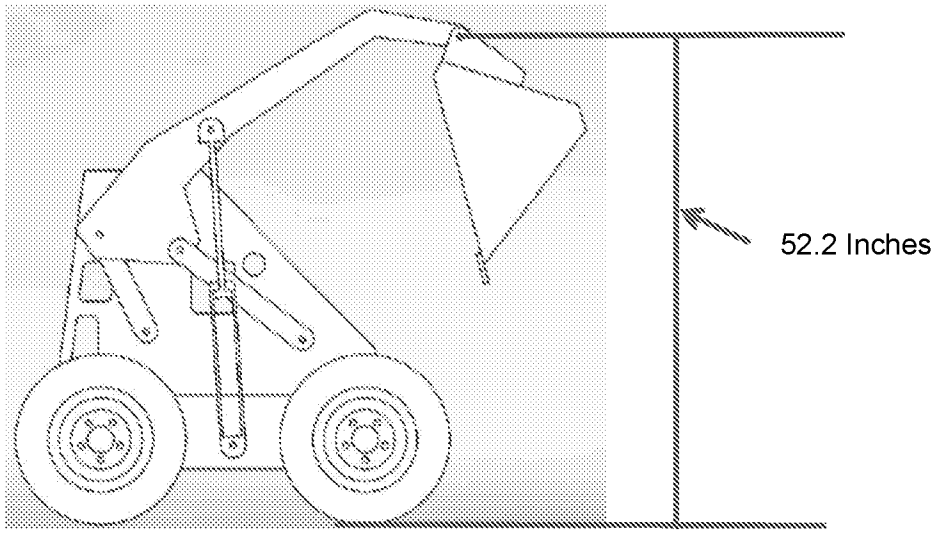


Figure C: Loader of Figure 6 of Komatsu on Dingo 322

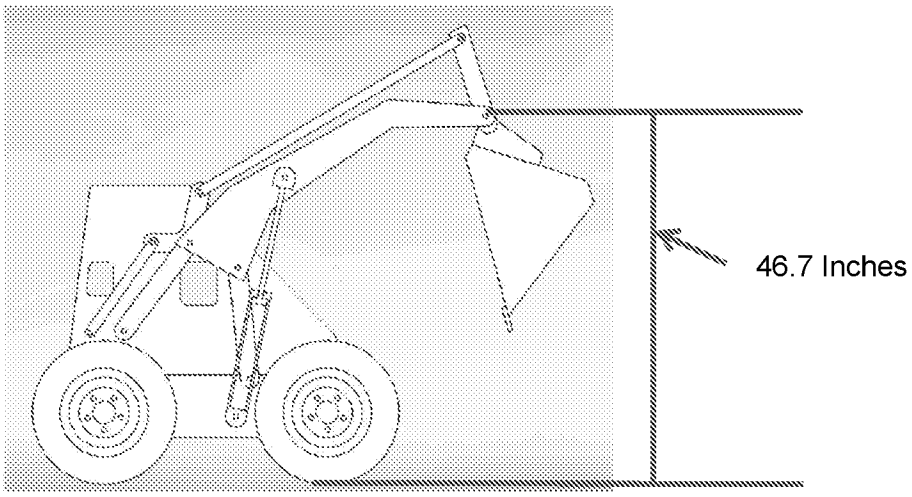


Figure D: Loader of Figure 8 of Komatsu on Dingo 322

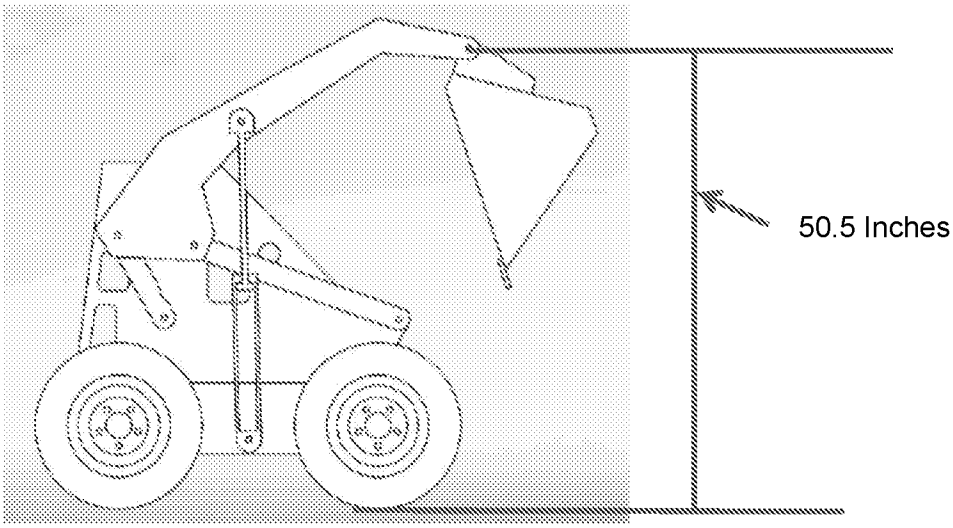


Figure E: Loader of Figure 9 of Komatsu on Dingo 322[16]

[16] As Figure 8 of Komatsu did not include a cylinder, a cylinder location was assumed to provide maximum lift height.

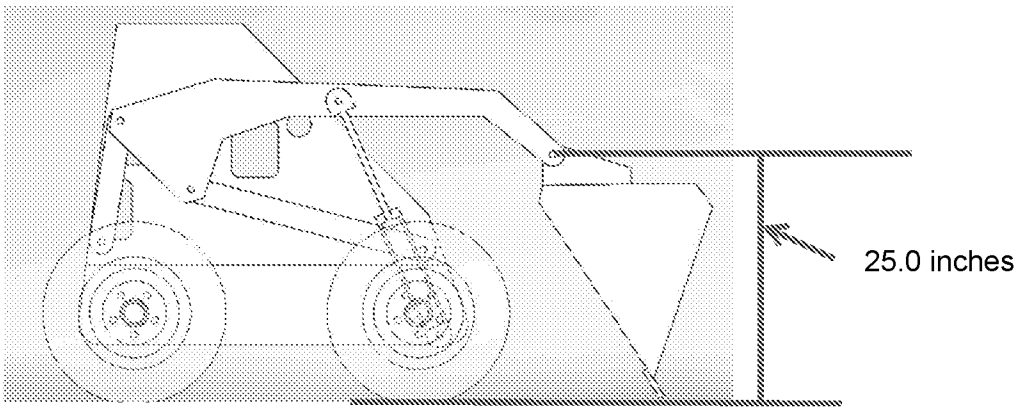
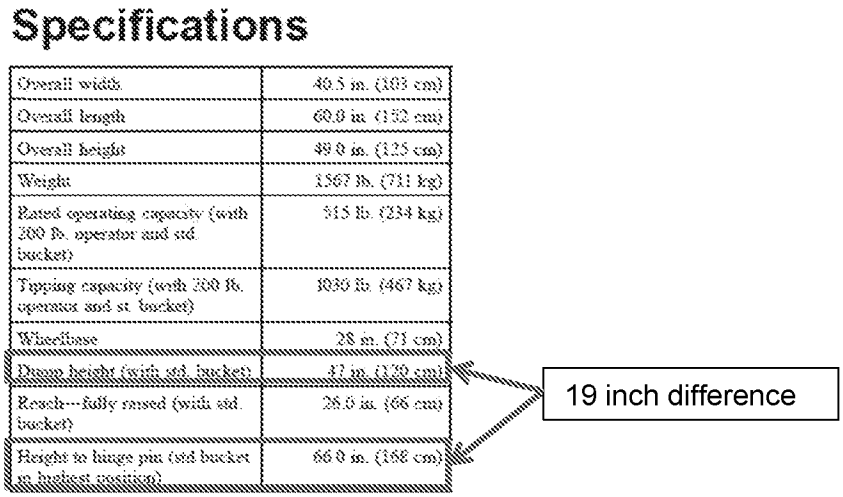


Figure F: Loader of Figure 10 of Komatsu on Dingo 322

The highest hinge-pin height of the embodiments of Figures 1, 6 and 8-10 of Komatsu on Dingo 322 would be the 52.2 inch hinge-pin height when the loader of Figure 6 is used (Figure C).

A hinge pin height of 52.2 inches and the resulting dump height of 33.2 inches[17] are significantly lower than the hinge pin height of 66 inches and a dump height of 47 inches of Dingo 322.



Page 10 of the Dingo Operator's Manual

[17] With the Dingo 322 bucket, the dump height is 19 inches less than hinge pin height which results in a dump height of 33.2 inches (52.2 inches minus 19 inches).

For at least this reason, modifying Dingo 322 by incorporating any of the embodiments of Figures 1, 6 and 8-10 of Komatsu would render Dingo 322 unsuitable for its intended purpose.

A hinge pin height of 52.2 inches and a dump height of 33.2 inches is also inadequate in the field of endeavor of Dingo 322. Of the various commercial compact utility loaders, the Patent Owner is not aware of any with a hinge-pin height of less than about 66 inches (see Table 1 below).

Model	Introduction Year	Hinge Pin Height (In.)
Bobcat MT52	2003	71.3
Bobcat MT55	2004	71.2
Bobcat MT85	2015	80.9
Boxer 427	2005	70
Boxer 532DX	2008	76
Boxer 950HD	2016	95
Ditch Witch SK500	2003	81
Ditch Witch SK650	2006	81
Ditch Witch SK850	2014	83
Ditch Witch SK1050	2016	83
Ditch Witch SK1550	2017	94.5
Toro Dingo 322	1999	66
Toro Dingo TX420	2000	90.1
Toro Dingo TX525	2006	65.8

Model	Introduction Year	Hinge Pin Height (In.)
Toro Dingo TX1000	2015	81
Vermeer S600TX	2005	80
Vermeer S400TX	2007	69
Vermeer S450TX	2012	72
Vermeer CTX 50	2015	72
Vermeer CTX100	2016	88

Table 1. Sampling of Hinge Pin Heights of Commercial Compact Utility Loaders

As stated in the Hartke Declaration, a hinge pin height of 52.2 inches and a dump height of 33.2 inches are inadequate for a compact utility loader to dump a load into standard receptacles in its field of endeavor (e.g., landscaping) such as dumpsters and pick-up trucks. A hinge-pin height of 52 inches is insufficient to unload a pallet from most trucks and is incompatible with other attachments (e.g., augers used for digging holes) that require relatively high ground clearance. For at least these reasons, modifying Dingo 322 by incorporating any of the embodiments of Figures 1, 6 and 8-10 of Komatsu would render Dingo 322 unsuitable for its intended purpose.

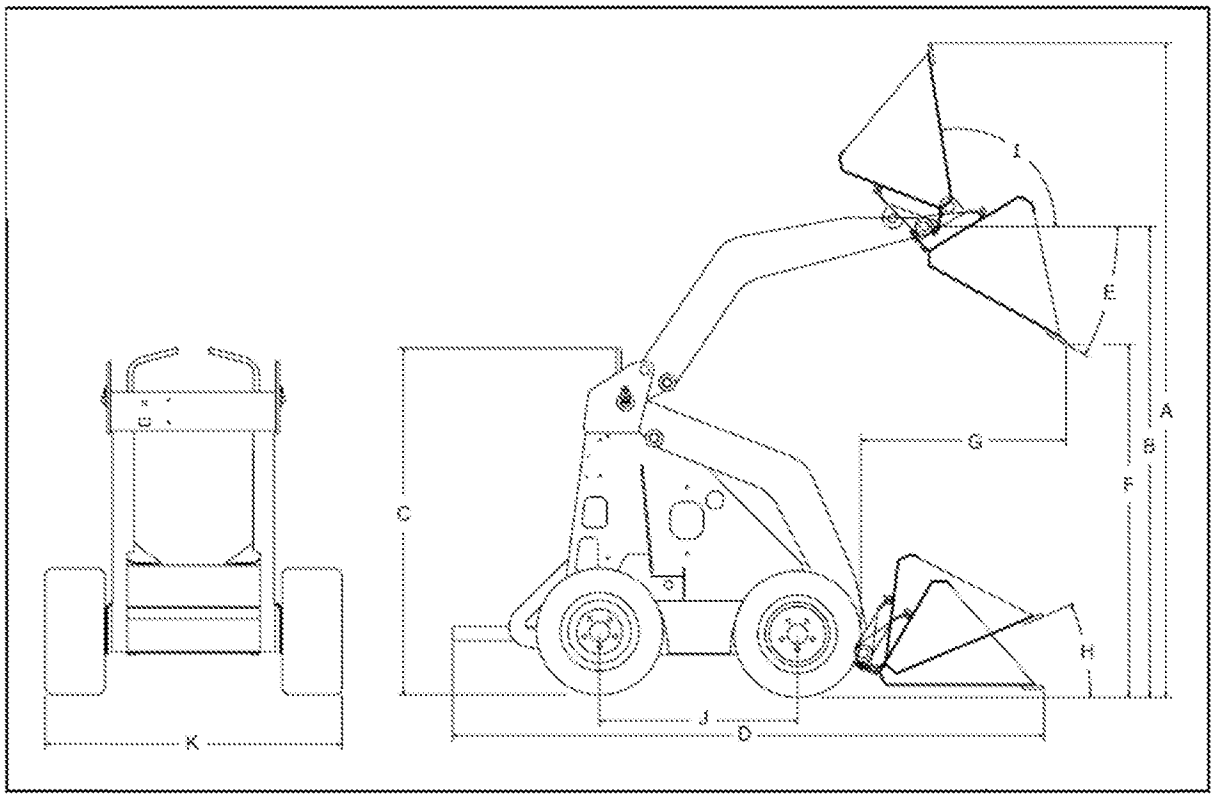
The embodiment of Figure 7 of Komatsu is also not suitable for use on Dingo 322. A principal consideration in the design of compact utility loaders is the reach of the loader at full height. Dingo 322 achieves a reach at full height of 26 inches when the bucket is rotated to 34° as shown in the Dingo Operator's Manual (see above) and the Dingo 322 Service Manual:

SPECIFICATIONS

Dimensions

A. Overall operating height, fully raised / 91.2" (2317mm)
B. Hinge pin height, fully raised / 66.0" (1676mm)
C. Overall height / 48.7" (1237mm)
D. Overall length / 82.2" (2088mm)
E. Dump angle / 34°
F. Dump height / 47.0" (1194mm)
G. Reach, fully raised / 25.0" (635mm)
H. Bucket rollback, ground position / 10°
I. Bucket rollback, fully raised / 97°
J. Wheelbase / 28.0" (711mm)
K. Overall width / 40.5" (1029mm)
X. Ground Clearance, front / 5.8" (147mm)
X. Ground Clearance, rear / 5.8" (147mm)
X. Reach, maximum / 28.0" (711mm)
X. Bucket rollback, carry position / 20°

X. = Dimension not shown



Ex. 9, page 2/1-2 (Dingo 322 Service Manual)

As shown in Figure G, use of the loader of Figure 7 of Komatsu on Dingo 322 results in a reach of only **9.6 inches** at full height with the bucket at a dump angle of 34°.

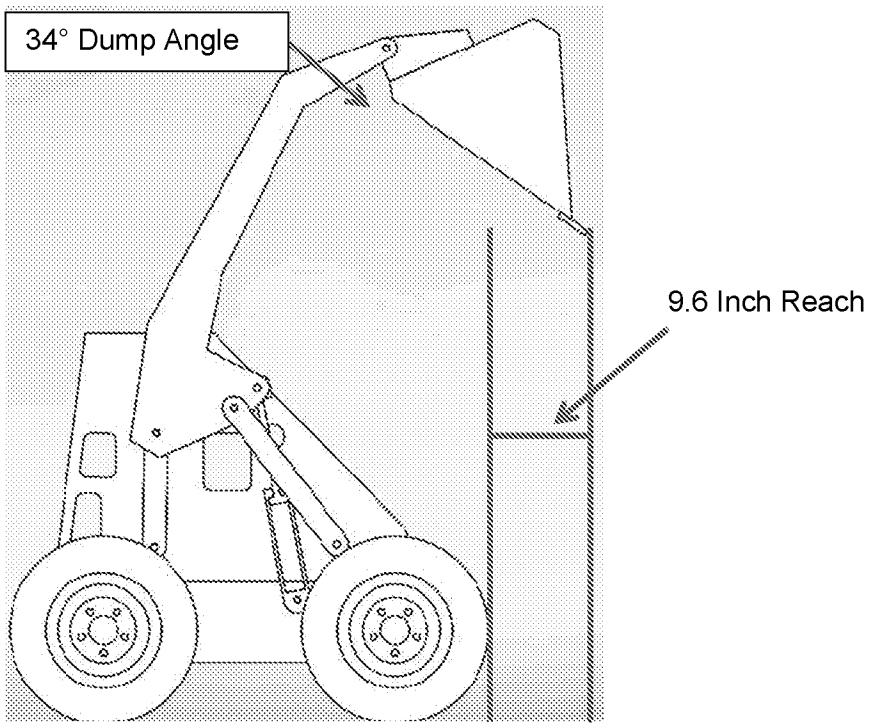


Figure G: Loader of Figure 7 of Komatsu on Dingo 322

Modifying Dingo 322 by incorporating the embodiment of Figure 7 of Komatsu would render Dingo 322 unsuitable for its intended purpose because the modification would result in a reach of only 9.6 inches which **is 63% less** than the reach of Dingo 322.

In addition to failing to achieve the reach of 26.0 inches of Dingo 322, the embodiment of Figure 7 of Komatsu is about half of the reach of commercial compact utility loaders as shown in Table 2:

Model	Introduction Year	Reach, Fully Raised (In.)
Bobcat MT52	2003	20.3
Bobcat MT55	2004	20.3
Bobcat MT85	2015	18.6
Toro Dingo 322	1999	26

Model	Introduction Year	Reach, Fully Raised (In.)
Toro Dingo TX420	2000	21.8
Toro Dingo TX525	2006	21.8
Toro Dingo TX1000	2015	24.5
Vermeer S600TX	2005	27.3
Vermeer S400TX	2007	21.8
Vermeer S450TX	2012	19.3
Vermeer CTX 50	2015	19.7
Vermeer CTX100	2016	22.6

Table 2. Sampling of Reach at Full Height of Commercial Compact Utility Loaders[18]

Because use of the loader of Figure 7 of Komatsu on Dingo 322 only achieves a reach of 9.6 inches when fully raised, the compact utility loader proposed by the Office would lack sufficient clearance between its front tires and the front of the bucket to discharge material into a pick-up truck or dumpster which is common in the field of endeavor of compact utility loaders (See Hartke Declaration).

The hinge pin heights that are achieved when the loaders of Figures 1, 6 and 8-10 of Komatsu are used on the Dingo 322 machine (45.2", 52.2", 46.7", 50.5" and 25.0", respectively) are significantly less than 66.0 inch hinge pin height of Dingo 322 and of other commercial compact utility loaders. The reach at full height of the loader of Figure 7 of Komatsu when used on the Dingo 322 machine (9.6") is also much less than the 26.0 inch reach at full height of Dingo 322 and of other commercial compact utility loaders. Therefore, "there is no suggestion or motivation to make the proposed modification." MPEP 2143.01(V); *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

[18] Table 2 includes models in which reach was published by the manufacturer or sourced internally by Patent Owner.

c. One of ordinary skill in the art would not have had a reasonable expectation of success in making the modifications to Dingo 322 proposed by the Office.

One of ordinary skill in the art would not have had a reasonable expectation of success in making the modifications to Dingo 322 proposed by the Office. Modifying the configuration of the loader arms and related linkages results in unpredictable results. This is especially true in light of the small size and light weight of compact tool carriers.

As shown below, small changes to pivot points, weight distribution, and the like in compact tool carriers cause significant changes in the lift profile and lift capacity of the machine. The inventors experienced this unpredictability firsthand, while developing the loader apparatus of the '266 Patent despite resort to state-of-the-art tools. Finally, others in the industry expressly noted that there was no reason to expect success in achieving a vertical-lift compact tool carrier. Indeed, Toro itself noted that this would have been "difficult if not impossible." Because there was no reasonable expectation of success in achieving the modification proposed by the Office, the rejection must be withdrawn.

The unpredictability of modifying the loader arm configurations was apparent during development of the loader apparatus claimed in the '266 Patent. As described in the Hartke Declaration, Patent Owner attempted several vertical lift loader arrangements that were unsuccessful. The inventors first attempted the linkage and actuator arrangement shown in Figure H-1.

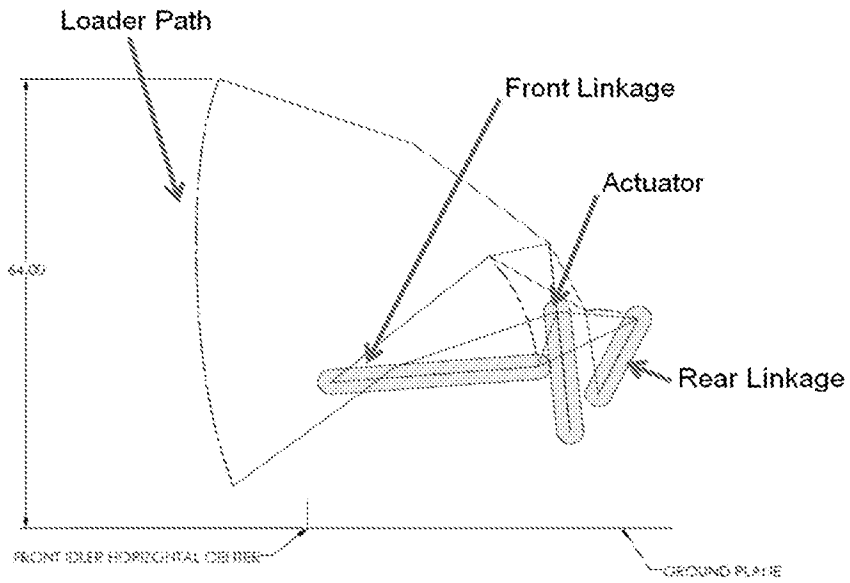


Figure H-1: Lift Path of the Initial Prototype

This resulted in the loading profile shown in Figure H-2[19]:

[19] In Figures H-2, I-2 and J-2, the lift capacity is the lower curve, the front linkage loading is the middle curve, and the rear linkage loading is the highest curve.

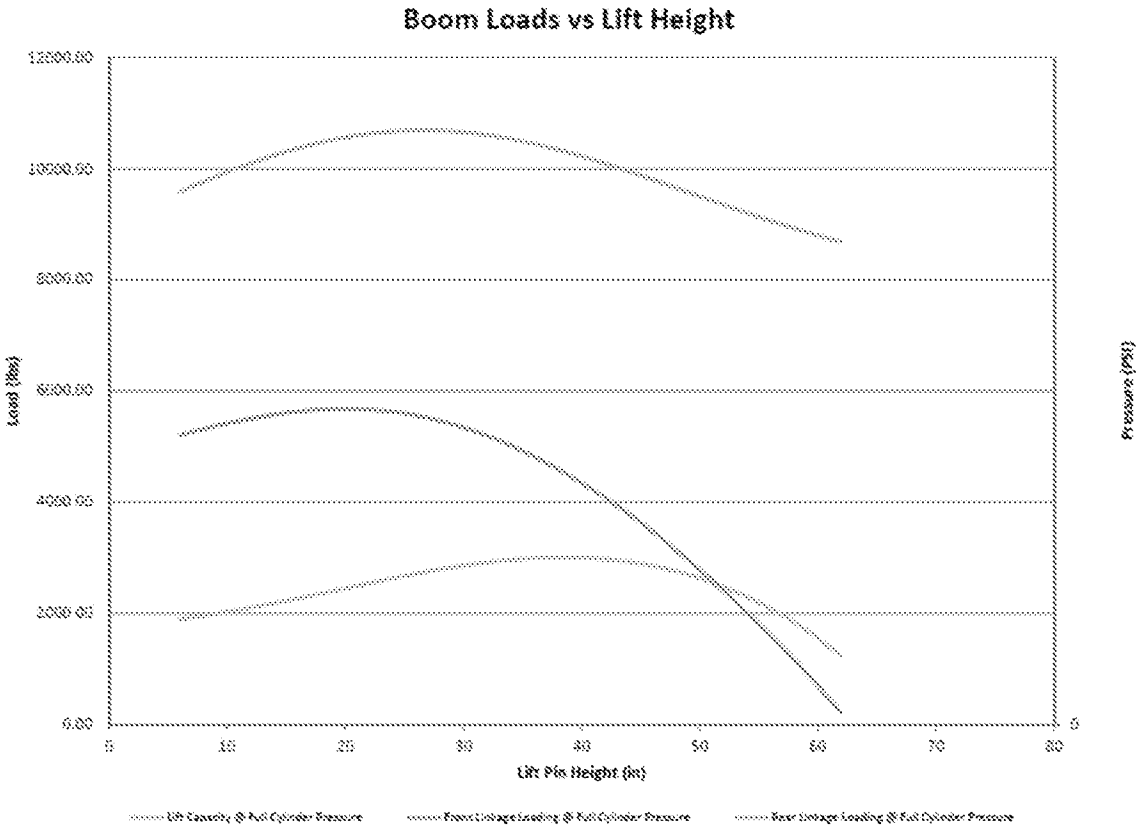


Figure H-2: Loading Profile of the Initial Prototype

To improve the stability of the initial prototype of the loader apparatus, the inventors attempted to lengthen the mainframe in a second modeled prototype[20] shown in Figure I-1.

[20] The second prototype was mathematically modeled in an attempt to scale up the first prototype and was not built due to the poor loading profile.

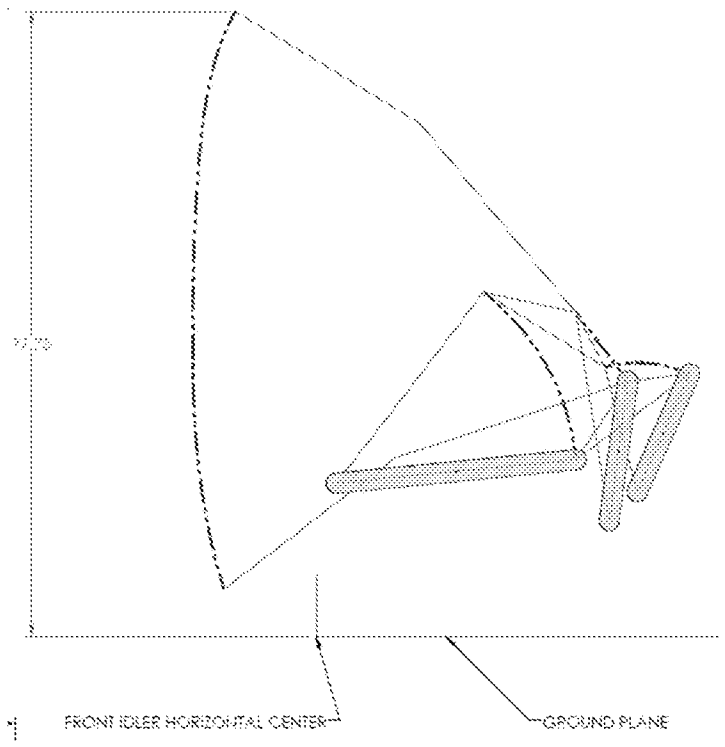


Figure I-1: Lift Profile of the Second Prototype

The inventors scaled up the linkages and actuators from the smaller initial prototype to the second prototype. Mere scaling, however, proved unsuccessful as shown in the lift profile of Figure I-2:

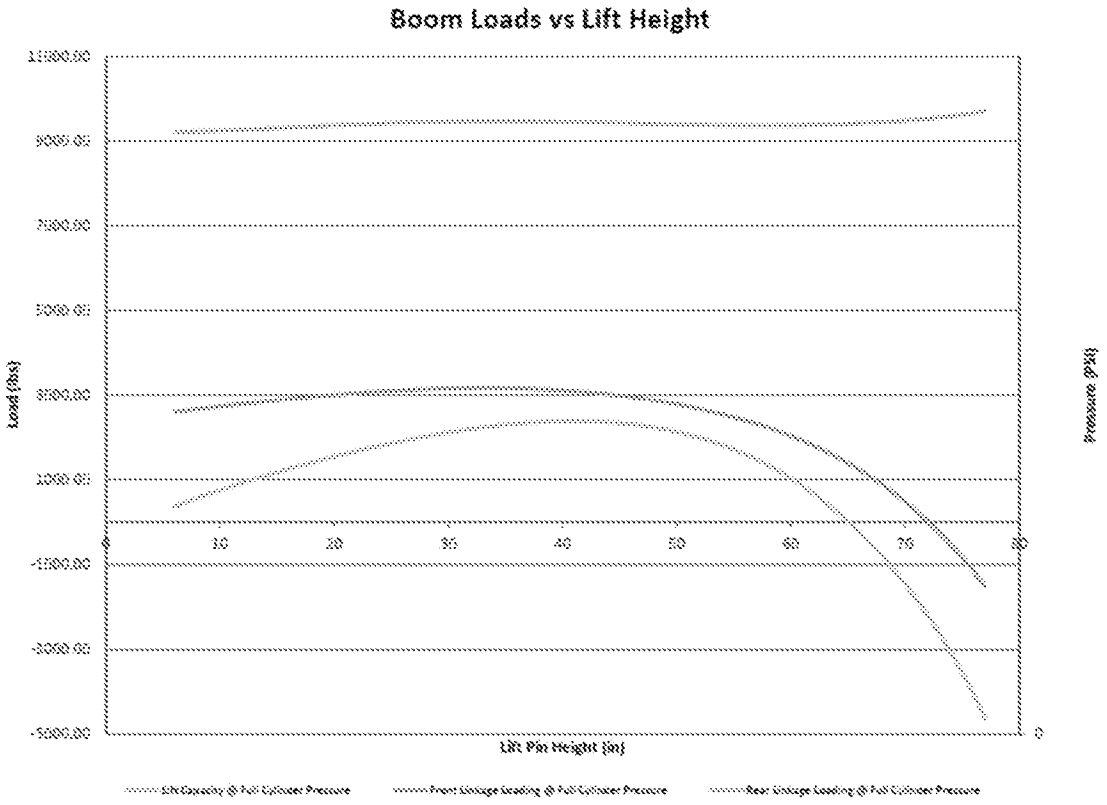


Figure I-2: Loading Profile of the Second Prototype

It was determined that the second prototype **would only be able to lift a load of 192 pounds** when the loader was lifted from the supporting surface, *which is nearly insufficient to even lift the weight of the bucket when empty*.

The inventors moved the pivot point in the actuator **slightly rearward** as shown in Figure J-1.

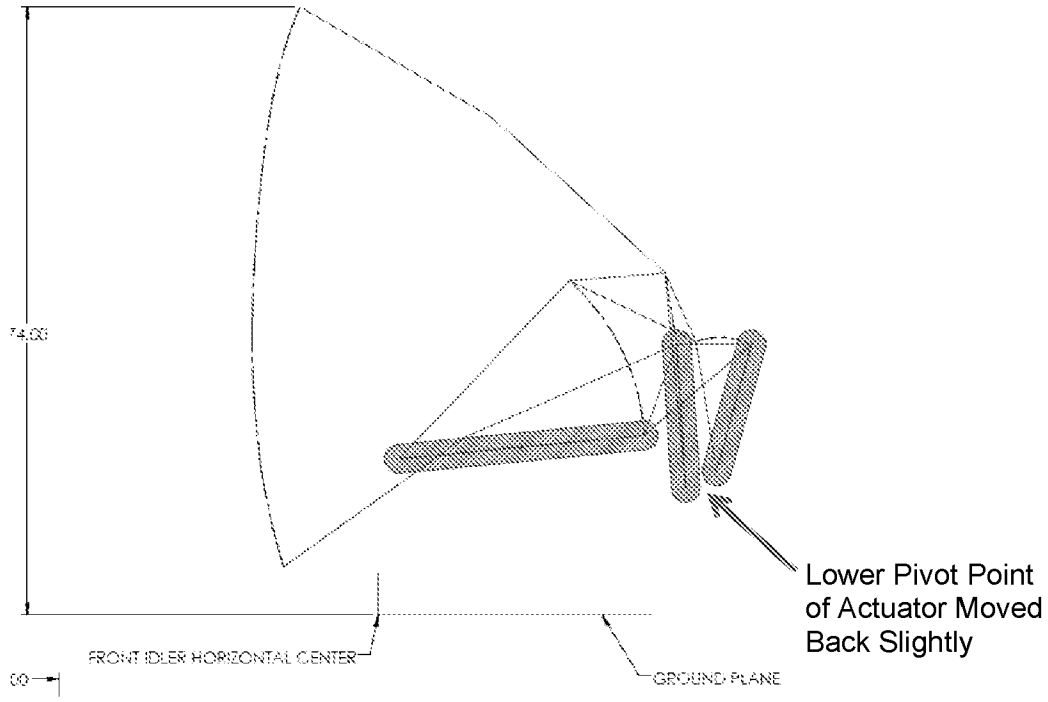


Figure J-1: Lift Profile of an Embodiment of the '266 Patent

This resulted in a much improved loading profile shown in Figure J-2:

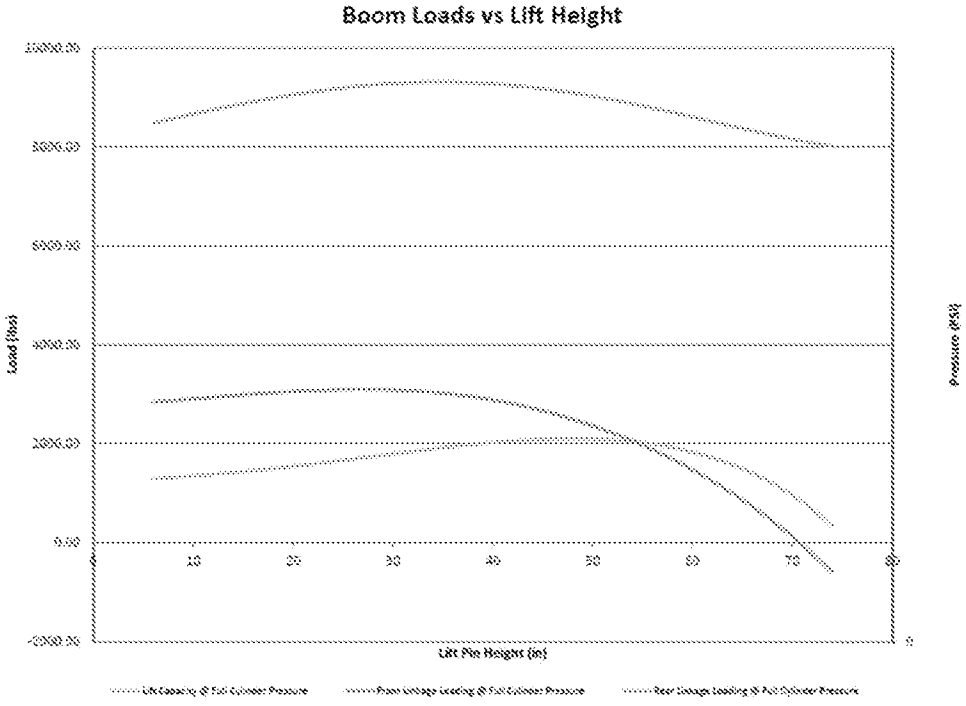


Figure J-2: Loading Profile of Third Prototype

The lift profile of Figure J-1 was incorporated into Patent Owner's CTX50 commercial compact utility loader.

Because scaling up the linkages and actuators from the first prototype to the second prototype was not successful and because small changes in a single pivot point location caused significant changes in the lift profile, it is evident that development of a loader apparatus with standing operation having a vertical-lift loader is unpredictable.

Toro, the Requester of this *ex parte* reexamination, recognized the fact that there was no expectation of success in incorporating a **vertical lift loader arm** such as that of Komatsu onto a compact utility loader such as Dingo 322 because the compact utility loader lacks the space to accommodate the large loader arms of full sized skid steers. Toro's statement of the facts, prior to their application and this series of reexamination requests, was the following:

> **[0007]** Finally, the vertical reach of the loader arms on compact utility loaders is somewhat limited. While high lift loader arms are known on full size skid steer loaders as disclosed in U.S. Pat. No. 5,542,814, the use of such high lift loader arms on a compact utility loader has been considered difficult if not impossible due to size and durability constraints. Accordingly, it would be a further advance in the art to provide a way of safely and durably providing high lift loader arms on compact utility loaders to extend the vertical reach of such loaders. For example, this would allow a compact utility loader to dump debris or materials at higher elevations than previously, thus allowing the use of larger trucks to accept such debris or materials for transport.

U.S. Patent Publication No. 2016/0244937.

Toro's prior admission that incorporation of a vertical lift loader arm such as that of Komatsu onto a compact utility loader such as Dingo 322 "*is difficult if not impossible*" is compelling <u>evidence</u> that there is no expectation of success in

making the modification proposed by the Office[21]. The statement of fact by Toro proves that others of ordinary skill in the art recognized that the inventive design was difficult or impossible. They also recognized that the loader arms of compact tool carriers needed to have a small profile so as to not reduce the field of vision of operators positioned toward the rear of the machine:

> The present invention relates to a small loader that is manually operated by a standing operator at the rear of the loader. The loader has a low lift arm profile, so that an operator standing at the rear of the loader can see the work area. The low profile lift arms aid side-to-side visibility.
>
> Various small self-propelled loaders have been advanced, where an operator will either stand or walk on the ground behind the loader or stand on a platform on the loader frame to manipulate the work element that is attached to the forward ends of pivoting lift arms.
>
> These loaders find utility in small load applications, where loads that are too heavy for a person to lift can be hoisted. The ability of the loaders to be operated in small areas is important. Ease of manipulation of the bucket or work tool, as well as the ability to see the work that is being carried out is also important.

U.S. Patent No. 6,695,568, col. 1, lines 6-21

One of ordinary skill in the art would not expect the relatively large loader arms of a vertical lift loader to operate on a substantially smaller compact utility loader with any expectation of success. "Evidence showing there was no reasonable expectation of success may support a conclusion of nonobviousness." MPEP §2143.02(II). The lack of a reasonable expectation of success is a critical factor in the obviousness rationale:

> Many basic approaches that a practitioner may use to demonstrate nonobviousness also continue to apply in the post-KSR era. Since it is now clear that a strict teaching-suggestion-motivation approach is not the

[21] US Patent Publication No. 2016/0244937 has a priority date of February 20, 2015, and is not prior art against the '266 Patent. Toro's admission in U.S. Patent Publication No. 2016/0244937 must be considered by the Office because references that provide factual evidence need not antedate the priority date of the '266 Patent. *See* MPEP § 2124 which states that references that are cited to show certain facts need not antedate the filing date.

> only way to establish a prima facie case of obviousness, it is true that practitioners have been required to shift the emphasis of their nonobviousness arguments to a certain degree. However, familiar lines of argument still apply, including teaching away from the claimed invention by the prior art, **lack of a reasonable expectation of success**, and unexpected results. Indeed, they **may have even taken on added importance** in view of the recognition in KSR of a variety of possible rationales.
>
> MPEP §2145; Emphasis added.

d. Objective Evidence of Non-Obviousness Indicate Patentability.

Secondary considerations of non-obviousness such as long felt need, failure of others, customer and industry praise, commercial success, skepticism of experts and unexpected results support the patentability of independent claim 1 over Dingo 322 in view of Komatsu. "Objective evidence relevant to the issue of obviousness must be evaluated by Office personnel. *Id.* at 17-18, 148 USPQ at 467. Such evidence, sometimes referred to as 'secondary considerations,' may include evidence of commercial success, long-felt but unsolved needs, failure of others, and unexpected results. The evidence may be included in the specification as filed, accompany the application on filing, or be provided in a timely manner at some other point during the prosecution." MPEP §2141(II). "Consideration of rebuttal evidence and arguments *requires* Office personnel to weigh the proffered evidence and arguments." MPEP §2145.

i. Long Felt Need and Failures of Others

Loaders having an operator platform for standing operation such as compact tool carriers have been under commercial development for over 30 years. As discussed above, manufacturers continually have attempted to increase lift capacity of such loaders without sacrificing machine weight and maneuverability. The need for increased lift capacity without sacrificing machine weight is recognized by those of skill in the art (see also the Hartke Declaration):

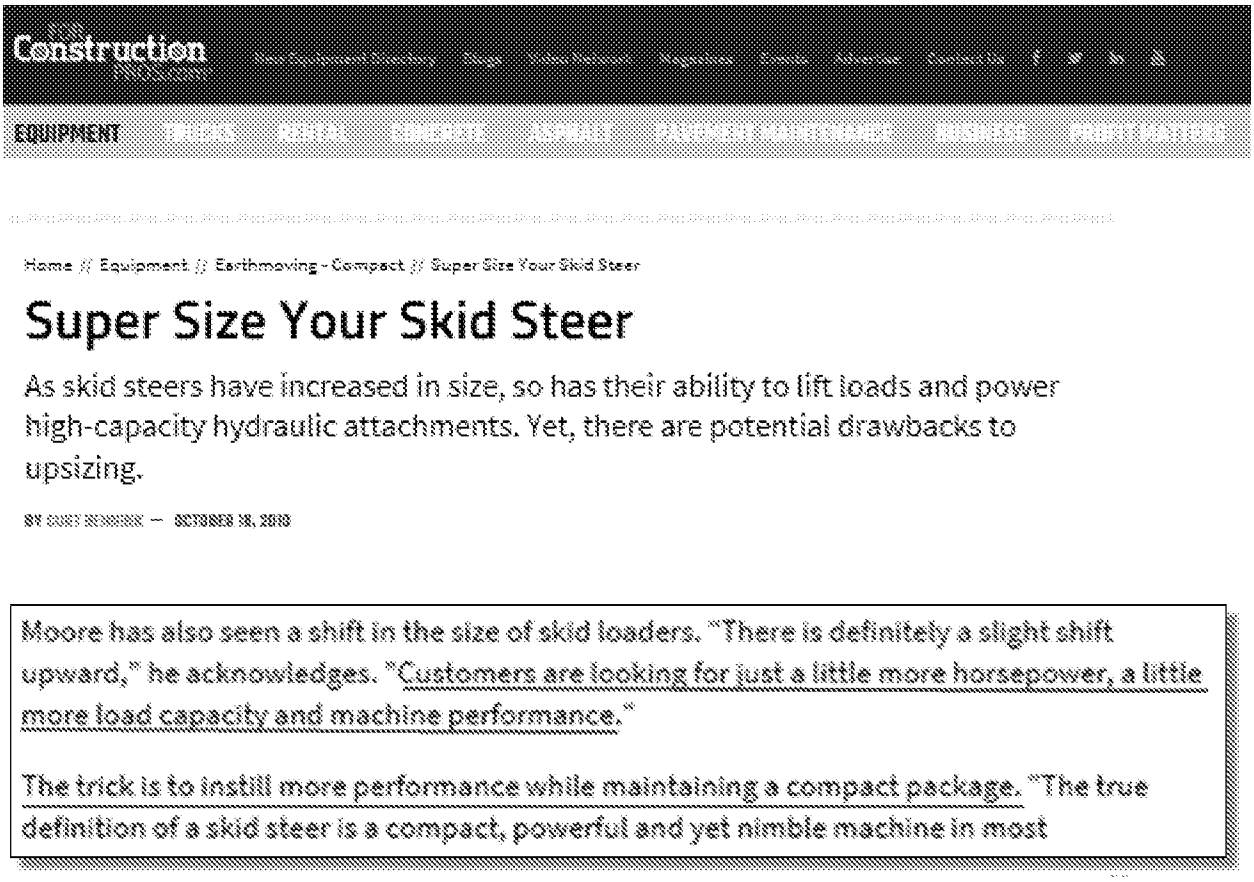


Figure N

Despite this need for increased lift, the industry turned to solutions other than vertical lift loaders. For example, manufacturers have shifted from "walk-behind" machines to predominantly "ride-on" machines. Manufacturers of ride-on machines are permitted to incorporate an average weight of an operator (165 lb standard) in the tip capacity testing which generally increases the rated lift capacity.

Other manufacturers have included "weight kits" that add weight to the back of the machine to increase lift capacity while sacrificing ground clearance and machine length (Figure O).

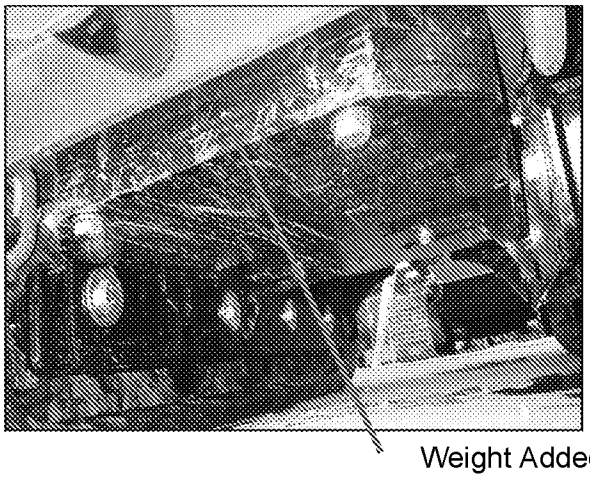


Figure O

Commercial users have even bolted their own counter-weights near the rear of the machine to increase lift capacity (Figure P):

Figure P

Prior art patents even have addressed the problem of increased lift capacity while maintaining the compact design of the machines. For example, U.S. Patent No. 6,695,568 discloses use of "far rear" pivot points to increase the lift capacity:

> The far rear pivot of the lift arms permits using a longer arm on the same length machine. This increases the lift capacity for the same size actuator and there is a longer arc of movement. This means that the bucket or tool moves more vertically as it initially raises, rather that having a pronounced arcuate path that causes the bucket to move forward a significant amount as it starts to lift.

U.S. Patent No. 6,695,568; col. 1, lines 48-54.

U.S. Patent No. 7,494,314 discloses use of pivotal lift arms to allow the load carried by the compact tool carrier to be moved over the loader frame:

> A loader has lift arms that are used for mounting a number of different attachments. The attachments can be mounted to the rear of the forward end of the lift arms in order to move the center of gravity of the attachment more directly over the loader frame. Various types of attachments can be used, as shown, and can be controlled to be pivoted for dumping or loading, and can be raised and lowered on the lift arms.

U.S. Patent No. 7,494,314; abstract.

These attempts by others have resulted, at best, in marginal increases in the rated lift capacity of the loader apparatus.

In comparison, by changing design from a radial lift loader to a vertical lift loader in which the loader is connected to the loader support by first and second linkages and an actuator as set forth in claim 1 of the ‘266 Patent, a significant increase in the rated operator capacity was achieved without significantly increasing the weight of the vehicle. The objective evidence establishes a long-felt need for increased lift capacity in compact tool carriers that was not satisfied by the attempts of others. This is clear objective evidence of the nonobviousness of claim 1 (See MPEP §2141(II)).

ii. Customer and Industry Praise

Both Toro (the Requester) and other third parties have indicated that the loader apparatus of independent claim 1 of the ‘266 Patent is a commercially successful

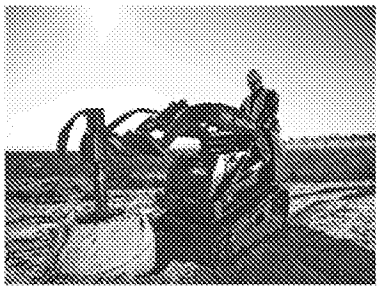
product with the success of the product being directly tied to the vertical-lift arrangement of the loader. CompactEquip.com referred to the commercial product ("the CTX50") as a "game-changer" and directly linked the enhancements to the new vertical-lift arrangement of the loader:

> (http://compactequip.com/features/innovative-iron-awards-toro-vermeer-compact-tool-carriers/attachment/vermeer-compact-tool-carrier/)The Vermeer (http://vermeer.com) CTX50 boasts a 600-lb ISO-rated operating capacity and a tipping capacity of 1,715 lbs due to its vertical-lifting path. The vertical-lift path is designed to keep the load closer to the machine, allowing it to lift more than a similar-sized compact tool carrier with a radial-lift path. A vertical-lift path also provides a higher lift height. These enhancements along with the Vermeer exclusive single pilot-operated joystick and stand-on platform make the CTX50 a game-changer in the rental and landscape market.

Toro incorporated the vertical lift arrangement of claim 1 of the '266 Patent in its "Dingo TX 1000" compact tool carrier. Both the Vermeer CTX50 and Dingo TX 1000 received an "Innovative Iron Award" for the new lifting pattern and were said to "set the bar for innovation":

INNOVATIVE IRON AWARDS: TORO AND VERMEER COMPACT TOOL CARRIERS

Exploration is the engine that drives innovation, so let's go exploring. Let's search through a year's worth of creative ideas in the off-highway equipment industry and see if we can benchmark the innovative exploration of the American machine market. Over the last 12 months, global manufacturers from Caterpillar to Kubota have released compact machines that have set new standards for power, versatility, efficiency and design. Our editors have traveled across the globe to meet these manufacturers, operate their new products and give detailed reports and opinions both in print and on our website (compactequip.com). We sifted through the hundreds of models and brands released in 2015 and picked 19 units that set the bar for innovation. With this article, we salute those companies (from Komatsu to Case) that have changed the commercial equipment market over the last year with their unique, interesting and innovative machines, engines and technologies.



TORO AND VERMEER BRING A NEW LIFTING PATTERN TO CTCS

Toro also notes that the vertical lift design "allows it to lift more weight" and that Toro "doubled the capacity of our current loaders" (https://www.equipmentworld.com/toros-new-vertical-lift-dingo-tx-1000-lays-claim-to-strongest-compact-utility-loader-on-the-market-photos/). Toro has also stated (in a marketing video published on YouTube) that the "vertical lift loader arms are **really unique** . . ."

"vertical loader arms which are really unique. . . "

https://www.youtube.com/watch?v=ckMKUkIzcF8

Praise by Toro and other third parties of the vertical lift arrangement in which the loader is not directly attached to the loader support as set forth in claim 1 of the '266 Patent that is incorporated in the CTX50 and Dingo TX1000 machines is further evidence of nonobviousness of independent claim 1. By attributing the increase in lift capacity to the vertical-lift design—as required by claim 1 of the '266 Patent (i.e., a machine in which the loader is connected to the loader support by first and second linkages and an actuator and the loader being free of direct attachment to the loader support)—"nexus" between the commercial success and the claimed invention has been established (See MPEP §2145).

iii. Commercial Success

The loader apparatus of claim 1 of the '266 Patent has been a commercial success. Since their introduction into the market in 2015, vertical-lift loaders have taken market share from radial-lift loaders. In 2015, vertical lift loaders made up 11% of all compact utility loader unit sales of the Patent Owner (see Figure Q). Vertical lift has continued to take market share from radial lift. In 2018, vertical lift compact utility loaders made up *37%* of all compact utility loader unit sales of the Patent Owner.

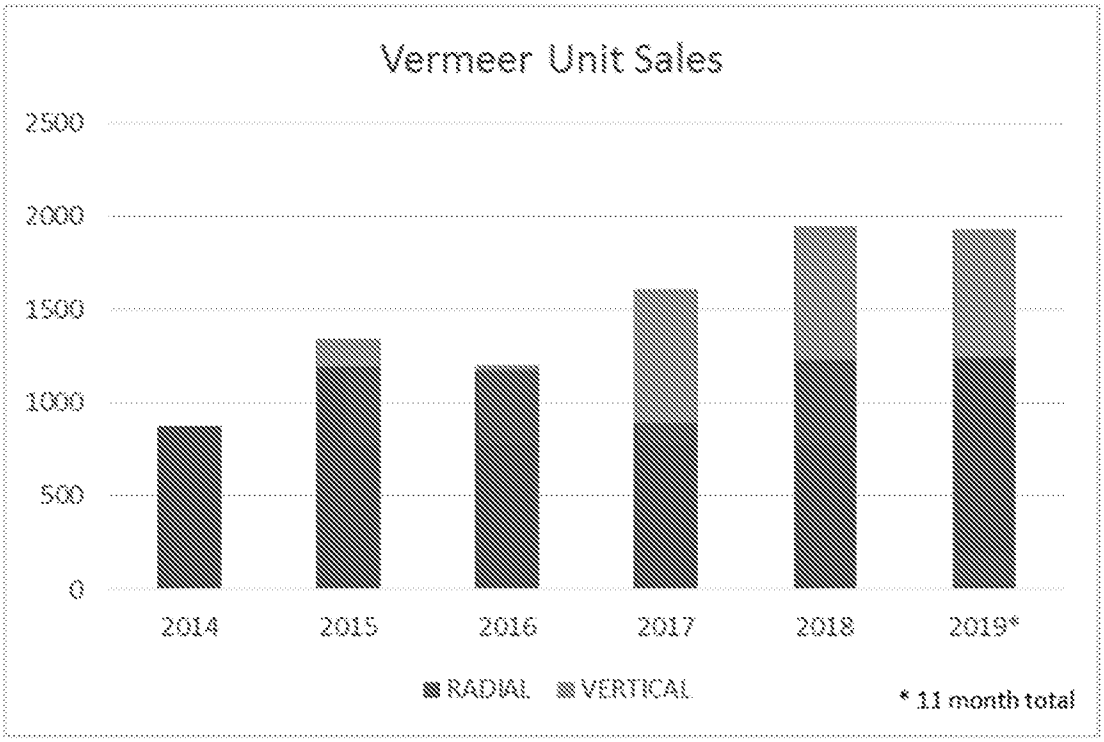


Figure Q

As discussed in the Hutchinson Declaration, the trend toward vertical lift results from the benefits associated with vertical lift including increased lift capacity in a compact design and is not the result of price discounts, special offers, advertising or other factors not related to vertical lift.

Toro has also indicated commercial success of the compact tool carrier of claim 1. In Toro's 2015 annual financial statement, Toro stated that the TX1000 utility loader

which incorporates the vertical lift arrangement in which the loader is not directly attached to the loader support fueled growth in the compact utility loader product line:

Toro's 2015 Annual Statement

The commercial success of compact utility loaders incorporating the vertical lift arrangement of claim 1 is further evidence of patentability of claim 1. See MPEP §2141.

iv. Skepticism of Experts and Unexpected Results

Toro, the Requester of this *ex parte* reexamination, expressed skepticism that a loader apparatus with a vertical lift loader could be developed. In particular, Toro states that such a combination is "**difficult if not impossible due to size and durability constraints**":

> **[0007]** Finally, the vertical reach of the loader arms on compact utility loaders is somewhat limited. While high lift loader arms are known on full size skid steer loaders as disclosed in U.S. Pat. No. 5,542,814, the use of such high lift loader arms on a compact utility loader has been considered difficult if not impossible due to size and durability constraints. Accordingly, it would be a further advance in the art to provide a way of safely and durably providing high lift loader arms on compact utility loaders to extend the vertical reach of such loaders. For example, this would allow a compact utility loader to dump debris or materials at higher elevations than previously, thus allowing the use of larger trucks to accept such debris or materials for transport.

U.S. Patent Publication No. 2016/0244937.

This skepticism is shared by others in the field. As stated in the Hartke Declaration, inventor Louis Hartke was highly skeptical as to whether it would be possible to develop a loader apparatus with standing operation having a loader that was free from direct attachment to the loader support (i.e., a vertical lift loader apparatus) as set forth in claim 1 of the '266 Patent.

Toro's admission **that incorporation of a vertical lift loader arm onto a compact tool carrier "*is difficult if not impossible*" and Louis Hartke's belief that such a machine could not be developed is compelling evidence** that the conventional wisdom of those of skill in the art was that the inventive design was difficult or impossible. "Expressions of disbelief by experts constitute strong evidence of nonobviousness." MPEP §716.05 (citing Environmental Designs, Ltd. v. Union Oil Co. of Cal., 713 F.2d 693, 698, 218 USPQ 865, 869 (Fed. Cir. 1983) (citing United States v. Adams, 383 U.S. 39, 52, 148 USPQ 479, 483-484 (1966)). As stated in MPEP §2145, "unexpected results . . . may have even taken on **added importance** in view of the recognition in KSR of a variety of possible rationales" (Emphasis added).

In summary, the Office has not presented a prima facie case of obviousness of the subject matter of claim 1. One of ordinary skill in the art would not have made the modification suggested by the Office because (1) the proposed modification to Dingo 322 would have rendered it unsatisfactory for its intended purpose and (2) there was no reasonable expectation of success given the unpredictability of these types of modifications and the real world evidence showing that, for years and years, Toro did not pursue the vertical-lift option—consistent with Toro's representation to the Office that it would have been "difficult if not impossible" to achieve a vertical-lift loader apparatus. Finally, objective evidence of non-obviousness indicate patentability of independent claim 1 over the Dingo 322 Parts Catalog, the Dingo 322 Operator's Manual and Komatsu.

Dependent claims 4-6 and new claim 28 incorporate the recitations of independent claim 1 by way of their dependency therefrom and are patentable over the

Dingo 322 Parts Catalog, the Dingo 322 Operator's Manual and Komatsu for at least the reasons set forth above relating to independent claim 1.

2. Claims 1 and 4-6 are Not Obvious over Dorkins in view of Baker.

The Office articulates its rationale for obviousness of claim 1 over Dorkins in view of Baker as follows:

> From this teaching, it would have been obvious to one of ordinary skill in the art at the time of the filing of the '266 patent to provide the loader of Dorkins with a platform for the operator to stand on in order to increase the versatility of the loader. Moreover, given the placement of the controls and that of the pivot points shown in Dorkins, the first linkage pivot point, second linkage pivot point, and the actuator pivot point would be disposed forward of the added operator platform.

Page 26 of the Office action.

It would not have been obvious to one of ordinary skill in the art to make the modification proposed by the Office before the effective filing date of the claimed invention. To modify the tractor of Dorkins to include an operator platform for standing operation would render Dorkins unsuitable for its intended purpose. Further, the modification of Dorkins proposed by the Office would not have yielded the claimed invention. Therefore, even if the Office believes that a person of ordinary skill in the art would have modified Dorkins in the manner suggested by the Office, the resulting loader apparatus would not have satisfied all of the limitations of claim 1. The objective indicia of non-obviousness also demonstrate that the claimed subject matter would not have been obvious over Dorkins in view of Baker.

a. The Prior Art

Dorkins discloses an agricultural tractor having a high lift loader (col. 1, lines 15-18). As shown in Figure 4 of Dorkins, the tractor 1 includes a loader bucket 33 pivotally

connected to plates 30. The plates 30 are supported by lift arms 26 and bar 34 (col. 2, lines 45-65).

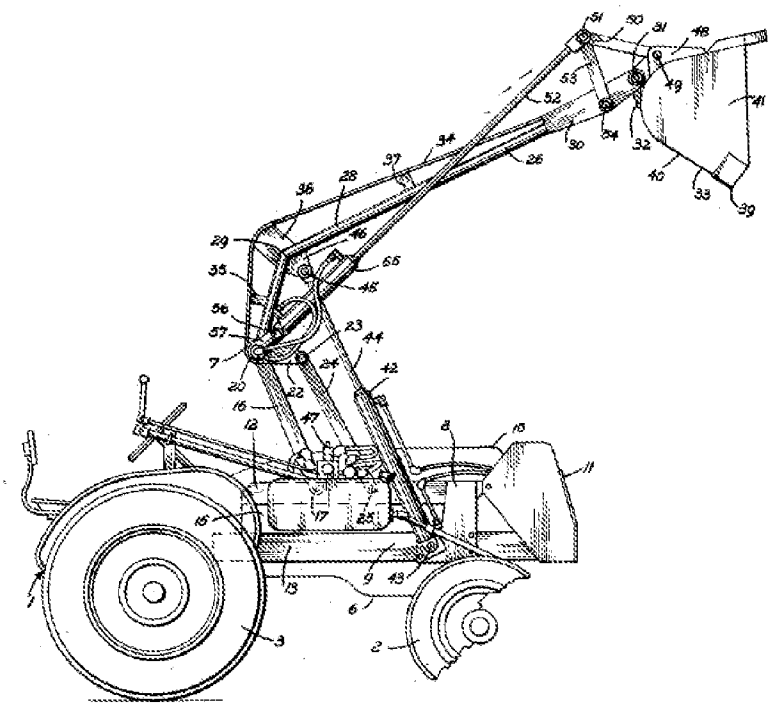


Fig. 4 of Dorkins

A cylinder 42 is pivotally connected to the supporting frame 8 of the tractor 1 and to the lift arm 26. Bucket cylinders 55 are used to tilt the bucket 33. The lift cylinders 42 and bucket cylinders 55 are controlled through a valve mechanism 47 (col. 3, lines 57- 71).

The lift arms 26 and bar 34 are connected to a sleeve 21 (Fig. 7) which rotates about a shaft 19. The shaft 19 is welded to a support link 26 which is pivotally attached to the supporting frame 8 (Fig. 4) of the tractor 1. The sleeve 21 is welded to a diagonal brace lever 22 which is pivotally connected to a diagonal brace link 24. The diagonal brace link 24 is pivotally connected to the supporting frame 8 (col. 2, lines 16-48).

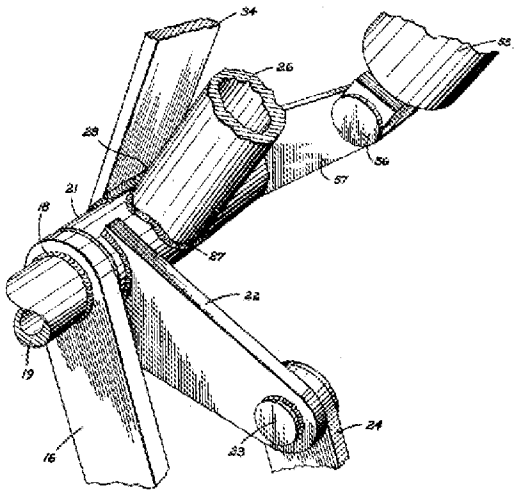


Fig. 7 of Dorkins

Baker discloses a seat 28 for an agricultural tractor that may be tilted backward. The tractor includes a platform 14 below the seat 28 (col. 2, lines 12-21).

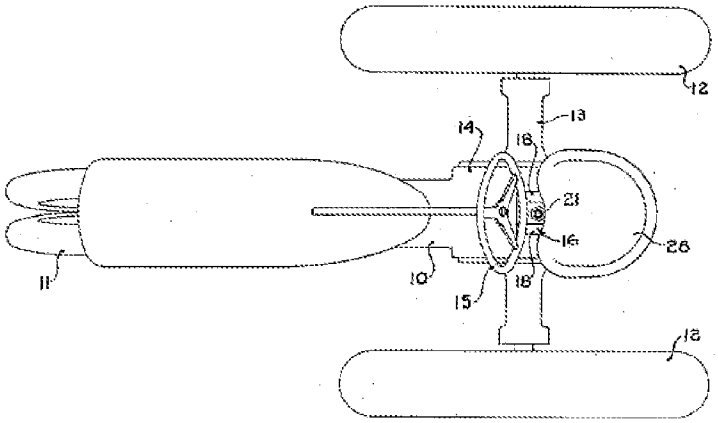


Fig. 1 of Baker

b. One of Ordinary Skill in the Art Would Not have Been Motivated to Modify Dorkins to Include an Operator Platform for Standing Operation of the Tractor because the Office's Proposed Modification would have rendered Dorkins Unsatisfactory for its Intended Purpose.

As noted above, "[i]f a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification." MPEP 2143.01(V); *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). Here the Office's proposed modification would render Dorkins unsatisfactory for its intended purpose because an operator standing on the operator platform would not be able to operate the foot pedals that are used to control forward operation of the tractor.

The tractor 1 of Dorkins includes foot pedals for propelling the apparatus forward. As appreciated by those of skill in the art, at the time Dorkins was filed, agricultural tractors similar to Dorkins included a clutch foot pedal to the left of the operator and a brake to the right[22], similar to operation of a manual transmission automobile.

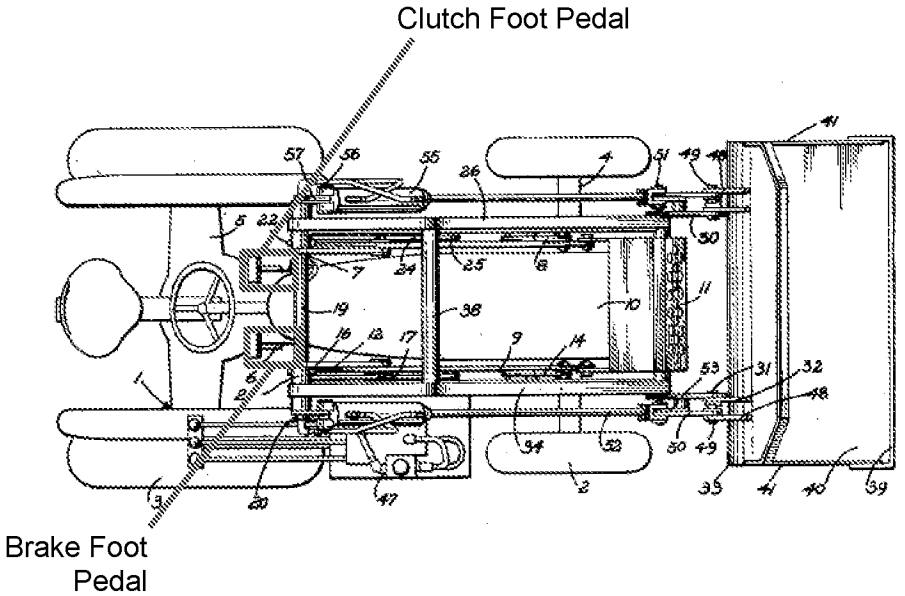


Fig. 5 of Dorkins

[22] See Ex. 8 (Excerpts from the 1955 Farmall 300 Operator's Manual), page 72, showing the brake on the right.

During operation of the tractor of Dorkins, the operator sits on the operator's seat which allows his or her legs to be positioned *below* the steering wheel (e.g., with the thighs extending forward and the knees bent down as shown below).

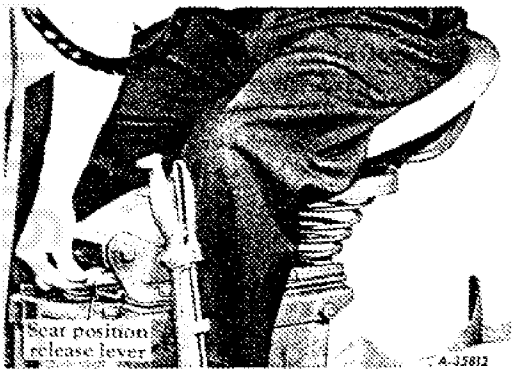


Illustration 19 of the Farmall 300 Manual

With his or her thighs extending forward below the steering wheel, the operator may reach the clutch and brake foot pedals.

If Dorkins were modified to include an operator's platform as in Baker, the foot pedals could not be operated from a standing position. As shown below, to stand on the tractor of Dorkins, the operator must stand between the seat and the steering wheel. The clutch and brake foot pedals are ***forward*** of the steering wheel. **Because the clutch foot pedal and brake foot pedal are forward of the steering wheel in the tractor of Dorkins, the steering wheel prevents the operator from reaching the clutch and brake in a standing position**[23].

[23] The steering wheel prevents the operator from reaching the brake and clutch even if the seat were tilted backward to allow more room for the operator stand as shown in Baker.

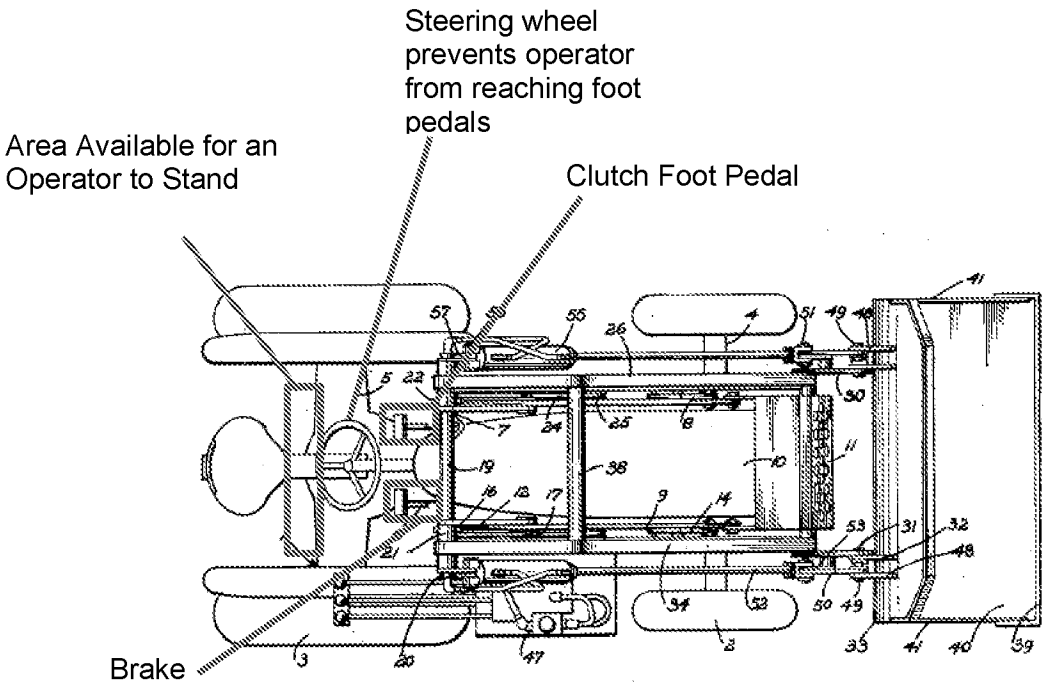


Fig. 5 of Dorkins

Because an operator cannot reach the clutch and brake foot pedals of Dorkins when standing behind the steering wheel, the modification proposed by the Office would render Dorkins unsuitable for safe operation and "there is no suggestion or motivation to make the proposed modification." MPEP 2143.01(V); *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

c. The Proposed Combination Does Not Include Each Feature of Claim 1.

Regardless of whether one of ordinary skill in the art would have modified Dorkins in the manner suggested by the Office, the resulting combination would not have had all of the required elements of claim 1. Specifically, the proposed combination would not have satisfied the limitation that the loader apparatus include "a control station having operator controls for propelling the loader apparatus forward and for raising and lowering the loader."

Dorkins does not describe or show a control station having operator controls for propelling the apparatus forward and for raising and lowering the loader. The Office states that the control station is shown in Figure 2 of Dorkins (page 25 of the Office

action). As shown below, the only operator controls shown in Figure 2 of Dorkins are the controls to the right of the operator.

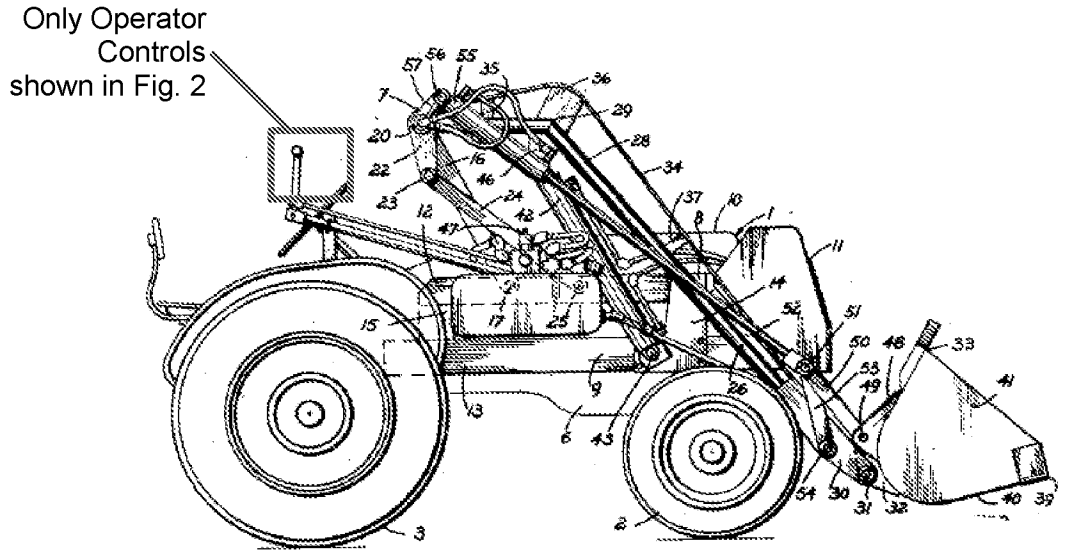


Fig. 2 of Dorkins

The controls shown in Figure 2 are not operator controls for propelling the tractor forward as required by claim 1. Instead, the controls shown in Figure 2 are ***hydraulic controls*** for controlling the loader and/or controlling other implements connected to the tractor. The operator controls shown in Figure 2 are three levers that connect to the hydraulic components of the tractor (e.g., hydraulic valve 47).

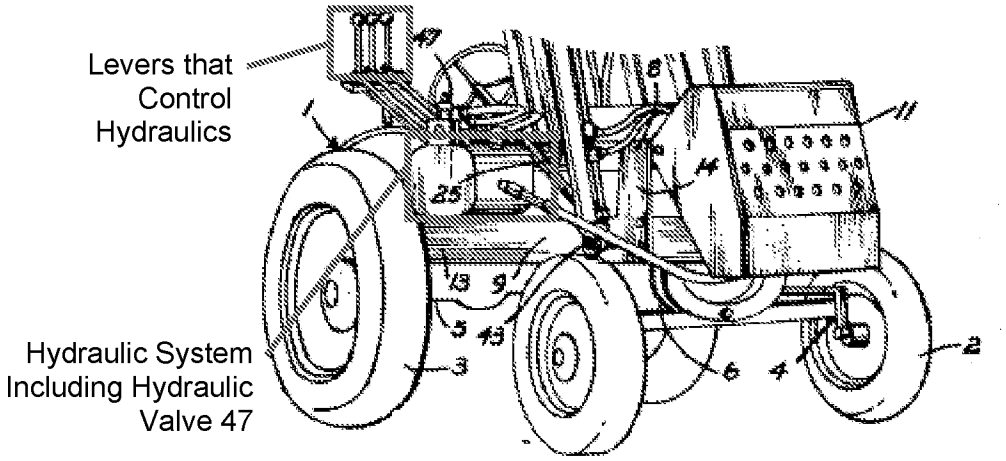


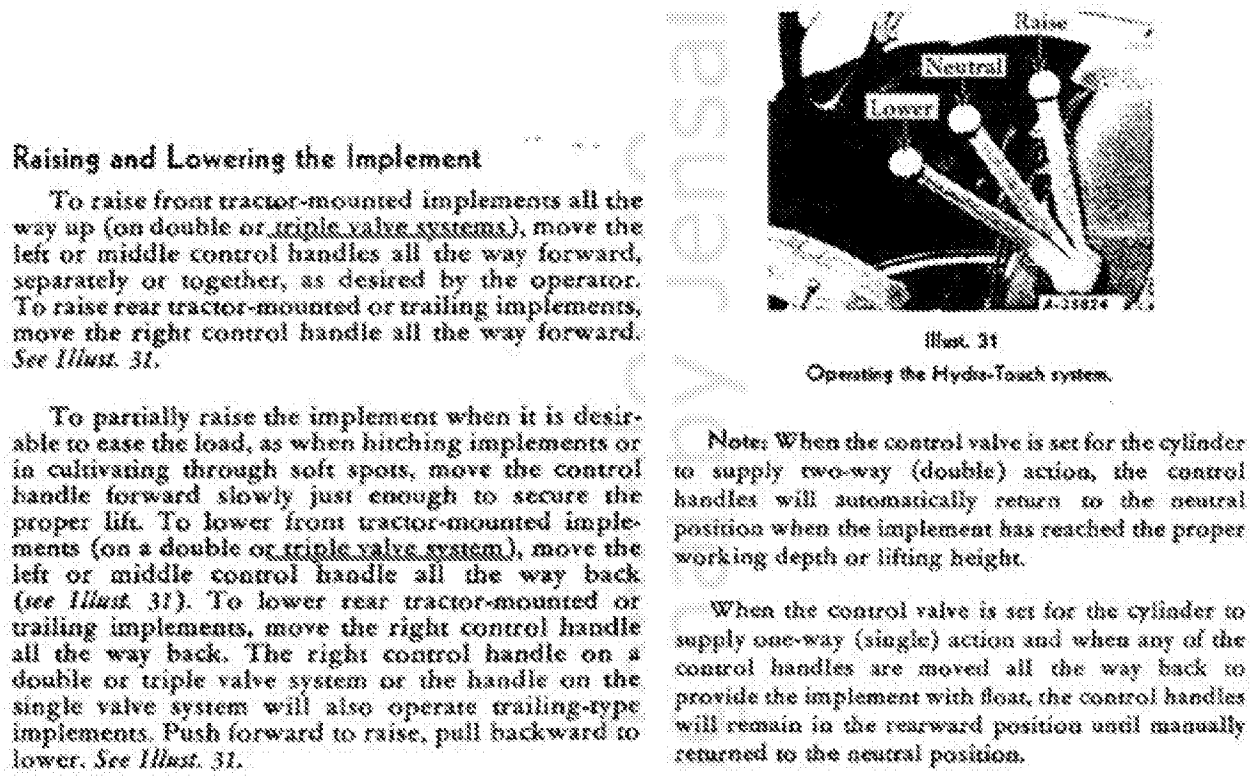
Fig. 3 of Dorkins

This is evident from Dorkins which references "operator controlled" valve mechanisms that control the lift cylinders 42 that lift the bucket 33 and that control the bucket cylinders 55 that raise and lower the bucket 33:

> The cylinders 42 are in a hydraulic circuit and under the control of a suitable **operator-controlled valve mechanism** 47 which permits introduction of fluid pressure to one of the ends of the cylinders while exhausting from the other and which permits retention of fluid pressure in both ends of the cylinder to hold the piston in any desired set position.
>
> Col. 3, lines 16-22.
>
> The bucket cylinders 55 are in an hydraulic circuit and under control of suitable **operator controlled valve mechanism** which permits introduction of pressure fluid at one end of the cylinders while exhausting from the other and permits retention of fluid in both ends of the cylinder to hold the piston in any desired set position.
>
> Col. 3, lines 51-56.

It is also evident that the operator controls in Figure 2 of Dorkins are used for controlling hydraulics and not for propelling the tractor forward because commercially available

tractors that were in use when Dorkins was filed had similar controls. In particular, the Farmall 300 tractor, which was sold from 1954-1956 (http://www.tractordata.com/farm-tractors/004/6/5/4659-farmall-300.html) also included three levers to the right of the operator for controlling the hydraulics on the tractor:



Raising and Lowering the Implement

To raise front tractor-mounted implements all the way up (on double or triple valve systems), move the left or middle control handles all the way forward, separately or together, as desired by the operator. To raise rear tractor-mounted or trailing implements, move the right control handle all the way forward. *See Illust. 31.*

To partially raise the implement when it is desirable to ease the load, as when hitching implements or in cultivating through soft spots, move the control handle forward slowly just enough to secure the proper lift. To lower front tractor-mounted implements (on a double or triple valve system), move the left or middle control handle all the way back (*see Illust. 31*). To lower rear tractor-mounted or trailing implements, move the right control handle all the way back. The right control handle on a double or triple valve system or the handle on the single valve system will also operate trailing-type implements. Push forward to raise, pull backward to lower. *See Illust. 31.*

Illust. 31

Operating the Hydra-Touch system.

Note: When the control valve is set for the cylinder to supply two-way (double) action, the control handles will automatically return to the neutral position when the implement has reached the proper working depth or lifting height.

When the control valve is set for the cylinder to supply one-way (single) action and when any of the control handles are moved all the way back to provide the implement with float, the control handles will remain in the rearward position until manually returned to the neutral position.

Ex. 8, pages 30-31.

Accordingly, it is clear that the three valves to the right of the operator in the tractor of Dorkins are used to control the hydraulics of the tractor, not to propel the tractor forward as recited in claim 1 of the '266 Patent.

The only control for propelling the loader forward shown in Dorkins is the clutch foot pedal shown in Figure 5 (above). While the height of the clutch cannot be determined from Figure 5 of Dorkins because Figure 5 is a top view of the tractor, it is evident from Dorkins that the pivot points 17, 25 between the first and second linkages 16, 24 and the support frame 8 of Dorkins would not be disposed below the clutch as required by claim 1 of the '266 Patent. In particular, it is evident that the pivot points 17,

25 between the first and second linkages 16, 24 and the support frame 8 of Dorkins would not be disposed below the clutch because the pivot points 17, 25 are so high that they are even *higher than the operator seat* as shown below.

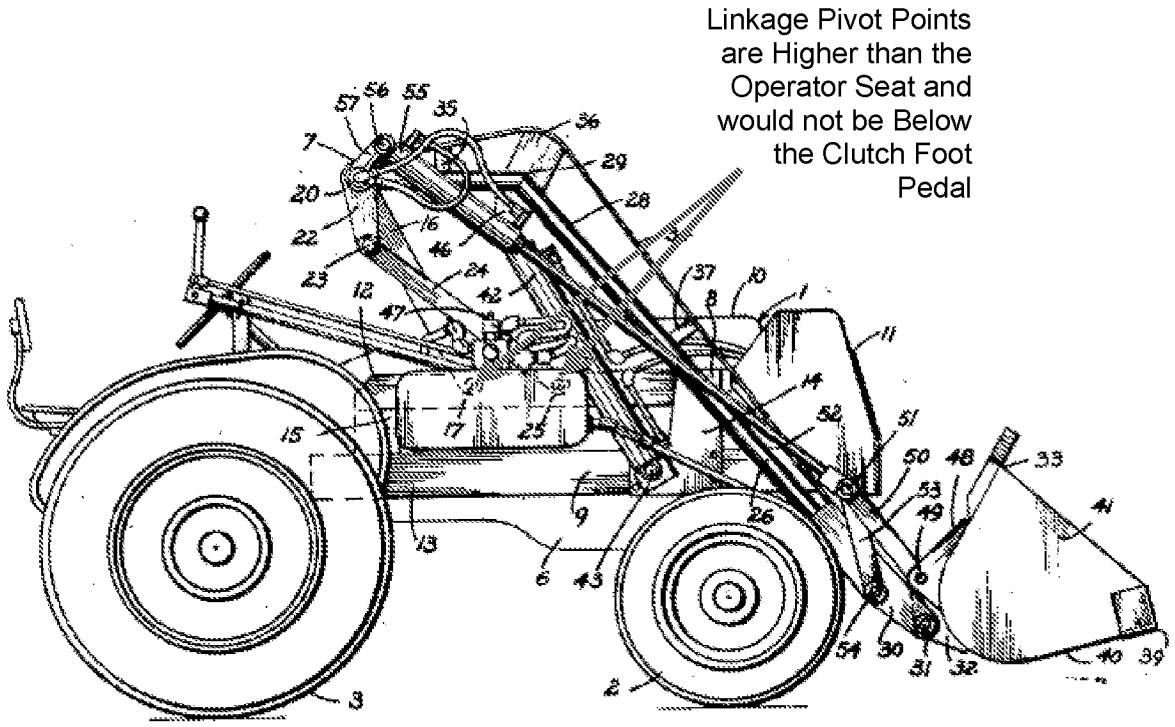


Fig. 2 of Dorkins

Because the pivot points 17, 25 between the linkages 16, 24 and support frame 8 are not disposed below the operator controls for propelling the tractor forward (i.e., the clutch foot pedal), the Office has failed to establish that the prior art included each claimed element and the rejection must be withdrawn. MPEP §2143(I)(A).

d. Objective Evidence of Non-Obviousness Indicate Patentability.

The secondary considerations of non-obviousness set forth above—such as long felt need, failure of others, customer and industry praise, commercial success, skepticism of experts and unexpected results—support the patentability of independent claim 1 over Dorkins in view of Baker. While there was a long felt need for a loader apparatus that were operated while standing that were capable of increased lift

capacity, the industry failed to satisfy this long-felt need by developing a vertical-lift machine. Instead, the industry took incremental steps towards achieving minor improvements in lift-capacity. Further, the industry—including Toro and Vermeer—was skeptical as to whether a vertical-lift loader apparatus having an operator platform for standing operation (e.g., a compact utility loader) could be successfully developed. The patented invention has also garnered industry praise and enjoyed significant commercial success. All of these facts further demonstrate that the invention of claim 1 was not obvious to one of ordinary skill in the art as of the effective filing date of Patent Owner's patent application.

Dependent claims 4-6 incorporate the recitations of independent claim 1 by way of their dependency therefrom and are patentable over Dorkins in view of Baker for at least the reasons set forth above relating to independent claim 1.

New claim 28 recites the loader apparatus further comprises a drive mechanism comprising tracks for propelling the loader apparatus over a supporting surface and a drive sprocket defining a rotational axis. The first linkage is forward of the second linkage and the first linkage pivot point is above the tracks. The tractor of Dorkins does not use tracks nor does it include a drive sprocket. Further, as shown below, the forward linkage is not above the rear drive wheel.

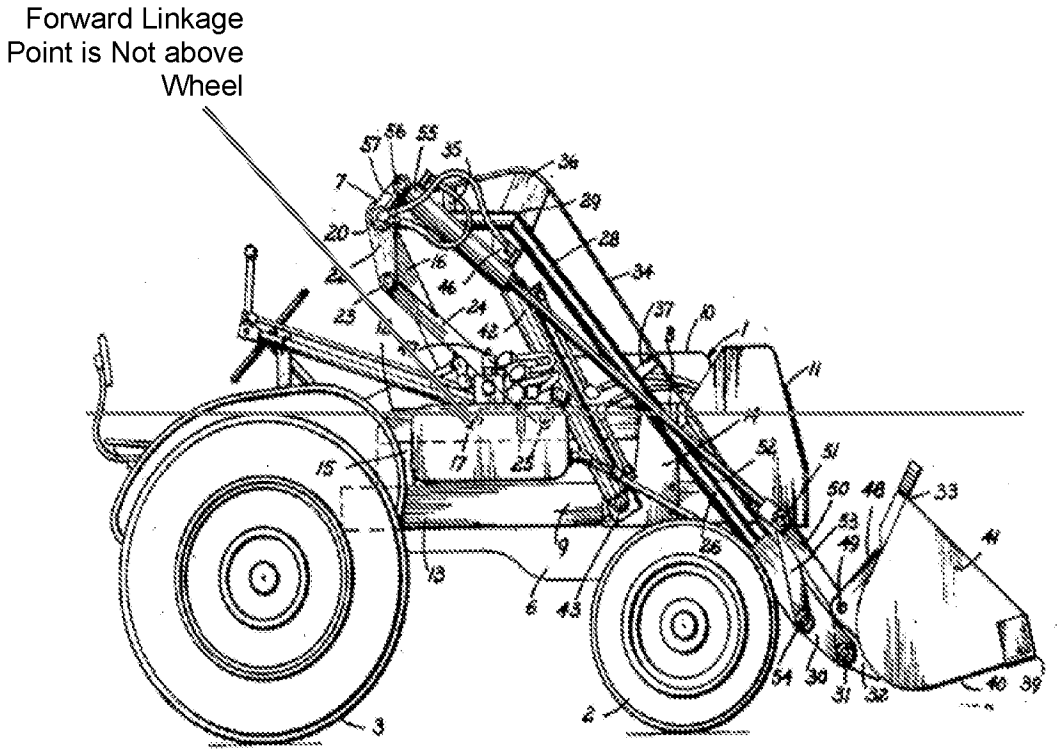


Fig. 2 of Dorkins

For at least these reasons, dependent claim 28 is further patentable over Dorkins in view of Baker.

3. Claims 7-9 are Not Obvious.

Independent claim 7 is directed to a loader apparatus for standing or walk-behind operator control. The loader apparatus comprises:

> a control station having operator controls toward a rear of the loader apparatus;
>
> a loader adapted to carry a tool, the loader being moveable between a down position and a vertically raised position;
>
> a rigid frame for supporting the control station and the loader, the rigid frame having a first side, a second side, a top, and a bottom;

a first linkage pivotally attached to the first side of the rigid frame at a first pivot point and pivotally attached to the loader at a second pivot point;

an actuator pivotally attached to the first side of the rigid frame at a third pivot point and pivotally attached to the loader at a fourth pivot point; and

a second linkage pivotally attached to the first side of the rigid frame at a fifth pivot point and pivotally attached to the loader at a sixth pivot point, wherein, as the loader travels from the down position to the vertically raised position, the first, second, third, fourth, fifth and sixth pivot points are (1) disposed between the operator controls and the bottom of the rigid frame and/or (2) disposed forward of the control station.

a. Claims 7-9 are not Obvious over Dingo 322 in view of Komatsu.

Independent claim 7 recites a loader apparatus having a control station having operator controls toward a rear of the loader apparatus. The loader apparatus has first and second linkages that are pivotally attached to the first side of a rigid frame and to the loader and an actuator that is pivotally attached to the first side of the rigid frame and the loader. Therefore, claim 7 is patentable over Dingo 322 Parts Catalog and Dingo 322 Operator's Manual in view of Komatsu for the reasons set forth above relating to independent claim 1.

Dependent claims 8-9 and new claim 29 incorporate the recitations of independent claim 7 by way of their dependency therefrom and are patentable over Dingo 322 Parts Catalog and Dingo 322 Operator's Manual in view of Komatsu for at least the reasons set forth above relating to independent claim 7.

a. Claims 7-9 are not Obvious over Dorkins in view of Baker.

Independent claim 7 is patentable over Dorkins in view of Baker because Dorkins, under the modification suggested by the Office, would not be suitable for its intended purpose because the foot pedals could not be operated when the operator was standing (or walking behind the machine as also recited in claim 7) as discussed above relating to claim 1. Claim 7 also recites that the first, second, third, fourth, fifth and sixth pivot points are (1) disposed between the operator controls and the bottom of the rigid frame and/or (2) disposed forward of the control station. As shown in Figure 3 of Dorkins, as the loader is lifted, the pivot point between the loader linkage 16 and the loader arm 26 is neither (1) disposed between the foot pedal and the bottom of the machine nor (2) disposed forward of the foot pedal[24].

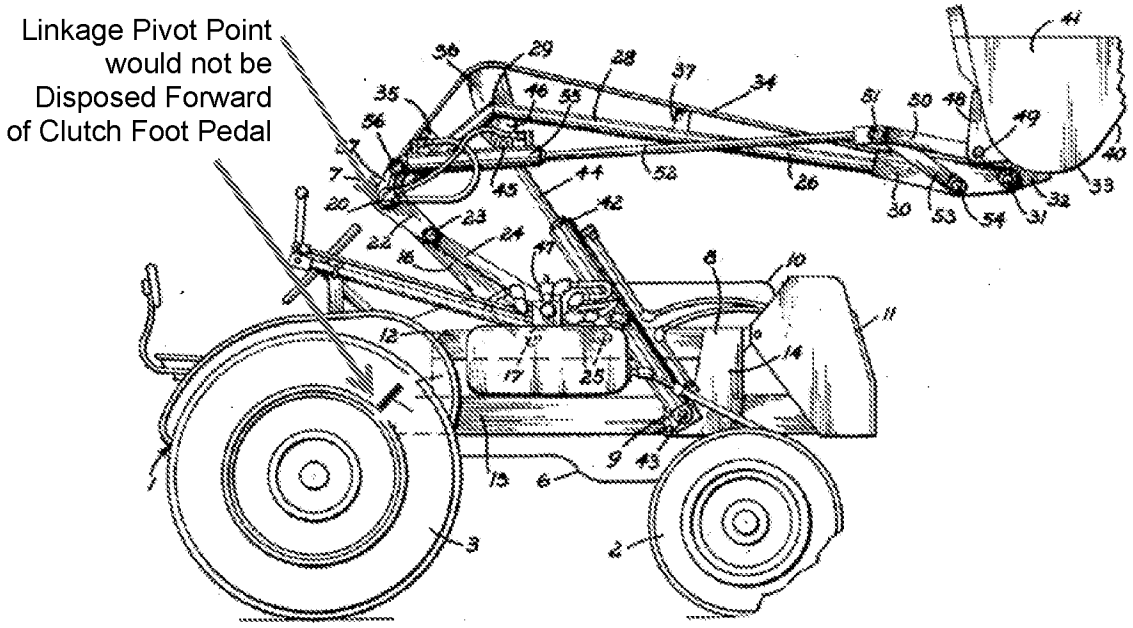


Fig. 3 of Dorkins

For at least these reasons independent claim 7 is patentable over Dorkins in view of Baker.

24 The longitudinal position of the foot pedal added to Figure 3 was determined based on the position shown in Figure 5 of Dorkins.

Dependent claims 8-9 are patentable over Dorkins in view of Baker for at least the reasons set forth above relating to independent claim 7.

As discussed above relating to claim 28, the tractor of Dorkins does not use tracks, does not include a drive sprocket and the forward linkage pivot point is not above the rear drive wheel. For at least these reasons, dependent claim 29 is further patentable over Dorkins in view of Baker.

4. Claims 14, 17 and 18 are Not Obvious.

Independent claim 14 is directed to a loader apparatus for standing or walk-behind operator control and comprises:

> a loader adapted to carry a tool;
>
> a loader support for supporting the loader, the loader support having a first side and a second side, the loader being free from direct attachment to the loader support;
>
> a linkage pivotally attached to the first side of the loader support at a first pivot point and pivotally attached to the loader at a second pivot point;
>
> an actuator pivotally attached to the first side of the loader support at a third pivot point and pivotally attached to the loader at a fourth pivot point; and
>
> a drive mechanism for propelling the loader apparatus over a supporting surface, the drive mechanism having a drive sprocket defining a rotational axis R, the rotational axis R and a bottom of the first side of the loader support being separated by a vertical distance D5, the loader support comprising a forward-most pivot point with the first pivot point or the third pivot point being the forward-most pivot point, a vertical distance between the rotational axis R and the forward-most pivot point being less than 0.75 D5.

Independent claim 14 recites a loader apparatus having a linkage and actuator that are each pivotally attached to the first side of the loader support with the loader being free from direct attachment to the loader support. Therefore, claim 14 is patentable over Dingo 322 Parts Catalog and Dingo 322 Operator's Manual in view of Komatsu for the reasons set forth above relating to independent claim 1. The Vermeer Brochure additionally cited by the Office to reject independent claim 14 discloses a radial lift compact utility loader sold as Vermeer S600 and Vermeer S600TX. The Vermeer Brochure does not cure the deficiencies of Dingo 322 and Komatsu noted above.

Dependent claims 17-18 incorporate the recitations of independent claim 14 by way of their dependency therefrom and are patentable over Dingo 322 Parts Catalog and Dingo 322 Operator's Manual in view of Komatsu and the Vermeer Brochure for at least the reasons set forth above relating to independent claim 14.

5. Claims 19-23 are Novel and Not Obvious.

Independent claim 19 is directed to a loader apparatus for standing or walk-behind operator control. The loader apparatus comprises:

> a machine structure comprising a mainframe and an upper frame, the machine structure defining a barrier guard;
>
> a control station having operator controls toward a rear of the loader apparatus;
>
> an actuator pivotally attached to the mainframe;
>
> a front linkage pivotally attached to the mainframe;
>
> a rear linkage pivotally attached to the mainframe; and
>
> a loader adapted to carry a tool, the loader being moveable between a down position and a vertically raised position, the front linkage being pivotally attached to the loader at a front linkage pivot point, the rear

linkage being pivotally attached to the loader at a rear linkage pivot point, wherein:

in the down position, the front linkage pivot point is (1) disposed within the barrier guard and/or (2) disposed forward of the barrier guard; and

as the loader travels from the down position to the vertically raised position, the rear linkage pivot point is (1) disposed within the barrier guard and/or (2) disposed forward of the barrier guard.

Ramrod is not prior art against claims 19-23 and claims 19-23 are patentable over Dingo 322 Parts Catalog and Dingo 322 Operator's Manual in view of Komatsu for the reasons set forth below.

a. Ramrod is not Prior Art against Claims 19-23.

The Office states that the '266 Patent is "the first to introduce the disclosure of the 'barrier guard'" and that claims that recite the barrier guard "are entitled to only the September 14, 2017 filing date of the '266 patent" (footnote 2 on page 3 of the Office action). Because the barrier guard recited in claim 19 is supported at least by the figures filed in the provisional patent application from which the '266 Patent claims priority, the Ramrod Brochure is not prior art against the '266 Patent and the rejection must be withdrawn.

Claim 19 recites "a machine structure comprising a mainframe and an upper frame, the machine structure defining a barrier guard." "Barrier guard" is used in the '266 Patent to describe "the perimeter of the machine structure." For example, the '266 Patent recites "wherein the perimeter of the machine structure ... forms a barrier guard as shown in FIGS. 2 and 3" (col. 3, line 66 to col. 4, line 4) and "positioned within the barrier guard of the perimeter of the machine structure as shown in FIGS. 2 and 3" (col. 4, lines 30-32). The perimeter of the machine structure is clearly shown in Figures 2 and 3 of U.S. Provisional Patent Application No. 62/118,860, from which the '266 Patent claim priority:

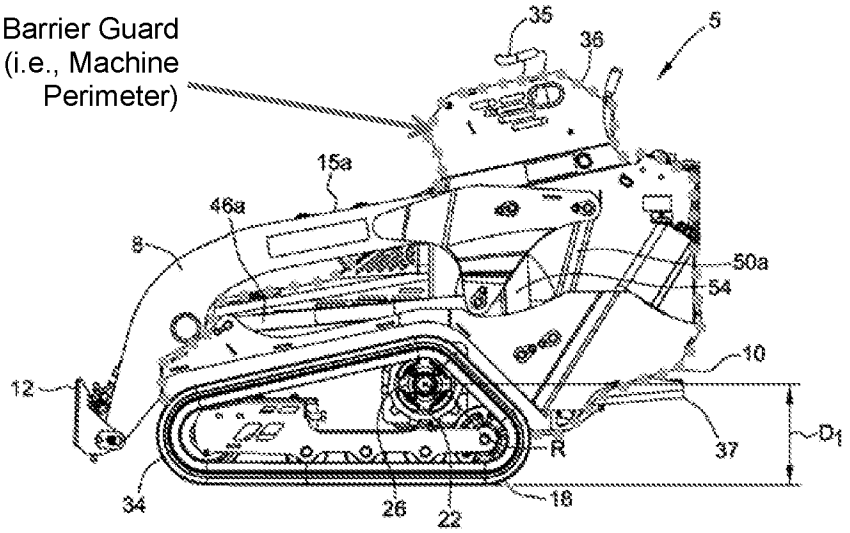


FIG. 2

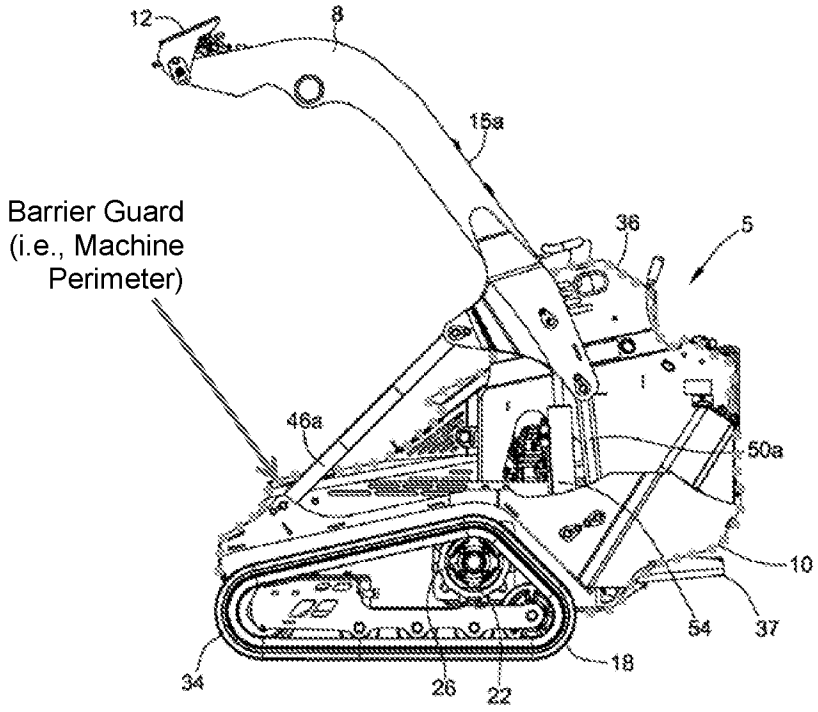


FIG. 3

Possession of an invention may be shown "by disclosure of drawings . . . that are sufficiently detailed to show that applicant was in possession of the claimed invention as a whole." MPEP §2163(II)(A)(3)(a). Further, the drawings alone may provide written

description of the invention under 35 U.S.C. §112. See, e.g., MPEP §2163(II)(A)(3)(a) and *Vas-Cath, Inc. v. Mahurkar,* 935 F.2d 1555, 1560, 19 USPQ2d 1111, 1114 (Fed. Cir. 1991) ("drawings alone may provide a 'written description' of an invention as required by Sec. 112"); *In re Wolfensperger,* 302 F.2d 950, 133 USPQ 537 (CCPA 1962) (the drawings of applicant's specification provided sufficient written descriptive support for the claim limitation at issue); *Autogiro Co. of Am. v. United States,* 384 F.2d 391, 398, 155 USPQ 697, 703 (Ct. Cl. 1967) ("In those instances where a visual representation can flesh out words, drawings may be used in the same manner and with the same limitations as the specification."). Because the perimeter of the machine structure, expressly identified as the "barrier guard", is supported in at least Figures 2 and 3 of U.S. Provisional Patent Application No. 62/118,860, from which the '266 Patent claims priority, claim 19 and claims depending therefrom are entitled to the February 20, 2015 priority date on which the provisional application was filed. The Ramrod Brochure is dated October 2016 which is *after* the February 20, 2015 priority date of the '266 Patent and, accordingly, the Ramrod Brochure is not prior art against claims 19-23. For at least this reason the Office must withdraw the rejection of claims 19-23 as being anticipated by Ramrod under 35 U.S.C. §102.

The Office has also not established that the Ramrod Brochure was disseminated or otherwise accessible to the public. Toro did not provide any evidence that the Ramrod Brochure was disseminated or made available to the public in their Request for Reexamination. To be a "printed publication" under 35 U.S.C. §102, there must be a "satisfactory showing that such document has been disseminated or otherwise made available to the extent that persons interested and ordinarily skilled in the subject matter or even, exercising reasonable diligence, can locate it." MPEP §2128. Because there is no evidence on record that Ramrod was disseminated or available to the public, the Office must withdraw the rejection of claims 19-23 as being anticipated by Ramrod under 35 U.S.C. §102.

b. Claims 19-23 are not Obvious over Dingo 322 in view of Komatsu.

Independent claim 19 recites a loader apparatus having a control station having operator controls toward a rear of the loader apparatus. The loader apparatus has a front linkage pivotally attached to the loader at a front linkage pivot point and a rear linkage pivotally connected to the loader at a rear pivot point. Therefore, claim 19 is patentable over Dingo 322 Parts Catalog and Dingo 322 Operator's Manual in view of Komatsu for the reasons set forth above relating to independent claim 1.

Dependent claims 20-23 incorporate the recitations of independent claim 19 by way of their dependency therefrom and are patentable over Dingo 322 Parts Catalog and Dingo 322 Operator's Manual in view of Komatsu for at least the reasons set forth above relating to independent claim 19.

6. Claims 25 and 27 are Novel and Not Obvious.

Independent claim 25 is directed to a loader apparatus for standing or walk-behind operator control. The loader apparatus comprises:

> a machine structure comprising a mainframe and an upper frame, the machine structure defining a barrier guard;
>
> a control station having operator controls toward a rear of the loader apparatus;
>
> an actuator pivotally attached to the mainframe;
>
> a linkage pivotally attached to the mainframe; and
>
> a loader adapted to carry a tool, the loader being moveable between a down position and a vertically raised position, the linkage being pivotally attached to the loader at a linkage pivot point, wherein**:**
>
> in the down positon, the linkage pivot point is disposed within the barrier guard; and

as the loader travels from the down position to the vertically raised position, the linkage pivot point is (1) disposed within the barrier guard and/or (2) disposed forward of the barrier guard.

Ramrod is not prior art against claims 25 and 27 and claims 25 and 27 are patentable over Dingo in view of Komatsu for the reasons set forth below.

a. Ramrod is not Prior Art against Claims 25 and 27.

Because, as discussed above relating to independent claim 19, the perimeter of the machine structure or "barrier guard" recited in claim 25 is supported at least by Figures 2 and 3 of U.S. Provisional Patent Application No. 62/118,860, from which the '266 Patent claims priority, claim 25 and claims depending therefrom are entitled to the February 20, 2015 priority date. Accordingly, the Ramrod Brochure is not prior art against claim 25 and claim 27 depending therefrom and the rejection should be withdrawn.

b. Claims 25 and 27 are not Obvious over Dingo 322 in view of Komatsu.

Claim 25 recites a loader apparatus having a control station having operator controls toward a rear of the loader apparatus. The loader apparatus has an actuator and linkage pivotally attached to the mainframe. Claim 25 and claim 27 depending therefrom are patentable over Dingo 322 Parts Catalog and Dingo 322 Operator's Manual in view of Komatsu for the reasons set forth above relating to independent claim 1.

E. THE CITED REFERENCES DO NOT PRESENT A SUBSTANTIAL NEW QUESTION OF PATENTABILITY.

To institute an *ex parte* reexamination, the Director must find that the Request raises a "substantial new question of patentability." 35 U.S.C. §303(a). When the prior art that forms the basis of the Request was cited during examination of the patent for which reexamination was requested, which is the case in the instant proceeding, the prior art may present a substantial new question of patentability only if the reference is

presented "in a new light or in a different way that escaped review during earlier examination". MPEP §2216. An argument that was already decided by the Office during the original examination cannot raise a new question of patentability." *In re Swanson*, 540 F.3d 1368, 1380, 88 U.S.P.Q.2d 1996 (Fed. Cir. 2008). To determine whether a reference previously considered by the Patent Office creates a substantial new question of patentability, "the PTO should evaluate the context in which the reference was previously considered and the scope of the prior consideration and determine whether the reference is now being considered for a ***substantially different purpose***." *Id.* at 1380; Emphasis added. The Office should withdraw the determination of a substantial new question of patentability set forth in its March 21, 2019 Order Granting *Ex Parte* Reexamination. The patentability question presented in Toro's Request for *Ex Parte* Reexamination was previously decided by the Examiner during examination of the '266 Patent and **the Request did not consider the art for a substantially different purpose**.

1. The Examiner Considered Toro's Argument that the Claims of the '266 Patent were Obvious over Dingo 322 in view of Komatsu during Examination of the '266 Patent Application.

Toro's rationale set forth in the Request as to why the claims of the '266 Patent were obvious over Dingo 322 Parts Catalog and Dingo 322 Operator's Manual in view of Komatsu was considered by the Examiner during examination of the '266 Patent. The Dingo 322 Parts Catalog, Dingo 322 Operator's Manual and Komatsu were cited in an Information Disclosure Statement dated March 30, 2018:

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2]	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T5
	1	11140900	JP		1999-05-25	Komatsu Ltd.		☒

	1	The Toro Company, "Dingo® 322 Operator's Manual", dated 2000.	
	2	The Toro Company, "Dingo® 322 Parts Catalog", dated 1999	

The Examiner initialed the references, thereby indicating that he had considered patentability of the pending claims over them, in a List of References Cited by Applicant and Considered by Examiner dated April 23, 2018.

In addition to submitting the references themselves, the Patent Owner submitted Toro's argument as to why the claims of U.S. Patent Nos. 9,321,386 and 9,975,750, from which the '266 Patent claim priority, were rendered obvious by Dingo 322 Parts Catalog and Dingo 322 Operator's Manual in view of Komatsu in an Information Disclosure Statement dated October 23, 2018. These materials were prepared by Toro as part of a litigation proceeding with the Patent Owner involving the two patents.

For Example, Patent Owner provided the Office with "Appendix I" which sets forth Toro's rationale as to why the claims of U.S. Patent No. 9,321,386 were obvious over Dingo 322 Parts Catalog and Dingo 322 Operator's Manual in view of Komatsu (Toro's rationale relating to claim 1 being set forth below):

APPENDIX 1
35 U.S.C. §103 INVALIDITY CHART
FOR U.S. PATENT NO. 9,321,386 ASSERTED CLAIMS

Claims 1, 3-13, 15, 17, 20-32, 34-41, 43-48, 50-51, and 53-62

(Yellow Highlighting describes the elements disclosed in the prior art Dingo 322; Tan Highlighting describes the elements disclosed in the prior art Komatsu; and Pink Highlighting describes the elements disclosed in the prior art Vermeer Brochure.)

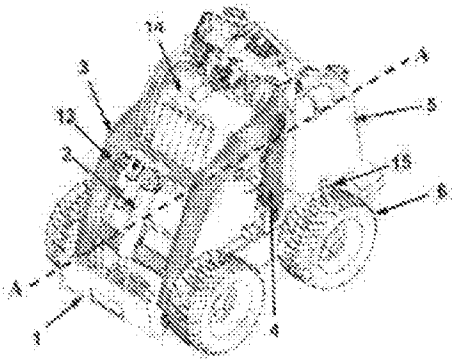
Listing of Prior Art

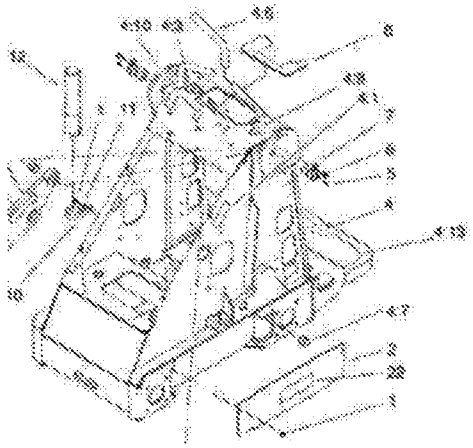
Toro Dingo® 322 Operator's Manual, hereafter "Dingo";
Toro Dingo® 322 Parts Catalog, hereafter "Dingo Parts Catalog";
Toro Dingo® 322/323 Drawing, hereafter "Dingo Drawing";
JP Published Application JPH11140900 to Komatsu, hereafter "Komatsu"; and
Vermeer Mini Skid Steers S600/S600TX Brochure, hereafter "Vermeer Brochure".

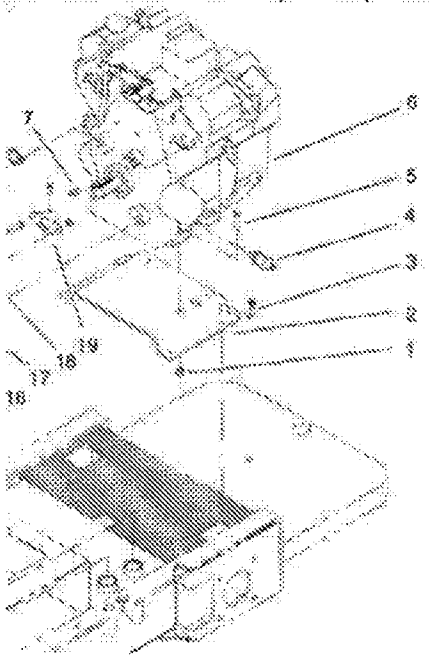
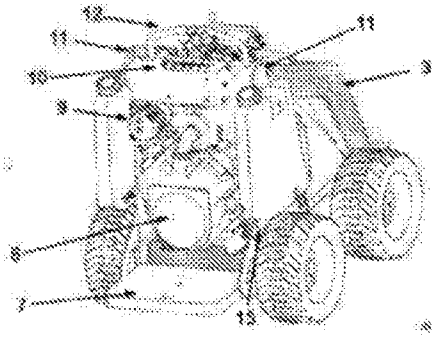
Summary of Asserted Grounds of Invalidity

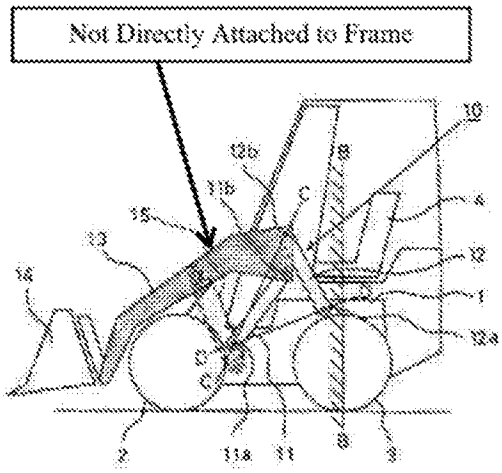
Claims 1, 3-13, 15, 17, 20-32, 34-36, 45-48, 50-51 and 53-54 of the '386 patent are unpatentable under 35 U.S.C. §103 over the Dingo 322 compact utility loader manufactured and sold by the Defendant as taught by Dingo when Dingo is read collectively with the Dingo Parts Catalog and/or the Dingo Drawing and further in view of Komatsu.

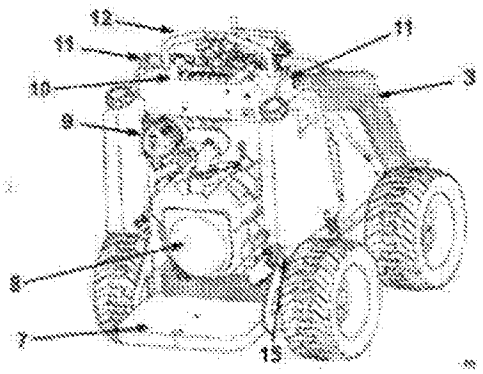
Claims 37-41, 43-44 and 55-62 of the '386 patent are unpatentable under 35 U.S.C. §103 over the prior art as applied above, further in view of Vermeer Brochure.

Claims of the '386 Patent	Application of the Listed Prior Art
1. A compact tool carrier configured for standing or walk-behind operator control and having a longitudinal axis and a mass of less than about 1500 kg, the compact tool carrier comprising:	The Dingo 322 is a compact tool carrier configured for standing or walk-behind operator control and having a longitudinal axis (Dingo, Fig 9 below, depicted Dingo 322 compact utility loader having longitudinal axis A-A) and a mass of less than about 1500 kg (Dingo, Specifications p. 10 below, mass of 711 kg.).  **Specifications**
a loader having an arm, the loader being adapted to carry a tool;	The Dingo 322 has a loader having an arm (Dingo, Fig. 9, arm 3), the loader being adapted to carry a tool (Dingo, p. 10, the referenced "std. bucket").

a mainframe for supporting the loader, the mainframe having a first side and a second side, and having a front end and a rear end relative to the longitudinal axis,	The Dingo 322 has a mainframe for supporting the loader (Dingo Parts Catalog, p. 1, Frame & Decal Assy. 4), the mainframe having a first side and a second side, and having a front end and a rear end relative to the longitudinal axis. 

the mainframe comprising an engine bracket that extends from the first side toward the second side for mounting an engine to the mainframe, the engine bracket being spaced from the rear end of the mainframe,	The Dingo 322 has an engine bracket that extends from the first side toward the second side for mounting an engine to the mainframe, the engine bracket being spaced from the rear end of the mainframe. (Dingo Parts Catalog, p. 4, the orange colored engine bracket ahead of the operator platform).  (Alternatively, Dingo, Fig. 9, orange colored bracket beneath engine 8). 

the loader arm not being directly attached to the mainframe;	The Dingo 322 when modified in view of Komatsu to obtain the advantages of an increase in lift capacity and greater forward reach that Komatsu's vertical lift linkage was known to provide has the loader arm not being directly attached to the mainframe (Komatsu, Fig 1 below, the teaching of a loader arm 13 colored green having no direct attachment to the mainframe). 
a linkage pivotally attached to the first side of the mainframe and pivotally attached to the loader arm;	The Dingo 322 when modified in view of Komatsu has a linkage pivotally attached to the first side of the mainframe and pivotally attached to the loader arm (Komatsu, linkage 11).
an actuator pivotally attached to the first side of the mainframe and pivotally attached to the loader arm; and	The Dingo 322 has an actuator pivotally attached to the first side of the mainframe and pivotally attached to the loader arm (Dingo, Fig. 9, cylinder 4).

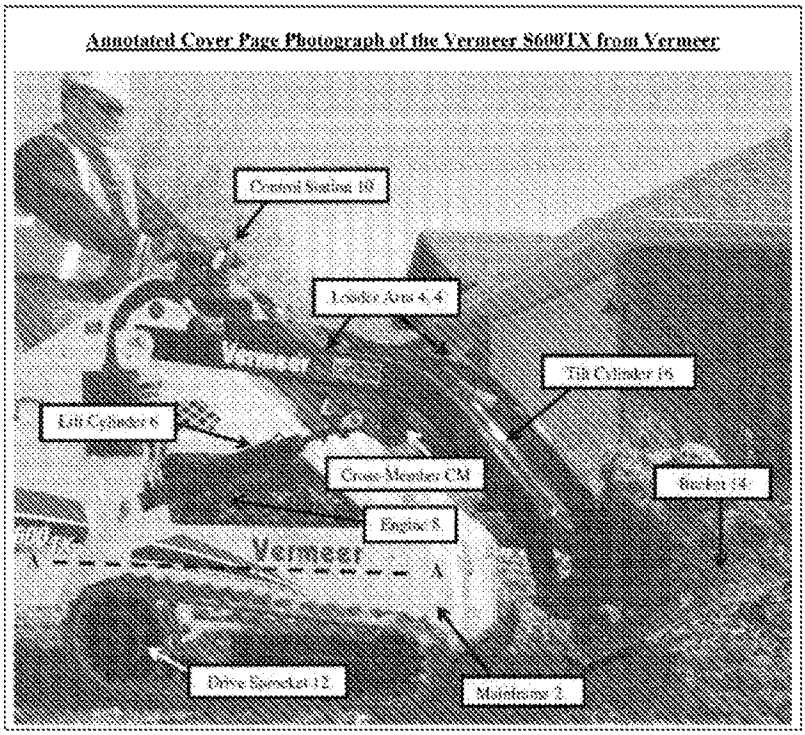
a control station having operator controls for propelling the compact tool carrier forward and for raising and lowering the loader, the control station being mounted toward the rear of the compact tool carrier and adapted to allow for standing or walk behind operation.	The Dingo 322 has a control station having operator controls for propelling the compact tool carrier forward and for raising and lowering the loader (Dingo, Fig. 9 below, control panel 10), the control station being mounted toward the rear of the compact tool carrier and adapted to allow for standing or walk behind operation (Dingo, Fig. 9 below, platform 7). 
3. The compact tool carrier as set forth in claim 1 wherein the loader arm is a first loader arm and the linkage is a first linkage, the loader comprising a second loader arm and the compact tool carrier comprising a second linkage pivotally attached to the second side of the mainframe and pivotally attached to the second loader arm.	In the Dingo 322 when modified in view of Komatsu, the loader arm is a first loader arm and the linkage is a first linkage, the loader comprising a second loader arm and the compact tool carrier comprising a second linkage pivotally attached to the second side of the mainframe and pivotally attached to the second loader arm (Dingo, Fig. 9, loader arms 3 on both sides will require Komatsu's linkages 11 to be duplicated on both sides).

Significantly, **Toro's arguments that were considered by the Examiner in the '266 Patent Application mirror the arguments set forth in Toro's Request for Reexamination of the '266 Patent**. Because the Examiner considered the same arguments that were set forth in the Request, the Examiner must have considered Dingo 322 Parts Catalog, Dingo 322 Operator's Manual and Komatsu for the ***same purpose*** that was set forth by Toro in the Request. Because the Dingo 322 Operator's Manual, the Dingo 322 Parts Catalog and Komatsu were considered by the Examiner in the same light as the Request, and because the Request does not apply the references in a substantially different purpose, the Request does not set forth a Substantial New

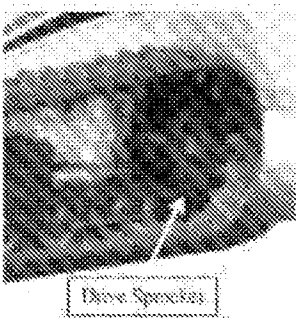
Question of Patentability as to Dingo 322 Operator's Manual, the Dingo 322 Parts Catalog and Komatsu.

2. The Examiner Considered Toro's Argument that the Claims of the '266 Patent were Obvious over Dingo 322 in view of Komatsu in combination with the Vermeer Brochure during Examination of the '266 Patent Application.

The Office stated that the Vermeer Brochure raised a substantial new question as to claim 14 when combined with Dingo 322 and Komatsu (pages 12-14 of the Order Granting the Request for Reexamination). Toro's non-obviousness rationale set forth in the Request that relates to the Vermeer Brochure was previously considered by the Examiner during examination of the '266 Patent. The Vermeer Brochure was submitted to the Office as part of litigation documents in an Information Disclosure Statement dated October 23, 2018. Patent Owner also submitted Toro's annotated cover page of the Vermeer Brochure:



Further, Toro's arguments as to why certain claims of U.S. Patent No. 9,381,386 were obvious over the combination of Dingo 322, Komatsu and the Vermeer Brochure were provided to the Office as part of the same IDS:

37. The compact tool carrier as set forth in claim 31 further comprising a drive mechanism for propelling the compact tool carrier over a supporting surface, the drive mechanism having a drive sprocket, the cross-member being disposed forward of the drive sprocket in the vertically raised position and the down position.	In the Dingo 322 the loader is moveable between a down position and a vertically raised position due to lifting and lowering of the loader arms 3 through extension or retraction of cylinders 4. The Dingo 322 when further modified in view of Vermeer Brochure to convert Dingo's wheels 6 to a tracked drive system has a drive mechanism for propelling the compact tool carrier over a supporting surface, the drive mechanism having a drive sprocket (Vermeer Brochure, pg. 3, the rear drive sprocket of the tracked drive system), the cross-member being disposed forward of the drive sprocket in the vertically raised position and the down position (Dingo, Fig. 9, top cross member Ct to which the upper end of tilt cylinder 2 is attached will inherently remain forward of the rear drive sprocket added to Dingo due to the length of loader arms 3, 3 and the 66 inch maximum hinge pin height in relation to the 60 inch length of the loader as set forth in the specifications on pg. 10 of Dingo and this will be even truer when Komatsu's vertical lift linkage is also adapted to Dingo with the loader arms 3, 3 moving forwardly in the upper half of the lift pattern to provide a vertical lift path for the tool). 

As can be seen from the above, the Vermeer Brochure was cited by Toro for the same purpose as in the Request – to show interchangeability of tracks and tires and to show a drive mechanism having a drive sprocket. Because the Dingo 322 Operator's Manual, the Dingo 322 Parts Catalog, Komatsu and the Vermeer Brochure were considered by the Examiner in the same light as the Request, and because the Request does not apply the references in a substantially different purpose, the Vermeer Brochure does not raise a Substantial New Question of Patentability.

3. The Examiner Considered Dorkins during Examination of the '266 Patent Application.

Dorkins was cited to the Office in an Information Disclosure Statement dated September 14, 2017.

There is no evidence on record that the Examiner of the '266 Patent application considered Dorkins in a light different than that as set forth in the Request. The Request did not set forth an interpretation of Dorkins that was not evident from a simple review of the reference itself. Dorkins set forth a detailed description of its operation and the interconnection of its components. The Request applied Dorkins in a manner that is merely evident from the various illustrations of Dorkins' tractor.

Further, U.S. Patent No. 2,298,450 to Baker and U.S. Patent No. 2,563,277 to Roeder[25], which were cited as a secondary references in the Request to show an operator platform and which were combined with Dorkins in the obviousness rationale set forth in the Request, are cumulative over other references considered by the Examiner. Baker and Roeder were cited in the Request to merely show an operator platform for a tractor (pages 70-71 of the Request). An operator platform for a tractor is shown and described in U.S. Patent No. 2,558,928 to Bryan which was cited in the September 14, 2017 Information Disclosure Statement:

[25] The March 21, 2019 Order Granting the Request for Reexamination states on page 17 that the Request does not set forth a Substantial New Question of Patentability for Baker and Roeder.

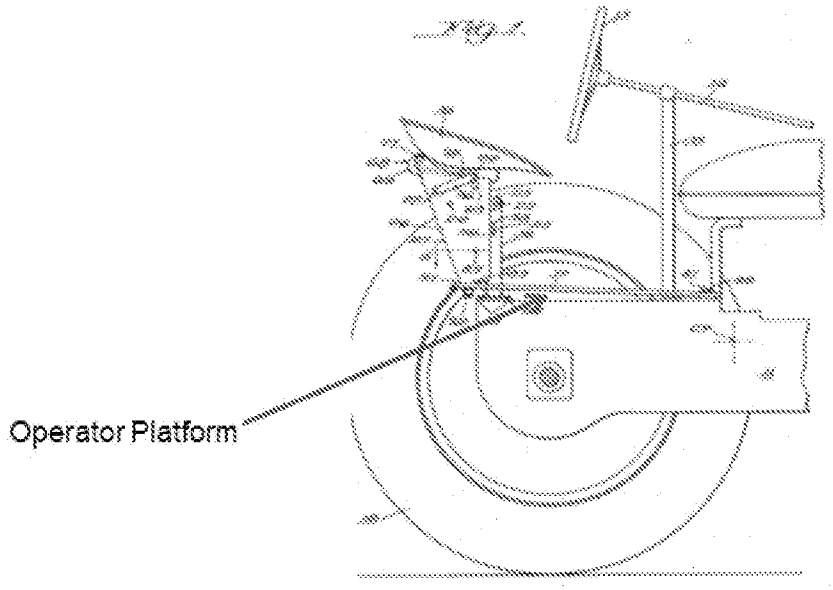


Fig. 1 of Bryan

The technical teachings of Dorkins and Bryan are plainly understood from their simple review which enabled the Examiner to consider the references in the same light as set forth in the Request. Because Dorkins was considered by the Examiner in the same light as the Request, Dorkins does not raise a Substantial New Question of Patentability.

4. The Ramrod Brochure does not raise a Substantial New Question of Patentability because the Examiner Concluded that the "Barrier Guard" recited in Independent Claims 19 and 25 is supported by the Provisional Application.

Patent Owner included claims which recited a barrier guard (i.e., machine perimeter) in the '266 Patent application as filed. Under Patent Office rules for patent examination procedure, for claims that claim priority to an earlier patent application, the Examiner of the '266 Patent application was tasked to "review the claims and the entire specification, including the specific embodiments, figures, and sequence listings, to understand how applicant provides support for the various features of the claimed invention" (MPEP §2163(II)(A)(1)) and to "determine whether there is sufficient written description to inform a skilled artisan that Applicant was in possession of the claimed invention as a whole. . ." (MPEP §2163(II)(A)(2)). If the Examiner believed the priority

application did not support the newly added claims, the claim "must be rejected under 35 U.S.C. 112(a) or pre-AIA 35 U.S.C. 112, first paragraph, as lacking adequate written description, or in the case of a priority or benefit claim under 35 U.S.C. 119, 120, 365, or 386, **the priority or benefit claim must be denied"** (MPEP §2163(II)(A)(3)(b)).

Significantly, the Examiner did not reject the claims of the '266 Patent as filed for lack of support or deny the claims the benefit of the priority date of the provisional application from which the '266 Patent claimed priority. The Examiner was aware the claims included the barrier guard recitation because Applicant also amended the specification to expressly recite the barrier guard (i.e., machine perimeter) shown in Figures 2 and 3 of the priority application and the Examiner entered the amendment (See Preliminary Amendment A dated September 14, 2017). Because the Examiner concluded that the "barrier guard" recited in claims 19 and 25 was supported by the priority application, the Ramrod Brochure, which published after the priority date of the '266 Patent, does not raise a Substantial New Question of Patentability.

Because the references cited in the Request do not raise a substantial new question of patentability and because the Examiner concluded the claims were supported by the priority application, Toro's Request for *Ex Parte* Reexamination of the '266 Patent should not have been granted.

III. CONCLUSION

The Patent Owner respectfully requests reconsideration and allowance of all pending claims. The undersigned request a telephone call from the Examiner if a call might expedite allowance.

The Patent Owner herewith submits Declarations from Louis Hartke, Matt Hutchinson and Scott Prost-Domasky (including the unexecuted copies for clarity).

The Patent Owner authorizes the Commissioner to charge any fees which may be due in connection with this Amendment to Deposit Account No. 012384 in the name of Armstrong Teasdale LLP.

Respectfully submitted,

/Michael J. Vander Molen/

Michael J. Vander Molen
Reg. No. 57,274
Armstrong Teasdale LLP
7700 Forsyth Blvd., Suite 1800
St. Louis, Missouri 63105
(314) 621-5070

CERTIFICATE OF SERVICE

I certify that October 18, 2019 the foregoing:

AMENDMENT AND RESPONSE TO OFFICE ACTION WITH EXHIBITS 1-9;

DECLARATION OF LOUIS HARTKE UNDER 37 C.F.R. 1.132;

DECLARATION OF MATTHEW HUTCHINSON UNDER 37 C.F.R. 1.132; and

DECLARATION OF SCOTT PROST-DOMASKY UNDER 37 C.F.R. 1.132

were served on the third party requester's counsel via first class mail at:

James W. Miller
Registration No. 27,661
120 South 6th St.
Suite 2310
Minneapolis, MN 55402

Respectfully submitted,

/Michael J. Vander Molen/

Michael J. Vander Molen
Reg. No. 57,274
ARMSTRONG TEASDALE LLP
7700 Forsyth Blvd.
Suite 1800
St. Louis, Missouri 63105
(314) 621-5070

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

U.S. Patent No. 10,202,266
Inventors: Brad Thomas et al.
Reexamination Control No.: 90/014,269
Filed: February 26, 2019
Confirmation No.: 3337
For: LOW PROFILE COMPACT TOOL CARRIERS
Examiner: Russell D. Stormer
Conferees: Gay Spahn and Robert Fetsuga

Art Unit: 3993

DECLARATION OF LOUIS HARTKE UNDER 37 C.F.R. 1.132

I, Louis Hartke, declare and state as follows:

1. I am an inventor of the subject matter recited in the claims of U.S. Patent No. 10,202,266 ("the '266 Patent") and the presently pending claims of Reexamination Control No. 90/014,269.

2. I received a Bachelor of Science degree in Agricultural and Biosystems Engineering from North Dakota State University in 1999.

3. I have 19 years of experience in the field of product development, design, manufacturing and engineering including 6 years as a Senior Project Engineer in the area of rental machines including compact utility loaders. I am currently employed by Vermeer Manufacturing Company as a Senior Manufacturing Engineering Manager.

4. As an inventor of the '266 Patent, I have read and understand the '266 Patent and the claims thereof and the presently pending claims of Reexamination Control No. 90/014,269.

5. I have reviewed the document entitled "Dingo 322, Dingo Compact Utility Loader, Operator's Manual", the document entitled "Dingo 322 Compact Utility Loader, Parts Catalog" (collectively "Dingo 322"), JP 11-140900 to Komatsu ("Komatsu"), and the brochure entitled "Vermeer S600/S600TX" ("the S600 Brochure").

6. The mainframe of the Dingo 322 compact tool carrier was specifically designed to accommodate a radial lift loader and would not be able to support a vertical lift loader. Dingo 322 connects the loader arms to the mainframe high on the machine and lacks sufficient structure toward the lower portion of the mainframe to support a vertical lift loader. Thus, it would not have been obvious to those of us working on designing and developing equipment in this industry to modify the radial lift loader of Dingo 322 to include vertical lift like that of Komatsu before February 20, 2015, the date that we filed our first patent application describing our invention. In fact, I don't believe Dingo 322 can successfully be modified to have a vertical lift loader.

7. Use of any of the vertical lift loader arrangements of Komatsu on the Dingo 322 machine would render Dingo 322 unsuitable for its intended purpose. Lift height is an important feature for compact utility loaders. The Dingo 322 Operator's Manual (see also page 2/1-2 of the Dingo 322 Service Manual) states that the Dingo 322 is able to achieve a hinge pin height (i.e., vertical reach as measured to the hinge pin at which the bucket pivots) of 66.0 inches which results in a dump height of 47 inches:

Specifications

Overall width	40.5 in. (103 cm)
Overall length	60.0 in. (152 cm)
Overall height	49.0 in. (125 cm)
Weight	1567 lb. (711 kg)
Rated operating capacity (with 200 lb. operator and std. bucket)	515 lb. (234 kg)
Tipping capacity (with 200 lb. operator and st. bucket)	1030 lb. (467 kg)
Wheelbase	28 in. (71 cm)
Dump height (with std. bucket)	47 in. (120 cm)
Reach—fully raised (with std. bucket)	26.0 in. (66 cm)
Height to hinge pin (std bucket in highest position)	66.0 in. (168 cm)

Page 10 of the Dingo 322 Operator's Manual

The embodiments of Figures 1[1], 6 and 8-10 of Komatsu would only achieve a hinge pin height of about 52 inches and a dump height of 33 inches when used on Dingo 322. A hinge pin height of 52 inches and a dump height of 33 inches would render Dingo 322 unsuitable for its intended purpose, as the hinge pin height and dump height are significantly less than the advertised 66.0 inch hinge pin height and 47 inch dump height.

A hinge pin height of 52 inches and a dump height of 33 inches would also render Dingo 322 unsuitable for use in its field of endeavor. A dump height of 33 inches is inadequate to dump a load into standard receptacles in this field (e.g., landscaping use) such as dumpsters, pick-up trucks and the like. A hinge pin height of 52 inches is insufficient to unload a pallet from most trucks and is incompatible with other attachments (e.g., augers used for forming holes) that require relatively high ground clearance.

[1] Figures 1 and 5 of Komatsu show the same embodiment in lowered and raised positons, respectively.

Table 1 below shows the published hinge pin heights of various compact utility loaders. The hinge pin heights were taken from published brochures of the manufacturers or were listed on the manufacture's website.

Model	Introduction Year	Hinge Pin Height (In.)
Bobcat MT52	2003	71.3
Bobcat MT55	2004	71.2
Bobcat MT85	2015	80.9
Boxer 427	2005	70
Boxer 532DX	2008	76
Boxer 950HD	2016	95
Ditch Witch SK500	2003	81
Ditch Witch SK650	2006	81
Ditch Witch SK850	2014	83
Ditch Witch SK1050	2016	83
Ditch Witch SK1550	2017	94.5
Toro Dingo 322	1999	66
Toro Dingo TX420	2000	90.1
Toro Dingo TX525	2006	65.8
Toro Dingo TX1000	2015	81
Vermeer S600TX	2005	80
Vermeer S400TX	2007	69

Model	Introduction Year	Hinge Pin Height (In.)
Vermeer S450TX	2012	72
Vermeer CTX 50	2015	72
Vermeer CTX100	2016	88

Table 1. Sampling of Hinge Pin Heights of Commercial Compact Utility Loaders

The maximum hinge pin height of about 52 inches of the embodiments of Figures 1, 6 and 8-10 of Komatsu as used on Dingo 322 is at least 14 inches less than the lowest hinge pin height of the compact utility loaders of Table 1.

In addition to lift height, another important characteristic for a compact utility loader is its "reach"—how far in front of the machine the bucket can dump when fully raised. The Dingo 322 Operator's Manual (see also page 2/1-2 of the Dingo 322 Service Manual) states that Dingo 322 is able to achieve a reach at full height of 26.0 inches.

Specifications

Overall width	40.5 in. (103 cm)
Overall length	60.0 in. (152 cm)
Overall height	49.0 in. (125 cm)
Weight	1567 lb. (711 kg)
Rated operating capacity (with 200 lb. operator and std. bucket)	515 lb. (234 kg)
Tipping capacity (with 200 lb. operator and st. bucket)	1030 lb. (467 kg)
Wheelbase	28 in. (71 cm)
Dump height (with std. bucket)	47 in. (120 cm)
Reach—fully raised (with std. bucket)	26.0 in. (66 cm)
Height to hinge pin (std bucket in highest position)	66.0 in. (168 cm)

Page 10 of the Dingo 322 Operator's Manual

The embodiment of Figure 7 of Komatsu would only achieve a reach when the loader is fully raised of about 9.6 inches. Because the reach of the embodiment of Figure 7 is 16.4 inches less than the reach of Dingo 322 (i.e., 63% less), the embodiment of Figure 7 of Komatsu would render Dingo 322 unsuitable for its intended purpose.

A reach of about 9.6 inches is inadequate for use in the field of endeavor of Dingo 322. A reach of 9.6 inches is inadequate to dump a load into a dumpster or pick-up truck. The reduced reach does not allow a load to be placed at or near the middle of a truck bed to distribute the load and reduces the ability to reach loads (e.g., pallets) that are spaced from an edge (e.g., truck edge).

Table 2 below shows the published reach at full height of various compact utility loaders. These parameters were taken from published brochures of the manufacturers or were listed on the manufacture's website. The reach for the Vermeer machines was physically measured internally by Vermeer employees.

Model	Introduction Year	Reach, Fully Raised (In.)
Bobcat MT52	2003	20.3
Bobcat MT55	2004	20.3
Bobcat MT85	2015	18.6
Toro Dingo 322	1999	26
Toro Dingo TX420	2000	21.8
Toro Dingo TX525	2006	21.8
Toro Dingo TX1000	2015	24.5
Vermeer S600TX	2005	27.3

Model	Introduction Year	Reach, Fully Raised (In.)
Vermeer S400TX	2007	21.8
Vermeer S450TX	2012	19.3
Vermeer CTX 50	2015	19.7
Vermeer CTX100	2016	22.6

Table 2. Sampling of Reach at Full Height of Commercial Compact Utility Loaders

The reach of about 9.6 inches of the loader of Figure 7 of Komatsu as used on Dingo 322 is about 10 inches less than the lowest reach of the compact utility loaders of Table 2 (i.e., is about 50% of the reach of the compact utility loaders of Table 2).

None of the embodiments of Komatsu, if applied to the Dingo 322, would yield a compact utility loader that would work for its intended purpose.

8. Designing the loader apparatus described in the '266 Patent was an unpredictable endeavor. Small changes to pivot points, weight distribution, and the like in vertical lift loaders cause significant changes in the lift profile and lift capacity of the machine.

9. When developing the loader apparatus claimed in the '266 Patent, I observed unpredictability in the behavior of such loaders. During development of an embodiment of the loader apparatus claimed in the '266 Patent, several loader arrangements were attempted that were unsuccessful. The lift profile of the initial prototype of a loader apparatus having a loader that was free from direct attachment to the loader support and instead attached by first and second linkages and an actuator arrangement is shown in Figure 1A.

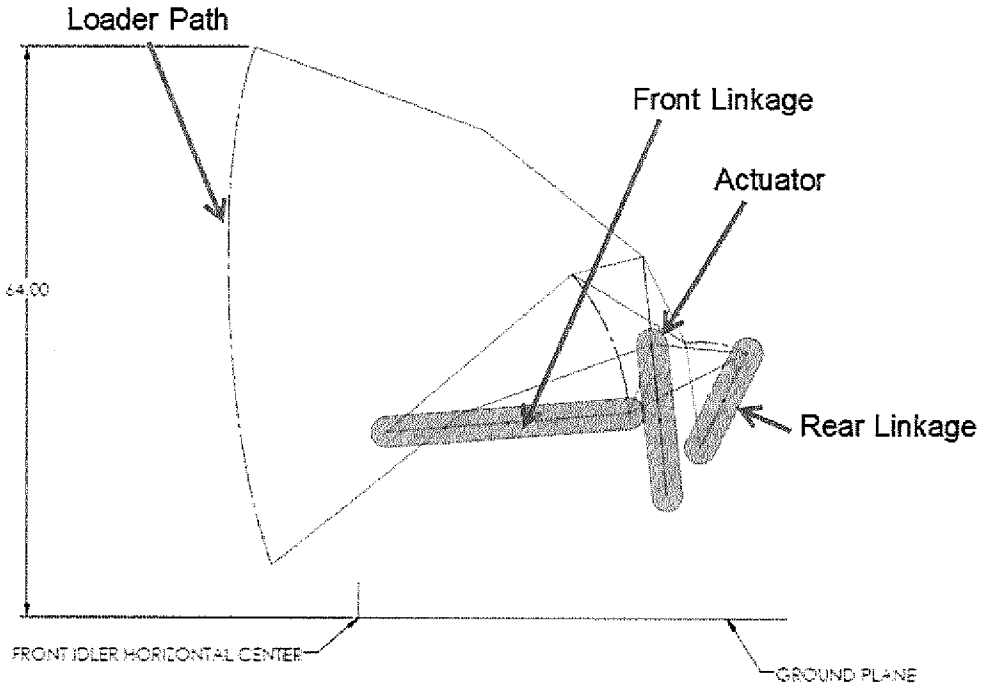


Figure 1A: Lift Path of the First Prototype

The loading profile of the first prototype is shown in Figure 1B[2]:

[2] In Figures 1B, 2B and 3B the lift capacity is the lower curve, the front linkage loading is the middle curve, and the rear linkage loading is the highest curve.

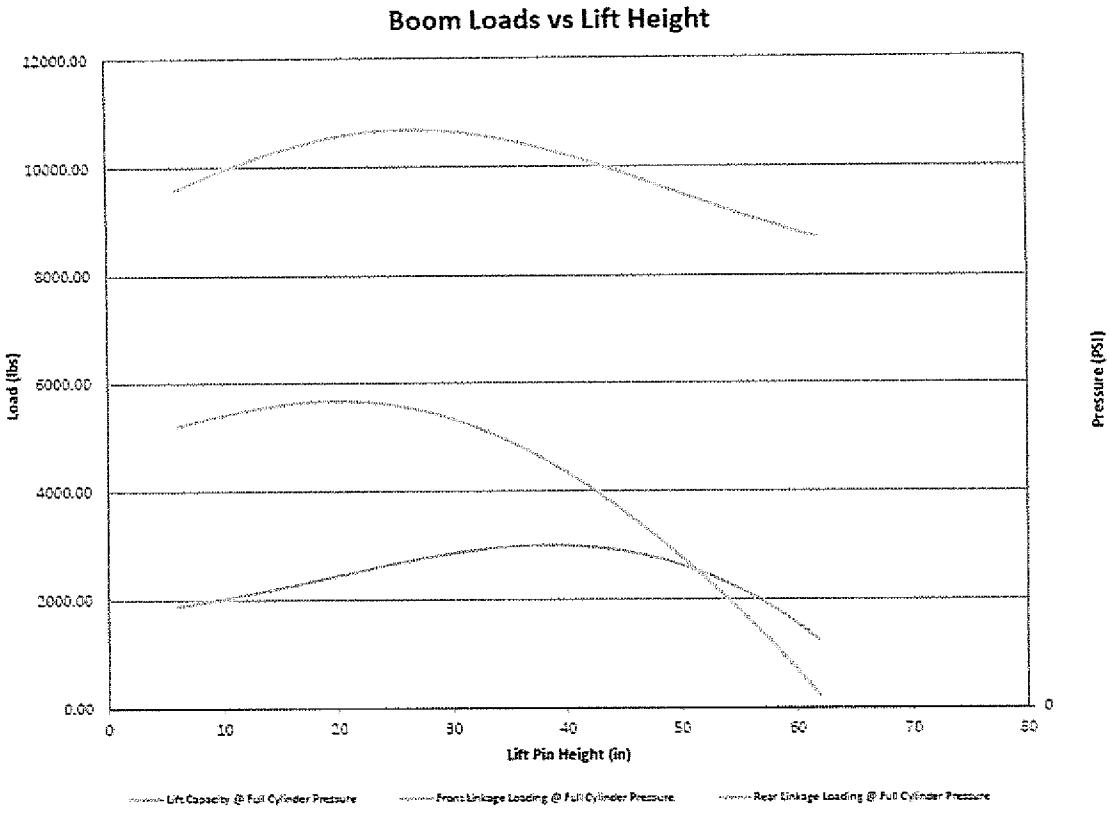


Figure 1B: Loading Profile of the First Prototype

To improve the stability of the first prototype of the loader apparatus, the loader support was lengthened in a second prototype. The lift profile of this second prototype is shown in Figure 2A:

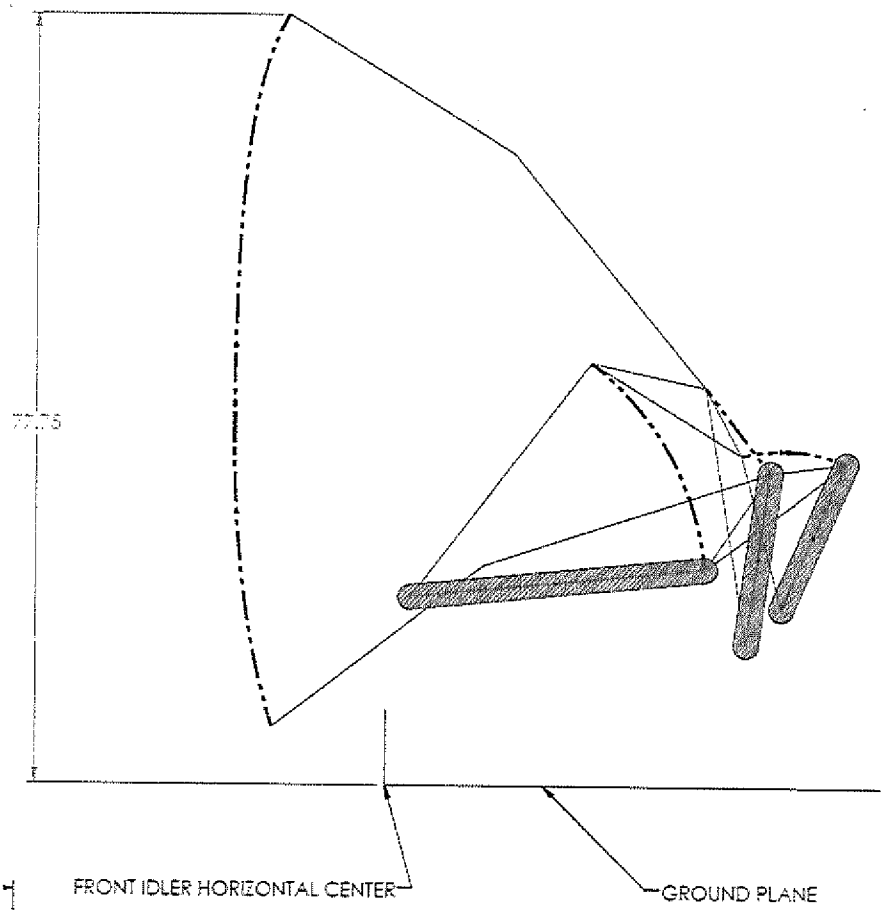


Figure 2A: Lift Profile of the Second Prototype

The linkages and actuators from the smaller initial prototype were scaled up for the second prototype. Scaling-up proved unsuccessful as shown in the lift profile of Figure 2B below.

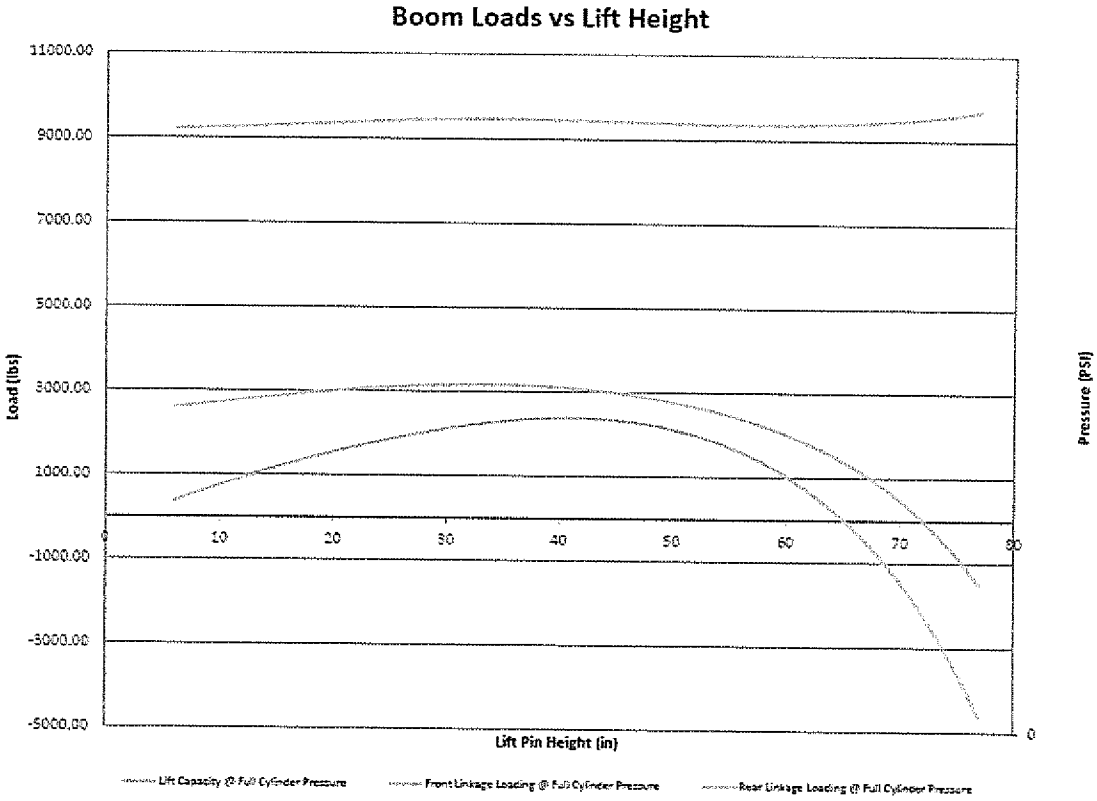


Figure 2B: Loading Profile of the Second Prototype

As shown in Figure 2B, the second prototype would not be able to support a load during initial lifting and at its full extension as shown by the lift capacity curve (e.g., at less than about 5 inches of hinge pin height and beyond about 65 inches). Mathematical modeling and free-body diagram construction indicated that the second prototype would only be able to lift a load of 192 pounds when the loader was lifted from the supporting surface which is nearly insufficient to even lift the weight of the bucket when empty.

In a third prototype, the pivot point of the actuator in the loader support was moved **slightly rearward** as shown in Figure 3A:

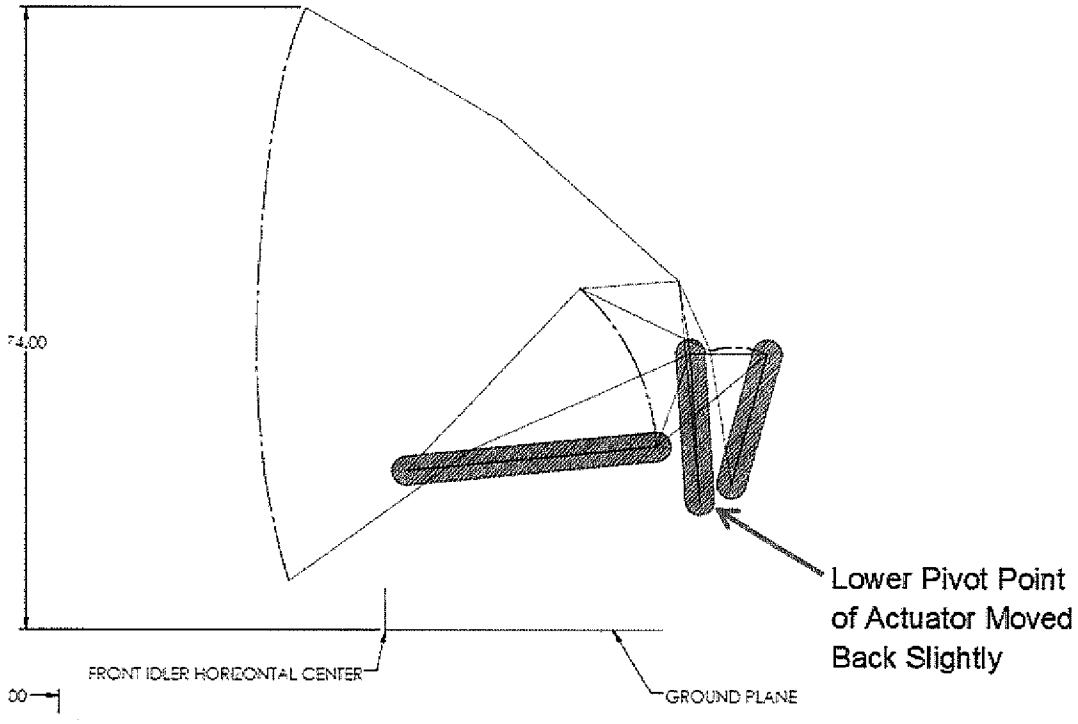


Figure 3A: Lift Profile of an Embodiment of the '266 Patent

This resulted in a much improved loading profile shown in Figure 3B:

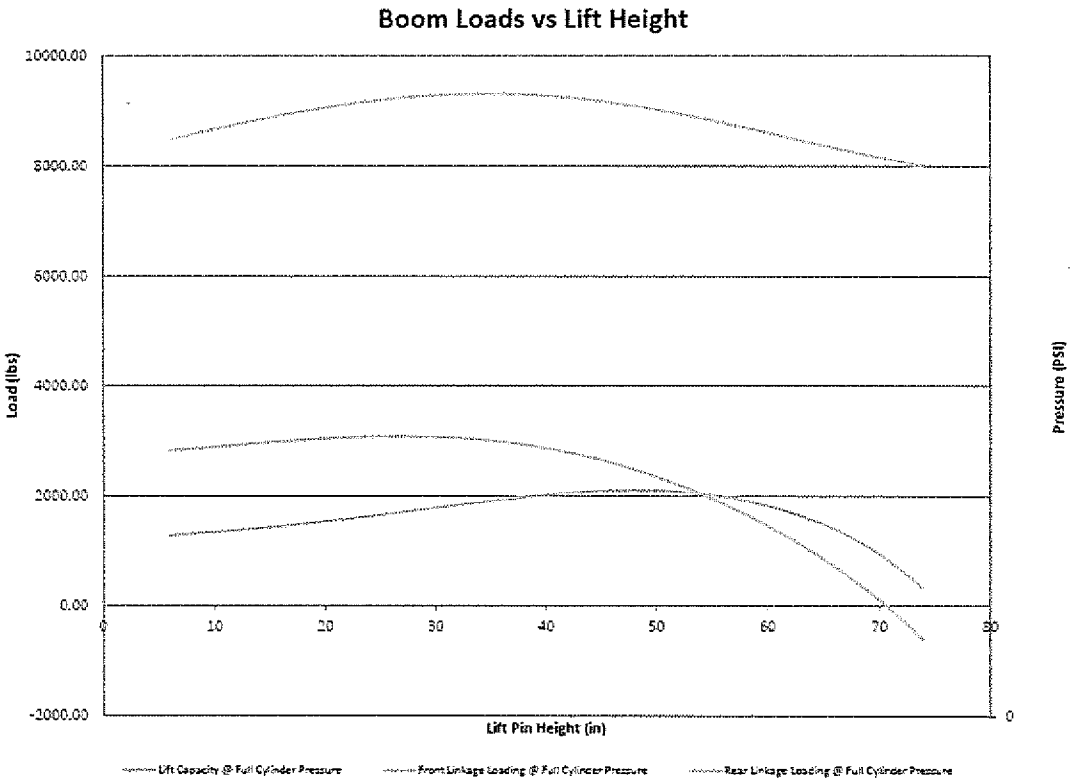


Figure 3B: Loading Profile of Third Prototype

The lift profile of Figure 3A was incorporated into Vermeer's CTX50 commercial compact utility loader.

In my experience, development of a loader apparatus having first and second linkages pivotally attached to the first side of the loader support in which the loader is free of direct attachment to the loader support was unpredictable.

10. When developing the loader apparatus that led to the '266 Patent, state of the art tools were used including solid modeling software from Solidworks, finite element analysis software from ANSYS, in-house programming for evaluation of loading and force analysis, stress coating, strain gauging and cycle test stands. Despite resorting to these state of the art tools, prototypes failed or were not capable of operation (e.g., were unable to lift a target load).

11. When developing the invention as set forth in claim 1 of the '266 Patent, I was highly skeptical as to whether it would be possible to develop a loader apparatus having a loader that was free from direct attachment to the loader support (e.g., a vertical lift compact utility loader) as set forth in claim 1 of the '266 Patent. I did not believe the loader apparatus could sufficiently support and absorb the stresses of a vertical lift loader.

12. A principal consideration in the development of loader apparatus such as compact utility loaders is to develop machines that are able to lift heavier loads without adding excessive weight to the machine and while maintaining a small footprint (i.e., length and width of the machine). The industry has incrementally increased lift capacity over the last 20 years. The industry did not turn to vertical lift loaders despite vertical lift loaders being able to significantly increase lift capacity as noted below.

13. By using first and second linkages and an actuator to support the loader (i.e., a vertical lift loader) as set forth in claim 1 of the '266 Patent, the lift capacity of an embodiment of the invention was significantly greater that the lift capacity of the radial lift S450TX loader apparatus without increasing the weight of the machine.

14. Despite this need for increased lift, the industry did not develop vertical lift loaders. For example, manufacturers shifted from "walk-behind" machines to predominantly "ride-on" machines. Manufacturers of ride-on machines are permitted to incorporate an average weight of an operator (165 lb standard) in the tip capacity testing which generally increases the rated lift capacity. Other manufacturers have included "weight kits" that add weight to the back of the machine to increase lift capacity while sacrificing ground clearance (Figure 4).

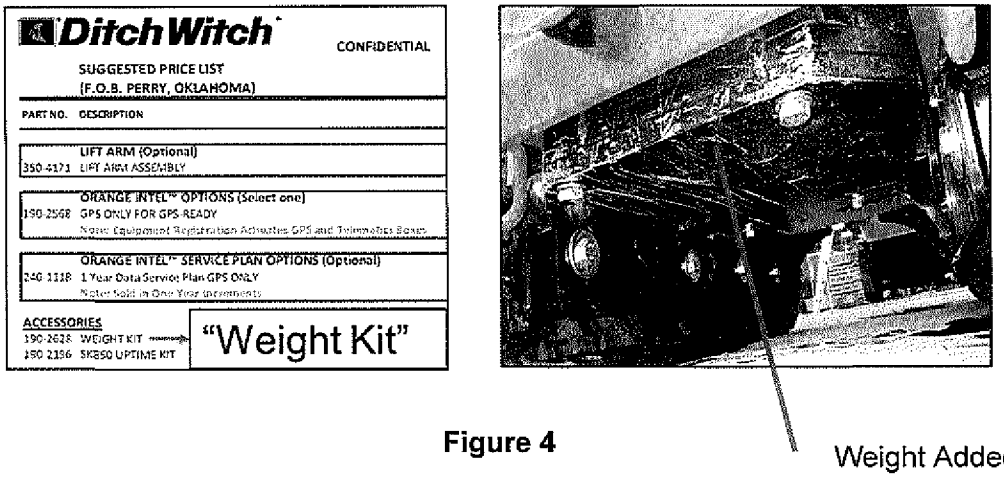
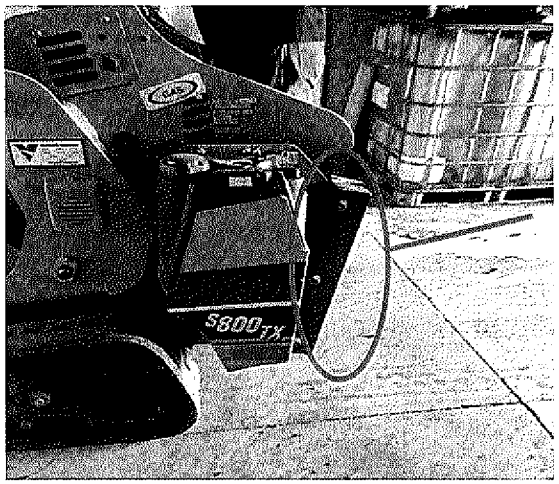


Figure 4

Weight Added toward Rear of Compact Utility Loader

Commercial users have even bolted their own counter-weights near the rear of the machine to increase lift capacity (Figure 5):



Weight Added by Customers

Figure 5

These attempts by others have resulted, at best, in incremental increases in the rated lift capacity of the loader apparatus.

15. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and

further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. §1001, and that such willful false statements may jeopardize the validity of the instant application or any patent issued thereon.

Louis Hartke

10/18/19
Date

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

U.S. Patent No. 10,202,266
Inventors: Brad Thomas et al. Art Unit: 3993
Reexamination Control No.: 90/014,269
Filed: February 26, 2019
Confirmation No.: 3337
For: LOW PROFILE COMPACT TOOL CARRIERS
Examiner: Russell D. Stormer
Conferees: Gay Spahn and Robert Fetsuga

DECLARATION OF LOUIS HARTKE UNDER 37 C.F.R. 1.132

I, Louis Hartke, declare and state as follows:

1. I am an inventor of the subject matter recited in the claims of U.S. Patent No. 10,202,266 ("the '266 Patent") and the presently pending claims of Reexamination Control No. 90/014,269.

2. I received a Bachelor of Science degree in Agricultural and Biosystems Engineering from North Dakota State University in 1999.

3. I have 19 years of experience in the field of product development, design, manufacturing and engineering including 6 years as a Senior Project Engineer in the area of rental machines including compact utility loaders. I am currently employed by Vermeer Manufacturing Company as a Senior Manufacturing Engineering Manager.

4. As an inventor of the '266 Patent, I have read and understand the '266 Patent and the claims thereof and the presently pending claims of Reexamination Control No. 90/014,269.

5. I have reviewed the document entitled "Dingo 322, Dingo Compact Utility Loader, Operator's Manual", the document entitled "Dingo 322 Compact Utility Loader, Parts Catalog" (collectively "Dingo 322"), JP 11-140900 to Komatsu ("Komatsu"), and the brochure entitled "Vermeer S600/S600TX" ("the S600 Brochure").

6. The mainframe of the Dingo 322 compact tool carrier was specifically designed to accommodate a radial lift loader and would not be able to support a vertical lift loader. Dingo 322 connects the loader arms to the mainframe high on the machine and lacks sufficient structure toward the lower portion of the mainframe to support a vertical lift loader. Thus, it would not have been obvious to those of us working on designing and developing equipment in this industry to modify the radial lift loader of Dingo 322 to include vertical lift like that of Komatsu before February 20, 2015, the date that we filed our first patent application describing our invention. In fact, I don't believe Dingo 322 can successfully be modified to have a vertical lift loader.

7. Use of any of the vertical lift loader arrangements of Komatsu on the Dingo 322 machine would render Dingo 322 unsuitable for its intended purpose. Lift height is an important feature for compact utility loaders. The Dingo 322 Operator's Manual (see also page 2/1-2 of the Dingo 322 Service Manual) states that the Dingo 322 is able to achieve a hinge pin height (i.e., vertical reach as measured to the hinge pin at which the bucket pivots) of 66.0 inches which results in a dump height of 47 inches:

Specifications

Overall width	40.5 in. (103 cm)
Overall length	60.0 in. (152 cm)
Overall height	49.0 in. (125 cm)
Weight	1567 lb. (711 kg)
Rated operating capacity (with 200 lb. operator and std. bucket)	515 lb. (234 kg)
Tipping capacity (with 200 lb. operator and st. bucket)	1030 lb. (467 kg)
Wheelbase	28 in. (71 cm)
Dump height (with std. bucket)	47 in. (120 cm)
Reach—fully raised (with std. bucket)	26.0 in. (66 cm)
Height to hinge pin (std bucket in highest position)	66.0 in. (168 cm)

Page 10 of the Dingo 322 Operator's Manual

The embodiments of Figures 1[1], 6 and 8-10 of Komatsu would only achieve a hinge pin height of about 52 inches and a dump height of 33 inches when used on Dingo 322. A hinge pin height of 52 inches and a dump height of 33 inches would render Dingo 322 unsuitable for its intended purpose, as the hinge pin height and dump height are significantly less than the advertised 66.0 inch hinge pin height and 47 inch dump height.

A hinge pin height of 52 inches and a dump height of 33 inches would also render Dingo 322 unsuitable for use in its field of endeavor. A dump height of 33 inches is inadequate to dump a load into standard receptacles in this field (e.g., landscaping use) such as dumpsters, pick-up trucks and the like. A hinge pin height of 52 inches is insufficient to unload a pallet from most trucks and is incompatible with other attachments (e.g., augers used for forming holes) that require relatively high ground clearance.

[1] Figures 1 and 5 of Komatsu show the same embodiment in lowered and raised positons, respectively.

Table 1 below shows the published hinge pin heights of various compact utility loaders. The hinge pin heights were taken from published brochures of the manufacturers or were listed on the manufacture's website.

Model	Introduction Year	Hinge Pin Height (In.)
Bobcat MT52	2003	71.3
Bobcat MT55	2004	71.2
Bobcat MT85	2015	80.9
Boxer 427	2005	70
Boxer 532DX	2008	76
Boxer 950HD	2016	95
Ditch Witch SK500	2003	81
Ditch Witch SK650	2006	81
Ditch Witch SK850	2014	83
Ditch Witch SK1050	2016	83
Ditch Witch SK1550	2017	94.5
Toro Dingo 322	1999	66
Toro Dingo TX420	2000	90.1
Toro Dingo TX525	2006	65.8
Toro Dingo TX1000	2015	81
Vermeer S600TX	2005	80
Vermeer S400TX	2007	69

Model	Introduction Year	Hinge Pin Height (In.)
Vermeer S450TX	2012	72
Vermeer CTX 50	2015	72
Vermeer CTX100	2016	88

Table 1. Sampling of Hinge Pin Heights of Commercial Compact Utility Loaders

The maximum hinge pin height of about 52 inches of the embodiments of Figures 1, 6 and 8-10 of Komatsu as used on Dingo 322 is at least 14 inches less than the lowest hinge pin height of the compact utility loaders of Table 1.

In addition to lift height, another important characteristic for a compact utility loader is its “reach”—how far in front of the machine the bucket can dump when fully raised. The Dingo 322 Operator’s Manual (see also page 2/1-2 of the Dingo 322 Service Manual) states that Dingo 322 is able to achieve a reach at full height of 26.0 inches.

Specifications

Overall width	40.5 in. (103 cm)
Overall length	60.0 in. (152 cm)
Overall height	49.0 in. (125 cm)
Weight	1567 lb. (711 kg)
Rated operating capacity (with 200 lb. operator and std. bucket)	515 lb. (234 kg)
Tipping capacity (with 200 lb. operator and st. bucket)	1030 lb. (467 kg)
Wheelbase	28 in. (71 cm)
Dump height (with std. bucket)	47 in. (120 cm)
Reach—fully raised (with std. bucket)	26.0 in. (66 cm)
Height to hinge pin (std bucket in highest position)	66.0 in. (168 cm)

Page 10 of the Dingo 322 Operator’s Manual

The embodiment of Figure 7 of Komatsu would only achieve a reach when the loader is fully raised of about 9.6 inches. Because the reach of the embodiment of Figure 7 is 16.4 inches less than the reach of Dingo 322 (i.e., 63% less), the embodiment of Figure 7 of Komatsu would render Dingo 322 unsuitable for its intended purpose.

A reach of about 9.6 inches is inadequate for use in the field of endeavor of Dingo 322. A reach of 9.6 inches is inadequate to dump a load into a dumpster or pick-up truck. The reduced reach does not allow a load to be placed at or near the middle of a truck bed to distribute the load and reduces the ability to reach loads (e.g., pallets) that are spaced from an edge (e.g., truck edge).

Table 2 below shows the published reach at full height of various compact utility loaders. These parameters were taken from published brochures of the manufacturers or were listed on the manufacture's website. The reach for the Vermeer machines was physically measured internally by Vermeer employees.

Model	Introduction Year	Reach, Fully Raised (In.)
Bobcat MT52	2003	20.3
Bobcat MT55	2004	20.3
Bobcat MT85	2015	18.6
Toro Dingo 322	1999	26
Toro Dingo TX420	2000	21.8
Toro Dingo TX525	2006	21.8
Toro Dingo TX1000	2015	24.5
Vermeer S600TX	2005	27.3

Model	Introduction Year	Reach, Fully Raised (In.)
Vermeer S400TX	2007	21.8
Vermeer S450TX	2012	19.3
Vermeer CTX 50	2015	19.7
Vermeer CTX100	2016	22.6

Table 2. Sampling of Reach at Full Height of Commercial Compact Utility Loaders

The reach of about 9.6 inches of the loader of Figure 7 of Komatsu as used on Dingo 322 is about 10 inches less than the lowest reach of the compact utility loaders of Table 2 (i.e., is about 50% of the reach of the compact utility loaders of Table 2).

None of the embodiments of Komatsu, if applied to the Dingo 322, would yield a compact utility loader that would work for its intended purpose.

8. Designing the loader apparatus described in the ‘266 Patent was an unpredictable endeavor. Small changes to pivot points, weight distribution, and the like in vertical lift loaders cause significant changes in the lift profile and lift capacity of the machine.

9. When developing the loader apparatus claimed in the ‘266 Patent, I observed unpredictability in the behavior of such loaders. During development of an embodiment of the loader apparatus claimed in the ‘266 Patent, several loader arrangements were attempted that were unsuccessful. The lift profile of the initial prototype of a loader apparatus having a loader that was free from direct attachment to the loader support and instead attached by first and second linkages and an actuator arrangement is shown in Figure 1A.

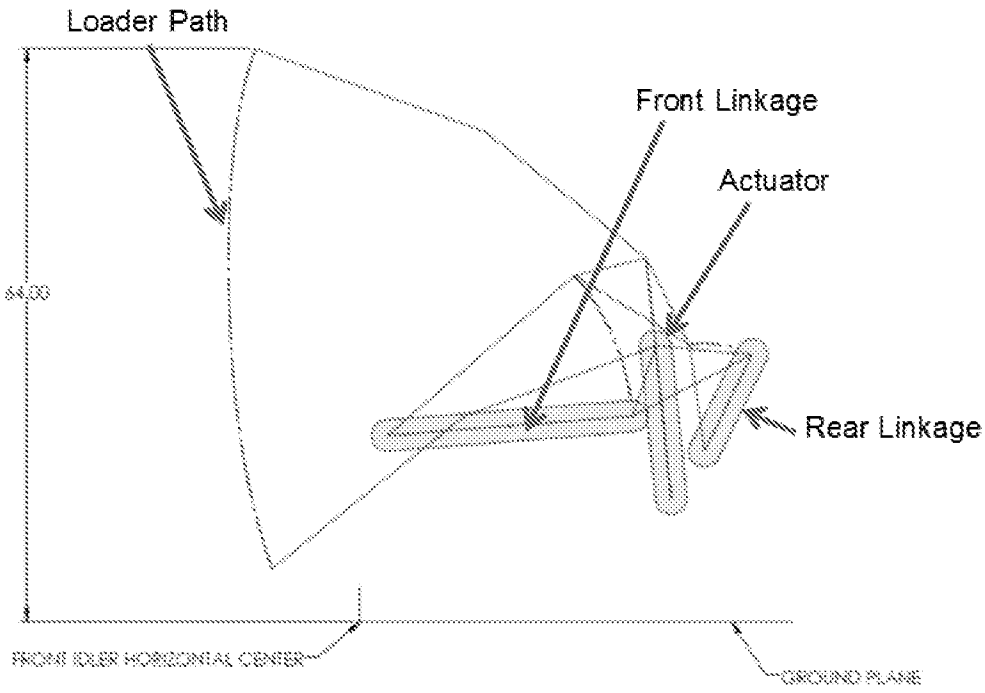


Figure 1A: Lift Path of the First Prototype

The loading profile of the first prototype is shown in Figure 1B[2]:

[2] In Figures 1B, 2B and 3B the lift capacity is the lower curve, the front linkage loading is the middle curve, and the rear linkage loading is the highest curve.

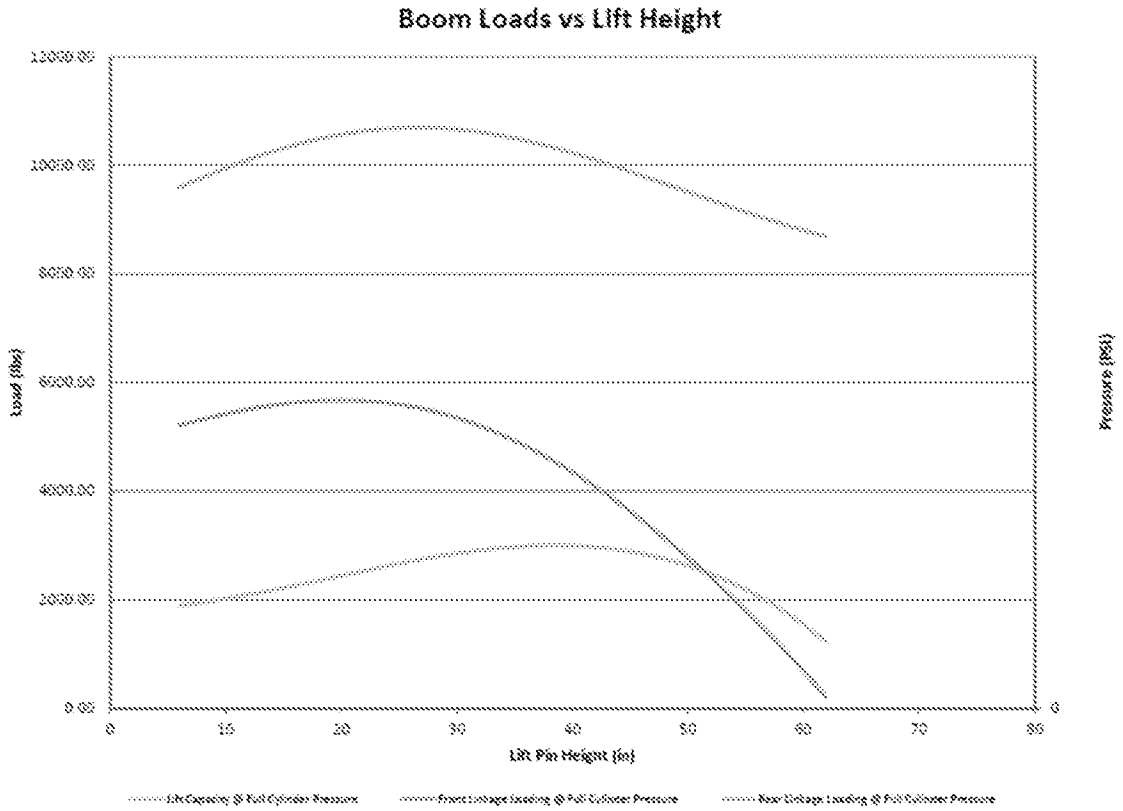


Figure 1B: Loading Profile of the First Prototype

To improve the stability of the first prototype of the loader apparatus, the loader support was lengthened in a second prototype. The lift profile of this second prototype is shown in Figure 2A:

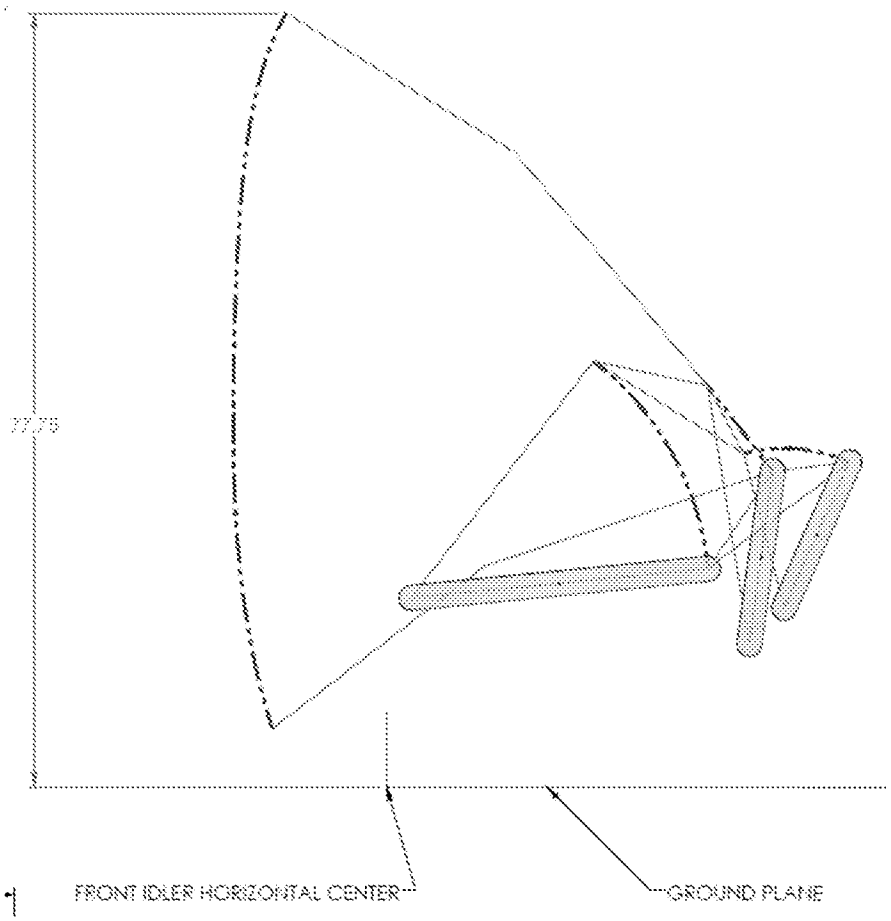


Figure 2A: Lift Profile of the Second Prototype

The linkages and actuators from the smaller initial prototype were scaled up for the second prototype. Scaling-up proved unsuccessful as shown in the lift profile of Figure 2B below.

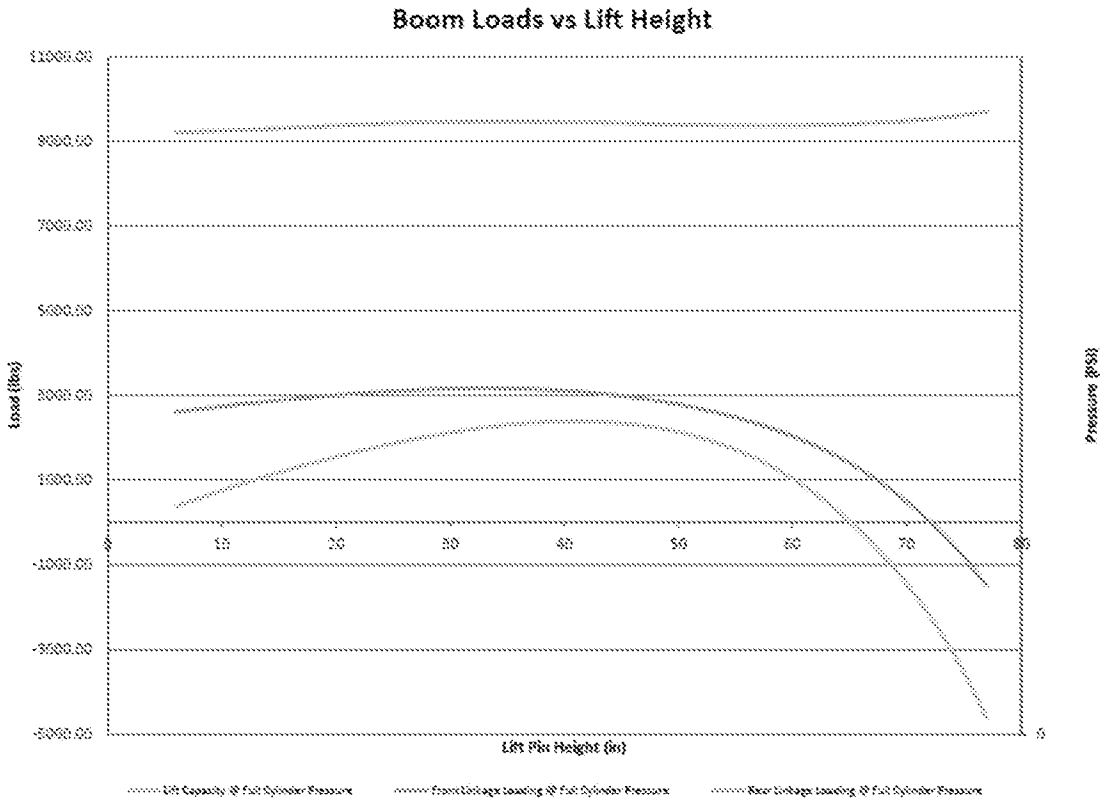


Figure 2B: Loading Profile of the Second Prototype

As shown in Figure 2B, the second prototype would not be able to support a load during initial lifting and at its full extension as shown by the lift capacity curve (e.g., at less than about 5 inches of hinge pin height and beyond about 65 inches). Mathematical modeling and free-body diagram construction indicated that the second prototype would only be able to lift a load of 192 pounds when the loader was lifted from the supporting surface which is nearly insufficient to even lift the weight of the bucket when empty.

In a third prototype, the pivot point of the actuator in the loader support was moved **slightly rearward** as shown in Figure 3A:

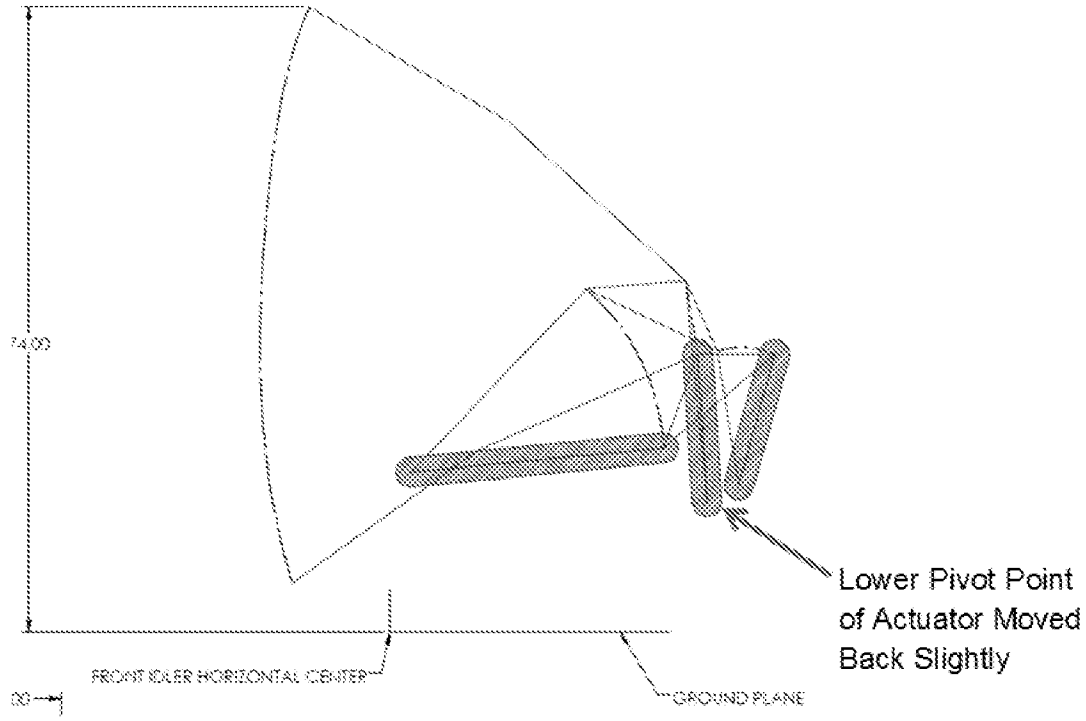


Figure 3A: Lift Profile of an Embodiment of the '266 Patent

This resulted in a much improved loading profile shown in Figure 3B:

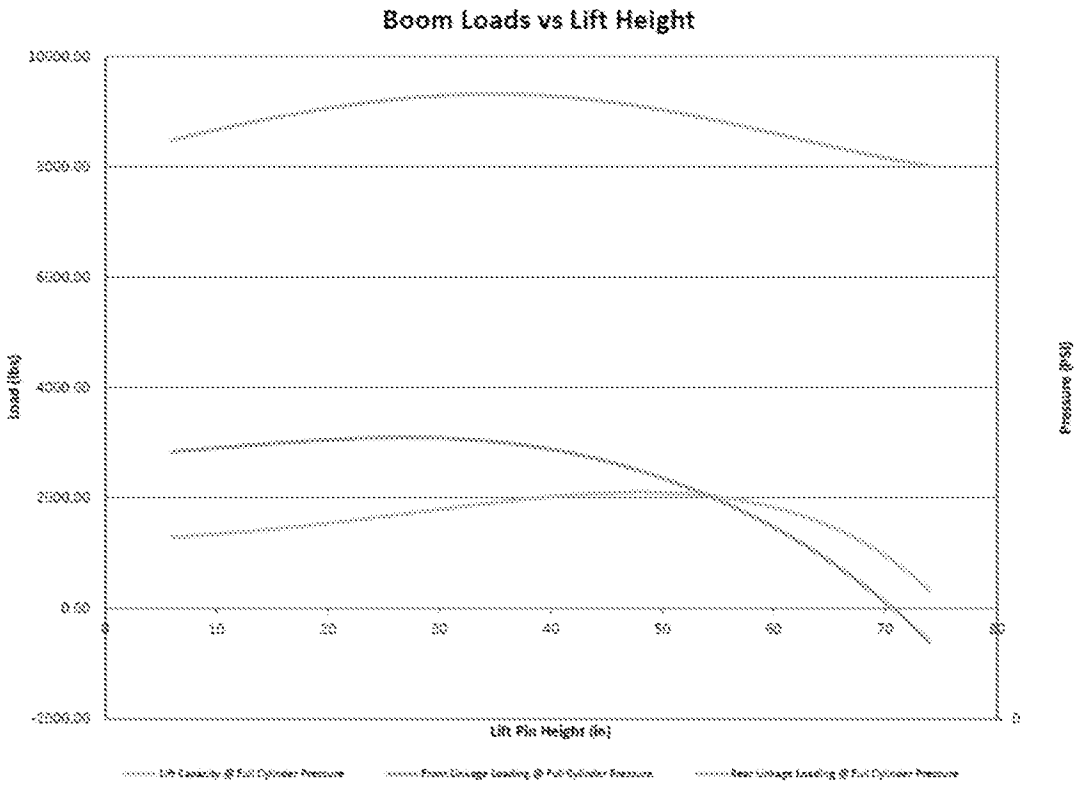


Figure 3B: Loading Profile of Third Prototype

The lift profile of Figure 3A was incorporated into Vermeer's CTX50 commercial compact utility loader.

In my experience, development of a loader apparatus having first and second linkages pivotally attached to the first side of the loader support in which the loader is free of direct attachment to the loader support was unpredictable.

10. When developing the loader apparatus that led to the '266 Patent, state of the art tools were used including solid modeling software from Solidworks, finite element analysis software from ANSYS, in-house programming for evaluation of loading and force analysis, stress coating, strain gauging and cycle test stands. Despite resorting to these state of the art tools, prototypes failed or were not capable of operation (e.g., were unable to lift a target load).

11. When developing the invention as set forth in claim 1 of the '266 Patent, I was highly skeptical as to whether it would be possible to develop a loader apparatus having a loader that was free from direct attachment to the loader support (e.g., a vertical lift compact utility loader) as set forth in claim 1 of the '266 Patent. I did not believe the loader apparatus could sufficiently support and absorb the stresses of a vertical lift loader.

12. A principal consideration in the development of loader apparatus such as compact utility loaders is to develop machines that are able to lift heavier loads without adding excessive weight to the machine and while maintaining a small footprint (i.e., length and width of the machine). The industry has incrementally increased lift capacity over the last 20 years. The industry did not turn to vertical lift loaders despite vertical lift loaders being able to significantly increase lift capacity as noted below.

13. By using first and second linkages and an actuator to support the loader (i.e., a vertical lift loader) as set forth in claim 1 of the '266 Patent, the lift capacity of an embodiment of the invention was significantly greater that the lift capacity of the radial lift S450TX loader apparatus without increasing the weight of the machine.

14. Despite this need for increased lift, the industry did not develop vertical lift loaders. For example, manufacturers shifted from "walk-behind" machines to predominantly "ride-on" machines. Manufacturers of ride-on machines are permitted to incorporate an average weight of an operator (165 lb standard) in the tip capacity testing which generally increases the rated lift capacity. Other manufacturers have included "weight kits" that add weight to the back of the machine to increase lift capacity while sacrificing ground clearance (Figure 4).

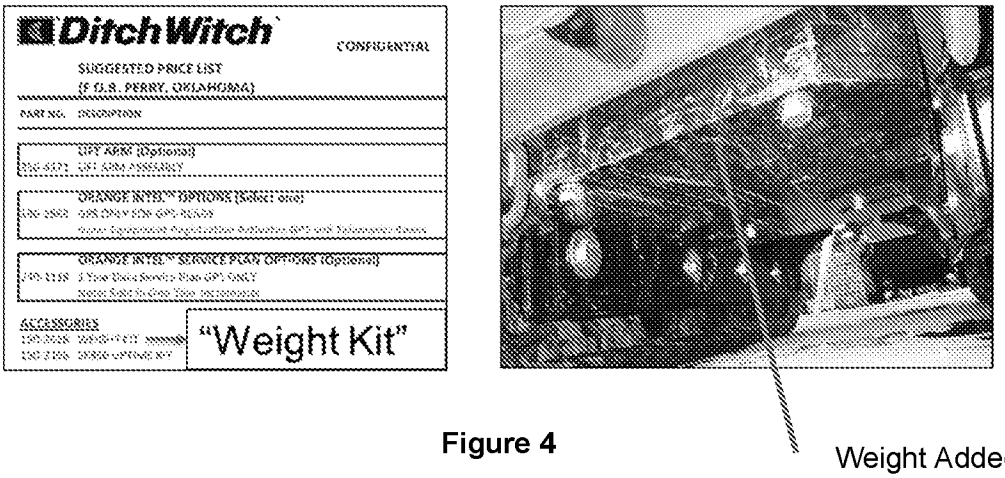


Figure 4

Commercial users have even bolted their own counter-weights near the rear of the machine to increase lift capacity (Figure 5):

Figure 5

These attempts by others have resulted, at best, in incremental increases in the rated lift capacity of the loader apparatus.

15. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and

further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. §1001, and that such willful false statements may jeopardize the validity of the instant application or any patent issued thereon.

Louis Hartke _____ Date _____

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

U.S. Patent No. 10,202,266
Inventors: Brad Thomas et al.
Reexamination Control No.: 90/014,269
Filed: February 26, 2019
Confirmation No.: 3337
For: LOW PROFILE COMPACT TOOL CARRIERS
Examiner: Russell D. Stormer
Conferees: Gay Spahn and Robert Fetsuga

Art Unit: 3993

DECLARATION OF MATTHEW HUTCHINSON UNDER 37 C.F.R. 1.132

I, Matthew Hutchinson, declare and state as follows:

1. I am a Product Manager at Vermeer Manufacturing Company ("Vermeer"). I manage the Tree Care, Rental and Landscape product groups at Vermeer. Previously, I was a Project Engineer in the Rental Product Group at Vermeer.

2. As an inventor of U.S. Patent No. 10,202,266 ("the '266 Patent"), I have read and understand the '266 Patent and the claims thereof and the presently pending claims of Reexamination Control No. 90/014,269.

3. As Product Manager of the Rental Product Group at Vermeer, I oversee development and marketing of compact utility loaders, including vertical lift compact utility loaders in which the loader is free from direct attachment to the loader support as recited in claim 1 of the '266 Patent and radial lift compact utility loaders in which the loader is directly attached to the loader support.

4. The loader apparatus of claim 1 of the '266 Patent has been a commercial success. Since their introduction into the market in 2015, vertical lift compact utility loaders have taken market share from radial lift vertical loaders. In 2015, vertical lift compact utility loaders made up 11% of all compact utility loader unit sales of

Vermeer (see Figure 1). Vertical lift has continued to take market share from radial lift. In 2018, vertical lift compact utility loaders made up **37%** of all compact utility loader unit sales of Vermeer.

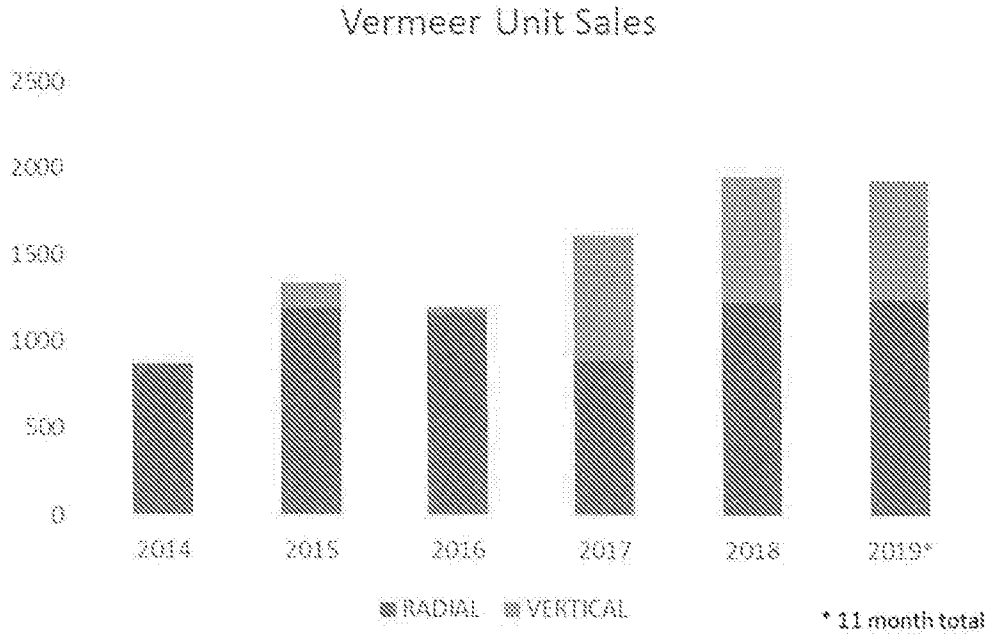


Figure 1

5. As Product Manager at Vermeer, it is my responsibility to closely monitor customer demand and to determine which features are driving sales. The benefits directly attributable to the vertical lift design of the compact utility loaders (sold as Vermeer models CTX50 and CTX100), including increased lift capacity in a compact design, have been very well received by customers and have driven the sales of these products. The trend toward vertical lift compact utility loaders shown above in Figure 1 results from the advantages of the vertical-lift design, rather than price discounts, special offers, advertising or other factors not related to vertical lift.

6. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both,

under 18 U.S.C. §1001, and that such willful false statements may jeopardize the validity of the instant application or any patent issued thereon.

Matthew Hutchinson

10/12/19
Date

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

U.S. Patent No. 10,202,266
Inventors: Brad Thomas et al. Art Unit: 3993
Reexamination Control No.: 90/014,269
Filed: February 26, 2019
Confirmation No.: 3337
For: LOW PROFILE COMPACT TOOL CARRIERS
Examiner: Russell D. Stormer
Conferees: Gay Spahn and Robert Fetsuga

DECLARATION OF MATTHEW HUTCHINSON UNDER 37 C.F.R. 1.132

I, Matthew Hutchinson, declare and state as follows:

1. I am a Product Manager at Vermeer Manufacturing Company ("Vermeer"). I manage the Tree Care, Rental and Landscape product groups at Vermeer. Previously, I was a Project Engineer in the Rental Product Group at Vermeer.

2. As an inventor of U.S. Patent No. 10,202,266 ("the '266 Patent"), I have read and understand the '266 Patent and the claims thereof and the presently pending claims of Reexamination Control No. 90/014,269.

3. As Product Manager of the Rental Product Group at Vermeer, I oversee development and marketing of compact utility loaders, including vertical lift compact utility loaders in which the loader is free from direct attachment to the loader support as recited in claim 1 of the '266 Patent and radial lift compact utility loaders in which the loader is directly attached to the loader support.

4. The loader apparatus of claim 1 of the '266 Patent has been a commercial success. Since their introduction into the market in 2015, vertical lift compact utility loaders have taken market share from radial lift vertical loaders. In 2015, vertical lift compact utility loaders made up 11% of all compact utility loader unit sales of

Vermeer (see Figure 1). Vertical lift has continued to take market share from radial lift. In 2018, vertical lift compact utility loaders made up ***37%*** of all compact utility loader unit sales of Vermeer.

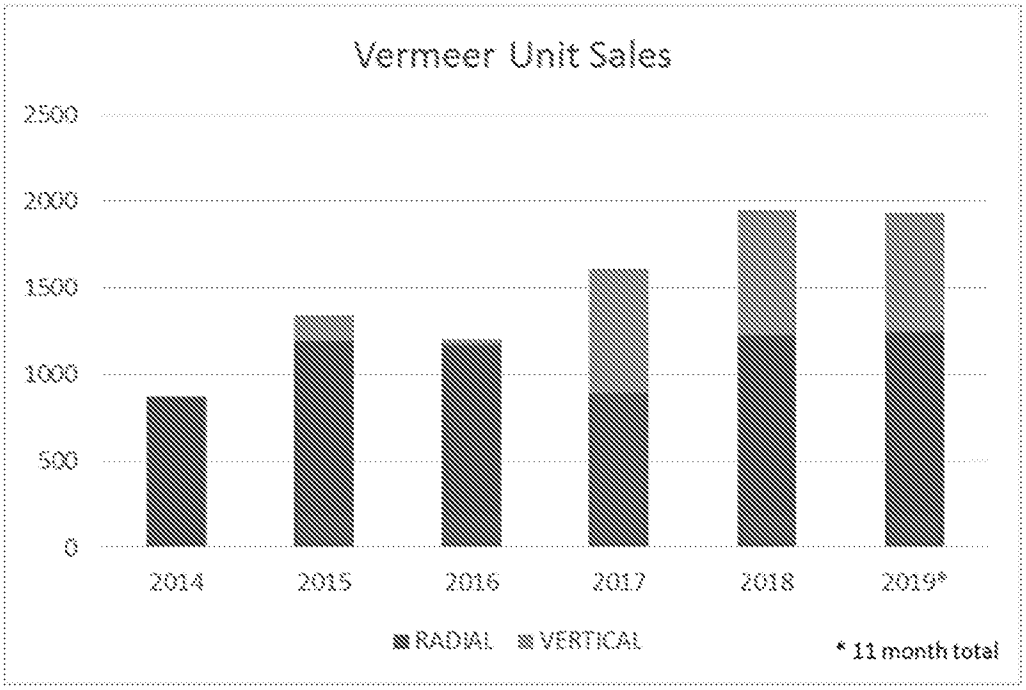


Figure 1

5. As Product Manager at Vermeer, it is my responsibility to closely monitor customer demand and to determine which features are driving sales. The benefits directly attributable to the vertical lift design of the compact utility loaders (sold as Vermeer models CTX50 and CTX100), including increased lift capacity in a compact design, have been very well received by customers and have driven the sales of these products. The trend toward vertical lift compact utility loaders shown above in Figure 1 results from the advantages of the vertical-lift design, rather than price discounts, special offers, advertising or other factors not related to vertical lift.

6. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both,

under 18 U.S.C. §1001, and that such willful false statements may jeopardize the validity of the instant application or any patent issued thereon.

Matthew Hutchinson

Date

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

U.S. Patent No. 10,202,266
Inventors: Brad Thomas et al. Art Unit: 3993
Reexamination Control No.: 90/014,269
Filed: February 26, 2019
Confirmation No.: 3337
For: LOW PROFILE COMPACT TOOL CARRIERS
Examiner: Russell D. Stormer
Conferees: Gay Spahn and Robert Fetsuga

DECLARATION OF SCOTT PROST-DOMASKY UNDER 37 C.F.R. 1.132

I, Scott Prost-Domasky, declare and state as follows:

1. I am a structural analysis consultant with Analytical Processes/Engineered Solutions, Inc. in St. Louis, Missouri.

2. I received a Bachelor of Science degree in Aerospace Engineering from the University of Arizona in 1986. I received a Master's of Science Degree in Aerospace Engineering from the University of Southern California in 1988. I received a PhD in Mechanical Engineering from Washington University in 1995. I am a registered Professional Engineer in the State of Missouri.

3. I have 29 years of experience in advanced engineering concepts. I routinely develop and apply finite element methods (FEM/FEA) to structural analysis of linear and nonlinear mechanical systems and develop stress analysis modeling techniques.

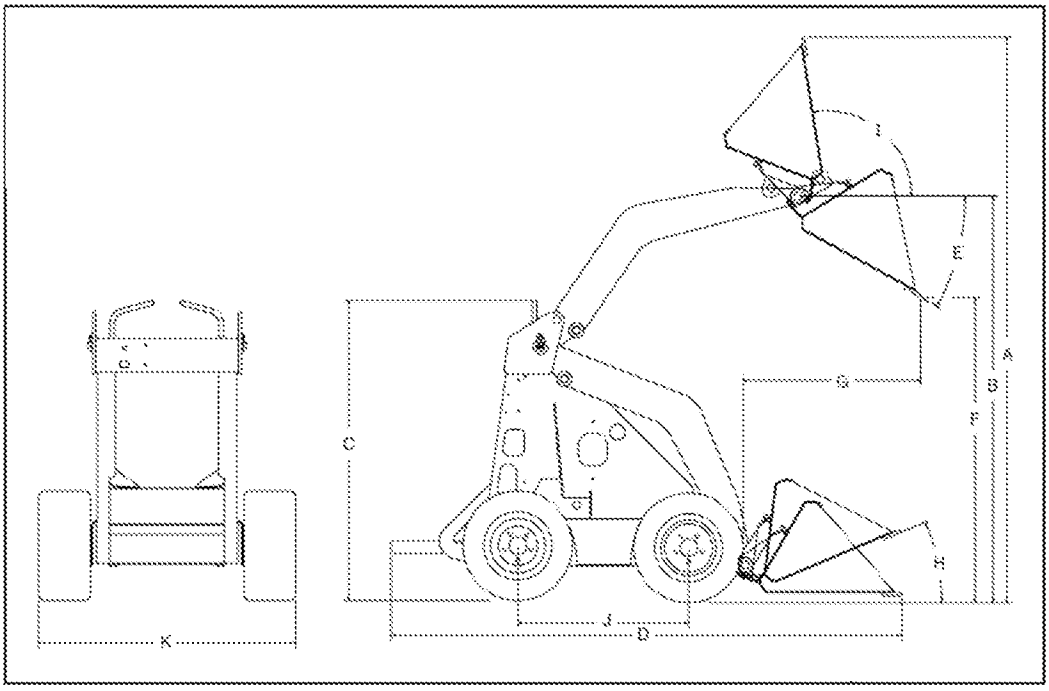
4. I have reviewed the "Toro Wheeled Compact Utility Loader Service Manual" ("Dingo 322 Service Manual") that describes and illustrates service for the Toro Dingo 322 Compact Utility Loader. The Dingo 322 Service Manual sets forth the specifications for Dingo 322 on page 2/1-2 shown below.

SPECIFICATIONS

Dimensions

A. Overall operating height, fully raised / 91.2" (2317mm)
B. Hinge pin height, fully raised / 66.0" (1676mm)
C. Overall height / 48.7" (1237mm)
D. Overall length / 82.2" (2088mm)
E. Dump angle / 34°
F. Dump height / 47.0" (1194mm)
G. Reach, fully raised / 26.0" (660mm)
H. Bucket rollback, ground position / 19°
I. Bucket rollback, fully raised / 97°
J. Wheelbase / 28.0" (711mm)
K. Overall width / 40.5" (1028mm)
X. Ground Clearance, front / 5.8" (147mm)
X. Ground Clearance, rear / 5.8" (147mm)
X. Reach, maximum / 28.0" (711mm)
X. Bucket rollback, carry position / 25°

X. = Dimension not shown



Page 2/1-2 of the Dingo 322 Service Manual

5. I have reviewed JP 11-140900 to Komatsu ("Komatsu") as translated in English. Komatsu describes and shows 6 embodiments of a loader arrangement of a skid steer. The first embodiment is shown in Figures 1 and 5 that show the loader in lowered and raised positions, respectively (collectively referred to as "Figure 1/5"). The remaining embodiments are shown in Figures 6-10 of Komatsu.

6. I modeled the loader arrangement of Figures 1/5 of Komatsu on Dingo 322. I also modeled the loader arrangement of Figures 6-10 of Komatsu on Dingo 322. The loader arrangements were modeled by scaling the loader to a size in which the

bucket of the loader was level with the supporting surface in the lowered positon of the loader. Each model included the same loader arm, linkages, and actuator (including the pivot points thereof) of the respective embodiment of Komatsu on the Dingo 322 mainframe. Each model included the bucket and attachment plate of the Dingo 322 machine attached to the respective loader of Komatsu. Because Figure 8 of Komatsu did not include a cylinder, a cylinder location was assumed to provide maximum lift height.

7. Each of the loader arrangements of Figures 1/5, 6 and 8-10 of Komatsu on Dingo 322 when at its fullest height are shown below. The fullest height of the loader arrangement occurs when the loader is unable to extend further vertically upon further extension of the actuator. To measure the height of the loader when fully extended, the distance from the bottom of the wheels to the hinge pin was measured. This measurement was scaled up by use of the 28.0" wheelbase dimension provided in the specifications of Dingo 322 set forth on Page 2/1-2 of the Dingo 322 Service Manual copied above. The heights from the ground to the hinge pin for each of Figures 1/5, 6 and 8-10 on Komatsu are shown below:

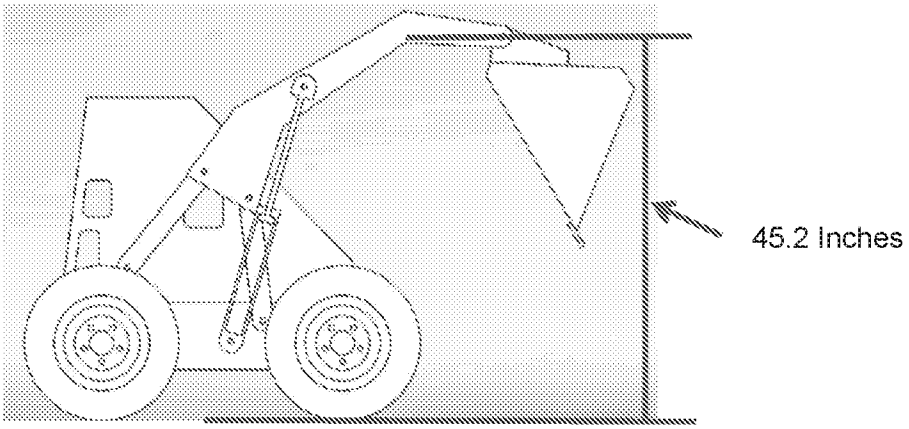


Figure 1: Loader of Figures 1/5 of Komatsu on Dingo 322 in Fully Extended Position

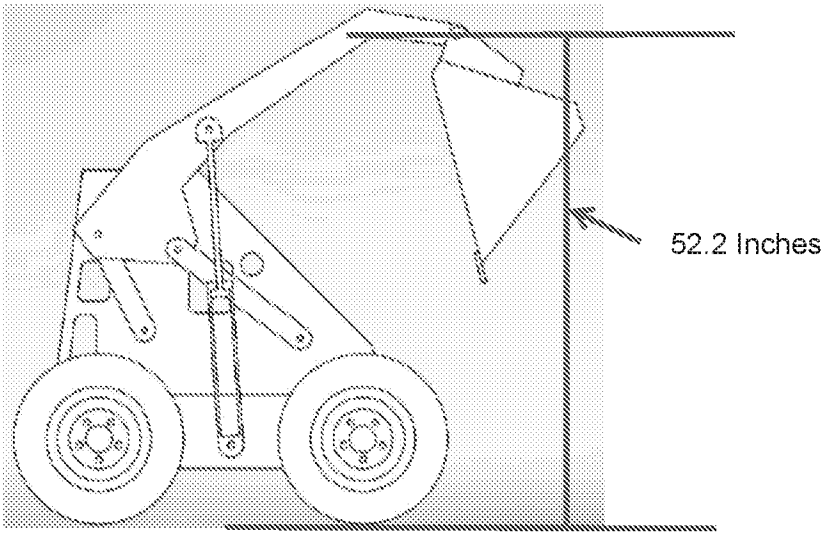


Figure 2: Loader of Figure 6 of Komatsu on Dingo 322 in Fully Extended Position

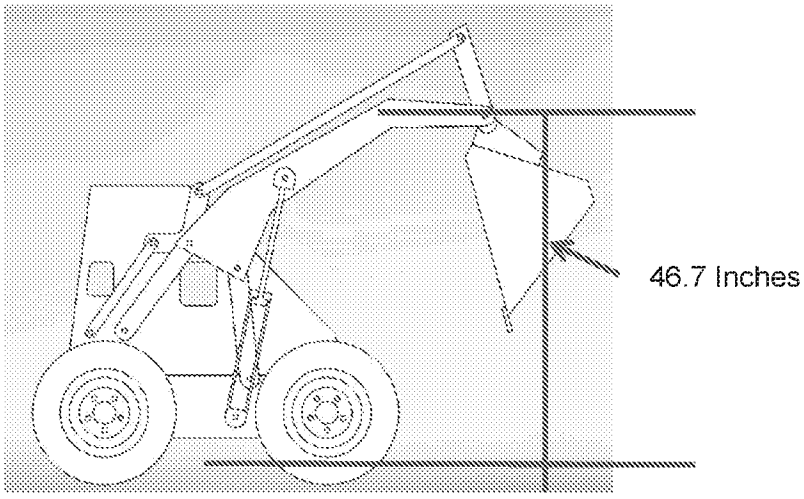


Figure 3: Loader of Figure 8 of Komatsu on Dingo 322 in Fully Extended Position

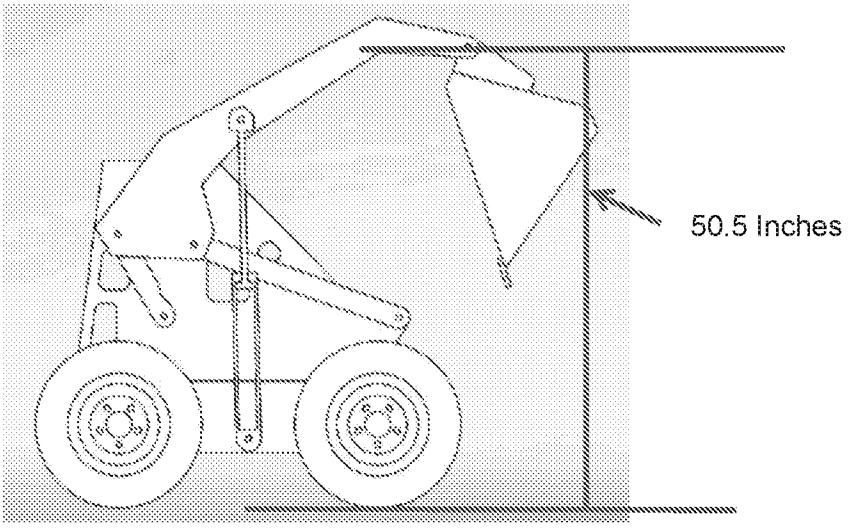


Figure 4: Loader of Figure 9 of Komatsu on Dingo 322 in Fully Extended Position

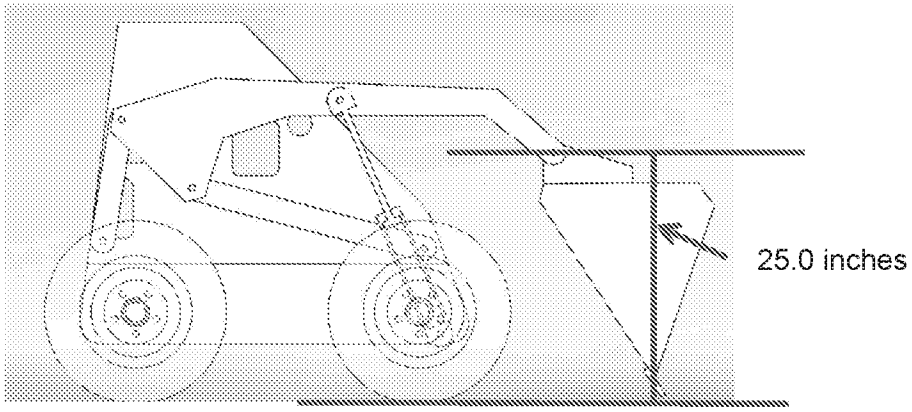


Figure 5: Loader of Figure 10 of Komatsu on Dingo 322 in Fully Extended Position

The highest hinge pin height of the embodiments of Figures 1/5, 6 and 8-10 of Komatsu on Dingo 322 would be the 52.2 inch hinge pin height when the loader of Figure 6 of Komatsu is used (Figure 2).

8. The loader arrangement of Figure 7 of Komatsu on Dingo 322 at its fullest height is shown below.

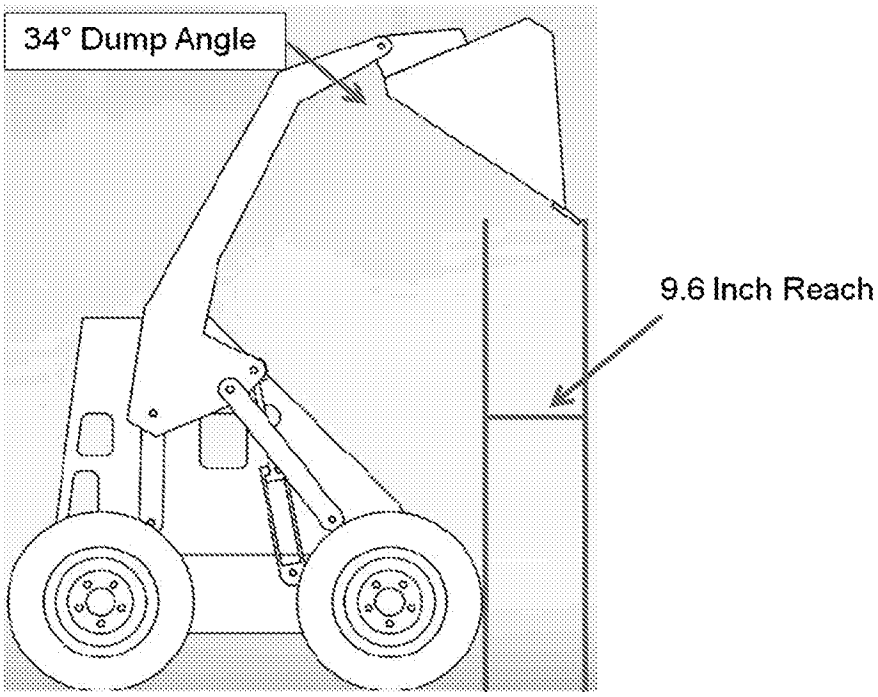


Figure 6: Loader of Figure 7 of Komatsu on Dingo 322 in Fully Extended Position

I measured the reach of the loader of Figure 7 of Komatsu on Dingo 322 at its fullest height. To measure the reach, the distance from the front of the wheels to the front end of the bucket was measured. The reach was measured when the bucket was angled down from the horizontal plane by 34° which was the same angle used in the "Specifications" set forth in Page 2/1-2 of the Dingo 322 Service Manual copied above. The reach of the loader of Figure 7 of Komatsu on Dingo 322 was 9.6 inches.

9. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. §1001, and that such willful false statements may jeopardize the validity of the instant application or any patent issued thereon.

Scott Prost-Domasky

10/15/2019

Scott Prost-Domasky

Date

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

U.S. Patent No. 10,202,266
Inventors: Brad Thomas et al. Art Unit: 3993
Reexamination Control No.: 90/014,269
Filed: February 26, 2019
Confirmation No.: 3337
For: LOW PROFILE COMPACT TOOL CARRIERS
Examiner: Russell D. Stormer
Conferees: Gay Spahn and Robert Fetsuga

DECLARATION OF SCOTT PROST-DOMASKY UNDER 37 C.F.R. 1.132

I, Scott Prost-Domasky, declare and state as follows:

1. I am a structural analysis consultant with Analytical Processes/Engineered Solutions, Inc. in St. Louis, Missouri.

2. I received a Bachelor of Science degree in Aerospace Engineering from the University of Arizona in 1986. I received a Master's of Science Degree in Aerospace Engineering from the University of Southern California in 1988. I received a PhD in Mechanical Engineering from Washington University in 1995. I am a registered Professional Engineer in the State of Missouri.

3. I have 29 years of experience in advanced engineering concepts. I routinely develop and apply finite element methods (FEM/FEA) to structural analysis of linear and nonlinear mechanical systems and develop stress analysis modeling techniques.

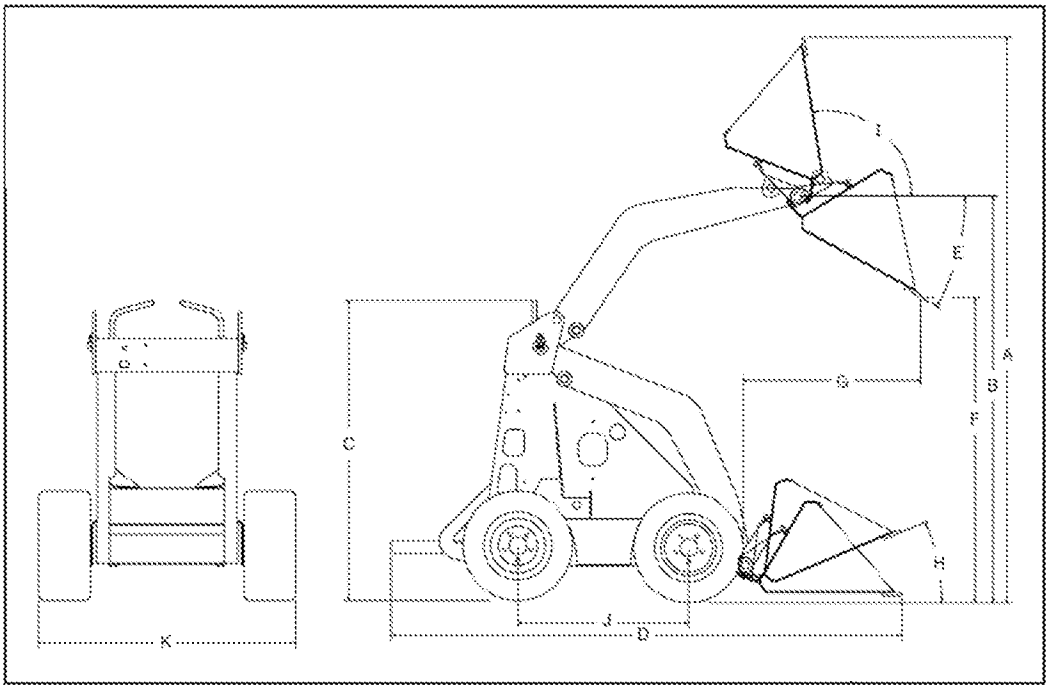
4. I have reviewed the "Toro Wheeled Compact Utility Loader Service Manual" ("Dingo 322 Service Manual") that describes and illustrates service for the Toro Dingo 322 Compact Utility Loader. The Dingo 322 Service Manual sets forth the specifications for Dingo 322 on page 2/1-2 shown below.

SPECIFICATIONS

Dimensions

A. Overall operating height, fully raised / 91.2" (2317mm)
B. Hinge pin height, fully raised / 66.0" (1676mm)
C. Overall height / 48.7" (1237mm)
D. Overall length / 82.2" (2088mm)
E. Dump angle / 34°
F. Dump height / 47.0" (1194mm)
G. Reach, fully raised / 26.0" (660mm)
H. Bucket rollback, ground position / 19°
I. Bucket rollback, fully raised / 97°
J. Wheelbase / 28.0" (711mm)
K. Overall width / 40.5" (1028mm)
X. Ground Clearance, front / 5.8" (147mm)
X. Ground Clearance, rear / 5.8" (147mm)
X. Reach, maximum / 28.0" (711mm)
X. Bucket rollback, carry position / 25°

X. = Dimension not shown



Page 2/1-2 of the Dingo 322 Service Manual

5. I have reviewed JP 11-140900 to Komatsu ("Komatsu") as translated in English. Komatsu describes and shows 6 embodiments of a loader arrangement of a skid steer. The first embodiment is shown in Figures 1 and 5 that show the loader in lowered and raised positions, respectively (collectively referred to as "Figure 1/5"). The remaining embodiments are shown in Figures 6-10 of Komatsu.

6. I modeled the loader arrangement of Figures 1/5 of Komatsu on Dingo 322. I also modeled the loader arrangement of Figures 6-10 of Komatsu on Dingo 322. The loader arrangements were modeled by scaling the loader to a size in which the

bucket of the loader was level with the supporting surface in the lowered positon of the loader. Each model included the same loader arm, linkages, and actuator (including the pivot points thereof) of the respective embodiment of Komatsu on the Dingo 322 mainframe. Each model included the bucket and attachment plate of the Dingo 322 machine attached to the respective loader of Komatsu. Because Figure 8 of Komatsu did not include a cylinder, a cylinder location was assumed to provide maximum lift height.

7. Each of the loader arrangements of Figures 1/5, 6 and 8-10 of Komatsu on Dingo 322 when at its fullest height are shown below. The fullest height of the loader arrangement occurs when the loader is unable to extend further vertically upon further extension of the actuator. To measure the height of the loader when fully extended, the distance from the bottom of the wheels to the hinge pin was measured. This measurement was scaled up by use of the 28.0" wheelbase dimension provided in the specifications of Dingo 322 set forth on Page 2/1-2 of the Dingo 322 Service Manual copied above. The heights from the ground to the hinge pin for each of Figures 1/5, 6 and 8-10 on Komatsu are shown below:

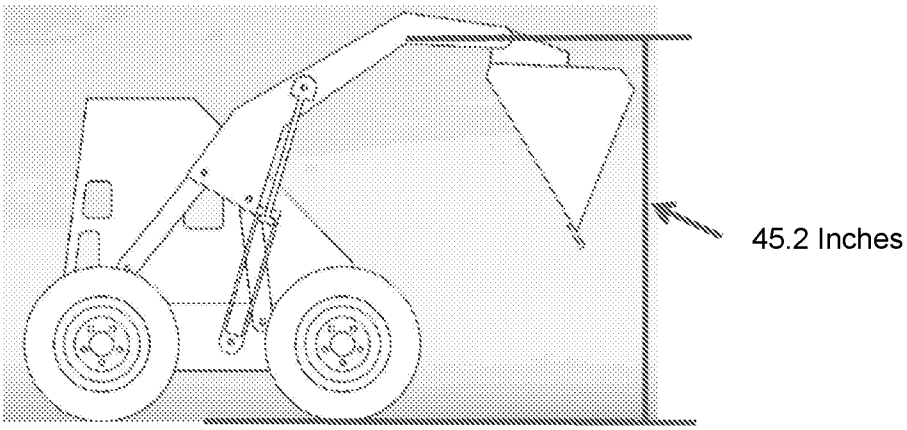


Figure 1: Loader of Figures 1/5 of Komatsu on Dingo 322 in Fully Extended Position

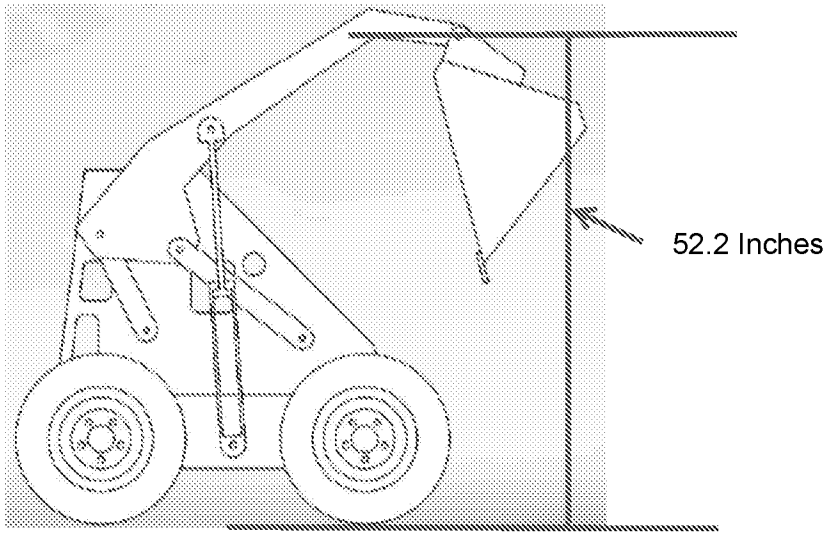


Figure 2: Loader of Figure 6 of Komatsu on Dingo 322 in Fully Extended Position

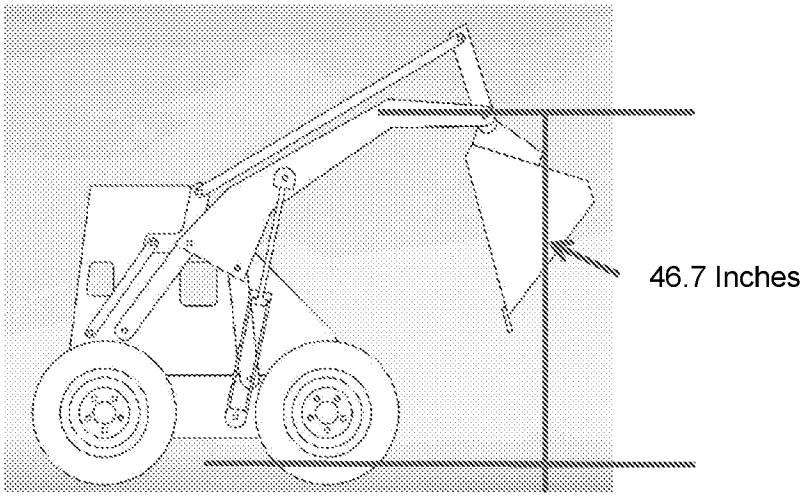


Figure 3: Loader of Figure 8 of Komatsu on Dingo 322 in Fully Extended Position

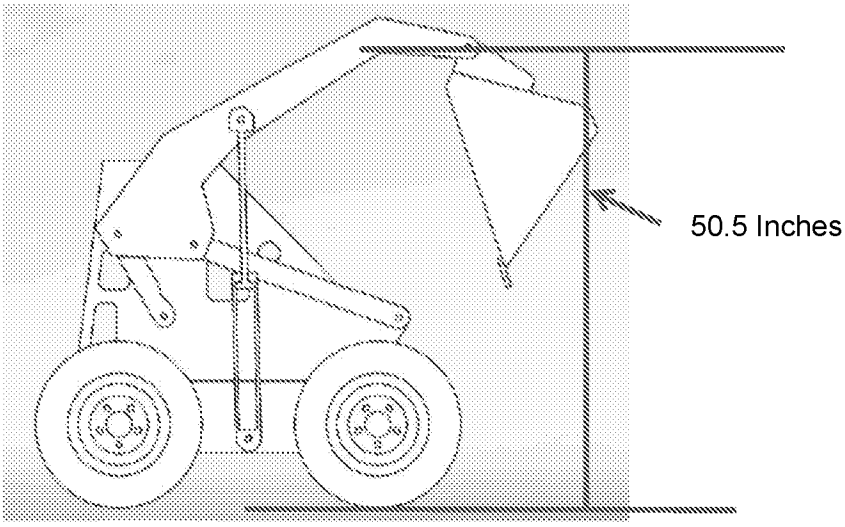


Figure 4: Loader of Figure 9 of Komatsu on Dingo 322 in Fully Extended Position

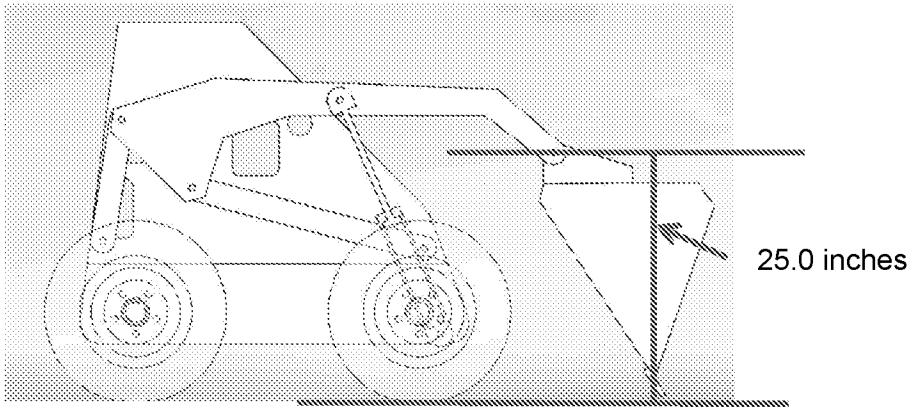


Figure 5: Loader of Figure 10 of Komatsu on Dingo 322 in Fully Extended Position

The highest hinge pin height of the embodiments of Figures 1/5, 6 and 8-10 of Komatsu on Dingo 322 would be the 52.2 inch hinge pin height when the loader of Figure 6 of Komatsu is used (Figure 2).

8. The loader arrangement of Figure 7 of Komatsu on Dingo 322 at its fullest height is shown below.

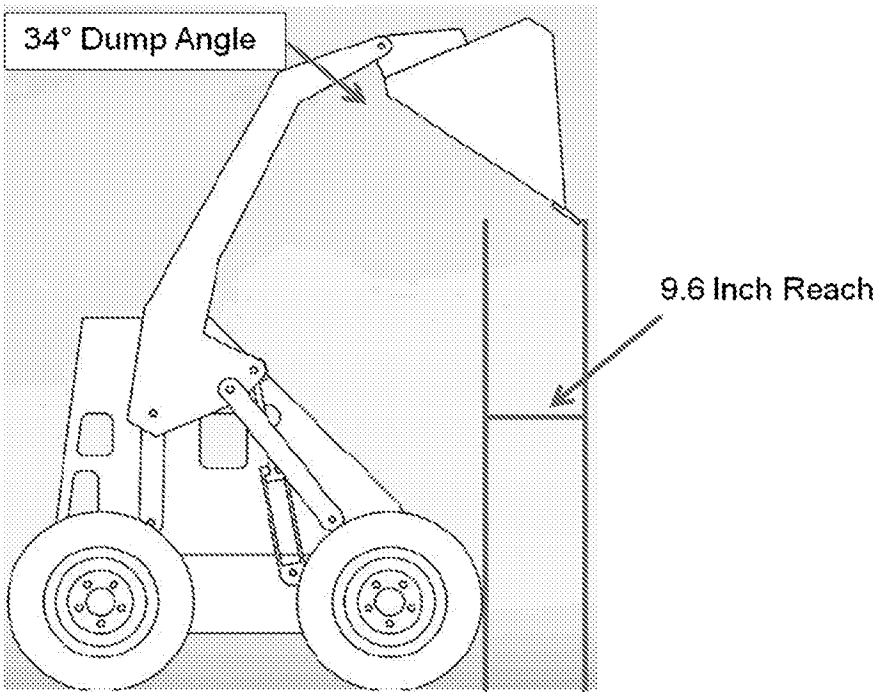


Figure 6: Loader of Figure 7 of Komatsu on Dingo 322 in Fully Extended Position

I measured the reach of the loader of Figure 7 of Komatsu on Dingo 322 at its fullest height. To measure the reach, the distance from the front of the wheels to the front end of the bucket was measured. The reach was measured when the bucket was angled down from the horizontal plane by 34° which was the same angle used in the "Specifications" set forth in Page 2/1-2 of the Dingo 322 Service Manual copied above. The reach of the loader of Figure 7 of Komatsu on Dingo 322 was 9.6 inches.

9. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. §1001, and that such willful false statements may jeopardize the validity of the instant application or any patent issued thereon.

Scott Prost-Domasky _____ Date

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

U.S. Patent No. 10,202,266
Inventors: Brad Thomas et al. Art Unit: 3993
Reexamination Control No.: 90/014,269
Filed: February 26, 2019
Confirmation No.: 3337
For: LOW PROFILE COMPACT TOOL CARRIERS
Examiner: Russell D. Stormer

September 19, 2019

INTERVIEW SUMMARY

The undersigned counsel for the Patent Owner thank the Examiner and Conferees for the telephone interview of August 21, 2019 in which this reexamination of U.S. Patent No. 10,202,266 ("the '266 Patent") was discussed. The rejection of claims 19-23, 25 and 27 under 35 U.S.C. §102 as anticipated by the Ramrod Brochure, which published after the earliest priority date of the '266 Patent, was discussed. Counsel discussed support for claim 19 of the '266 Patent. In particular, Counsel discussed how the claim was supported in the Figures of the application. Counsel also discussed how material that was incorporated into the specification from SAE J2752 supported the claims. Counsel also discussed how SAE J2752 was properly incorporated by reference in the patent application that led to the '266 Patent and in the chain of patent applications that extend to the February 20, 2015 priority date.

The Examiner discussed his interpretation of the claimed subject matter and discussed support for the subject matter of claim 19. No agreement was reached and Patent Owner agreed to present further evidence and arguments in Patent Owner's response to the Office action.

Counsel also discussed objective evidence of non-obviousness received from the third-party Requestor of this reexamination proceeding, The Toro Company ("Toro"), and that such evidence had recently been cleared to be shared with the Patent Office. Counsel stated that such evidence relates to various material inconsistencies between the arguments Toro presents in its reexamination requests and Toro's actual history of

attempting to solve the problem of increasing lift capacity in compact tool carriers. The Examiner noted that such evidence may be valuable in his patentability analysis.

The Examiner and Conferees noted that the Patent Owner may consider filing a Request for Extension of Time for reply to the Office action if needed to review and consider such objective evidence received from Toro. The Examiner and Conferees stated that they would be open to a reasonable extension of time such as a one-month extension of time for the Patent Owner to review and consider such evidence.

Because Counsel stated that they may include such objective evidence on non-obviousness received from Toro in a Supplemental Reply in the merged Reexamination Proceeding Control Nos. 90/014,109 and 90/014,124 and in Reexamination Proceeding Control No. 90/014,148, Counsel agreed to enter this Interview Summary in these related proceedings.

Respectfully submitted,

/Michael J. Vander Molen/

Michael J. Vander Molen
Reg. No. 57,274
Armstrong Teasdale LLP
7700 Forsyth Blvd., Suite 1800
St. Louis, Missouri 63105
(314) 621-5070

/Michael G. Munsell/

Michael G. Munsell
Reg. No. 43,820
Armstrong Teasdale LLP
7700 Forsyth Blvd., Suite 1800
St. Louis, Missouri 63105
(314) 621-5070

CERTIFICATE OF SERVICE

I certify that on September 19, 2019 the foregoing INTERVIEW SUMMARY was served on the third party requester's counsel via first class mail at:

James W. Miller
Registration No. 27,661
120 S. 6th St.
Suite 2310
Minneapolis, MN 55402-1829

Respectfully submitted,

/Michael J. Vander Molen/

Michael J. Vander Molen
Reg. No. 57,274
ARMSTRONG TEASDALE LLP
7700 Forsyth Blvd., Suite 1800
St. Louis, Missouri 63105
(314) 621-5070

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
90/014,269	02/26/2019	10202266	Vermeer - 266 Reexam	3337

76656 7590 09/05/2019

Patent Docket Department
Armstrong Teasdale LLP
7700 Forsyth Boulevard
Suite 1800
St. Louis, MO 63105

EXAMINER
STORMER, RUSSELL D

ART UNIT	PAPER NUMBER
3993	

MAIL DATE	DELIVERY MODE
09/05/2019	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patents and Trademark Office
P.O.Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

THIRD PARTY REQUESTER'S CORRESPONDENCE ADDRESS

JAMES W. MILLER(ATTORNEY)
120 6TH STREET
SUITE 2310
MINNEAPOLIS, MN 55402

Date: September 5, 2019

EX PARTE REEXAMINATION COMMUNICATION TRANSMITTAL FORM

REEXAMINATION CONTROL NO. : 90014269
PATENT NO. : 1020226
ART UNIT : 3993

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above identified ex parte reexamination proceeding (37 CFR 1.550(f)).

Where this copy is supplied after the reply by requester, 37 CFR 1.535, or the time for filing a reply has passed, no submission on behalf of the ex parte reexamination requester will be acknowledged or considered (37 CFR 1.550(g)).

Decision on Petition for Extension of Time in Reexamination	Application No.	Applicant(s)	
	90/014,269	10,202,266 B2	
	Examiner	Art Unit	
	Russell D. Stormer	3993	

1. THIS IS A DECISION ON THE PETITION FILED September 4, 2019.

2. THIS DECISION IS ISSUED PURSUANT TO:
   - A. ☒ 37 CFR 1.550(c) – The time for taking any action by a patent owner in a third party requested *ex parte* reexamination proceeding will be extended only for sufficient cause and for a reasonable time specified.
   - B. ☐ 37 CFR 1.550(c) – The time for taking action by a patent owner in a patent owner requested *ex parte* reexamination proceeding will only be extended for more than two months for sufficient cause and for a reasonable time specified.
   - C. ☐ 37 CFR 1.956 – The time for taking any action by a patent owner in an *inter partes* reexamination proceeding will be extended only for sufficient cause and for a reasonable time specified.

   The petition is before the Central Reexamination Unit for consideration.

3. FORMAL MATTERS
   Patent owner requests that the period for filing a response to the Non-Final Office action mailed July 19, 2019, which set a two (2) month period to file a response, be extended by an additional one (1) month.
   - A. Petition fee per 37 CFR §1.17(g)):
     - i. ☒ Petition includes authorization to debit a deposit account.
     - ii. ☐ Petition includes authorization to charge a credit card account.
     - iii. ☐ Other:
   - B. ☒ Proper certificate of service was provided. (Not required in reexamination where patent owner is requester.)
   - C. ☒ Petition was timely filed.
   - D. ☒ Petition properly signed.

4. DECISION (See MPEP 2265 and 2665)
   - A. ☒ Granted or ☐ Granted-in-part for **one (1) month**. (See 37 CFR 1.550(c) and 37 CFR 1.956).
     - i. ☒ Other/comment: See CONCLUSION below.
   - B. ☐ Dismissed because:
     - i. ☐ Formal matters (See unchecked box(es) (A, B, C and/or D) in section 4 above).
     - ii. ☐ Petitioner failed to provide a factual accounting of reasonably diligent behavior by all those responsible for preparing a response to the outstanding Office action within the statutory time period.
     - iii. ☐ Petitioner failed to explain why, in spite of the action taken thus far, the requested additional time is needed.
     - iv. ☐ The statements provided fail to establish sufficient cause to warrant extension of the time for taking action (See attached).
     - v. ☐ The petition is moot.
     - vi. ☐ Other/comment: _____

5. CONCLUSION: **Patent Owner's response to the July 19, 2019 Non-Final Office action is hereby extended by one (1) additional month and is now due October 19, 2019**.

   Telephone inquiries with regard to this decision should be directed to Gay Ann Spahn at 571-272-7731 in the CRU.

	/Gay Ann Spahn/ Supervisory Patent Reexamination Specialist Central Reexamination Unit

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventors: Brad Thomas et al. Art Unit: 3993
Reexamination Control No.: 90/014,269
Filed: February 26, 2019
Confirmation No.: 3337
For: LOW PROFILE COMPACT TOOL CARRIERS
Examiner: Russell D. Stormer

SEPTEMBER 4, 2019

TO THE COMMISSIONER FOR PATENTS,
SIR:

PETITION FOR EXTENSION OF TIME PURSUANT TO 37 C.F.R. §1.550(c)

Patent Owner requests the Director to extend the period of time for responding to the July 19, 2019 Office action for one month pursuant to 37 C.F.R. §1.550(c). Patent Owner's response is currently due September 19, 2019. With the one month extension, Patent Owner's response would be due October 19, 2019.

During the Examiner interview of August 21, 2019, the Patent Owner's representatives stated that they were reviewing materials that support patentability of the claims that were submitted by Toro in the following proceeding:

- *Vermeer Manufacturing Company v. The Toro Company*, Case No. 4:19-cv-00050-CRW-HCA (S.D. IA. filed February 12, 2019).

The Examiner and conferees stated that the Patent Owner should file a request for extension of time to gather and review these materials if needed. The Patent Owner hereby requests an extension of one month to review the litigation materials as suggested by the Examiner and conferees.

Because there is sufficient cause to grant the extension and because the requested period of time for extension is reasonable, Patent Owner requests the extension be granted under 37 C.F.R. §1.550(c). The Patent Owner authorizes the Commissioner to charge any fees which may be due in connection with this Petition, including the fee set forth in 37 C.F.R. §1.17(g), to Deposit Account No. 012384 in the name of Armstrong Teasdale LLP.

Respectfully submitted,

/Michael J. Vander Molen/

Michael J. Vander Molen
Reg. No. 57,274
ARMSTRONG TEASDALE LLP
7700 Forsyth Blvd., Suite 1800
St. Louis, Missouri 63105
(314) 621-5070

CERTIFICATE OF SERVICE

I certify that on September 4, 2019 the foregoing PETITION FOR EXTENSION OF TIME was served on the third party requester's counsel via first class mail at:

James W. Miller
Registration No. 27,661
120 S. 6th St.
Suite 2310
Minneapolis, MN 55402-1829

Respectfully submitted,

/Michael J. Vander Molen/

Michael J. Vander Molen
Reg. No. 57,274
ARMSTRONG TEASDALE LLP
7700 Forsyth Blvd., Suite 1800
St. Louis, Missouri 63105
(314) 621-5070

ARMSTRONG TEASDALE LLP
7700 Forsyth Blvd., Suite 1800
St. Louis, Missouri 63105
Phone: (314) 621-5070
Fax: (314) 621-5065
www.armstrongteasdale.com

Date:	8/13/2019 3:57:56 PM	***Pages (Including Cover Page):***	3
Client-Matter #:	31681-296		
To:	**Examiner Stormer**		
Firm:			
Fax:	1-571-273-6687	Main No.:	
From:	Colleen Croft f/ Michael J. Vander Molen	***E-mail:***	CCroft@ArmstrongTeasdale.com

Re:

Reexamination Control No. 90/014,269

The information contained in this facsimile message is information protected by attorney-client and/or the attorney/work product privilege. It is intended only for the use of the individual named above and the privileges are not waived by virtue of this having been sent by facsimile. If the person actually receiving this facsimile or any other reader of the facsimile is not the named recipient or the employee or agent responsible to deliver it to the named recipient, any use, dissemination, distribution, or copying of the communication is strictly prohibited. If you have received this communication in error, please immediately notify us by telephone and return the original message to us at the above address via U.S. Postal Service.

**IF YOU DO NOT RECEIVE ALL PAGES, PLEASE CONTACT COLLEEN CROFT IMMEDIATELY AT (314) 621-5070 EXT. 7252.*

PAGE 1/3 * RCVD AT 8/13/2019 4:58:17 PM [Eastern Daylight Time] * SVR:W-PTOFAX-002/18 * DNIS:2736687 * CSID:Fax Server * ANI:3145399798 * DURATION (mm-ss):01-03

31681-296

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

U.S. Patent No. 10,202,266
Inventors: Brad Thomas et al. Art Unit: 3993
Reexamination Control No.: 90/014,269
Filed: February 26, 2019
Confirmation No.: 3337
For: LOW PROFILE COMPACT TOOL CARRIERS
Examiner: Russell D. Stormer

INTERVIEW AGENDA

Time: 11:00 AM EST, August 21, 2019

Conference Number: 1-866-740-1260 Passcode: 2594734

Attendees: Mike Vander Molen (Reg. No. 57,274) and Mike Munsell (Reg. No. 43,820) and Scott Rempe (Reg. No. 47,018)

I. Claims reciting a "barrier guard" are entitled to the February 20, 2015 Priority Date

a. The Figures of the '266 Patent Provide Support for the Barrier Guard

b. The Barrier Guard was also Properly Incorporated By Reference

i. MPEP §211.05(B)

1. The disclosure of the '266 Patent is the same as the disclosure of the parent applications because the "Barrier Guard" would not constitute new matter in the parent applications

a. Each application incorporated by reference SAE J2752 which expressly recited the term "barrier guard"

ii. MPEP §608.01(p)

1. **"An application is entitled to rely upon the filing date of an earlier application, even if the earlier application itself incorporates essential material by reference to another**

PAGE 2/3 * RCVD AT 8/13/2019 4:58:17 PM [Eastern Daylight Time] * SVR:W-PTOFAX-002/18 * DNIS:2736687 * CSID:Fax Server * ANI:3145399798 * DURATION (mm-ss):01-03

document. See *Ex parte Maziere,* 27 USPQ2d 1705, 1706-07 (Bd. Pat. App. & Inter. 1993)."

2. **See Also "Example 2":**

"Upon review of the specification, the examiner determined that the subject matter incorporated by reference from a foreign patent was "nonessential material" and therefore, did not object to the incorporation by reference. In reply to a non-final Office action, applicant filed an amendment to the claims to add a new limitation that was supported only by the foreign patent. The amendment filed by the applicant caused the examiner to re-determine that the incorporated subject matter was "essential material" under **37 CFR 1.57(d)**. The examiner rejected the claims that include the new limitation under **35 U.S.C. 112(a)** in a final Office action.

Since the rejection under **35 U.S.C. 112(a)** was necessitated by the applicant's amendment, the finality of the Office action is proper. If the applicant wishes to overcome the rejection under **35 U.S.C. 112(a)** by filing an amendment under **37 CFR 1.57(g)** to add the subject material disclosed in the foreign patent into the specification, applicant may file the amendment as an after final amendment in compliance with **37 CFR 1.116**. Alternatively, applicant may file an RCE under **37 CFR 1.114** accompanied by the appropriate fee, and an amendment per **37 CFR 1.57(g)**within the time period for reply set forth in the final Office action."

II. Introduction of Additional Objective Evidence of Non-Obviousness

PAGE 3/3 * RCVD AT 8/13/2019 4:58:17 PM [Eastern Daylight Time] * SVR:W-PTOFAX-002/18 * DNIS:2736687 * CSID:Fax Server * ANI:3145399798 * DURATION (mm-ss):01-03

Applicant-Initiated Interview Summary	**Application No.** 90/014,269	**Applicant(s)** 10202266	
	Examiner RUSSELL D STORMER	**Art Unit** 3993	**AIA (FITF) Status** Yes

All participants (applicant, applicants representative, PTO personnel):

(1) RUSSELL D. STORMER.

(2) Mike Vander Molen.

(3) Gay Spahn, Robert Fetsuga (USPTO).

(4) Mike Munsell.

Date of Interview: 21 August 2019.

Type: ☑ Telephonic ☐ Video Conference
☐ Personal [copy given to: ☐ applicant ☐ applicant's representative]

Exhibit shown or demonstration conducted: ☐ Yes ☑ No.
If Yes, brief description: _____.

Issues Discussed ☐101 ☐112 ☐102 ☐103 ☑Others
(For each of the checked box(es) above, please describe below the issue and detailed description of the discussion)

Claim(s) discussed: 19.

Identification of prior art discussed: Ramrod.

Substance of Interview
(For each issue discussed, provide a detailed description and indicate if agreement was reached. Some topics may include: identification or clarification of a reference or a portion thereof, claim interpretation, proposed amendments, arguments of any applied references etc...)

See Continuation Sheet.

Applicant recordation instructions: The formal written reply to the last Office action must include the substance of the interview. (See MPEP section 713.04). If a reply to the last Office action has already been filed, applicant is given a non-extendable period of the longer of one month or thirty days from this interview date, or the mailing date of this interview summary form, whichever is later, to file a statement of the substance of the interview.

Examiner recordation instructions: Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

☑ Attachment

/RUSSELL D STORMER/ Primary Examiner, Art Unit 3993	Conferees: /RMF/ and /GAS/

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record
A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) 1.133 Interviews
Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.
All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiners responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicants correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:
- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:
1) A brief description of the nature of any exhibit shown or any demonstration conducted,-
2) an identification of the claims discussed,
3) an identification of the specific prior art discussed,
4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
5) a brief identification of the general thrust of the principal arguments presented to the examiner,
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
6) a general indication of any other pertinent matters discussed, and
7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicants record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiners version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, Interview Record OK on the paper recording the substance of the interview along with the date and the examiners initials.

Continuation of Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: Patent Owner, through the representatives, argued that the instant '266 patent is entitled to the filing dates of its parent applications due to the incorporation of the SAE J2752 standard into said parent applications. The Examiner noted that the "barrier guard" and its definition in the specification was added at the time of filing of the application of the '266 patent, and further that the SAE standard did not provide support for the barrier guard as described as claimed. It was noted that the description of the claimed "barrier guard" is essential subject matter and may not be incorporated by reference to non-patent publications. The Examiner asserted that the definition in lines 1-4 of column 4 of the '266 patent appeared to define the entire silhouette of the machine structure when a barrier guard for the operator would seem to be limited to structure around the operator's area, for example, the area above the operator platform 37 would be consistent with the SAE standard. Patent Owner argued that the pivot points, not the barrier guard, are the object of patentability in claim 19. To this end, the Examiner stated that the pivot points should be claimed with respect to what is shown in the drawings. Clearly, the drawings show structure around the operator area which could arguably be called a barrier guard, and this structure should be the focus. The possibility of amending the specification was discussed, such as amendments limited to what is shown in the drawings.
Patent Owner described evidence recently introduced during litigation proceedings, such as Third Party Requester Toro's difficulties and failures in designing a linkage-type tool carrier or mini-skid steer machine which parallel the difficulties asserted by Patent Owner in declarations filed in the related reexamination proceeding (the merged proceedings 90/014,109 and 90/014,124). The Examiner stated that such evidence would be valuable, especially when considered along with the declarations by Patent Owner. Evidence of copying, if available, would also be valuable, and Patent Owner noted that there could possibly be such evidence with respect to the Ramrod reference used to reject claims in the previous Office action.
Finally, the Examiner noted that this interview summary would likely be entered in the related merged proceeding since Patent Owner inquired about filing a supplemental response in the merged proceedings and the Examiner considered the possibility of entering such a supplemental response. There was no substantive discussion of the merged proceeding.
Finally, Patent Owner was reminded of the requirement to file a separate summary of the interview as per MPEP 2281.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
90/014,269	02/26/2019	10202266	Vermeer - 266 Reexam	3337

76656 7590 08/27/2019

Patent Docket Department
Armstrong Teasdale LLP
7700 Forsyth Boulevard
Suite 1800
St. Louis, MO 63105

EXAMINER	
STORMER, RUSSELL D	

ART UNIT	PAPER NUMBER
3993	

MAIL DATE	DELIVERY MODE
08/27/2019	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

DO NOT USE IN PALM PRINTER

(THIRD PARTY REQUESTER'S CORRESPONDENCE ADDRESS)

JAMES W. MILLER(ATTORNEY)
120 6TH STREET
SUITE 2310
MINNEAPOLIS, MN 55402

EX PARTE REEXAMINATION COMMUNICATION TRANSMITTAL FORM

REEXAMINATION CONTROL NO. *90/014,269* .

PATENT UNDER REEXAMINATION *10202266* .

ART UNIT *3993* .

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above identified *ex parte* reexamination proceeding (37 CFR 1.550(f)).

Where this copy is supplied after the reply by requester, 37 CFR 1.535, or the time for filing a reply has passed, no submission on behalf of the *ex parte* reexamination requester will be acknowledged or considered (37 CFR 1.550(g)).

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
90/014,269	02/26/2019	10202266	Vermeer - 266 Reexam	3337

76656 7590 07/19/2019

Patent Docket Department
Armstrong Teasdale LLP
7700 Forsyth Boulevard
Suite 1800
St. Louis, MO 63105

EXAMINER	
STORMER, RUSSELL D	

ART UNIT	PAPER NUMBER
3993	

MAIL DATE	DELIVERY MODE
07/19/2019	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

DO NOT USE IN PALM PRINTER

(THIRD PARTY REQUESTER'S CORRESPONDENCE ADDRESS)

JAMES W. MILLER(ATTORNEY)
120 6TH STREET
SUITE 2310
MINNEAPOLIS, MN 55402

EX PARTE REEXAMINATION COMMUNICATION TRANSMITTAL FORM

REEXAMINATION CONTROL NO. *90/014,269* .

PATENT UNDER REEXAMINATION *10202266* .

ART UNIT *3993* .

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above identified *ex parte* reexamination proceeding (37 CFR 1.550(f)).

Where this copy is supplied after the reply by requester, 37 CFR 1.535, or the time for filing a reply has passed, no submission on behalf of the *ex parte* reexamination requester will be acknowledged or considered (37 CFR 1.550(g)).

Office Action in Ex Parte Reexamination	**Control No.** 90/014,269	**Patent Under Reexamination** 10202266	
	Examiner RUSSELL D STORMER	**Art Unit** 3993	**AIA (FITF) Status** Yes

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

a. ☐ Responsive to the communication(s) filed on _____.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

b. ☐ This action is made FINAL.

c. ☑ A statement under 37 CFR 1.530 has not been received from the patent owner.

A shortened statutory period for response to this action is set to expire 2 month(s) from the mailing date of this letter. Failure to respond within the period for response will result in termination of the proceeding and issuance of an *ex parte* reexamination certificate in accordance with this action. 37 CFR 1.550(d). **EXTENSIONS OF TIME ARE GOVERNED BY 37 CFR 1.550(c).** If the period for response specified above is less than thirty (30) days, a response within the statutory minimum of thirty (30) days will be considered timely.

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

1. ☐ Notice of References Cited by Examiner, PTO-892.
2. ☐ Information Disclosure Statement, PTO/SB/08.
3. ☐ Interview Summary, PTO-474.
4. ☐ _____.

Part II SUMMARY OF ACTION

1a. ☑ Claims 1,4-9,14,17-23,25 and 27 are subject to reexamination.
1b. ☑ Claims 2-3,10-13,15-16,24 and 26 are not subject to reexamination.
2. ☐ Claims _____ have been canceled in the present reexamination proceeding.
3. ☐ Claims _____ are patentable and/or confirmed.
4. ☑ Claims 1,4-9,14,17-23,25 and 27 are rejected.
5. ☐ Claims _____ are objected to.
6. ☐ The drawings, filed on _____ are acceptable.
7. ☐ The proposed drawing correction, filed on _____ has been (7a) ☐ approved (7b) ☐ disapproved.
8. ☐ Acknowledgment is made of the priority claim under 35 U.S.C. 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the certified copies have
   1 ☐ been received.
   2 ☐ not been received.
   3 ☐ been filed in Application No. _____.
   4 ☐ been filed in reexamination Control No. _____.
   5 ☐ been received by the International Bureau in PCT application No. _____.
   * See the attached detailed Office action for a list of the certified copies not received.
9. ☐ Since the proceeding appears to be in condition for issuance of an *ex parte* reexamination certificate except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte* Quayle, 1935 C.D. 11, 453 O.G. 213.
10. ☐ Other: _____

cc: Requester (if third party requester)

Notice of Pre-AIA or AIA Status

The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Brief Summary of the Prosecution History

A Request for *ex parte* reexamination of U.S. Patent 10,202,266 ("the '266 patent") was filed by a third party Requester on February 26, 2019.

An Order was mailed March 21, 2019, granting the reexamination of claims 1, 4-9, 14, 17-23, 25, and 27, and setting a two-month period for response. Reexamination of claims 2, 3, 10-13, 15, 16, 24, and 26 was neither requested nor ordered.

Inasmuch as the period for response has expired without a Statement from Patent Owner, an Office action on the merits is proper at this time.

Prior Art Documents Relied Upon in this Office Action

Ramrod Compact Mini Skid Loader Solutions ("Ramrod")

Dingo® 322 Operator's Manual ("Dingo")

Dingo® 322 Parts Catalog ("Dingo Parts Catalog")

Japanese Patent Application JP 11-140900 to Komatsu Ltd. ("Komatsu")

Vermeer Manufacturing Company, "Vermeer Mini Skid Steers S600/S600TX" brochure ("Vermeer Brochure")

U.S. Patent No. 2,277,496 to Dorkins ("Dorkins")

Ramrod, Dingo/Dingo Parts Catalog, Komatsu, Vermeer, and Dorkins were found to raise SNQs to at least some of the claims of the subject '266 patent.

Grounds of Rejection

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:[1]

> A person shall be entitled to a patent unless –
>
> (a)(1) the claimed invention was patented, described in a printed publication, or in public use, on sale or otherwise available to the public before the effective filing date of the claimed invention.

Ground 1

Claims 19-23, 25, and 27 are rejected under 35 U.S.C. 102(a)(1) as being anticipated by Ramrod.[2]

Ramrod (specifically the Ramrod Model 3300) discloses a loader apparatus for standing or walk-behind operator control (Ramrod 3300 mini skid steer operated by a standing operator) and comprising:

a machine structure comprising a mainframe (mainframe 1) and an upper frame (upper frame 2), the machine structure defining a barrier guard (barrier guard 7);

a control station having operator controls toward a rear of the loader apparatus (the control station in front of the operator who stands at the rear of the Ramrod 3300);

an actuator (actuator 6) pivotally attached to the mainframe (at 6m);

a front linkage (front linkage 4) pivotally attached to the mainframe (at 4m);

---

[1] In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the statutory basis for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

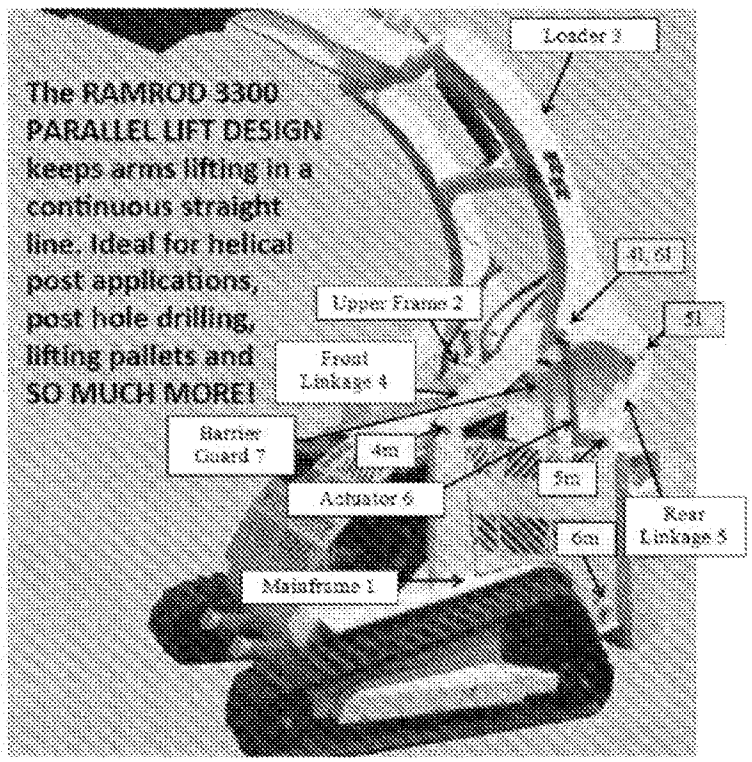
[2] The subject '266 patent is a continuation of U.S. Patent 9,975,750, which is a continuation of U.S. Patent 9,321,386, but the '266 patent is the first to introduce the disclosure of the "barrier guard." As such, claims reciting the barrier guard are entitled to only the September 14, 2017 filing date of the '266 patent. Ramrod has a publishing date of at least October 2016 and is prior art under 35 U.S.C. 102(a)(1).

a rear linkage (rear linkage 5) pivotally attached to the mainframe (at 5m) and a loader (loader 3) adapted to carry a tool (the bucket), the loader being moveable between a down position and a vertically raised position, the front linkage (front linkage 4) being pivotally attached to the loader at a front linkage pivot point (at 41), the rear linkage (rear linkage 5) being pivotally attached to the loader at a rear linkage pivot (at 51), wherein:

in the down position, the front linkage pivot point is (1) disposed within the barrier guard as broadly recited (41 as shown in Fig. 1) and/or (2) disposed forward of the barrier guard; and

as the loader travels from the down position to the vertically raised position, the rear linkage pivot point is (1) disposed within the barrier guard as broadly recited (51 as shown in Figs. 1-3) and/or (2) disposed forward of the barrier guard.

See the following figures reproduced from the Request.



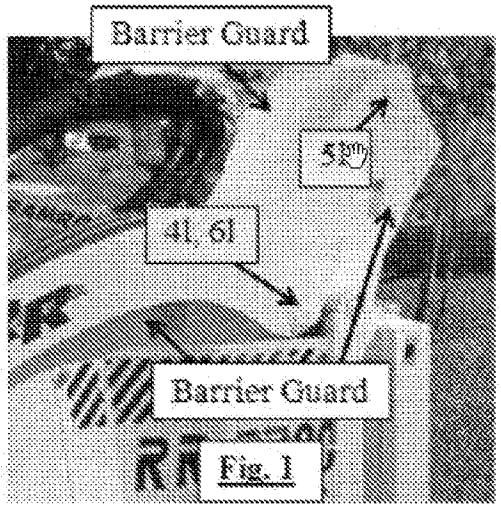


Fig. 1

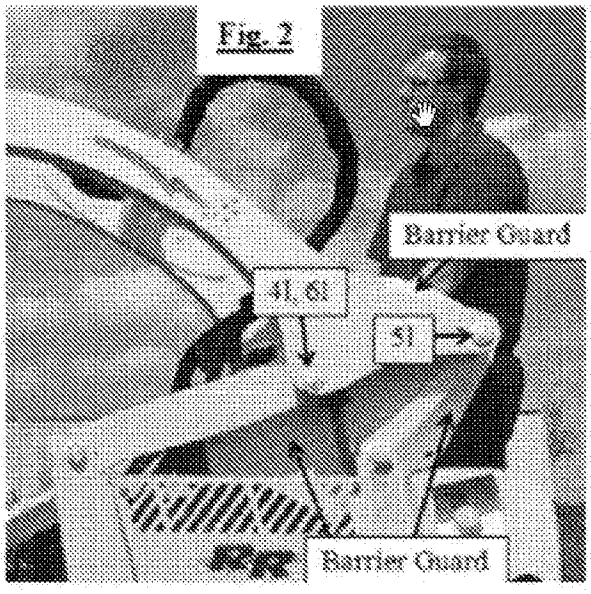


Fig. 2

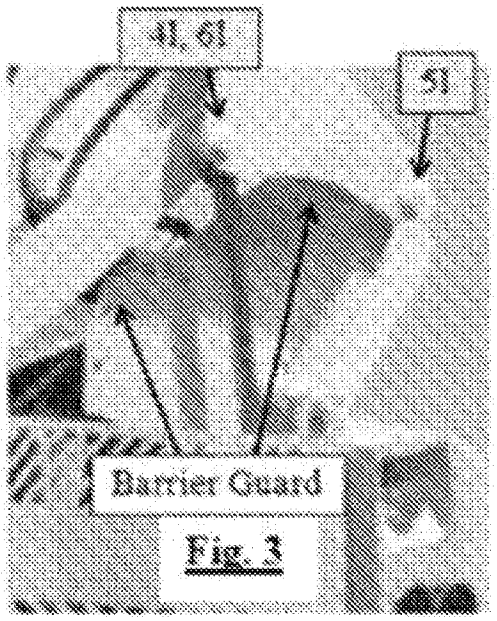


Fig. 3

With respect to claim 20, in the down position, the rear linkage pivot point is disposed within the barrier guard (51 as shown in Fig. 1).

With respect to claim 21, the actuator is pivotally attached to the loader at an actuator pivot point (at 61), wherein, in the down position, the actuator pivot point is (1) disposed within the barrier guard (61 as shown in Fig. 1) and/or (2) disposed forward of the barrier guard.

With respect to claim 22, the mainframe has a first side and a second side, the rear linkage, actuator and front linkage each being pivotally attached to the first side of the mainframe (the "first side" may be either the left or the right side of the Ramrod 3300 mini skid steer as the vertical lift linkage is duplicated on each side).

With respect to claim 23, the loader is free from direct attachment to the mainframe (Loader 3 is free to move fore-and-aft relative to mainframe 1 due to the vertical lift linkage).

With respect to claim 25, the loader apparatus for standing or walk-behind operator control (Ramrod 3300 mini skid steer for a standing operator) comprises:

a machine structure comprising a mainframe (mainframe 1) and an upper frame (upper frame 2), the machine structure defining a barrier guard (barrier guard 7);

a control station having operator controls toward a rear of the loader apparatus (the control station in front of the operator who stands at the rear of the Ramrod 3300);

an actuator (actuator 6) pivotally attached to the mainframe (at 6m);

a linkage (rear linkage 5) pivotally attached to the mainframe (at 5m); and

a loader (loader 3) adapted to carry a tool (the bucket), the loader being moveable between a down position and a vertically raised position, the linkage being pivotally attached to the loader at a linkage pivot point (at 51), wherein:

in the down positon, the linkage pivot point is disposed within the barrier guard as broadly recited (51 as shown in Fig. 1); and

as the loader travels from the down position to the vertically raised position, the linkage pivot point is (1) disposed within the barrier guard as broadly recited (51 as shown in Figs. 1-3) and/or (2) disposed forward of the barrier guard.

With respect to claim 27, the loader is free from direct attachment to the mainframe (Loader 3 is free to move fore-and-aft relative to mainframe 1 due to the vertical lift linkage).

Claim Rejections - 35 USC § 103

This application currently names joint inventors. In considering patentability of the claims the examiner presumes that the subject matter of the various claims was commonly owned as of the effective filing date of the claimed invention(s) absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and effective filing dates of each claim that was not commonly owned as of the effective filing date of the later invention in order for the examiner to consider the applicability of 35 U.S.C. 102(b)(2)(C) for any potential 35 U.S.C. 102(a)(2) prior art against the later invention.

The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

> A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

Ground 2

Claims 1 and 4-9 are rejected under 35 U.S.C. 103 as being unpatentable over Dingo in view of Komatsu.

Dingo discloses a loader apparatus configured for standing operator control (Dingo, Fig. 9, depicted Dingo 322 mini skid steer) and comprising:

a loader (Dingo, Fig. 9, the left arm 3) adapted to carry a tool (Dingo, p. 10, the referenced "std. bucket"), the loader being moveable between a down position and a vertically raised position;

a loader support for supporting the loader (Dingo, Fig. 9, the frame that carries, inter alia, wheels 6, operator platform 7 and engine 8), the loader support having a first side and a second side;

an actuator pivotally attached to the first side of the loader support at an actuator pivot point (Dingo, Fig. 9, left cylinder 4);

a control station having operator controls for propelling the loader apparatus forward and for raising and lowering the loader (Dingo, Fig. 9, control panel 10); and

an operator platform (Dingo, Fig. 9, operator platform 7) for standing operation of the operator controls of the control station, the operator platform being located toward a rear of the loader apparatus such that the first linkage pivot point, second linkage pivot point, and the actuator pivot point are disposed forward of the operator platform (Dingo, Fig. 9, taught by placement of Dingo's radial lift linkage forward of operator platform 7).

The loader of Dingo is not free from direct attachment to the mainframe, and does not include first and second linkages pivotally attached to the first and second side of the mainframe at what would be first and third pivot points.

Komatsu teaches a skid-steer loader comprising a mainframe 1, an engine, a control station having operator controls, and an actuator 15 (15a) directly pivotally attached to the first side of the mainframe and pivotally attached to a loader arm 13 (see the second attachment example shown in figure 3).

Rather than being directly attached to the mainframe, the arm is indirectly connected through a link mechanism comprising a first linkage 11 pivotally attached to the first side of the mainframe at a first linkage pivot point, and a second linkage 12 pivotally attached to the first side of the mainframe at a second linkage pivot point as shown in figure 1, for example.

Komatsu further teaches this indirect attachment provides advantages over a direct attachment: The use of the linkage raises the arm in a vertical lift, an example of which is shown in figure 7. A vertical lift is more compact and more stable than a radial lift (prior art figure 13), as described in paragraph 0007 and shown in prior art figures 11 and 12.

From the teachings of Komatsu, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the tool carrier of Dingo/Dingo Parts Catalog such that the loader arm was not directly attached to the mainframe and instead included a first linkage pivotally attached to the first side of the mainframe at a first linkage pivot point and a second linkage pivotally attached to the first side of the mainframe to raise the tool in a vertical lift. This would yield the predictable result of increasing the stability of the tool carrier by reducing the front-to-back travel of the center of gravity of the tool or load as taught by Komatsu.

With respect to claim 4, the loader comprises a loader arm (Dingo, Fig. 9, the left arm 3) pivotally connected to the first side of the loader support.

With respect to claim 5, the first and second linkages in the loader of Dingo as modified by Komatsu are pivotally attached to the loader arm (Komatsu's front and rear linkages 11 and 12 adapted to Dingo's left arm 3).

With respect to claim 6, the loader arm is a first loader arm, the loader comprising a second loader arm (Dingo, Fig. 9, the right arm 3), the second loader arm being pivotally connected to the second side of the loader support.

With respect to claim 7, Dingo discloses a loader apparatus for standing or walk-behind operator control (Dingo, Fig. 9, depicted Dingo 322 mini skid steer) and comprising:

a control station having operator controls toward a rear of the loader apparatus (Dingo, Fig. 9, control panel 10);

a loader (Dingo, Fig. 9, the left arm 3) adapted to carry a tool (Dingo, p. 10, the referenced "std. bucket"), the loader being moveable between a down position and a vertically raised position;

a rigid frame for supporting the control station and the loader (Dingo, Fig. 9, the frame that carries, inter alia, wheels 6, operator platform 7 and engine 8), the rigid frame having a first side, a second side, a top, and a bottom; and

an actuator pivotally attached to the first side of the rigid frame at a third pivot point and pivotally attached to the loader at a fourth pivot point (Dingo, Fig. 9, left cylinder 4).

The arms of Dingo are shown to be pivotally attached to the apparatus at lift points 11 which are disposed forward of the operator controls, but Dingo does not disclose a first linkage pivotally attached to the first side of the rigid frame at a first pivot point and pivotally attached to the loader at a second pivot point, and a second linkage

pivotally attached to the first side of the rigid frame at a fifth pivot point and pivotally attached to the loader at a sixth pivot point.

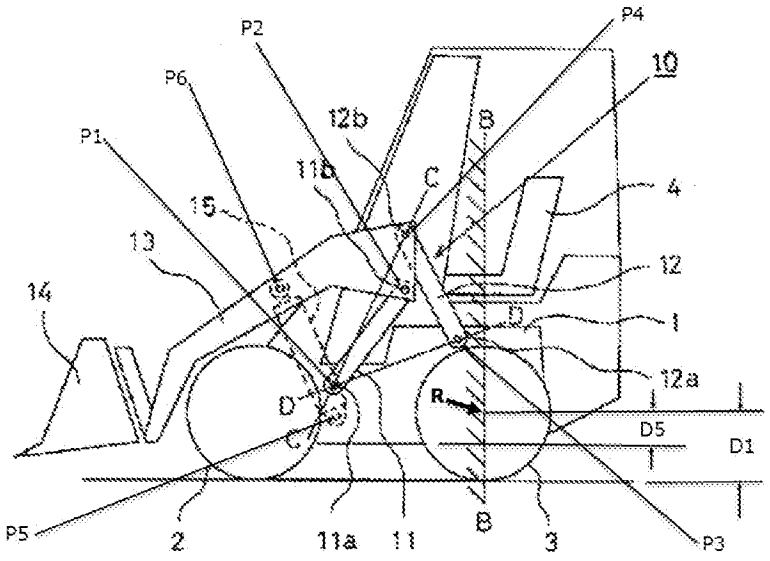
Komatsu teaches a skid-steer loader comprising a mainframe 1, an engine, a control station having operator controls, and an actuator 15 (15a) directly pivotally attached to the first side of the mainframe and pivotally attached to a loader arm 13 (see the second attachment example shown in figure 3).

Rather than being directly attached to the mainframe, the arm is indirectly connected through a four-joint link mechanism comprising a first linkage 11 pivotally attached to the first side of the mainframe at a first pivot point and to the loader arm at a second pivot point, and a second linkage 12 pivotally attached to the first side of the mainframe at a fifth pivot point and to the loader arm at a sixth pivot point, as shown in figure 1, for example.

The third party Requester asserts the '266 patent lacks support for the recitation of the first through sixth pivot points being *disposed forward* of the control station as the loader travels from a down position to a vertically raised position as set forth in claim 7. The Requester asserts that figure 2 shows five of the six pivot points are ***not*** disposed forward of the control station 36. See pages 48-50 of the Request.

Looking at figure 2 of the subject '266 patent, the operator control 35 appears to be the forward-most control of the control station 36, and only P1 and P4 are clearly disposed forward of the control 35. The same is true in Figure 3. In each of figures 2 and 3, the control station 36 is not clearly shown, but in figure 1 it appears to be a control panel. The '266 patent appears to be silent as to the boundaries of the operator control and the control station.

In the marked-up figure 1 of Komatsu below, all of the pivot points are shown to be disposed between the operator controls and a bottom of the mainframe and/or (2) disposed forward of the control station, at least to the same extent that they are shown as such in the ‘266 patent.



Komatsu further teaches that the use of an indirect attachment provides advantages over a direct attachment: The use of the linkage raises the arm in a vertical lift, an example of which is shown in figure 7. A vertical lift is more compact and more stable than a radial lift (prior art figure 13), as described in paragraph 0007 and shown in prior art figures 11 and 12.

From the teachings of Komatsu, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the tool carrier of Dingo/Dingo Parts Catalog such that the loader arm was not directly attached to the mainframe and instead included a first linkage pivotally attached to the first side of the mainframe at a

first pivot point and pivotally attached to the loader arm at a second pivot point, and further included a second linkage pivotally attached to the first side of the mainframe at a fifth pivot point and pivotally attached to the loader arm at a sixth pivot point in order to employ a vertical lift in the tool carrier. In this arrangement, Dingo/Dingo Parts Catalog as modified by Komatsu includes first, second, third, fourth, fifth, and sixth pivot points arranged such that, as the loader travels from the down position to the vertically raised position, the first, second, third, fourth, fifth and sixth pivot points would be (or would have been obvious to be) (1) disposed between the operator controls and the bottom of the rigid frame and/or (2) disposed forward of the control station at least to the same extent that the six pivot points are disclosed as such in the '266 patent. Figure 9 of Dingo shows the mainframe loader arm and actuator pivots to be forward of the control station. It would have been obvious to those of ordinary skill in the art to retain such positioning because there is insufficient structure lateral to or rearward of the control station to attach linkages when the loader apparatus is modified in light of Komatsu's teachings.

This would yield the predictable result of increasing the stability of the tool carrier by reducing the front-to-back travel of the center of gravity of the tool or load as taught by Komatsu.

With respect to claim 8, the rigid frame defines a pocket toward a rear of the rigid frame to at least partially surround an operator as broadly recited (Dingo, Fig. 9, the pocket shown in the rear perspective view).

With respect to claim 9, the loader apparatus comprises an operator platform at least partially within the pocket as broadly recited (Dingo, Fig. 9, rear perspective view, operator platform 7 is at least partially within the pocket).

Ground 3

Claims 14, 17, and 18 are rejected under 35 U.S.C. 103 as being unpatentable over Dingo in view of Komatsu and Vermeer Brochure.

Dingo discloses a loader apparatus for standing or walk-behind operator control (Dingo, Fig. 9, depicted Dingo 322 mini skid steer) comprising:

a loader (Dingo, Fig. 9, the left arm 3) adapted to carry a tool (Dingo, p. 10, the referenced "std. bucket"),

a loader support for supporting the loader (Dingo, Fig. 9, the frame that carries, inter alia, wheels 6, operator platform 7 and engine 8), the loader support having a first side and a second side;

an actuator (Dingo, Fig. 9, left cylinder 4) pivotally attached to the first side of the loader support at a pivot; and

a drive mechanism (wheels 6) for propelling the loader apparatus over a supporting surface.

Dingo does not disclose the loader being free from direct attachment to the loader support, or a linkage pivotally attached to a first side of the loader at a first pivot point and pivotally attached to the loader at a second pivot point. Further, a vertical distance between the rotational axis R and the forward-most pivot point is not described. Finally, the drive mechanism is not a sprocket drive.

Komatsu teaches a skid-steer loader comprising a mainframe 1, an engine, a control station having operator controls, and an actuator 15 (15a) directly pivotally attached to the first side of the mainframe and pivotally attached to a loader arm 13 (see the second attachment example shown in figure 3).

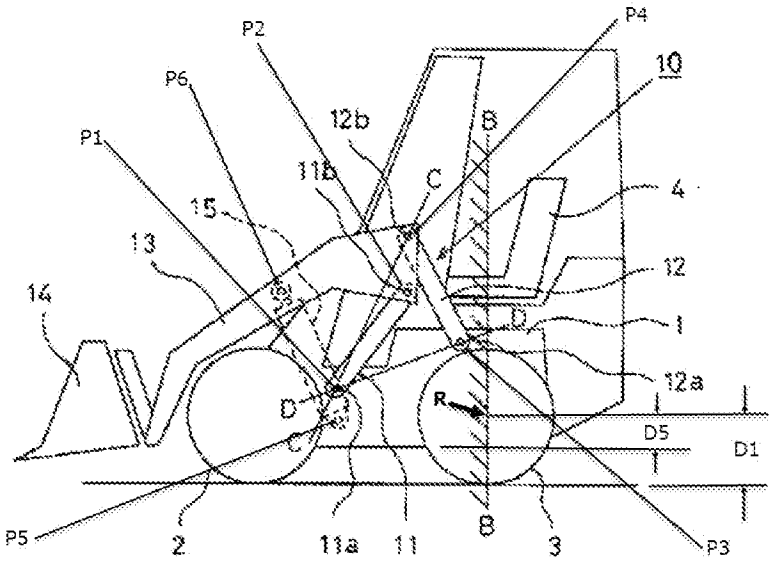
Rather than being directly attached to the mainframe, the arm is indirectly connected through a four-joint link mechanism comprising a first linkage 11 pivotally attached to the first side of the mainframe at a first pivot point and to the loader arm at a second pivot point, and a second linkage 12 pivotally attached to the first side of the mainframe at a third pivot point and to the loader arm at a fourth pivot point, as shown in figure 1, for example.

Komatsu further teaches this indirect attachment provides some advantages over a direct attachment: The use of the linkage raises the arm in a vertical lift, an example of which is shown in figure 7. A vertical lift is more compact and more stable than a radial lift (prior art figure 13), as described in paragraph 0007 and shown in prior art figures 11 and 12 of Komatsu.

The loader of Komatsu includes a rotational axis of a drive wheel, a linkage 11 pivotally attached to the first side of the mainframe at a pivot point and pivotally attached to the loader, and the actuator 15 is attached at a pivot point to a side of the mainframe. The loader has a bottom, the rotational axis and the bottom of the first side of the mainframe being separated by a vertical distance D5. The loader support comprises a forward-most pivot point P1, although the third pivot point (P5 in this case) could be considered to be forward-most. In other words, if third pivot point P2 of the

'266 patent can be considered to be the forward-most pivot, P5 of Komatsu, being in a similar position, can be considered to be a forward-most pivot.

Figure 1 of Komatsu is reproduced below and includes markings by the Examiner which correspond to D1, D5, and pivots points (P1-P6).[3]



As can be seen from this figure, the vertical distance between the first and third pivot points (P1 and P5, respectively) and R appears to be less than 0.75 times D5.

However, it is well-settled that the drawings cannot be considered as being to scale unless the reference specifically describes them as such. Komatsu appears to be silent as to the scale of the drawings and therefore does not necessarily teach the specific dimensional relationships.

[3] The first and third pivot points in claim 14 do NOT all correspond to the pivot points P1-P6 depicted in figures 1 and 5 of the '386 patent. Instead, the first and third pivot points of claim 14 appear to correspond to P1 and P2, respectively. Clearly, P2 is not the forward-most pivot point despite being claimed as such in claim 14. This rejection addresses the pivot points *as claimed* and not as disclosed in the drawing figures.

Therefore, Komatsu is applied as follows.

From the teachings of Komatsu, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the tool carrier of Dingo/Dingo Parts Catalog such that the loader arm was not directly attached to the mainframe and instead included a first linkage pivotally attached to the first side of the mainframe at a first pivot point and pivotally attached to the loader arm at a second pivot point, and further included a second linkage pivotally attached to the first side of the mainframe at a third pivot point and pivotally attached to the loader arm at a fourth pivot point in order to employ a vertical in the tool carrier. This would yield the predictable result of increasing the stability of the tool carrier by reducing the front-to-back travel of the center of gravity of the tool or load as taught by Komatsu.

Since stability is an important characteristic in a compact utility loader/compact tool carrier such as disclosed by Dingo and Komatsu, it would have been desirable to keep the center of gravity of the machine low. Moreover, the compact size of such machines presents limited space for attaching the arms, actuators, and linkages. Finally, Komatsu teaches lowering the attachment points of the linkages and the arm of the actuator to increase visibility and stability as shown in inventive figures 1 and 7 as compared to prior art figures 11 and 12. See paragraphs 0003-0004 and 0006-0009.

In order to reduce the center of gravity of a load supported by the loader, it would have been obvious to one of ordinary skill in the art to arrange the forward-most pivot point such that a vertical distance between the rotational axis R of the drive sprocket and the forward-most pivot point was less than 0.75 D5. Such an arrangement would lower the center of gravity of the loader and/or a load supported by the loader arms, and

would predictably improve visibility for the operator, both of which are a concern in Komatsu.

Finally, it is noted that there appears to be little or no criticality in the subject '266 patent as to the claimed measurements. The positioning of the pivot points on the mainframe allows the height of the mainframe to be reduced, but the description is silent as to any benefits produced by the claimed distances. See column 5, lines 14-52, for instance.

With respect to claim 17, Komatsu further teaches a second linkage 12 pivotally attached to the first side of the loader support at a fifth pivot point (Komatsu, pivot point 12a) and pivotally attached to the loader at a sixth pivot point, the loader apparatus having a bottom at which the drive mechanism contacts the supporting surface, the rotational axis R and the bottom of the loader apparatus being separated by a vertical distance D1 (See annotated figure above). The rotational axis R and each of the first, third and fifth pivot points being separated by a vertical distance, the vertical distance between the rotational axis R and the first pivot point appear to be less than 1.5 times D1; the vertical distance between the rotational axis R and the third pivot point appear to be less than 1.5 limes D1, and the vertical distance between the rotational axis R and the fifth pivot point appear to be less than 1.5 times D1.

However, noting that the drawings of Komatsu are not considered to be to scale, it would have been obvious to those of ordinary skill in the art to arrange the pivot points such that the vertical distance between the rotational axis R and the first pivot point appear is less than 1.5 times D1; the vertical distance between the rotational axis R and the third pivot point appear is less than 1.5 limes D1, and the vertical distance between

the rotational axis R and the fifth pivot point appear is less than 1.5 times D1, in order to improve the stability of the loader by keep the center of gravity low, as taught by Komatsu. As noted earlier, there appears to be little criticality in the subject '266 patent as to the claimed measurements.

With respect to claim 18, it is first noted that the drive mechanism does not contact the supporting surface *at the bottom of the loader apparatus*, as recited in this claim. For this to be true the bottom of the loader apparatus would have to drag on the ground. Moreover, as disclosed in the '266 patent, "D1" refers to the vertical distance between the rotational axis of the drive mechanism and the supporting surface, not bottom of the apparatus. See figure 2.

Nevertheless, as claim 18 is best understood, it would further have been obvious to arrange the pivot points on the modified Dingo loader such that the rotational axis R and each of the first and third pivot points being separated by a vertical distance, the loader support comprising a forward-most pivot point with the first pivot point or the third pivot point being the forward-most pivot point, the vertical distance between the rotational axis R and the forward-most pivot point being less than 1.5 times D1 in order to reduce the center of gravity and improve the stability of the loader as taught by Komatsu.

Ground 4

Claims 19-23, 25, and 27 are rejected under 35 U.S.C. 103 as being unpatentable over Dingo in view of Komatsu.

With respect to claim 19, Dingo discloses a loader apparatus for standing or walk-behind operator control comprising:

a machine structure (Dingo, Fig. 9, the frame that carries, inter alia, wheels 6, operator platform 7 and engine 8) comprising a mainframe (e.g. the portion of the frame nearest to the ground) and an upper frame (e.g. the portion of the frame furthest from the ground), the machine structure defining a barrier guard (Dingo, Fig. 9, a rearward portion of the perimeter of the frame around the operator's area);[4]

a control station having operator controls toward a rear of the loader apparatus (Dingo, Fig. 9, control panel 10);

an actuator (Dingo, Fig. 9, left cylinder 4) pivotally attached to the mainframe; and

a loader (Dingo, Fig. 9, left arm 3) adapted to carry a tool Dingo, p. 10, the referenced "std. bucket"), the loader being moveable between a down position and a vertically raised position.

Dingo does not appear to disclose front and rear linkages pivotally attached to the frame.

Komatsu teaches a skid-steer loader comprising a mainframe 1, an engine, a control station having operator controls, and an actuator 15 (15a) pivotally attached to the first side of the mainframe and pivotally attached to a loader arm 13 (see the second attachment example shown in figure 3). A front linkage 11 is pivotally attached

[4] Literal support for the claimed barrier guard is found in the paragraph bridging columns 3-4 of the '266 patent: "The upper frame 39 and mainframe 10 define the machine structure around the operator's area, wherein the perimeter of the machine structure, defined by the projection of the profile onto a vertical plane passing through the longitudinal axis, forms a barrier guard as shown in FIGS. 2 and 3." It is noted that reference character 39 does not appear in figures 2 or 3, and the mainframe 10 is essentially the entire lower frame of the machine. The description of what forms the barrier guard is so vague and broad that the patent fails to define exactly what forms the barrier guard, and it is impossible to tell where the barrier guard begins and ends.

to the mainframe at a front pivot point and a rear linkage 12 is pivotally attached to the mainframe at a rear linkage pivot point, such that in the down position the front linkage pivot point is disposed within and/or forward of a perimeter of the frame area around the operator's cab (which is considered to be a barrier guard), and as the loader travels from the down position to the vertically raised position, the rear linkage pivot point is disposed within and/or disposed forward of the area around the operator cab as shown in the figures. This allows the operator to exit the cab from the side rather than by stepping over the bucket 14.

Komatsu also teaches that the use of the linkage arrangement provides advantages over arms which are directly attached to the loader. For instance, the linkage arrangement raises the arm in a vertical lift, an example of which is shown in figure 7. A vertical lift is more compact and more stable than a radial lift (prior art figure 13), as described in paragraph 0007 and shown in prior art figures 11 and 12.

From the teachings of Komatsu, it would have been obvious to one of ordinary skill in the art at the time the patent was filed to modify the tool carrier of Dingo/Dingo Parts Catalog such that the loader arm was attached to the mainframe using front and rear linkages pivotally attached to the first side of the mainframe at front and rear pivot points. This would yield the predictable result of increasing the stability of the tool carrier by reducing the front-to-back travel of the center of gravity of the tool or load as taught by Komatsu.

In this arrangement, in the down position of the loader the front linkage pivot point would be disposed within the barrier guard and/or (2) disposed forward of the barrier guard of Dingo; and as the loader travels from the down position to the vertically

raised position, the rear linkage pivot point would be disposed within the barrier guard and/or (2) disposed forward of the barrier guard of Dingo. Given the vague description of "barrier guard" in the '266 patent (see footnote 3 above), the pivot points could be mounted almost anywhere on the frame and still be disposed *within and/or forward of* the barrier guard. Mounting these pivot points forward of the barrier guard would reduce or prevent obstruction of the operator's view to the side of the loader, a feature shown in both Dingo and Komatsu.

With respect to claim 20, as noted above the rear linkage pivot point could be mounted almost anywhere on the frame and be disposed within the barrier guard. Alternatively, because rejection addressed one of the alternatives recited (positioned *forward* of the barrier guard), the alternative arrangement of the rear linkage pivot point being disposed *within* the barrier guard in claim 20 need not be addressed.

With respect to claim 21, Dingo's actuator is pivotally attached to the loader at an actuator pivot point (Dingo, Fig. 9, the pivot point connecting left cylinder 4 to Dingo's left arm 3) disposed within the barrier guard and/or (2) disposed forward of the barrier guard in the same manner as described in the '266 patent and broadly recited in the claim. In the down position, the actuator pivot point is/would be disposed within the barrier guard and/or (2) disposed forward of the barrier guard.

With respect to claim 22, the mainframe of Dingo has a first side and a second side, and the rear linkage, actuator, and front linkage are each pivotally attached to the first side of the mainframe.

As to claim 23, the loader is free from direct attachment to the mainframe when modified to have front and rear linkages as taught by Komatsu.

With respect to claim 25, Dingo discloses a loader apparatus for standing or walk-behind operator control (Dingo, Fig. 9, depicted Dingo 322 mini skid steer), comprising:

a machine structure (Dingo, Fig. 9, the frame that carries, inter alia, wheels 6, operator platform 7 and engine 8) comprising a mainframe (e.g. the portion of the frame nearest to the ground) and an upper frame (e.g. the portion of the frame furthest from the ground), the machine structure defining a barrier guard (see footnote 4, above) (Dingo, Fig. 9, a rearward portion of the frame);

a control station having operator controls toward a rear of the loader apparatus (Dingo, Fig. 9, control panel 10);

an actuator (Dingo, Fig. 9, left cylinder 4) pivotally attached to the mainframe; and

a loader (Dingo, Fig. 9, left arm 3) adapted to carry a tool Dingo, p. 10, the referenced "std. bucket"), the loader being moveable between a down position and a vertically raised position.

Dingo does not appear to disclose a linkage pivotally attached to the frame.

Komatsu teaches a skid-steer loader comprising a mainframe 1, an engine, a control station having operator controls, and an actuator 15 (15a) pivotally attached to the first side of the mainframe and pivotally attached to a loader arm 13 (see the second attachment example shown in figure 3). A linkage 11 or 12 is pivotally attached to the mainframe at a linkage pivot such that in the down position the front linkage pivot point is disposed within and/or forward of a barrier guard (the perimeter of the frame area near or around the operator's cab), and as the loader travels from the down

position to the vertically raised position, the linkage pivot point is disposed within and/or disposed forward of the area around the operator cab. This allows the operator to exit the cab from the side rather than by stepping over the bucket 14.

Komatsu also teaches that the use of the linkage arrangement provides advantages over arms which are directly attached to the loader. For instance, the linkage arrangement raises the arm in a vertical lift, an example of which is shown in figure 7. A vertical lift is more compact and more stable than a radial lift (prior art figure 13), as described in paragraph 0007 and shown in prior art figures 11 and 12.

From the teachings of Komatsu, it would have been obvious to one of ordinary skill in the art at the time the patent was filed to modify the tool carrier of Dingo/Dingo Parts Catalog such that the loader arm included a linkage pivotally attached to the mainframe at a linkage pivot point. This would yield the predictable benefit of increasing the stability of the tool carrier by reducing the front-to-back travel of the center of gravity of the tool or load as taught by Komatsu.

In this arrangement, in the down position of the loader the linkage pivot point would be disposed within the barrier guard; and as the loader travels from the down position to the vertically raised position, the linkage pivot point would be (or would have been obvious to be arranged to be) disposed within the barrier guard and/or (2) disposed forward of the barrier guard of Dingo. Given the vague description of "barrier guard" in the '266 patent (see footnote 4 above), the pivot point could be mounted almost anywhere on the frame and still be disposed *within and/or forward of* the barrier guard. Mounting the pivot point forward of the barrier guard would reduce or prevent

obstruction of the operator's view to the side of the loader, a feature shown in both Dingo and Komatsu.

With respect to claim 27, see claim 23 above.

Ground 5

Claims 1 and 4-9 are rejected under 35 U.S.C. 103 as being unpatentable over Dorkins in view of Baker.

With respect to claim 1, Dorkins discloses a loader apparatus comprising:

a loader (Dorkins, Fig. 2, the left loader arm 26) adapted to carry a tool (Dorkins, Fig. 2, bucket 41), the loader being moveable between a down position and a vertically raised position;

a loader support for supporting the loader (Dorkins, Fig. 2, supporting frame 8), the loader support having a first side and a second side, the loader being free from direct attachment to the loader support (Dorkins, Figs. 2-4, the relative motion shown for left arm 26 relative to supporting frame 8);

a first linkage pivotally attached to the first side of the loader support at a first linkage pivot point (Dorkins, Fig. 2, linkage 24 and pivot point 25);

a second linkage pivotally attached to the first side of the loader support at a second linkage pivot point (Dorkins, Fig. 2, linkage 16 and pivot point 17);

an actuator pivotally attached to the first side of the loader support at an actuator pivot point (Dorkins, Fig. 2, cylinder 42 and pivot point 43); and

a control station having operator controls for propelling the loader apparatus forward and for raising and lowering the loader (Dorkins, Fig. 2).

As shown in figures 2-4, at least, the first linkage pivot point 25, second linkage pivot point 17, and the actuator pivot point 43 are disposed below the operator controls of the control station (Dorkins, Fig. 2).

Dorkins does not appear to disclose an operator platform which might permit standing operation of the loader apparatus.

Baker teaches the provision of a platform 14 which permits the operator to stand while driving a tractor. The platform is located toward a rear of the tractor and extends behind the controls to allow the operator to stand and operate the controls as desired.

From this teaching, it would have been obvious to one of ordinary skill in the art at the time of the filing of the '266 patent to provide the loader of Dorkins with a platform for the operator to stand on in order to increase the versatility of the loader. Moreover, given the placement of the controls and that of the pivot points shown in Dorkins, the first linkage pivot point, second linkage pivot point, and the actuator pivot point would be disposed forward of the added operator platform.

As to claim 4, the loader apparatus of Dorkins loader arm 26) pivotally connected to the first side of the loader support as shown in figure 2.

As to claim 5, the first linkage 24 and the second linkage 16 are pivotally attached to the loader arm at pivot points 23 and 20, respectively, as shown in figure 2 of Dorkins.

As to claim 6, the loader arm of Dorkins is a first loader arm, and the loader comprising a second loader arm 26 pivotally connected to the second side of the loader support as shown in figure 1.

With respect to claim 7, Dorkins discloses a loader apparatus comprising:

a control station having operator controls toward a rear of the loader apparatus (Dorkins, Fig. 2, the control station having the Dorkins loader controls);

a loader (Dorkins, Fig. 2, the left loader arm 26) adapted to carry a tool (Dorkins, Fig. 2, bucket 41), the loader being moveable between a down position and a vertically raised position;

a rigid frame for supporting the control station and the loader (Dorkins, Fig. 2, supporting frame 8), the rigid frame having a first side, a second side, a top, and a bottom;

a first linkage pivotally attached to the first side of the rigid frame at a first pivot point (Dorkins, Fig. 2, linkage 24 and pivot point 25) and pivotally attached to the loader at a second pivot point (Dorkins, Fig. 2, linkage 24 and pivot point 23);

an actuator pivotally attached to the first side of the rigid frame at a third pivot point (Dorkins, Fig. 2, cylinder 42 and pivot point 43) and pivotally attached to the loader at a fourth pivot point (Dorkins, Fig. 2, cylinder 42 and pivot point 45); and

a second linkage pivotally attached to the first side of the rigid frame at a fifth pivot point (Dorkins, Fig. 2, linkage 16 and pivot point 17) and pivotally attached to the loader at a sixth pivot point (Dorkins, Fig. 2, linkage 16 and pivot point 20), wherein,

as the loader travels from the down position to the vertically raised position, the first, second, third, fourth, fifth and sixth pivot points are (1) disposed between the operator controls and the bottom of the rigid frame and/or (2) disposed forward of the control station (Dorkins, Figs. 2 and 4, all six pivots 25, 23, 43, 45, 17, and 20, are

disposed forward of the control station as the loader travels from the down position of Fig. 2 to the vertically raised position of Fig. 4).

The apparatus of Dorkins does not appear to be for standing for walk-behind operator control.

Baker teaches the provision of a platform 14 which permits the operator to stand while operating the controls of a tractor.

From this teaching, it would have been obvious to one of ordinary skill in the art at the time of the filing of the '266 patent to provide the loader of Dorkins with a platform for the operator to stand while operating the loader on in order to increase the versatility of the loader.

With respect to claim 8, the rigid frame defines a pocket toward a rear of the rigid frame to partially surround an operator (Dorkins, Fig. 2, the right fender (unnumbered) over the right front wheel 3 as shown in Fig. 2 and the corresponding left fender (unnumbered) over the left front wheel as shown in Fig. 5 of Dorkins form a pocket at least partially surrounding the operator).

As to claim 9, it would have been obvious for the operator platform in the loader of Dorkins as modified by Baker to be at least partially within the pocket to allow the standing operator to stand behind the steering wheel and loader controls.

Extensions of Time

Extensions of time under 37 CFR 1.136(a) **will not be permitted** in these proceedings because the provisions of 37 CFR 1.136 apply only to "an applicant" and not to parties in a reexamination proceeding. Additionally, 35 U.S.C. 305 requires that

ex parte reexamination proceedings "will be conducted with special dispatch" (37 CFR 1.550(a)). Extensions of time in ex parte reexamination proceedings are provided for in 37 CFR 1.550(c).

Notice of Concurrent Proceedings or Litigation

The patent owner is reminded of the **continuing responsibility** under 37 CFR 1.565(a), to apprise the Office of any litigation activity, or other prior or concurrent proceeding, involving Patent No. 10,202,266 throughout the course of this reexamination proceeding. The third party requestor is also reminded of the ability to apprise the Office of any litigation activity, or other prior or concurrent proceeding, involving the subject '266 patent. See MPEP §§ 2207, 2282 and 2286.

Submissions

In order to ensure full consideration of any affidavits or declarations or other documents as evidence of patentability, such documents must be submitted in response to the first Office action on the merits (which does not result in a close of prosecution). Submissions after the second Office action on the merits, which is intended to be a final action, will be governed by the requirements of 37C.F.R. 1.116, after final rejection and by 37 C.F.R. 41.33 after appeal, which will be strictly enforced.

Correspondence

All correspondence relating to this *ex parte* reexamination proceeding should be directed:

By EFS: Registered users may submit via the electronic filing system EFS-Web, at https://efs.uspto.gov/efile/myportal/efs-registered

By Mail to: Mail Stop *Ex Parte* Reexam
Attn: Central Reexamination Unit
Commissioner for Patents
United States Patent & Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

By FAX to: (571) 273-9900
Central Reexamination Unit

By hand: Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

For EFS-Web transmissions, 37 CFR 1.8(a)(1)(i) (C) and (ii) states that correspondence (except for a request for reexamination and a corrected or replacement request for reexamination) will be considered timely filed if (a) it is transmitted via the Office's electronic filing system in accordance with 37 CFR 1.6(a)(4), and (b) includes a certificate of transmission for each piece of correspondence stating the date of transmission, which is prior to the expiration of the set period of time in the Office action.

Any inquiry concerning this communication or earlier communications from the Examiner, or as to the status of this proceeding, should be directed to the Central Reexamination Unit at telephone number (571) 272-7705.

/RUSSELL D STORMER/
Primary Examiner, Art Unit 3993

Russell D. Stormer
Primary Examiner
Central Reexamination Unit
Art Unit 3993
(571) 272-6687

Conferee: /RMF/

Conferee: /GAS/

Reexamination	Application/Control No.	Applicant(s)/Patent Under Reexamination
	90/014,269	10202266
	Certificate Date	Certificate Number

Requester Correspondence Address: ☐ Patent Owner ☑ Third Party
JAMES W. MILLER (ATTORNEY) 120 6TH STREET SUITE 2310 MINNEAPOLIS, MN 55402

LITIGATION REVIEW ☑	/rds/ (examiner initials)	18 March 2019 (date)
Case Name		Director Initials
Vermeer Manufacturing Company v. The Toro Company; U.S. District - Iowa Southern; 4:19cv50; OPEN		GAS for JRC

COPENDING OFFICE PROCEEDINGS	
TYPE OF PROCEEDING	NUMBER
None	N/A

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

U.S. Patent No. 10,202,266
Inventors: Brad Thomas et al. Art Unit: 3993
Reexamination Control No.: 90/014,269
Filed: February 26, 2019
Confirmation No.: 3337
For: LOW PROFILE COMPACT TOOL CARRIERS
Examiner: Russell D. Stormer

April 23, 2019

NOTICE OF CONCURRENT PROCEEDINGS

U.S. Patent No. 10,202,266 is involved in the following proceeding:

- *Vermeer Manufacturing Company v. The Toro Company*, Case No. 4:19-cv-00050-CRW-HCA (S.D. IA. filed February 12, 2019)

The patent granted from parent Patent Application No. 14/691,649, U.S. Patent No. 9,321,386, is or was involved in the following proceedings:

- *Vermeer Corporation v. The Toro Company*, Case No. 4:17-cv-00076-CRW-HCA (S.D. IA. filed February 28, 2017)

- A third party *Ex Parte* Reexamination proceeding filed by Toro on February 28, 2017 and assigned Serial No. 90/013,915. Following conclusion of this *ex parte* reexamination, the Office mailed an *Ex Parte* Reexamination Certificate on April 12, 2018 in which the patentability of claims 1, 3-13 and 20 was confirmed, claims 15, 17 and 19 as amended were determined to be patentable, and added claims 21-63 were determined to be patentable.

- Another third party Request for *Ex Parte* Reexamination was filed by Toro on March 12, 2018 and assigned Control Number 90/014,109.

- Another third party Request for *Ex Parte* Reexamination was filed by Toro on April 13, 2018 and assigned Control Number 90/014,124. This reexamination proceeding was merged with Reexamination Control Number 90/014,109.

The patent granted from parent Patent Application No. 15/062,801, U.S. Patent No. 9,975,570, is involved in the following proceedings:

- *Vermeer Corporation v. The Toro Company*, Case No. 4:17-cv-00076-CRW-HCA (S.D. IA. filed February 28, 2017)

- A third party Request for *Ex Parte* Reexamination was filed by Toro on June 6, 2018 and assigned Control Number 90/014,148.

A continuation of U.S. Patent No. 10,202,266 was filed on February 7, 2019 and assigned Application No. 16/270,070.

Respectfully submitted,

/Michael J. Vander Molen/

Michael J. Vander Molen
Reg. No. 57,274
ARMSTRONG TEASDALE LLP
7700 Forsyth Blvd., Suite 1800
St. Louis, Missouri 63105
(314) 621-5070

CERTIFICATE OF SERVICE

I certify that on April 23, 2019 the foregoing:

NOTICE OF CONCURRENT PROCEEDINGS; and

INFORMATION DISCLOSURE STATEMENT

were served on the third party requester's counsel via first class mail at:

James W. Miller
Registration No. 27,661
120 S. 6th St.
Suite 2310
Minneapolis, MN 55402-1829

Respectfully submitted,

/Michael J. Vander Molen/

Michael J. Vander Molen
Reg. No. 57,274
ARMSTRONG TEASDALE LLP
7700 Forsyth Blvd., Suite 1800
St. Louis, Missouri 63105
(314) 621-5070

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
90/014,269	02/26/2019	10202266	Vermeer - 266 Reexam	3337

76656 7590 03/21/2019

Patent Docket Department
Armstrong Teasdale LLP
7700 Forsyth Boulevard
Suite 1800
St. Louis, MO 63105

EXAMINER	
STORMER, RUSSELL D	

ART UNIT	PAPER NUMBER
3993	

MAIL DATE	DELIVERY MODE
03/21/2019	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

DO NOT USE IN PALM PRINTER

(THIRD PARTY REQUESTER'S CORRESPONDENCE ADDRESS)

JAMES W. MILLER(ATTORNEY)

120 6TH STREET SUITE 2310

MINNEAPOLIS, MN 55402

EX PARTE REEXAMINATION COMMUNICATION TRANSMITTAL FORM

REEXAMINATION CONTROL NO. *90/014,269* .

PATENT UNDER REEXAMINATION *10202266* .

ART UNIT *3993* .

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above identified *ex parte* reexamination proceeding (37 CFR 1.550(f)).

Where this copy is supplied after the reply by requester, 37 CFR 1.535, or the time for filing a reply has passed, no submission on behalf of the *ex parte* reexamination requester will be acknowledged or considered (37 CFR 1.550(g)).

Order Granting Request For Ex Parte Reexamination	Control No.	Patent Under Reexamination	
	90/014,269	10202266	
	Examiner	Art Unit	AIA Status
	RUSSELL D STORMER	3993	Yes

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

The request for *ex parte* reexamination filed 26 February 2019 has been considered and a determination has been made. An identification of the claims, the references relied upon, and the rationale supporting the determination are attached.

Attachments: a)☐ PTO-892, b)☑ PTO/SB/08, c)☐ Other: ____

1. ☑ The request for *ex parte* reexamination is GRANTED.

RESPONSE TIMES ARE SET AS FOLLOWS:

For Patent Owner's Statement (Optional): TWO MONTHS from the mailing date of this communication (37 CFR 1.530 (b)). **EXTENSIONS OF TIME ARE GOVERNED BY 37 CFR 1.550(c).**

For Requester's Reply (optional): TWO MONTHS from the **date of service** of any timely filed Patent Owner's Statement (37 CFR 1.535). **NO EXTENSION OF THIS TIME PERIOD IS PERMITTED.** If Patent Owner does not file a timely statement under 37 CFR 1.530(b), then no reply by requester is permitted.

cc:Requester (if third party requester)

OC said Notice of Pre-AIA or AIA Status

The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Decision Granting Ex Parte Reexamination

A Substantial New Question of patentability ("SNQ") affecting claims 1, 4-9, 14, 17-23, 25, and 27 United States Patent Number 10,202,266 to Thomas et al (hereafter "the '266 patent") is asserted in the Request for *ex parte* reexamination filed by a third party Requester on February 26, 2019.

Prior Art Documents Relied Upon in the Request

Ramrod Compact Mini Skid Loader Solutions ("Ramrod")

Dingo® 322 Operator's Manual ("Dingo")

Dingo® 322 Parts Catalog ("Dingo Parts Catalog")

Japanese Patent Application JP 11-140900 to Komatsu Ltd. ("Komatsu")

Vermeer Manufacturing Company, "Vermeer Mini Skid Steers S600/S600TX" brochure ("Vermeer Brochure")

U.S. Patent No. 2,277,496 to Dorkins ("Dorkins")

Summary of the Prosecution History of the '266 Patent

The '266 patent was filed as U.S. Patent Application 15/704,685 ("the '685 application") on September 14, 2017. The '266 patent is a continuation of U.S. Patent Application No. 15/062,801, filed March 7, 2016 and now Patent No. 9,975,750, which is a continuation of U.S. Application No. 14/691,649, filed April 21, 2015 and now Patent

No. 9,321,386, which claims the benefit of U.S. Provisional Patent Application No. 62/118,860, filed February 20, 2015.

In the first Office Action, mailed April 23, 2018, claims 29-33 were rejected under 35 U.S.C. 112, claims 7-9 and 12-22 were rejected on non-statutory double patenting; claims 23 and 28 were rejected as anticipated by Ulinski (U.S. Patent 3,074,572); and claims 14-17 were rejected as obvious over Ulinski in view of Bares et al. (U.S. Patent 6,695,568). Claims 1-6 were found allowable, and claims 10, 11, 24-27; and 29-33 were indicated as allowable if rewritten in independent form and/or to overcome 112 rejections.

In the Response filed October 23, 2018, Patent Owner submitted a Terminal Disclaimer; claim 23 was amended to include the subject matter of claim 25; claim 29 was amended; new claims 34-37 were added; and claims 14-17 and 25 were cancelled. Claims 23 and 34 are reproduced below:

> 23. (Currently amended) A loader apparatus for standing or walk-behind operator control and comprising:
>
> a machine structure comprising a mainframe and an upper frame, the machine structure defining a barrier guard;
>
> a control station having operator controls toward a rear of the loader apparatus;
>
> an actuator pivotally attached to the mainframe;
>
> a front linkage pivotally attached to the mainframe;
>
> a rear linkage pivotally attached to the mainframe; and
>
> a loader adapted to carry a tool, the loader being moveable between a down position and a vertically raised position, the front linkage

being pivotally attached to the loader at a front linkage pivot point, the rear linkage being pivotally attached to the loader at a rear linkage pivot point, wherein: [[,]]

in the down position, the front linkage pivot point is (1) disposed within the barrier guard and/or (2) disposed forward of the barrier guard; and

as the loader travels from the down position to the vertically raised position, the rear linkage pivot point is (1) disposed within the barrier guard and/or (2) disposed forward of the barrier guard.

34. (New) A loader apparatus for standing or walk-behind operator control and comprising:

a machine structure comprising a mainframe and an upper frame, the machine structure defining a barrier guard;

a control station having operator controls toward a rear of the loader apparatus;

an actuator pivotally attached to the mainframe;

a linkage pivotally attached to the mainframe; and

a loader adapted to carry a tool, the loader being moveable between a down position and a vertically raised position, the linkage being pivotally attached to the loader at a linkage pivot point, wherein:

in the down positon, the (front) linkage pivot point is disposed within the barrier guard; and

as the loader travels from the down position to the vertically raised position, the (rear) linkage pivot point is (1) disposed within the barrier guard and/or (2) disposed forward of the barrier guard.

The Final Rejection mailed December 3, 2018 rejected claims 29-32 as anticipated by Green (U.S. Patent 7,695,236); and rejected claims 29 and 31-33 over

Yamada et al. (U.S. PGPub 2007/0128012) in view of Edwards (PGPub 2010/0106344). Claims 1-13, 18-24, 26-28, and 34-37 were found allowable.

Patent Owner cancelled claims 29-33 in the Response filed December 10, 2018.

The Notice of Allowance mailed December 26, 2018 did not include an Examiner's reasons for Allowance. Claims 1-13 correspond to claims 1-13 of the '266 patent; claims 18-22 are renumbered as 14-18; claims 23, 24, 26, 27, 28 and 37 are renumbered as 19-24, respectively; and 34-36 are renumbered as 25-27 in the '266 patent.

From the prosecution history, it appears that claims 19 and 25 of the '266 patent were found allowable at least because limitations drawn to the position of the (front) linkage pivot point and the (rear) linkage pivot point with respect to the barrier guard while in the down position and/or while traveling from the down position to the raised position, were missing from the prior art of record.

Patent claims 1 and 7 were never rejected over prior art and were never amended during the initial examination. Claim 14 was amended to change "drive shaft" to "drive sprocket" by way of a preliminary amendment, but was not rejected, nor was it further amended during the examination.

As such, it appears that any limitation, or combination of limitations, could have been found to be missing from the prior art during the original examination.

Analysis of the Substantial New Questions of Patentability Raised by the Request

The Statement on pages 7-8 of the Request does not point out a Substantial New Question of patentability ("SNQ") with respect to specific limitations that were found to be missing from the prior art during the original examination of the subject '266 patent, in the manner set forth in MPEP §§ 2214 and 2216.

However, the discussion on pages 9-11 describes limitations argued and/or found to be missing from the prior art considered during original examination. Further, the proposed rejections by the Request set forth the manner in which the prior art is applied to claims 1, 7, 14, 19, and 25, and the requirements of 37 CFR 1.510(b)(2) have been met.

Old Art Analysis

Dorkins was cited on the IDS filed with the '685 application on September 14, 2017.

Komatsu, Dingo, and Dingo Parts Catalog where cited in an IDS filed March 30, 2018.

As such, these references are "old art."

An SNQ may be based solely on patents and/or printed publications already cited/considered in an earlier concluded examination or review of the patent being reexamined, or having been raised to or by the Office in a pending reexamination or supplemental examination of the patent. On November 2, 2002, Public Law 107-273 was enacted. Title III, Subtitle A, Section 13105, part (a) of the Act revised the

reexamination statute by adding the following new last sentence to 35 U.S.C. 303(a) and 312(a):

"The existence of a substantial new question of patentability is not precluded by the fact that a patent or printed publication was previously cited by or to the Office or considered by the Office."

For any reexamination ordered on or after November 2, 2002, the effective date of the statutory revision, reliance on previously cited/considered art, i.e., "old art," does not necessarily preclude the existence of a substantial new question of patentability (SNQ) that is based exclusively on that old art. Rather, determinations on whether a SNQ exists in such an instance shall be based upon a fact-specific inquiry done on a case-by-case basis.

For example, a substantial new question of patentability may be based solely on old art where the old art is being presented/viewed in a new light, or in a different way, as compared with its use in the earlier examination, in view of a material new argument or interpretation presented in the request. Such material new argument or interpretation may be based solely on claim scope of the patent being reexamined.

A discussion of the specifics of the instant proceeding now follows.

A review of the Office actions mailed during the original examination of the subject '266 patent shows that the Examiner did not use any of these "old art" references in a rejection of claims.

As noted on pages 20-22 of the Request, PO did not include any discussion of these references with the IDSs in which they were cited.

In other words, there is no record in the prosecution history of a discussion or analysis of the relevance of any these references, for example, as to what the references teach or how the claims define over them.

Therefore, Komatsu, Dingo, Dingo Parts Catalog, and Dorkins are available as prior art in this reexamination proceeding.

Substantial New Questions Raised

Ground 1

Ramrod

The Request asserts Ramrod raises an SNQ as to claims 19-23, 25, and 27.

Ramrod was not cited, considered, or discussed on the record during the original examination of the subject '266 patent.

Initially, the Request notes the October 2016 date for Ramrod, and asserts that an intervening reference may be used in reexamination proceedings, citing MPEP 2258(I)(C). See Request, p. 12.

Further, the Request notes that limitations drawn to the "barrier guard" set forth in claims 19 and 25 were introduced during the original examination of the '266 patent supported in part by an improper incorporation by reference. See Request, pp. 16-20.

Rather than analyze the entire discussion set forth on pages 16-20, the key fact is that the "barrier guard" was introduced into paragraphs 0024 and 0026 (reproduced on pages 16-17 of the Request) by a preliminary amendment filed with the '685 application on September 14, 2017.

As set forth in MPEP 211.05(I), to be entitled to the benefit of the filing date of an earlier-filed application, the disclosure of the earlier-filed application must provide adequate support and enablement for the claimed subject matter of the later-filed application in compliance with the requirements of 35 U.S.C. 112(a).

MPEP 211.05(I), subsection B states: "The disclosure of a continuation application ***must be the same*** as the disclosure of the prior-filed application; i.e., the continuation must not include anything which would constitute new matter if inserted in the original application." (emphasis added)

As noted above, the '685 application (now the '266 patent) is a continuation of 15/062,801, which is a continuation of 14/691,649, which claims benefit to provisional 62/118,860.

Yet, as noted on page 19 of the Request, none of the prior applications provide support for the "barrier guard" introduced in the '685 application. In other words, the specification of the '266 patent is ***not*** the same as those from which it claims priority.

Therefore, the claims in the '266 patent which recite the "barrier guard" (claims 19-27) are entitled only to the September 14, 2017.

As to an SNQ, Ramrod discloses a standing or walk-behind mini skid steer loader apparatus. The Request asserts Ramrod includes a barrier guard and a linkage assembly in which a front linkage pivot point disposed within the barrier guard and/or disposed forward of the barrier guard when the loader is in the down position, and a rear linkage pivot point is (1) disposed within the barrier guard and/or (2) disposed forward of the barrier guard as the loader travels from the down position to the vertically raised position (as recited in claim 19); or just a linkage pivot point is disposed within the

barrier guard with the loader in the down position, and a linkage pivot point (1) disposed within the barrier guard and/or (2) disposed forward of the barrier guard as the loader travels from the down position to the vertically raised position (as recited in claim 25) was found to be missing from the prior art during the original examination. See Request pp. 45-46.

On pages 43-44, the Request includes images from Ramrod marked up to show the barrier guard, the front and rear linkages, and front and rear pivot points which are within or forward of the barrier guard.

From this, Ramrod has been shown to have new, non-cumulative technical teachings relevant to limitations argued or found to be missing from the prior art used during the original examination, and a reasonable Examiner would consider this reference to be important in determining the patentability of claims 19 and 25 of the '266 patent.

Accordingly, it is **agreed** that Ramrod raises an SNQ as to claims 19 and 25 of the '266 patent.

Grounds 2, 3, 4, and 5

Dingo and Dingo Parts Catalog

Dingo is an operator's manual for the Dingo 322 Compact Utility Loader. Several views of the loader are provided, and some of the parts are labelled. Dingo Parts Catalog includes multiple exploded views of the Dingo 322 Compact Utility Loader, with the views labelled to identify the parts shown therein. Although published separately, Dingo and Dingo Parts Catalog are drawn to the same compact utility loader, and

therefore will be analyzed together for determination of an SNQ. Dingo and Dingo Parts Catalog may at times be collectively referred to as "Dingo."

As noted above, neither Dingo nor Dingo Parts Catalog were considered or discussed on the record during the original examination of the subject '266 patent.

Komatsu

Komatsu teaches that is was known that the arms of a work machine or vehicle could be arranged for vertical or radial lifting (compare figures 11-12 with figure 13; and see pages 28-29 of the Request), and that a radial lifting arrangement provides better visibility but less stability than vertical lifting system, as noted on pages 17-18, for example, of the Request. Further, Komatsu teaches that the arms and linkages of a vertical lifting arrangement can be modified and/or re-positioned farther forward on the work machine to provide better visibility and improve stability as shown by the inventive figures 1-10 when compared to figures 11-12.

As noted above, Komatsu was not considered or discussed on the record during the original examination of the subject '266 patent.

Vermeer

Vermeer discloses mini skid steer machines which may run on wheels/tires, or may use a sprocket to run on endless tracks. The specifications provided on page 7 show the wheeled and tracked machines to be virtually identical, showing that the two different drive systems are "interchangeable," as asserted in the Request at page 56.

Vermeer Brochure was not cited, considered, or discussed on the record during the original examination of the '266 patent.

Dorkins

Dorkins discloses a tractor mounted high lift loader in which the arms of the loader are connected to the tractor through first and second linkages. The Request asserts the actuator and linkages are connected to the tractor at pivot points which are below the operator controls of the control station. The Request further asserts the tractor could be operated by a standing operator. See page 15, for example.

Ground 2

Dingo/Dingo Parts Catalog discloses an operator platform for standing operation of the operator controls of the control station, and the Request asserts the operator platform being located toward a rear of the loader apparatus such that the first linkage pivot point, second linkage pivot point, and the actuator pivot point are disposed forward of the operator platform, as recited in claim 1. See Request, p. 53. See also pages 48-50 where the Request points out the teachings on Dingo.

Komatsu teaches a loader arm which is not directly attached to the mainframe of the machine, and a linkage pivotally attached to the first side of the mainframe and pivotally attached to the loader arm, and Figures 1 and 5-8, at least, show a linkage (11 or 12) pivotally attached to the first side of the mainframe at a pivot point and pivotally attached to loader arm 13, and the loader arm is not directly attached to the mainframe.

With respect claim 1, the Request asserts Komatsu teaches a first linkage pivotally attached to the first side of the loader support at a first linkage pivot point;

a second linkage pivotally attached to the first side of the loader support at a second linkage pivot point; and

the first linkage pivot point, second linkage pivot point, and the actuator pivot point being disposed below the operator controls of the control station. See Request, pp. 52-53.

The Request, at pages 30-34 at least, describes these teachings of Komatsu.

As to claim 7, the Request asserts Dingo and Komatsu teach the various limitations drawn to the first and second linkages, the actuator, and the positions of the first-sixth pivot points. See page 54, and also pages 28-40, at least.

Therefore, Dingo, Dingo Parts Catalog, and Komatsu have been shown to have new, non-cumulative technical teachings relevant to claim limitations found to be missing from the prior art during the original examination of the '266 patent, and a reasonable Examiner would consider these references to be important in determining the patentability of claims 1 and 7 of the '266 patent.

Accordingly, it is **agreed** that Dingo and Dingo Parts Catalog, and Komatsu, taken alone or together, raise an SNQ as to claims 1 and 7 of the '266 patent.

Ground 3

The Request asserts Vermeer teaches the drive mechanism having a drive sprocket as recited in claim 14.

The Request further asserts Dingo teaches a loader apparatus having a loader support and an actuator as recited in claim 14; and that Komatsu teaches a linkage the distance limitations set forth in the last 8 lines of the claim. See pages 60-61 of the Request.

More specifically, the Request points out how in Komatsu the rotational axis R and bottom of the machine being separated by a vertical distance D5, the rotational axis R and a bottom of the first side of the loader support being separated by a vertical distance D5, the loader support comprising a forward-most pivot point with the first pivot point or the third pivot point being the forward-most pivot point, and a vertical distance between the rotational axis R and the forward-most pivot point being less than 0.75 D5. See Request at pages 34-36, at least.

Therefore, Vermeer, Dingo/Dingo Parts Catalog, and Komatsu have been shown to have new, non-cumulative technical teachings relevant to the limitations argued or found to be missing from the prior art used during the original examination, and a reasonable Examiner would consider these references to be important in determining the patentability of claim 14 of the '266 patent.

Accordingly, it is **agreed** that Vermeer, Dingo/Dingo Parts Catalog, and Komatsu, taken alone or in any combination, raise an SNQ as to claim 14 of the '266 patent.

Ground 4

As to claims 19 and 25, the Request asserts the machine of Dingo includes a mainframe and an upper frame defining a barrier guard. See Request, pp. 65 and 67. Komatsu is asserted to teach front and rear linkages attached to the mainframe at front

and rear pivot points on pages 66-67 of the Request. Dingo and Komatsu, taken together, are asserted to teach the limitations drawn to the relative positions of the linkage pivot point(s) and the barrier guard when the loader is in the down position, and also when the loader travels from the down position to the raised position. See pages 66-68.

From the discussion on pages 63-65, at least, it appears that Dingo/Dingo Parts Catalog and Komatsu have been shown to have new, non-cumulative technical teachings relevant to the limitations argued or found to be missing from the prior art used during the original examination, and a reasonable Examiner would consider these references to be important in determining the patentability of claims 19 and 25 of the '266 patent.

Accordingly, it is **agreed** that Dingo/Dingo Parts Catalog and Komatsu, taken alone or together, raise an SNQ as to claims 19 and 25 of the '266 patent.

Ground 5

The Request asserts Dorkins teaches first and second linkages pivotally attached to the first side of the loader support at first and second linkage pivot points; an actuator pivotally attached to the first side of the loader support at an actuator pivot point; a control station having operator controls; and the first linkage pivot point, second linkage pivot point, and the actuator pivot point being disposed below the operator controls of the control station.

A review of Dorkins and the discussion on pages 69-77 of the Request shows that the pivot points at 17, 25, and 43 appear to be below the operator controls as

recited in claim 1. Claim 7 adds that the first and second linkages and the actuator are attached to the loader at pivot points, and Dorkins appears to show these limitations as well.

Therefore, Dorkins has been shown to have new, non-cumulative technical teachings relevant to limitations found to be missing from the prior art used during the original examination, and a reasonable Examiner would consider this reference to be important in determining the patentability of claims 1 and 7 of the '266 patent.

Accordingly, it is **agreed** that Dorkins raises an SNQ as to claims 1 and 7 of the '266 patent.

Claims Not Requested

The Request does not request reexamination of patent claims 2, 3, 10-13, 15, 16, 24, and 26.

While the decision to reexamine any claim for which reexamination has not been requested under 35 U.S.C. 302 lies within the sole discretion of the Office, the determination in both the order for reexamination and the examination stage will generally be limited solely to a review of the claims for which reexamination was requested. See MPEP 2240 and 2243, and *Sony Computer Entertainment America Inc. v. Dudas*, 85 USPQ2d 1594 (E.D. Va 2006).

Prior Art Not Considered

The Request does not appear to assert that Baker (U.S. Patent No. 2,298,450) and Roeder (U.S. Patent No. 2,563,277) raise SNQs, and instead only uses these references to teach a modification of Dorkins in proposed rejections. Accordingly, Baker and Roeder will not be analyzes as to an SNQ.

Conclusion and Scope of Reexamination

The Requester has shown that

Ramrod raises an SNQ as to claims 19-23, 25, and 27 of the '266 patent.

Dingo/Dingo Parts Catalog and Komatsu, taken alone or together, raise an SNQ as to claims 1, 4-9, 14, 17-23, 25, and 27.

Vermeer, taken alone or together with Dingo and/or Komatsu, raises an SNQ as to claim 14.

Dorkins raises an SNQ as to claims 1 and 4-9.

Reexamination of claims 2, 3, 10-13, 15, 16, 24, and 26 was not requested.

Accordingly, claims 1, 4-9, 14, 17-23, 25, and 27 will be reexamined.

Waiver of Right to File Patent Owner Statement

Patent Owner has **not** agreed to waive its right to file a Patent Owner Statement under 37 C.F.R. 304. PTO personnel were unable to reach Patent Owner by telephone.

Extensions of Time

Extensions of time under 37 CFR 1.136(a) **will not be permitted** in these proceedings because the provisions of 37 CFR 1.136 apply only to "an applicant" and

not to parties in a reexamination proceeding. Additionally, 35 U.S.C. 305 requires that ex parte reexamination proceedings "will be conducted with special dispatch" (37 CFR 1.550(a)). Extensions of time in ex parte reexamination proceedings are provided for in 37 CFR 1.550(c).

Notice of Concurrent Proceedings or Litigation

The patent owner is reminded of the **continuing responsibility** under 37 CFR 1.565(a), to apprise the Office of any litigation activity, or other prior or concurrent proceeding, involving Patent No. 10,202,266 throughout the course of this reexamination proceeding. The third party requestor is also reminded of the ability to apprise the Office of any litigation activity, or other prior or concurrent proceeding, involving the subject patent. See MPEP §§ 2207, 2282 and 2286.

Submissions

In order to ensure full consideration of any affidavits or declarations or other documents as evidence of patentability, such documents must be submitted in response to the first Office action on the merits (which does not result in a close of prosecution). Submissions after the second Office action on the merits, which is intended to be a final action, will be governed by the requirements of 37C.F.R. 1.116, after final rejection and by 37 C.F.R. 41.33 after appeal, which will be strictly enforced.

Correspondence

All correspondence relating to this *ex parte* reexamination proceeding should be directed:

By EFS: Registered users may submit via the electronic filing system EFS-Web, at https://efs.uspto.gov/efile/myportal/efs-registered

By Mail to: Mail Stop *Ex Parte* Reexam
Attn: Central Reexamination Unit
Commissioner for Patents
United States Patent & Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

By FAX to: (571) 273-9900
Central Reexamination Unit

By hand: Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

For EFS-Web transmissions, 37 CFR 1.8(a)(1)(i) (C) and (ii) states that correspondence (except for a request for reexamination and a corrected or replacement request for reexamination) will be considered timely filed if (a) it is transmitted via the Office's electronic filing system in accordance with 37 CFR 1.6(a)(4), and (b) includes a certificate of transmission for each piece of correspondence stating the date of transmission, which is prior to the expiration of the set period of time in the Office action.

Any inquiry concerning this communication or earlier communications from the Examiner, or as to the status of this proceeding, should be directed to the Central Reexamination Unit at telephone number (571) 272-7705.

/RUSSELL D STORMER/
Primary Examiner, Art Unit 3993

Russell D. Stormer
Primary Examiner
Central Reexamination Unit
Art Unit 3993(571) 272-6687

Conferee: /SC/

Conferee: /E.D.L/
SPRS, Art Unit 3993

Reexamination	Application/Control No.	Applicant(s)/Patent Under Reexamination
	90/014,269	10202266
	Certificate Date	Certificate Number

Requester Correspondence Address: ☐ Patent Owner ☑ Third Party
JAMES W. MILLER(ATTORNEY) 120 6TH STREET SUITE 2310 MINNEAPOLIS, MN 55402

LITIGATION REVIEW ☑	/rds/ (examiner initials)	18 March 2019 (date)
Case Name		Director Initials

COPENDING OFFICE PROCEEDINGS	
TYPE OF PROCEEDING	NUMBER
Vermeer Manufacturing Company . The Toro Company; U.S. District - Iowa Southern; 4:19cv50; OPEN	

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
90/014,269	02/26/2019	10202266	Vermeer - 266 Reexam	3337

76656 7590 03/11/2019

Patent Docket Department
Armstrong Teasdale LLP
7700 Forsyth Boulevard
Suite 1800
St. Louis, MO 63105
UNITED STATES OF AMERICA

EXAMINER	
STORMER, RUSSELL D	

ART UNIT	PAPER NUMBER
3993	

MAIL DATE	DELIVERY MODE
03/11/2019	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patents and Trademark Office
P.O.Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

Date: MAR 1 1 2019

THIRD PARTY REQUESTER'S CORRESPONDENCE ADDRESS
JAMES W. MILLER(ATTORNEY)
120 6TH STREET
SUITE 2310
MINNEAPOLIS, MN 55402

EX PARTE REEXAMINATION COMMUNICATION TRANSMITTAL FORM

REEXAMINATION CONTROL NO. : 90014269
PATENT NO. : 1020226
ART UNIT : 3993

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above identified ex parte reexamination proceeding (37 CFR 1.550(f)).

Where this copy is supplied after the reply by requester, 37 CFR 1.535, or the time for filing a reply has passed, no submission on behalf of the ex parte reexamination requester will be acknowledged or considered (37 CFR 1.550(g)).

Ex Parte Reexamination Interview Summary – Pilot Program for Waiver of Patent Owner's Statement	Control No. 90/014,269	Patent For Which Reexamination is Requested 10,202,266
	Examiner R. Stormer	Art Unit 3993

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address. --

All participants (USPTO official and patent owner):

(1) Patricia Martin (3)

(2) Michael Vander Molen, 57274 (4)

Date of Telephonic Interview: 3/5/2019.

The USPTO official requested waiver of the patent owner's statement pursuant to the pilot program for waiver of patent owner's statement in *ex parte* reexamination proceedings.*

☐ The patent owner **agreed** to waive its right to file a patent owner's statement under 35 U.S.C. 304 in the event reexamination is ordered for the above-identified patent.

☐ The patent owner **did not agree** to waive its right to file a patent owner's statement under 35 U.S.C. 304 at this time.

The patent owner is not required to file a written statement of this telephone communication under 37 CFR 1.560(b) or otherwise. However, any disagreement as to this interview summary must be brought to the immediate attention of the USPTO, and no later than one month from the mailing date of this interview summary. Extensions of time are governed by 37 CFR 1.550(c).

*For more information regarding this pilot program, see *Pilot Program for Waiver of Patent Owner's Statement in Ex Parte Reexamination Proceedings*, 75 *Fed. Reg.* 47269 (August 5, 2010), available on the USPTO Web site at http://www.uspto.gov/patents/law/notices/2010.jsp.

☒ USPTO personnel were unable to reach the patent owner.

The patent owner may contact the USPTO personnel at the telephone number provided below if the patent owner decides to waive the right to file a patent owner's statement under 35 U.S.C. 304.

/Patricia Martin/
Paralegal Specialist,
Central Reexamination Unit 571-272-5004
Signature and telephone number of the USPTO official who contacted or attempted to contact the patent owner.

cc: Requester (if third party requester)

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

REEXAM CONTROL NUMBER	FILING OR 371 (c) DATE	PATENT NUMBER
90/014,269	02/26/2019	10202266

CONFIRMATION NO. 3337

REEXAM ASSIGNMENT NOTICE

76656
Patent Docket Department
Armstrong Teasdale LLP
7700 Forsyth Boulevard
Suite 1800
St. Louis, MO 63105

OC000000106309484

Date Mailed: 03/05/2019

NOTICE OF ASSIGNMENT OF REEXAMINATION REQUEST

The above-identified request for reexamination has been assigned to Art Unit 3993. All future correspondence to the proceeding should be identified by the control number listed above and directed to the assigned Art Unit.

A copy of this Notice is being sent to the latest attorney or agent of record in the patent file or to all owners of record. (See 37 CFR 1.33(c)). If the addressee is not, or does not represent, the current owner, he or she is required to forward all communications regarding this proceeding to the current owner(s). An attorney or agent receiving this communication who does not represent the current owner(s) may wish to seek to withdraw pursuant to 37 CFR 1.36 in order to avoid receiving future communications. If the address of the current owner(s) is unknown, this communication should be returned within the request to withdraw pursuant to Section 1.36.

NOTICE OF USPTO EX PARTE REEXAMINATION PATENT OWNER STATEMENT WAIVER PROGRAM

The USPTO has implemented a pilot program where, after a reexamination proceeding has been granted a filing date and before the examiner begins his or her review, the patent owner may orally waive the right to file a patent owner's statement. See *"Pilot Program for Waiver of Patent Owner's Statement in Ex Parte Reexamination Proceedings,"* 75 FR 47269 (August 5, 2010). One goal of the pilot program is to reduce the pendency of reexamination proceedings and improve the efficiency of the reexamination process.

Ordinarily when ex parte reexamination is ordered, the USPTO must wait until after the receipt of the patent owner's statement and the third party requester's reply, or after the expiration of the time period for filing the statement and reply (a period that can be as long as 5 to 6 months), before mailing a first determination of patentability. The USPTO's first determination of patentability is usually a first Office action on the merits or a Notice of Intent to Issue Reexamination Certificate (NIRC).

Under the pilot program, the patent owner's oral waiver allows the USPTO to act on the first determination of patentability immediately after determining that reexamination will be ordered, and in a suitable case issue the reexamination order and the first determination of patentability (which could be a NIRC if the claims under reexamination are confirmed) at the same time.

Benefits to the Patent Owner for participating in this pilot program include reduction in pendency.

To participate in this pilot program, Patent Owners may contact the USPTO's Central Reexamination Unit (CRU) at 571-272-7705. The USPTO will make the oral waiver of record in the reexamination file in an interview summary and a copy will be mailed to the patent owner and any third party requester.

cc: Third Party Requester(if any)
JAMES W. MILLER (ATTORNEY)
120 6TH STREET
SUITE 2310
MINNEAPOLIS, MN 55402

/rbell/

Legal Instruments Examiner
Central Reexamination Unit 571-272-7705; FAX No. 571-273-9900

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

REEXAM CONTROL NUMBER	FILING OR 371 (c) DATE	PATENT NUMBER
90/014,269	02/26/2019	10202266

CONFIRMATION NO. 3337

JAMES W. MILLER (ATTORNEY)
120 6TH STREET
SUITE 2310
MINNEAPOLIS, MN 55402

REEXAMINATION REQUEST NOTICE

OC000000106309482

Date Mailed: 03/05/2019

NOTICE OF REEXAMINATION REQUEST FILING DATE

(Third Party Requester)

Requester is hereby notified that the filing date of the request for reexamination is 02/26/2019, the date that the filing requirements of 37 CFR § 1.510 were received.

A decision on the request for reexamination will be mailed within three months from the filing date of the request for reexamination. (See 37 CFR 1.515(a)).

A copy of the Notice is being sent to the person identified by the requester as the patent owner. Further patent owner correspondence will be the latest attorney or agent of record in the patent file. (See 37 CFR 1.33). Any paper filed should include a reference to the present request for reexamination (by Reexamination Control Number).

cc: Patent Owner
76656
Patent Docket Department
Armstrong Teasdale LLP
7700 Forsyth Boulevard
Suite 1800
St. Louis, MO 63105

/rbell/

Legal Instruments Examiner
Central Reexamination Unit 571-272-7705; FAX No. 571-273-9900

Patent Assignment Abstract of Title

Total Assignments: 1

Application #: 15704685 **Filing Dt:** 09/14/2017 **Patent #:** 10202266 **Issue Dt:** 02/12/2019
PCT #: NONE **Intl Reg #:** **Publication #:** US20180009642 **Pub Dt:** 01/11/2018
Inventors: Brad Thomas, Louis Hartke, Greg Langenfeld, Matt Hutchinson
Title: LOW PROFILE COMPACT TOOL CARRIERS

Assignment: 1

Reel/Frame: 043593 / 0011 **Received:** 09/14/2017 **Recorded:** 09/14/2017 **Mailed:** 09/15/2017 **Pages:** 10
Conveyance: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

Assignors: THOMAS, BRAD **Exec Dt:** 05/08/2015
HARTKE, LOUIS **Exec Dt:** 05/05/2015
LANGENFELD, GREG **Exec Dt:** 05/18/2015
HUTCHINSON, MATT **Exec Dt:** 05/04/2015

Assignee: VERMEER MANUFACTURING COMPANY
1210 VERMEER ROAD EAST
PELLA, IOWA 50219

Correspondent: PATENT DOCKET DEPARTMENT ARMSTRONG TEASD
7700 FORSYTH BLVD.
ARMSTRONG TEASDALE LLP, SUITE 1800
ST. LOUIS, MO 63105

Search Results as of: 03/04/2019 09:54 AM

If you have any comments or questions concerning the data displayed, contact PRD / Assignments at 571-272-3350. v.2.6
Web interface last modified: Jun 26, 2017 v.2.6

PTO/SB/57 (01-18)
Approved for use through 09/30/2018. OMB 0651-0064
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

(Also referred to as FORM PTO-1465)

REQUEST FOR *EX PARTE* REEXAMINATION TRANSMITTAL FORM

Address to:
Mail Stop *Ex Parte* Reexam
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Attorney Docket No.: Vermeer-266 Reex

Date: 02/26/2019

1. ☒ This is a request for *ex parte* reexamination pursuant to 37 CFR 1.510 of patent number 10,202,266 issued 02/12/2019. The request is made by:
   ☐ patent owner. ☒ third party requester.

2. ☒ The name and address of the person requesting reexamination is:
   The Toro Company
   8111 Lyndale Avenue South
   Bloomington, MN 55420

3. Requester ☐ asserts small entity status (37 CFR 1.27) or ☐ certifies micro entity status (37 CFR 1.29). Only a patent owner requester can certify micro entity status. Form PTO/SB/15A or B must be attached to certify micro entity status.

4. This request is accompanied by payment of the reexamination fee as set forth in:
   ☒ 37 CFR 1.20(c)(2); **or**
   ☐ 37 CFR 1.20(c)(1). **In checking this box for payment of the fee set forth in 37 CFR 1.20(c)(1), requester asserts that this request has forty (40) or fewer pages and complies with all other requirements of 37 CFR 1.20(c)(1).**

   Payment of the reexamination fee is made by the method set forth below.
   a. ☐ A check in the amount of $_____ is enclosed to cover the reexamination fee;
   b. ☐ The Director is hereby authorized to charge the reexamination fee to Deposit Account No. _____;
   c. ☐ Payment by credit card. Form PTO-2038 is attached; **or**
   d. ☒ Payment made via EFS-Web.

   ☒ In addition, the Director is hereby authorized to charge any fee deficiencies to Deposit Account No. 20-1315.

5. ☒ Any refund should be made by ☐ check or ☒ credit to Deposit Account No. 20-1315. 37 CFR 1.26(c). If payment is made by credit card, refund must be to credit card account.

6. ☒ A copy of the patent to be reexamined having a double column format on one side of a separate paper is enclosed. 37 CFR 1.510(b)(4).

7. ☐ CD-ROM or CD-R in duplicate, Computer Program (Appendix) or large table
   ☐ Landscape Table on CD

This collection of information is required by 37 CFR 1.510. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) a request for reexamination. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 18 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Mail Stop *Ex Parte* Reexam, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**
If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

8. ☐ Nucleotide and/or Amino Acid Sequence Submission
If applicable, items a. – c. are required.
   a. ☐ Computer Readable Form (CRF)
   b. Specification Sequence Listing on:
      i. ☐ CD-ROM (2 copies) or CD-R (2 copies) **or**
      ii. ☐ paper
   c. ☐ Statements verifying identity of above copies.

9. ■ A copy of any disclaimer, certificate of correction or reexamination certificate issued in the patent is included.

10. ■ Reexamination of claim(s) 1, 4-9,14,17-23, 25 and 27 is requested.

11. ■ A copy of every patent or printed publication relied upon is submitted herewith including a listing thereof on Form PTO/SB/08, PTO-1449, or equivalent.

12. ■ An English language translation of all necessary and pertinent non-English language patents and/or printed publications is attached.

13. ■ The attached detailed request includes at least the following items:
   a. A statement identifying each substantial new question of patentability based on prior patents and printed publications. 37 CFR 1.510(b)(1).
   b. An identification of every claim for which reexamination is requested, and a detailed explanation of the pertinency and manner of applying the cited art to every claim for which reexamination is requested. 37 CFR1.510(b)(2).

14. ☐ A proposed amendment is included (only where the patent owner is the requester). 37 CFR 1.510(e).

15. ■ It is certified that the statutory estoppel provisions of 35 U.S.C. 315(e)(1) or 35 U.S.C. 325(e)(1) do not prohibit requester from filing this *ex parte* reexamination request. 37 CFR 1.510(b)(6).

16. Service
   a. ■ It is certified that a copy of this request (if filed by other than the patent owner) has been served in its entirety on the patent owner as provided in 37 CFR 1.33(c).

      The name and address of the party served are:

      Armstrong Teasdale LLP

      7700 Forsyth Boulevard, Suite 1800

      St. Louis MO 63105

      Date of Service: 02/26/2019

   OR

   b. ☐ A duplicate copy is enclosed since service on patent owner was not possible. An explanation of the efforts made to serve patent owner **is attached**. See MPEP 2220.

17. Correspondence Address: Direct all communication about the reexamination to:

☒ The address associated with Customer Number: 61145

OR

☐ Firm or Individual Name _____
(at the address identified below)

Address

City	State	Zip

Country

Telephone	Email

18. ☒ The patent is currently the subject of the following concurrent proceeding(s):

a. ☐ Copending reissue Application No. _____

b. ☐ Copending reexamination Control No. _____

c. ☐ Copending Interference No. _____

d. ☒ Copending litigation styled:

Vermeer Corporation v. The Toro Company, Case No. 4:19-cv-00050

United States District Court for the Southern District of Iowa

WARNING : Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

/James W. Miller/ — Authorized Signature

02/26/2019 — Date

James W. Miller — Typed/Printed Name

27,661 — Registration No.

☐ For Patent Owner Requester ☒ For Third Party Requester

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Attorney Docket No: Vermeer-266Reex

In re Patent of:	)
	)
Brad Thomas et al.	)
	)
Patent No. 10,202,266	)
	)
Issued February 12, 2019	)
	)
For LOW PROFILE COMPACT TOOL CARRIERS	)

DETAILED REQUEST FOR *EX PARTE* PATENT REEXAMINATION

Mail Stop *Ex Parte* Reexam
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Pursuant to 37 CFR §1.510, The Toro Company, the real party in interest and a third party requester, respectfully requests *ex parte* reexamination of claims 1, 4-9, 14, 17-23, 25 and 27 of U.S. Patent 10,202,266, referred to hereafter as "the '266 patent." A Request for *Ex Parte* Reexamination Transmittal Form (PTO/SB/57) is attached hereto.

Table of Contents

I. Notice of Prior or Concurrent Proceedings and Decisions Thereon 4

A. The Related U.S. Patents 4

B. The Related Litigations 4

C. The Pending Reexamination Proceedings 5

1. Reexam Control Nos. 90/014,109 and 90/014,124 5

2. Reexam Control No. 90/014,148 5

II. Statement Identifying Each SNQ 7

III. Why the SNQs Are New Questions 9

A. Review of the Prosecution History of the '266 Patent 9

B. The Prior Art Relied Upon in this Request 12

1. Ramrod 12

2. Dingo in view of Komatsu 13

3. Dorkins 15

C. The Identified SNQ's of Grounds 1-5 are New Questions 16

1. Ground 1 - Ramrod 16

2. Grounds 2 - 4 - Dingo in view of Komatsu 20

3. Ground 5 - Dorkins 22

D. The MPEP and PTAB Cases Support Finding SNQ's 23

IV. Detailed Explanation of the Pertinency and Manner of Applying the Patents and Printed Publications to Every Claim for Which Reexamination Is Requested 26

A. Review of the '266 Patent at Issue Herein 26

B. Review of JPH11140900 to Komatsu 28

1. The Prior Art Radial Lift Linkage Described in Komatsu 28

2. Komatsu's Design Objectives 29

3. Komatsu's Solution 30
4. Komatsu Teaches the Low Pivot Placements Claimed in the '266 patent 34
C. Review of the Dingo 322 Printed Publications 37
D. The Dingo in view of Komatsu Combination 39
E. Ground 1 – Detailed Prior Art Application to Claims 19-23, 25 and 27 43
1. Review of Ramrod 43
2. As to Claims 19-23, 25 and 27 45
F. Ground 2 – Detailed Prior Art Application to Claims 1 and 4-9 48
1. Preliminary Comments Regarding Claim 7 48
2. Preliminary Comments Regarding Claims 8 and 9 51
3. As to Claims 1 and 4-9 52
G. Ground 3 – Detailed Prior Art Application to Claims 14, 17, and 18 55
1. Review of Vermeer Mini Skid Steers S600/S600TX Brochure 55
2. Preliminary Comments Regarding Claim 14 57
3. As to Claims 14, 17 and 18 59
H. Ground 4 – Detailed Prior Art Application to Claims 19-23, 25, and 27 63
1. Review of Dingo Parts Catalog 63
2. As to Claims 19-23, 25, and 27 64
I. Ground 5 - Detailed Prior Art Application to Claims 1 and 4-9 69
1. Review of U.S. Patent 2,774,496 to Dorkins 69
2. Review of U.S. Patents 2,298,450 to Baker and 2,563,277 to Roeder 70
3. As to Claims 1 and 4-9 72
V. No Admissions 77
VI. Conclusions 77

I. Notice of Prior or Concurrent Proceedings and Decisions Thereon

A. The Related U.S. Patents

The '266 patent is the third U.S. Patent issued to the Patent Owner on the same subject matter. A first U.S. Patent 9,321,386, referred to hereafter as the '386 patent, issued from a parent non-provisional application (Serial No. 14/691,649). A second U.S. Patent 9,975,750, referred to hereafter as "the '750 patent", issued from a first continuation non-provisional application (Serial No. 15/062,801). The third '266 patent, namely U.S. Patent 10,202,266 to which this Request for *Ex Parte* Reexamination is directed, issued from a second continuation non-provisional application (Serial No. 15/704,685).

B. The Related Litigations

The related '386 and '750 patents are the subject of patent litigation entitled Vermeer Corporation v. The Toro Company, Case No. 4:17-cv-00076-CRW-HCA, United States District Court for the Southern District of Iowa. The litigation was stayed at an early stage during a now concluded first *ex parte* reexamination relating to the '386 patent (Reexam Control No. 90/013,915). After the issuance of a Reexamination Certificate dated April 12, 2018, the Court then lifted the initial stay. Discovery commenced and the parties briefed various claim construction issues.

Before the Court conducted a Markman hearing on the claim construction issues and before discovery was completed, the Court issued a second stay of the litigation on January 24, 2019. The second stay was granted in light of additional reexamination proceedings relating to the '386 and '750 patents. These additional reexamination proceedings will be summarized in the following Section I(C) of this Request.

A Complaint for Patent Infringement related to the '266 patent was very recently filed by the Patent Owner on the same day the '266 patent issued. This new litigation is entitled Vermeer Corporation v. The Toro Company, Case No. 4:19-cv-00050, United States District Court for the Southern District of Iowa. Toro is in the process of preparing an Answer to the Complaint.

C. The Pending Reexamination Proceedings

1. Reexam Control Nos. 90/014,109 and 90/014,124

On March 12, 2018, Toro filed a second Request for *Ex Parte* Reexamination (Reexam Control No. 90/014,109) directed to various original claims of the '386 patent. On April 13, 2018, Toro filed a third Request for *Ex Parte* Reexamination (Reexam Control No. 90/014,124) directed to the amended and new claims of the '386 patent contained in the Reexamination Certificate that resulted from the first reexamination of the '386 patent. Both requests were granted. The PTO then merged the two reexamination proceedings together and is conducting a unified reexamination of claims 1-13, 15, 17 and 20-63 of the '386 patent.

On September 6, 2018, the PTO issued a first Office Action rejecting claims 1-13, 15, 17 and 20-63 of the '386 patent. The Dingo and Komatsu references used in that rejection disclose a mini skid steer loader having a radial lift linkage and a full size skid steer loader having a vertical lift linkage, respectively. The Examiner agreed with Toro's reasoning that it would have been obvious under 35 U.S.C. §103 to one of ordinary skill to adapt the Komatsu vertical lift linkage teachings to Dingo to utilize the well-known advantages that a vertical lift linkage provides over Dingo's existing radial lift linkage.

The Patent Owner filed a Response dated December 6, 2018 in the merged reexamination proceedings relating to the '386 patent. The merged proceedings await further action by the PTO as of the filing date of the current Request for *Ex Parte* Reexamination of the '266 patent.

2. Reexam Control No. 90/014,148

Soon after the related '750 patent issued, Toro filed a Request for *Ex Parte* Reexamination (Reexam Control No. 90/014,148) directed to claims 1-20 and 22-34 of the '750 patent. This Request was based on the Dingo and Komatsu references that Toro had relied upon in the further reexamination proceedings discussed above relating to the '386 patent. The Request was granted.

On December 6, 2018, the PTO issued a first Office Action rejecting claims 1-20 and 22-34 of the '750 patent. The Examiner again agreed with Toro's reasoning that it would have been obvious under 35 U.S.C. §103 to one of ordinary skill in the art to adapt the Komatsu vertical lift linkage to Dingo.

The Patent Owner filed a Response dated February 6, 2019 in the reexamination proceeding relating to the '750 patent. The proceeding awaits further action by the PTO as of the filing date of the current Request for *Ex Parte* Reexamination of the '266 patent.

II. Statement Identifying Each SNQ

The prior art patents and printed publications relied upon by Toro in this Request raise the following substantial new questions (SNQ's) of patentability and proposed grounds of rejection. The facts supporting why the proposed grounds of rejection set forth below comprise SNQ's not previously decided by the PTO are set forth in Section III of this Request.

Ground 1. Claims 19-23, 25, and 27 of the '266 patent are unpatentable under 35 U.S.C. §102 in view of a printed publication entitled "Ramrod Compact Mini Skid Loader Solutions October 2016", hereafter referred to as "Ramrod".

Ground 2. Claims 1 and 4-9 of the '266 are unpatentable under 35 U.S.C. §103(a) over a printed publication entitled Dingo® 322 Operator's Manual, referred to hereafter as "Dingo," in view of Japanese Patent Application JPH11140900 to Komatsu, hereafter referred to as "Komatsu".[1]

Ground 3. Claims 14, 17, and 18 of the '266 patent are unpatentable under 35 U.S.C. §103(a) over Dingo in view of Komatsu as applied in Ground 2, and further in view of a printed publication entitled Vermeer Mini Skid Steers S600/S600TX Brochure, referred to hereafter as "Vermeer Brochure".

Ground 4. Claims 19-23, 25, and 27 of the '266 patent are unpatentable under 35 U.S.C. §103(a) over Dingo in view of Komatsu as applied in Ground 2, and in view of a printed publication entitled Dingo® 322 Parts Catalog, referred to hereafter as "Dingo Parts Catalog".

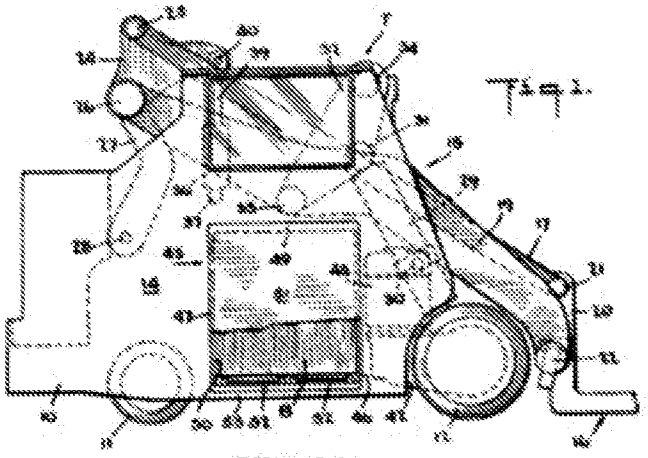
[1] As to claims 8 and 9 in Ground 2, Toro will alternatively rely on the Vermeer Brochure listed in Ground 3 for use as a teaching reference in the event the Examiner does not agree that Dingo alone meets the terms of claims 8 and 9.

Ground 5. Claims 1 and 4-9 of the '266 patent are unpatentable under 35 U.S.C. §103(a) over U.S. Patent 2,774,496 to Dorkins, referred to hereafter as "Dorkins", in view of U.S. Patent 2,298,450 to Baker, referred to hereafter as "Baker", or alternatively in view of U.S. Patent 2,563,277 to Roeder et al., referred to herafter as "Roeder".

III. Why the SNQs Are New Questions

A. Review of the Prosecution History of the '266 Patent

The '266 patent issued from U.S. Patent Application Serial No. 15/704,685, referred to hereafter as the '685 application. The '685 application was filed with thirty three original claims comprising independent claims 1, 7, 14, 18, 23 and 29, each having various dependent claims.



Ulinski

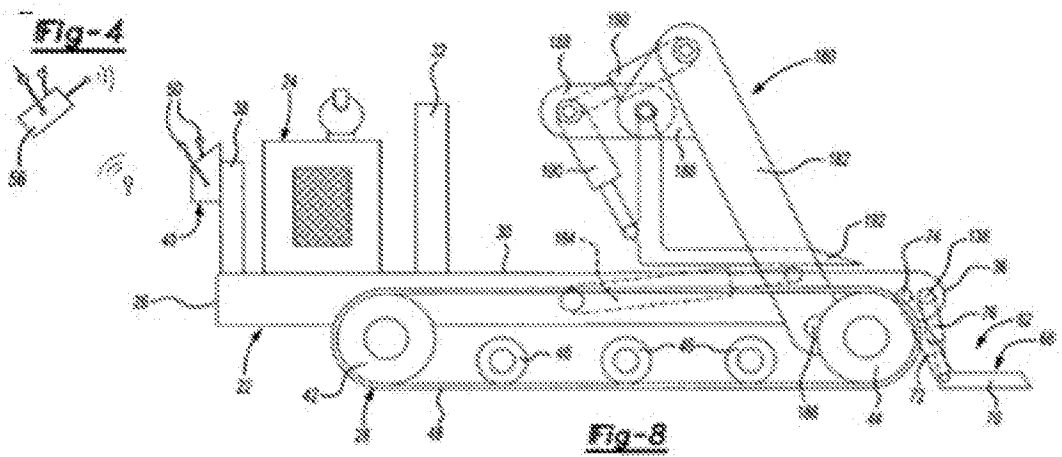
The PTO issued a first Office Action on April 23, 2018 rejecting claims 23 and 28 as being anticipated under 35 U.S.C. §102 by U.S. Patent 3,074,572 to Ulinski, depicted to the left hereof. The same Office Action rejected claims 14-17 as being obvious under 35 U.S.C. §103 over Ulinski in view of U.S. Patent 6,695,568 to Bares. As to claims 14-17, the Examiner found it obvious to add a cross member between Ulinski's spaced loader arms in view a similar cross member between the spaced loader arms of Bares. The Examiner also allowed certain of the original claims and indicated that the various remaining claims would be allowed upon the filing of a terminal disclaimer, or upon suitable rewriting to place the claims into independent form, or upon the filing of amendments to overcome various 35 U.S.C. §112 rejections.

The Patent Owner filed Amendment C in response to the first Office Action. Amendment C canceled the rejected claims 14-17, included a terminal disclaimer to overcome various double patenting rejections, amended independent claim 23 to incorporate the limitations of dependent claim 25 which the Examiner had indicated would be allowable, amended claim 29 in an attempt to overcome the 35 U.S.C. §112 rejections, and added new claims 34-37.

In a Final Rejection, the Examiner allowed claims 1-13, 18-24, 26-28 and 34-37 which collectively were most of the pending claims in the '685 application at that time. However, in

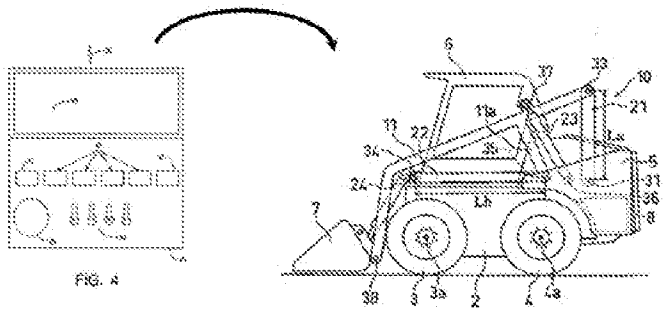
view of the amendments to claim 29 reciting a "control station operating the loader apparatus remotely", the Examiner made two new rejections of claims 29-33.

The first was a rejection of claims 29-32 as being anticipated by U.S. Patent 7,695,236 to Green. The Examiner's rejection was that the Fig. 8 loader embodiment of Green coupled with the remote hand held control station shown in Fig. 4 of Green, as illustrated by Toro graphically below, met the limitations of claims 29-32 including the limitation of the "control station operating the loader apparatus remotely".



Green

The second was a rejection of claims 29-33 as being obvious over U.S. Published Patent Application 2007/0128012 to Yamada in view of U.S. Published Patent Application 2010/0106344 to Edwards. The second rejection was essentially the same rejection as the first rejection based on Green except that it used two references and was based on Section 103 rather than Section 102. The second rejection involves the use of a hand held control station taught in Edwards to operate the loader of Yamada. The second rejection is graphically illustrated by Toro to the right hereof.



Edwards Yamada

In response to the Final Rejection, the Patent Owner filed Amendment D accepting the claims already allowed by canceling claims 29-33. The '266 patent was then issued in due course.

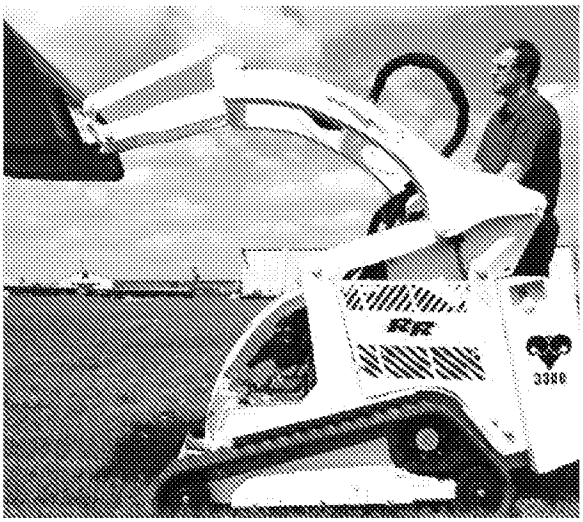
The table below maps the allowed application claims using their numbering in the '685 application to the numbering of the claims as printed in the '266 patent. A claim number highlighted in yellow is an independent claim and any other claims in the same box are dependent claims which depend directly or indirectly from the indicated independent claim.

Allowed '685 Application Claims	**'266 Patent Claims**	**No Prior Art Applied**
1-6	1-6	X
7-13	7-13	X
18-22	14-18	X
23, 24, 26-28, 37	19-24	
34-36	25-27	X

Significantly, twenty one of the twenty seven claims in the '266 patent were never rejected on Section 102 or 103 prior art grounds as indicated in the table above. Only one group of claims, namely claims 19-24 of the '266 patent, ever saw a prior art rejection, and then only as to two of the six claims. This is noteworthy given the expanded breadth of the '266 patent claims compared to the claims in the related '386 and '750 patents. It is not surprising then that the substantively different prior art relied upon by Toro in this Request establishes that the '266 patent claims are unpatentable.

B. The Prior Art Relied Upon in this Request

1. Ramrod



Ramrod discloses a mini skid steer known as the Ramrod 3300 utilizing a vertical lift linkage. A view of the Ramrod 3300 is reproduced to the right hereof showing the vertical lift linkage in a partially raised position.

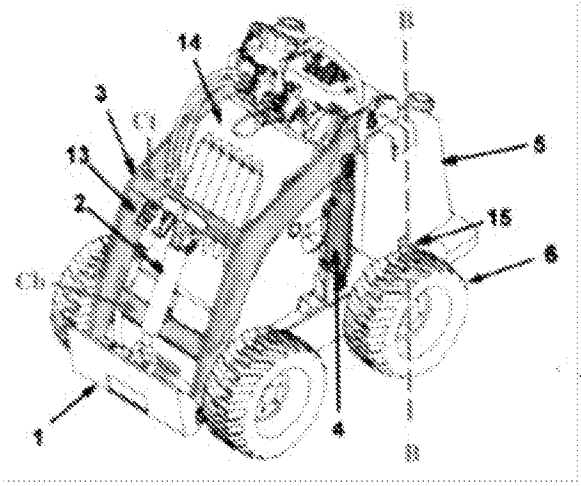
MPEP §2258(I)(C) reads as follows:

> "*C. Intervening Patents or Printed Publications*
>
> Rejections may be made in reexamination proceedings based on intervening patents or printed publications where the patent claims under reexamination are entitled only to the filing date of the patent and are not supported by an earlier foreign or United States patent application whose filing date is claimed. For example, under 35 U.S.C. 120, the effective date of these claims would be the filing date of the application which resulted in the patent. Intervening patents or printed publications are available as prior art under *In re Ruscetta*, 255 F.2d 687, 118 USPQ 101 (CCPA 1958), and *In re van Langenhoven,* 458 F.2d 132, 173 USPQ 426 (CCPA 1972). See MPEP § 211. See also *In re NTP, Inc.,* 654 F.3d 1268, 99 USPQ2d 1500 (Fed. Cir. 2011) (holding that the Office is not prohibited from performing a 35 U.S.C. 112 written description priority analysis during reexamination)."

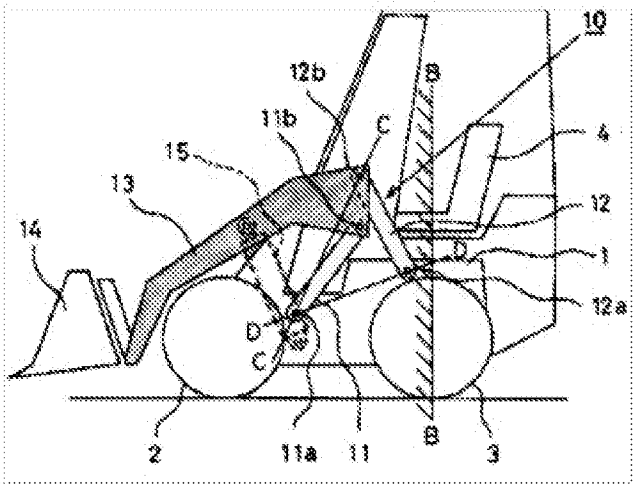
At least as to claims 19-27 of the '266 patent, Ramrod is an intervening printed publication of the type contemplated in MPEP §2258, namely Ramrod was published between the priority date claimed by the '266 patent and the actual filing date of the application that led to the '266 patent. As Toro will show in a priority analysis contained in Section III(C)1 of this Request, the "barrier guard" subject matter added to the '685 application to support claims 19-27 of the '266 patent is not entitled to the earlier date of the priority claims, but is limited to its own filing date of September 14, 2017. Thus, Ramrod is available as a prior art reference against claims 19-27 of the '266 patent.

2. Dingo in view of Komatsu

This Request is based in part on the same Dingo and Komatsu references being used in the pending reexaminations of the '386 and '750 patents. Dingo and Komatsu are depicted below. Dingo discloses a mini skid steer loader operated by a standing operator who stands on a rear foot platform adjacent the rear wheel. Dingo is equipped with a radial lift linkage. Komatsu discloses a larger skid steer loader operated by a seated operator who sits on a seat adjacent the rear wheel. Komatsu is equipped with a vertical lift linkage.



Dingo



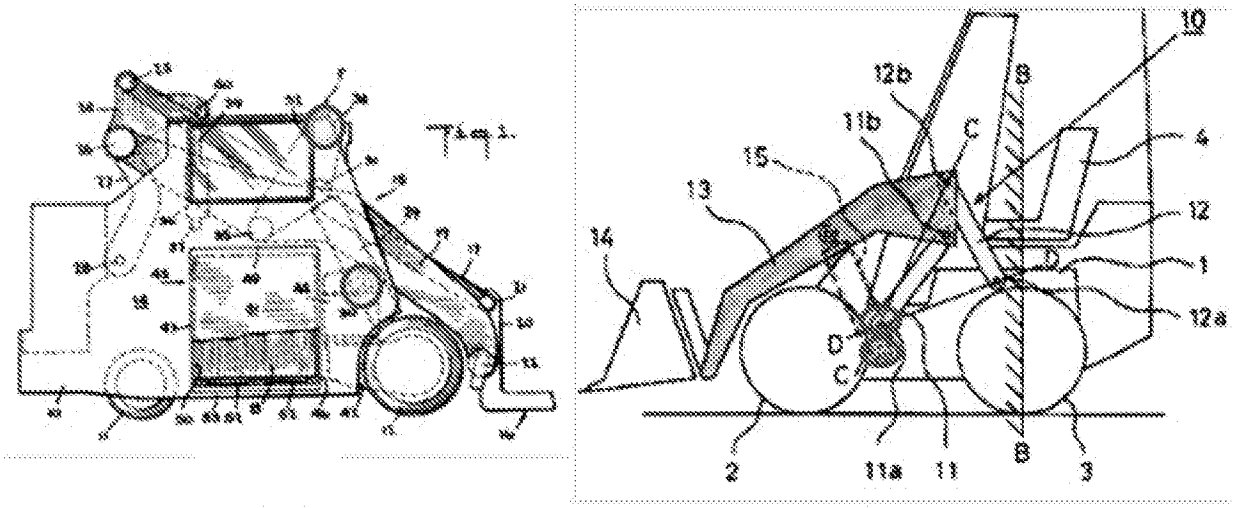
Komatsu

Komatsu describes positioning his vertical lift linkage forward of an operator who is seated substantially directly above the rear wheel.[2] This is precisely where Dingo's radial lift linkage is located, namely forward of a rearwardly located operator standing atop the operator platform. Thus, it would have been a natural fit and immediately obvious to one of ordinary skill in the art to simply adapt Komatsu's vertical lift linkage to Dingo in view of the careful description by Komatsu of where it should be located, i.e. ahead of the operator and ahead of the vertical line B-B through the center of the rear wheel. The motivation for doing this would be to obtain the well-known advantages that a vertical lift linkage provides relative to the radial lift linkage of Dingo.

Moreover, Komatsu additionally teaches a low placement of the fixed pivots of the vertical lift linkage components relative to the rotational axis of the drive mechanism of the

[2] Komatsu even describes that "the driver's seat 4 may be provided…to the rear of the rear wheel 3." (Komatsu, ¶ [0019]).

loader. For example, certain linkage and actuator fixed pivots in Komatsu are highlighted in blue in the illustration of Komatsu below. Note how close these pivots are relative to the axis of Komatsu's adjacent drive wheel 2. By contrast, the pivots of the corresponding components in Ulinski, highlighted in yellow below, are well above the rotational axis of front drive wheel 12. Consequently, the pivots of Komatsu are low enough to meet the dimensional limitations set forth in claims 14-18 of the '266 patent whereas the higher pivots of Ulinski are not.



Ulinski

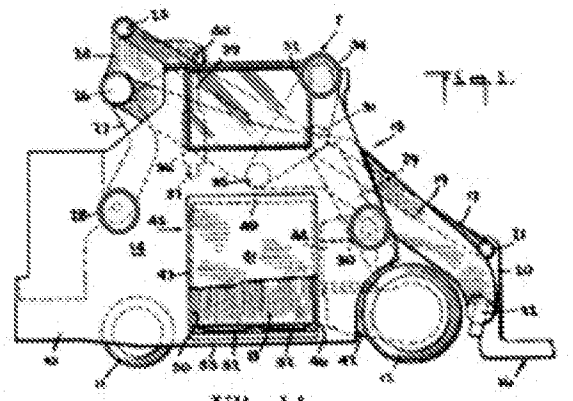
Komatsu

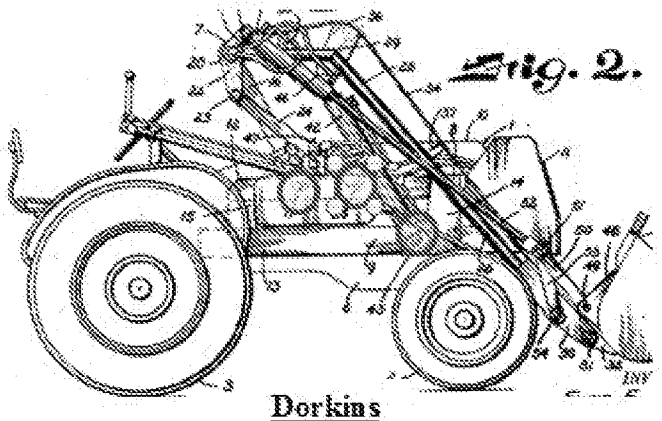
Accordingly, Komatsu provides low pivot placement teachings not contained in Ulinski or any other prior art reference the Examiner used in the prosecution of the '266 patent. In addition, the Examiner proposed no rejections in which a mini skid steer loader, such as Dingo, was adapted to utilize the concepts behind a vertical lift linkage used on a riding skid steer loader, such as Komatsu. Together, Dingo and Komatsu and the manner in which it would have been obvious to combine them are quite different than the references used by the Examiner during the prosecution of the '266 patent or the manner in which the Examiner combined them.

3. Dorkins

Dorkins discloses a tractor from the 1950's having a vertical lift loader linkage. Dorkins has a control station at the rear of the tractor behind the vertical lift linkage. As Toro will show hereafter, tractors such as Dorkins allowed the operator to sit **or stand** while operating the tractor. Neither Dorkins nor the critical fact that Dorkins could be operated from a standing position was known to and/or or appreciated by the Examiner during the prosecution of the '266 patent.

In addition, Dorkins is substantively different from what is arguably the closest reference to Dorkins that the Examiner did consider during the prosecution of the '266 patent, namely Ulinski. As one example, claim 1 of the '266 patent, which was allowed by the Examiner without comment in the first Office Action of April 23, 2018, calls for the placement of various linkage and actuator pivots to be "below the operator controls of the control station". As shown in Ulinski and Dorkins below in which the pivots recited in claim 1 of the '266 patent are highlighted in yellow, Dorkins satisfies this limitation while Ulinski does not due to the high placement of the middle pivot located at 34 in Ulinski.


Ulinski



Dorkins

As Toro will show in more detail hereafter, had the Examiner been aware of Dorkins, had the Examiner appreciated the significance of where the various pivots in Dorkins were located, and had the Examiner been aware of the fact that tractors such as Dorkins could be operated from a standing position, the Examiner could have, and Toro believes would have, rejected many of the claims of the '266 patent.

C. The Identified SNQ's of Grounds 1-5 are New Questions

1. Ground 1 - Ramrod

For the reasons set forth below, the intervening publication to Ramrod raises an SNQ under the provisions of MPEP §2258(I)(C) as reviewed earlier herein because claims 19-27 are not entitled to the filing date of the applications to which the '266 patent claims priority.

The disclosures of the various applications to which the '266 patent claims priority do not describe in any way the barrier guard recited in claims 19-27. In the priority applications and in the corresponding '386 and '750 patents that issued therefrom, the Patent Owner did **not** mention even the existence of a barrier guard much less the structure that forms the barrier guard or where that structure is located. Similarly, the Patent Owner did **not** mention that the location of various pivots of the linkages in the vertical lift linkage relative to the barrier guard were significant or were considered to be a part of the invention being disclosed in the specification. The Patent Owner now recites **for the first time** the barrier guard and the locations of various pivots of the linkages in the vertical lift linkage in relationship to the barrier guard in claims 19-27 of the '266 patent.

To support these claims, the Patent Owner filed Preliminary Amendment A with the rest of the application papers that led to the '266 patent. In that Preliminary Amendment, the Patent Owner amended the specification to disclose **for the first time** the existence of the barrier guard and then to identify **for the first time** the components that it contended formed the barrier guard. These additions to the specification are contained in the two amended portions of application paragraph [0024] reproduced below.

> "[0024] **As stated in SAE J2752, incorporated herein by reference, the machine structure around the operator's area may be part of a barrier guard.** In the illustrated embodiment, the control station 36 is attached to an upper frame 39 (Fig. 7) that is attached and supported by the mainframe 10. **The upper frame 39 and mainframe 10 define the machine structure around the operator's area, wherein the perimeter of the machine structure, defined by the projection of the profile onto a vertical plane passing through the longitudinal axis, forms a barrier guard as shown in Figures 2 and 3.**" (Underlining in Original)

Having done so, the Patent Owner then identified **for the first time** the location of one pivot point of one linkage in relation to the barrier guard in the additional amended portion of paragraph [0026] reproduced below.

> "[0026] ……Similarly, the first arm 15a includes a forward pivot point P_4, a rear pivot point P_6, **positioned within the barrier guard of the perimeter of the machine structure as shown in Figures 2 and 3,** and a central pivot point P_5 between the forward pivot point P_4 and the rear pivot point P_6…." (Underlining in Original)

37 CFR §1.57 sets forth the applicable rules in connection with the use of incorporation by reference to amend the disclosure of a patent application. The rule reads in pertinent part as follows:

> "(d) **"Essential material" may be incorporated by reference, but only by way of an incorporation by reference to a U.S. patent or U.S. patent application publication**, which patent or patent application publication does not itself incorporate such essential material by reference. "Essential material" is material that is necessary to:
>
> (1) Provide a written description of the claimed invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and set forth the best mode contemplated by the inventor of carrying out the invention as required by 35 U.S.C. 112(a);
>
> (2) Describe the claimed invention in terms that particularly point out and distinctly claim the invention as required by 35 U.S.C. 112(b)".
>
> (Emphasis Added)

The addition of the existence of a barrier guard, the identification of the extent of the barrier guard, and the consequent claiming of various pivot points as being "within" or "forward of the barrier guard", all as set forth in claims 19-27, is clearly needed to comply with 35 U.S.C. §112. Such compliance would not have been possible without the barrier guard materials added to the '266 patent specification by way of incorporation by reference. Unquestionably, the material so added constitutes "essential material" within the meaning of 37 CFR §1.57. However, as is clearly indicated in 37 CFR §1.57, "essential material" may be incorporated **only** from a U.S. patent or U.S. patent application publication. Accordingly, the Patent Owner's

reliance on an SAE standard to incorporate such "essential material" is wholly ineffective in doing so as a matter of law.

Moreover, the scope of the amendments made by incorporation by reference far exceeds anything contained in the SAE J2752 standard relied upon by the Patent Owner for support for the amendments. Toro has excerpted the relevant portion of SAE J2752 and reproduced it below:

10. GUARDING AND SHIELDING

10.1 Guarding shall be provided to prevent access to areas or exposure to parts where a hazard exists to the operator during normal starting and operation of the compact tool carrier.

10.1.1 Guards shall comply with ISO 3457.

10.1.1.1 The machine structure around the operator's area of the compact tool carrier may be considered to be part of the barrier guard for determining safety distances.

While the language set forth refers to the structure "around the operator's area", the standard itself does not describe how close to or far from the operator's area the structure has to be in order to be "around" such area. Moreover, the language of the standard does not describe what specific structure "around the operator's area" would form part of the barrier guard. This lack of precision in the standard simply does **not** support the Patent Owner's identification of specific components of its loader, such as "the upper frame 39 and mainframe 10", as forming the barrier guard, particularly when large portions of those components, such as forward portions of the upper frame 39 and mainframe 10, are far removed from the operator's area at the very rear of the loader. Accordingly, the Patent Owner's reliance on SAE J2752 to support the barrier guard claims and the written description it added to the '266 patent in Preliminary Amendment A is wholly ineffective on the facts as well as the law.

Moreover, returning to the portion of SAE J2752 used by the Patent Owner as the basis for its additions to the specification and thus its newly added barrier guard claims, the language relied upon in 10.1.1.1 is **indented** under 10.1.1 which reads as follows: "Guards shall comply with ISO 3457". Accordingly, when 10.1.1.1 states that "the machine structure around the operator's area of the compact tool carrier may be considered to be part of the barrier guard for determining safety distances", that statement can be understood only in the additional context provided by ISO 3457.

However, ISO 3457 is **not** incorporated by reference by the '266 patent or even by SAE J2752. Moreover, even if SAE J2752 had attempted to specifically incorporate ISO 3457 by reference, that attempt would constitute a prohibited double incorporation. Courts have held that "[r]eference ought not be allowed where the object material of a reference also contains a reference upon which the application relies." *Gen. Elec. Co. v. Brenner*, 407 F.2d 1258, 1263 (D.C. Cir. 1968); *Nomadix, Inc. v. Second Rule LLC*, No. 07-01946 DDP (VBKx), 2009 WL 10668158, at *23 (C.D. Cal. Jan. 16, 2009). As the D.C. Circuit explained, the reason for this rule is "clear": "It is conceivable that one researching a patent might be referred throughout the patent files, the university libraries and the corner drugstore bookstand ad infinitum." *Gen. Elec. Co.*, 407 F.2d at 1263.

In *Nomadix*, one of the patents at issue (the "'399 patent") made reference to a provisional application (the "'973 provisional application") which itself incorporated by reference material in a second provisional application (the "'497 provisional application"). The court found this to be improper and explained as follows:

> "The *General Electric* court specifically frowned on references that 'also contain[ ] a reference on which the application relies' for the 'clear reason' that 'one researching a patent might be referred throughout the patent files, the university libraries, and the corner drugstore bookstand ad infinitum.' The portion of the '973 provisional application on which [patentee] relies explains that 'the gateway device will download the necessary protocols and other parameters to the computer without any intervention by the operator and without loading any additional software on the computer.' While that paragraph explains what the gateway does, it does not explain how the gateway performs the required functions. *Rather, it incorporates by reference the '497 provisional application for the detailed description of the gateway's function.* Because incorporation of the portion of the '973 provisional application that makes reference to the '497 provisional application flies in the face of the *General Electric* principles, the Court finds that Nomadix cannot rely on the '973 application for written description and enablement purposes."
> 2009 WL 10668158, at *23 (internal citations omitted and emphasis added).

Under the law and facts as shown above, the barrier guard subject matter added to the '266 patent is simply not supported by the specifications of any of the applications to which the '266 patent claims priority. Accordingly, claims 19-27 relating to the barrier guard and the amendments made to paragraphs [0024] and [0026] of the specification as contained in Preliminary Amendment A are entitled only to the September 14, 2017 filing date of the '685

application that led to the '266 patent. Consequently, the intervening reference to Ramrod is available as a prior art reference against claims 19-27 of the '266 patent.

2. Grounds 2 - 4 - Dingo in view of Komatsu

The Dingo and Komatsu references discussed earlier in Section III(B)2 were listed on one IDS submission made by the Patent Owner during the prosecution of the '266 patent. However, there is **nothing in the record** that indicates that the Examiner appreciated the content of these particular references or the manner in which the references could be applied to the claims before him.

The Patent Owner apparently became aware of Dingo and Komatsu through the filing by Toro on March 12, 2018 of the second reexamination request (Control No. 90/014,109) relating to the '386 patent. The Patent Owner cited Dingo and Komatsu to the PTO in a second IDS[3] before the Examiner had yet acted on the '685 application. However, the second IDS did not inform the Examiner that a second reexamination request (Reexam Control No. 90/014,109) had been filed on the parent '386 patent or that Dingo and Komatsu were the substantive basis for the second reexamination request.

A first Office Action was electronically transmitted by the PTO to the Patent Owner on April 23, 2018. However, the first Office Action had actually been signed by the Examiner five days earlier on April 18, 2018. The Examiner also initialed the first and second IDS forms on the same day that he signed the first Office Action, namely on April 18, 2018. However, as of April 18, 2018 when the Examiner signed off on the Office Action and it left his desk to be processed for later transmission, the Patent Owner had not informed the Examiner that Dingo and Komatsu were the main references being used in a second reexamination request against the '386 patent or even that the second reexamination request had been filed over a month earlier.

The Patent Owner did file a Notice of Concurrent Proceedings on April 23, 2018 in which it provided the reexamination control number (Reexam Control No. 90/014,124) for the third reexamination request which had been filed against the '386 patent on April 13, 2018. However, this Notice was simply a bare notification of the control number without any

[3] The second IDS was filed on March 30, 2018. The Patent Owner had previously filed a first IDS on September 14, 2017 to cite sixty five references to the PTO, one of which was Dorkins. A total of seventy one references had been cited between the two IDS submissions.

indication that Dingo and Komatsu were the main references against the '386 patent. In addition, this Notice was too late, coming as it did five days after the Examiner had signed off on the first Office Action. Thus, at the time the Examiner was initially considering the patentability of the claims and essentially allowed what became claims 1-18 of the '266 patent in a first action allowance, the Examiner had not been informed that Dingo and Komatsu had any particular relevance compared to the sixty nine other additional references that had been cited.

The Patent Owner responded to the first Office Action on October 23, 2018. As part of that response, the Patent Owner filed a third IDS which included additional prior art references and 1,195 pages of litigation documents from the related patent litigation. A set of Invalidity Contentions that Toro had filed in the litigation apparently formed a portion but not all of the litigation documents. The Invalidity Contentions contained two claim charts in which Toro had applied the Dingo and Komatsu references to the claims of the related '386 and '750 patents.

The accompanying third IDS form did not relist the Dingo and Komatsu references. There was nothing in the third IDS form that indicated that any Dingo and Komatsu claim charts were contained within the 1,195 pages of litigation documents. The litigation materials were simply entitled in the third IDS form as "Litigation Documents submitted in Vermeer Corporation v Toro Company, case No. 4:17-cv-00076-CRW-HCA (S.D. IA) (Submitted in Five Parts)". Given the time deadlines and production goals of an Examiner in an Examining Group who is conducting a normal examination of a patent application, it would have been impossible for the Examiner to have carefully read through and thoroughly considered the materials given to him in the third IDS.

When the Examiner next acted on the '685 application in response to the Amendment filed by Applicant on October 23, 2018, he simply expanded the number of allowed claims by accepting a terminal disclaimer to obviate some double patenting rejections, allowed newly presented claims 34-37, and made a final rejection of some claims that were later canceled by the Patent Owner. Significantly, other than for initialing and dating the third IDS form in which the "litigation documents" had been provided, the Examiner understandably made no mention of and did not use any of the materials provided to him in the third IDS.

Following the cancellation by the Patent Owner of the claims rejected in the Final Rejection, the Examiner issued a Notice of Allowability dated December 26, 2018.

Conspicuously, this Notice of Allowability contained **NO** Statement of Reasons for Allowance. In the absence of such a Statement and given the opportunities the Patent Owner had but did not utilize to ensure the Examiner was specifically made aware of Dingo and Komatsu and how they had been applied both by Toro and the reexamination Examiner in the related pending reexaminations of the '386 and '750 patents, it is clear that Dingo and Komatsu raise SNQ's regardless of their attempted citation in the '685 application from which the '266 patent issued. Including some Dingo in view of Komatsu claim charts within 1,195 pages of an IDS submission vaguely labeled as "Litigation Documents" does not change that conclusion.

3. Ground 5 - Dorkins

Dorkins was listed as one of the sixty five references contained in the first IDS form initially filed with the '685 application. Dorkins was never used or discussed in any way by the Examiner during the prosecution of the '266 patent. Other than for listing Dorkins on the first IDS form, the Patent Owner never discussed Dorkins in any way.

Toro has shown earlier herein that Dorkins discloses low pivot point locations that permit Dorkins to be applied to certain claims of the '266 patent that was not true of some of the high pivot locations in the Ulinski reference that the Examiner had applied to other claims. Moreover, even if the Examiner had reviewed Dorkins during the prosecution of the '266 patent, the Examiner would have reasonably assumed that the presence of the operator's seat in Dorkins required that Dorkins be operated by an operator sitting in the seat. However, the newly cited secondary references to Baker or Roeder clearly teach that tractors like the one in Dorkins often had an operator platform and a seat that could be moved out of the way to allow the operator to operate the tractor and its equipment while standing. This teaching comprises entirely new prior art with nothing like it having been cited during the prosecution of the '266 patent. Accordingly, Dorkins when viewed in the new light provided by this teaching clearly establishes SNQ's that were not before the Examiner during the prosecution of the '266 patent.

D. The MPEP and PTAB Cases Support Finding SNQ's

"Old art" previously considered during the original examination of a patent does not preclude a finding that the old art raises a SNQ that justifies the grant of a Request for Ex Parte Reexamination based on such old art. The term "old art" refers, inter alia, to prior art which was previously cited/considered in an earlier concluded examination of the patent. In this case, the "old art" arguably comprises the information cited on the Patent Owner's first IDS of September 14, 2017, second IDS of March 30, 2018 and third IDS of October 23, 2018 in the '685 patent application.

As set forth in MPEP §2242(II)(A):

> "In a decision to order reexamination made on or after November 2, 2002, reliance on old art does not necessarily preclude the existence of a substantial new question of patentability that is based exclusively on that old art. See Public Law 107-273, 116 Stat. 1758, 1899-1906 (2002), which expanded the scope of what qualifies for a substantial new question of patentability upon which a reexamination may be based. Determinations on whether a substantial new question of patentability exists in such an instance shall be based upon a fact-specific inquiry done on a case-by-case basis. For example, a substantial new question of patentability may be based solely on old art where the old art is being presented/viewed in a new light, or in a different way, as compared with its use in the earlier examination(s), in view of a material new argument or interpretation presented in the request. Such material new argument or interpretation may be based solely on claim scope of the patent being reexamined.[4]" (Yellow Highlighting Added)

In addition, the MPEP also provides guidance on exactly what effect the Examiner's initials on an IDS form has when it comes to determining the degree to which the art was considered. In the context of reexamination, MPEP §2256 reads in pertinent part as follows:

> "Where patents, publications, and other such documents are submitted by a party (patent owner or requester) in compliance with the requirements of the rules, the requisite degree of consideration to be given to such information will be normally limited by the degree to which the party filing the information citation has explained the content and relevance of the document. The initials of the examiner placed adjacent to the citations on the form PTO/SB/08A and 08B or its

[4] The claims of the '266 patent are unquestionably broader in many respects than the claims in the '386 and '750 patents to which Dingo and Komatsu had been applied in the pending reexaminations of the '386 and '750 patents. For example, the claims of the '266 patent do not limit the size of the loader as was true of the claims of the '386 and '750 patents. This broadening in claim scope alone is clearly supportive of finding SNQ's.

> equivalent, without an indication to the contrary in the record, do not signify that the document has been considered by the examiner any further than to the extent noted above." (Yellow Highlighting Added)

In addition, a number of recent PTAB decisions provide guidance on the effect of simply having an initialed IDS form without any substantive discussion in the context of whether the IDS form would prevent an IPR from being instituted.

In *Plastic Dev. Grp., LLC, v Maxchief Investments Limited*, the PTAB rejected a patentee's contention that "substantially the same arguments" were presented during prosecution of a patent, even though the *inter partes* review petitioner made arguments relating to a piece of prior art known as Stanford that was initialed in the patentee's IDS during prosecution. IPR2017-00846, 2017 WL 4349384, at *3 (Patent Tr. & App. Bd. Sept. 5, 2017). Despite the examiner's initialing, the PTAB considered the piece of prior art in the later *inter partes* review because there was no evidence that the prior art was actually considered during prosecution. The PTAB wrote as follows:

> "Patent Owner's evidence that Stanford was considered during prosecution is merely the initialed line in the Applicant's IDS submitted during prosecution. . . . Because neither Stanford nor any arguments relating to Stanford were substantively addressed by Applicant or the Examiner during the underlying prosecution of the '644 patent, we are unpersuaded that 'substantially the same arguments' have been presented here by Petitioner as were previously presented to the Office during prosecution." *Id.*

In *HID Global Corp. v Morphotrust USA LLC*, the PTAB determined that a petitioner showed a reasonable likelihood that it would prevail in establishing the unpatentability of the challenged claims. IPR2017-01939, 2018 WL 1313425, at *1 (Patent Tr. & App. Bd. Mar. 12, 2018). There, the patentee claimed that the petitioner was trying to reargue issues that the examiner previously considered and rejected in the patentee's favor. During the patent's prosecution, the patentee submitted a four-page IDS that listed a specific prior art reference among more than a hundred other references. In the final Notice of Allowability, the examiner "attached an initialed copy of the IDS," but the "prosecution history record reveals no discussion of [the important prior art reference], and the final Notice of Allowability does not provide reasons for allowance." *Id.* at *12-13. More important, the PTAB found that the

prosecution history did not indicate that the examiner considered the teachings of the prior art reference "*in the manner advanced by Petitioner*." *Id.* at *13. The PTAB thus found that "the Examiner did not consider materially similar prior art, evidence, and arguments to that within the challenges Petitioner advances here." *Id.*

This reasoning applies equally to the facts here. Given the utter lack of any substantive discussion of the "old art" initialed by the Examiner on the various IDS forms, coupled with the lack of a Statement of Reasons for Allowance for why the claims of the '266 patent were allowed over such "old art, the "old art" relied upon here provides various SNQ's that were not previously considered or decided by the PTO during the prosecution of the '266 patent.

IV. Detailed Explanation of the Pertinency and Manner of Applying the Patents and Printed Publications to Every Claim for Which Reexamination Is Requested

A. Review of the '266 Patent at Issue Herein

The basic difference between a radial lift loader arm linkage and a vertical lift loader arm linkage is the removal of the fixed pivot connection of the loader arm to the mainframe of the skid steer. With that removal, the loader arm is no longer constrained to pivot about a circular arc. Instead, the loader arm is now free to move longitudinally back and forth in a fore-and-aft direction to lift the load in a vertical path that remains closer to the vehicle. This enhances stability of the loader and permits a vertical lift loader to lift more weight than a comparable radial lift loader. It also permits greater forward reach at full height. However, the loader arm must still be supported even as it makes such fore-and-aft movements.

The vertical lift linkage of the '266 patent comprises a loader arm 15a (colored green in Fig. 2 of the '266 patent below). Loader arm 15a is supported on mainframe 10 by a front linkage 46a (colored yellow below) and by a rear linkage 50a (also colored yellow below). A hydraulic cylinder actuator 54 (colored blue below) is used to lift and lower the loader arm 15a through a substantially vertical lift path instead of the radial lift path provided by radial arm loaders. The vertical lift linkage is duplicated on both the left and right sides of the skid steer loader.

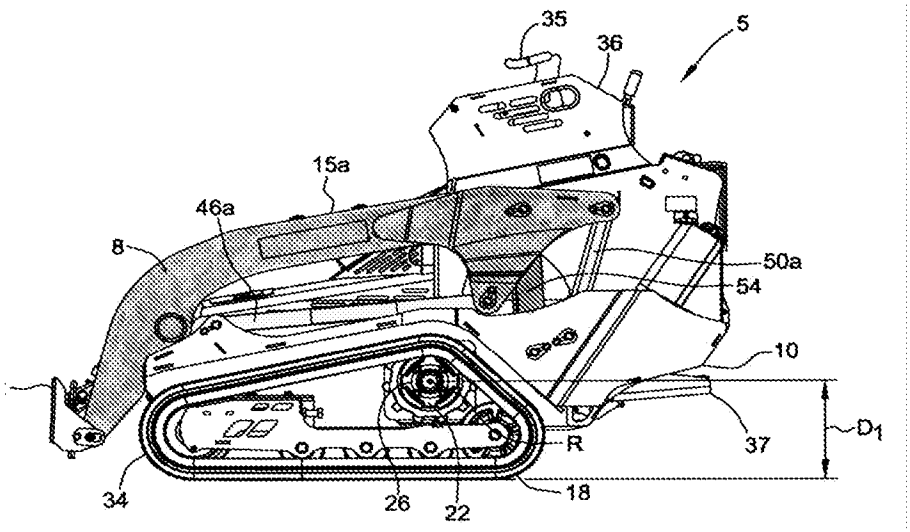


FIG. 2

Fig. 2 above from the '266 patent shows the vertical lift loader arm linkage in its lowermost position. Fig. 3 of the '266 patent, reproduced below and color coded similarly to Fig. 2, shows the vertical lift linkage in its uppermost position. Note how the rear end of loader arm 15a has swung forwardly in Fig. 3 relative to mainframe 10 from the position shown in Fig. 2 above with the tool attachment 12 in Fig. 3 having moved vertically upwardly from its lowermost position in Fig. 2. This is the vertical lift linkage in action.

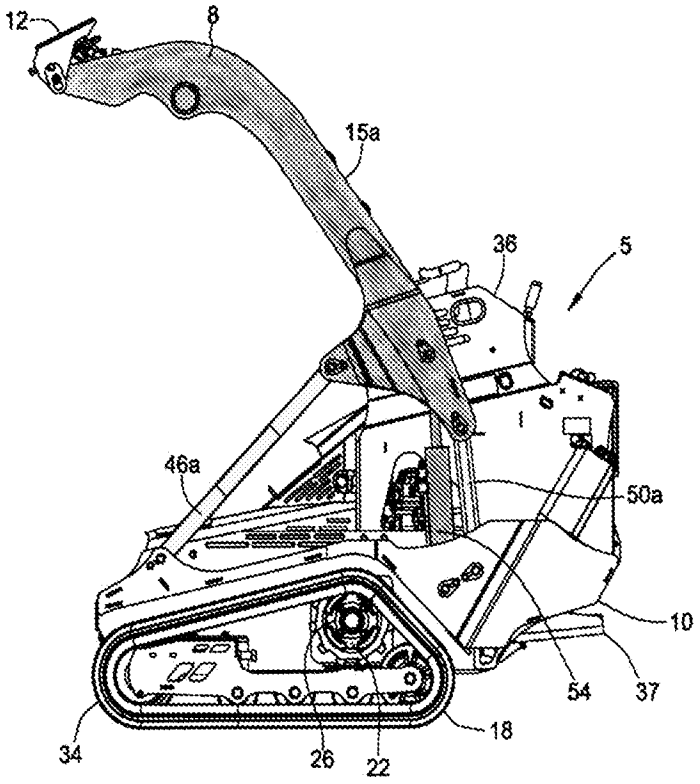
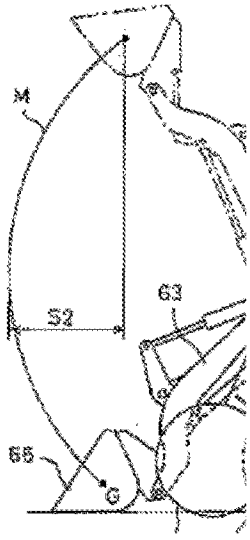


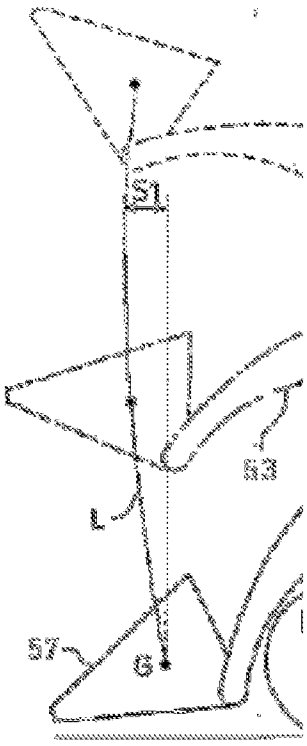
FIG. 3

B. Review of JPH11140900 to Komatsu

1. The Prior Art Radial Lift Linkage Described in Komatsu



Komatsu describes a conventional prior art radial lift linkage on a skid steer loader. In the portion of Fig. 13 reproduced to the right hereof, Komatsu recognizes a fundamental characteristic of a radial lift linkage. Bucket 65 moves forwardly through a large distance S2 when loader arm 63 moves from a lowered to a substantially horizontal position.



Komatsu then notes that the forward distance S2 provided by the operation of the prior art radial lift linkage is much larger than the distance S1 provided by the operation of a vertical lift linkage shown in Fig. 11 of Komatsu. In the relevant portion of Fig. 12 reproduced to the left hereof, Komatsu illustrates the smaller forward distance S1 provided by a vertical lift linkage. Komatsu describes this fundamental difference between a radial lift linkage and a vertical lift linkage as follows:

> "The movement trajectory of the center of gravity G of the bucket 65 at this time is as indicated by the curve M, and an amount of movement S2 in the front-back direction is greater than the amount of movement S1 in the first example since the position of the rear end pivot portion 63a of the arm is fixed."
> (Komatsu, ¶ [0005] at p. 10, ll. 10-15).

Komatsu then goes on to state the reason why such a large forward projection of the bucket in a radial lift linkage is disadvantageous.

> "In the second example, since the amount of movement of the position of the center of gravity of the bucket in the front-back direction during raising and lowering of the bucket is large, **there is a large variation in the position of the center of gravity, and therefore stability of the vehicle in the front-back direction when loaded is poor**."
> (Emphasis Added) (Komatsu, ¶ [0006], top of p. 11).

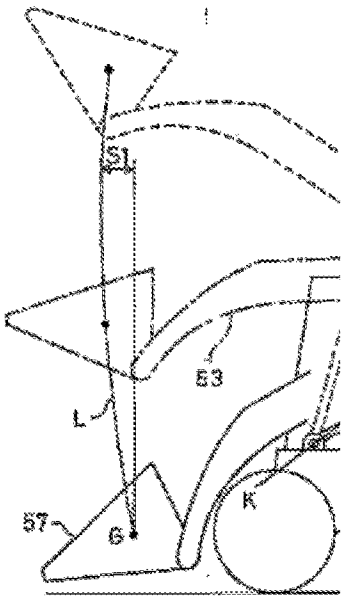
2. Komatsu's Design Objectives

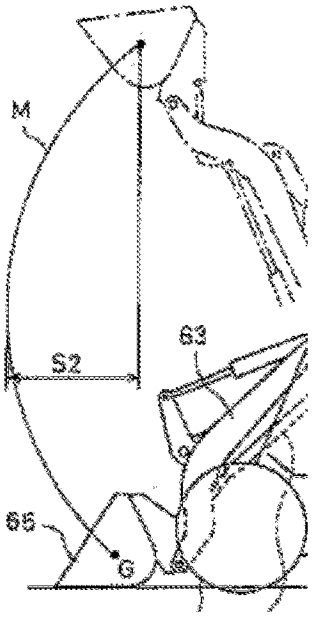
Komatsu clearly sets forth its design objectives as follows:

> "The present invention takes account of the abovementioned problems, and **the objective thereof is to provide a** four-joint link mechanism of **a work vehicle with which it is possible to get on and off the driver's seat even in a loaded state, which has good visibility, and which also has good stability."** (Emphasis Added) (Komatsu, ¶[[0007]).

Notably, Komatsu rules out using a radial lift linkage by restricting the various disclosed embodiments of its invention to skid steer loaders having only vertical lift linkages. Komatsu thus acknowledges the first motivation, which is so well known in the loader art that the PTO may take Official Notice of it, for replacing a radial lift linkage with a vertical lift linkage. A vertical lift linkage keeps the load closer to the vehicle as it is lifted (the distance S1 versus S2) to improve fore-and-aft vehicle stability, thereby permitting an increase in lift capacity.

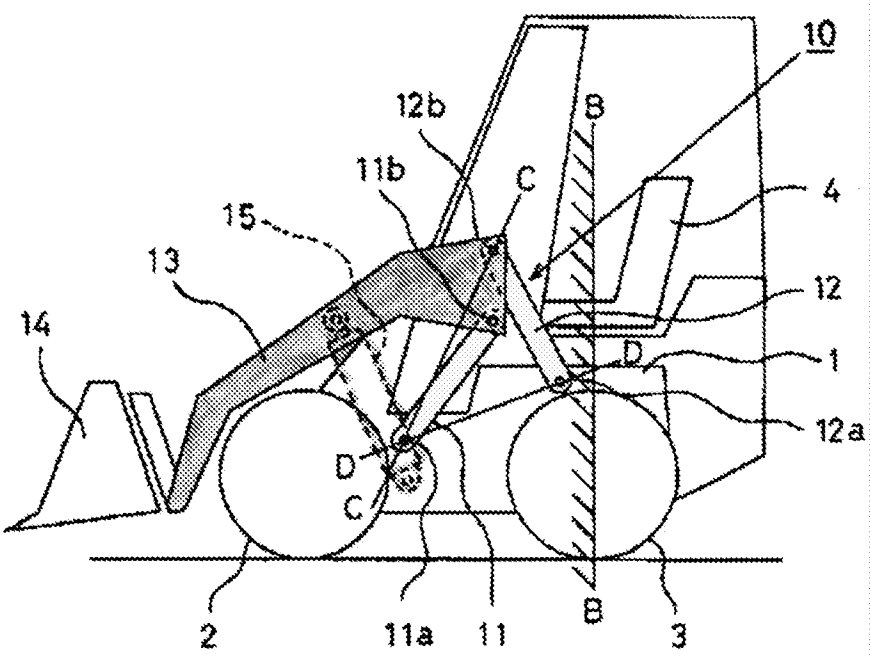
Moreover, while Komatsu does not expressly discuss the second motivation for replacing a radial lift linkage with a vertical lift linkage, Komatsu illustrates the second motivation when one compares the lift patterns illustrated in Figs. 12 and 13 of Komatsu, as reproduced below. That second motivation is the increased forward reach of the lift bucket at full height produced by a prior art vertical lift linkage (Fig. 12 of Komatsu at the left below) as compared to that produced by a prior art radial lift linkage (Fig. 13 of Komatsu at the right below). No wonder then that all the inventive improvements in Komatsu relate to vertical lift linkages and none relate to radial lift linkages.



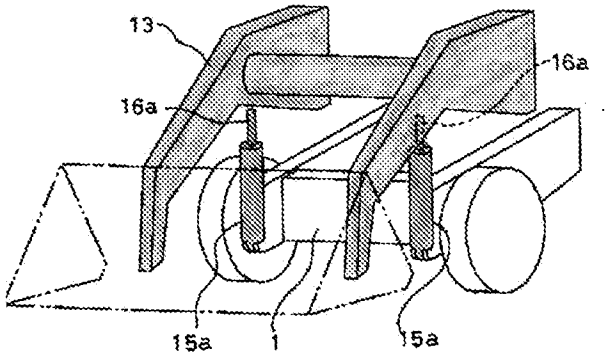


3. Komatsu's Solution

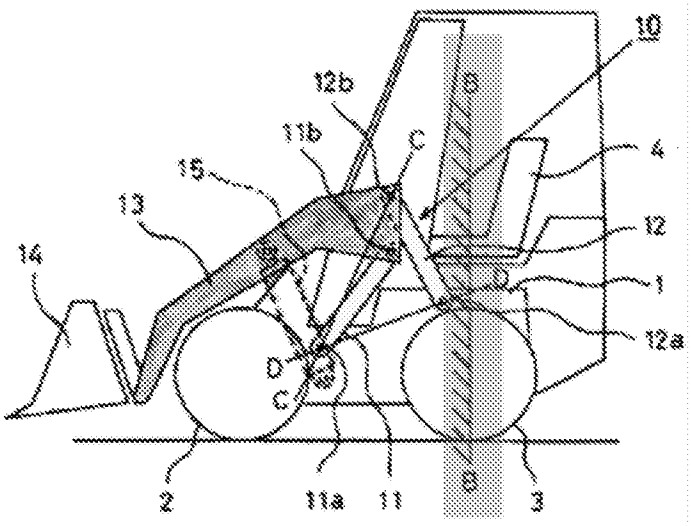
Fig. 1 of Komatsu shows a vertical lift linkage according to a first embodiment of Komatsu's invention. Fig. 1 of Komatsu is reproduced below and has been color coded similarly to that used with respect to the '266 patent, namely green for the loader arms, yellow for the front and rear linkages, and blue for the actuators. Komatsu's vertical lift linkage shown below comprises a green colored loader arm 13, a yellow colored rear linkage 12 and a yellow colored front linkage 11 for movably supporting loader arm 13 relative to the frame 1, and a blue colored cylinder 15 for lifting and lowering loader arm 13.



Figs. 2-4 of Komatsu are perspective views that diagrammatically illustrate various arrangements of cylinders 15 for lifting and lowering loader arms 13. In Fig. 3 of Komatsu as reproduced and color coded to the left hereof, Komatsu shows two cylinders 15 pivotally attached to the left and right sides of the vehicle frame with their piston rods extending to the laterally spaced left and right loader arms 13. Thus, it is clear from Fig. 3 of Komatsu, even though Komatsu has not



shown the yellow connecting linkages 11 and 12 in Fig. 3 for the sake of simplicity, that the vertical lift linkage as shown in Fig. 1 of Komatsu is duplicated on both sides of the skid steer vehicle.



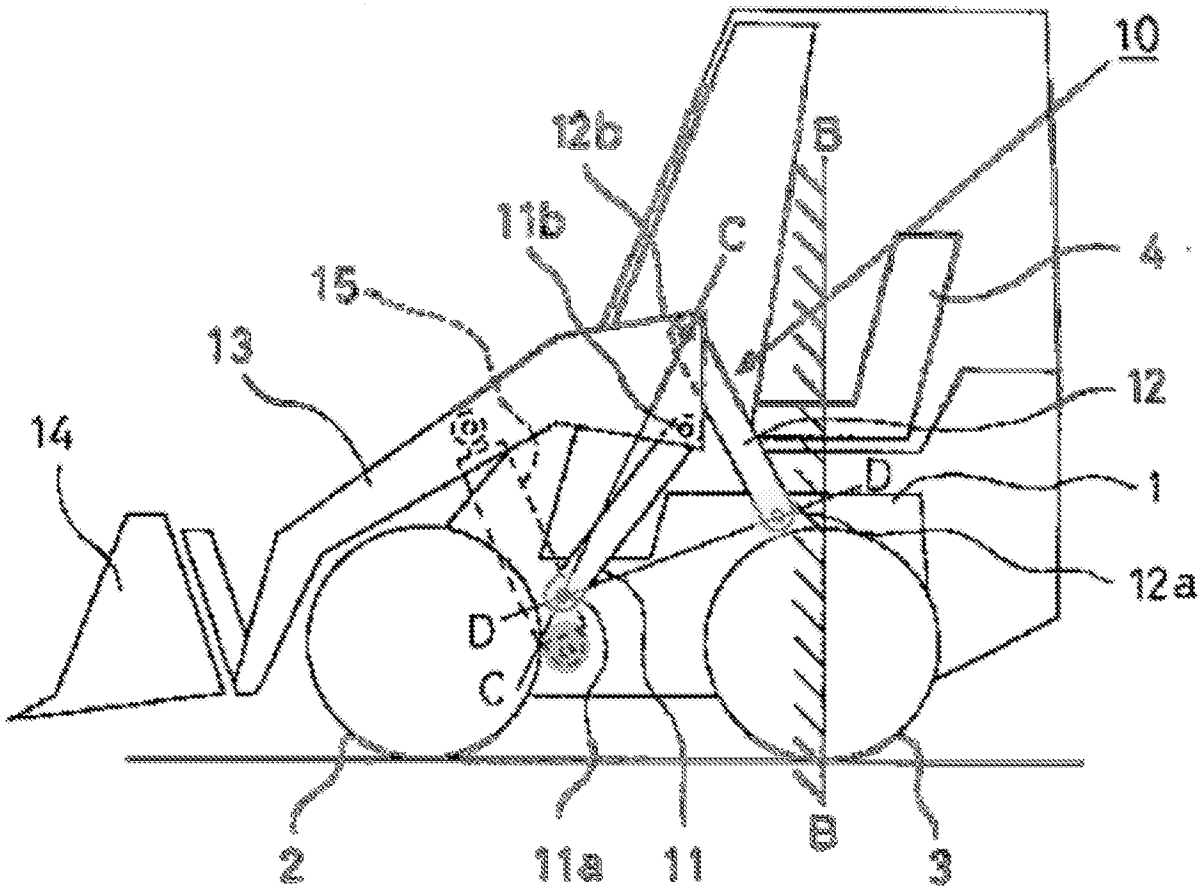
Referring again to Fig. 1 of Komatsu as reproduced to the left hereof, the reference line B-B as highlighted in tan is an important marker in Komatsu's inventive design. Line B-B is a vertical line passing through the center of the rear wheel 3. For one thing, Line B-B passes through the middle of the operator's seat and indicates that the operator's cab and the operator's seat 4 are positioned rearwardly on the frame compared to their more centered locations in the conventional skid steer loader shown in Fig. 11 of Komatsu. Komatsu expressly describes (¶ [0019] at p. 16, ll. 19-21) the substantially rearward location of seat 4 as follows:

> "A vehicle body 1 is provided with a front wheel 2 and a rear wheel 3, and **a driver's seat 4 is provided substantially directly above the rear wheel 3. It should be noted that the driver's seat 4 may be provided** to the front or **to the rear of the rear wheel 3** as necessary." (Emphasis Added)

If the operator's seat 4 is placed even further rearwardly than what is shown above, namely to a position "to the rear of rear wheel 3" as Komatsu expressly suggests be done, one arrives at a skid steer loader very much like the mini skid steer of the '266 patent at issue herein where the operator is at the very rear of the vehicle. Even if the operator's seat 4 remains substantially over rear wheel 3 without being moved further to the rear, the substantial shift of the operator to the rear over the operator's more centered position in a prior art skid steer loader is undeniable. Thus, Komatsu would be understood by one of ordinary skill in the art as being far more applicable to a mini skid steer given the rearward location in which Komatsu now locates the operator.

Part of Komatsu's solution to how to ensure adequate vehicle stability was to employ a vertical lift linkage of the type described above. However, Komatsu did not stop there.

Komatsu also took care to show and describe a low placement of the fixed pivots of the vertical lift linkage on the frame of the vehicle as an additional way of increasing stability. Komatsu's disclosure on this point will be discussed in conjunction with a portion of Fig. 1 of Komatsu as again reproduced below.



The three pivots that connect the front linkage 11 (pivot 11a), the rear linkage 12 (pivot 12a), and the cylinder 15 (unnumbered pivot) to the frame 1 have been highlighted within colored yellow circles for the linkage pivots and a blue circle for the cylinder pivot. Note how low the pivots are on the frame with all the pivots being substantially below the operator's seat. Komatsu expressly discloses the locations for the yellow colored pivots 11a and 12a as follows:

> "**A lower end pivot portion 11a of a forward link 11 is** pivotally attached to a side surface of the vehicle body 1 **behind the front wheel 2**, and **a lower end pivot portion 12a of a rear link 12 is** pivotally attached to the side surface of the vehicle body 1 **above the rear wheel 3**."
>
> (Emphasis Added) (Komatsu, ¶ [0019] at p. 16, l. 23 – p. 17, l. 2).

While Komatsu does not expressly describe the pivot location for cylinder 15, it is shown in Fig. 1 above and is even lower than the linkage pivots 11a and 12a. The pivot location for cylinder 15 is disclosed as being substantially immediately beneath the pivot 11a for front linkage 11.

This very low placement of the frame pivots improves visibility and enables Komatsu to also increase vehicle stability. Komatsu describes this as follows:

> "**Further, the position at which the arm is attached to the vehicle body can be made lower, improving visibility** and making it possible to simplify the frame construction of the vehicle body, **and the center of gravity is lowered, yielding a work vehicle having good stability**."
>
> (Emphasis Added) (Komatsu, ¶ [0009] at p. 12, ll. 21-25)

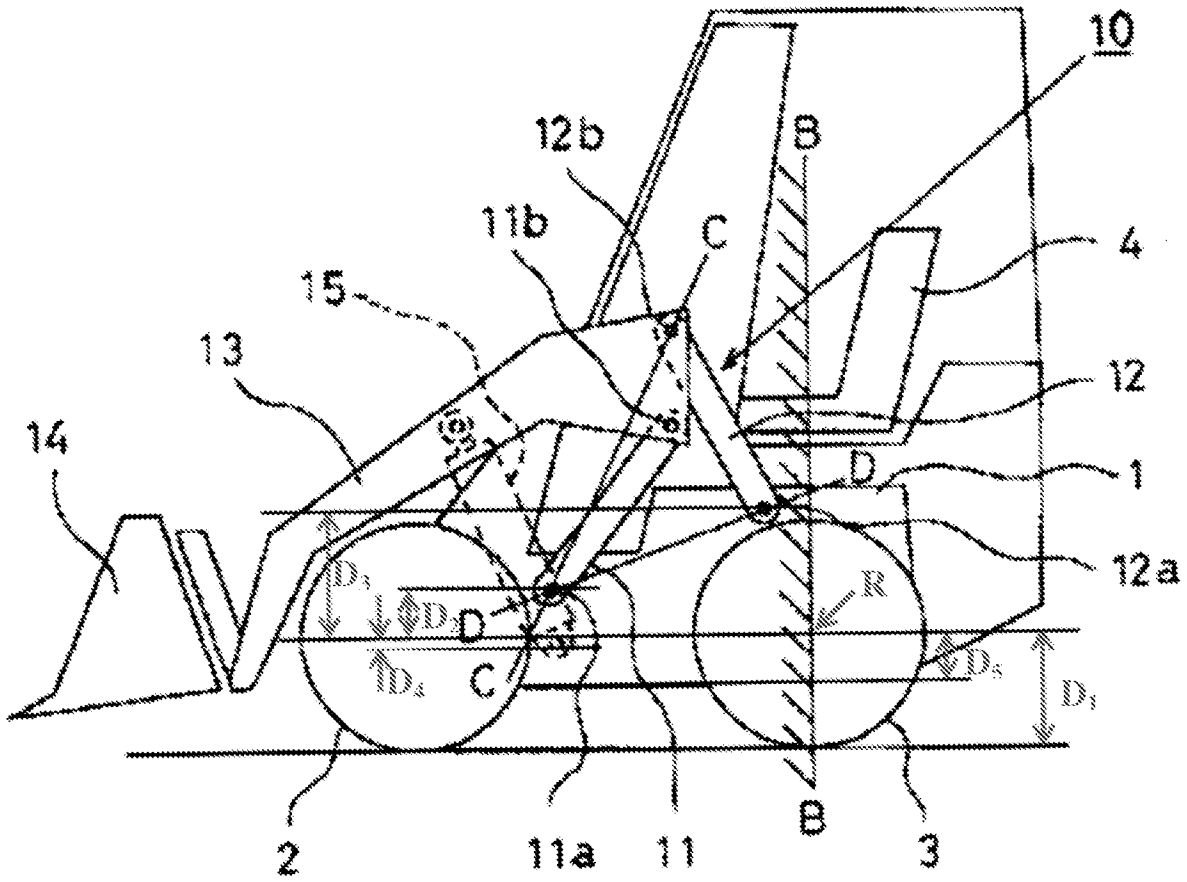
The low placement of the pivots relative to the frame was considered by Komatsu to be important enough to recite in a claim. Claim 4 is directed to the low pivot placement as follows:

> "[Claim 4] A four-joint link mechanism of a work vehicle provided with a vehicle body (1), an arm (13) having at a distal end thereof a work member (14), a forward link (11) coupling a front portion of the vehicle body (1) and a rear portion of the arm (13), and a rear link (12) coupling a rear portion of the vehicle body (1) and a site in the vicinity of a rear portion of the arm (13), **wherein a lower end pivot portion (11a) of the forward link (11) and a lower end pivot portion (12a) of the rear link (12) are positioned lower than a driver's seat (4).**"
>
> (Emphasis Added) (Komatsu, p. 6, ll. 9-18).

4. Komatsu Teaches the Low Pivot Placements Claimed in the '266 patent

The '266 patent at issue herein uses the rotational axis R of the traction drive mechanism as the reference point for certain distances. A first reference distance D_1 (shown in Fig. 2 of the '266 patent) and a second reference distance D_5 (shown in Fig. 5 of the '266 patent) are the distances between the axis R and the ground and the bottom of the mainframe of the skid steer loader. The three remaining distances D_2, D_3, and D_4 (shown in Fig. 5 of the '266 patent) are the distances between the axis R and the frame pivots for the front linkage, the rear linkage, and the cylinder, respectively of the vertical lift linkage of the '266 patent.

These distances have been indicated in red in Fig. 1 of Komatsu below. The rotational axis R is shown as comprising the axis at the center of rear wheels 3 as at least one pair of wheels, e.g. the rear wheels 3, must be driven by a traction drive mechanism in order for the skid steer loader to be self-propelled.



When this page of this Request containing the annotated Fig. 1 of Komatsu is printed at 100%, the various relevant dimensions can be measured and compared to one another as follows:

Dimension	**Annotated Fig. 3 Measurement**	**% of D_1**	**% of D_5**
D_1	0.625 inches		
D_5	0.250 inches		
D_2	0.250 inches	0.40**D_1**	1.00**D_5**
D_3	0.6875 inches	1.10**D_1**	2.75**D_5**
D_4	0.0625 inches	0.10**D_1**	0.25**D_5**

The specification of the '266 patent sets forth the following ranges for D_2, D_3, and D_4 relative to D_1:

> "Each of D2, D3 and D4 is less than about 1.5 times D1 (1.5xD1). In some embodiments, each of D2, D3 and D4 is less than D1 or even less than about 0.75 times D1 (0.75xD1)." ('266 patent, Col. 5, ll. 17-19)

Taking the lowest limit of $0.75D_1$, it is clear that D_2 ($0.40D_1$) and D_4 ($0.10D_1$) are both well below even the lowest end of $0.75D_1$ of the disclosed range set forth in the '266 patent.

Similarly, the specification of the '266 patent sets forth the following ranges for D_2, D_3, and D_4 relative to D_5:

> "Each of D2, D3 and D4 is less than about twice D5 (2xD5). In some embodiments, each of D2, D3 and D4 is less than about 1.75 times D5 (1.75xD5) or less than about 1.5 times D5 (1.5xD5). P2 and P3 may be relatively lower than P1 and their distances D3, D4 from the rotational axis R may be even less than about 1.25 times D5 (1.25xD5)." ('266 patent, Col. 5, ll. 17-19)

Taking the lowest limit of $1.25D_5$, it clear that D_2 ($1.00D_5$) and D_4 ($0.25D_5$) are both well below even the lowest end of $1.25D_5$ of the disclosed range set forth in the '266 patent.

The same statement is not true of D_3. While D_3 is lower than 1.5 D_1, it is not lower than last two values of D_1 in the disclosed range. Moreover, D_3 is not lower than any of the values of D_5 in the disclosed range.

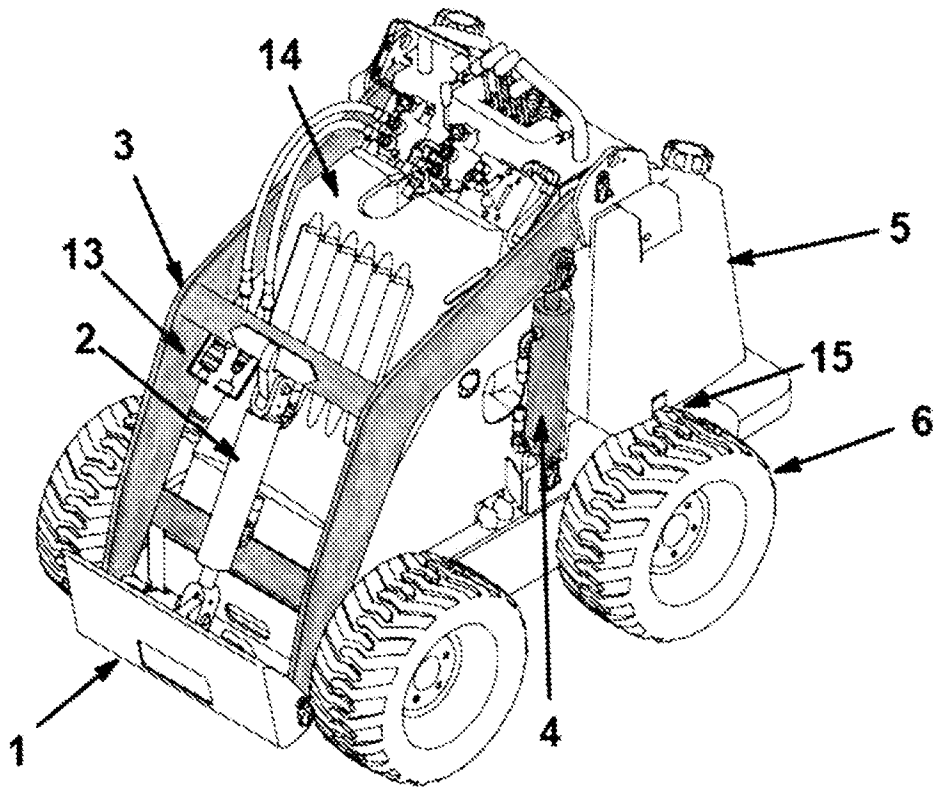
Nonetheless, as Toro will show in its application of the art to the claims of the '266 patent for which reexamination is requested herein, the D_2, D_3 and D_4 dimensions as disclosed in Komatsu are sufficient to meet the dimensional limitations recited in all of these claims.

In the annotated Fig. 1 of Komatsu above that shows the distances $D_1 - D_5$, the frame pivot point for cylinder 15 is so close to the rotational axis R that Toro has drawn the line indicating the axis of D_4 lower than it actually is, and thus farther away from rotational axis R, simply to be able to show the distance D_4. Thus, the D_4 percentage values of D_1 and D_5 in the table above are higher than they would have been, and thus to Toro's detriment, had Toro been able to locate the D_4 reference line in a centered position on the axis of the frame pivot point for cylinder 15. In actuality, this has no effect on the application of Komatsu to the claims of the '266 patent as the D_4 percentage values of D_1 and D_5 in the table above are so low that such values easily meet all of the "less than" limitations in the '266 patent which recite the D_4 percentage values.

C. **Review of the Dingo 322 Printed Publications**

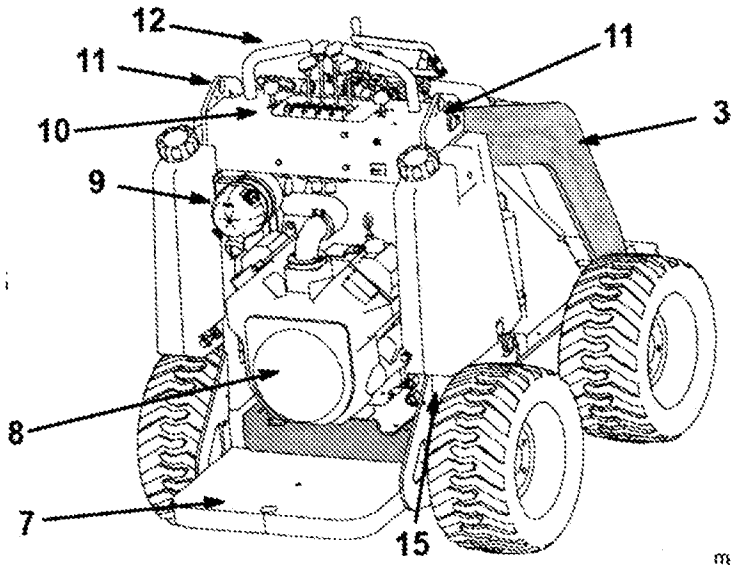
Toro began selling a mini skid steer loader known as the Dingo 322 in the late 1990's. Toro continues to sell essentially the same mini skid steer loader today which is now referred to as the Dingo 323.

Toro is submitting herewith a Dingo® 322 Operator's Manual dated 2001, which is being referred to herein as "Dingo". The mini skid steer loader disclosed in Dingo is illustrated in a front perspective view and in a side-by-side rear perspective view on page 14 of Dingo. These two views are collectively labeled as Fig. 9 in Dingo. The front perspective view in Dingo has been separated from the rear perspective view so that they can be enlarged and viewed individually. Toro will begin with the front perspective view of Fig. 9 of Dingo as reproduced below.



The front perspective view of Dingo has been color coded similarly to that used previously herein, namely green for the loader arm 3, yellow for the loader arm linkages, and blue for the cylinder 4. However there are no yellow linkages shown since Dingo is a mini skid

steer having a radial lift linkage. In Dingo's radial lift linkage, the loader arm 3 is pivotally attached to the frame at a fixed pivot. The use of a fixed pivot obviates the need for any movable front and rear linkages to support the loader arm 3 as would be necessary in a vertical lift linkage. As shown above, Dingo's radial lift linkage is duplicated on both sides of the mini skid steer as there clearly are both left and right loader arms 3.



The rear perspective view in Fig. 9 of Dingo, as shown to the left hereof, discloses that an engine 8 is mounted atop an engine bracket which has been colored orange for easy identification. Engine 8 is forward of an operator platform 7. A standing operator stands on platform 7 to use the controls on control panel 10 to operate the loader.

The rear perspective view of the right side of the Dingo loader as shown immediately above does not clearly illustrate the right hydraulic cylinder 4 attached to the right loader arm 3 as the right hydraulic cylinder is hidden in this view by the right rear gas tank. However, Fig. 18 of Dingo, as reproduced to the right hereof, has a front view of the right side of the Dingo loader. The right hydraulic cylinder 4, though it is unnumbered in this view, is clearly visible and has been colored blue for ease of identification in Fig. 18 similarly to the color coding applied to the left hydraulic cylinder 4 in Fig 9 of Dingo.

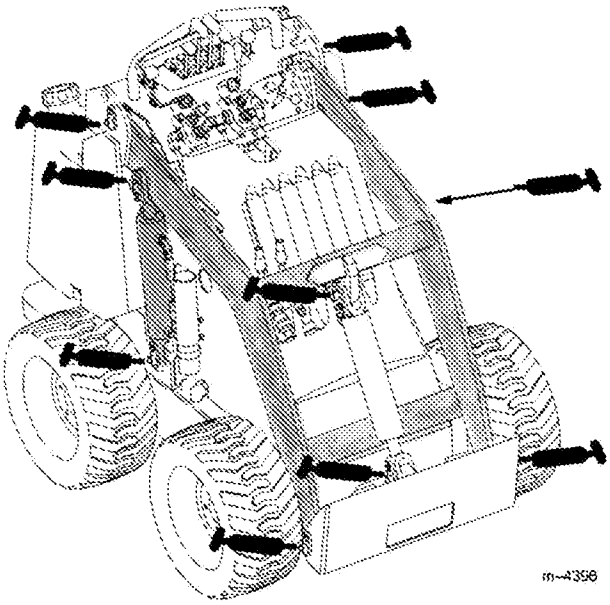
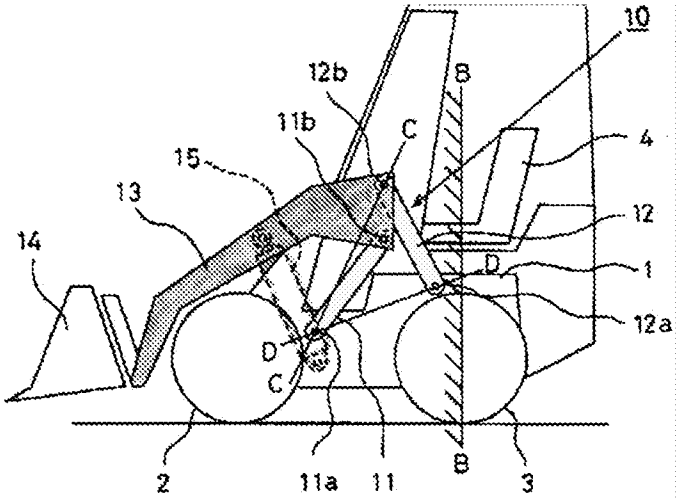


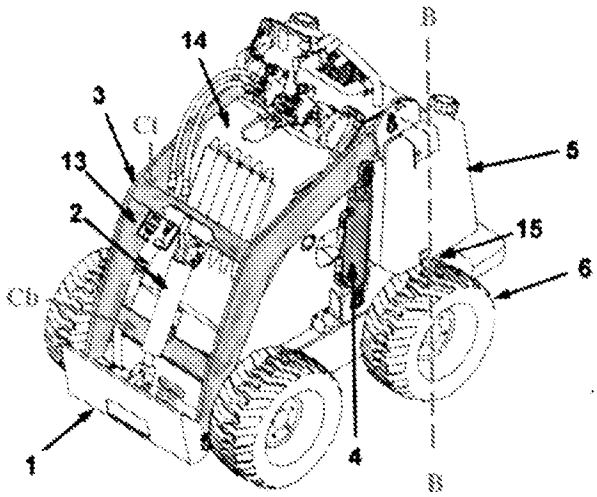
Figure 18

D. The Dingo in view of Komatsu Combination

There is undeniable correspondence between the skid steer loader of Komatsu and the mini skid steer loader of Dingo. This correspondence is best shown in the side by side comparison of Komatsu (on the left below) and Dingo (on the right below).



Komatsu



Dingo

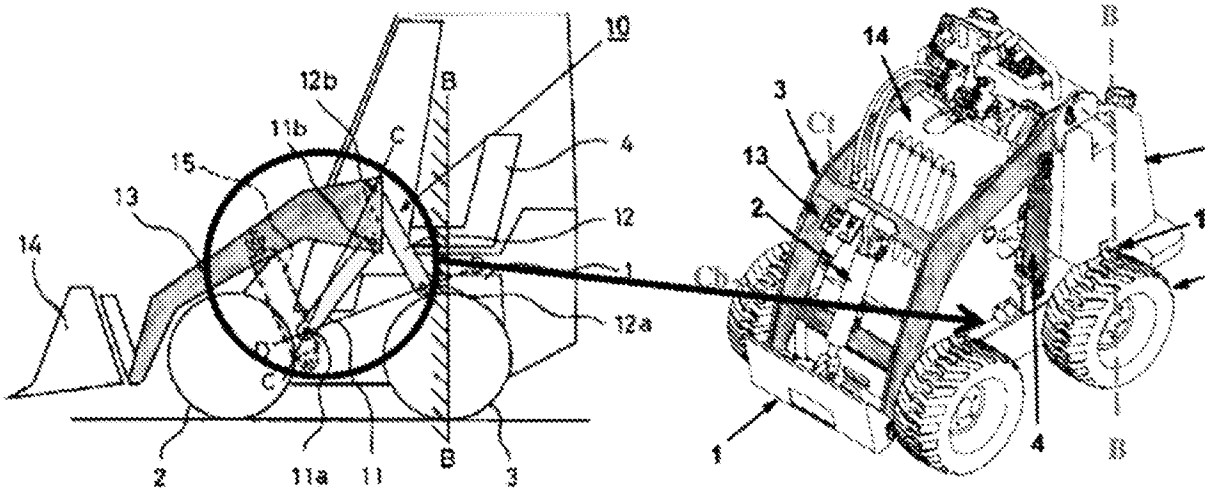
Both Komatsu and Dingo locate their loader arm linkages, whether the vertical lift linkage in Komatsu or the radial lift linkage in Dingo, forward of a vertical line B-B extending upwardly through the center of the rear wheel. Komatsu additionally shifts the operator seat 4 further rearwardly than its usual more centered position in a skid steer loader. The Examiner is reminded that Komatsu expressly teaches that the seat 4 could be even further rearwardly, namely to the "rear of the rear wheel". (Komatsu, ¶ [0019] at p. 16, ll. 19-21). Thus, the seated operator in Komatsu is positioned relative to Komatsu's vertical lift linkage at substantially the **same** position as the standing operator in Dingo is positioned relative to Dingo's radial lift linkage.

In addition, the advantages of a vertical lift linkage over a radial lift linkage in lifting and then dumping heavy loads are so well known that the PTO would be entitled to take Official Notice thereof. To reiterate, these advantages comprise 1.) keeping the load carrying

bucket closer to the frame to improve vehicle stability and thereby increase lift capacity, and 2.) providing greater forward reach at maximum lift height for improved dumping ability.

Moreover, both of these advantages are expressly disclosed in Komatsu. The Examiner is reminded of Komatsu's comparison of the large distance S2 that a bucket moves forward in a radial lift linkage to the small distance S1 that occurs in a vertical lift linkage as being the reason for an increase in vehicle stability. The Examiner is further reminded of the depiction of the additional forward reach at maximum lift height as shown in Fig. 12 of Komatsu for a vertical lift linkage as compared to the lesser reach at maximum lift height produced by a radial lift linkage as shown in Fig. 13 of Komatsu. These advantages unquestionably establish the motivation one of ordinary skill in the art would have had at the time of the purported invention of the '266 patent for replacing Dingo's radial lift linkage with Komatsu's vertical lift linkage.

In view of this motivation and as depicted in the comparison below, it would have been obvious to one of ordinary skill in the art at the time of the invention to have freed the loader arm 3 of Dingo from its fixed pivot connection to the mainframe, to use the type of front and rear connecting linkages 11 and 12 as taught by Komatsu to support the now freed Dingo loader arm 3 on the mainframe, and to adjust as need be the position of Dingo's existing cylinder 4 relative to the newly added linkages 11 and 12. When Komatsu's vertical lift linkage is so adapted to Dingo, it will be located on Dingo precisely where Komatsu directs that it be located, namely forward of a vertical line B-B extending upwardly through the center of the rear wheel. This is the same placement that Dingo uses for its own radial lift linkage. The obviousness of the substitution cannot be denied.



Komatsu **Dingo**

That is not to say that no changes whatsoever will be required in Dingo. For example, the rear end of each Dingo loader arm 3 may need to be reshaped to allow the pivot points of Komatsu's front and rear linkages 11 and 12 to connect thereto in the vertically displaced manner taught by Komatsu. Dingo's cylinders 4 obviously must remain connected to Dingo's loader arms 3 at spots that provide sufficient lift height. Moreover, other changes in various components including the frame may need to be made to permit the components of a vertical lift system to properly fit on the frame. All changes required to adapt Komatsu's linkage to Dingo would be well within the level of skill of one of ordinary skill in the art.

The Examiner must also keep in mind when considering the obviousness of the above noted combination that physical combinability, i.e. being able to use something from the prior art in another prior art reference with no changes being required, is NOT a requirement of obviousness. The Patent Owner may attempt to argue against the Dingo/Komatsu combination by reducing the analysis to just such an argument, that there is not enough space in Dingo to use the Komatsu linkage, or that the Komatsu linkage might be too heavy even though it will obviously be downsized to lift the far lighter loads which mini skid steers are intended to lift, or that the pivots might have to be heavier, or that the gas tank might have to be moved, or that the stroke of the piston in the cylinder may need to be different, etc. However, this focus on granular detail is inappropriate in an obviousness analysis. It is the concepts in the prior art which form the basis for the obviousness analysis and not the size of the parts or whether things have to be relocated to make them fit.

The PTO specifically recognizes this fact in MPEP §2145 (III) which states as follows:

> "'The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference.... Rather, the test is what the combined teachings of those references would have suggested to those of ordinary skill in the art.' *In re Keller*, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). See also *In re Sneed*, 710 F.2d 1544, 1550, 218 USPQ 385, 389 (Fed. Cir. 1983) ('[I]t is not necessary that the inventions of the references be physically combinable to render obvious the invention under review.'); and *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973) ('Combining the teachings of references does not involve an ability to combine their specific structures.').
>
> However, the claimed combination cannot change the principle of operation of the primary reference or render the reference inoperable for its intended purpose." (Emphasis in the Original)

In addition, in the recent decision of *Allied Erecting & Dismantling Co. v. Genesis Attachments, LLC*, 825 F.3d 1373 (Fed. Cir. 2016) involving demolition equipment, the invention related to a quick change structure for mounting and dismounting tools which the PTAB had concluded could obviously be modified to additionally provide that both jaws of the tool, rather than one jaw, could be pivotal as taught in a secondary reference. The plaintiff had argued that making such a change "'involves massive, nonobvious reconstruction of the device that not only changes its principle of operation, but renders the device inoperable as a result.'" (F.3d at 1380).

However, in affirming the PTAB's finding of obviousness, the Court reemphasized the long standing doctrine that physical combinability is simply not the standard for obviousness, writing as follows:

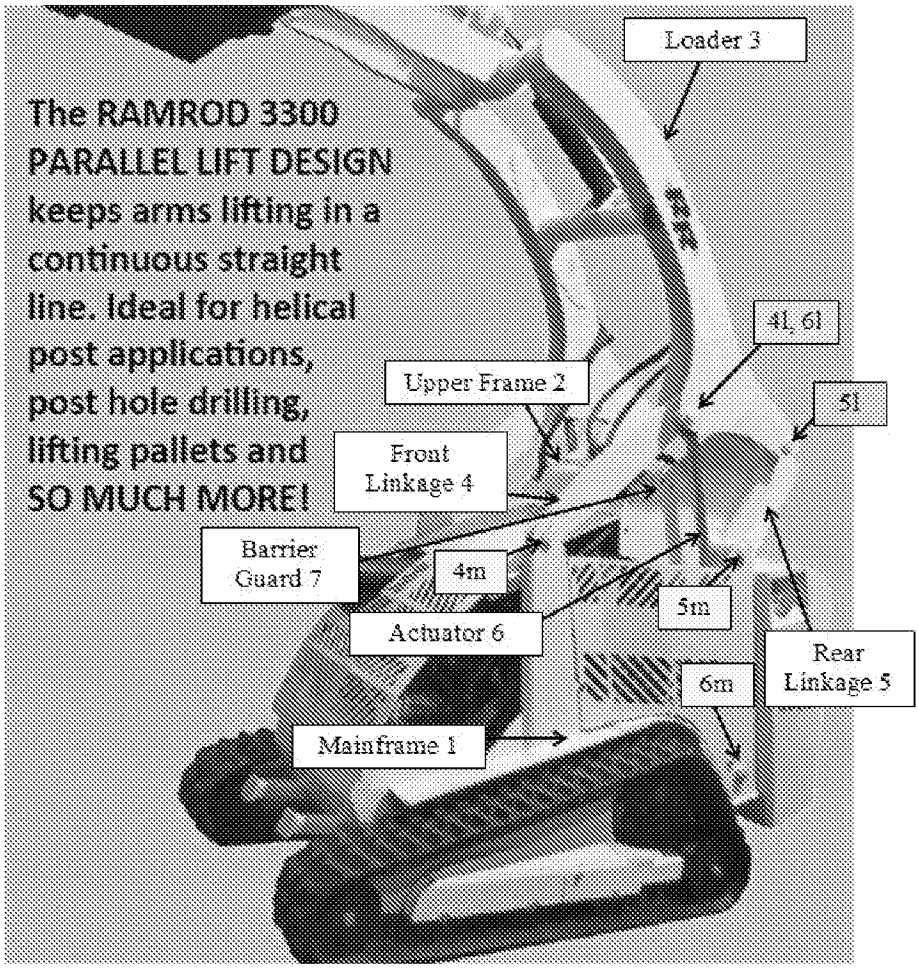
> "Contrary to Allied's position, "it is not necessary that [Caterpillar and Ogawa] be **physically combinable** to render **obvious** the ['489 patent]." *In re Sneed*, 710 F.2d 1544, 1550 (Fed. Cir. 1983); *see also In re Etter*, 756 F.2d 852, 859 (Fed. Cir. 1985) (en banc) ("Etter's assertions that Azure cannot be incorporated in Ambrosio are basically irrelevant, the criterion being not whether the references could be **physically combined** but whether the claimed inventions are rendered **obvious** by the teachings of the prior art as a whole."). "The test for **obviousness** is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference," *In re Keller*, 642 F.2d 413, 425 (CCPA 1981). *See also In re Mouttet*, 686 F.3d 1322, 1332 (Fed. Cir. 2012) (citing *In re Keller*, 642 F.2d at 425), but rather whether "a skilled artisan would have been motivated to combine the teachings of the prior art references to achieve the claimed invention," *Pfizer, Inc. v. Apotex, Inc.*, 480 F.3d 1348, 1361 (Fed. Cir. 2007)." (Emphasis in the Original) (F.3d at 1381)

E. Ground 1 – Detailed Prior Art Application to Claims 19-23, 25 and 27

1. Review of Ramrod

Ramrod discloses a mini skid steer loader shown below. Toro has labeled and numbered the various components thereof for ease of identification and later for applying Ramrod to claims 19-23, 25 and 27 of the '266 patent.

Ramrod discloses a mini skid steer with a vertical lift linkage comprising front linkage 4, rear linkage 5, and actuator 6. The use of pivotal front and rear linkages 4 and 5 frees loader 3 for movement relative to mainframe 1 to, in Ramrod's words, "keep arms lifting in a continuous straight line." The reference numerals highlighted in yellow indicate the pivot points 4m, 5m and 6m between linkages 4, 5 and actuator 6, respectively, and mainframe 1. The reference numerals highlighted in blue indicate the pivot points 4l, 5l and 6l between linkages 4, 5 and actuator 6, respectively, and loader 3.[5]



[5] The loader pivot points 4l and 6l of front linkage 4 and actuator 6, respectively, appear to be located on a common pivot axis but are laterally displaced from one another in a side-by-side manner. That is why the reference numerals 4l and 6l appear in a common box.

Insofar as the "barrier guard" set forth in claims 19-23, 25 and 27 of the '266 patent can be understood, the machine structure of Ramrod depicted above also has a barrier guard. At least a portion of Ramrod's barrier guard has been indicated at 7 in the view above. Referring now to a different illustration of the 3300 mini skid steer in Ramrod showing the vertical lift linkage in its lowered position, all of the pivot points 4l, 6l and 5l are disposed "within" Ramrod's barrier guard as shown to the right hereof in a view labeled by Toro as Fig. 1.

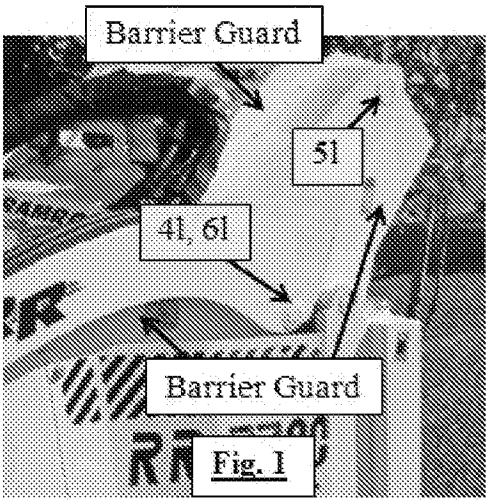


Fig. 1

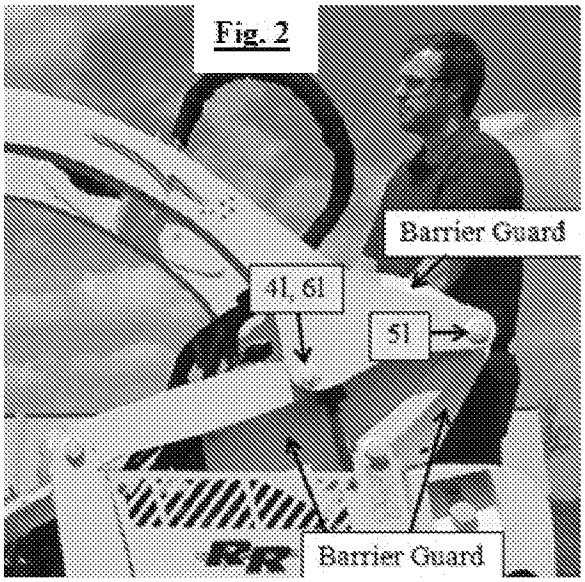


Fig. 2

In addition, looking at another illustration of the 3300 mini skid steer in Ramrod showing the vertical lift linkage at a middle height raised position as set forth to the left hereof, all of the pivot points 4l, 6l and 5l are still disposed "within" Ramrod's barrier guard 7 as shown to the left hereof in a view labeled by Toro as Fig. 2.

Finally, looking at the illustration of the 3300 mini skid steer in Ramrod showing the vertical lift linkage at an even higher vertically raised position, pivot points 4l, 6l are either disposed "within" or "forward of" Ramrod's barrier guard 7 while pivot point 5l is still "within" Ramrod's barrier guard 7. This is illustrated to the right hereof in the view labeled by Toro as Fig. 3.

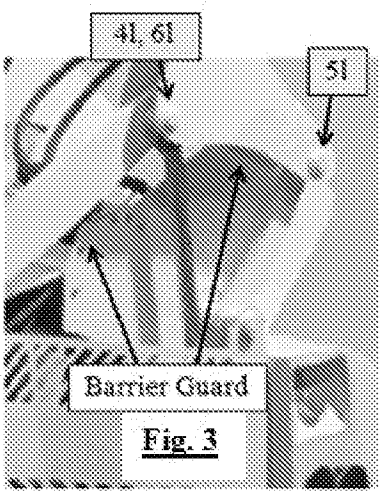


Fig. 3

2. As to Claims 19-23, 25 and 27

With the above review of Ramrod in mind, Toro respectfully submits that Ramrod anticipates claims 19-23, 25 and 27 of the '226 patent under 35 U.S.C. §102 as set forth below. Limitations in the combination that appear in Ramrod will be highlighted in yellow using the reference numerals Toro assigned to Ramrod's components in the preceding subsection hereof.

19. A loader apparatus for standing or walk-behind operator control (Ramrod 3300 mini skid steer operated by a standing operator) and comprising:

a machine structure comprising a mainframe (mainframe 1) and an upper frame (upper frame 2), the machine structure defining a barrier guard (barrier guard 7);

a control station having operator controls toward a rear of the loader apparatus (the control station in front of the operator who stands at the rear of the Ramrod 3300);

an actuator (actuator 6) pivotally attached to the mainframe (at 6m);

a front linkage (front linkage 4) pivotally attached to the mainframe (at 4m);

a rear linkage (rear linkage 5) pivotally attached to the mainframe (at 5m) and

a loader (loader 3) adapted to carry a tool (the bucket), the loader being moveable between a down position and a vertically raised position, the front linkage (front linkage 4) being pivotally attached to the loader at a front linkage pivot point (at 4l), the rear linkage (rear linkage 5) being pivotally attached to the loader at a rear linkage pivot (at 5l), wherein:

in the down position, the front linkage pivot point is (1) disposed within the barrier guard (4l as shown in Fig. 1 on pg. 44) and/or (2) disposed forward of the barrier guard; and

as the loader travels from the down position to the vertically raised position, the rear linkage pivot point is (1) disposed within the barrier guard (5l as shown in Figs. 1-3 on pg. 44) and/or (2) disposed forward of the barrier guard.

20. The loader apparatus as set forth in claim 19 wherein, in the down position, the rear linkage pivot point is disposed within the barrier guard (5l as shown in Fig. 1 on pg. 44).

21. The loader apparatus as set forth in claim 19 wherein the actuator is pivotally attached to the loader at an actuator pivot point (at 6l), wherein, in the down position, the

actuator pivot point is (1) disposed within the barrier guard (6l as shown in Fig. 1 on pg. 44) and/or (2) disposed forward of the barrier guard.

22. The loader apparatus as set forth in claim 21 wherein the mainframe has a first side and a second side, the rear linkage, actuator and front linkage each being pivotally attached to the first side of the mainframe (Either the left or right sides of the Ramrod 3300 mini skid steer as the vertical lift linkage is duplicated on each side).

23. The loader apparatus as set forth in claim 19 wherein the loader is free from direct attachment to the mainframe (Loader 3 is free to move fore-and-aft relative to mainframe 1 due to the vertical lift linkage).

25. A loader apparatus for standing or walk-behind operator control (Ramrod 3300 mini skid steer operated by a standing operator) and comprising:

a machine structure comprising a mainframe (mainframe 1) and an upper frame (upper frame 2), the machine structure defining a barrier guard (barrier guard 7);

a control station having operator controls toward a rear of the loader apparatus (the control station in front of the operator who stands at the rear of the Ramrod 3300);

an actuator (actuator 6) pivotally attached to the mainframe (at 6m);

a linkage (rear linkage 5) pivotally attached to the mainframe (at 5m); and

a loader (loader 3) adapted to carry a tool (the bucket), the loader being moveable between a down position and a vertically raised position, the linkage being pivotally attached to the loader at a linkage pivot point (at 5l), wherein:

in the down positon, the linkage pivot point is disposed within the barrier guard (5l as shown in Fig. 1 on pg. 44).; and

as the loader travels from the down position to the vertically raised position, the linkage pivot point is (1) disposed within the barrier guard (5l as shown in Figs. 1-3 on pg. 44) and/or (2) disposed forward of the barrier guard.

27. The loader apparatus as set forth in claim 25 wherein the loader is free from direct attachment to the mainframe (Loader 3 is free to move fore-and-aft relative to mainframe 1 due to the vertical lift linkage).

F. Ground 2 – Detailed Prior Art Application to Claims 1 and 4-9

1. Preliminary Comments Regarding Claim 7

There are three components of the vertical lift linkage disclosed in the '266 patent, the two front and rear linkages colored yellow below and the hydraulic cylinder colored blue below. Each component has two pivots. The first pivot attaches the component to the loader arm colored green below. The second pivot attaches the component to the mainframe. Thus, there are six pivots in all. The three mainframe frame pivots have been enclosed in colored triangles corresponding to the color used for the component, two yellow triangles for the linkage to mainframe pivots and one blue triangle for the cylinder to mainframe pivot. The three loader arm pivots have been enclosed in similarly color coded boxes.

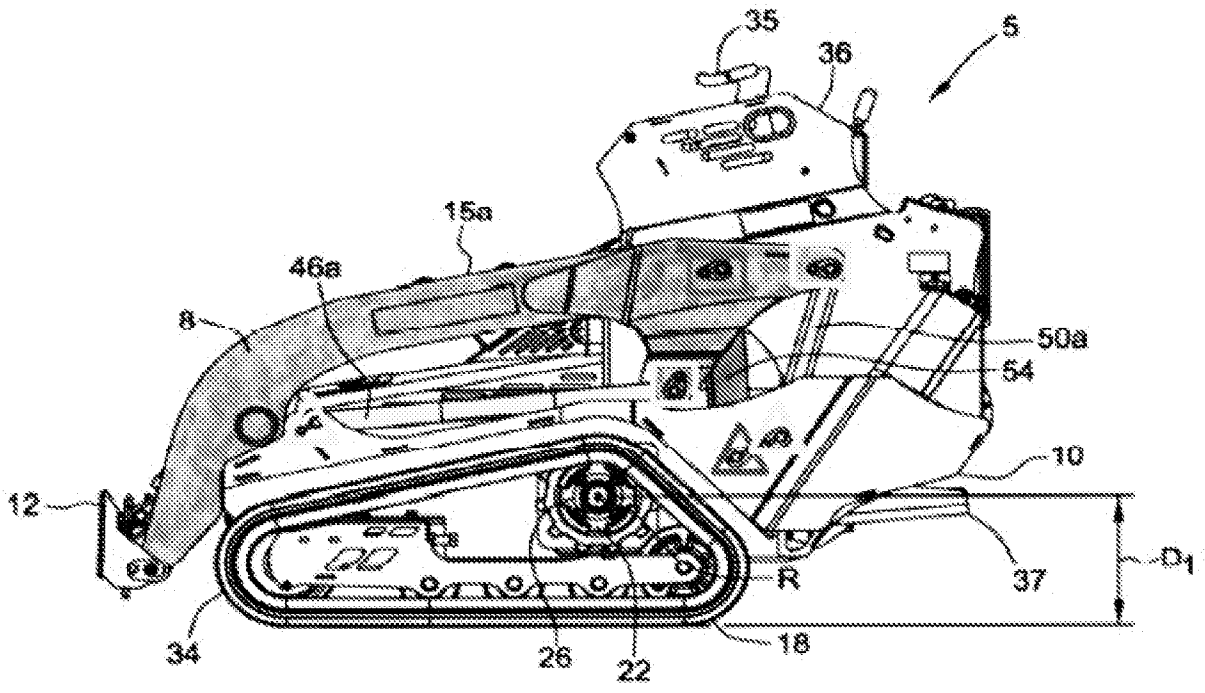
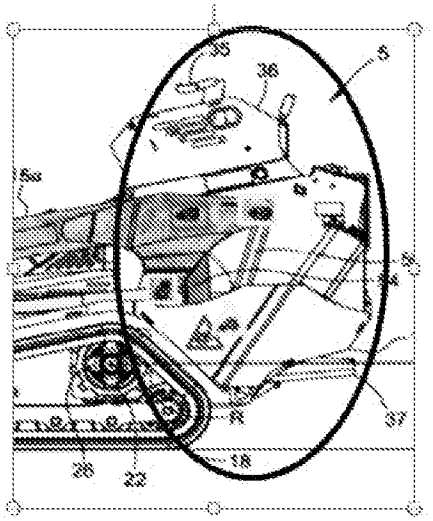


FIG. 2

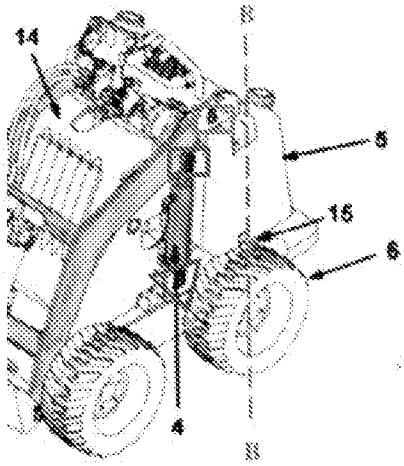
Claim 7 of the '266 patent purports to recite the vertical and fore-and-aft locations of these six pivots relative to certain landmarks. The relevant portion of claim 7 is reproduced below.

"7. …wherein, as the loader travels from the down position to the vertically raised position , the first, second, third, fourth, fifth and sixth pivot points are (1) disposed between the operator controls and the bottom of the rigid frame and**/or (2) disposed forward of the control station.**" (Emphasis Added)

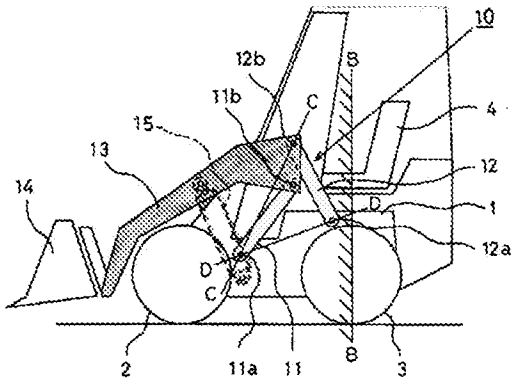


However, the '266 patent has no support for the second condition above, namely that the six pivots be "disposed forward of the control station". As is clear from the portion of Fig. 2 as reproduced to the right hereof, FIVE of the six pivots as enclosed in the circle are NOT forward of the control station 36 which includes the operator controls 35 that are shown within the control station 36.

If the claimed condition of the location of the pivots being "disposed forward of the control station" is deemed to be supported by the '266 patent's depiction of having five of the pivots along the side of the control station, then the Dingo in view of Komatsu combination of references will similarly meet this recitation. For example, Dingo discloses that the mainframe pivot and the loader arm pivot of its hydraulic cylinder 4, enclosed in a blue triangle and a blue box respectively in the Dingo illustration reproduced to the left hereof, are positioned forward of the operator station. In addition, the fixed pivot between the loader arm and the mainframe in Dingo, enclosed in a green box to the right hereof, is positioned along the side of the control station in the same manner as the five pivots in the '266 patent depicted above.

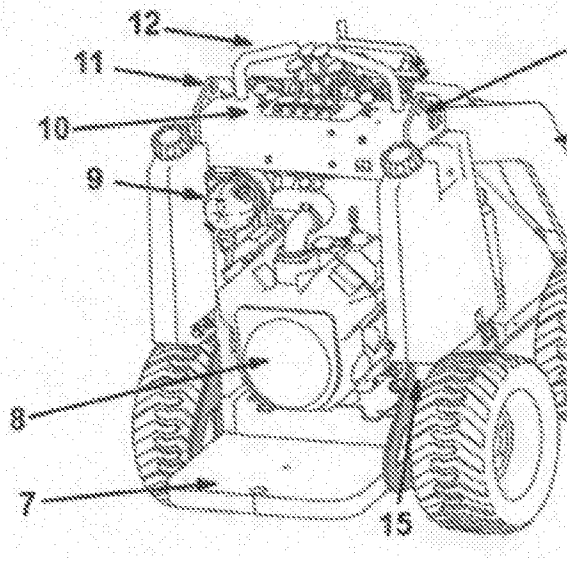


Nothing would change when the vertical lift linkage of Komatsu is adapted to Dingo as all of Komatsu's pivots are specifically placed forwardly of the line B-B in Komatsu as shown again to the right hereof. Line B-B passes through the front of the operator's seat and Komatsu discloses that the operator's seat could be positioned even further rearwardly "to the rear of the rear wheel". Komatsu's forward shift of the vertical lift linkage relative to the rearwardly located operator would be maintained in Dingo when Komatsu's vertical lift linkage is adapted to Dingo in front of the same line B-B in Dingo passing through the center of Dingo's rear wheel. Accordingly, if having five pivots along the side of the control station as in the '266 patent is sufficient to support claim language that recites the pivots are "disposed forward of the control station", the same will be true of Dingo as modified by Komatsu.



2. Preliminary Comments Regarding Claims 8 and 9

Claim 8 relates to a "pocket" at the rear of the loader "to partially surround the operator". Claim 9 further requires the operator platform to be "at least partially within the pocket." Dingo has the claimed pocket as illustrated by the portions of the Dingo frame that have been highlighted in orange in the illustration of Dingo at the right hereof. The orange pocket at least partially surrounds the operator since portions of the feet of the operator will be positioned within the pocket as the operator stands on the operator platform 7. In addition, the operator platform 7 is clearly at least partially within the pocket. Toro believes that Dingo fully meets the limitations set forth in claims 8 and 9.



In addition, the Patent Owner has long used higher pockets on the frame of its loaders to partially surround more of the operator than would be true of the Dingo pocket shown above. One example is shown to the left hereof taken from Vermeer Brochure illustrating the Patent Owner's wheeled and tracked counterparts to Dingo. Note that the rear of the frame is extended up to the operator's thighs. Thus, if the Examiner feels that the Dingo pocket does not read on claims 8 and 9, or in the event the Patent Owner attempts to later claim during reexamination a higher pocket than that in Dingo, it would clearly have been obvious under 35 U.S.C. §103 to one of ordinary skill in the art to extend the frame in Dingo further vertically as taught by Vermeer brochure to form a higher pocket.

3. As to Claims 1 and 4-9

Claims 1 and 4-9 of the '266 patent at issue herein are unpatentable under 35 U.S.C. 103(a) as such claims would have been obvious to one of ordinary skill in the art at the time of the invention over Dingo in view of Komatsu.

The analysis for why this combination of references would have been obvious to one of ordinary skill in the art has been set forth above. Accordingly, in the following application of the prior art to the claims, the references will be applied to the claim limitations assuming the combination of references set forth in Section IV(D) hereof has been made. In other words, the application of the prior art will assume that the teachings of Komatsu have been adapted to Dingo by freeing the left and right loader arms 3, 3 of Dingo from their fixed pivots, using Komatsu's front and rear linkages 11 and 12 in place of Dingo's fixed pivots with the linkages being suitably dimensioned to movably support the loader arms 3, 3 while retaining their length and lift height, and using Dingo's existing cylinders 4 suitably positioned to retain lift height.

Limitations in the combination that appear in Dingo will be highlighted in yellow. Limitations in the combination that appear in Komatsu will be highlighted in tan. Limitations that appear in Vermeer Brochure will be highlighted in pink.

1. A loader apparatus configured for standing operator control (Dingo, Fig. 9, depicted Dingo 322 mini skid steer) and comprising:

a loader (Dingo, Fig. 9, the left arm 3) adapted to carry a tool (Dingo, p. 10, the referenced "std. bucket"), the loader being moveable between a down position and a vertically raised position;

a loader support for supporting the loader (Dingo, Fig. 9, the frame that carries, inter alia, wheels 6, operator platform 7 and engine 8), the loader support having a first side and a second side, the loader being free from direct attachment to the loader support (Komatsu, the teaching of a loader arm 13 having no fixed pivot);

a first linkage pivotally attached to the first side of the loader support at a first linkage pivot point (Komatsu, front linkage 11 adapted to Dingo's left arm 3);

a second linkage pivotally attached to the first side of the loader support at a second linkage pivot point (Komatsu, rear linkage 12 adapted to Dingo's left arm 3);

an actuator pivotally attached to the first side of the loader support at an actuator pivot point (Dingo, Fig. 9, left cylinder 4);

a control station having operator controls for propelling the loader apparatus forward and for raising and lowering the loader (Dingo, Fig. 9, control panel 10); and

an operator platform (Dingo, Fig. 9, operator platform 7) for standing operation of the operator controls of the control station, the operator platform being located toward a rear of the loader apparatus such that the first linkage pivot point, second linkage pivot point, and the actuator pivot point are disposed forward of the operator platform (Dingo, Fig. 9, taught by placement of Dingo's radial lift linkage forward of operator platform 7) , the first linkage pivot point, second linkage pivot point, and the actuator pivot point being disposed below the operator controls of the control station (Komatsu, Fig. 1, the low placement of fixed pivots 11a, 12a, and the actuator fixed pivot adjacent to fixed pivot 11a).

4. The loader apparatus as set forth in claim 1 wherein the loader comprises a loader arm (Dingo, Fig. 9, the left arm 3), the loader arm being pivotally connected to the first side of the loader support.

5. The loader apparatus as set forth in claim 4 wherein the first and second linkages are pivotally attached to the loader arm (Komatsu's front and rear linkages 11 and 12 adapted to Dingo's left arm 3).

6. The loader apparatus as set forth in claim 4 wherein the loader arm is a first loader arm, the loader comprising a second loader arm (Dingo, Fig. 9, the right arm 3), the second loader arm being pivotally connected to the second side of the loader support.

7. A loader apparatus for standing or walk-behind operator control (Dingo, Fig. 9, depicted Dingo 322 mini skid steer) and comprising:

a control station having operator controls toward a rear of the loader apparatus (Dingo, Fig. 9, control panel 10);

a loader (Dingo, Fig. 9, the left arm 3) adapted to carry a tool (Dingo, p. 10, the referenced "std. bucket"), the loader being moveable between a down position and a vertically raised position;

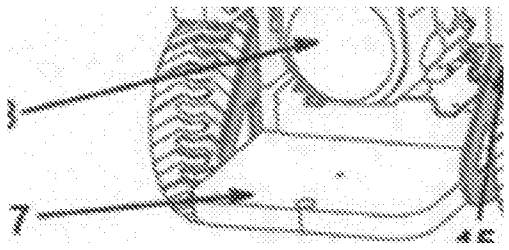
a rigid frame for supporting the control station and the loader (Dingo, Fig. 9, the frame that carries, inter alia, wheels 6, operator platform 7 and engine 8), the rigid frame having a first side, a second side, a top, and a bottom;

a first linkage pivotally attached to the first side of the rigid frame at a first pivot point and pivotally attached to the loader at a second pivot point (Komatsu, front linkage 11 adapted to Dingo's left arm 3);

an actuator pivotally attached to the first side of the rigid frame at a third pivot point and pivotally attached to the loader at a fourth pivot point (Dingo, Fig. 9, left cylinder 4); and

a second linkage pivotally attached to the first side of the rigid frame at a fifth pivot point and pivotally attached to the loader at a sixth pivot point (Komatsu, rear linkage 12 adapted to Dingo's left arm 3), wherein, as the loader travels from the down position to the vertically raised position , the first, second, third, fourth, fifth and sixth pivot points are (1) disposed between the operator controls and the bottom of the rigid frame and/or (2) disposed forward of the control station (Dingo, Fig. 9, front perspective view, shows Dingo's mainframe loader arm and actuator pivots to be forward of the control station if such forward positioning is found to be supported in the '266 patent and such forward positioning will be retained when Komatsu's front and rear linkages 11 and 12 are adapted to Dingo).

8. The loader apparatus as set forth in claim 7 wherein the rigid frame defines a pocket toward a rear of the rigid frame to partially surround an operator (Dingo, Fig. 9, rear perspective view, the pocket as highlighted in orange to the right hereof or alternatively it would have been obvious to extend the pocket higher as taught in Vermeer Brochure).



9. The loader apparatus as set forth in claim 8 further comprising an operator platform at least partially within the pocket (Dingo, Fig. 9, rear perspective view, operator platform 7 is at least partially within the pocket).

G. Ground 3 – Detailed Prior Art Application to Claims 14, 17, and 18

Claims 14, 17, and 18 of the '266 patent at issue herein are unpatentable under 35 U.S.C. 103(a) as such claims would have been obvious to one of ordinary skill in the art at the time of the invention over Dingo in view of Komatsu as applied in Ground 2 above, and further in view of Vermeer Brochure.

As is apparent from the statement of the proposed ground of rejection above, the additional reference to Vermeer Brochure is being relied upon in Ground 3 to teach one additional feature set forth in claim 14, namely the use of a sprocket drive as embodied in a tracked loader as opposed to a shaft drive embodied in a wheeled loader. Thus, Toro will first review below the relevant teachings of Vermeer Brochure in this regard before proceeding with the application of the prior art for Ground 2.

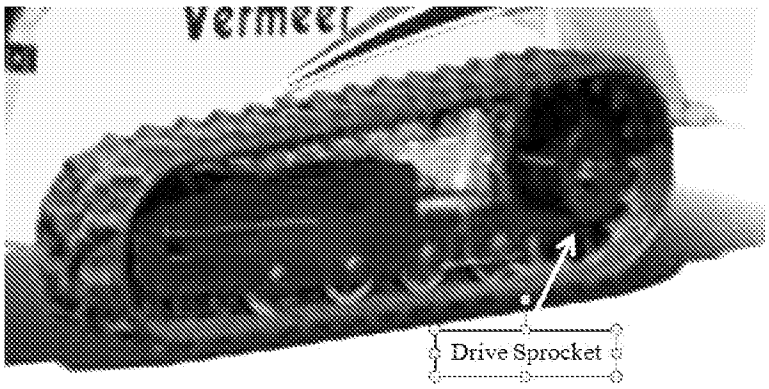
1. Review of Vermeer Mini Skid Steers S600/S600TX Brochure

Toro is submitting herewith a brochure published by the Patent Owner disclosing various models of a mini skid steer loader that Patent Owner previously sold and manufactured. This brochure is entitled Vermeer Mini Skid Steers S600/S600TX Brochure and is being referred to herein as Vermeer Brochure.

As shown in the photograph to the left hereof which was taken from the cover page of Vermeer Brochure, the Patent Owner offered the **same** mini skid steer in two different versions. The first version shown in the foreground of the photograph was a wheeled model known as the S600 supported for movement over the ground

by pairs of front and rear wheels. The second version shown in the background of the photograph was a tracked model known as the S600TX supported for movement over the ground by left and right endless ground engaging tracks.

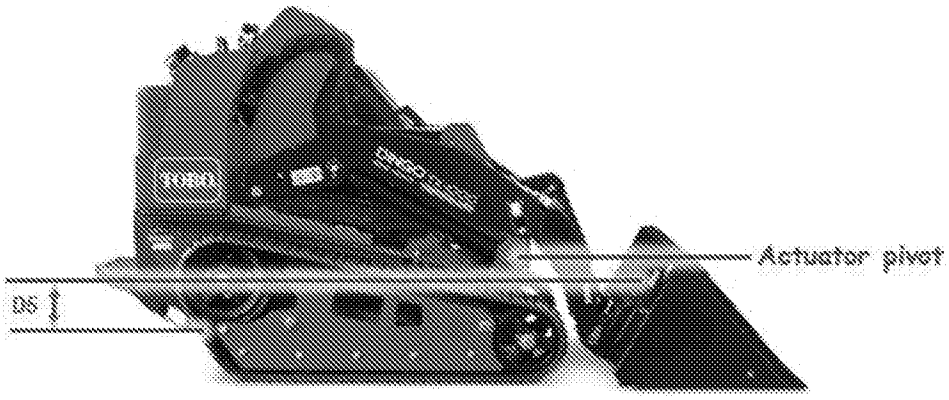
Vermeer Brochure clearly establishes that a wheeled drive system and a tracked drive system were known to be interchangeable alternatives to one another for the purpose of propelling a mini skid steer over the ground. The Patent Owner's prior practice of offering **both** alternatives on the same mini skid steer platform, i.e. the S600 wheeled model as well as the S600TX tracked model with the TX obviously standing for "tracked", is evidence of such interchangeability. This enables a mini skid steer manufacturer to provide choice to a potential customer to enable the customer to purchase the model having the traction system best suited to his or her uses and the type of terrain over which the product will normally be used. The interchangeability of the two traction systems could hardly be clearer from the photograph on the prior page where the wheeled and tracked models are depicted together. The two mini skid steers are substantially identical to one another except that one was built with a wheeled drive system and one was built with a tracked drive system.



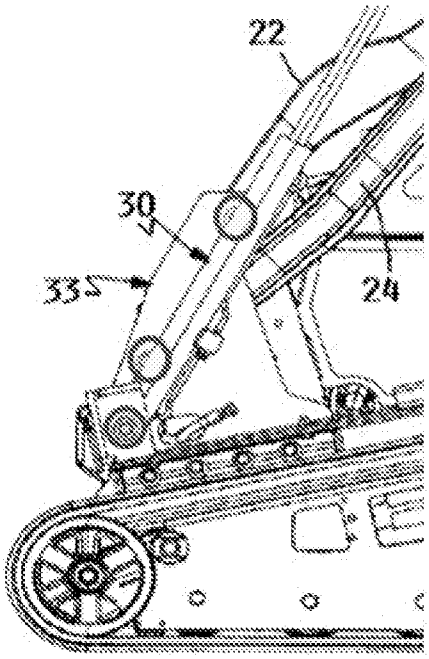
Referring to a detail of the tracked model, the portion of the photograph reproduced to the left hereof is taken from the photograph of the S600TX shown on the third page of Vermeer Brochure with the tracked drive system having been enlarged. Each track of the S600TX is driven by a large drive sprocket which Toro has labeled. The use of such a drive sprocket in a tracked drive system is widespread throughout the Patent Owner's mini skid steer line. As discussed above, Vermeer Brochure is being used to establish the interchangeability of a tracked drive system having a drive sprocket, the Patent Owner's S600TX, with the wheeled drive system offered by the Patent Owner as an alternative on the S600.

2. Preliminary Comments Regarding Claim 14

In the Patent Owner's Complaint, a copy of which is attached hereto, asserting claim 14 of the '266 patent against Toro's TX 1000, the Patent Owner alleges that the pivot placement for the actuator of the TX 1000 relative to the rotational axis of the drive mechanism is less than 0.75 x D5. D5 is a reference distance between the rotational axis of the drive mechanism and a bottom of the mainframe of the TX 1000. The Patent Owner uses the labelled photograph contained in paragraph 56 of the Complaint, which photograph is reproduced below, in conjunction with this assertion.



However, claim 14 does not directly call for the actuator pivot to be less than 0.75 D5. Instead, claim 14 additionally recites a pivot for one of the linkages in addition to the actuator pivot. That linkage pivot cannot be seen in the photograph above. However, Fig. 3 of U.S. Patent Application Publication 2016/0244937 to Azure et al. relating to the TX 1000, a portion of which is reproduced to the right hereof, shows both the pivot for the actuator 30, highlighted in blue, as well as the pivots for both linkages 22, 24, highlighted in yellow. Only a portion of the pivot for each linkage is visible with the rest of the pivot being hidden by the cylinder of the hydraulic actuator 30. However, enough of the yellow linkage pivots are visible to establish their locations relative to the blue actuator pivot.

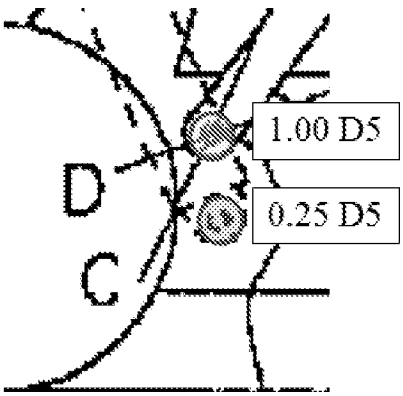


Claim 14 recites one of the linkages and the actuator as well as their pivot points to the loader support. Claim 14 refers to the linkage pivot point as the first pivot point and the actuator pivot point as the third pivot point. Thus, by way of reference to Fig. 3 of Azure above, the blue pivot of the actuator 30 is the third pivot point of claim 14 and either of the yellow pivots of the linkages may comprise the first pivot point of claim 14. However, when writing this claim, the Patent Owner was undoubtedly aware that the yellow pivots for both linkages are too high in the TX 1000 to be less than 0.75 D5. The only pivot in the TX 1000 that is low enough to arguably meet that limitation is the blue actuator pivot. Both of the yellow linkage pivots are too high to meet the less than 0.75 D5 limitation.

Nonetheless, the Patent Owner chooses to specifically claim one of the yellow linkage pivots (the first pivot point of claim 14) and the blue actuator pivot (the third pivot point of claim 14) at the end of claim 14. That final limitation in claim 14 reads as follows:

> "the loader support comprising a forward-most pivot point with the first pivot point *(one of the alleged to be yellow pivots in the TX 1000)* or the third pivot point *(the alleged to be blue pivot in the TX 1000)* being the forward-most pivot point, a vertical distance between the rotational axis R and the forward-most pivot point *(the alleged to be blue pivot in the TX 1000)* being less than 0.75 D5." (Material in Italics Added)

Since the Patent Owner's purpose was to simply claim the low pivot location of the blue actuator pivot in the TX 1000, why not do so directly? After all, the Complaint reads the less than 0.75 D5 claim limitation only on the blue actuator pivot. Why include in the claim one of the yellow actuator pivots in the claim when you know the location of those pivots is too high to be less than 0.75 D5? The answer is that the Patent Owner needed a straw man to attempt to avoid the pivot placements taught in Komatsu.



As shown in the illustration to the right, Komatsu discloses a blue pivot which at 0.25 D5 is less than 0.75 D5 and a yellow pivot which at 1.00 D5 is slightly more than 0.75 D5. These distances are taken from Section IV(B)4 of this Request. Had the Patent Owner simply claimed the location of the blue actuator pivot by itself, the claim would have read on Komatsu. However,

by including the location of the irrelevant yellow linkage pivot, the Patent Owner is able to set up a comparison of which of these two pivots is forward-most. Since the yellow linkage pivot in Komatsu is slightly too high (i.e. at 1.00 D5 instead of 0.75 D5) and the blue linkage pivot in Komatsu is slightly behind the yellow actuator pivot by less than the diameter of the pivot pins, the Patent Owner has arrived at a place where it may attempt to argue Komatsu is avoided by the slimmest of margins.

Toro respectfully submits that the drafting of claim 14, no matter how creative it might have been, creates a distinction without a difference. It would have been an obvious choice of design to one of ordinary skill in the art to have moved the yellow linkage pivot in Komatsu slightly lower or to have moved the blue actuator pivot in Komatsu slightly further forward during the adaptation of Komatsu's vertical lift linkage to Dingo. The patent laws do not award patents for changes relative to the prior art, in this case almost imperceptible changes, unless criticality is established for such changes.[6] The Patent Owner does not come close to meeting that burden.

3. As to Claims 14, 17 and 18

The wheeled drive system in Dingo would read on the drive mechanism of claim 14 except that it uses a drive shaft typical of a wheeled system instead of the claimed drive sprocket typical of a tracked drive system. However, as shown earlier in Section IV(F)(1) hereof, Vermeer Brochure clearly establishes the interchangeability of a tracked drive system and a wheeled drive system. Vermeer made the **same** skid steer in a wheeled drive model, as in the S600 mini skid steer of Vermeer Brochure which is a direct counterpart to the wheeled drive model in Dingo, or in a tracked drive model, as in the S600TX mini skid steer of Vermeer Brochure. All one of ordinary skill in the art need do in order to understand this is to refer to

[6] For the record, Toro respectfully submits that the less than 0.75 D5 limitation of claim 14 is not supported under 35 U.S.C. §112(a) by the specification of the '266 patent. As set forth in Col.5, ll. 20-31 of the '266 patent, the disclosure of the '266 patent says sequentially that **the claimed actuator and pivot linkage distances** from the rotational axis could be less than 2 x D5, or less than 1.75 x D5, and finally "even less than about 1.25 times D5 (1.25 x D5)". Significantly, it never mentions any lower value, particularly a lower value such as 0.75 D5 which is 40% lower than the lowest specific value of 1.25 times D5 contained in the '266 patent. The value of less than 0.75 D5 does appear in the '266 patent, but only in conjunction with a totally different distance measuring the distance of the highest linkage pivot relative to the top of the side of the mainframe. This does not involve an intervening reference and thus does not appear to be a 35 USC§112 issue that may be decided in a patent reexamination. Nonetheless, it is worth noting in the context of the claiming discussion relative to claim 14.

the illustration on the cover page of Vermeer Brochure depicting both models of mini skid steers next to one another as alternatives to one another. Accordingly, it would have been further obvious under 35 U.S.C. 103(a) to one of ordinary skill in the art at the time of the invention to have provided Dingo in a tracked drive model in addition to a wheeled drive model as expressly taught by Vermeer Brochure.

With the above in mind and further keeping in mind the underlying Dingo in view of Komatsu combination set forth in Section IV(D) hereof, claims 14, 17, and 18 of the '266 patent at issue herein are unpatentable under 35 U.S.C. 103(a) as such claims would have been obvious to one of ordinary skill in the art at the time of the invention over Dingo in view of Komatsu and further in view of Vermeer Brochure.

Limitations in the combination that appear in Dingo will be highlighted in yellow. Limitations in the combination that appear in Komatsu will be highlighted in tan. Limitations that appear in Vermeer Brochure will be highlighted in pink.

14. A loader apparatus for standing or walk-behind operator control (Dingo, Fig. 9, depicted Dingo 322 mini skid steer) and comprising:

a loader (Dingo, Fig. 9, the left arm 3) adapted to carry a tool (Dingo, p. 10, the referenced "std. bucket"),

a loader support for supporting the loader (Dingo, Fig. 9, the frame that carries, inter alia, wheels 6, operator platform 7 and engine 8), the loader support having a first side and a second side, the loader being free from direct attachment to the loader support (Komatsu, the teaching of a loader arm 13 having no fixed pivot);

a linkage (Komatsu, front linkage 11 adapted to Dingo's left arm 3) pivotally attached to the first side of the loader support at a first pivot point (Komatsu, pivot point 11a) and pivotally attached to the loader at a second pivot point;

an actuator (Dingo, Fig. 9, left cylinder 4) pivotally attached to the first side of the loader support at a third pivot point (Komatsu, low pivot point of actuator 15 below and behind pivot point 11a) and pivotally attached to the loader at a fourth pivot point; and

a drive mechanism (Dingo, Fig. 9, wheels 6) for propelling the loader apparatus over a supporting surface, the drive mechanism having a drive sprocket (Vermeer Brochure, pg. 3, the rear drive sprocket of the tracked drive system when used to replace Dingo's wheeled drive

system) defining a rotational axis R, the rotational axis R and a bottom of the first side of the loader support being separated by a vertical distance D5 (Komatsu, Fig. 1, D5=0.250 inches), the loader support comprising a forward-most pivot point with the first pivot point (Komatsu, Fig. 1, D2=0.250 inches for the front linkage 11 pivot point 11a which is slightly more than 0.75 x D5 of 0.250 inches which equals 0.1875 inches) or the third pivot point (Komatsu, Fig. 1, D4=0.0625 inches for the actuator 15 pivot point which is substantially less than 0.75 x D5 of 0.250 inches which equals 0.1875 inches) being the forward-most pivot point, a vertical distance between the rotational axis R and the forward-most pivot point being less than 0.75 D5 (It would have been an obvious choice of mechanical design to move pivot point 11a slightly lower to be less than 0.75 x D5 or to move the actuator 15 pivot point slightly forward of 11a when the low pivot placements of Komatsu are adapted to Dingo).

17. The loader apparatus as set forth in claim 14 wherein the linkage is a first linkage, the loader apparatus comprising a second linkage (Komatsu, rear linkage 12 adapted to Dingo's left arm 3) pivotally attached to the first side of the loader support at a fifth pivot point (Komatsu, pivot point 12a) and pivotally attached to the loader at a sixth pivot point, the loader apparatus having a bottom at which the drive mechanism contacts the supporting surface, the rotational axis R and the bottom of the loader apparatus being separated by a vertical distance Dl (Komatsu, Fig. 1, D1=0.625 inches), the rotational axis R and each of the first, third and fifth pivot points being separated by a vertical distance, the vertical distance between the rotational axis R and the first pivot point being less than 1.5 times Dl (Komatsu, Fig. 1, D2=0.250 inches for the front linkage 11 pivot point 11a which is less than 1.5 x D1 of 0.625 inches which equals 0.9375 inches), the vertical distance between the rotational axis R and the third pivot point being less than 1.5 times Dl (Komatsu, Fig. 1, D4=0.0625 inches for the actuator 15 pivot point which is less than 1.5 x D1 of 0.625 inches which equals 0.9375 inches), and the vertical distance between the rotational axis R and the fifth pivot point being less than 1.5 times Dl (Komatsu, Fig. 1, D3=0.6875 inches for the rear linkage 12 pivot point 12a which is less than 1.5 x D1 of 0.625 inches which equals 0.9375 inches).

18. The loader apparatus a set forth in claim 14 wherein the loader apparatus has a bottom at which the drive mechanism contacts the supporting surface, the rotational axis R and

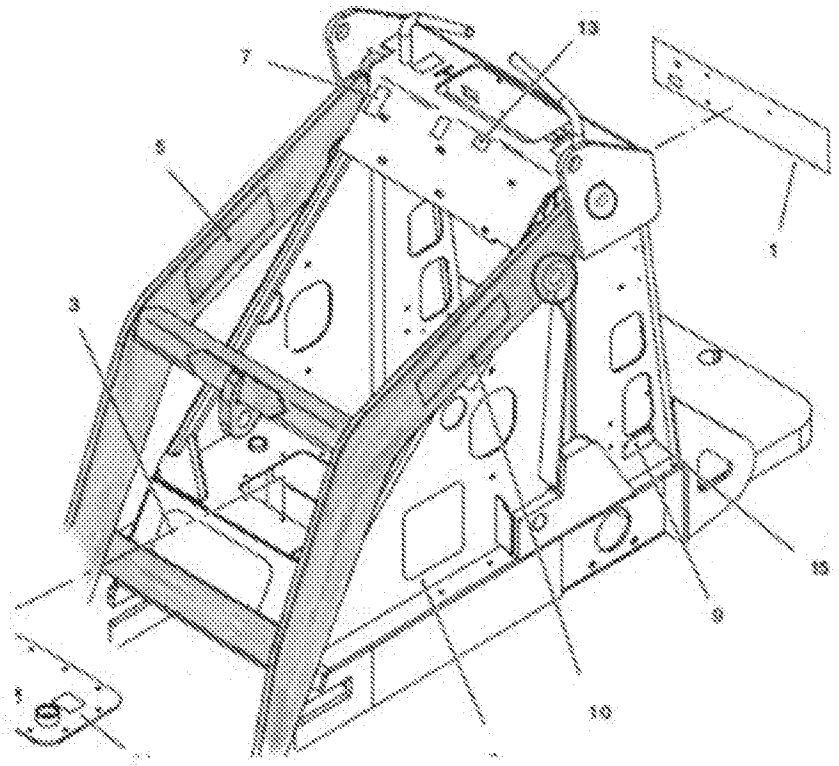
the bottom of the loader apparatus being separated by a vertical distance Dl (Komatsu, Fig. 1, D1=0.625 inches), the rotational axis R and each of the first and third pivot points being separated by a vertical distance, the loader support comprising a forward-most pivot point with the first pivot point or the third pivot point being the forward-most pivot point (Komatsu, pivot point 11a appears to be slightly forward of the actuator 15 pivot point), the vertical distance between the rotational axis R and the forward-most pivot point being less than 1.5 times Dl (Komatsu, Fig. 1, D2=0.250 inches for the front linkage 11 pivot point 11a which is less than 1.5 x D1 of 0.625 inches which equals 0.9375 inches).

H. Ground 4 – Detailed Prior Art Application to Claims 19-23, 25, and 27

1. Review of Dingo Parts Catalog

Dingo Parts Catalog is a printed publication that details the various parts used in the 322 loader illustrated in Dingo to allow a user to order replacement parts. Toro has reproduced below the illustration from pg. 16 of Dingo Parts Catalog to illustrate Dingo's existing radial lift loader assembly, highlighted in green in the illustration below, in relationship to the frame structure that supports the loader assembly.

The location of the pivot that couples each loader arm to the frame structure has been highlighted in yellow on the left loader arm. The yellow loader arm pivot is fixed relative to the frame structure since Dingo employs a radial lift linkage. The location of the pivot point that couples each hydraulic cylinder (not shown below) to the loader arm to the frame structure has been highlighted in blue on the left loader arm. The blue hydraulic cylinder pivot moves relative to the frame structure as the piston rod extends or retracts to lift or lower the loader arm assembly.



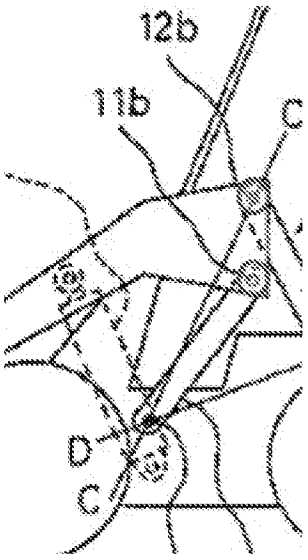
As one can see in the above illustration, the frame structure in Dingo as illustrated in Dingo Parts Catalog extends upwardly and rearwardly past the upper ends of the green loader arms and above the yellow and blue pivots. Thus, the frame structure in Dingo reads on the vaguely recited "barrier guard" as recited in claims 19-27 of the '266 patent.

2. <u>As to Claims 19-23, 25, and 27</u>

Claims 19-23, 25, and 27 of the '266 patent at issue herein are unpatentable under 35 U.S.C. 103(a) as such claims would have been obvious to one of ordinary skill in the art at the time of the invention over Dingo in view of Komatsu and further in view of the additional barrier guard detail regarding Dingo provided in Dingo Parts Catalog.

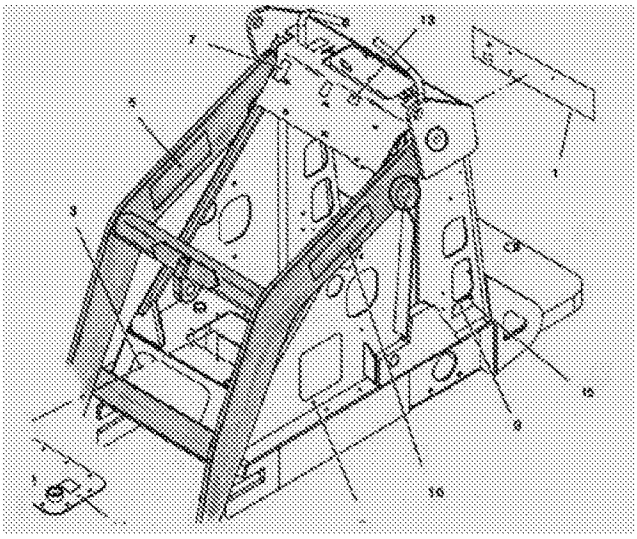
The analysis for why this combination of references would have been obvious to one of ordinary skill in the art has been set forth above. Accordingly, in the following application of the prior art to the claims, the references will be applied to the claim limitations assuming the combination of references set forth in Section IV(D) hereof has been made. In other words, the application of the prior art will assume that the teachings of Komatsu have been adapted to Dingo by freeing the left and right loader arms 3, 3 of Dingo from their fixed pivots, using Komatsu's front and rear linkages 11 and 12 in place of Dingo's fixed pivots with the linkages being suitably dimensioned to movably support the loader arms 3, 3 while retaining their lift height, and using Dingo's existing cylinders 4 suitably positioned to retain lift height.

Further, in Komatsu's vertical lift linkage, the front and rear linkages 11, 12 of Komatsu that free the loader arm assembly from a fixed pivot connection to the frame are placed at the rear of the loader arms. This placement is indicated in Fig. 1 of Komatsu at the right hereof. The location of the pivot point that couples the rear linkage 12 to the loader arm has been highlighted in yellow at 12b. The location of the pivot point that couples the front linkage 11 to the loader arm has been highlighted in yellow at 11b. As one can see, in a down position of the loader arm, both points 11b and 12b are along one side of a portion of a "barrier guard", namely the operator's cab. As Komatsu's vertical lift linkage operates as shown



in Fig. 5, both points 11b and 12b will move from their positions above with pivot point 12b remaining along one side of a portion of the barrier guard with pivot point 11b appearing to have moved forward of the barrier guard.

When the Dingo and Komatsu combination is made to provide a vertical lift linkage on Dingo in place of its existing radial lift linkage, the fixed yellow pivot of Dingo at the rear of Dingo's left loader arm will simply be replaced by Komatsu's two movable yellow pivots 11a, 11b at appropriate locations towards the rear of Dingo's loader arm. These pivot connections to Dingo's loader arm will allow Komatsu's front and rear linkages 11, 12 to free Dingo's loader arm into a vertical lift linkage to provide the greater stability and increased forward reach at maximum lift height that vertical lift linkages are known to provide. However, such pivots 11a, 11b will still be located relative to Dingo's existing barrier guard to be located within or forward of Dingo's barrier guard.



In the following application of the prior art to claims 19-23, 25, and 27, limitations in the combination that appear in Dingo and the related Dingo Parts Catalog will be highlighted in yellow. Limitations in the combination that appear in Komatsu will be highlighted in tan.

19. A loader apparatus for standing or walk-behind operator control (Dingo, Fig. 9, depicted Dingo 322 mini skid steer) and comprising:

a machine structure (Dingo, Fig. 9, the frame that carries, inter alia, wheels 6, operator platform 7 and engine 8) comprising a mainframe (e.g. the portion of the frame nearest to the ground) and an upper frame (e.g. the portion of the frame furthest from the ground), the machine structure defining a barrier guard (Dingo, Fig. 9, a rearward portion of the frame);

a control station having operator controls toward a rear of the loader apparatus (Dingo, Fig. 9, control panel 10);

an actuator (Dingo, Fig. 9, left cylinder 4) pivotally attached to the mainframe;

a front linkage pivotally attached to the mainframe (Komatsu, left front linkage 11 adapted to the portion of Dingo's frame nearest the ground);

a rear linkage pivotally attached to the mainframe (Komatsu, left rear linkage 12 adapted to the portion of Dingo's frame nearest the ground); and

a loader (Dingo, Fig. 9, left arm 3) adapted to carry a tool Dingo, p. 10, the referenced "std. bucket"), the loader being moveable between a down position and a vertically raised position, the front linkage being pivotally attached to the loader at a front linkage pivot point (Komatsu, left front linkage pivot point 11a adapted to the rear of Dingo's left arm 3), the rear linkage being pivotally attached to the loader at a rear linkage pivot point (Komatsu, left rear linkage pivot point 12a adapted to the rear of Dingo's left arm 3), wherein:

in the down position, the front linkage pivot point is (1) disposed within the barrier guard and/or (2) disposed forward of the barrier guard (Komatsu, left front linkage pivot point 11a adapted to the rear of Dingo's left arm 3 will be (1) disposed within Dingo's barrier guard and/or (2) disposed forward of Dingo's barrier guard in the down position); and

as the loader travels from the down position to the vertically raised position, the rear linkage pivot point is (1) disposed within the barrier guard and/or (2) disposed forward of the barrier guard (Komatsu, left rear linkage pivot point 12a adapted to the rear of Dingo's left arm 3 will be (1) disposed within Dingo's barrier guard and/or (2) disposed forward of Dingo's barrier guard as the loader travels from the down position to the vertically raised position).

20. The loader apparatus as set forth in claim 19 wherein, in the down position, the rear linkage pivot point is disposed within the barrier guard (Komatsu, left rear linkage pivot point 12a adapted to the rear of Dingo's left arm 3 will be (1) disposed within Dingo's barrier guard).

21. The loader apparatus as set forth in claim 19 wherein the actuator is pivotally attached to the loader at an actuator pivot point (Dingo, Fig. 9, the pivot point connecting left cylinder 4 to Dingo's left arm 3), wherein, in the down position, the actuator pivot point is (1) disposed within the barrier guard and/or (2) disposed forward of the barrier guard (Dingo's

existing actuator pivot point is forward of the rear end of Dingo's left arm 3 in the down position and will remain so after Komtasu's front and rear linkages 11, 12 are adapted to Dingo to inherently be within the barrier guard or forward of the barrier guard).

22. The loader apparatus as set forth in claim 21 wherein the mainframe has a first side and a second side, the rear linkage, actuator and front linkage each being pivotally attached to the first side of the mainframe (Dingo, Fig. 9, the application to claims 19 and 21 is to Dingo's left side which comprises the first side).

23. The loader apparatus as set forth in claim 19 wherein the loader is free from direct attachment to the mainframe (Komatsu's left front linkage 11 and left rear linkage 12 adapted to Dingo's left arm 3 frees the loader for movement relative to Dingo's frame).

25. A loader apparatus for standing or walk-behind operator control (Dingo, Fig. 9, depicted Dingo 322 mini skid steer) and comprising:

a machine structure (Dingo, Fig. 9, the frame that carries, inter alia, wheels 6, operator platform 7 and engine 8) comprising a mainframe (e.g. the portion of the frame nearest to the ground) and an upper frame (e.g. the portion of the frame furthest from the ground), the machine structure defining a barrier guard (Dingo, Fig. 9, a rearward portion of the frame);

a control station having operator controls toward a rear of the loader apparatus (Dingo, Fig. 9, control panel 10);

an actuator (Dingo, Fig. 9, left cylinder 4) pivotally attached to the mainframe;

a linkage pivotally attached to the mainframe (Komatsu, left rear linkage 12 adapted to the portion of Dingo's frame nearest the ground); and

a loader (Dingo, Fig. 9, left arm 3) adapted to carry a tool Dingo, p. 10, the referenced "std. bucket"), the loader being moveable between a down position and a vertically raised position, the linkage being pivotally attached to the loader at a linkage pivot point (Komatsu, left rear linkage pivot point 12a adapted to the rear of Dingo's left arm 3),, wherein:

in the down positon, the linkage pivot point is disposed within the barrier guard (Komatsu, left rear linkage pivot point 12a adapted to the rear of Dingo's left arm 3 will be (1) disposed within Dingo's barrier guard).; and

as the loader travels from the down position to the vertically raised position, the linkage pivot point is (1) disposed within the barrier guard and/or (2) disposed forward of the barrier guard (Komatsu, left rear linkage pivot point 12a adapted to the rear of Dingo's left arm 3 will be (1) disposed within Dingo's barrier guard and/or (2) disposed forward of Dingo's barrier guard as the loader travels from the down position to the vertically raised position).

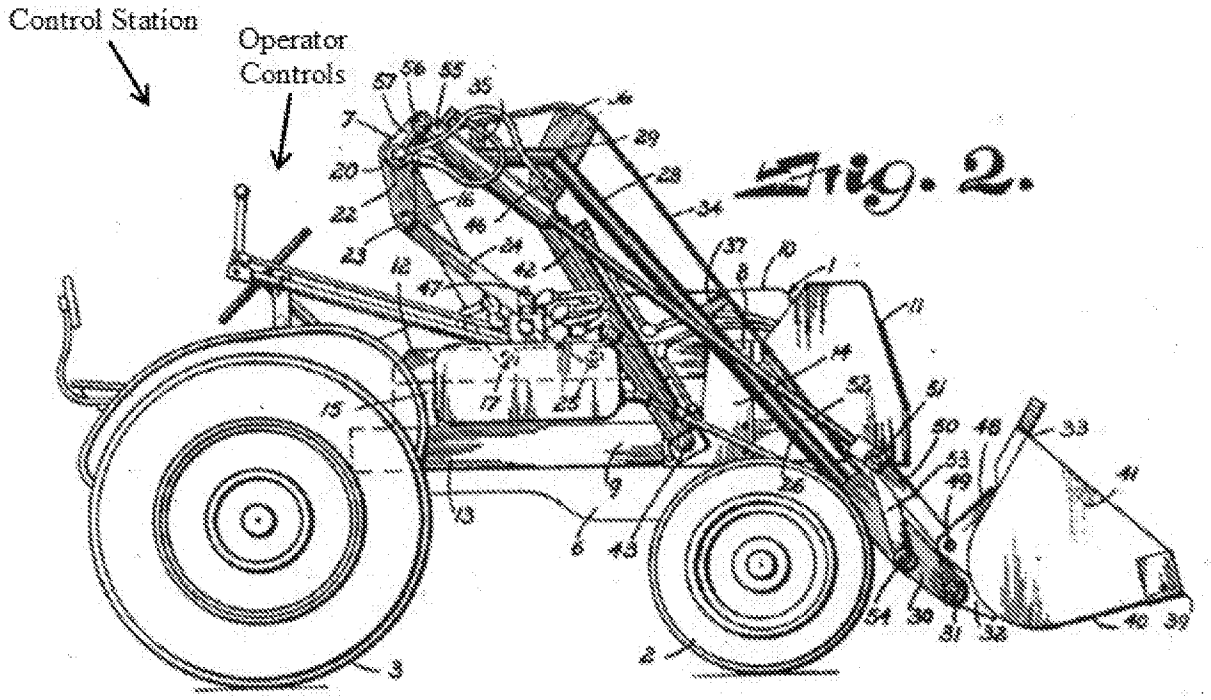
27. The loader apparatus as set forth in claim 25 wherein the loader is free from direct attachment to the mainframe (Komatsu's left rear linkage 12 adapted to Dingo's left arm 3 frees the loader for movement relative to Dingo's frame).

I. Ground 5 - Detailed Prior Art Application to Claims 1 and 4-9

1. Review of U.S. Patent 2,774,496 to Dorkins

In 1956 almost sixty years before the earliest date to which portions of the '266 patent can claim priority, U.S. Patent 2,774,496 to Dorkins was issued entitled Tractor Mounted High Lift Loader. In that patent, Dorkins discloses a vertical lift linkage applied to a tractor of the type then in widespread use that is the same as that in the '266 patent.

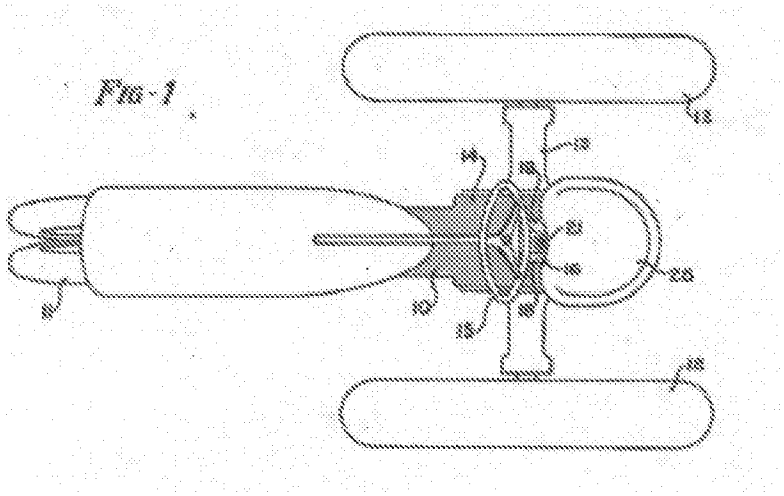
Fig. 2 of Dorkins is reproduced below and has been color coded similarly to that used with respect to the '266 patent, namely green for the loader arms, yellow for the front and rear linkages, and blue for the actuators. Dorkins' vertical lift linkage shown below comprises a green colored loader arm 26, a yellow colored linkage 24 and a yellow colored linkage 16 for movably supporting the green loader arm relative to a loader support 8, and a blue colored cylinder 42 for lifting and lowering loader arm 26. Fig. 2 of Dorkins below shows these vertical lift linkage components as placed on the right side of the tractor. Identical components not shown in Fig. 2 are contained on the left side of the tractor. A tool, namely bucket 41, is pivotally carried on the front ends of the left and right loader arms 26.



One relevant facet of Dorkins is the control station that is located at the rear of the tractor as Toro has labelled in the illustration of Dorkins above. This makes Dorkins applicable to many claims of the '266 patent which recite such a control station as being located "toward a rear of the loader apparatus". The control station of Dorkins clearly satisfies that criterion.

Dorkins is so close to the structure of the loader of the '266 patent that it would anticipate many of the claims of the '266 patent but for the limitation in the preamble of a loader apparatus "for standing or walk behind operator control". Dorkins shows a seat (unnumbered) for carrying a seated operator. However, the fact is that tractors such as Dorkins were often operated by a standing operator who could stand upright in the control station while operating the operator control. There are many issued U.S. patents that teach how to do this in tractors. Two of these patents will now be reviewed.

2. Review of U.S. Patents 2,298,450 to Baker and 2,563,277 to Roeder



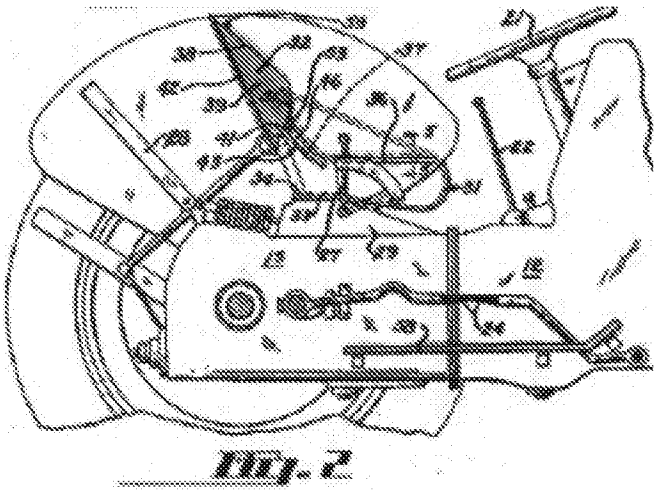
In order to permit standing operation of a tractor such as Dorkins, the tractor prior art provided some type of operator platform on which the operator could stand to operate the tractor after the operator's seat was moved out of the way, usually by tipping up the seat to the rear.

U.S. Patent 2,298,450 to Baker provides an operator platform 14, colored orange in Fig. 1 of Baker as reproduced above, at the rear of the tractor. Baker describes the standing operation feature of his tractor as follows:

> "The ordinary seat satisfactorily accommodates a seated operator, but **it is often desirable that the operator be able to stand at the station to operate the tractor**, and in such standing position, the normal disposition of the seat interferes with the operator. Accordingly, **the present invention provides a seat**

which may be tilted away from its normal position so that the operator's station will comfortably accommodate a standing operator at the tractor controls." (Baker, Col. 1, ll. 16-25).

In Baker, the operator's seat 28 is flipped to the rear to clear foot platform 14.



Like Baker, Roeder tips his seat to the rear to allow standing operation of the tractor. The rearwardly tipped position of the driver's seat 32 is shown in solid lines in Fig. 2 of Roeder and has been highlighted in purple in Fig. 2 of Roeder as reproduced to the right hereof. With the seat tipped rearwardly and out of the way, the operator is free to stand on an operator's platform comprising left and right running boards 58.

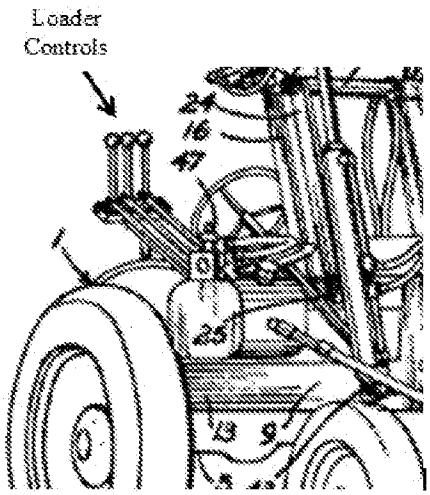
Roeder also describes the reasons why such a standing position is desirable in tractors as follows:

> "Tractors for general farming purposes are usually provided with a bucket type sheet metal driver's seat supported upon some form of spring structure to provide the necessary resiliency. Aside from this resilient mounting, the seat is generally stationary. During certain operations, however, the stationary seat is a hindrance to the operator. It may, for example, be necessary or convenient for the driver to temporarily assume a standing position while the tractor is in motion. The space available for the driver is generally quite limited, since the steering wheel, engine controls, brake and clutch pedals, gearshift lever, and implement operation controls are usually located immediately adjacent the driver's seat, and it is consequently extremely difficult for the driver to assume a standing, position and still be able to properly control the operation of the tractor. **With the present construction, however, the driver's seat may be located in a position conveniently adjacent all of the aforementioned controls, yet it may be easily swung to a temporary position out of the driver's way permitting him to assume a standing position upon running boards conveniently provided for that purpose and to continue to operate the necessary controls of the tractor.** When it is again desired to assume a seated position, the driver may with a single simple motion return the seat to its normal position." (Emphasis Added) (Roeder, Col. 1, ll. 4-32)

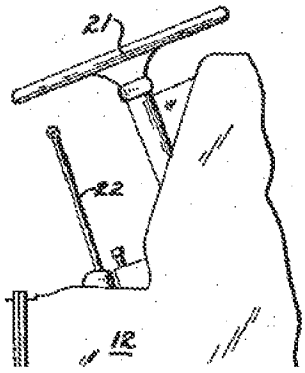
3. As to Claims 1 and 4-9

The actual tractor of Dorkins may well have incorporated an operator platform and a tip up seat to permit standing operation thereof. However, that structure is not expressly disclosed in Dorkins. Nonetheless, given the ubiquitous teachings in the tractor art of providing platforms to permit the operator to stand during tractor operation, of which Baker and Roeder are but a few, Toro respectfully submits that it would have been obvious under 35 U.S.C. §103 to have modified Dorkins to have a tip up seat and operator platform to allow the operator to stand at the rear while operating the Dorkins tractor. The motivation for doing so is readily apparent and undeniable, namely to provide the operator in Dorkins with a better view of the bucket 41 carried on the front of the loader arms 26 during operation of the loader.

In addition, the tractor of Dorkins would inherently have possessed "operator controls for propelling the loader apparatus forward and for raising and lowering the loader". The controls for raising and lowering the loader in Dorkins are the levers which are unnumbered but are labeled by Toro as the loader controls in the portion of Fig. 1 of Dorkins reproduced at the left hereof. These levers extend forwardly to the "operator controlled valve mechanism 47" (Dorkins, Col 3, ll. 16-22) which mechanism controls, inter alia, the hydraulic cylinders 42, 42 that raise and lower the loader arms 26, 26 of Dorkins.



In addition, a tractor such as Dorkins would have had an upwardly extending gearshift lever terminating at an upper end close to the Dorkins steering wheel to enable the operator to shift the transmission into a forward gear "for propelling the loader apparatus forward" in the words of claim 1. Dorkins does not itself show the gearshift lever. However, the secondary reference to Roeder does show the gearshift lever 22 in the portion of Fig. 2 of Roeder reproduced to the right hereof with the gearshift lever 22 terminating close to the steering wheel 21 of Roeder. While it is believed that one of ordinary skill in the art



would understand that a tractor of the vintage of Dorkins would have such a gearshift lever extending upwardly to be close to the steering wheel, Toro respectfully submits that the presence and placement of such a gearshift lever in Dorkins would also have been obvious to one of ordinary skill in the art under 35 U.S.C. §103 in view of Roeder. Collectively, the loader controls shown in Dorkins and the gearshift lever 22 expressly disclosed in Roeder constitute the recited "operator controls for propelling the loader apparatus forward and for raising and lowering the loader" as set forth in claim 1.

Claims 1 and 4-9 of the '266 patent at issue herein are unpatentable under 35 U.S.C. 103(a) as such claims would have been obvious to one of ordinary skill in the art at the time of the invention over Dorkins in view of Baker or alternatively in view of Roeder.

Limitations in the combination that appear in Dorkins will be highlighted in yellow. Limitations in the combination that appear in Baker or Roeder will be highlighted in tan.

1. A loader apparatus configured for standing operator control (Dorkins modified to have an operator platform at the control station to permit standing operation as taught by Baker's operator platform 14 or Roeder's operator platform 58, 58) and comprising:

a loader (Dorkins, Fig. 2, the left loader arm 26) adapted to carry a tool (Dorkins, Fig. 2, bucket 41), the loader being moveable between a down position and a vertically raised position;

a loader support for supporting the loader (Dorkins, Fig. 2, supporting frame 8), the loader support having a first side and a second side, the loader being free from direct attachment to the loader support (Dorkins, Figs. 2-4, the relative motion shown for left arm 26 relative to supporting frame 8);

a first linkage pivotally attached to the first side of the loader support at a first linkage pivot point (Dorkins, Fig. 2, linkage 24 and pivot point 25);

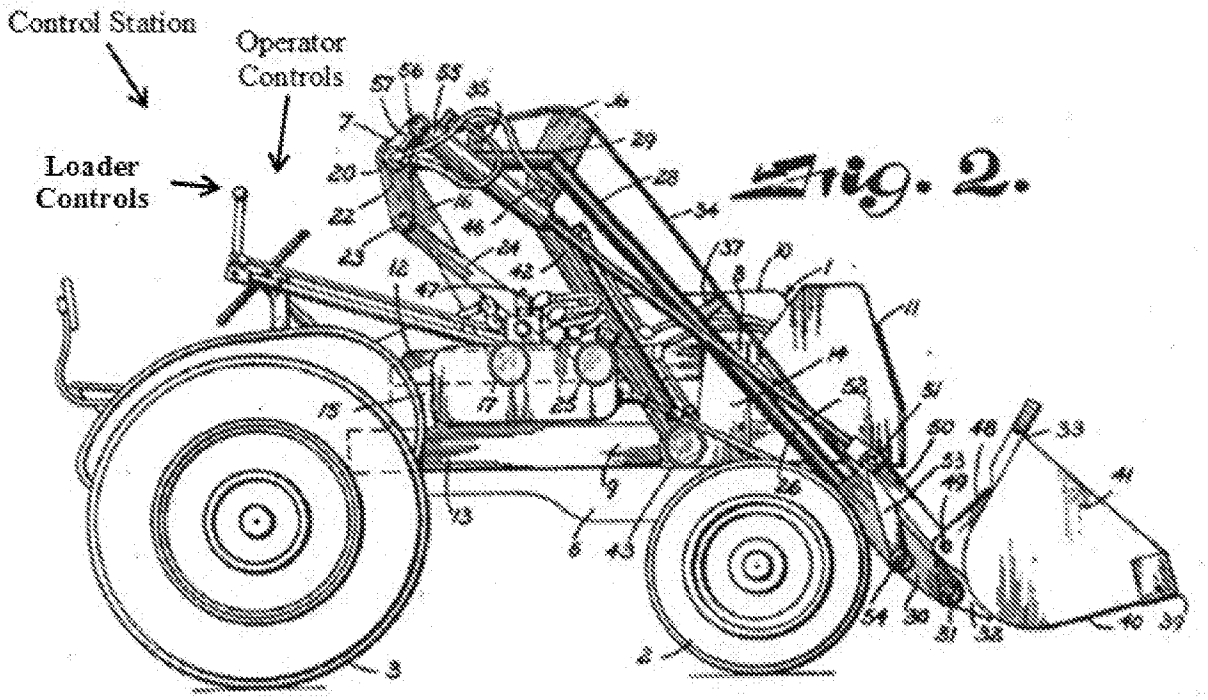
a second linkage pivotally attached to the first side of the loader support at a second linkage pivot point (Dorkins, Fig. 2, linkage 16 and pivot point 17);

an actuator pivotally attached to the first side of the loader support at an actuator pivot point (Dorkins, Fig. 2, cylinder 42 and pivot point 43);

a control station having operator controls for propelling the loader apparatus forward and for raising and lowering the loader (Dorkins, Fig. 2 below, the control station, the Dorkins

loader controls and a gearshift lever 22 extending upwardly to close to Dorkins steering wheel as taught by Roeder); and

an operator platform for standing operation of the operator controls of the control station (Dorkins, Fig. 2, modified to have an operator platform for standing operation as taught by Baker or Roeder), the operator platform being located toward a rear of the loader apparatus such that the first linkage pivot point, second linkage pivot point, and the actuator pivot point are disposed forward of the operator platform (Dorkins, Fig. 2, below, taught by placement of the three pivot points as highlighted in yellow), the first linkage pivot point, second linkage pivot point, and the actuator pivot point being disposed below the operator controls of the control station (Dorkins, Fig. 2, below, taught by the low placement of the three pivot points 17, 25 and 43 as highlighted in yellow circles below).



4. The loader apparatus as set forth in claim 1 wherein the loader comprises a loader arm (Dorkins, Fig. 2, the left loader arm 26), the loader arm being pivotally connected to the first side of the loader support.

5. The loader apparatus as set forth in claim 4 wherein the first (Dorkins, Fig. 2, linkage 24 and pivot point 23) and second (Dorkins, Fig. 2, linkage 16 and pivot point 20) linkages are pivotally attached to the loader arm.

6. The loader apparatus as set forth in claim 4 wherein the loader arm is a first loader arm, the loader comprising a second loader arm (Dorkins, Fig. 1, the identical right loader arm 26), the second loader arm being pivotally connected to the second side of the loader support.

7. A loader apparatus for standing or walk-behind operator control (Dorkins modified to have an operator platform at the control station to permit standing operation as taught by Baker's operator platform 14 or Roeder's operator platform 58, 58) and comprising:

a control station having operator controls toward a rear of the loader apparatus (Dorkins, Fig. 2 below, the control station having the Dorkins loader controls);

a loader (Dorkins, Fig. 2, the left loader arm 26) adapted to carry a tool (Dorkins, Fig. 2, bucket 41), the loader being moveable between a down position and a vertically raised position;

a rigid frame for supporting the control station and the loader (Dorkins, Fig. 2, supporting frame 8), the rigid frame having a first side, a second side, a top, and a bottom;

a first linkage pivotally attached to the first side of the rigid frame at a first pivot point (Dorkins, Fig. 2, linkage 24 and pivot point 25) and pivotally attached to the loader at a second pivot point (Dorkins, Fig. 2, linkage 24 and pivot point 23);

an actuator pivotally attached to the first side of the rigid frame at a third pivot point (Dorkins, Fig. 2, cylinder 42 and pivot point 43) and pivotally attached to the loader at a fourth pivot point (Dorkins, Fig. 2, cylinder 42 and pivot point 45); and

a second linkage pivotally attached to the first side of the rigid frame at a fifth pivot point (Dorkins, Fig. 2, linkage 16 and pivot point 17) and pivotally attached to the loader at a sixth pivot point (Dorkins, Fig. 2, linkage 16 and pivot point 20), wherein, as the loader travels from the down position to the vertically raised position, the first, second, third, fourth, fifth and sixth pivot points are (1) disposed between the operator controls and the bottom of the rigid frame and/or (2) disposed forward of the control station (Dorkins, Figs. 2 and 4 below, all six pivots 25, 23, 43, 45, 17 and 20, as highlighted in yellow circles are disposed forward of the

control station as the loader travels from the down position of Fig. 2 to the vertically raised position of Fig. 4).

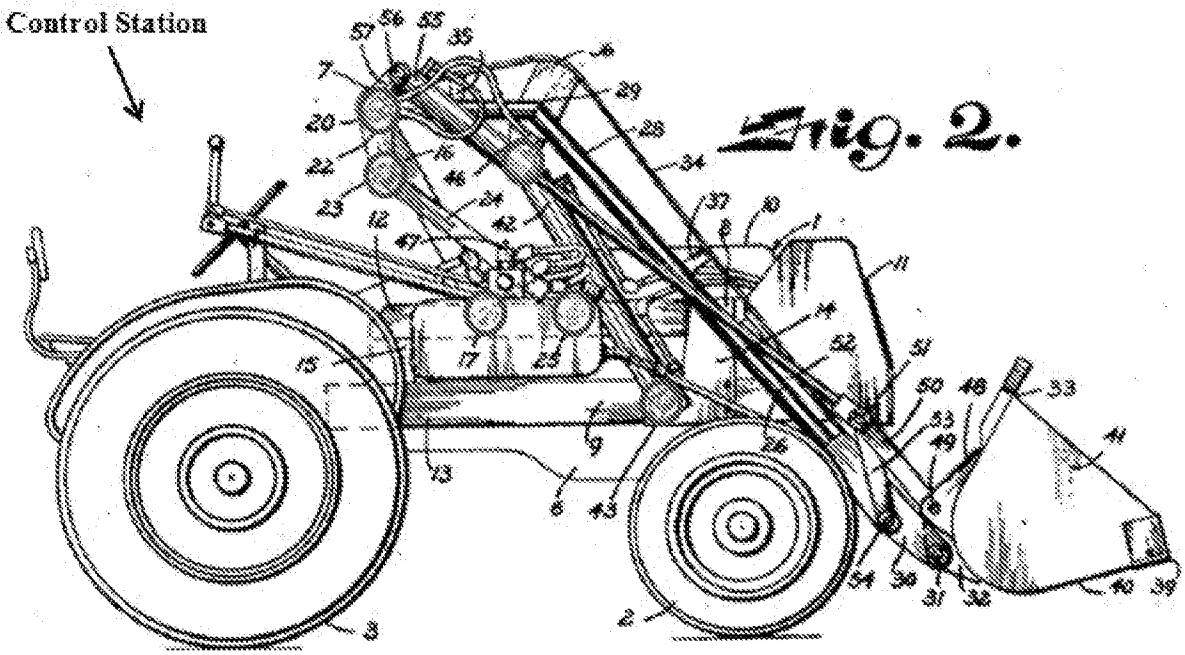


Fig. 2.

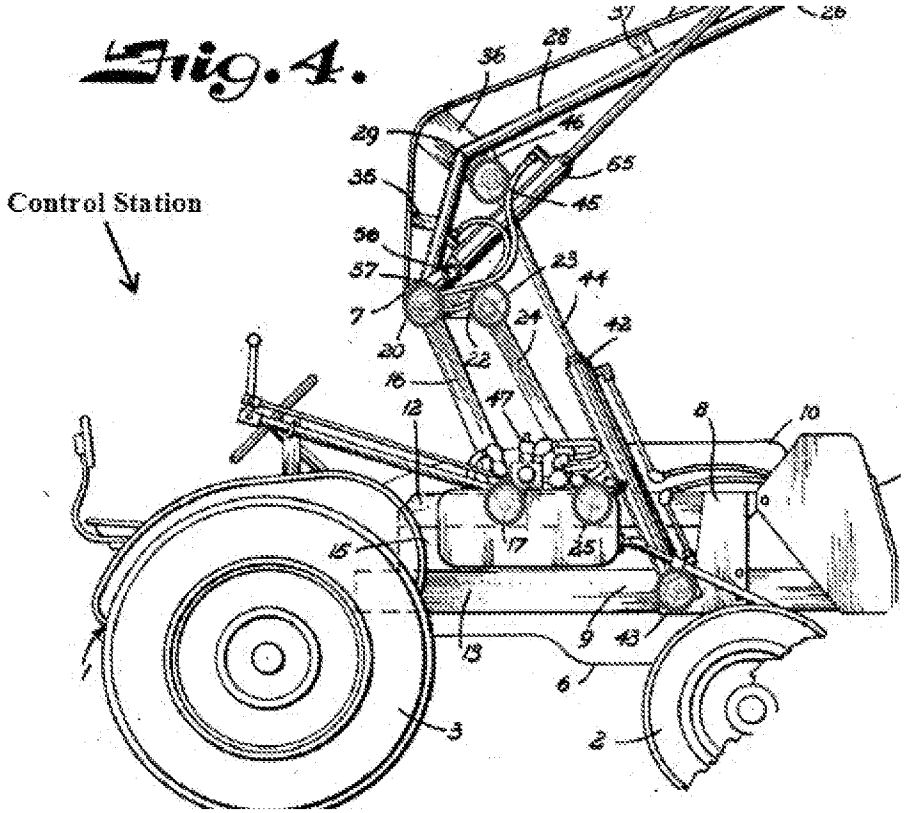


Fig. 4.

8. The loader apparatus as set forth in claim 7 wherein the rigid frame defines a pocket toward a rear of the rigid frame to partially surround an operator (Dorkins, Fig. 2, the right fender (unnumbered) over the right front wheel 3 as shown in Fig. 2 above and the corresponding left fender (unnumbered) over the left front wheel as shown in Fig. 5 of Dorkins form a pocket at least partially surrounding the operator) .

9. The loader apparatus as set forth in claim 8 further comprising an operator platform at least partially within the pocket (Dorkins, Fig. 2, Dorkins modified to have an operator platform as taught by Baker or Roeder will have such platform at least partially with the pocket formed between the Dorkins fenders to allow the standing operator to stand behind the steering wheel and loader controls).

V. No Admissions

The fact that this Request for Reexamination addresses only claims 1, 4-9, 14, 17-23, 25 and 27 of the '266 patent is not an admission by Toro that the other untreated claims of the '266 patent are valid or would be patentable over the prior art relied upon in this Request or other prior art. In addition, the manner in which the prior art relied upon in this Request as applied to claims 1, 4-9, 14, 17-23, 25 and 27 of the '266 patent herein is not an admission by Toro that this is the only way such references could have been applied. Moreover, the selection and use of the particular references relied upon in this Request is not an admission by Toro that the prior art relied upon in this Request is the only prior art that could be applied to claims 1, 4-9, 14, 17-23, 25 and 27 of the '266 patent.

VI. Conclusions

Clearly, the prior art relied upon in this Request raises substantial new questions of patentability as to claims 1, 4-9, 14, 17-23, 25 and 27 of the '266 patent. Just as clearly, the prior art relied upon in this Request establishes that claims 1, 4-9, 14, 17-23, 25 and 27 of the '266 patent are unpatentable for the reasons set forth above in Grounds 1-5. All the requirements for *ex parte* reexamination have been met. Accordingly, it is respectfully

requested that the PTO order such reexamination and find that claims 1, 4-9, 14, 17-23, 25 and 27 of the '266 patent are unpatentable.

February 26, 2019

Respectfully submitted,

/James W. Miller/

James W. Miller
Registration No. 27,661
120 S 6TH ST
Suite 2310
Minneapolis, MN 55402-1829
Telephone (612) 338-5915

PTO/SB/08a (02-18)
Approved for use through 11/30/2020. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	
Filing Date	
First Named Inventor	Brad Thomas
Art Unit	
Examiner Name	
Attorney Docket Number	Vermeer-266 Reexam

U.S.PATENTS

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	2298450		1942-10-13	Baker	
	2	2563277		1951-08-07	Roeder et al.	
	3	2774496		1956-12-18	Dorkins	

If you wish to add additional U.S. Patent citation information please click the Add button.

U.S.PATENT APPLICATION PUBLICATIONS

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Published Application citation information please click the Add button.

FOREIGN PATENT DOCUMENTS

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2]	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1	11140900	JP		1999-05-25	Komatsu Ltd.		☒

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	
	Filing Date	
	First Named Inventor	Brad Thomas
	Art Unit	
	Examiner Name	
	Attorney Docket Number	Vermeer-266 Reexam

If you wish to add additional Foreign Patent Document citation information please click the Add button

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1	The Toro Company, "Dingo 322 Operator's Manual", dated 2000.	☐
	2	The Toro Company, "Dingo 322 Parts Catalog", dated 1999.	☐
	3	Vermeer Manufacturing Company, "Vermeer Mini Skid Steers S600/S600TX" brochure, dated 2010.	☐
	4	SAE J2752, "Surface Vehicle Recommended Practice, Personnel Protection-Compact Tool Carriers", dated 2010.	☐
	5	Vermeer Manufacturing Company, "Complaint for Patent Infringement" filed in Vermeer Corporation v. The Toro Company, Case No. 4:19-cv-00050, dated 2019.	☐
	6	Ramrod Equipment, "Ramrod Compact Mini Skid Loader Solutions October 2016" newsletter, dated October 2016.	☐

If you wish to add additional non-patent literature document citation information please click the Add button

EXAMINER SIGNATURE

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	
	Filing Date	
	First Named Inventor	Brad Thomas
	Art Unit	
	Examiner Name	
	Attorney Docket Number	Vermeer-266 Reexam

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/James W. Miller/	Date (YYYY-MM-DD)	2019-02-26
Name/Print	James W. Miller	Registration Number	27,661

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

US010202266B2

(12) **United States Patent**
Thomas et al.

(10) **Patent No.: US 10,202,266 B2**
(45) **Date of Patent: *Feb. 12, 2019**

(54) **LOW PROFILE COMPACT TOOL CARRIERS**

(71) Applicant: **Vermeer Manufacturing Company**, Pella, IA (US)

(72) Inventors: **Brad Thomas**, Pleasant Hill, IA (US); **Louis Hartke**, Pella, IA (US); **Greg Langenfeld**, Bettendorf, IA (US); **Matt Hutchinson**, Pella, IA (US)

(73) Assignee: **Vermeer Manufacturing Company**, Pella, IA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **15/704,685**

(22) Filed: **Sep. 14, 2017**

(65) **Prior Publication Data**

US 2018/0009642 A1 Jan. 11, 2018

Related U.S. Application Data

(63) Continuation of application No. 15/062,801, filed on Mar. 7, 2016, now Pat. No. 9,975,750, which is a (Continued)

(51) **Int. Cl.**
B60P 1/50 (2006.01)
B66F 9/075 (2006.01)
(Continued)

(52) **U.S. Cl.**
CPC ***B66F 9/065*** (2013.01); ***B60P 1/483*** (2013.01); ***B66F 9/06*** (2013.01); ***B66F 9/0759*** (2013.01);
(Continued)

(58) **Field of Classification Search**
CPC B60P 1/50; B60P 1/483; B66F 9/06; B66F 9/07572; B66F 9/22; B66F 9/065;
(Continued)

(56) **References Cited**

U.S. PATENT DOCUMENTS

2,345,620 A 4/1944 Mork
2,455,474 A 12/1948 Drott et al.
(Continued)

FOREIGN PATENT DOCUMENTS

EP 2280122 A1 2/2011
FR 2209015 A1 6/1974
(Continued)

OTHER PUBLICATIONS

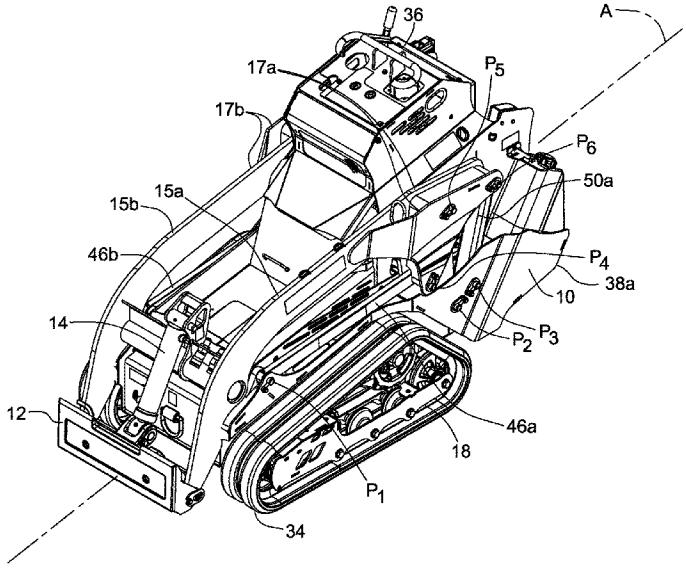
ISO 3411:2007, Earth-moving machinery—Physical dimensions of operators and minimum operator space envelope, dated Jul. 2007, pp. 24.
(Continued)

Primary Examiner — Dean J Kramer
(74) *Attorney, Agent, or Firm* — Armstrong Teasdale LLP

(57) **ABSTRACT**

Compact tool carriers having a loader mounted to a low-profile mainframe are disclosed. In some embodiments, the pivot points of the mainframe about which the loader is pivoted are low relative to the mainframe to reduce the mainframe size and to lower the center of gravity to improve the stability of the compact tool carrier during use.

27 Claims, 7 Drawing Sheets



Related U.S. Application Data

continuation of application No. 14/691,649, filed on Apr. 21, 2015, now Pat. No. 9,321,386.

(60) Provisional application No. 62/118,860, filed on Feb. 20, 2015.

(51) **Int. Cl.**

B66F 9/22	(2006.01)
B66F 9/06	(2006.01)
B66F 9/065	(2006.01)
E02F 3/34	(2006.01)
E02F 3/96	(2006.01)
E02F 9/08	(2006.01)
E02F 9/20	(2006.01)
B60P 1/48	(2006.01)

(52) **U.S. Cl.**

CPC ***B66F 9/07572*** (2013.01); ***B66F 9/07577*** (2013.01); ***B66F 9/22*** (2013.01); ***E02F 3/3405*** (2013.01); ***E02F 3/3414*** (2013.01); ***E02F 3/96*** (2013.01); ***E02F 9/08*** (2013.01); ***E02F 9/205*** (2013.01)

(58) **Field of Classification Search**

CPC B66F 9/07577; B66F 9/0759; E02F 3/34; E02F 3/3405; E02F 3/3414; E02F 3/96; E02F 9/08; E02F 9/205

USPC 414/685, 686, 722, 909; 180/89.1, 311

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

2,558,928	A	7/1951	Bryan	
2,774,496	A	12/1956	Dorkins	
2,849,132	A	8/1958	Clarke	
2,953,264	A	9/1960	Ulinski	
2,980,271	A	4/1961	Ulinski	
3,074,572	A	1/1963	Ulinski	
3,586,195	A	6/1971	Beltrami	
4,117,610	A	10/1978	Yates	
4,239,444	A	12/1980	Schmelzer	
5,169,278	A	12/1992	Hoechst et al.	
D359,497	S	6/1995	Rayner	
5,423,654	A	6/1995	Rohrbaugh	
5,470,190	A	11/1995	Bamford et al.	
5,542,814	A	8/1996	Ashcroft et al.	
5,609,464	A	3/1997	Moffitt et al.	
D431,574	S	10/2000	Porter	
6,325,589	B1	12/2001	Jang et al.	
6,474,933	B1	11/2002	Hoechst et al.	
6,616,398	B2	9/2003	Dershem et al.	
6,695,568	B2	2/2004	Bares et al.	
6,866,466	B2	3/2005	Roan et al.	
7,214,026	B2	5/2007	Hilvers et al.	
7,264,435	B2	9/2007	Layko et al.	
7,695,236	B2	4/2010	Green	
7,805,864	B2	10/2010	Azure et al.	
D631,898	S	2/2011	Major et al.	
7,980,569	B2	7/2011	Azure et al.	
8,152,433	B2	4/2012	Yamada et al.	
8,821,104	B2	9/2014	Yasuda et al.	
9,045,882	B2	6/2015	Major et al.	
9,321,386	B1	4/2016	Thomas et al.	
2003/0095857	A1	5/2003	Degelman et al.	
2004/0026153	A1	2/2004	Dershem et al.	
2005/0036876	A1	2/2005	Walto et al.	
2007/0017713	A1	1/2007	Sewell et al.	
2007/0128012	A1	6/2007	Yamada et al.	
2007/0132204	A1	6/2007	Sewell	
2008/0197588	A1	8/2008	Azure et al.	
2009/0116943	A1	5/2009	Valere	
2010/0106344	A1*	4/2010	Edwards	E02F 9/205 701/2
2010/0183412	A1	7/2010	Borntrager et al.	
2012/0291319	A1	11/2012	Jones	
2012/0305025	A1	12/2012	Helbig et al.	
2014/0271078	A1	9/2014	Koch	

FOREIGN PATENT DOCUMENTS

GB	832800	A	2/1958
GB	947803	A	3/1961
GB	2368573	A	10/2000
JP	S63265022	A	11/1988
JP	11140900		5/1999
JP	2006307498		11/2006

OTHER PUBLICATIONS

ISO 6682:2008, Earth-moving machinery—Zones of comfort and reach for controls, dated Sep. 2008, pp. 18.

Bobcat, Mini Track Loaders, available before Feb. 20, 2015, pp. 1.

Toro, Dingo Compact Utility Loader, available before Feb. 20, 2015, pp. 1.

Ditch Witch, SK850 Mini Skid Steer, available before Feb. 20, 2015, pp. 1.

Cat, 252B Skid Steer Loader, available before Feb. 20, 2015, pp. 1.

Deere, 318D Skid Steer, available before Feb. 20, 2015, pp. 1.

New Holland, C232 Skid Steer Loader, available before Feb. 20, 2015, pp. 1.

JCB, 150T Tracked Skid Steer, available before Feb. 20, 2015, pp. 1.

Kubota, SVL75 Compact Track Loader, available before Feb. 20, 2015, pp. 1.

Gehl, V270 Vertical Lift Skid Loader, available before Feb. 20, 2015, pp. 1.

Bobcat, T190 Compact Track Loader, available before Feb. 20, 2015, pp. 1.

Yanmar, S-28-V Skid Steer, available before Feb. 20, 2015, pp. 1.

Extended European Search Report issued in EP3061874, dated Aug. 1, 2016 (8 pages).

5450TX, Vermeer Manufacturing Company, 2013, 2 pages.

5450TX Parts Manual, Vermeer Manufacturing Company, 2012-2014, 180 pages.

Mustang Skid Steer Loaders, Mustang Manufacturing Company Inc., 2014, 24 pages.

SAE J2752, Surface Vehicle Recommended Practice, Personnel Protection—Compact Tool Carriers, Issued Jun. 2010, 11 pages.

The Toro Company, "Dingo® 322 Operators Manual", dated 2000.

The Toro Company, "Dingo® 322 Parts Catalog", dated 1999.

For Construction Pros.com, Curt Bennink, "Size-Up Skid-Steer Loaders" article, dated Mar. 15, 2006.

Plowsite.com, "Bobcat Weight Kit" chat forum dialogue, 2001.

Construction Shows, "Case Upgrades its Skid Steer and Compact Tracked Loader Line Up" article, May 16, 2014.

Dingo, "TX413 Operator's Manual", 2004, 40 pgs.

Dingo, "TX413 Parts Catalog", 2004, 40 pgs.

JCB, "Skid Steer and Compact Track Loader Brochure", 2009, 24 pgs.

Litigation Documents filed in *Vermeer Corporation* v. *The Toro Company*, case No. 4:17-cv-00076-CRW-HCA (S.D. IA) (Submitted in Five Parts).

Litigation Documents for *Vermeer Corporation* v. *The Toro Company*, case No. 4:17-cv-00076-CRW-HCA (S.D. IA) (Nov. 2, 2018 and Nov. 30, 2018).

* cited by examiner

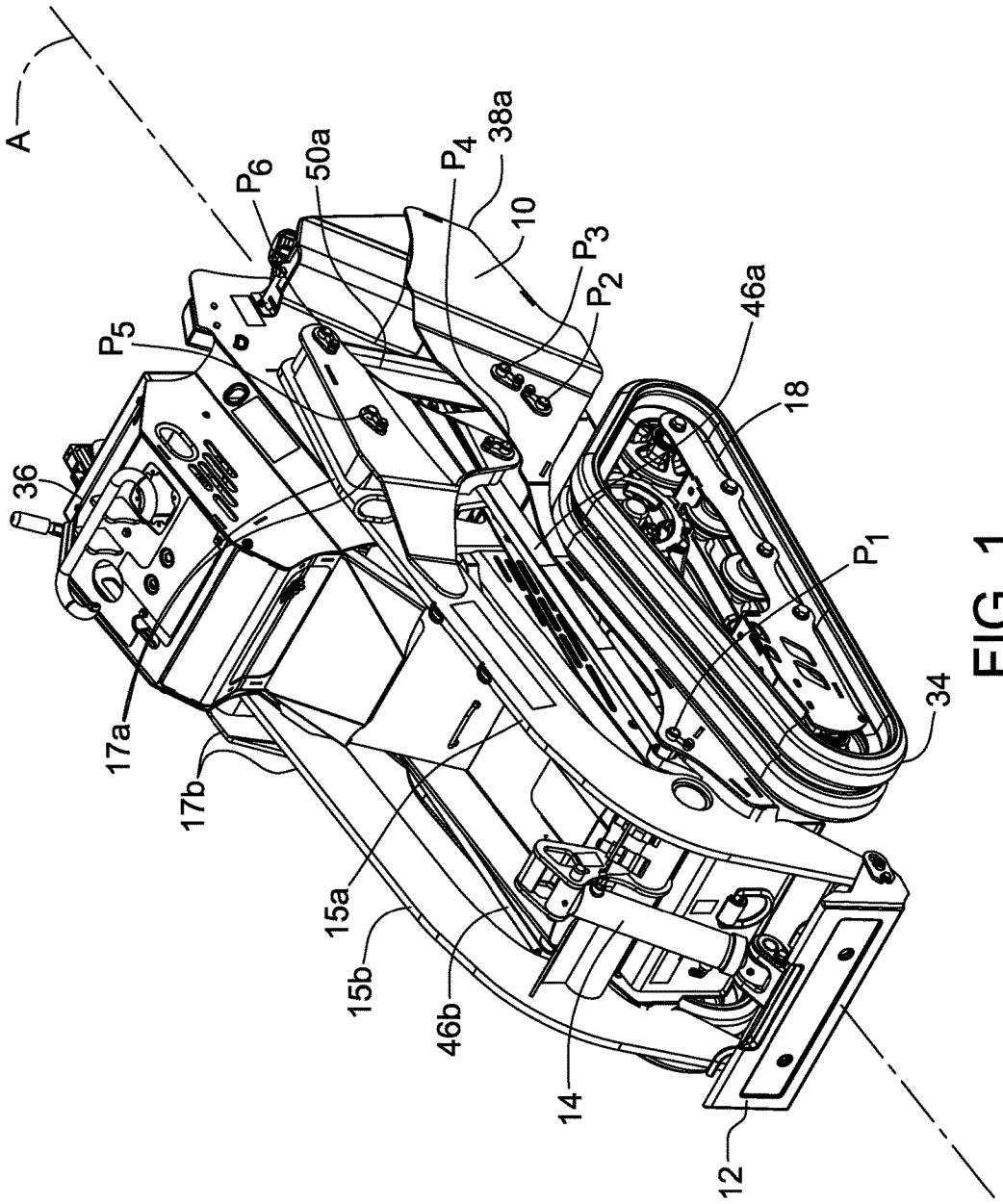


FIG. 1

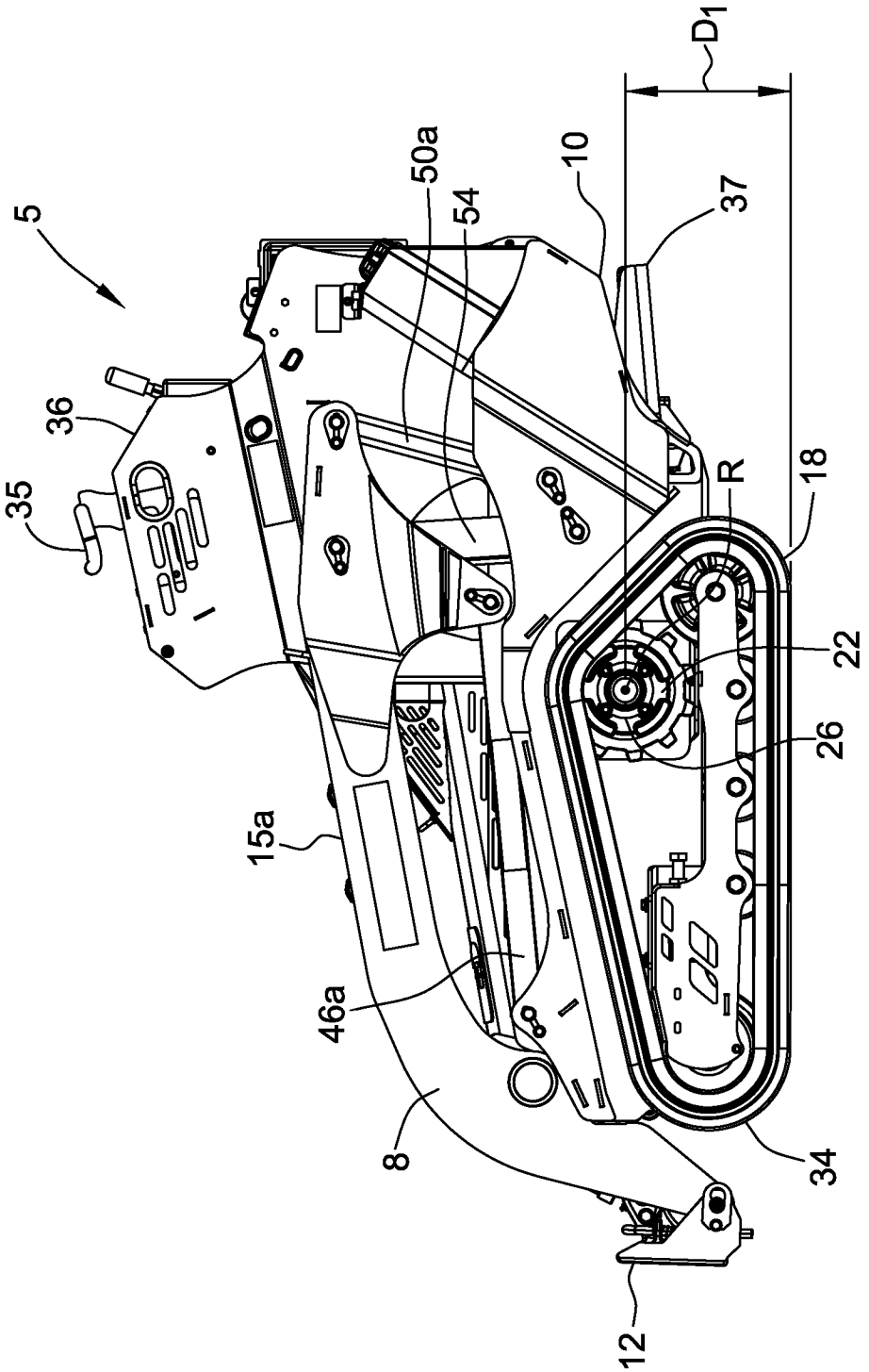


FIG. 2

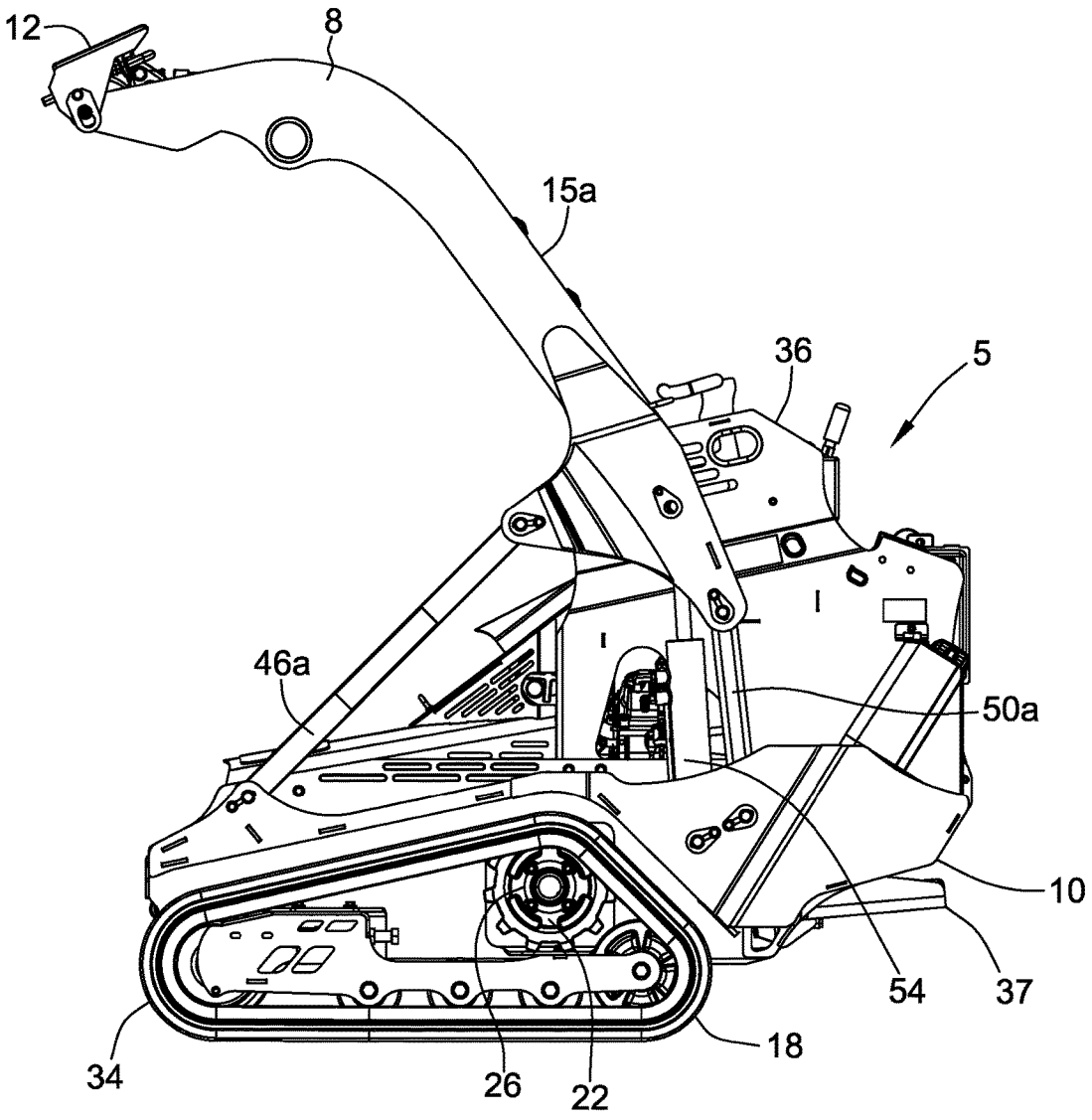


FIG. 3

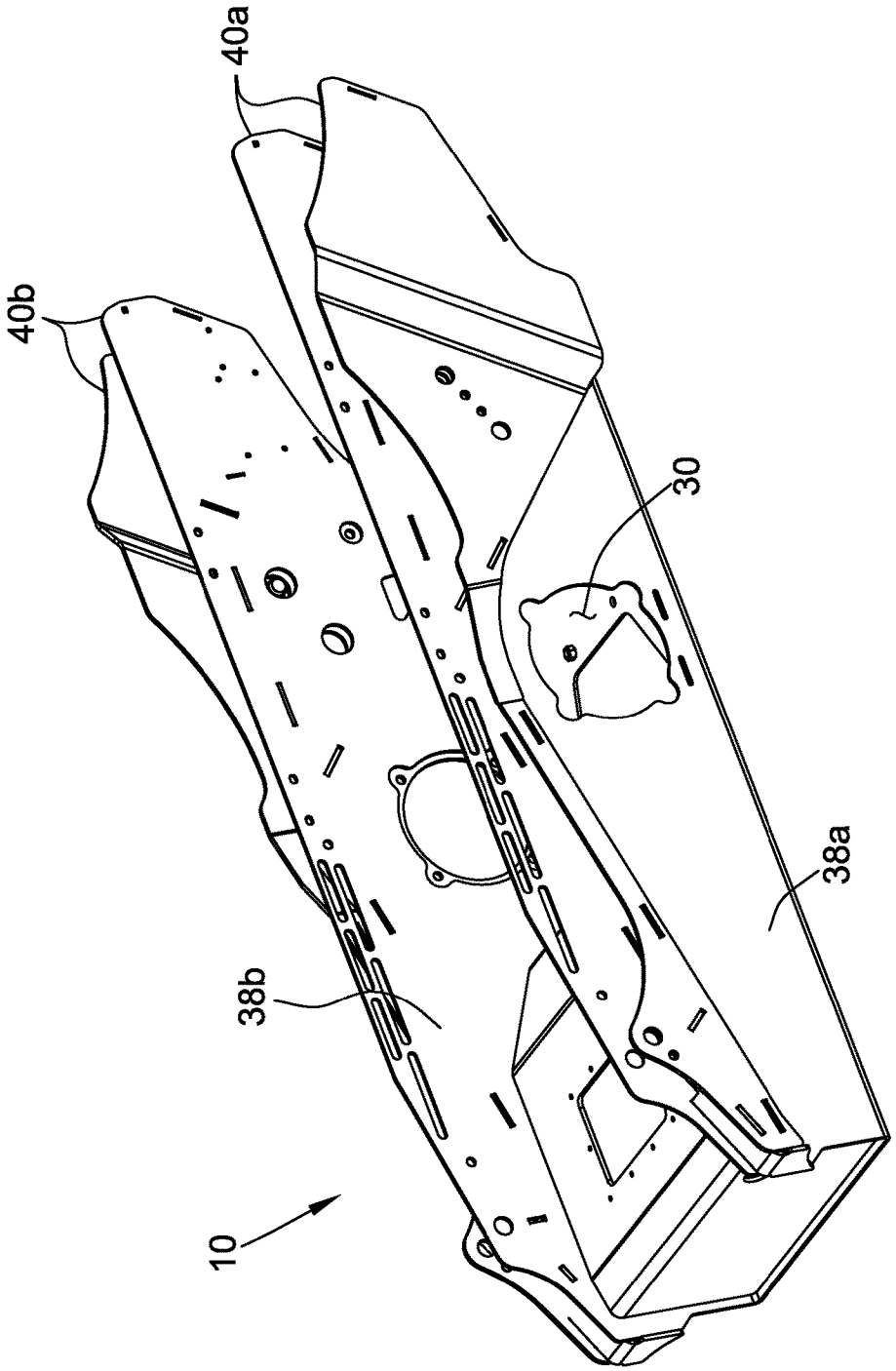


FIG. 4

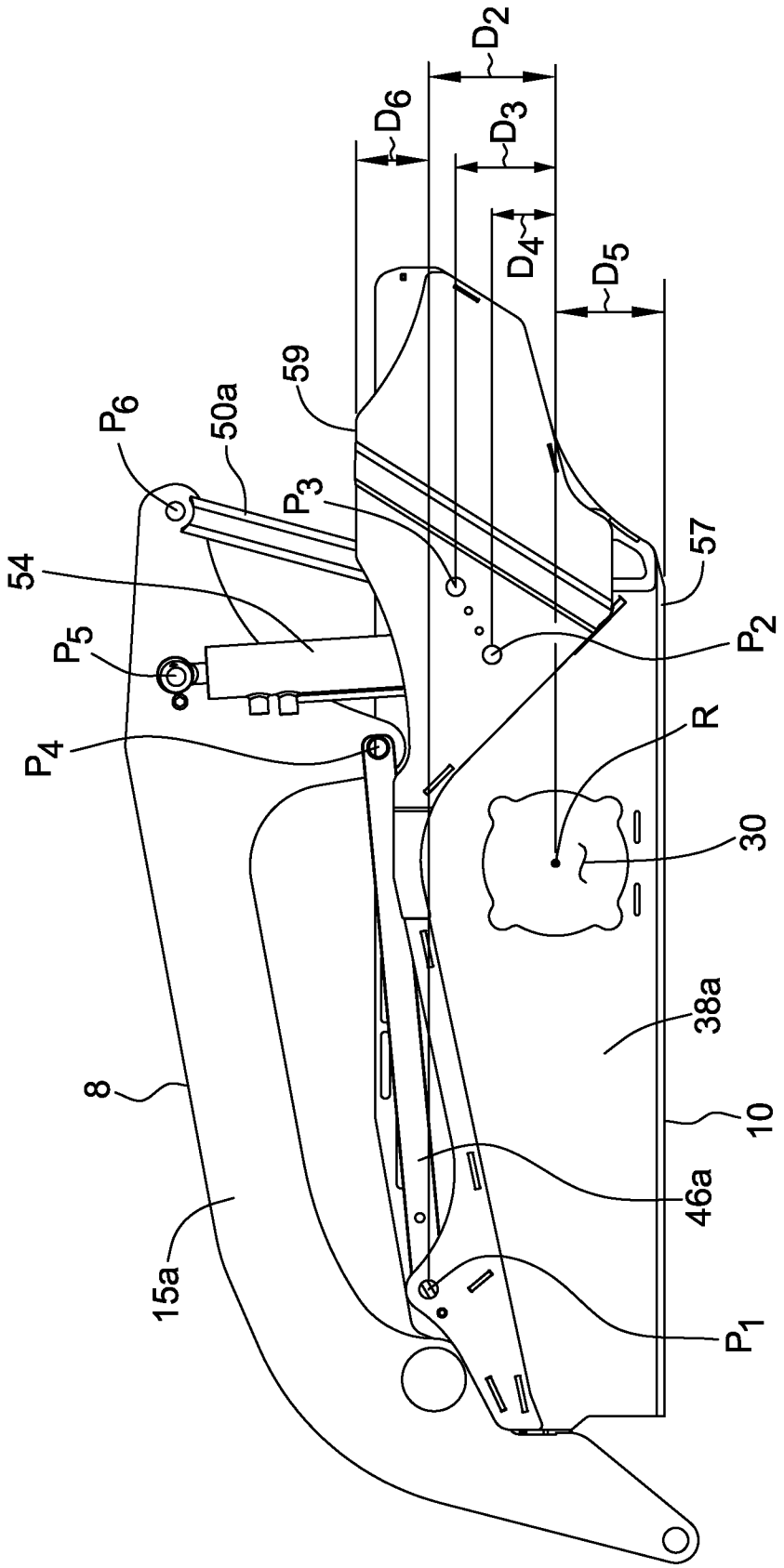


FIG. 5

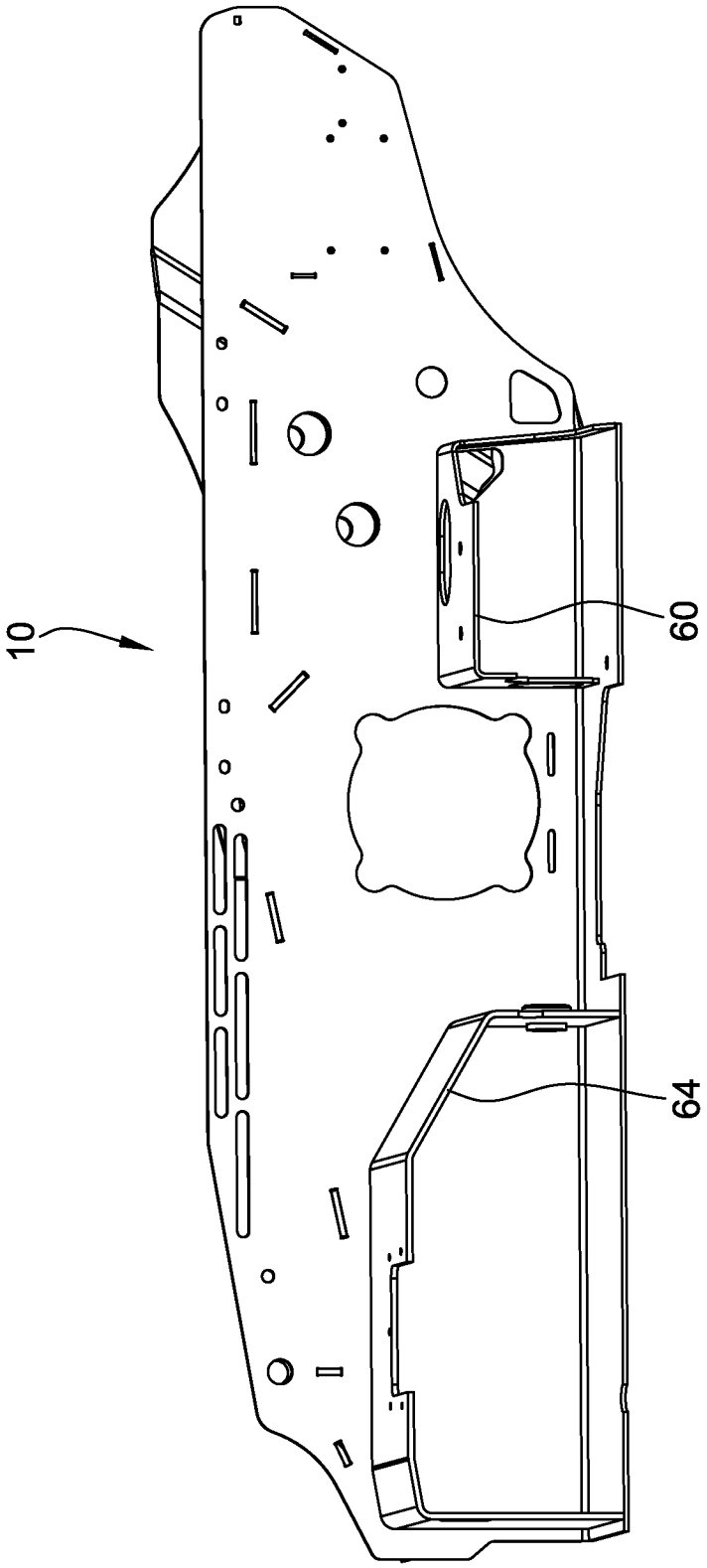


FIG. 6

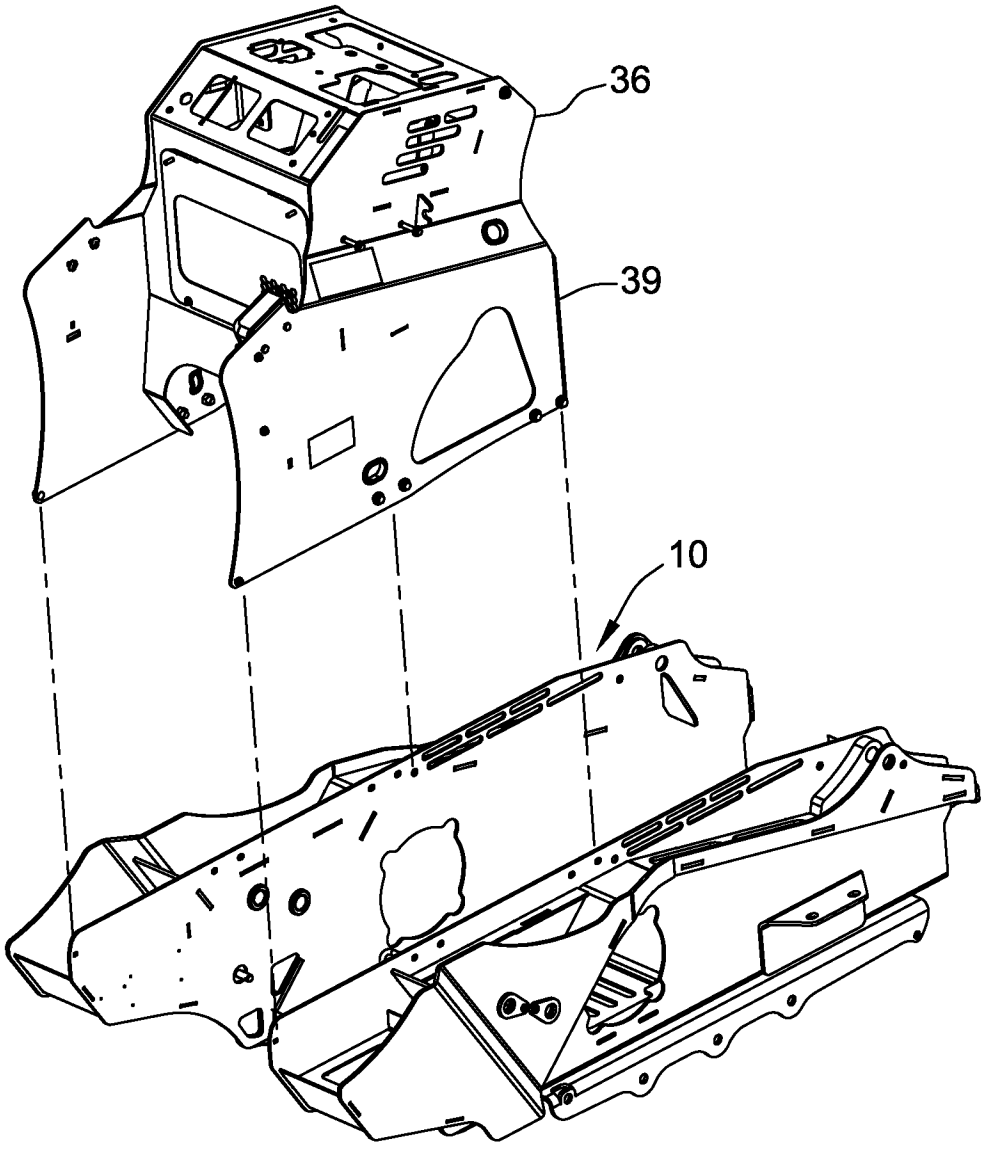


FIG. 7

LOW PROFILE COMPACT TOOL CARRIERS

CROSS-REFERENCES TO RELATED APPLICATIONS

This application is a continuation of U.S. patent application Ser. No. 15/062,801, filed Mar. 7, 2016, which is a continuation of Ser. No. 14/691,649, filed Apr. 21, 2015, which issued Apr. 26, 2016 as U.S. Pat. No. 9,321,386, which claims the benefit of U.S. Provisional Patent Application No. 62/118,860, filed Feb. 20, 2015, each of which being incorporated herein by reference in its entirety.

FIELD OF THE DISCLOSURE

The field of the disclosure relates to compact tool carriers having a loader mounted to a low-profile mainframe.

BACKGROUND

Compact tool carriers are tool-mounted machines that are capable of working in tight spaces for utility or do-it-yourself home projects. Compact tool carriers are walk-behind units or include a platform on which the operator may stand during use. Compact tool carriers are generally defined (e.g., ISO 6165 (2012) and SAE J2752) as "a self-propelled crawler or wheeled machine having an operating mass of less than 1500 kg with a rigid frame, having either a pedestrian operating position or a standing operator platform at the rear of the machine and either front-mounted interchangeable equipment or lift arms with an attachment bracket capable of coupling to interchangeable, front-mounted attachments." The tool carriers may be attached to a variety of interchangeable tools such as buckets, augers, forks, stump grinders, tillers, rollers and the like.

Compact tool carriers may be distinguished from much larger conventional skid steers in which an operator is seated in the operating position. Compact tool carriers pose difficulty in design relative to full-size skid steers due to variation in weight, complexity and size.

A continuing need exists for compact tool carriers with a relatively low-profile, compact design and/or that are characterized by a more effective loader lifting profile.

This section is intended to introduce the reader to various aspects of art that may be related to various aspects of the disclosure, which are described and/or claimed below. This discussion is believed to be helpful in providing the reader with background information to facilitate a better understanding of the various aspects of the present disclosure. Accordingly, it should be understood that these statements are to be read in this light, and not as admissions of prior art.

SUMMARY

One aspect of the present disclosure is directed to a compact tool carrier configured for standing or walk-behind operator control. The carrier has a mass of less than about 1500 kg and includes a loader having an arm and a linkage pivotally attached to the loader arm. An actuator is pivotally attached to the loader arm. The carrier includes a control station having operator controls for propelling the compact tool carrier forward and for raising and lowering the loader. The control station is configured for remote operation or is mounted toward the rear of the compact tool carrier and is adapted to allow for standing or walk-behind operation.

Another aspect of the present disclosure is directed to a compact tool carrier. The carrier comprises a loader and a mainframe for supporting the loader. The mainframe has a first side and a second side with each side having a top and a bottom. The first side of the mainframe has at least two pivot points relative to the loader. The carrier includes a drive mechanism comprising tracks or wheels for propelling the apparatus over a supporting surface. The drive mechanism is attached to the mainframe about a rotational axis. The compact tool carrier has a bottom at which the drive mechanism contacts the supporting surface. The rotational axis and bottom of the compact tool carrier are separated by a vertical distance D1. The rotational axis and each pivot point are separated by a vertical distance. Each vertical distance between the rotational axis and a pivot point is less than 1.5 times D1.

Various refinements exist of the features noted in relation to the above-mentioned aspects of the present disclosure. Further features may also be incorporated in the above-mentioned aspects of the present disclosure as well. These refinements and additional features may exist individually or in any combination. For instance, various features discussed below in relation to any of the illustrated embodiments of the present disclosure may be incorporated into any of the above-described aspects of the present disclosure, alone or in any combination.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a perspective view of a compact tool carrier with the loader in a down position;

FIG. **2** is a side view of the compact tool carrier with the loader in a down position;

FIG. **3** is a side view of the compact tool carrier with the loader in a raised position;

FIG. **4** is a perspective view of a mainframe of the compact tool carrier;

FIG. **5** is a side view of the mainframe and loader of the compact tool carrier;

FIG. **6** is a cross-section side view of the mainframe; and

FIG. **7** is an exploded perspective view of the mainframe and an upper frame of the compact tool carrier.

Corresponding reference characters indicate corresponding parts throughout the drawings.

DETAILED DESCRIPTION

An embodiment of a compact tool carrier is generally referred as "**5**" in FIG. **1**. The compact tool carrier **5** includes a loader **8** supported by a mainframe **10**. The loader **8** includes an attachment plate **12** for interchangeably attaching any one of a number of tools (not shown). In this regard, such interchangeable tools do not form part of the compact tool carrier **5** unless stated otherwise. The attachment plate **12** is connected to an actuator **14** for tilting of tools connected to the attachment plate **12**. The loader **8** has a first arm **15***a* and a second arm **15***b* generally opposite the first arm **15***a*. Each arm **15***a*, **15***b* may be a single weldment or may include various components attached by fasteners (e.g., nuts and bolts). The first and second arms **15***a*, **15***b* each include a bracket portion **17***a*, **17***b* (FIG. **1**) for fastening various linkages.

As used herein, "compact tool carrier" refers to machines that are self-propelled and are capable of carrying interchangeable equipment and that generally have a mass (not including the interchangeable tool) of less than about 1500 kg (about 3307 lb). Use of the term "compact tool carrier" herein is intended to exclude full size skid steers (e.g., seat-operated units) due to a large variation in weight,

complexity and size. In some embodiments, the compact tool carrier **5** meets the definition of a compact tool carrier provided in ISO 6165 (2012) and SAE J2752 set forth above, both standards being incorporated herein by reference for all relevant and consistent purposes.

The compact tool carrier **5** includes a longitudinal axis A that is parallel to the direction of travel of the carrier (i.e., parallel to its length). The compact tool carrier **5** is generally longitudinally symmetrical (i.e., relative to the longitudinal axis A) in that several components have a corresponding component with the same function opposite the component (i.e., across the axis A). Corresponding components of the pair may be indicated herein by use of a reference number followed by "A" and "B" and may be referred to as a "first" component and a "second" component, respectively. While the compact tool carrier **5** may be described herein with reference to the components of one side of the compact tool carrier **5**, any component designated by "A" or "B" herein or shown in FIGS. **1-7** includes a corresponding component with the same function opposite the component.

The compact tool carrier **5** includes a drive mechanism **18** attached to the mainframe **10**. In the illustrated embodiment, the drive mechanism **18** is directly mounted (i.e., connected without intermediary parts) to the mainframe **10** by way of drive sprocket **22** connected to a hub **26** (FIG. **2**). The hub **26** is attached to a shaft (not shown) that extends through a drive opening **30** (FIG. **4**) of the mainframe **10**. The sprocket **22**, hub **26** and shaft (not shown) rotate about a rotational axis R (FIG. **5**). As shown, the drive mechanism **18** includes tracks **34**. In other embodiments, the drive mechanism **18** includes wheels.

The compact tool carrier **5** includes a control station **36** (FIG. **1**) which may include controls (not all controls being shown) for propelling the compact tool carrier **5** forward and/or for raising and lowering the loader **8**. The control station **36** may be mounted toward the rear of the compact tool carrier **5** (i.e., opposite the attachment plate **12**) and is generally adapted to allow for standing or walk-behind operation. As used herein, "standing operation" generally refers to operation in which the operator stands on a platform attached to the compact tool carrier while "walk-behind operation" generally refers to operation in which the operator stands on the surface supporting the compact tool carrier **5**. In the illustrated embodiment, the compact tool carrier **5** includes an operator platform **37** (FIG. **2**).

In embodiments in which the compact tool carrier **5** includes an operator platform **37** for standing operation, the difference between the height of the control station **36** (e.g., as measured from the highest control for operating the loader or propelling the apparatus forward) and the platform **37** may be at least about 90 cm (e.g., from about 90 cm to about 130 cm). In embodiments in which the operator walks behind the compact tool carrier **5**, the control station **36** may be at least about 90 cm (e.g., from about 90 cm to about 130 cm) from the surface supporting the compact tool carrier. Such a range generally complies with the zones of comfort and reach for controls in earth-moving equipment set forth in ISO 6682 (2008) as determined from the physical dimensions of operators and minimum operator space envelope as set forth in ISO 3411 (2007), both of which are incorporated herein by reference for all relevant and consistent purposes.

As stated in SAE J2752, incorporated herein by reference, the machine structure around the operator's area may be part of a barrier guard. In the illustrated embodiment, the control station **36** is attached to an upper frame **39** (FIG. **7**) that is attached and supported by the mainframe **10**. The upper frame **39** and mainframe **10** define the machine structure around the operator's area, wherein the perimeter of the machine structure, defined by the projection of the profile onto a vertical plane passing through the longitudinal axis, forms a barrier guard as shown in FIGS. **2** and **3**. In other embodiments, rather than being integrated as one unit in the compact tool carrier **5**, the control station **36** is separate from the body (e.g., mainframe) of the carrier and is operated remotely. In such embodiments, the control station **36** may be wired or may operate wirelessly to propel the carrier **5** and/or raise and lower the loader **8**.

The mainframe **10** includes a first side **38***a* and a second side **38***b* generally opposite the first side **38***a*. As used herein, the term "mainframe" generally refers to a single weldment to which the loader **8** is attached, optionally through one or more pivotal linkages. The mainframe **10** includes bracket portions **40***a*, **40***b* (FIG. **4**) through which various pivot linkages are attached. In the illustrated embodiment, the engine (not shown) and the drive mechanism **18** comprising tracks or wheels are directly connected to the mainframe **10**.

The first loader arm **15***a* is pivotally connected to the first side **38***a* of the mainframe **10**, and the second loader arm **15***b* is pivotally connected to the second side **38***b* of the mainframe **10**. The loader arms **15***a*, **15***b* and sides **38***a*, **38***b* of the mainframe **10** each include three pivot points for pivoting the loader **8** relative to the mainframe **10**. The first side **38***a* of the mainframe **10** includes a forward pivot point P_1 (FIG. **5**) a rear pivot point P_3 and a central pivot point P_2 between the forward pivot point P_1 and the rear pivot point P_3. Similarly, the first arm **15***a* includes a forward pivot point P_4, a rear pivot point P_6, positioned within the barrier guard of the perimeter of the machine structure as shown in FIGS. **2** and **3**, and a central pivot point P_5 between the forward pivot point P_4 and the rear pivot point P_6. The compact tool carrier **5** includes a first forward linkage **46***a* attached to the first side **38***a* of the mainframe **10** at its forward pivot point P_1 and attached to the first arm **15***a* at its forward pivot point P_4. A first rear linkage **50***a* is attached to the first side **38***a* of the mainframe **10** at its rear pivot point P_3 and is attached to the first arm **15***a* of the loader **8** at its rear pivot point P_6. While the carrier **5** is shown with two loader linkages **46***a*, **50***a* on each side of the carrier **5**, in other embodiments the carrier **5** includes a single linkage.

An actuator **54**, shown as a hydraulic cylinder, is attached to the first side **38***a* of the mainframe **10** at its center pivot point P_2 and is attached to the loader arm **15***a* at its center pivot point P**5** to raise the loader **8**. The compact tool carrier **5** may include a single actuator **54**, or, as in other embodiments, a second actuator (not shown) is connected to the second side **38***b* (FIG. **4**) of the mainframe **10** and the second arm **15***b* (FIG. **1**). The actuator **54** is powered to raise the loader **8** and, in some embodiments, is also powered to lower the loader **8** (as opposed to a one-way actuator lowered by gravity alone).

The second side **38***b* (FIG. **4**) of the mainframe **10** may include a forward pivot point and a rear pivot point to which a second forward linkage **46***b* (FIG. **1**) and second rear linkage (not shown) are respectively attached. The second arm **15***b* may also include a forward pivot point and rear pivot point to which the second forward linkage **46***b* and second rear linkage are attached. In embodiments in which the compact tool carrier **5** includes a second actuator (not shown), the second side **38***b* of the mainframe **10** includes a central pivot point between its forward pivot point and its rear pivot point, and the second arm **15***b* also includes a central pivot point between its forward pivot point and its rear pivot point. The second cylinder may be attached to the

central pivot point of the second side **38***b* of the mainframe **10** and the central pivot point of the second arm **15***b*.

In some embodiments, the first and second ends **38***a*, **38***b* of the mainframe **10** and the first and second loader arms **15***a*, **15***b* do not include more than three pivot points at which the mainframe **10** and loader **8** pivot relative to each other. While the actuator **54** is shown as being attached between the other two linkages **46***a*, **50***a*, in other embodiments the actuator **54** is forward to both linkages **46***a*, **50***a* or rearward to both linkages **46***a*, **50***a*. Further, each side of the carrier **5** having an actuator **54** may include a single linkage rather than two linkages.

In some embodiments, the mainframe **10** is characterized by a relatively low profile (i.e., the pivot points are positioned relatively low on the mainframe allowing its height to be reduced). The rotational axis R (FIG. **5**) and the bottom of the compact tool carrier **5** (FIG. **2**) are separated by a distance D**1**. Generally, the bottom of the compact tool carrier **5** corresponds to the point at which the drive mechanism **18** contacts the surface supporting the compact tool carrier **5**. The rotational axis R and the forward pivot point P_1 of the first side **38***a* of the mainframe **10** are separated by a vertical distance D**2**. The rotational axis R and the rear pivot point P_3 are separated by a vertical distance D**3**. The rotational axis R and the central pivot point P_2 are separated by a vertical distance D**4**. Each of D**2**, D**3** and D**4** is less than about 1.5 times D**1** (1.5×D**1**). In some embodiments, each of D**2**, D**3** and D**4** is less than D**1** or even less than about 0.75 times D**1** (0.75×D**1**).

The mainframe **10** profile may also be expressed relative to the distance D**5** between the rotational axis R (FIG. **5**) and the bottom **57** of the mainframe **10**. Each of D**2**, D**3** and D**4** is less than about twice D**5** (2×D**5**). In some embodiments, each of D**2**, D**3** and D**4** is less than about 1.75 times D**5** (1.75×D**5**) or less than about 1.5 times D**5** (1.5×D**5**). P**2** and P**3** may be relatively lower than P**1** and their distances D**3**, D**4** from the rotational axis R may be even less than about 1.25 times D**5** (1.25×D**5**). The distance D**6** between the top 59 of the first side **38***a* of the mainframe **10** and the highest pivot point (P_1 in the illustrated embodiment), is less than about 1.5 times D**5**, less than about D**5** or less than about 0.75 times D**5**.

The second side **38***b* (FIG. **1**) of the mainframe **10** may have a similar pivot point arrangement. The rotational axis R and the forward pivot point of the second side **38***b* are separated by a vertical distance D**2'** (not shown). The rotational axis R and the rear pivot point of the second side are separated by a vertical distance D**3'** (not shown). The rotational axis R and the central pivot point (if any) of the second side **38***b* of mainframe **10** are separated by a vertical distance D**4'** (not shown). Each of D**2'**, D**3'** and D**4'** is less than about 1.5 times D**1** (1.5×D**1**) or less than D**1** or even less than about 0.75 times D**1** (0.75×D**1**). The rotational axis R and the bottom of the second side **38***b* of the mainframe **10** are separated by a vertical distance D**5'** (not shown). Each of D**2'**, D**3'** and D**4'** is less than twice D**5'** (2×D**5'**) or less than about 1.75 times D**5'** (1.75×D**5'**) or less than about 1.5 times D**5'** (1.5×D**5'**). D**3'** and D**4'** may be even less than about 1.25 times D**5'** (1.25×D**5'**). The distance D**6'** between the top of the second side **38***b* of the mainframe **10** and the highest pivot point is less than about 1.5 times D**5'**, less than about D**5'** or less than about 0.75 times D**5'**.

The compact tool carrier **5** includes an engine (not shown) for propelling the drive mechanism **18**. As shown in FIG. **6**, the engine may be mounted to an engine bracket **60** that forms part of the mainframe **10**. The engine may drive a hydraulic pump that powers hydraulic motors (not shown) which drive the drive mechanism **18** (FIG. **1**) and which provide hydraulic power to actuator **54**. The mainframe **10** includes a reservoir **64** for storing and cycling of hydraulic fluid.

Compared to conventional compact tool carriers, embodiments of the compact tool carrier **5** described above have several advantages. By positioning the pivot points relatively low on the mainframe **10**, the mass of the mainframe **10** and the resulting cost of the carrier **5** may be reduced. Further, such a low-profile mainframe **10** improves visibility for the operator and allows the center of gravity of the carrier **5** to be lowered which improves its stability. In embodiments in which the carrier **5** includes an actuator **54** (FIG. **5**) for lifting the loader **8** that is disposed between forward linkage **46***a* and a rear linkage **50***a* on at least one side **38***a*, **38***b* of the mainframe **10**, the loader **8** is characterized by an travel path in which the loader travels vertically rather than over a radial path. The vertical travel path of the loader **8** is more effective relative to conventional travel paths for compact tool carriers **5** as the carrier **5** may operate closer to other structures.

As used herein, the terms "about," "substantially," "essentially" and "approximately" when used in conjunction with ranges of dimensions, concentrations, temperatures or other physical or chemical properties or characteristics is meant to cover variations that may exist in the upper and/or lower limits of the ranges of the properties or characteristics, including, for example, variations resulting from rounding, measurement methodology or other statistical variation.

When introducing elements of the present disclosure or the embodiment(s) thereof, the articles "a", "an", "the" and "said" are intended to mean that there are one or more of the elements. The terms "comprising," "including," "containing" and "having" are intended to be inclusive and mean that there may be additional elements other than the listed elements. The use of terms indicating a particular orientation (e.g., "top", "bottom", "side", etc.) is for convenience of description and does not require any particular orientation of the item described.

As various changes could be made in the above constructions and methods without departing from the scope of the disclosure, it is intended that all matter contained in the above description and shown in the accompanying drawing [s] shall be interpreted as illustrative and not in a limiting sense.

What is claimed is:

1. A loader apparatus configured for standing operator control and comprising:

a loader adapted to carry a tool, the loader being moveable between a down position and a vertically raised position;

a loader support for supporting the loader, the loader support having a first side and a second side, the loader being free from direct attachment to the loader support;

a first linkage pivotally attached to the first side of the loader support at a first linkage pivot point;

a second linkage pivotally attached to the first side of the loader support at a second linkage pivot point;

an actuator pivotally attached to the first side of the loader support at an actuator pivot point;

a control station having operator controls for propelling the loader apparatus forward and for raising and lowering the loader; and

an operator platform for standing operation of the operator controls of the control station, the operator platform being located toward a rear of the loader apparatus such that the first linkage pivot point, second linkage pivot

point, and the actuator pivot point are disposed forward of the operator platform, the first linkage pivot point, second linkage pivot point, and the actuator pivot point being disposed below the operator controls of the control station.

2. The loader apparatus as set forth in claim **1** wherein the loader support comprises a lower frame and an upper frame, the control station being mounted to the upper frame.

3. The loader apparatus as set forth in claim **1** wherein the loader support incorporates a single weldment.

4. The loader apparatus as set forth in claim **1** wherein the loader comprises a loader arm, the loader arm being pivotally connected to the first side of the loader support.

5. The loader apparatus as set forth in claim **4** wherein the first and second linkages are pivotally attached to the loader arm.

6. The loader apparatus as set forth in claim **4** wherein the loader arm is a first loader arm, the loader comprising a second loader arm, the second loader arm being pivotally connected to the second side of the loader support.

7. A loader apparatus for standing or walk-behind operator control and comprising:

a control station having operator controls toward a rear of the loader apparatus;

a loader adapted to carry a tool, the loader being moveable between a down position and a vertically raised position;

a rigid frame for supporting the control station and the loader, the rigid frame having a first side, a second side, a top, and a bottom;

a first linkage pivotally attached to the first side of the rigid frame at a first pivot point and pivotally attached to the loader at a second pivot point;

an actuator pivotally attached to the first side of the rigid frame at a third pivot point and pivotally attached to the loader at a fourth pivot point; and

a second linkage pivotally attached to the first side of the rigid frame at a fifth pivot point and pivotally attached to the loader at a sixth pivot point, wherein, as the loader travels from the down position to the vertically raised position, the first, second, third, fourth, fifth and sixth pivot points are (1) disposed between the operator controls and the bottom of the rigid frame and/or (2) disposed forward of the control station.

8. The loader apparatus as set forth in claim **7** wherein the rigid frame defines a pocket toward a rear of the rigid frame to partially surround an operator.

9. The loader apparatus as set forth in claim **8** further comprising an operator platform at least partially within the pocket.

10. The loader apparatus as set forth in claim **7** wherein, in the vertically raised position, the first and second pivot points are disposed forward of the control station and the third, fourth, fifth and sixth pivot points are disposed between the operator controls and the bottom of the rigid frame.

11. The loader apparatus as set forth in claim **7** wherein the rigid frame comprises a lower portion and an upper portion attached to the lower portion, the first linkage, the second linkage and the actuator each being pivotally attached to the lower portion, the upper portion supporting the control station.

12. The loader apparatus as set forth in claim **7** wherein the rigid frame comprises a lower frame and an upper frame, the control station being attached to the upper frame.

13. The loader apparatus as set forth in claim **7** wherein the rigid frame incorporates a single weldment.

14. A loader apparatus for standing or walk-behind operator control and comprising:

a loader adapted to carry a tool;

a loader support for supporting the loader, the loader support having a first side and a second side, the loader being free from direct attachment to the loader support;

a linkage pivotally attached to the first side of the loader support at a first pivot point and pivotally attached to the loader at a second pivot point;

an actuator pivotally attached to the first side of the loader support at a third pivot point and pivotally attached to the loader at a fourth pivot point; and

a drive mechanism for propelling the loader apparatus over a supporting surface, the drive mechanism having a drive sprocket defining a rotational axis R, the rotational axis R and a bottom of the first side of the loader support being separated by a vertical distance D**5**, the loader support comprising a forward-most pivot point with the first pivot point or the third pivot point being the forward-most pivot point, a vertical distance between the rotational axis R and the forward-most pivot point being less than 0.75 D**5**.

15. The loader apparatus as set forth in claim **14** wherein the loader support comprises a lower frame and an upper frame, the loader apparatus further comprising a control station having operator controls for propelling the loader apparatus forward and for raising and lowering the loader, the control station being attached to the upper frame.

16. The loader apparatus as set forth in claim **14** wherein the loader support incorporates a single weldment.

17. The loader apparatus as set forth in claim **14** wherein the linkage is a first linkage, the loader apparatus comprising a second linkage pivotally attached to the first side of the loader support at a fifth pivot point and pivotally attached to the loader at a sixth pivot point, the loader apparatus having a bottom at which the drive mechanism contacts the supporting surface, the rotational axis R and the bottom of the loader apparatus being separated by a vertical distance D**1**, the rotational axis R and each of the first, third and fifth pivot points being separated by a vertical distance, the vertical distance between the rotational axis R and the first pivot point being less than 1.5 times D**1**, the vertical distance between the rotational axis R and the third pivot point being less than 1.5 times D**1**, and the vertical distance between the rotational axis R and the fifth pivot point being less than 1.5 times D**1**.

18. The loader apparatus a set forth in claim **14** wherein the loader apparatus has a bottom at which the drive mechanism contacts the supporting surface, the rotational axis R and the bottom of the loader apparatus being separated by a vertical distance D**1**, the rotational axis R and each of the first and third pivot points being separated by a vertical distance, the loader support comprising a forward-most pivot point with the first pivot point or the third pivot point being the forward-most pivot point, the vertical distance between the rotational axis R and the forward-most pivot point being less than 1.5 times D**1**.

19. A loader apparatus for standing or walk-behind operator control and comprising:

a machine structure comprising a mainframe and an upper frame, the machine structure defining a barrier guard;

a control station having operator controls toward a rear of the loader apparatus;

an actuator pivotally attached to the mainframe;

a front linkage pivotally attached to the mainframe;

a rear linkage pivotally attached to the mainframe; and

a loader adapted to carry a tool, the loader being moveable between a down position and a vertically raised position, the front linkage being pivotally attached to the loader at a front linkage pivot point, the rear linkage being pivotally attached to the loader at a rear linkage pivot point, wherein:

in the down position, the front linkage pivot point is (1) disposed within the barrier guard and/or (2) disposed forward of the barrier guard; and

as the loader travels from the down position to the vertically raised position, the rear linkage pivot point is (1) disposed within the barrier guard and/or (2) disposed forward of the barrier guard.

20. The loader apparatus as set forth in claim **19** wherein, in the down position, the rear linkage pivot point is disposed within the barrier guard.

21. The loader apparatus as set forth in claim **19** wherein the actuator is pivotally attached to the loader at an actuator pivot point, wherein, in the down position, the actuator pivot point is (1) disposed within the barrier guard and/or (2) disposed forward of the barrier guard.

22. The loader apparatus as set forth in claim **21** wherein the mainframe has a first side and a second side, the rear linkage, actuator and front linkage each being pivotally attached to the first side of the mainframe.

23. The loader apparatus as set forth in claim **19** wherein the loader is free from direct attachment to the mainframe.

24. The loader apparatus as set forth in claim **19** wherein the mainframe incorporates a single weldment.

25. A loader apparatus for standing or walk-behind operator control and comprising:

a machine structure comprising a mainframe and an upper frame, the machine structure defining a barrier guard;

a control station having operator controls toward a rear of the loader apparatus;

an actuator pivotally attached to the mainframe;

a linkage pivotally attached to the mainframe; and

a loader adapted to carry a tool, the loader being moveable between a down position and a vertically raised position, the linkage being pivotally attached to the loader at a linkage pivot point, wherein:

in the down position, the linkage pivot point is disposed within the barrier guard; and

as the loader travels from the down position to the vertically raised position, the linkage pivot point is (1) disposed within the barrier guard and/or (2) disposed forward of the barrier guard.

26. The loader apparatus as set forth in claim **25** wherein the mainframe incorporates a single weldment.

27. The loader apparatus as set forth in claim **25** wherein the loader is free from direct attachment to the mainframe.

* * * * *

Electronic Patent Application Fee Transmittal

Application Number:	
Filing Date:	
Title of Invention:	LOW PROFILE COMPACT TOOL CARRIERS
First Named Inventor/Applicant Name:	Brad Thomas
Filer:	James W. Miller
Attorney Docket Number:	Vermeer - 266 Reexam

Filed as Large Entity

Filing Fees for ex parte reexam

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
EX PARTE REEXAMINATION (1.510(A)) NON-STREAMLINED	1812	1	12000	12000
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
			Total in USD ($)	**12000**

Electronic Acknowledgement Receipt

EFS ID:	35260008
Application Number:	90014269
International Application Number:	
Confirmation Number:	3337
Title of Invention:	LOW PROFILE COMPACT TOOL CARRIERS
First Named Inventor/Applicant Name:	Brad Thomas
Customer Number:	61145
Filer:	James W. Miller
Filer Authorized By:	
Attorney Docket Number:	Vermeer - 266 Reexam
Receipt Date:	26-FEB-2019
Filing Date:	
Time Stamp:	18:16:26
Application Type:	Reexam (Third Party)

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	$12000
RAM confirmation Number	022719INTEFSW00005494201315
Deposit Account	
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	ReexamTransmittal-SB57-02-26-2019.pdf	214638 d8c8201cb26a2d569b061a16929d3339261167e8	no	4
Warnings:					
Information:					
2	Receipt of Orig. Ex Parte Request by Third Party	DetailedExParteReexaminationRequestof266Patent-02-26-19.pdf	5979621 70197cec50d8861bd41fa0fee085879392ca21c5	no	78
Warnings:					
Information:					
3	Reexam - Info Disclosure Statement Filed by 3rd Party	PTO-SB-08a-IDS-02-26-2019-2.pdf	208603 53451b2179cedc5fe30b41ecf837c72f9a1e96bc	no	4
Warnings:					
Information:					
4	Copy of patent for which reexamination is requested	US10202266-CopyofPatentatIssue.pdf	837770 b57c7228b76a0372a1d6ee55310042fe6ced38cc	no	14
Warnings:					
Information:					
5	Foreign Reference	JPH11140900-Komtasu-wAttachedTranslation.pdf	591143 137b7a9d9cc5df9153a50b8ac121727282fcaa26	no	47
Warnings:					
Information:					
6	Non Patent Literature	Dingo322OperatorsManual-2000.pdf	758447 264692a5bec6a1f24e33a6f28ba7ca6ffc14c0bf	no	32
Warnings:					
Information:					

7	Non Patent Literature	Dingo322PartsCatalog-1999.pdf	1744554 bfbaa069207e8d156458b22c404993b9511cedcd	no	32
Warnings:					
Information:					
8	Non Patent Literature	Vermeer-S600-600TX-Brochure.pdf	16345697 9d77aaf35cd871438eb6c7873708b884a94543cc	no	8
Warnings:					
Information:					
9	Non Patent Literature	SAEJ2752-1.pdf	7685652 282781ea7f756d7784fa2e30186a3d7892c9100f	no	12
Warnings:					
Information:					
10	Non Patent Literature	ComplaintForPatentInfingement-USPatent10202266.pdf	2080493 abb185359dc83d99bb50f3c1d89bfd38f02777c9	no	19
Warnings:					
Information:					
11	Non Patent Literature	RamrodCompactMiniSkidLoaderSolutionsOctober2016Newsletter.pdf	4120141 50f7734d15d94b92f80d518d42ded511323d14f7	no	4
Warnings:					
Information:					
12	Fee Worksheet (SB06)	fee-info.pdf	29797 2ac02b2a4d6d470c1b48c1552fe0e97f91eb7c34	no	2
Warnings:					
Information:					
			Total Files Size (in bytes):	40596556	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

BIB DATA SHEET

CONFIRMATION NO. 3337

SERIAL NUMBER	FILING or 371(c) DATE / RULE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
90/014,269	02/26/2019	414	3993	Vermeer - 266 Reexam

APPLICANTS

INVENTORS

10202266, Residence Not Provided;
VERMEER MANUFACTURING COMPANY, PELLA, IA;
THE TORO COMPANY (3RD PTY REQ.), BLOOMINGTON, MN;
JAMES W. MILLER (ATTORNEY), MINNEAPOLIS, MN

**** CONTINUING DATA ***************************

This application is a REX of 15/704,685 09/14/2017 PAT 10202266
which is a CON of 15/062,801 03/07/2016 PAT 9975750
which is a CON of 14/691,649 04/21/2015 PAT 9321386
which claims benefit of 62/118,860 02/20/2015

**** FOREIGN APPLICATIONS ***************************

**** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ****

Foreign Priority claimed ☐ Yes ☐ No 35 USC 119(a-d) conditions met ☐ Yes ☐ No Verified and Acknowledged Examiner's Signature	☐ Met after Allowance Initials	STATE OR COUNTRY	SHEETS DRAWINGS	TOTAL CLAIMS	INDEPENDENT CLAIMS
				27	5

ADDRESS

Patent Docket Department
Armstrong Teasdale LLP
7700 Forsyth Boulevard
Suite 1800
St. Louis, MO 63105
UNITED STATES OF AMERICA

TITLE

LOW PROFILE COMPACT TOOL CARRIERS

FILING FEE RECEIVED		
12000	FEES: Authority has been given in Paper No._____ to charge/credit DEPOSIT ACCOUNT No._____ for following:	☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit

Exhibit 2

IN THE UNITED STATES DISTRICT COURT

FOR THE SOUTHERN DISTRICT OF IOWA

CENTRAL DIVISION

VERMEER MANUFACTURING COMPANY,

Plaintiff, Case No. 4:19-cv-00050

vs.

THE TORO COMPANY,

Defendant.

---

* * *

CONFIDENTIAL - ATTORNEYS' EYES ONLY

* * *

VIDEO DEPOSITION TESTIMONY OF

NEIL B. BORENSTEIN

THURSDAY, JUNE 20, 2019

MINNEAPOLIS, MINNESOTA

* * *

A. Sometimes.
Q. Yeah. Is it usually people from the marketing team or from the engineering team or both?
A. Both.
Q. Is there some standardized result that you receive from these firms or final work product?
A. We receive final work product. I wouldn't say any of it is standardized.
Q. Is that final work product saved somewhere, the i: drive perhaps?
A. Sometimes.
Q. Okay.
A. It depends on the marketing manager responsible for it.
Q. I should know this, but I don't.
Can you give me an understanding of the breadth of the products that the Siteworks division manufactures?
A. We manufacture construction products, primarily, compact construction products. We manufacture compact utility loaders, walk-behind trenchers, stump grinders, track stump grinders, handlebar stump grinders. We manufacture riding

trenchers. We manufacture directional boring machines. We manufacture cement mixers, mortar mixers, compactors, aerators, dethatchers, brush cutters, Mud Buggies, track Mud Buggies, wheel Mud Buggies. That's all I can remember at this time.

Q. That's plenty. Thanks.

Mud Buggies, are those just basically motorized buckets that you can move around and tote concrete with?

A. Yes.

Q. I don't mean to downplay their significance and engineering that goes into them. I'm just curious.

Um, do you know how many studies Axiom or Dodge Consulting have done specifically relating to compact utility loaders since you started in 2004?

A. I can't remember the exact number.

Q. Can you give me a rough estimate?

A. I'd say between them, maybe a half a dozen.

Q. And are those studies to your recollection evenly distributed throughout that time period, or have they been concentrated?

Q. Sure. Your best recollection is that, um, the two consulting firms did some work on the compact utility loader lines, you just can't recall which specific products they related to.

Is that right?

A. We have employed both firms to do research at different times. I can't recall which firm did which research at what time.

Q. Yeah. When you first started with the Siteworks division in 2004, I'd asked you a moment ago about what you did to immerse yourself in that industry to understand the products that were sold and the customer demands.

As a result of your early work to embed yourself in that business, did you have an understanding of what kinds of characteristics or features drove consumer demand in the compact utility loader segment?

A. I tried to determine customers' needs.

Q. Do you have a recollection of what you believed was driving consumer demand in the compact utility loader space back in the 2004

time period?

A. Yes.

Q. What was that?

A. It was demand to -- uh, for a compact machine to do multiple tasks, tracked to allow them to operate in wet environments and to reduce turf damage.

Q. At that time, in 2004, did you appreciate or did you understand that consumers were interested in a machine that could lift as much as possible?

A. Consumers always demand more capacity.

Q. And I throughout the day may use the phrase "lift capacity."

Do you understand that to be the amount that the machine, the compact utility loader can lift?

A. There are multiple definitions for lift capacity.

Q. Help me understand what you understand lift capacity to refer to?

A. Well, there's a tip capacity and a rated operating capacity.

Q. And is your understanding of the tip

machine?

MR. WILLIAMS: Same objection.

THE WITNESS: As I mentioned before, we design -- you're -- we design multiple machines to do multiple different tasks and have multiple different operating characteristics.

BY MR. BROPHY:

Q. So let me ask it this way: Are you aware of an instance in which marketing or engineering decided: We need to lower the lift capacity of this machine because it's too high?

A. I'm not aware of that instance.

Q. Are you aware of instances in which the marketing and engineering team wanted to increase the lift capacity as much as possible on a newly designed machine?

A. We, uh -- we always -- in -- in case of specific machines, we like to have higher capacities.

Q. And so from 2004 until today, whenever the Siteworks division developed a new compact utility loader, it tries to maximize lift capacity, right?

MR. WILLIAMS: Objection, asked and answered.

THE WITNESS: I would say it depends on the product you're developing. There's different operating characteristics for different machines.

BY MR. BROPHY:

Q. Are you aware of instances in which the Siteworks division has developed compact utility loaders, and one of the goals was to maximize lift capacity?

A. State the question again?

Q. Sure. Are you aware of examples of the Siteworks division developing compact utility loaders where one of the goals of that development was to maximize the lift capacity of the machine?

A. Um, lift capacity is one dynamic of a machine.

Q. Uh-huh.

A. And it is -- um, it corresponds to other dynamics of the machine and may -- and, um, creating the lift capacity is sometimes a tradeoff between other dynamics of the machine.

Q. But -- I understand that but all else equal, your engineers try to maximize that variable, right?

A. They -- they would try to optimize that variable based on the other characteristics of the machine.

Q. And that means make it as high as possible?

A. It does not necessarily mean make it as high as possible.

Q. It means making it as high as possible as long as you don't compromise the other goals for the machine, right?

A. We would want to make it as high as possible as long as other goals are not compromised.

Q. And that effort to maximize lift capacity without compromising other goals of the machine, that has been a consistent goal of the Siteworks division from 2004 until today, right?

A. I'm not -- I'm not sure that that's a -- a consistent goal. I mean we try and develop products that meet the needs of our customers, and they have multiple attributes. Lift capacity is one of those attributes.

Q. Are you aware of a single instance in which Toro decided to make the lift capacity of one of its compact utility loaders less than it

could have been in order to satisfy a consumer's demand?

A. The -- again, lift capacity is one dynamic of an operating machine's characteristics and it -- you -- we try and -- you would try and meet all the character -- maximize all the characteristics, but sometimes the characteristics work against each other.

Q. But, again, all else equal, you want lift capacity to be as high as possible, right?

MR. WILLIAMS: Objection, asked and answered.

THE WITNESS: If everything is equal, you would -- you would want any specification to exceed -- to be as high as possible.

BY MR. BROPHY:

Q. And you understood that lift capacity was one of the things that consumers were interested in when buying a compact utility loader, right?

A. Lift capacity is one of the things customers are interested in.

Q. And that's been consistent from 2004 until today, right?

A. Yes.

A. I didn't -- I did not review documents in preparation for this that, uh, resulted -- that were regarding vertical lift machines in a certain time frame.

Q. Prior to the TX 1000, what is the -- let me ask that a different way.

What is the machine that -- the compact utility loader machine that was developed by Toro immediately before the TX 1000?

A. State the question again?

Q. Sure. If we're going backwards in time, obviously, the TX 1000 is one of the most recent machines that Toro's developed.

What is the next one back in time?

A. Oh, I think we developed a stump -- a track stump grinder.

Q. And I'm sorry. I mean in the compact utility loader space. Excuse me.

A. That would be the TX 525.

Q. TX 525. And that's the --

A. Or the TX 427. We repowered the TX 420. It -- that -- it's probably the 427.

Q. Okay. And there's also a TX 525?

Is that right?

A. Correct.
Q. And that's a ground-up design?
A. No. That -- well, no. That was a repowering of the TX 420 with a diesel engine.
Q. Okay. So the -- the TX 425 is a repowered version of the 420?
Is that right?
A. Correct.
Q. And the TX 427 is also a repowered version of the 420?
A. Correct.
Q. Um, what is the next earliest if we go back in time?
The 525, the 427, what's the next one?
A. We developed a -- going back earlier?
Q. Yes, please.
A. We developed a TX 413.
Q. And was that a ground-up design?
A. Yes.
Q. Okay. When was that released?
A. It was released prior to my employment with the division.
Q. Do you happen to know what year roughly?

Is that consistent with your understanding?

A. When we did this research, the initial thought was to go for a bigger machine first.

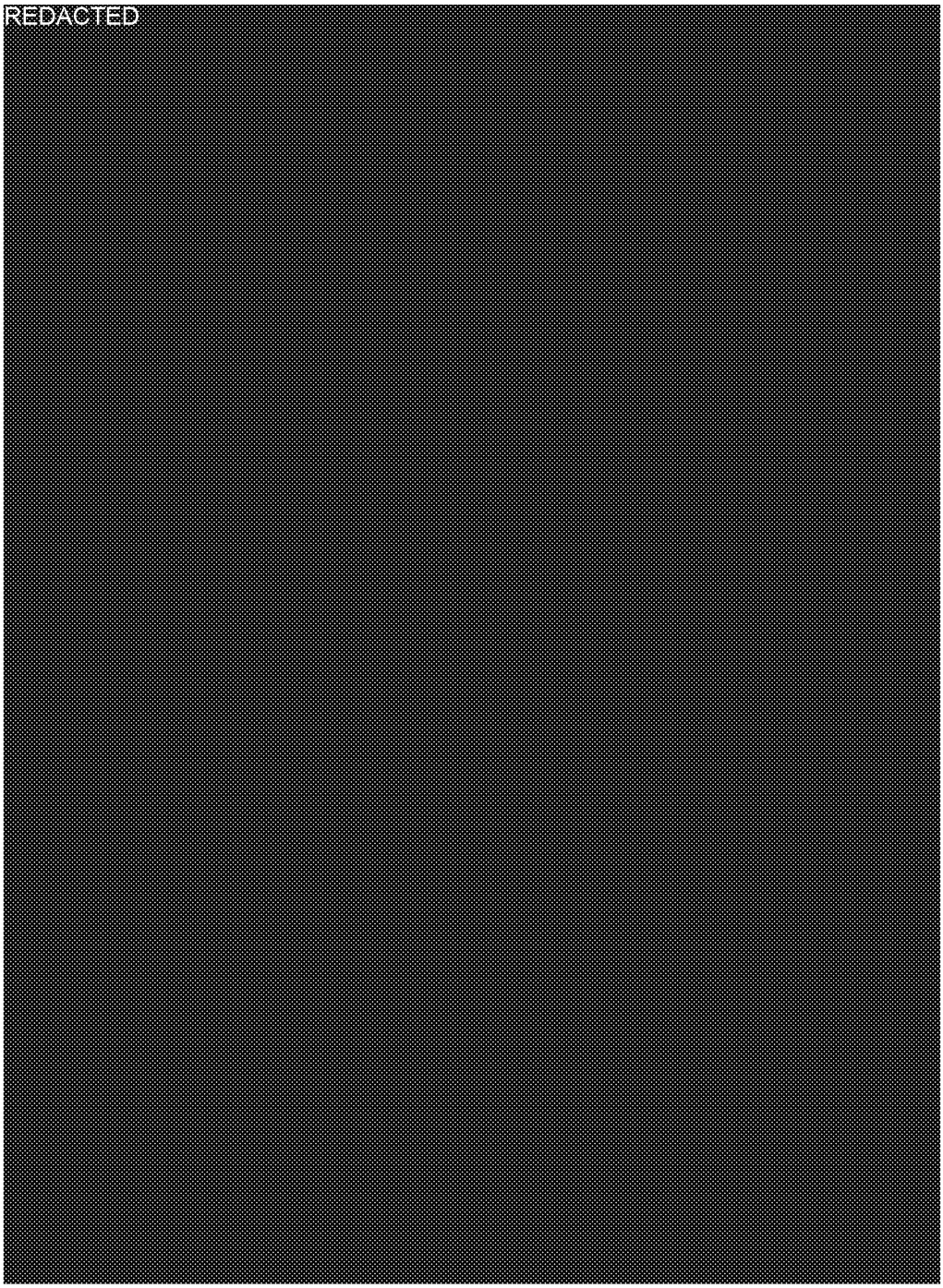
Q. Uh-huh.

A. And then work on a smaller machine, but later we decided to work on the smaller machine that -- we prioritized them (witness indicating).

Q. Would you mind looking at Exhibit 27, which I'll hand to you here in a second.

Um, if you know, is that a representation of product -- Project Atlas at some point in time?

REDACTED - AEO



Q. Just at a high level, has the TX 1000 been a successful product for the company?

A. How do you define success?

Q. Use your own definition.
A. I would say, no.
Q. And why is that?
A. Um, we've had some quality problems.
Q. Okay. Meaning sold, deployed units coming back with broken parts?
A. Yes (witness indicating).
Q. Okay. Do you have any sense for how -- what percentage of the machines you delivered come back with some kind of significant quality problem?
A. Uh, I -- I don't have it with me now. I would say it's -- up to this point, it's been above our expectations.
Q. Yeah. What steps are being undertaken to correct that?
A. We have redesigned the track system on the narrow track units.
Q. Is the track system the cause of most of those quality issues?
A. Yes.
Q. Okay. What other components of the machine are having quality issues?
A. When you -- when you introduce a new machine, there can be numerous quality issues.

In fact, in existing machines, you can have quality issues on. Um, when we address these quality issues, uh, we prioritize them, and the major priority has been particularly on the narrow track unit on the track design.

There have been other issues along the way that we've repaired or fixed. However, because we've had such a high priority on the track system, there -- the details are not as highlighted as much within the organization.

Q. Are you aware of any quality issues that pertain to the vertical lift system?

A. Yes.

Q. What specific issues?

A. We've had loader arms running -- rubbing on the frame. That's a particular issue that I remember.

REDACTED

A. And at the time, we were leaders in the industry, and we felt that we were at that time meeting the needs of the customers but the market -- the customer change -- needs change over years.

Q. Are you aware of any document existing within Toro's -- I'll ask that differently.

Are you aware of any document reflecting a decision to either put radial lift or vertical lift on a machine and for -- and for Toro to decide we're going to go with radial lift on this machine?

A. I think at this point was the point we -- where -- this document here is where we started talking about vertical lift.

Q. So before that document, you're not aware of any instance in which any Toro engineer thought of putting vertical lift on a compact utility loader, right?

A. No, I can't -- I can't say that. Um, I think -- I think because the vertical lift concept is known on skid-steer loaders and compact track loaders and numerous models are marketed in both designs, we were all aware of

that, and we all had thought that wouldn't it be -- you know, we'd like to -- someday that concept may be appropriate for a CUL.

Q. Is there a single document you can point to that corroborates what you just said?

A. I don't believe there is.

Q. I'll hand you what's been previously marked as Exhibit 8.

Would you mind flipping through this, and then letting me know what this document is?

A. This -- this would be the 3.0 document which is the development gate for the TX 1000.

Q. So this is the next step in the process after the 2.0, right?

A. Yes.

Q. And what's the general purpose of this document?

A. The general purpose of this document is to fund the next -- next stage in development.

Q. And on the front page of this document, we see certain dollar amounts identified, right?

A. Yes.

A. I can't remember in specifics. When you design a machine, um, there are numerous decision points where you are trying to manage where the weight is of the machine.

Q. Are you aware of instances in which engineers have placed the engine for the machine as far back as possible to increase lift capacity?

A. Again, during the machine designing process, where weight is distributed is important on a utility loader because you're lifting something heavy, and then you're transporting with a light -- so moving weight around or designing where weight is is important for the whole operating characteristics of the machine.

Q. Other than attaching weights to the back of the machine, are you aware of other examples of Toro engineers proposing designs specifically for the purpose of increasing a machine's lift capacity?

A. Say the question again?

Q. Sure. Other than simply adding weights to the back of the machine, are you aware of other designs proposed by Toro

engineers specifically motivated by the interest of increasing lift capacity?

A. Oh, yeah. We -- we've increased lift capacity in different ways over the years.

Q. What are those ways?

A. We've made a bigger machine. We've made a heavier machine. Vertical lift is one of the ways. Uh, we changed -- you can change where -- how far a reach it has (witness indicating).

Q. And by reducing reach, you mean increase lift capacity?

Is that right?

A. And depending on other factors but all factors being the same, I think you would.

Q. Any other examples of things Vermeer -- pardon me -- Toro has attempted to do to specifically increase lift capacity?

A. I think -- I think -- I mean I'm not the engineer, so I don't have the full laundry list of what they would have done.

Q. Are you aware of examples of competitors making changes to their machines to try to increase lift capacity?

A. Well, I don't know about changes. I

think their designs have done different things in terms of reach or in terms of size of the machine. All those attributes we talked about, they make their own decisions based on how much they want to lift and what their machine looks like (witness indicating).

Q. Are you aware that Ditch Witch sells a weight pack for some of its compact utility loaders to increase lift capacity?

A. I'm not aware of that.

Q. Are you aware of Toro engineers proposing a mechanism other than a radial or vertical lift mechanism for a compact utility loader?

A. I think at one time we had a design thought where we could move weight back and forth to increase or decrease the weight capacity.

Q. So in other words, when the machine was lifting the load, some weight would come out the back of the machine?

A. Yes.

Q. Okay. Was that design ever brought into prototype form?

A. I can't remember.

C E R T I F I C A T I O N

I hereby certify that the proceedings and evidence noted are contained fully and accurately in the notes taken by me in the deposition of the above matter, and that this is a correct transcript of the same.

_____

Rebecca L. Klanderud
Certified Shorthand Reporter

(The foregoing certification of this transcript does not apply to any reproduction of the same by any means unless under the direct control and/or supervision of the certifying reporter.)

Exhibit 3

Sitework Equipment Concept Exposure

Focus Groups

DRAFT 3 Brief Summary Final Report

Prepared for:

TORO

Sitework Systems

By

Dodge Business Research Consulting

February, 2009

Sitework Equipment Concept Exposure Focus Groups

Qualitative Findings for input to Marketing and Product Development

Background

Toro has identified a potentially meaningful product gap between the high end of the Dingo product line and the skid-steer product category. Current Dingo users and users of competitive Compact Utility Loaders comment on their product's limitations regarding dump height, lift capacity, durability and other performance characteristics.

While products from Ditch Witch and Vermeer have nominally filled this spec gap, it is unclear whether demand for a product that falls in this gap has been fully developed.

Toro has developed product concepts based on exploratory qualitative research into this product gap.

Toro wishes to ultimately obtain quantitative feedback on fully developed concepts. As a logical next step, Toro sought qualitative feedback on these product concepts as prelude to a further development and, ultimately, quantitative evaluation.

Objective

The objective of this project is to obtain qualitative input on product concepts from landscapers.

Methodology

A list of the participants appears below.

Minneapolis

First Name	Work status	Company	Number of pieces of equipment	Compact motorized equipment fleet description
Wayne	FT / Owner / Landscaping	APL Landscape Solutions	4-6	Track loaders, mini-skidsteer, mini excavators, skid steers, walk behind bobcat (All Bobcat)
Craig	FT / Co-owner / Landscaping	Superior Lawn & Landscape	6-10	Skid Steers, Mini Excavators, Track & Tire Loaders
Chris	FT / Vice President / Landscape & Irrigation	Mickman Brothers Inc	6-10	1 mini-excavator, 4-skid steers (Bobcat), 2 track loaders (Caterpillar), 3 wackerplates
Jeff	FT / Owner / Landscaping	Stone Creations Landscaping	1-3	Compact track loader-RSV60, Wheel loader-Case 85XT, Also rent others as needed
Junior	FT / Vice President / Landscaping	Oh Landscapes	11+	Excavator, skid steers (Bobcats), jumping jacks (John Deere)
Chad	FT / Owner / Landscaping	C & L Outdoor Design & Landscaping	6-10	4 Skid Steers-Bobcat, 2 Mini-Traxcavators, Walk-behind-Bobcat, D6 Dozers - Cat
Gary	FT / Owner / Landscaping	Aspen Landscaping	4-6	Skid loaders - Bobcat, Dump Trucks - Ford, Compaction Equipment - Wacker

Methodology

Participants (Continued)

Dallas

First Name	Work status	Company	Number of pieces of equipment	Compact motorized equipment fleet description
David	FT / President / Landscaping	Texas Oasis Landscape	1-3	Backhoes, compact tractors, front end loaders Manufacturer: Kubota
William	FT/ Owner/ Landscaping	Harris Landscape & Sprinkler	4-6	Trenchers, Backhoes, Mini Skid Steers. Compact Power Bobcat & Kubota
Tim	FT/ Vice President/ Landscaping	All Metroplex Landscape	4-6	Track Loaders, Backhoe, Compact Loaders - Bobcat & Case
Rick	FT/ VP of Operations	Backyard Creations	1-3	Dingo, Skid Steers- Bobcat, Compactors-Honda
Richard	FT/ Owner/ Landscaping	Texture Landscaping	4-6	Excavators, Skid Steers, Backhoes, Kubota, Deere, Bobcat
Walter	FT / Owner / Landscaping	Walter's Landscaping	1-3	Bobcat-Front end Loader & Excavator Kubota-Small Backhoe
James	FT / Owner / Landscaping	Lakewood Landscape & Garden Service	6-10	Skidsteers, Trencher, tractor bucket, excavator (Toro & Bobcat)
Matt	FT/ Owner / Landscaping	Outback Landscape	4-6	A Case Skid Steer Loader, Ditch Witch - trencher, Kubota - Front End Loader - Mini Tractor & Plate Compactor
Dell	FT / Owner / Landscaping	Green America Services	1-3	Skid Steers- Compact Tractor, Loaders, Bob Cat- John Deere
Dan	FT / Owner / Landscaping	Advanced Sprinkler Repair	4-6	Skid Steers- Articulated Loaders, Back Hoes- Dingo, ehl, BobCa-vibratory,Burkeen
Marcus	FT / President of Sales / Landscaping	Adams Structural	6-10	New Holland - Skid steers, Komatsu - Jumping jacks, Plate compactor
John	FT / President / Landscaping	Landscapes Etc. Inc.	1-3	Vemeer - Trenchers, Mini Excavator, Compact Front End Loader, Bobcat - Mini Front End Loader

Methodology

Concepts

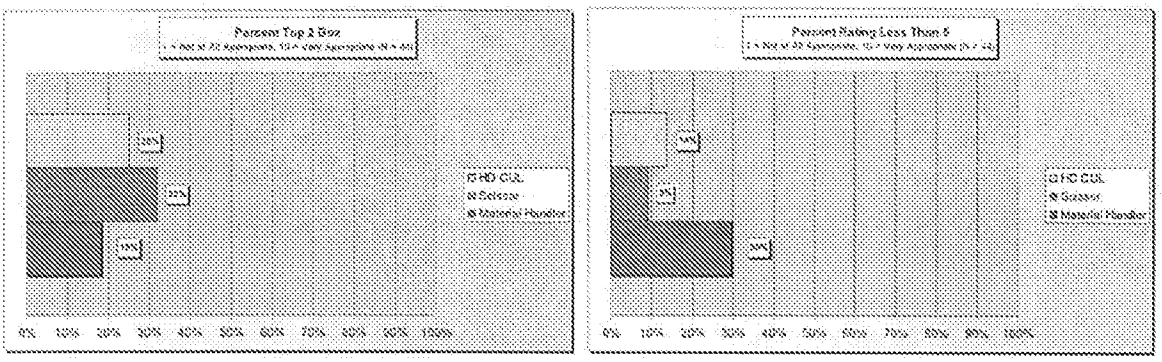
Concept Depictions ("movies") go here. (Too large for draft version that will be emailed back and forth)

Summary - Important Findings

Overall, the Scissor-Lift concept was considered to be the most appropriate (and least inappropriate) for these types of landscaping tasks on these types of properties.

The Heavy Duty CUL (HD CUL) concept was the next most positively evaluated concept.

The Material Handler concept was considered to be the least appropriate concept for these applications.



Scissor-Lift Concept

- The most positive capability was the forward reach.
  - The majority of participants were excited about equipment with this capability and could clearly articulate a number of applications where the reach would be an advantage.
- The primary negative aspects of the Scissor-Lift concept were:
  - The Stand-On (or walk-behind) operator position
  - The concept depiction suggested, to many, that the lift capability would be less than required

Heavy Duty CUL Concept

- The most positive capability was the assumed greater power, lift capacity, and front-back stability when compared to other mini skid steers.
  - These participants were able to articulate applications where it would be of value to lift/do more with a mini skid-steer.
- The primary negative aspects of the HD-CUL were:
  - The Stand-On (or walk-behind) operator position
  - The attachment barely clears the front of the machine

Material Handler Concept

- The most positive capability was the variable width footprint
  - The primary advantage of this capability was stated to be the ability to get through narrow accesses, then being able to increase stability.
- The primary negative aspects of the Material Handler Concept are:
  - The Stand-On (or walk behind) operator position
  - It seems very specialized/limited to loading/unloading material

Summary - Important Findings

HD CUL Concept

The primary positive capabilities of this concept are:

- Assumed greater power/lift capacity than current CULs
- Greater front-back stability
- Lift arm movement and mechanism seemed very capable
- Ability to access tight spaces
- Most familiar platform

  - The heavy duty nature of this concept was positively received by these participants. Advantages of this include the ability to do the following:
    - Unload and move a pallet of block/sod/pavers
    - Fill a bucket with dirt or gravel
    - Accomplish more work (haul heavier loads)
    - Dump dirt into a dump truck

The primary negative aspects of this concept are:

- The Stand-On (or walk-behind) operator position
- Attachments barely clear the front of the machine
- This concept depiction was considered to be the least differentiated

  - Concern with the Stand-On (or walk-behind) operator position touched on the following:
    - Evoked negative qualities of current stand-on/walk-behind equipment (low power, limited lift height, slow travel speed)
    - Raised safety concerns
      - Operator falling off/being thrown off the machine
    - Increased fatigue from standing/walking vs. sitting
  - The concern with attachments barely clearing the front of the machine generated the following areas of comment:
    - Material/blocks falling out of the bucket could damage the machine
    - In the case of a wall or fence obstruction, with the nose of the machine right up to the obstruction, the bucket may be useless
    - This potentially limits the capability to load/unload a semi or dump truck

Participants indicated these attachments would make the best use of this concept's capabilities:

- Bucket
- Auger
- Forks

Summary - Important Findings

Stand-On/Walk-Behind Operator Position

Nearly every participant clearly and strongly advocated for a sit-in machine. Their reasoning for this preference was generated from the following three beliefs:

- The Stand-on/Walk-behind operator position evokes negative aspects of current/older models of stand-on/walk-behind equipment such as:
  - Under-powered
  - Slow travel speed
  - Unstable (front to back)
  - Not up to the tasks required

- Unfamiliarity with how the stand-on/walk-behind operator position really works
  - Participants assumed the worst regarding safety, fatigue, and limitations in equipment operation
  - Participants were genuinely concerned with the operator's ability to:
    - Stay on the machine on uneven ground (stand-on)
    - Use the hand controls while bouncing on the back of the machine (stand-on)
    - "Feel" the machine as its center of gravity begins to move toward tipping (stand-on)
    - Spend a long time on/behind the machine due to knee/leg fatigue (stand-on/walk-behind)
    - Maintain a good travel speed (walk-behind)

- The unexamined opinion that sitting is better than standing or walking
  - This belief is part logic and part emotion, making it very powerful
  - As the stand-on/walk-behind operator position evokes negative equipment characteristics, the sitting position is associated with positive equipment characteristics such as:
    - Powerful
    - Capable
    - Familiar
    - Universal
    - Easily operated
    - The operator being "part of the machine"

Summary - Important Findings

General Requirements

For a stand-on/walk-behind piece of equipment to be of value, participants indicated the following would be preferred:

- Have a forward reach capability
- Have a variable width footprint
- Able to lift a pallet of sod/block
- Achieve a lift height of 7 – 8 feet (high enough to dump a load of dirt/rock over the side of a one ton dump truck
- Able to place a load/tree over a 6 foot fence
- Capably to travel, with a load, 3 – 5 mph (on these types of properties)
- Bucket should capably handle ½ - 1 yard of dense material (dirt/gravel)
- Good front visibility (Don't want to have to lean over the side to see what I'm doing during trenching or boring)
- Have a high-range and low range transmission
- Offer heavy duty characteristics including:
  - Diesel engine
  - Protected hoses
  - Metal (no body plastic)

Stand-On/Walk Behind Operator Safety

Participants gave ideas for how to deal with the perceived safety issues of the stand-on/walk-behind operator position. These included:

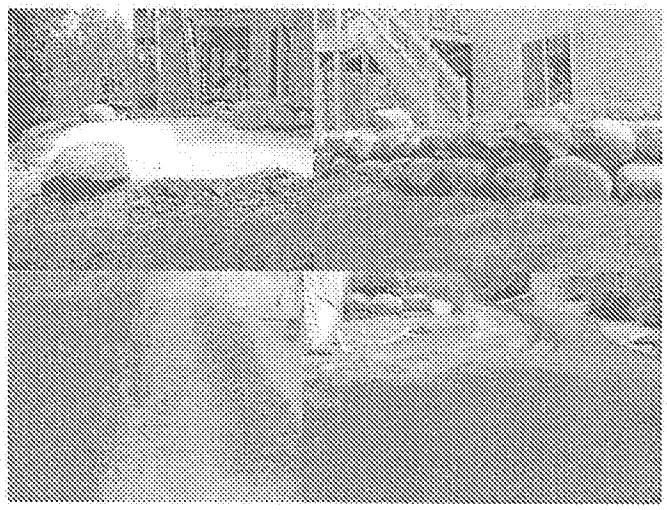
- "Sides" on the stand-on area of the machine that are approximately waist high
- Safety harness/belts to hold the operator on the machine
- A padded area to lean forward against
- Some type of metal cage (top) and sides to brace the operator
- A platform that has a suspension of some type
- A platform that can be raised up so a person could walk-behind it on especially rough terrain
- Kill/switch that would shut the machine down if the operator were out of position

Summary - Important Findings

Turf Damage

Participants were shown the following slide. The top two pictures show the project that was done. The job included 20 tons of fill, installation of a paver patio and transport and arrangement of stones.

The bottom two pictures show the state of the turf at the completion of work in the back yard. The lower left picture shows the turf in the front yard (to street). The lower right picture shows the turf on the side of the house, where the new patio is to the left.



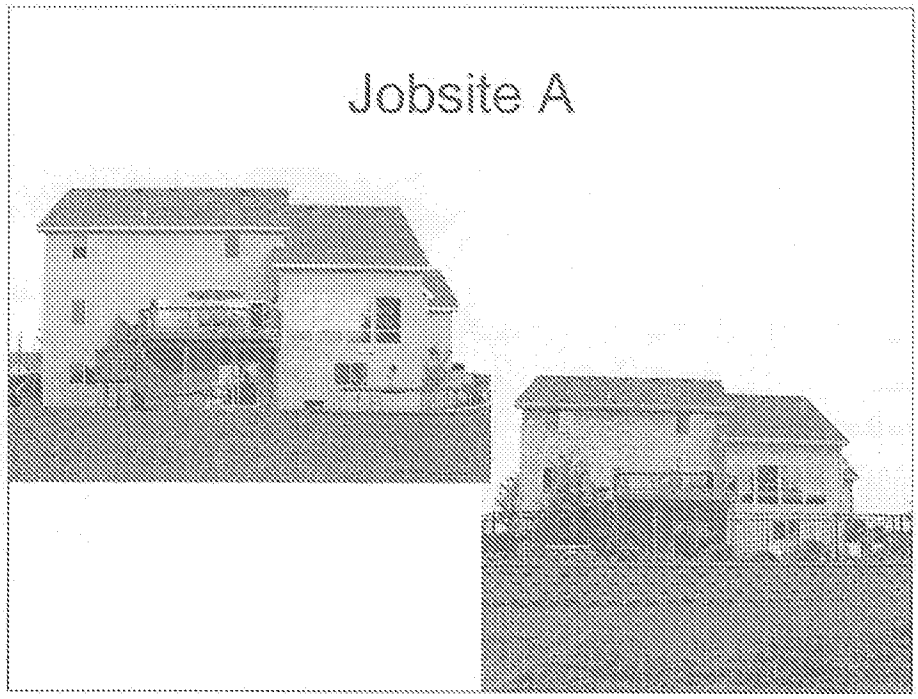
- The vast majority of participants indicated that the extent of turf damage is about what they'd expect to see given the scope of this project
  - Participants believed that it had rained, at least once (or the neighbor did not turn sprinklers off) during the course of this job
- The majority of participants commonly use plywood or metal grates to mitigate damage to turf. Neither of these measures work well on curves
- Estimates (customer bid) to repair the turf (lower left is 75 feet to street) ranged from $1,500 - $2,500. The most frequently mentioned amount was $2,000.
- The most common labor estimate to repair this damage was ~ 16 hours (2 workers, one day)

Summary - Important Findings

Concept Appropriateness by Jobsite Type

Participants were asked to rate the appropriateness of each equipment concept, for use on Jobsite A.

Rating Scale: 1 = Not at All Appropriate, 10 = Very Appropriate



The mean ratings, across all geographies, are:

Concept	Scissor-Lift	HD-CUL	Material Handler
Mean Rating*	6.7	6.8	5.2

*Not a quantitative research project, so result is not generalizable

Among these participants, the Material handler concept was rated as least appropriate for this jobsite.

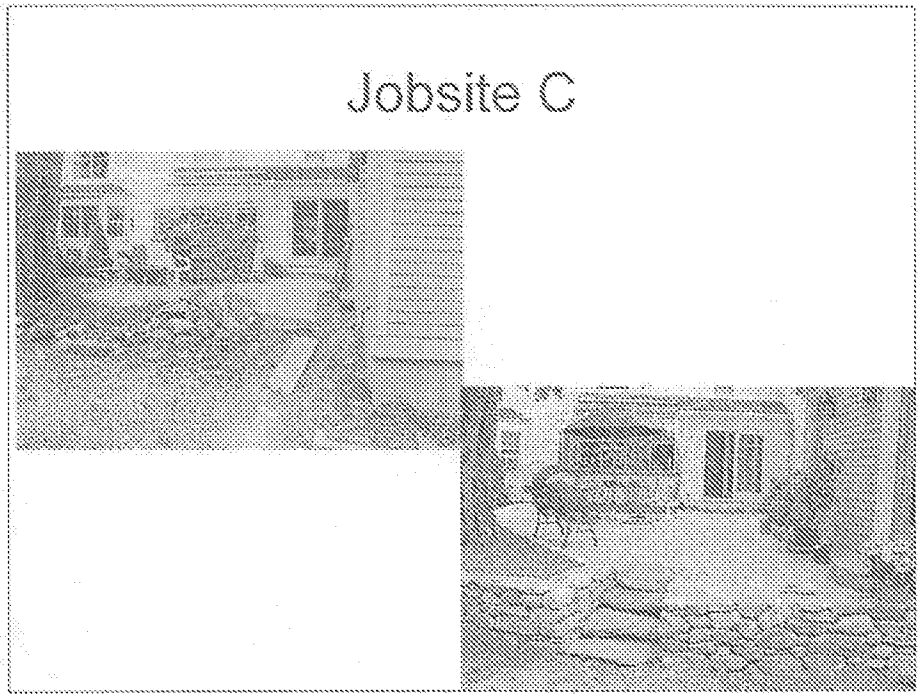
According to participants, the most difficult aspect of this jobsite is the extreme elevation difference from the front of the property to the back.

Summary - Important Findings

Concept Appropriateness by Jobsite Type

Participants were asked to rate the appropriateness of each equipment concept, for use on Jobsite A.

Rating Scale: 1 = Not at All Appropriate, 10 = Very Appropriate



The findings that suggest conditions of limited access are:

Concept	Scissor-Lift	HD-CUL	Material Handler
Mean Rating	6.8	7.0	4.8

* Not a quantitative research project, so result is not generalizable

Among these participants, the Material handler concept was rated as least appropriate for this jobsite and was rated slightly lower than on other jobsites.

According to participants, the most difficult aspect of this jobsite is the limited access and tightness of the working area.

Attachments

Placeholder

Skid-Steer – Dingo
Gap Detection Focus Groups

Brief Summary Final Report

Prepared for:

TORO

Sitework Systems

By

Dodge Business Research Consulting

January, 2008

Table of Contents

	Page
Background/Objectives/Methodology	2
Summary - Important Conclusions	5
Important Summary Findings	13
Key Individual (Anecdotal) Comments	15
Attachments	17

- Recruiting Screener
- Discussion Guide

Dodge Business Research Consulting offers two levels of Focus Group Reports:

- Brief Summary Written
- Complete Detailed Written + Presentation

This is a *Brief Summary Written* report. For more detail, the audio tapes of both focus groups and copies of the written tasks are available from the Market Research Library. Contact Dave Francis for access to these transcripts.

Anthony Dodge is the Principal of Dodge Business Research Consulting. Mr. Dodge holds an MBA in Marketing from the University of St. Thomas. He has been a practitioner of marketing research, strategic market planning, and business development for 25 years. He has successfully completed numerous market research and marketing assignments in the U.S., Europe and Japan. He is currently an adjunct faculty in the MBA Program in the Graduate School of Business and in the Graduate School of Professional Psychology at the University of St. Thomas, St. Paul, MN, teaching research design and statistics. Before consulting, Mr. Dodge held various positions at The Tennant Company and The Pillsbury Company. Recent clients include: Kodak (Digital), JohnsonDiversey, Xerox, Toro, Ecolab, Clorox, Saint-Gobain, and others. More information can be found on the Dodge Business Research homepage at: **http://www.dodgeresearch.com**

EX1029 / Page 537 of 915
Kubota North America Corporation et al
TORO-0000185

Skidsteer/CUL Gap Detection & Description Focus Groups

Qualitative Findings for input to Product Development

Background

Toro has identified a potentially meaningful product gap between the high end of the Dingo product line and the skid-steer product category. Current Dingo users comment on the product's limitations regarding dump height, lift capacity, and some other product performance characteristics.

Currently, there is a spec gap between the high end of the Dingo product line and the low end of the skid steer product category. While products from Ditch Witch and Vermeer have recently filled this spec gap, it is unclear whether the nature and size of demand for a product that falls in this gap, is sustainable.

Toro wishes to ultimately obtain a quantitative description of the nature and size of demand for a product in this gap. As a logical first step, Toro seeks a qualitative understanding of the existence, nature and importance of this gap, and an initial understanding of the characteristics of a valued product that could fill this gap.

Objectives

To obtain qualitative input (focus groups) from current users of CULs and skid steers (primarily landscapers, irrigation contractors and some small construction companies), regarding the nature, extent, and potential product response to this gap.

Methodology

A series of Telephone Focus Groups was conducted. Participants were recruited from lists of existing Toro Dingo customers, owners of competitive CUL equipment, and from business lists of landscapers, irrigation contractors and small construction companies.

Participants were recruited from across the country. These groups were blind, meaning that the participants did not know that Toro was the sponsor of the groups.

This project focused on members of the following targeted product use segments:

Decision-Makers
Segment 1 - CUL owners (Dingo) who also own a Skid Steer
Segment 2 - CUL owners (Competitive) who also own a Skid Steer
Segment 3 - Skid Steer owners who do not own a CUL
Primary Operators/Influencers
Segment 4 - CUL owners (Dingo and Competitive) who also use a Skid Steer

The detailed choreography of the groups (discussion guide) is attached to this report.

Participants were paid $150 for their participation.

In addition to this brief report, each group was recorded. These audio files are housed in Sitework Systems Marketing.

Methodology

A list of the 26 participants appears below.

Name	Title	Company	Location	Level	# of ZTR Owned	ZTR Brands	ZTR Model	# CUL Owned	CUL Brand	CUL Model	Focus Group
David Dodd	Owner	Mountain View Landscaping	Glastonbury, CT 06033	Decision Maker	1	Bobcat	S57	1	Ford Diesel	Ford Diesel	4
Steve Schuster	Owner	Steve Goldsmith	Cornelius, NC 28031	Decision Maker	2	John Deere	LX 5 Series	1	Toro	TX 425	4
Kevin Sneddon	Partner	Hobart Landscape Design	Huntersville, NC 28078	Decision Maker	1	Bobcat	T2560	1	Toro Ultra	GTX White Hawk	4
Dennis Scruggs	Owner/Operator	Care Free Landscapes	Fletcher, NC 28732	Decision Maker	1	John Deere	LX 186	2	Ford Diesel	420 & 425	6
Pat Rice	Owner	Solutions Landscape	Concord, NC 28027	Decision Maker	1	Caterpillar	345BL	1	Toro	325	6

Name	Title	Company	Location	Level	# of ZTR Owned	ZTR Brands	ZTR Model	# CUL Owned	CUL Brand	CUL Model	Focus Group
David Dietz	Owner	Turf Designs & Nursery	Beaver Creek, OH 45431	Decision Maker	3	New Holland	Z85	2	Ditchwitch	SK 650	1
Chris Wilson	Owner	T Landscaping LLC	Missoula, MT 59804	Decision Maker	2	Bobcat	T870	2	Ditchwitch	SK 650	1
John Mosley	Owner	J Mosley Landscaping	Arnold, MO 63010	Decision Maker	1	Cub	2577	1	Ditchwitch	SK 650	1
Greg Anderson	Operations Manager	Singing Hills Landscape	Parker, CO 80134	Decision Maker	7	Bobcat Cub	Bobcat 185 & 250	4	Thomas Ditchwitch	Ditchwitch SK 650 Thomas T250	1
Bryan Mabry	Shop Foreman	Bret Lowe	Saint Charles, IL 60175	Decision Maker	51	Bobcat	S570	1	Vermeer	Bobcat TX	1
Gary Will	Owner	GLW Enterprises	Anchorage, AK 99502	Decision Maker	3	Bobcat	T62, S62, S185	1	Bobcat	MT 85	8
Adam Rehbach	President	Premium & Decorative Concrete	Denham, NC 27217	Decision Maker	1	Bobcat	S77	1	Bobcat	MT 85	8
Ed Blackwell	Owner	Green Care	Newberry, SC 29108	Decision Maker	2	John Deere	X 730	1	Bobcat	MT 85	8
Robert Sweet	Owner	Robert Sweet Landscape, LLC	Bend, OR 97701	Decision Maker	3	2 Case 1 Bobcat	Case SV340	1	Bobcat	MT 85	8

Name	Title	Company	Location	Level	# of ZTR Owned	ZTR Brands	ZTR Model	# CUL Owned	CUL Brand	CUL Model	Focus Group
David Bowlus	Owner	AAA Quality Sprinklers & Landscape	Helena, MT 59602	Decision Maker	4	Holland Toro Dingo/Kub	New Holland LX665	0	NA		2
Denise Bellon	Owner/Vice President	Outsourced Consulting	Fort Lodge, MT 59068	Decision Maker	2	John Deere Toro	997 Toro X	0	NA		2
Robert Wilcox	Owner	Landscaping Company A	Lavalle, IL 61951	Decision Maker	2	Bobcat Gravely	Landscape T 595	0	NA		2
Eric Bridgeman	Owner	Bend Pavers LLC	Bend, OR 97708	Decision Maker	1	Gravely	L265	0	NA		2
Mike Hooper	Owner	M.C. Landscaping	Bedminster, NJ 07921	Decision Maker	1	Bobcat	T 870	0	NA		2
Gregory Burg	Owner	Burg Lawn & Landscaping	New Germany, MN 55367	Decision Maker	1	Bobcat	T 870	0	NA		2
Jamie Farrell	Owner	Preferred Tree Service	Maple Grove, MN 55369	Decision Maker	1	New Holland	TX 425	0	NA		2

Name	Title	Company	Location	Level	# of ZTR Owned	ZTR Brands	ZTR Model	# CUL Owned	CUL Brand	CUL Model	Focus Group
Kevin Hollingsworth	Project Manager	Groundmaster Operations Inc	St. Louis, MO 63134	Operational Influencer	4	Scag Caterpillar	SWZ Bobcat	1	Toro	Super TX 425	5
Steven Schwandt	Sales Manager	J.C. Lewis	Syracuse, NY 13212	Operator	8	Bobcat	T66	15	Toro	425	5
Tim Cook	Production Manager	Deck-O-Lawn	Simpson Beach, MD 86570	Operational Influencer	8	John Deere	Z26	9	Dingo	850 TX	5
Kent Olson	Groundskeeper Site	Country View Landscaping	Dayton, MN 55327	Operational Influencer	2	Bobcat	T66	1	Bobcat	MT52	5
Mike Brungo	Operations Manager	Landscape D LLC	Mechanicsburg, PA 17055	Operational Influencer	1	Mustang	660	1	Bobcat	MT52	5

Summary - Important Conclusions

In general, the vast majority of participants do not believe that the existing spec gaps between CULs and full-size skid steers are significant or meaningful. The following comments typify this thinking:

- Full-size skid steers and CULs are made to do two different types of tasks. Full size skid steers are best for loading/unloading, digging, grading and heavy lifting. CULs are best at doing what was, most recently, hand work…close-in, detailed work in confined spaces. You really need two different types of machines to do this work.
- For residential work, the skid steer works between the staging area and the trucks. The CUL works between the staging area and the site.
- A full-size skid steer can't get through a 3 or 4 foot gate.
- A CUL can work on grass/turf without wrecking it.
- Homeowners don't like to see a skid steer coming into their yard.
- I can submit a lower bid if I don't have to replace turf/fences.

There was a general lack of interest in a product that would fill existing spec and capability gaps between full-size skid steers and CULs.

- Participants say they prefer the distinction/differences between full-size skid steers and CULs. This difference makes it clear to them and their workers what piece of equipment should (and shouldn't) be used in which applications.
- Participants believe they have developed ways to use the differing equipment to its greatest advantage.
- Participants indicate that there are currently too many options near the border of CULs and full-size skid steers, and that the products overlap. The array of horsepower, attachments, product size, etc can be confusing. This is one reason some opt for simple product choice navigation: the largest horsepower I can get through a 3 foot gate is the CUL I want.

Summary - Important Conclusions

Participants acknowledge that there are capabilities gaps between full-size skid steers and CULs that could be addressed.

- All participants believe any gaps should be addressed by expanding the capabilities of CULs (rather than increasing the specialization of, or "dialing back" the capabilities of, skid steers)

- The gaps are fairly complex to define. The gaps are the result of interactions among the following variables.
  - CUL Horsepower
  - CUL Equipment Size
  - CUL Attachments Most Valued

- For example, the gaps when comparing a bucket or fork attachment application will always be more pronounced than the gaps when comparing a trencher application.

The most prominent gaps, in order of frequency/universality, (CUL/Dingo -- Full-Size Skid Steer) are:

- Lift Height
  - There are a number of applications, primarily residential, where the CUL is used for 95% of the work, and the full-size skid steer is used for only a few key tasks (primarily loading/unloading material to/from a flatbed or dump truck.
  - In a residential situation, it is common to use a full-size skid steer to remove pallets of sod or rock from a flatbed or dump truck and place them in a staging area. The CUL is then used to transport material from the staging area to the actual application point. Both machines need to be on-site, for a time, to load/unload from/to the truck because the CUL can't reach the bed of the truck, or lift some of the heavier loads.
  - While this is a spec gap, participants feel the two pieces of equipment (full-size skid steers and CULs) are optimized for what they do.

- Lift Capacity
  - This is the area most-often "pushed" on a CUL. Participants realize that there are limits to how much a CUL can lift. They consider this a limit of (primarily) the counterweight of the machine, not a limit on power. All participants have dealt with tipped CULs
  - This is a gap that makes sense to participants given the different functionality of this equipment. Participants always want a greater lift capacity, but not at the expense of a wider footprint or to a lesser extent, making the machine heavier (i.e. more likely to tear up a lawn).

Summary - Important Conclusions

The most prominent gaps, in order of frequency/universality, (CUL -- Full-Size Skid Steer) are:

- Travel Speed
  - This is especially prevalent for the stand-on CULs. There are job sites that are large and they would like to travel faster, without a load, from point to point.
  - While safety is paramount, participants are sometimes frustrated that this equipment won't move faster when not under load.

- For the most part, the concept of a gap is only relevant when certain attachments are being used.
  - When using a trencher, hammer/breaker or auger for example, the capabilities gaps were not significant. They default to the CUL for trenching and the concept of a gap compared to the full-size skid steer is irrelevant.
  - The gap is most pronounced when buckets/forks are used.

- Desired product characteristics/improvements
  - While the optimal application for this package involves building demolition, participants in landscaping and irrigation businesses find value many of these improvements.
    - Heavier duty attachments/buckets
    - Heavier duty attachment mounting
    - Heavier duty frame/bodies
    - Diesel engine
    - Covered hydraulic hoses
    - Re-routed hydraulic hoses
    - Foam-filled tires
    - More durable tracks
    - Metal "hood" to protect engine
    - Reinforced front-end

- Further develop the Dingo as a "power plant" that can be used to power hand-held attachments
  - According to one participant, a hammer/breaker currently exists as an attachment for a Dingo

Summary - Important Conclusions

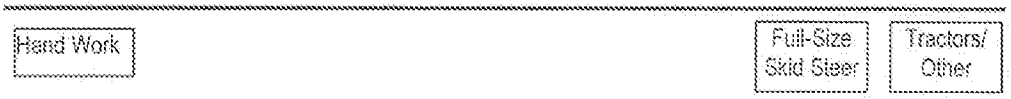
The most prominent gaps, in order of frequency/universality, (CUL -- Full-Size Skid Steer) are:

- Participants subscribe to the following story line:
  - In areas that are too small or the task too intricate for large-scale construction/earth-moving equipment:

-First, all work was done by hand

-Then, came tractors and other equipment that were very blunt instruments which mechanized larger scale, labor intensive tasks

-Then came full-size skid steers



-Then came CULs

- The CULs filled important gaps between hand work and full-size skid steers.
- Whereas skid steers do a different type of work, participants say that CULs make, what most recently was hand work, easier/more efficient (as opposed to doing skid-steer type work on a smaller scale).
- When asked, most participants put the CUL slightly to the left of center; closer to hand work than to a full-size skid steer.

Summary - Important Conclusions

These participants indicate that for residential projects, CULs are used on a higher percentage of job sites, and for a longer period of time than full-size skid steers.

- CULs are used between 10 and 50 hours per week (Median ~ 20 hours/week)
- CULs perform a wider variety of tasks than full-size skid steers
- The most useful attachments for CULs are:
  Construction/Concrete Build
  - Hammer
  - Grapple Bucket
  - Blade
  - Bucket
  - Forks

  Tree/Fence Construction
  - Auger
  - Trencher
  - Bucket
  - Forks

  Landscaper/Irrigation Contractor
  - Trencher
  - Harley Rake
  - Auger
  - Tiller
  - Bucket
  - Forks
- The true value of a CUL, to the decision-maker, lies in the following benefits:
  - Reduce the number of workers
  - Make workers more efficient
  - Make tasks easier for workers to complete

Summary - Important Conclusions

These participants indicate that for residential projects, full-size skid steers are used on a lower percentage of job sites, and for a somewhat shorter period of time than CULs.

- Skid Steers are used between 10 and 40 hours per week (Median ~ 15 - 20 hours/week)

- The most useful attachments for Skid Steers are:
  Construction/Concrete Build
  - Bucket
  - Forks
  - Blade
  - Hammer

  Tree/Fence Construction
  - Bucket
  - Forks
  - Auger

  Landscaper/Irrigation Contractor
  - Bucket
  - Forks

- The true value of a full-size skid steer, to the decision maker, lies in the following benefits:
  - The ability to perform "make or break" types of tasks: those that no other piece of equipment or person can perform. Examples include:
    - Unloading pallets of material from a flatbed to a staging area
      - More direct-shipped material comes on pallets on flatbeds without lift trucks
    - Lifting material from the ground into a full size dump truck
    - Transporting/placing large (1,000 – 2,000 pound) rocks and trees
  - The ability to eliminate a worker and make current workers more efficient
    - Primarily new construction with some very limited applications for existing construction
      - An example of an application for existing construction would include concrete demolition/grading work where there is room for a full-size skid steer (driveway/garage)

As a general rule:

- New construction indicates heavier reliance on a full-size skid steer

- Existing construction indicates heavier reliance on a CUL

- A CUL (not including attachments) should cost less than a full size skid steer.

Summary - Important Conclusions

From this qualitative research, the following segments are hypothesized:

- *More is Better* Segment (Spec-based buyer)
  - Within the desired footprint (pass through a 3 foot gate) and ground pressure restrictions (won't damage turf), the more horsepower/lift capacity/lift height, the better
    - The spec gaps are important
    - These are more likely to be inexperienced CUL buyers and frequent renters

- *Educated Buyer* Segment (Capabilities-based buyer)
  - Wants the optimal/minimal/least expensive CUL and attachments that will allow the achievement of a goal (i.e.: eliminate one person/crew)
    - The spec gaps are only part of the story. This segment focuses on capabilities gaps based on how they use the machine in their business.
    - They value attachments that will work on both CUL and full size skid steer
    - Dealer performance often trumps product/brand

The following were mentioned as negatives of the Dingo and, to some extent, CULs in general:

- Tracks come off on 90 degree turns (very tight quarters)
  - We use these in tight quarters.

- Plastic hoods break very easily. There is little or no engine protection

- Frequent flat tires

- The connections for attachments and hoses are difficult/flimsy/inadequate
  - You should be able to take off a blade and hook up a bucket without leaving the seat, like you can with excavators.
    - Participants suggest taking the lead from the ag equipment industry which has developed the ability to couple under pressure (hydraulic)

- Larger (mesh) bucket would hold a large amount of lighter material (mulch)

- Track/Tire wear on pavement is a problem

Summary - Important Conclusions

Many participants found it difficult to compare CUL performance. The following represent the most important clues they use to determine whether the CUL will perform the tasks they need.

- Horsepower
- Lift Capacity
- Diesel/Non-Diesel
- Lift height
- Brand
- Tipping weight
- Secondary
- Dealer recommendation/claims
- Professional word-of-mouth
- Hydraulic flow level

The following variables were revealed as primary candidates for quantitative investigation as a next-step for product development.

- Brand
- Price
- Horsepower
- Diesel/non Diesel
- Width
- Length
- Height
- Weight
- Lift Capacity/Tipping Weight
- Hydraulic attachment "power"
- Quick connect/disconnect attachments
- Ability to connect attachments under pressure/not
- Metal Protective Hood
- Attachments that can also be used on skid steer/not

Important Summary Findings

Rear visibility, while operating a skid steer, is a problem

- There is universal agreement that there is a large blind spot directly behind a skid steer
- While participants recognize this, they consider it an inherent problem that can't be solved. They believe it can be accounted for by careful operation.
- It is an issue for reasons of:
  - Safety
  - Job performance (running into other equipment/job elements)
- Some participants have developed their own/purchased rear view mirror applications that have not worked well.
  - The primary problem with current rear-view solutions is that they go out of adjustment quickly as a skid steer bounces/vibrates

Side visibility of skid steers, is much less of a problem.

- While there is limited visibility, the arms can be moved if necessary
  - Participants considered the periodic side view they get, during normal operation of a skid steer, adequate for them to feel safe and competent during skid steer operation

Participants generally agreed that climbing in and out of a skid steer can be difficult, especially if it is used in the snow, or when wet.

- The general feeling here is that this "goes with the territory".
  - Skid steers are considered to be awkward, but not dangerous. Participants indicate that they're not meant to be comfortable or easy to get in and out of…and that is OK with them.
  - Some of the participants have had experience with side-entry skid steers and gave them low marks for ease of entry and comfort.

Important Summary Findings

There are two areas that bear mentioning however, that were considered very important from an ergonomic standpoint:

- There is a strong belief that suspension should be developed for this equipment.
  - An air-ride seat is the most frequently-mentioned solution to the body jarring that is part of skid steer operation.
  - This comment goes beyond a comfort issue and is usually mentioned in realm of operator fatigue and back/neck/muscle pain.

There is a substantial negative opinion of small, ride-on skid steers.

- Toward the smallest end of the ride-on skid steers, is a class of machines that are very similar to CUL specs. Participants mentioned John Deere and New Holland as marketers of ride-on skid steers that are no larger than CULs. These machines are considered to be :
  - Very difficult to enter/exit
  - Have no room to move, once the operator is seated
  - Do not perform a substantially different type of work than a CUL

- When given the choice between using a CUL, or a small ride-on skid steer in this spec range, the CUL is strongly preferred.

Key Individual (Anecdotal) Comments

- Full-size skid steers and CULs are made to do two different types of tasks. Full size skid steers are best for loading/unloading, digging, grading and heavy lifting. CULs are best at doing what was, most recently, hand work...close-in, detailed work in confined spaces. You really need two different types of machines.
- For residential work, the skid steer works between the staging area and the trucks. The CUL works between the staging area and the site.
- A full-size skid steer can't get through a 3 foot gate.
- A CUL can work on grass/turf without wrecking it.
- Homeowners don't like to see a skid steer coming into their yard.
- I can submit a lower bid if I don't have to replace turf/fences.
- There is no rear view on skid steers. While it is probably a safety hazard, you learn to adapt by remembering your surroundings and making sure everyone knows not to step behind a skid steer.
- The reverse waning device makes me feel a little more comfortable
- Side vision from a skid steer is terrible, but it isn't so bad that you can't operate confidently.
- All skid steers are difficult to get into and out of. It is more difficult when it is wet or in winter with snow and ice.
- Climbing in and out (of a skid steer) is difficult, but these things aren't supposed to be like sitting on the couch at home. They're basic machines with few/no creature comforts. This is what I expect on a job site.
- Skid steers, especially the small ones, leave no room to move your elbows or arms.
- Bobcat makes a larger CUL, but it is bulkier than the Dingo and doesn't do any more.
- The way to look at this (buying a CUL) is that you can replace a man, and you are going to make better use of the remaining men.
- None of my guys has ever come to me asking for a less powerful CUL with a lower lift height.

Key Individual (Anecdotal) Comments

- There needs to be some type of tensioner that keeps tracks tight. We see a lot of situations where the tracks come off.
- We want the littlest machine to do more than it should be able to do.
- Dingo, a plastic hood on a piece of equipment that is build like a Sherman tank, doesn't make sense.
- There are hydraulic breakers/hammers that you can get (not by Toro) that you can attach to the Dingo. 60 pound hammers that uses the Dingo as a power plant.
- Watch out for Komatsu (skid steers). They are a fantastic product...excellent rear-view.
- Dingo's have the worst battery access I've ever seen.
- John Deere and New Holland make very small skid steers, nearly as small as CULs. In all of central New York, there are only 2 dealers that rent those. The market is very small.
- The true gap exists in knowing which CUL and attachment should be used to complete the job proficiently.
- We use it (CUL) with plywood so that we don't wreck the yard and I can eliminate yard repair costs from my bid.
- The important thing is the footprint of the machine (CUL). Once you get to a machine that would have more capability than the DW-650, you're into a skid-steer size machine.
- There are already enough choices between skid steers and CULs. If I can just go bobcat (skid steer) and mini (CUL), I can efficiently transport these types of equipment to the jobs I need to.
- There is not a big difference in price between the high end minis and the low/medium size skid steers.
- DW makes the 500 and the 650. When you get the DW tool carrier, it becomes too large to get into the places we are using our minis for. The fact that it does more doesn't do me any good. Also, the 650 costs about $20k. You can buy a small skid steer for $25k.
- I wouldn't want to have a mini where unloading a pallet represents the very top end of its capability. I don't want to be working routinely in that range.

Attachments

EX1029 / Page 553 of 915
Kubota North America Corporation et al
TORO-0000201

Recruiting Screener

Respondent's Name: _____

Title: _____

Company Name: _____

Street Address: _____

City: _____ State: ___ Zip _____

Phone: _____ Fax: _____

ONLY IF REQUIRED

Email: _____@_____

Date: _____

Introduction

Hello, my name is _____ from _____, a national market research firm. Could I please talk to (NAME)? (If available)?

Hello Mr./Ms. _____. My name is _____ from _____, a national market research firm.

Decision-Maker Start → Quota 1, 2, 3

1a. I am looking for a person who makes decisions regarding which skid steer and compact utility loader equipment your company uses.

Are you someone who fits this description?

Yes ___ **CONTINUE**

No ___ **DETERMINE IF THERE IS SOMEONE ELSE RECYCLE TO INTRODUCTION**

Operator/Influencer Start → (Quota 4)

1b. I am looking for a person who is very familiar with the operation of the skid steers or compact utility loaders used at your company and has some involvement in the evaluation process regarding which skid steers and compact utility loaders your company uses.

Are you someone who fits this description?

Yes ___ **CONTINUE**

No ___ **DETERMINE IF THERE IS SOMEONE ELSE RECYCLE TO INTRODUCTION**

1b. On a scale of 1 – 10, where a 1 = Not at all Familiar and a 10 is Very Familiar, how familiar are you with the operation and use of the skid steers or compact utility loaders?

_____

If less than 5, ask if there is someone else involved in the evaluation process, that is more familiar with the operation and use of stand-on mowers…Recycle to Q. 1a

2. How many skid-steers does your company have in operation at this time?

_____ Skid Steers

IF 0, THANK, TERM, TALLY

3a. Which manufacturer(s) of skid steers do you have?

_____ _____

3b1. (IF MORE THAN ONE, ASK:) Which of these do you have most of?

_____Manufacturer

3b2. (IF ONE OF EACH, ASK:) Which of these was acquired most recently?

_____Manufacturer

3c. Would you give me the model or size of one of these (Manufacturer from 3b1 or 3b2) skid steers you own so I can write it down?

_____ model or size

Now I want to switch gears and ask you just a couple of questions about any compact utility loaders you might have. This is equipment that is smaller than skid steers.

4. How many compact utility loaders does your company have in operation at this time?

_____ Compact Utility Loaders

IF 0, Quota 3 SKIP TO INVITE

5a. Which manufacturer(s) of compact utility loaders do you have? (POMPT WITH: Any others?)

_____ _____ _____

IF TORO/DINGO → Quota 1 or 4

IF OTHER THAN TORO/DINGO → Quota 2 or 4

(FOCUSSING ON THE MANUFACTURER OF INTEREST, ASK:)

5b. How many (Manufacturer) compact utility loaders do you have at this time?

_____ Compact Utility Loaders

5c. Would you give me the model or size of this/these (Manufacturer) compact utility loaders?

Model/Size _____

Model/Size _____

Model/Size _____

INVITE

The reason I have been asking these questions is that we are very interested in your professional opinion regarding new product development. A market research discussion is being held (Thursday, (November 8)) OR (Tuesday, (November 13)) at 6:00pm (Central) OR 8:00pm (Central)…(additional dates and times). This will be done on a conference telephone call, the focus group discussion will take about an hour and 45 minutes, and you will be paid $150 for your time.

This project does not involve sales and no sales person will call you as a result of your participation. You will be in a group discussion with others, like yourself, from around the country. Most people find these sessions to be interesting and enjoyable.

If your schedule will allow, can we count on you to participate? **DO NOT READ. CIRCLE ONE.**

.....YES 1. → **CONTINUE.**

.....NO 2. → **THANK, TERM**

..... **TALLY**

READ

Because we invite only a small number of people, your participation is very important to us. If for some reason a scheduling conflict should occur, please call our office as soon as possible, as we will need to replace you. Our telephone number is (_____).

- **GET CONTACT INFO, INCLUDING EMAIL ADDRESS/FAX NUMBER**
- **TELL THEM YOU WILL BE EMAILING/FAXING A PICTURE THAT THEY NEED TO HAVE IN FRONT OF THEM AT THE TIME OF THE DISCUSSION.**

IF RESPONDENT AGREES TO PARTICIPATE, FOLLOW INSTRUCTIONS BELOW

- **RECORD INFORMATION ON FRONT OF SCREENER**
- **HAVE RESPONDENT MARK DATE AND TIME ON THEIR CALENDAR**
- **GIVE RESPONDENT _____ RESEARCHER'S NAME AND PHONE NUMBER**

- **ASK RESPONDENT FOR A CONTACT NUMBER**

CONTACT PHONE NUMBER AT TIME OF CALL: _____ *Is this a HOME number or a WORK number?*

- **TELL RESPONDENT THEY WILL RECEIVE A FAX/EMAIL CONFIRMING THEIR APPOINTMENT. THE FAX/EMAIL WILL ALSO CONTAIN FURTHER DETAILS REGARDING THIS INTERVIEW**
- **THEY WILL RECEIVE A PICTURE ALONG WITH THIS REMINDER THAT THEY NEED TO HAVE WITH THEM AT THE TIME OF THE DISCUSSION.**
- **THEY WILL RECEIVE A REMINDER CALL A DAY OR TWO BEFORE THE GROUP DISCUSSION.**

Discussion Guide

10 Min

1. Opening
   a. Logistics
   b. Framing the Discussion
      - (Skid Steers and Compact Utility Loaders you use in your business)
   c. Introductions
      - (Name, company, your primary business and manufacturers/models of Skid Steers/CULs.)

20 Min

2. Product CUL
   a. Let's Talk About your CUL
      - What is the most important reason your company owns a CUL?
      - What is the most important reason you decided on this particular (Brand/Model) of CUL?
      - Describe for me the primary type of jobs/applications where you use your CUL
      - Approximately how many hours/day are you using your CUL?
      - What is the primary function of your CUL? What, primarily, are you using it for?
        - (Determine most important and discuss to understand depth/breadth)
      - What is your primary area of dissatisfaction with the operation, performance, or design of your CUL?
        - (Performance or Design)
      - How can I improve the operation, performance or design of your CUL?

IF NO CUL
Why no CUL?
Have you ever rented a CUL?
Why/For what applications?
Have you ever considered buying a CUL?
Why/Why not?

30 Min

3. Product SSL
   a. Let's Talk About your SSL
      - What is the most important reason your company owns a SSL?
      - What is the most important reason you decided on this particular (Brand/Model) of SSL?
      - Describe for me the primary type of jobs/applications where you use your SSL
      - Approximately how many hours/day are you using your SSL?
      - What is the primary function of your SSL? What, primarily, are you using it for?
        - (Determine most important and discuss to understand depth/breadth)
      - What is your primary area of dissatisfaction with the operation, performance, or design of your CUL?
        - (Performance or Design)
      - Is climbing in and out of your SSL a problem?
        - How/When/Where?
      - Is the side and/or rear visibility a problem?
        - How/When/Where?
      - Is your SSL a vertical or radial lift machine?
        - Which type would you purchase next?
          - Why?
      - Approximately what percentage of the time do you run hydraulic attachments with your SS?
        - Which attachments do you use most?

45 Min 4. CUL/SSL Gap/Needs – Big Picture

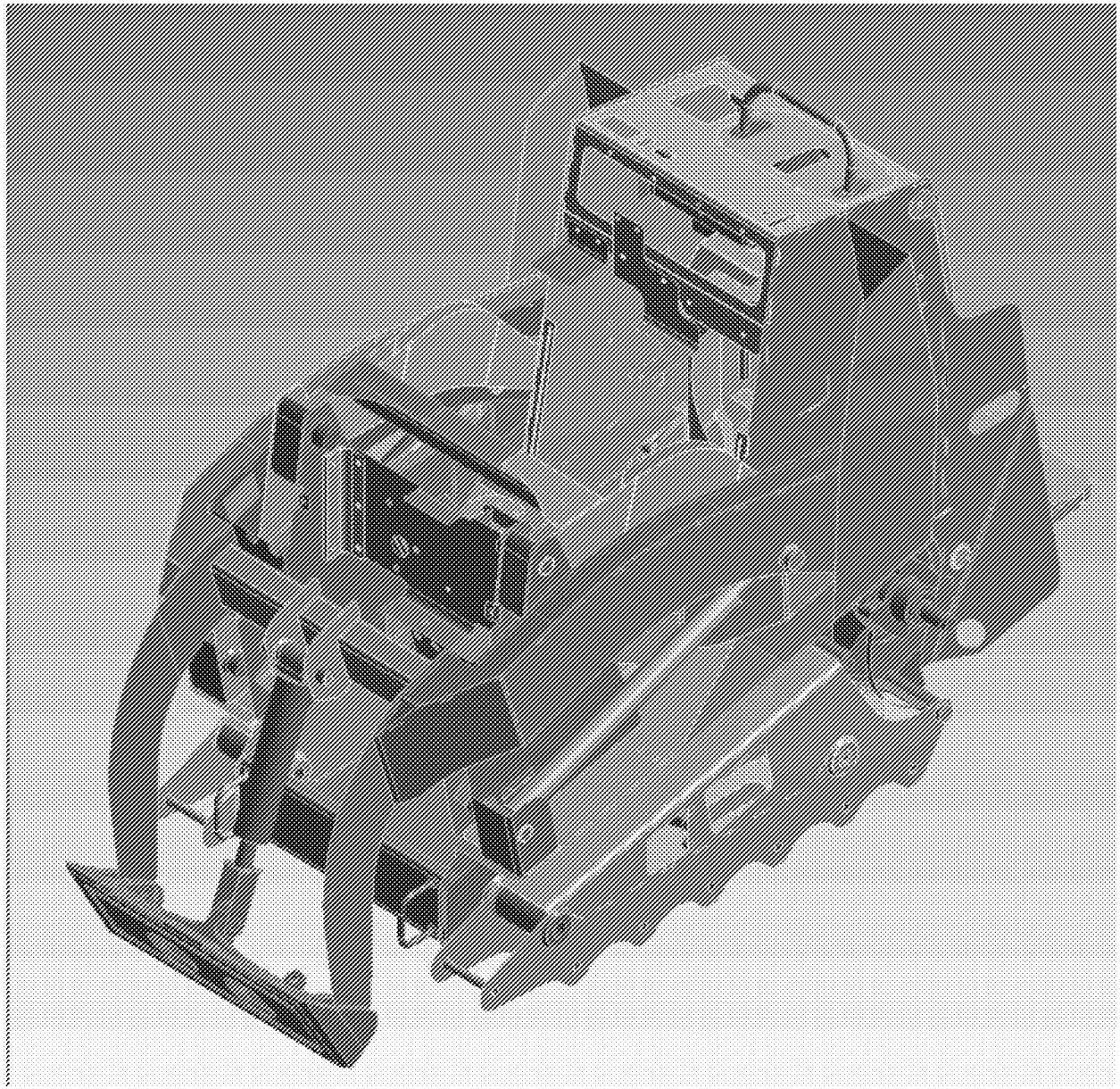
- Which do you use most on the average job, the SSL or the CUL?
  - Why is that?
- On what percentage of your jobs are you using the CUL only?
- On what percentage of your jobs are you using your SSL only?
- On what percentage of your jobs are you using both?
  - Why is that?
- Would you say you rely more on one of these over the other? (SSL/CUL)
  - Why do you say that?
- Are there any situations where a job requires only a CUL for the vast majority of the relevant tasks to be done, but you have to bring in a SSL for 1 or 2 tasks that you don't want to do with a CUL?
  - What percent of your jobs, in the past 6 months fall into this category?
- Please give me an example of a recent situation where a job required primarily a CUL, but you had to bring in a SSL for one or two tasks that you didn't want the CUL to do.
- Are there some rules that you use to determine whether you need a CUL only, an SS only, or both?
  - What are these?
- Are there gaps in the capabilities between the high-side of your CUL capabilities and the low-side of your SSL capabilities? (Weight, dump height, speed, turf wear, any performance capability variable).
- What are the two most important gaps?
  - Why are these most important?
  - Translate the most important gaps into something that impacts your business.
- If I could either extend the high end of the capabilities of a CUL, or the Low-end of the capabilities of a SSL, to fill this gap, which should I do and why?
- Please give me some ideas on how I should do this

TMAX Loader Preliminary FEA (Geometry Dated 9/26/13)

Results Dated:10/11/2013

EX1029 / Page 563 of 915
Kubota North America Corporation et al

Full Simulation Geometry
(Major portions removed in following results slide for better visibility)



EX1029 / Page 564 of 915
Kubota North America Corporation et al

Load Cases:

1. 1000 lbf – Rearward Center
2. 1000 lbf – Vertical Center
3. 1000 lbf – Lateral
4. 1000 lbf – Rearward Offset
5. 1000 lbf – Vertical Offset
6. Max Cylinder Retraction Force, Bottom Stop Contact

Load cases were repeated for low, medium, and high lift positions, except load case 6, which only occurs at the low position.

EX1029 / Page 565 of 915
Kubota North America Corporation et al

LC1

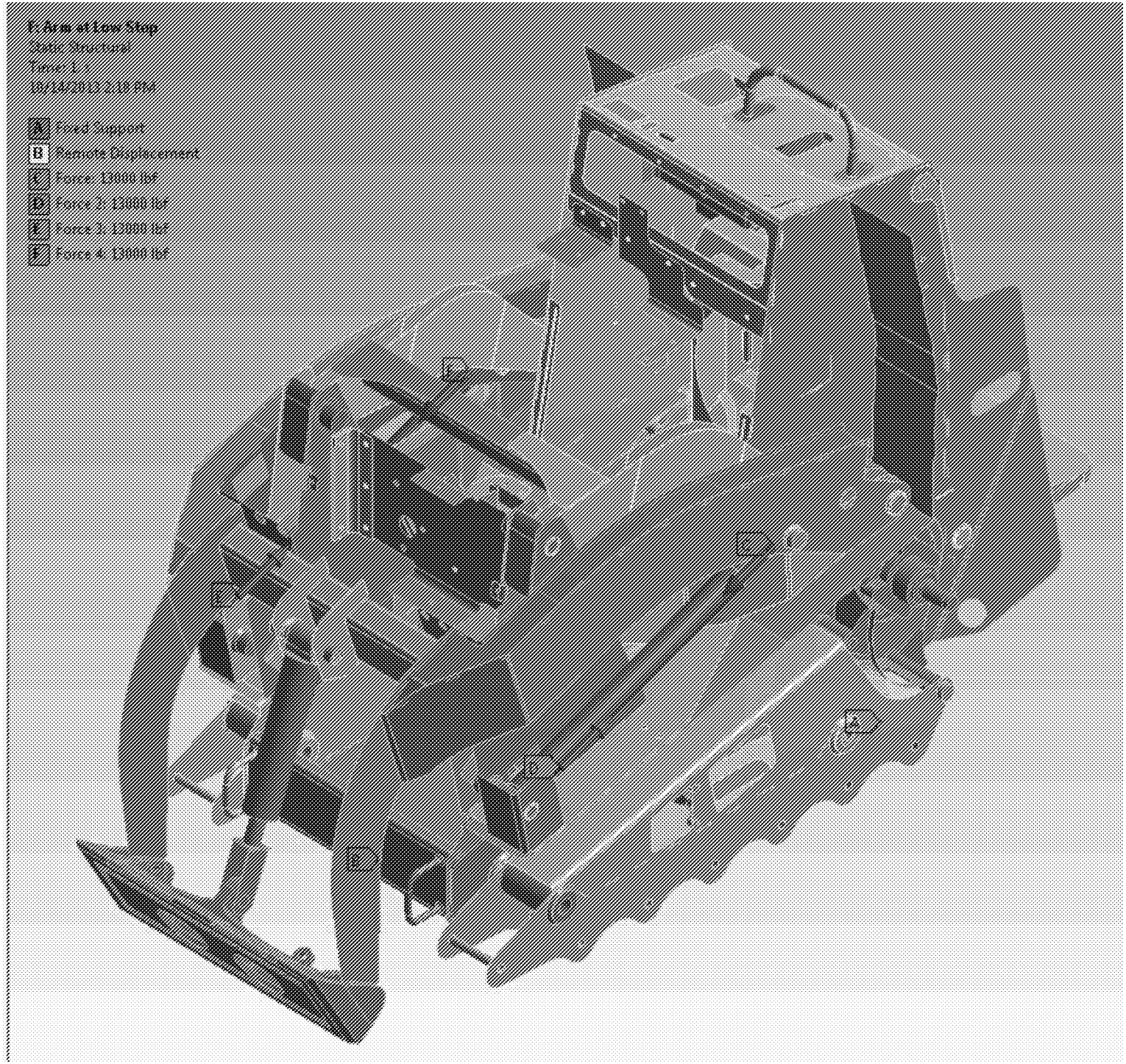
LC2

LC3

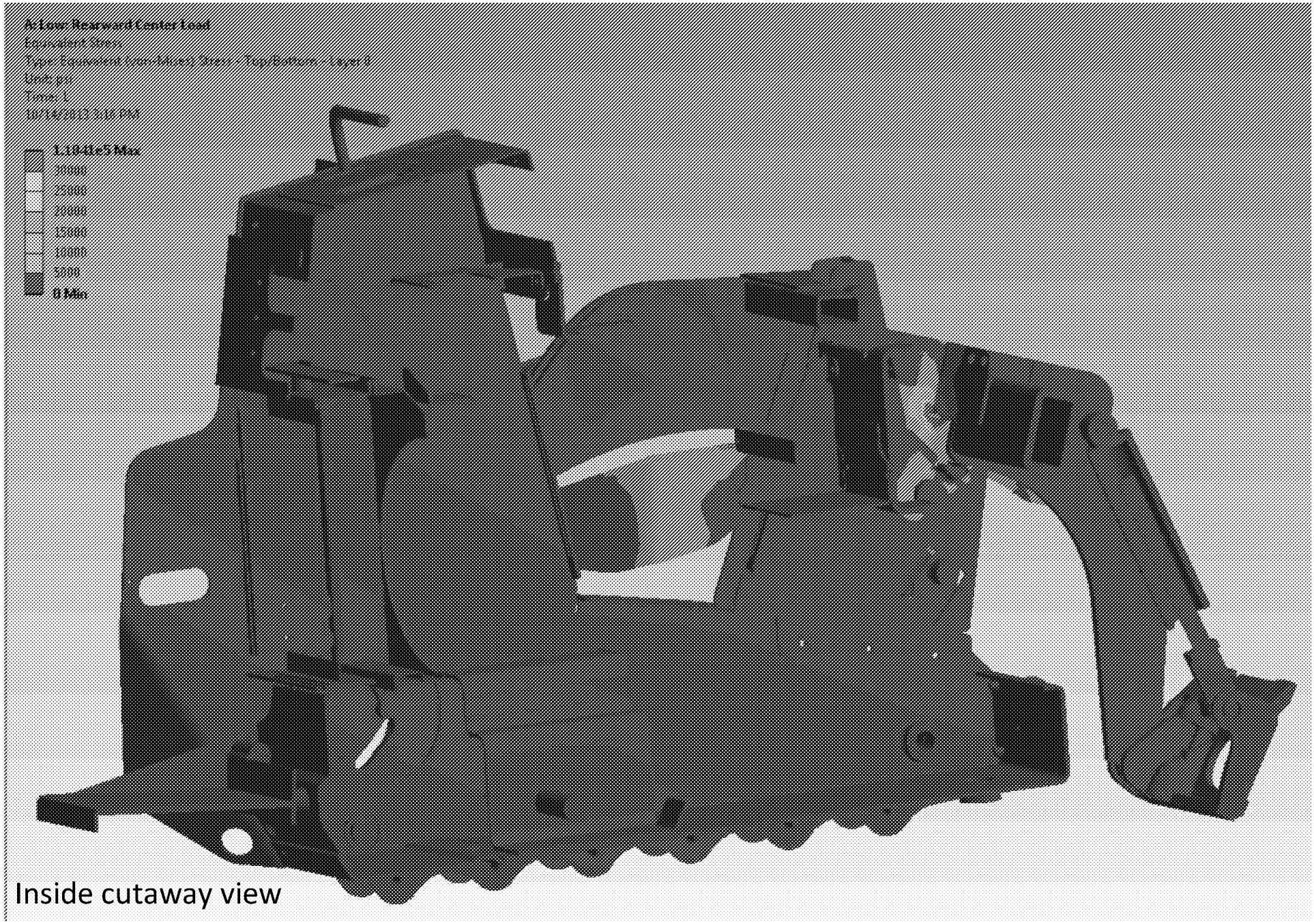
LC4

LC5

LC6


F: Arm at Low Stop
Static Structural
Time: 1. s
10/14/2013 2:18 PM
A Fixed Support
B Remote Displacement
C Force: 13000 lbf
D Force 2: 13000 lbf
E Force 3: 13000 lbf
F Force 4: 13000 lbf

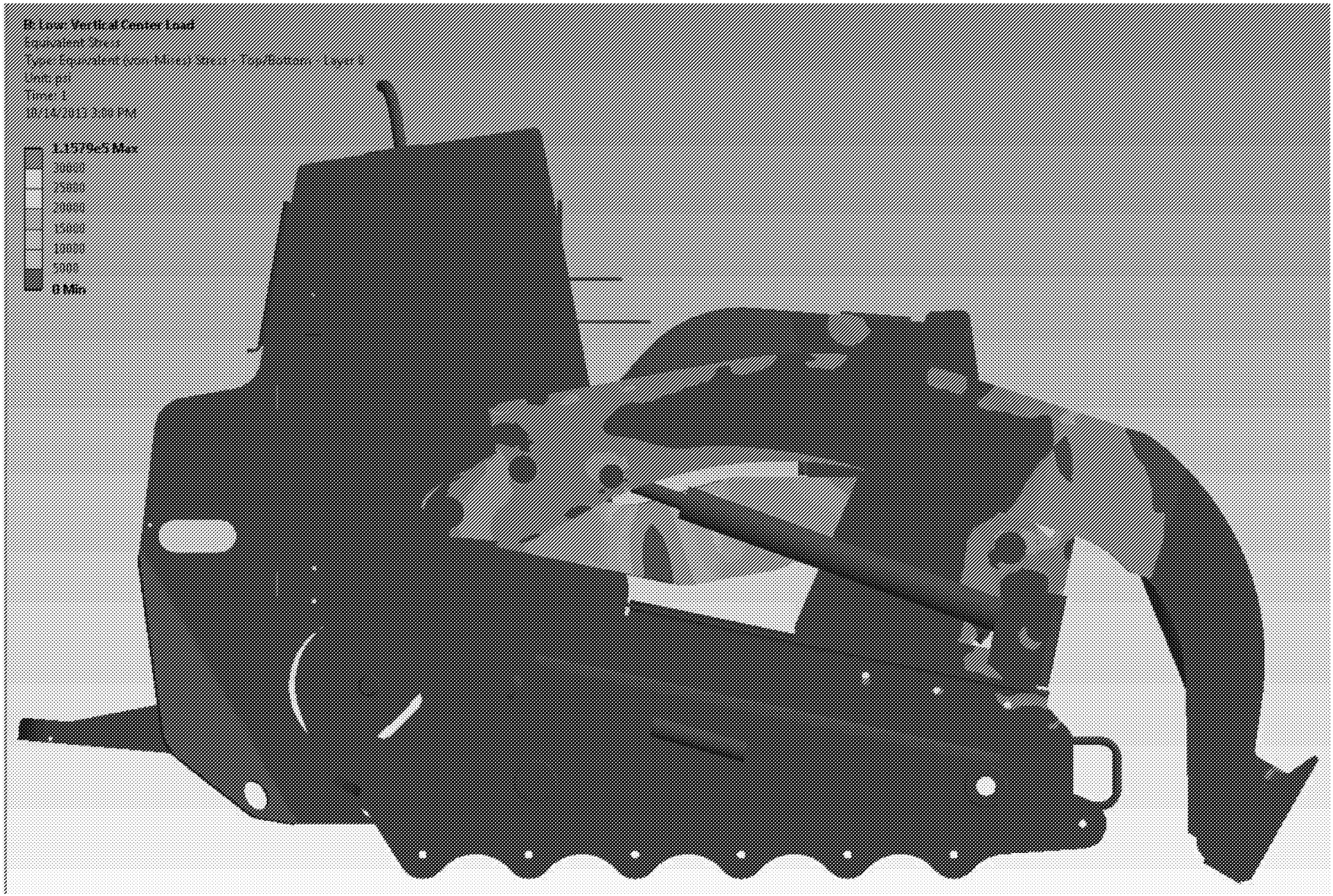
Load Case 1, Low Position



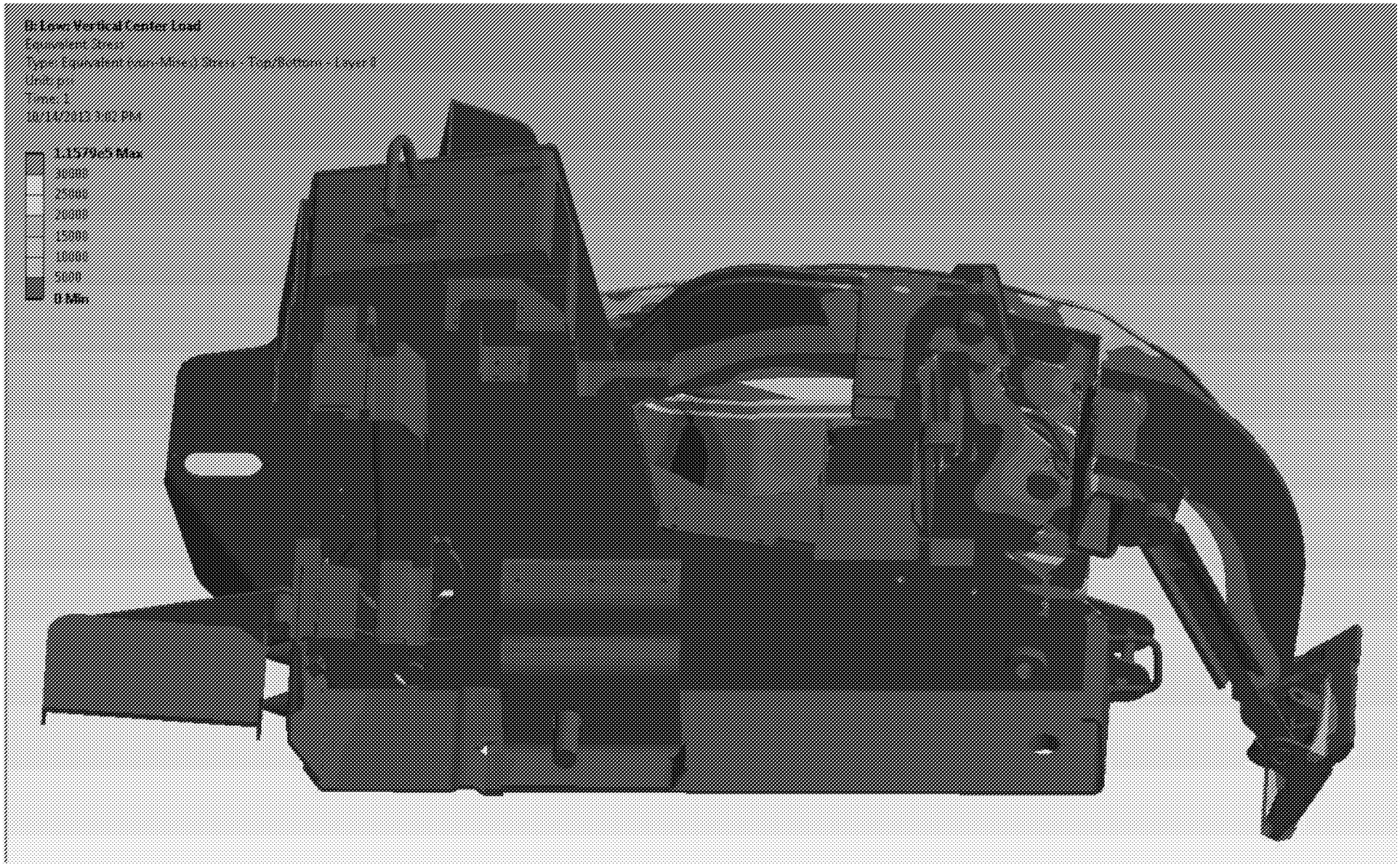
Inside cutaway view

EX1029 / Page 572 of 915
Kubota North America Corporation et al

Load Case 2, Low Position



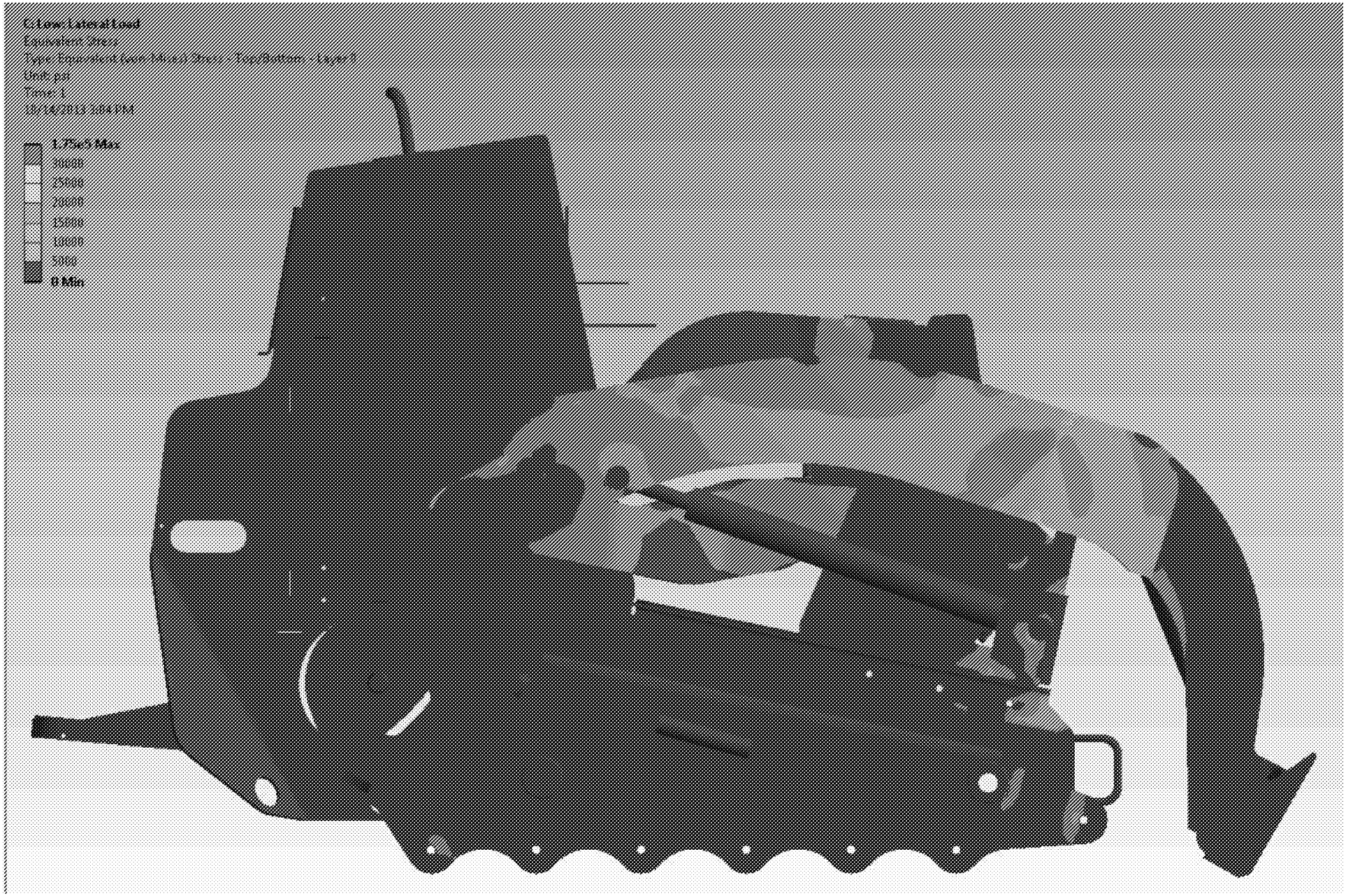
Load Case 2, Low Position



Inside cutaway view

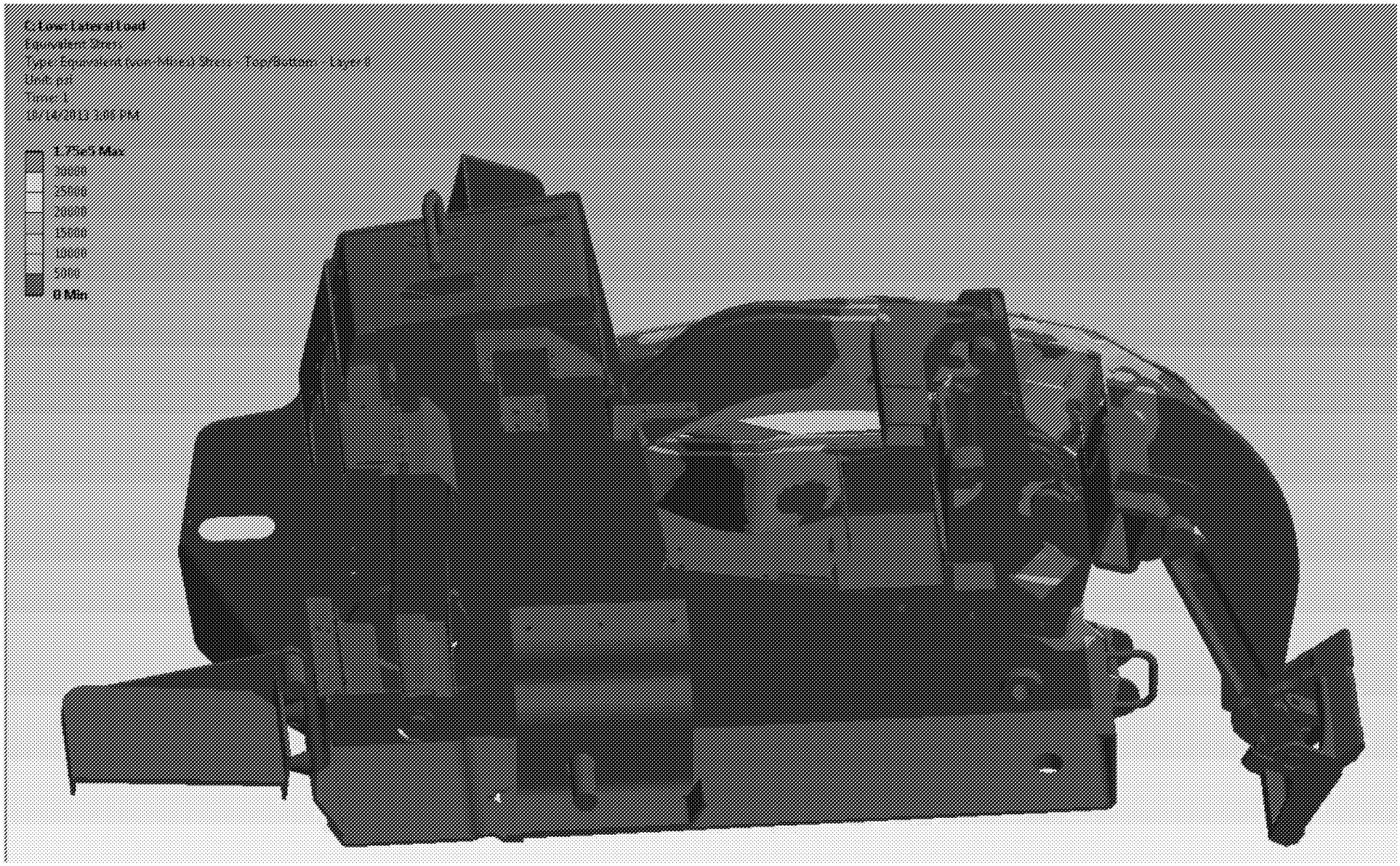
EX1029 / Page 574 of 915
Kubota North America Corporation et al

Load Case 3, Low Position



EX1029 / Page 575 of 915
Kubota North America Corporation et al

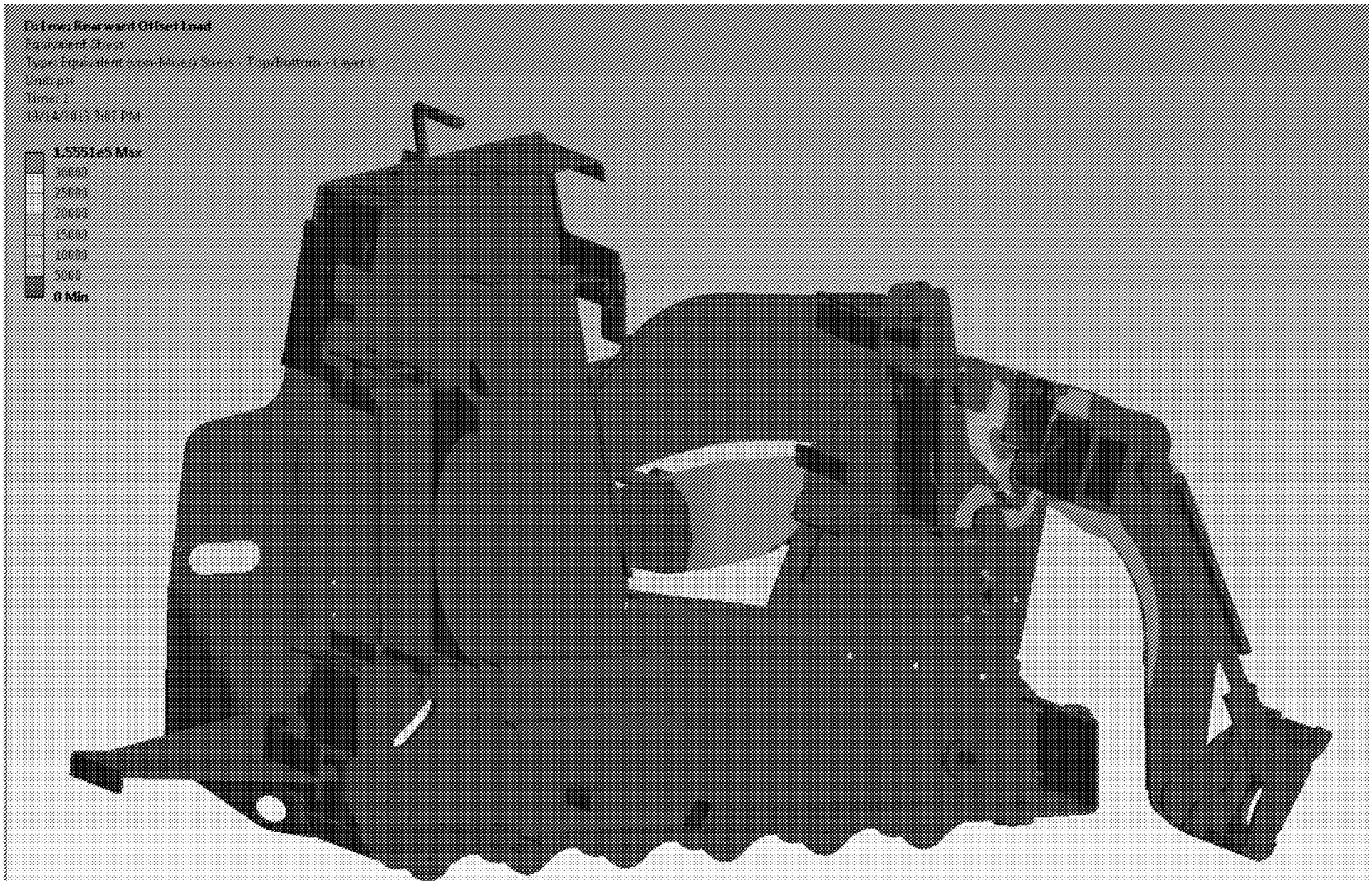
Load Case 3, Low Position



Inside cutaway view

EX1029 / Page 576 of 915
Kubota North America Corporation et al

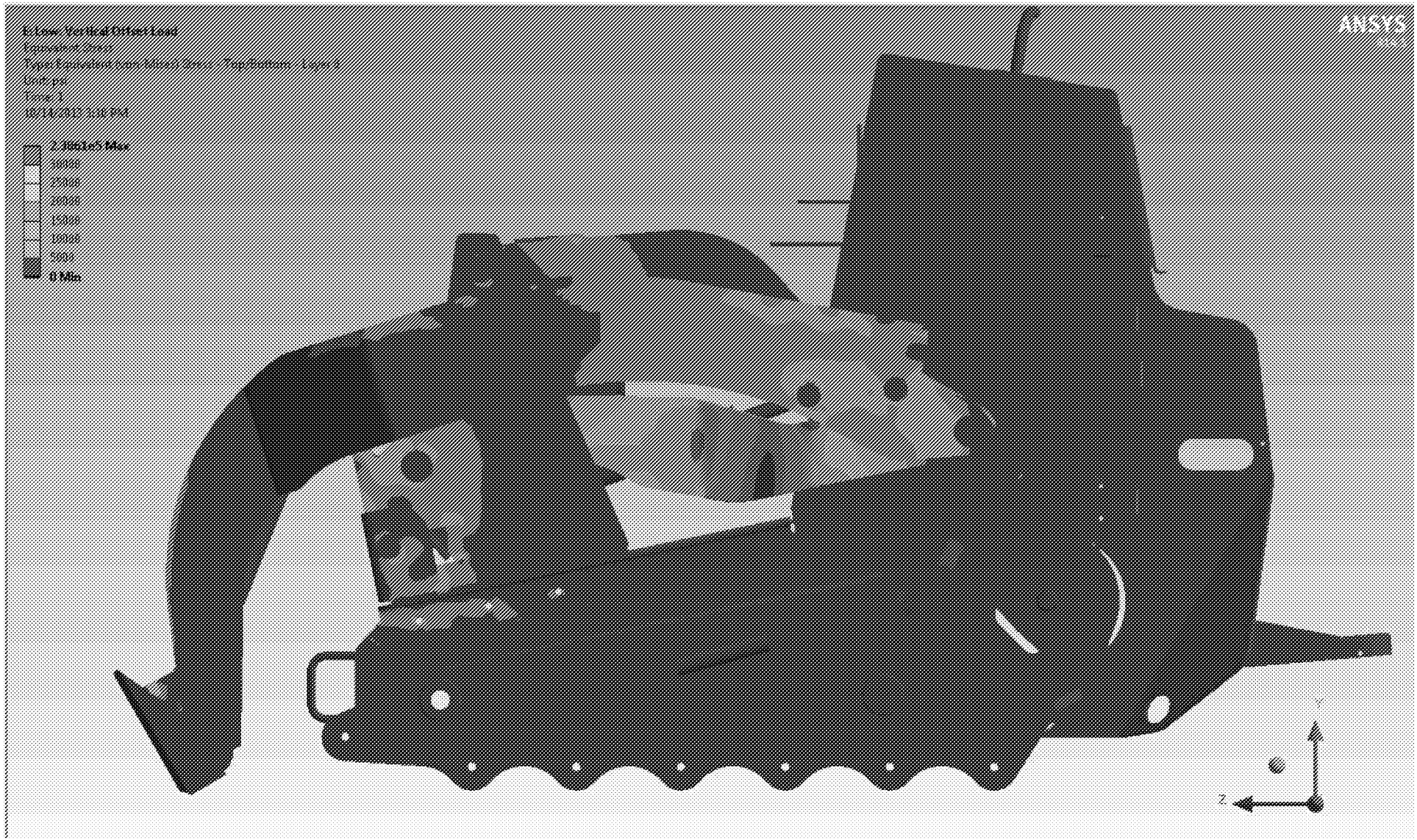
Load Case 4, Low Position



Inside cutaway view

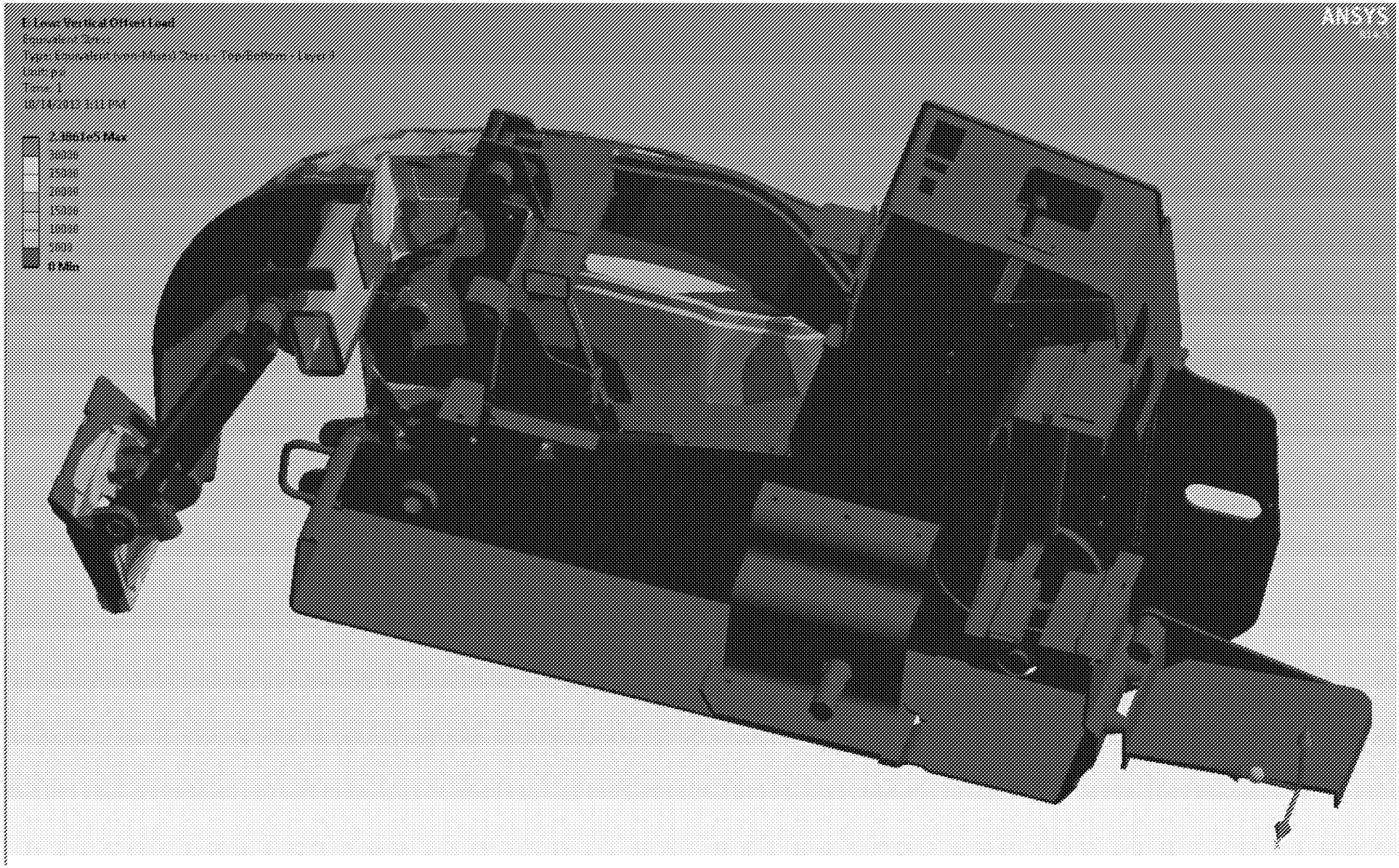
EX1029 / Page 577 of 915
Kubota North America Corporation et al

Load Case 5, Low Position



EX1029 / Page 578 of 915
Kubota North America Corporation et al

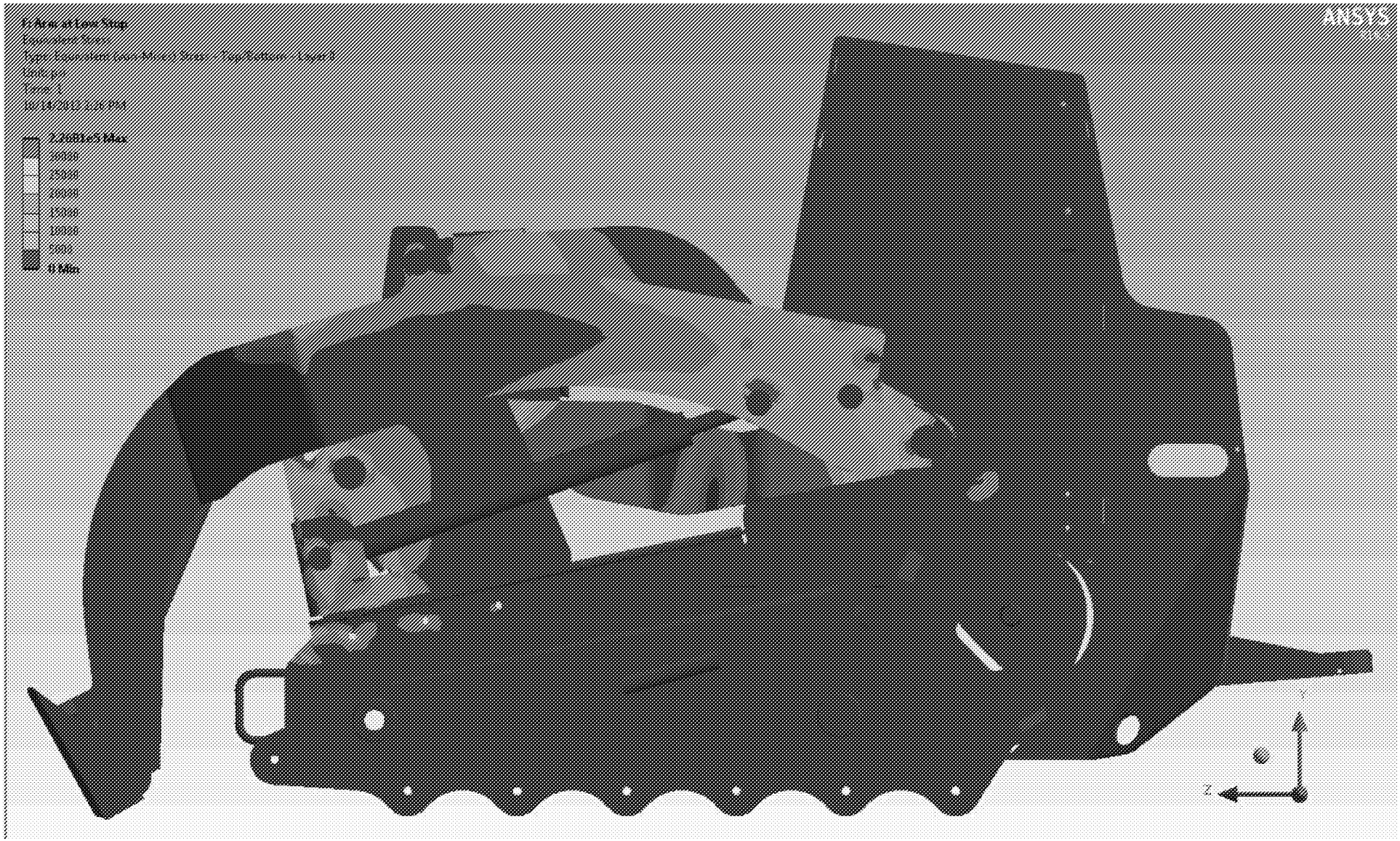
Load Case 5, Low Position



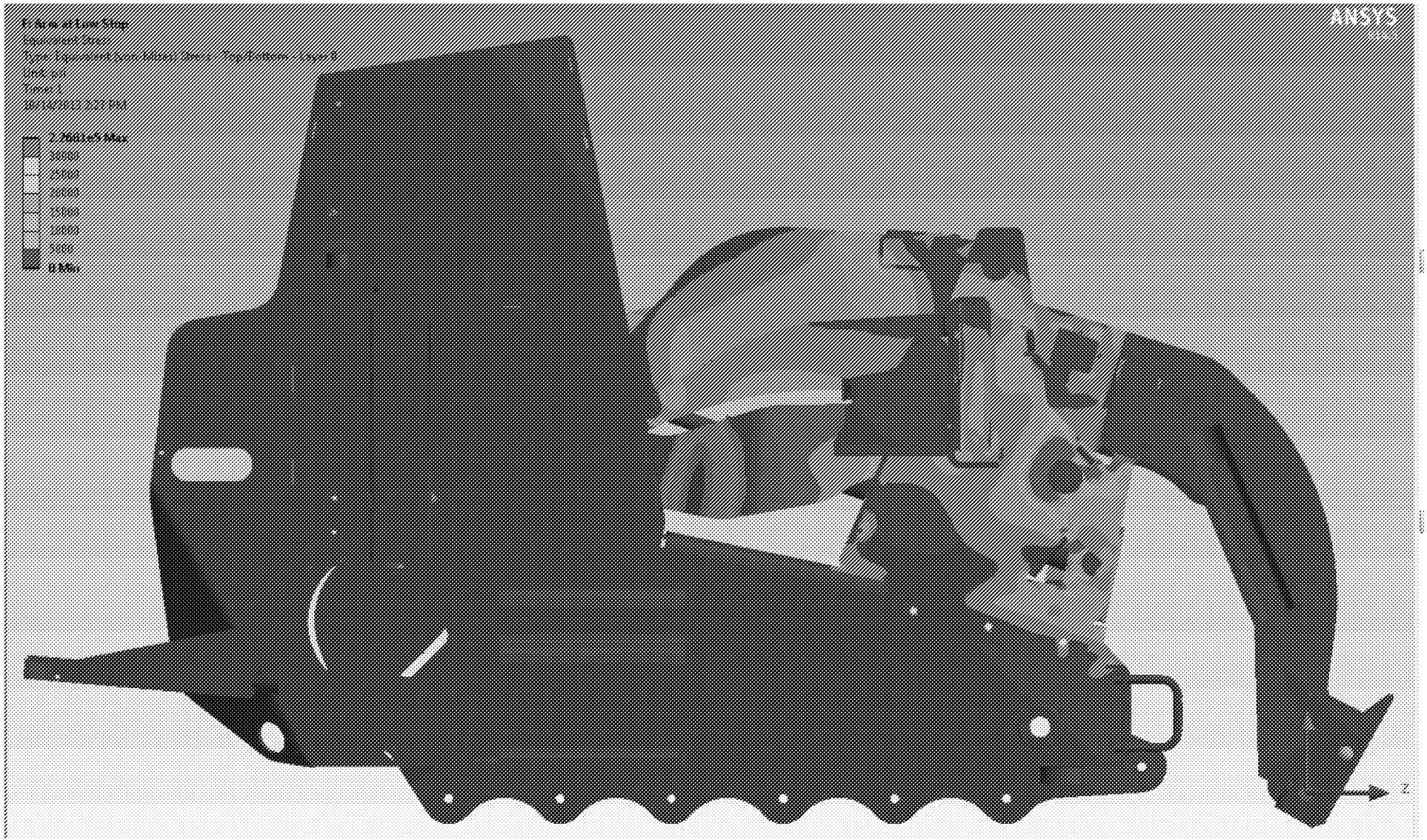
Inside cutaway view

EX1029 / Page 579 of 915
Kubota North America Corporation et al

Load Case 6, Bottom Stop Contact



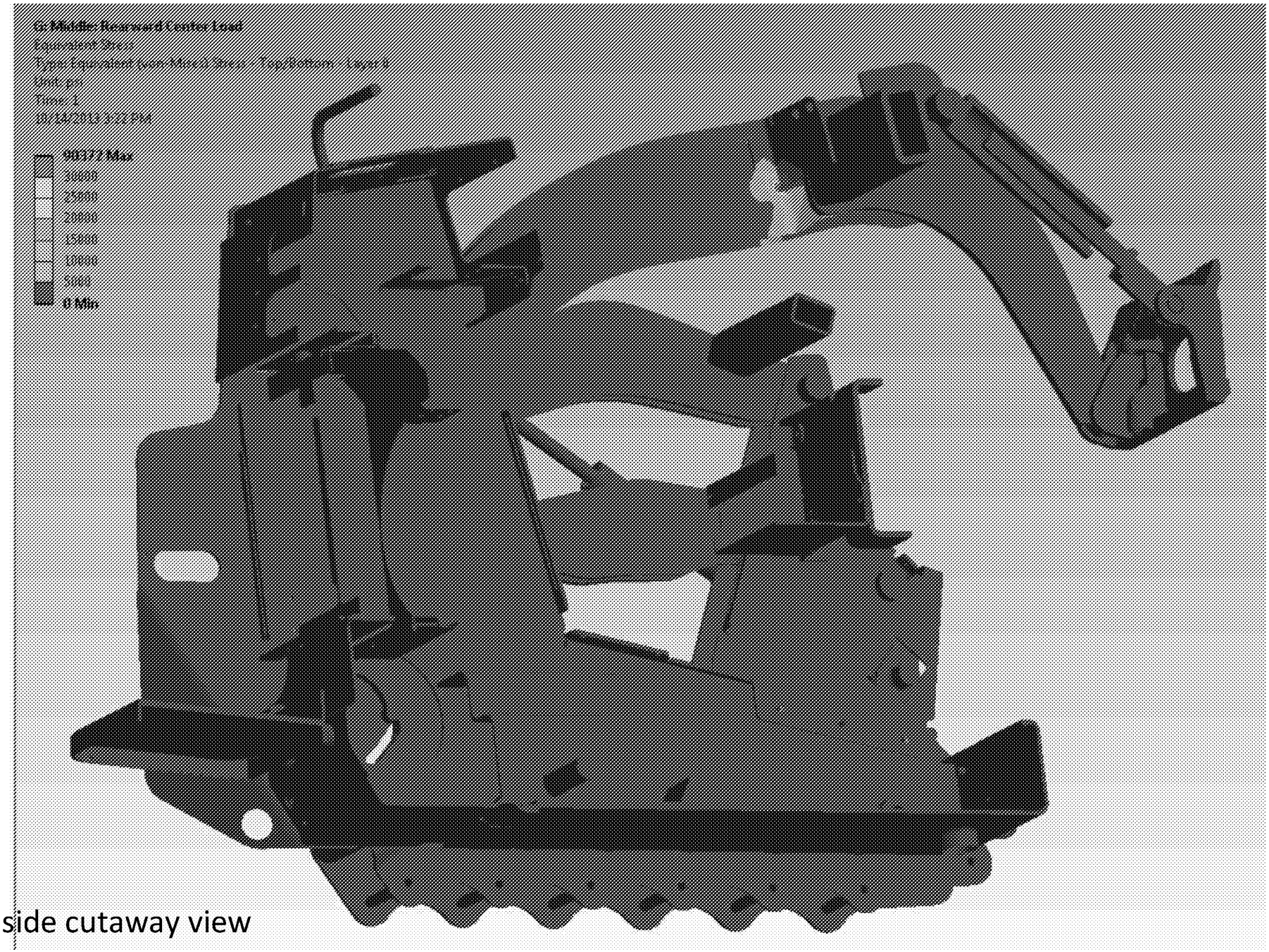
Load Case 6, Bottom Stop Contact



Inside cutaway view

EX1029 / Page 581 of 915
Kubota North America Corporation et al

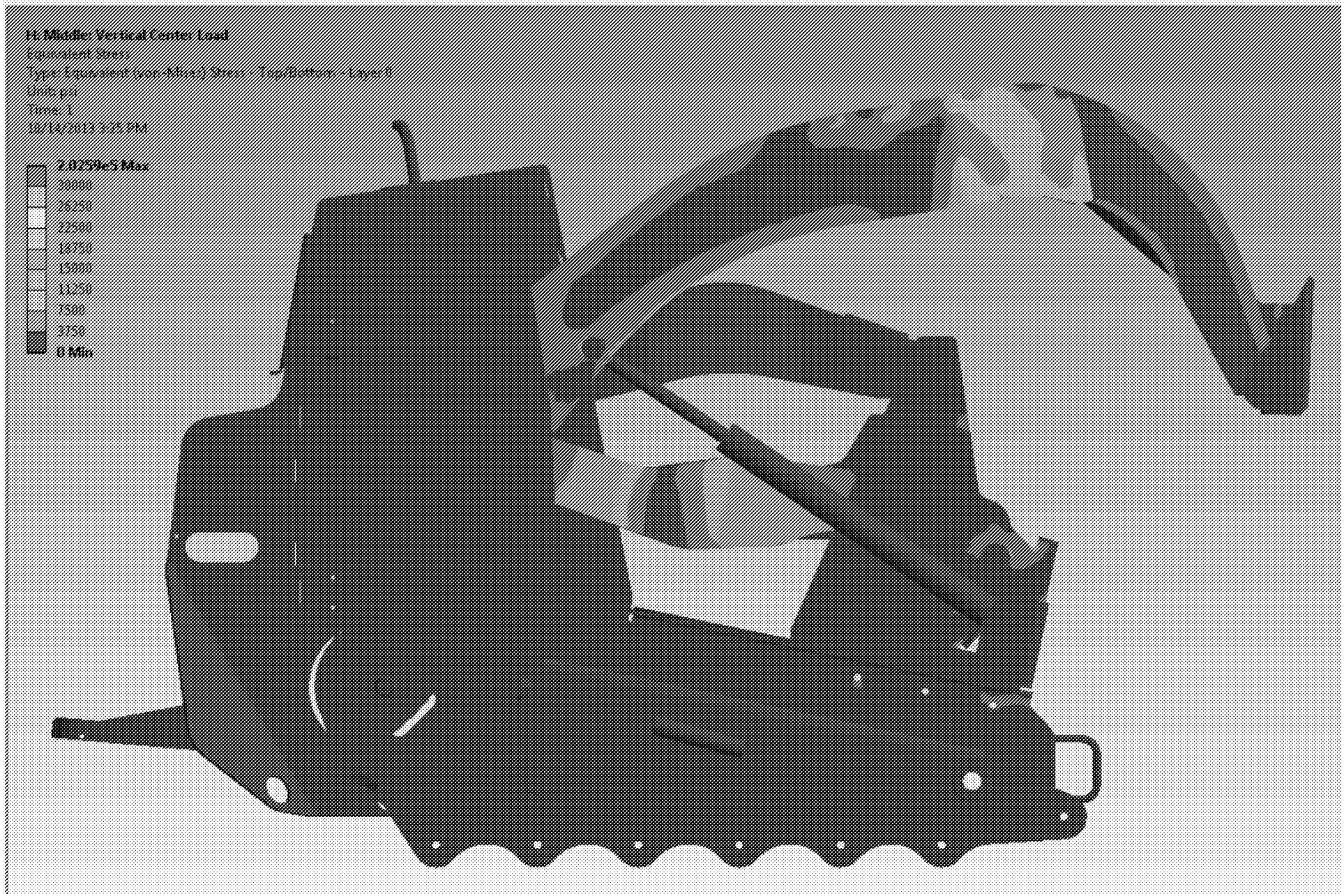
Load Case 1, Middle Position



Inside cutaway view

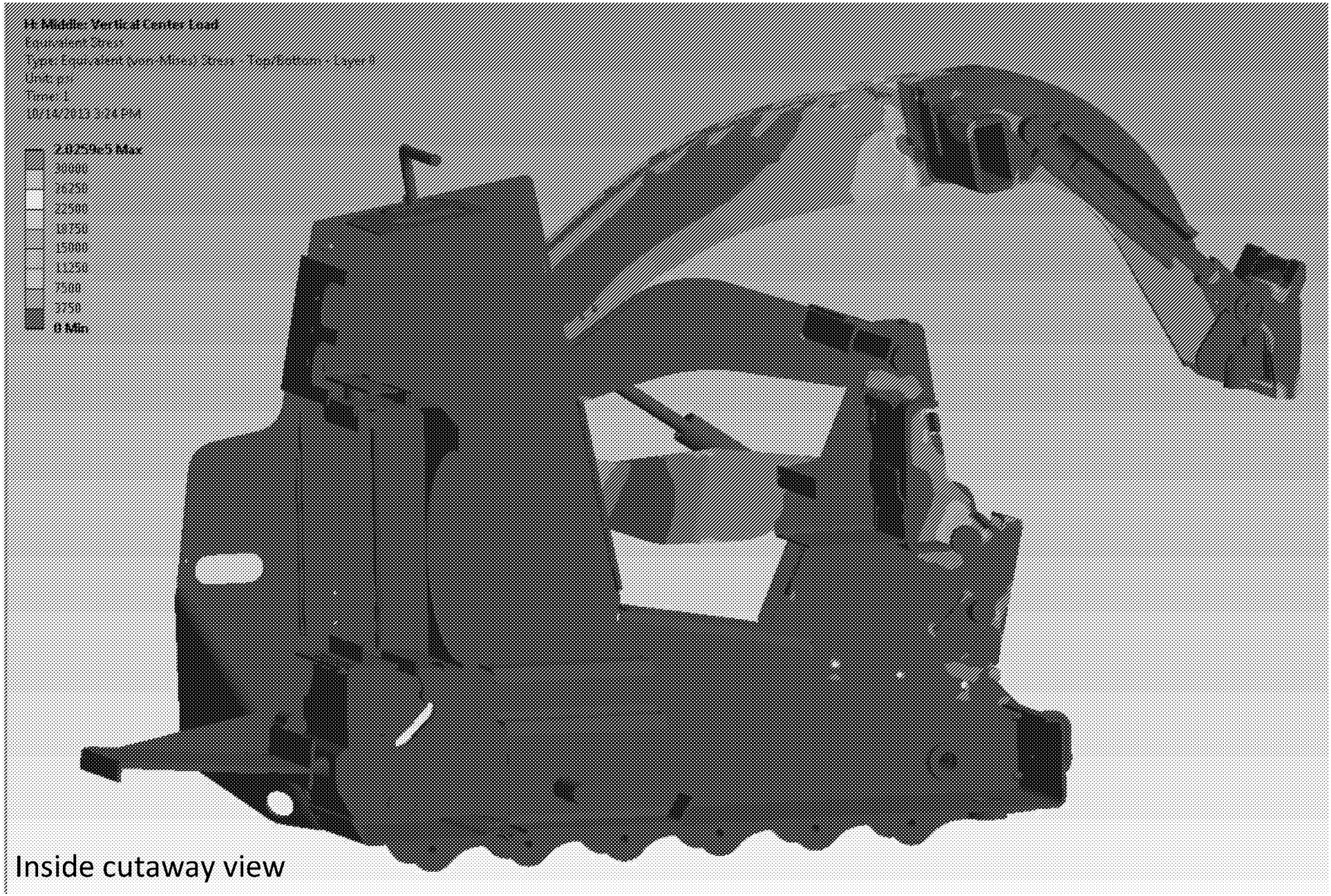
EX1029 / Page 582 of 915
Kubota North America Corporation et al

Load Case 2, Middle Position



EX1029 / Page 583 of 915
Kubota North America Corporation et al

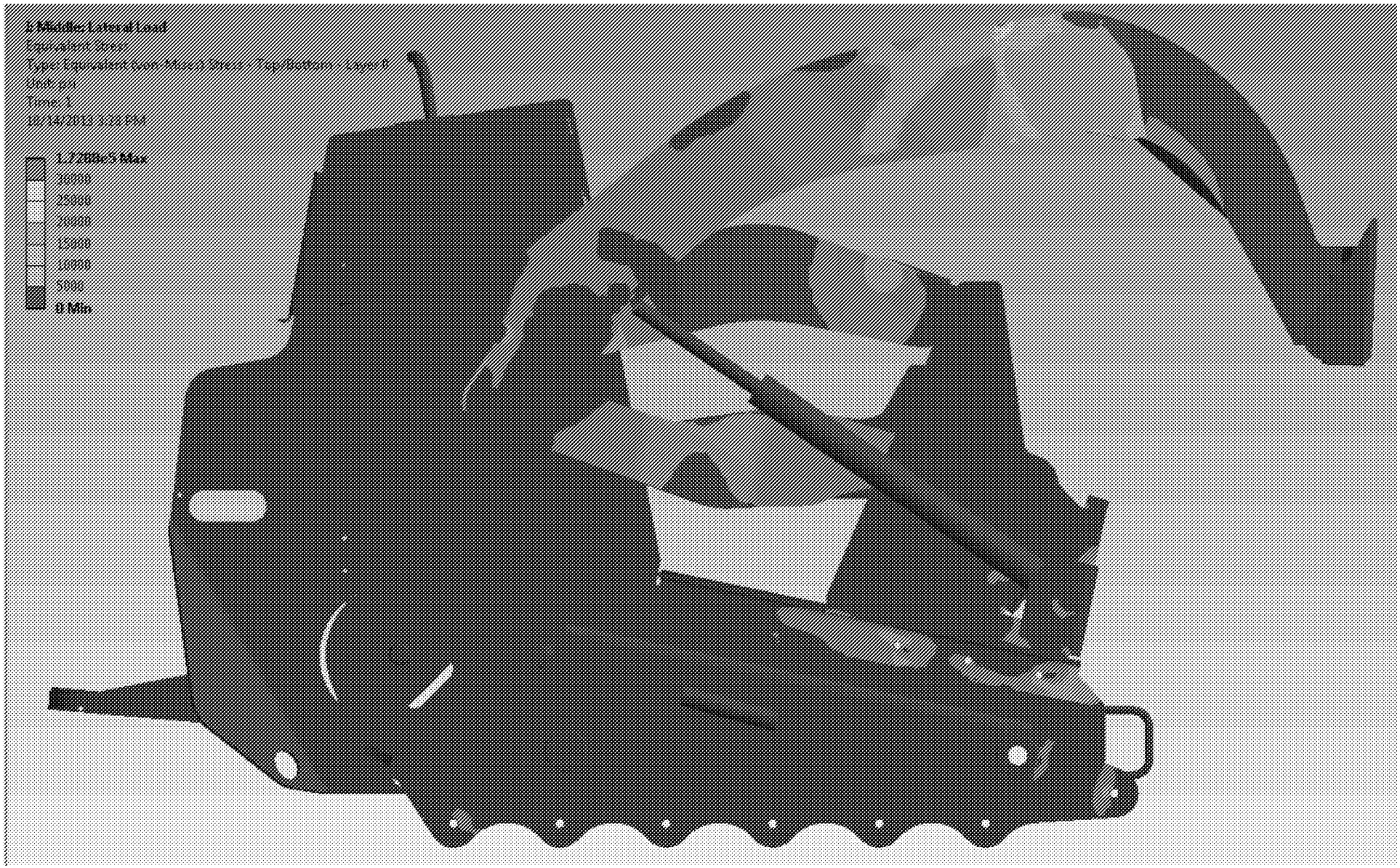
Load Case 2, Middle Position



Inside cutaway view

EX1029 / Page 584 of 915
Kubota North America Corporation et al

Load Case 3, Middle Position



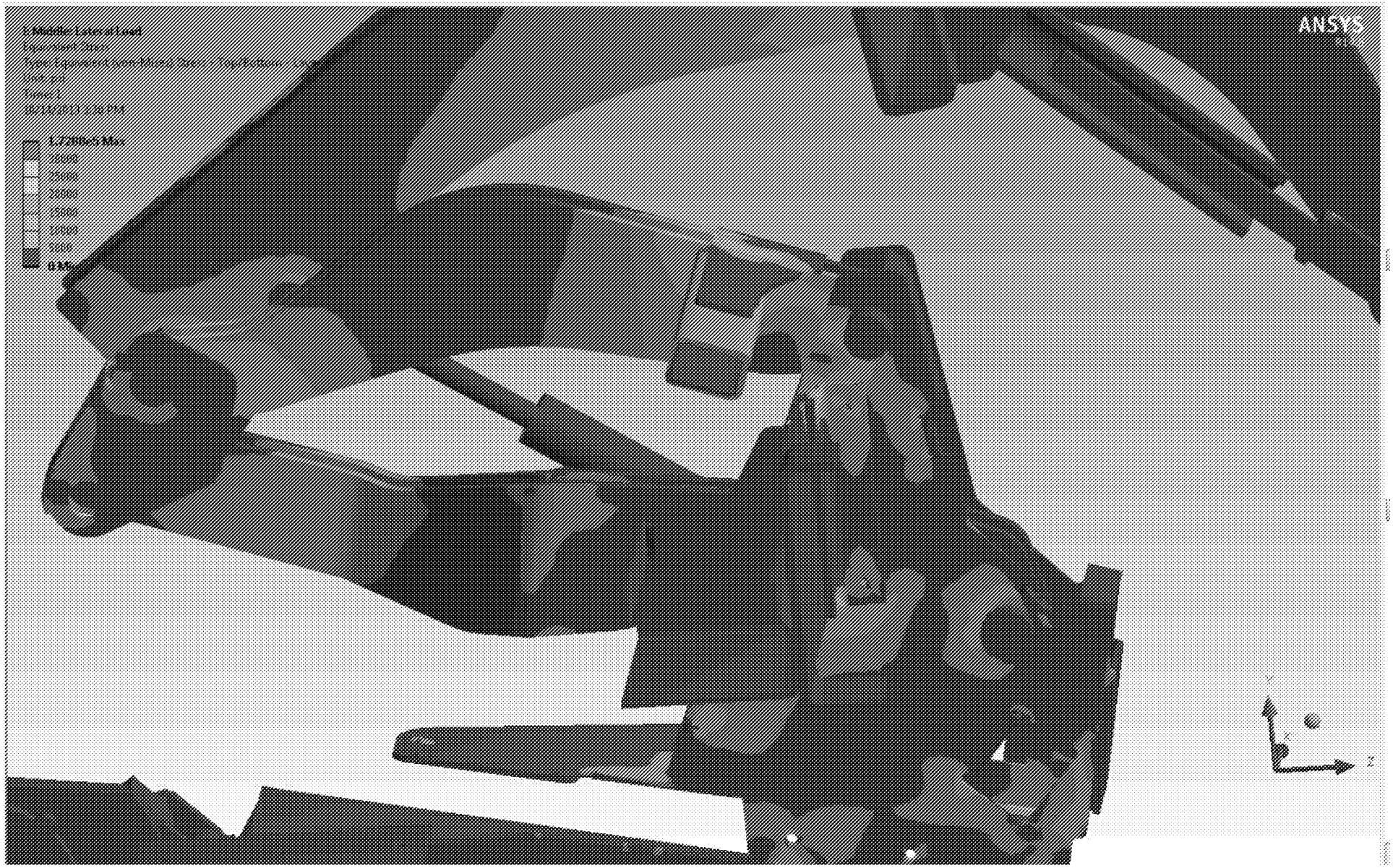
EX1029 / Page 585 of 915
Kubota North America Corporation et al

Load Case 3, Middle Position

Inside cutaway view

EX1029 / Page 586 of 915
Kubota North America Corporation et al

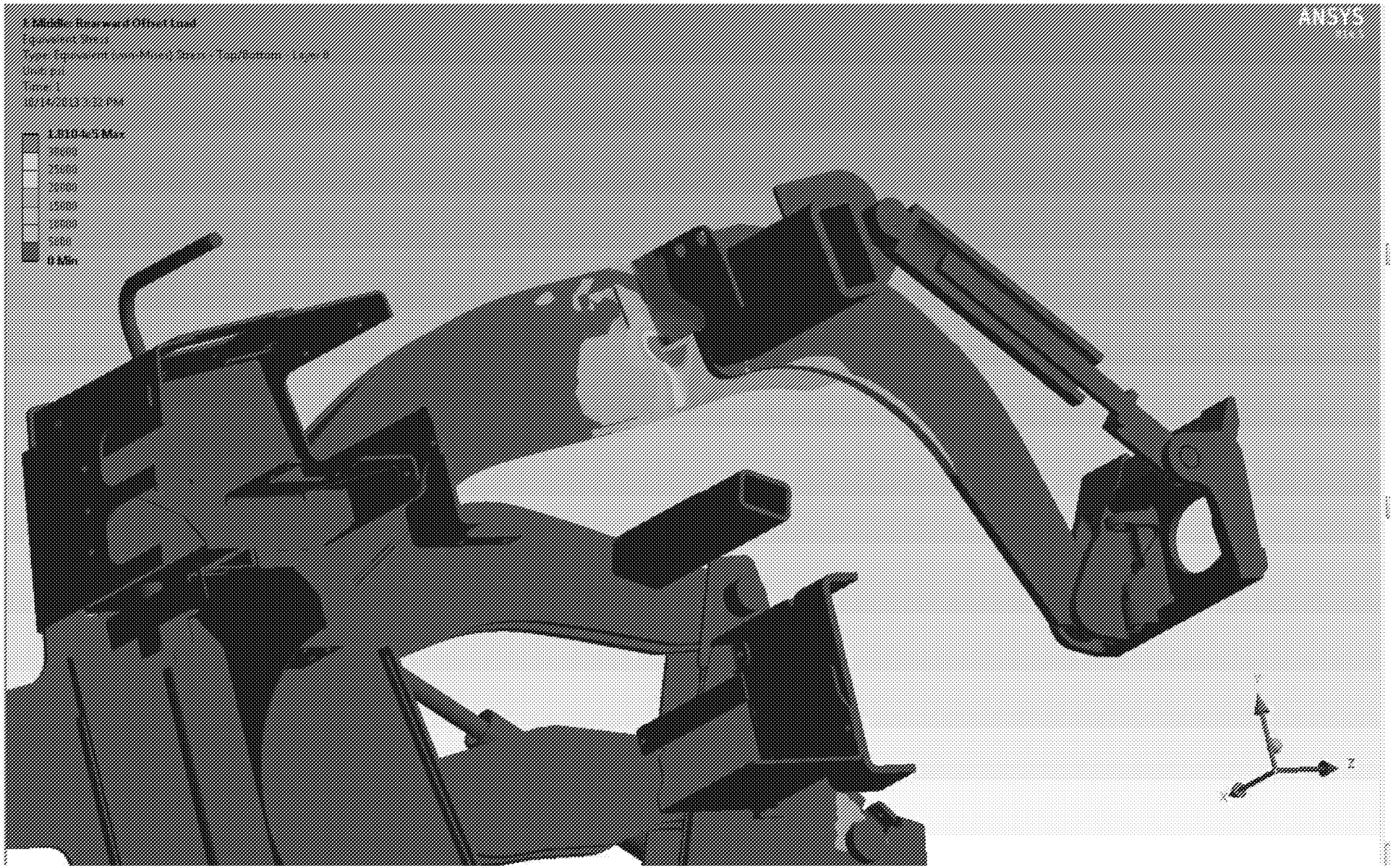
Load Case 3, Middle Position



Inside cutaway view

EX1029 / Page 587 of 915
Kubota North America Corporation et al

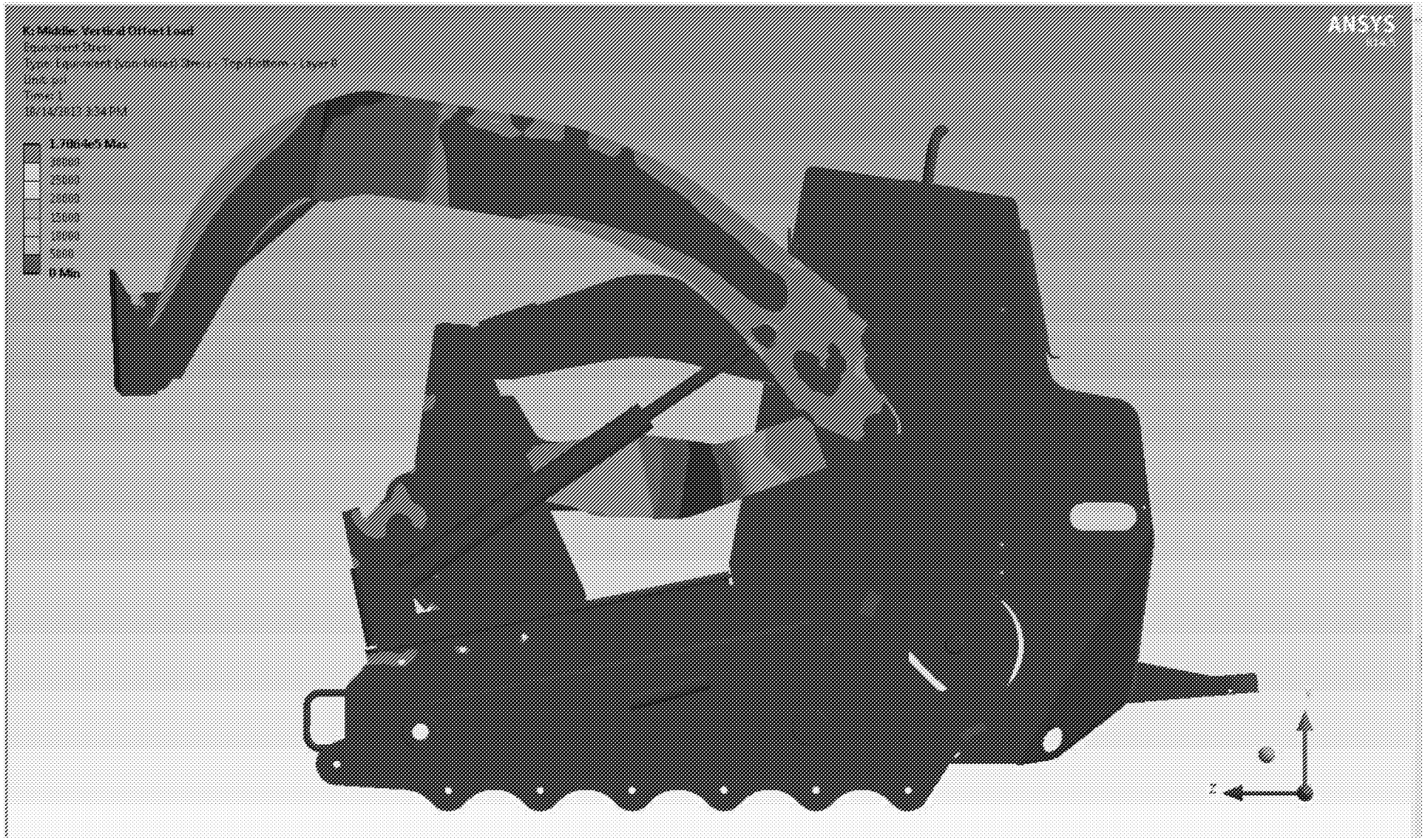
Load Case 4, Middle Position



Inside cutaway view

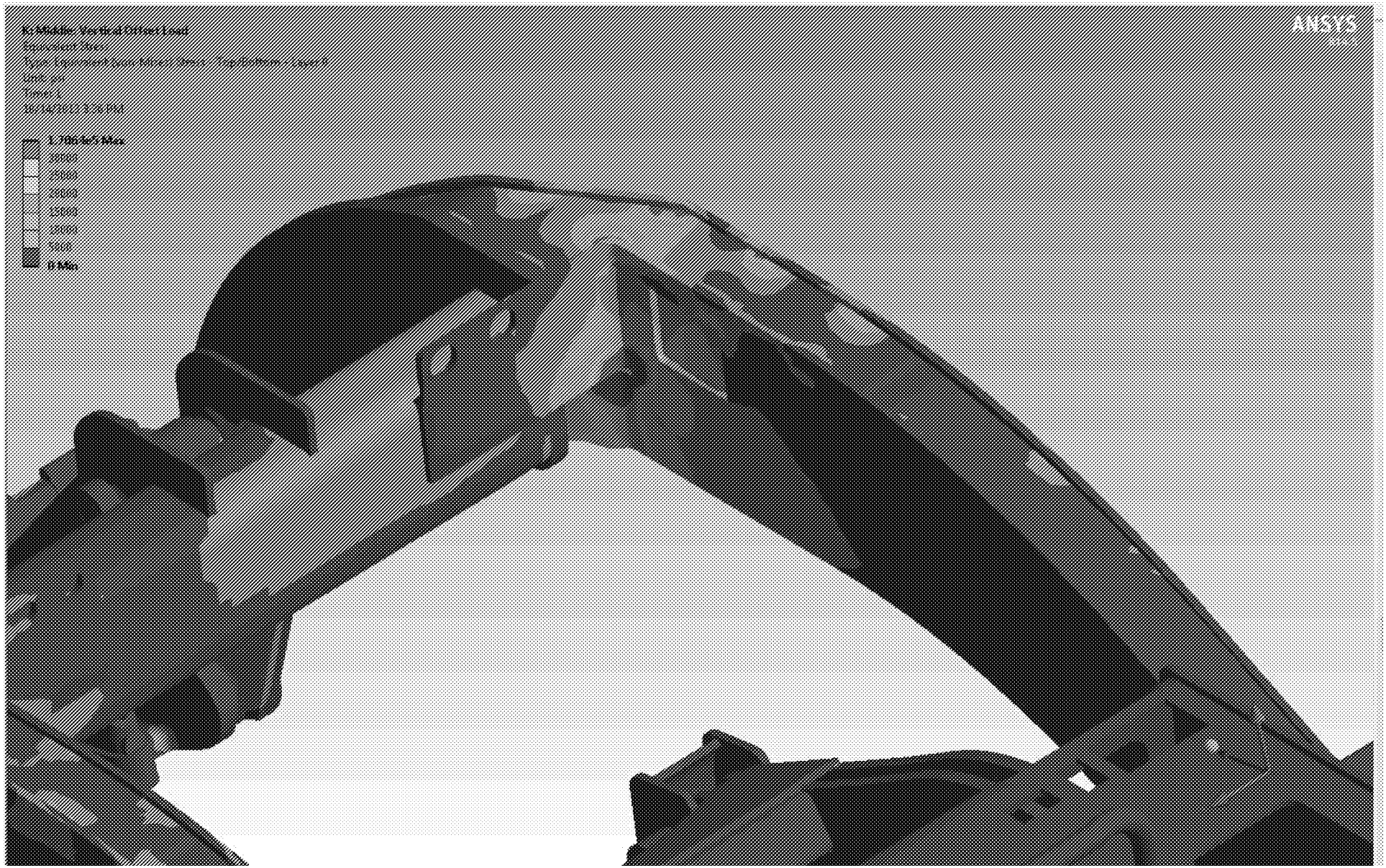
EX1029 / Page 588 of 915
Kubota North America Corporation et al

Load Case 5, Middle Position



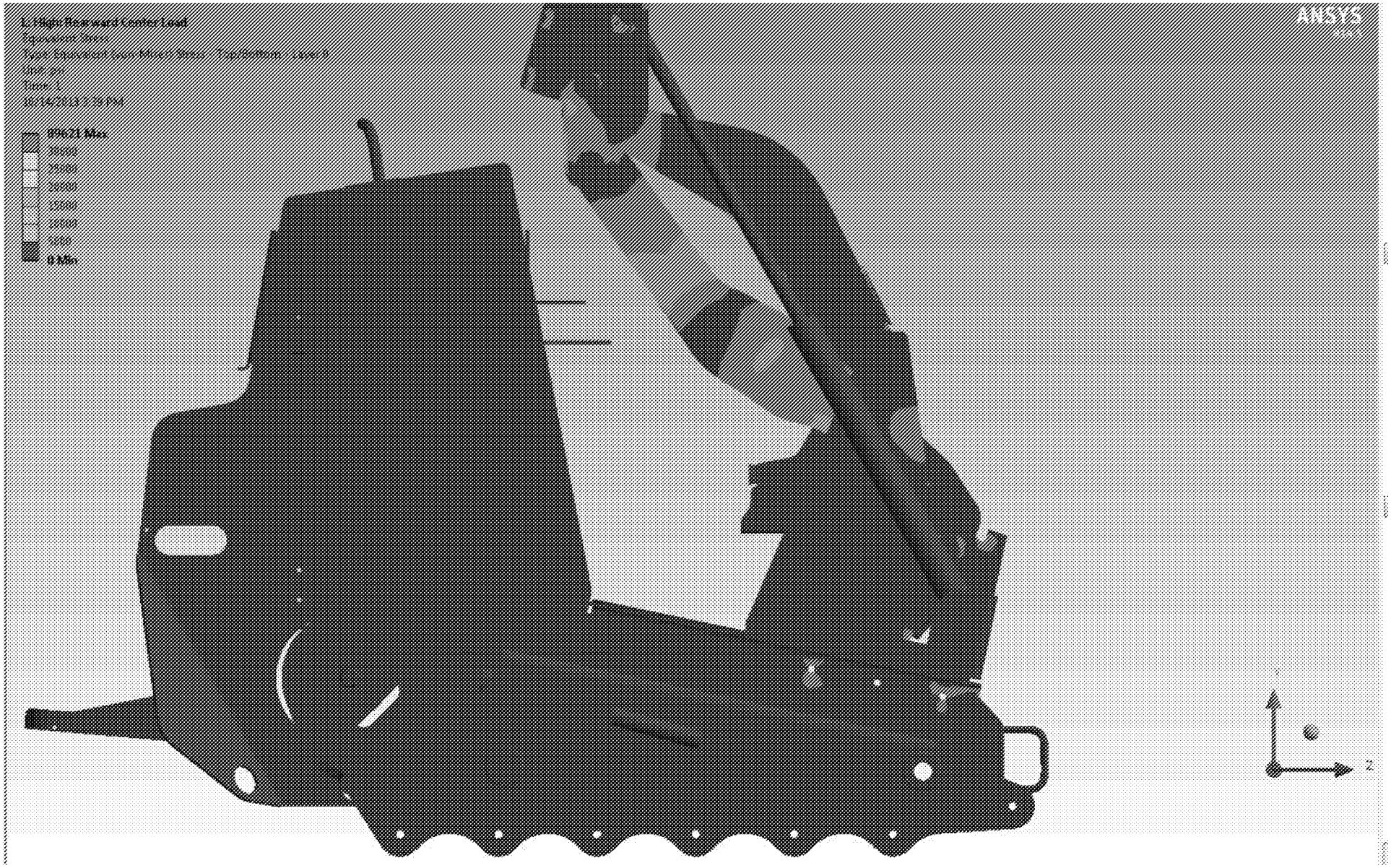
EX1029 / Page 589 of 915
Kubota North America Corporation et al

Load Case 5, Middle Position



EX1029 / Page 590 of 915
Kubota North America Corporation et al

Load Case 1, High Position

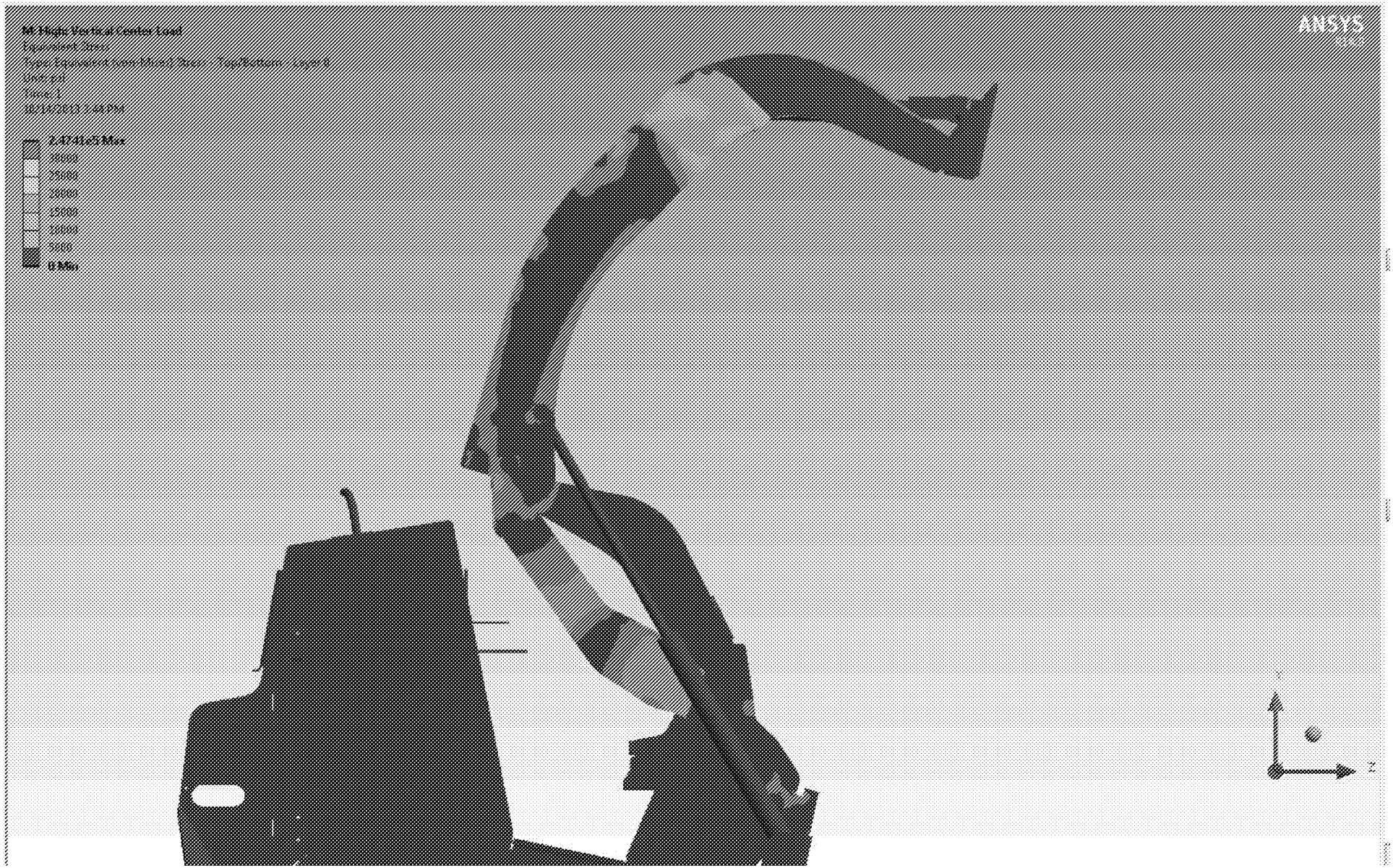


Load Case 1, High Position

Inside cutaway view

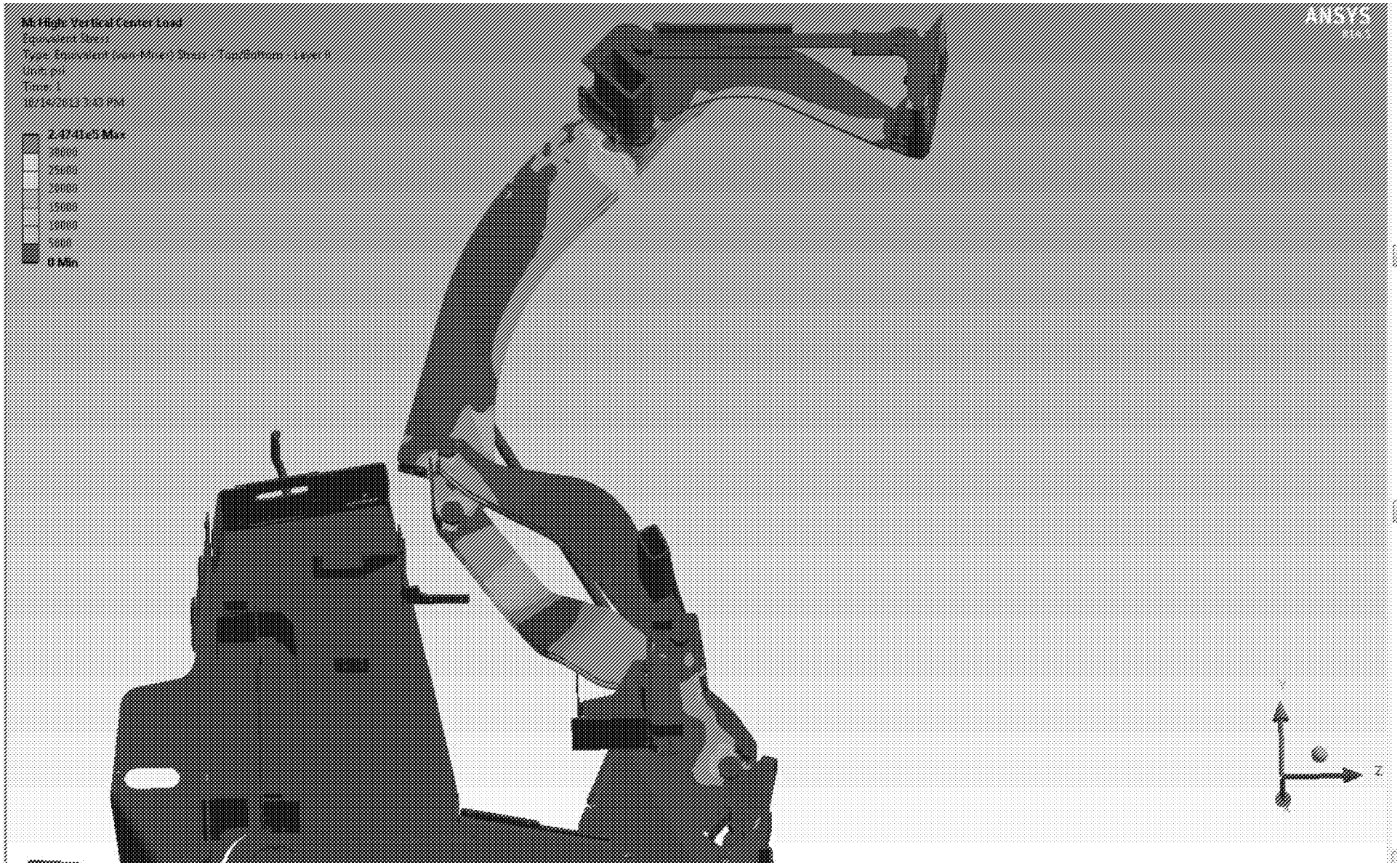
EX1029 / Page 592 of 915
Kubota North America Corporation et al

Load Case 2, High Position



EX1029 / Page 593 of 915
Kubota North America Corporation et al

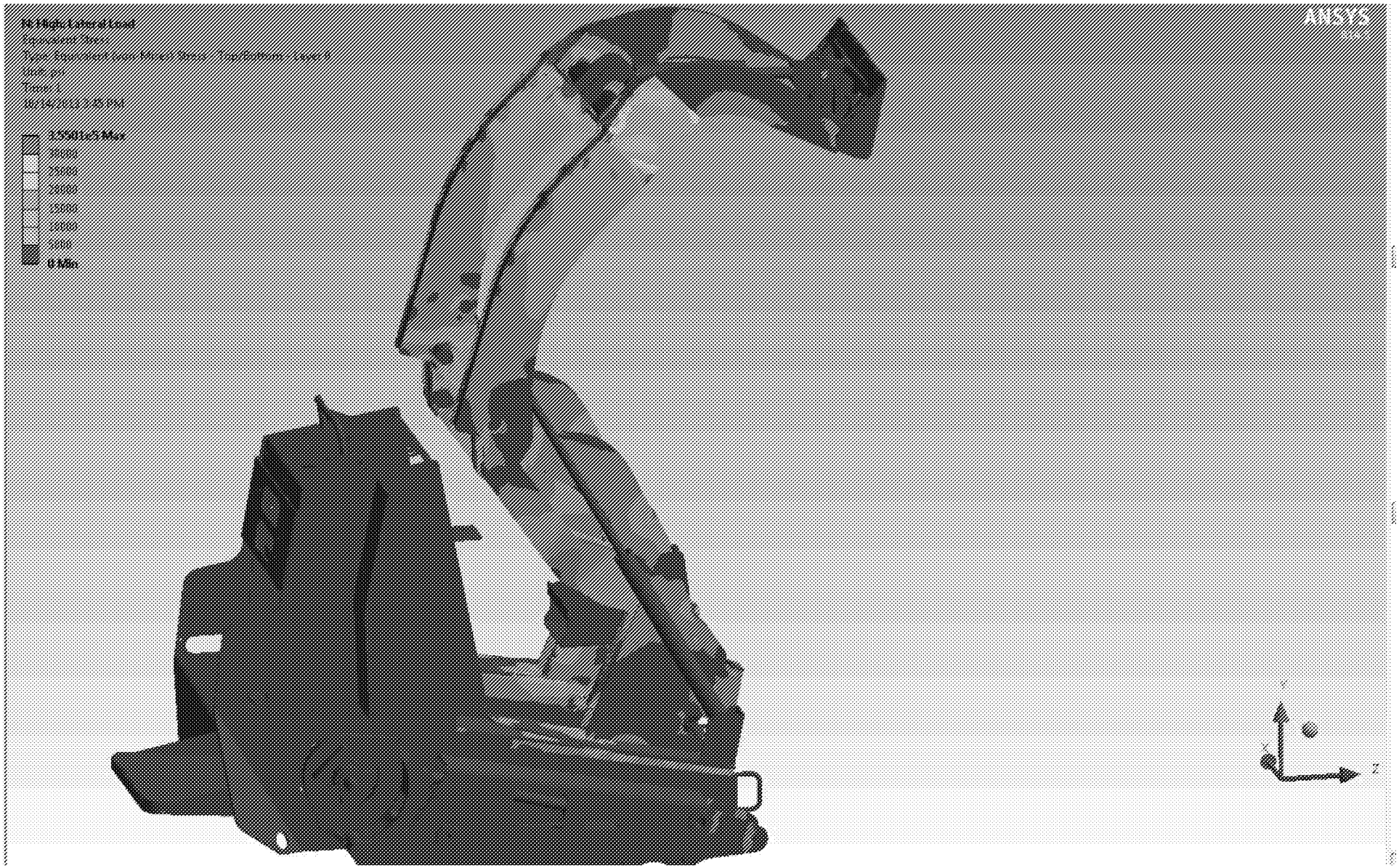
Load Case 2, High Position



Inside cutaway view

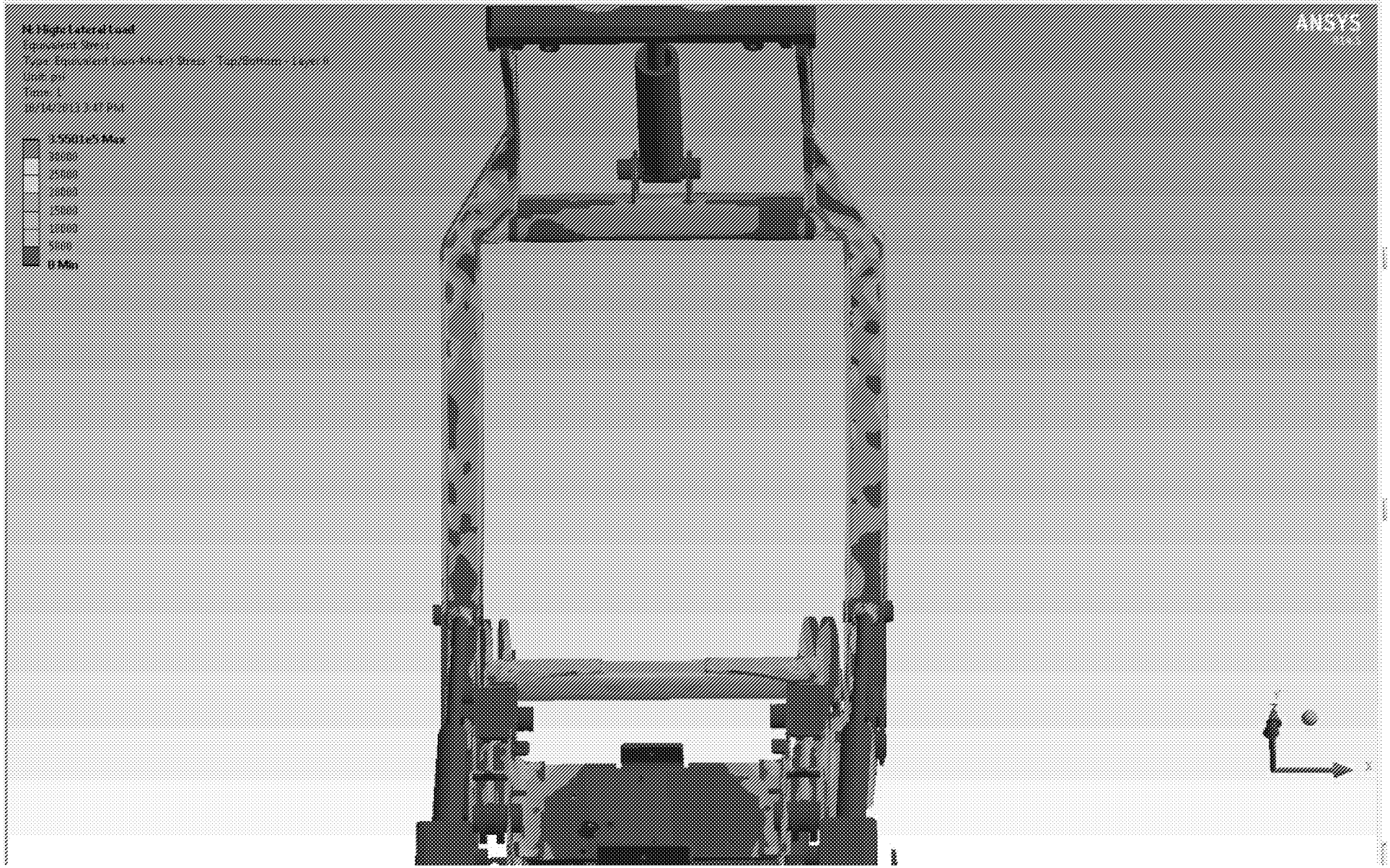
EX1029 / Page 594 of 915
Kubota North America Corporation et al

Load Case 3, High Position



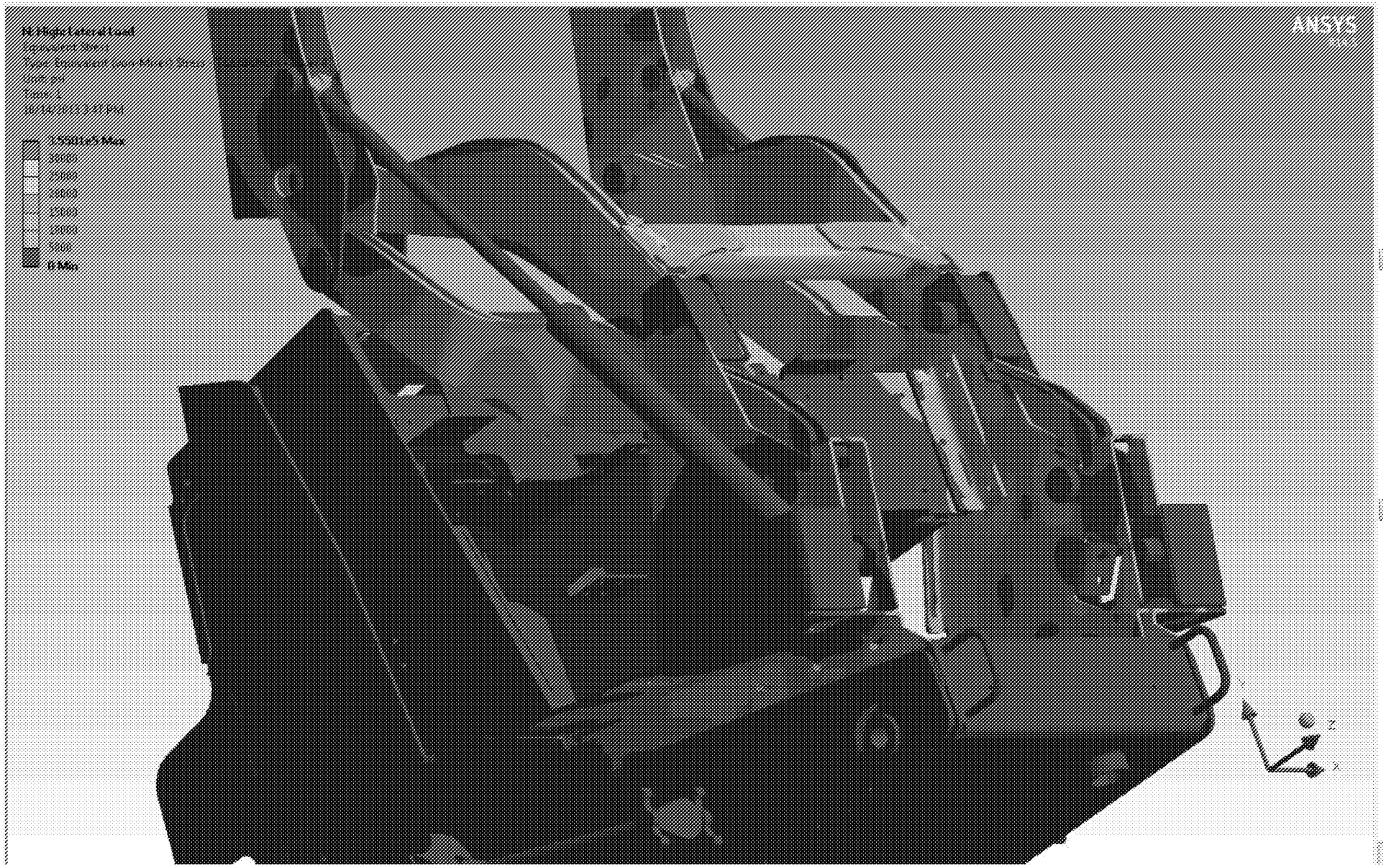
EX1029 / Page 595 of 915
Kubota North America Corporation et al

Load Case 3, High Position

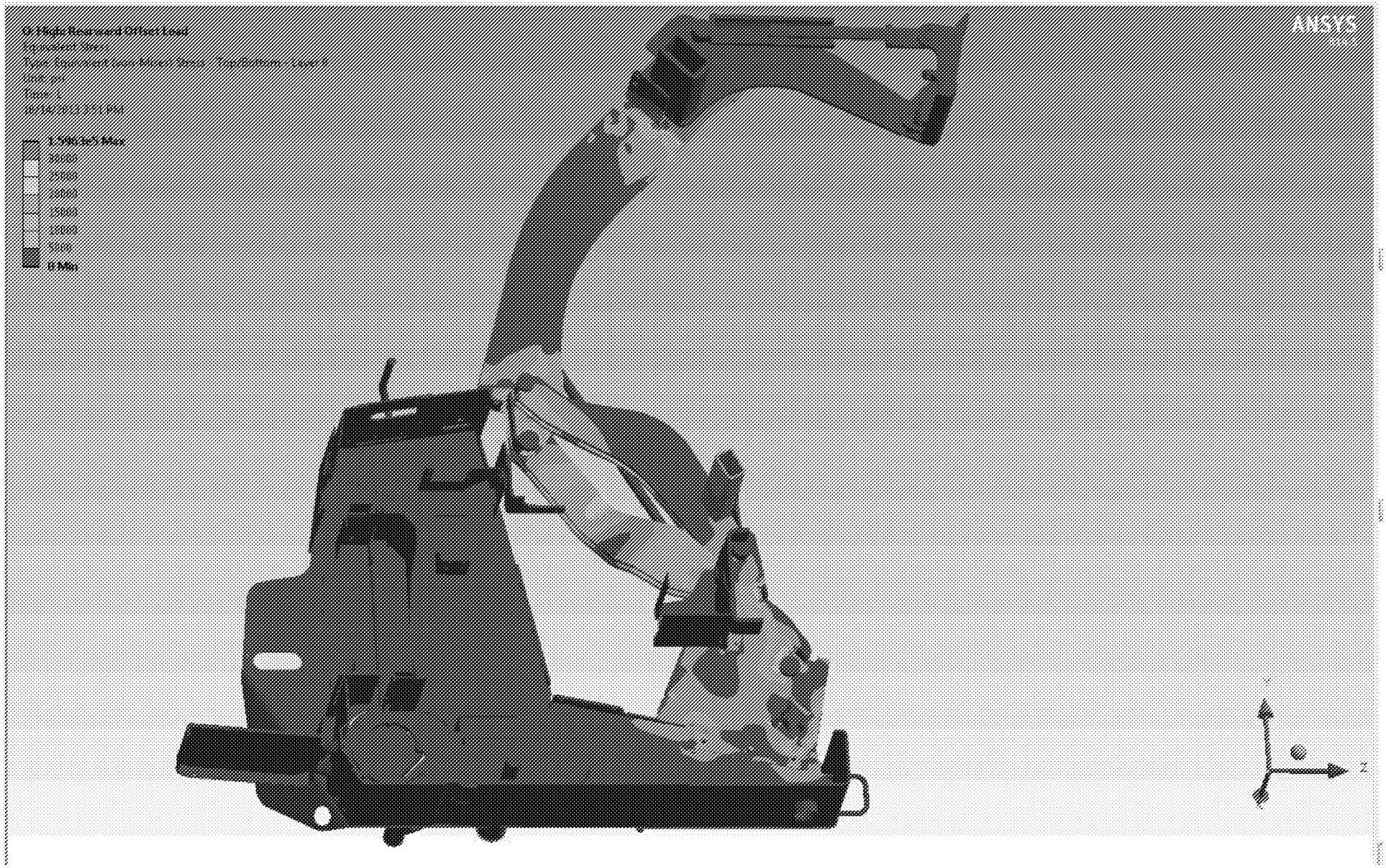


EX1029 / Page 596 of 915
Kubota North America Corporation et al

Load Case 3, High Position

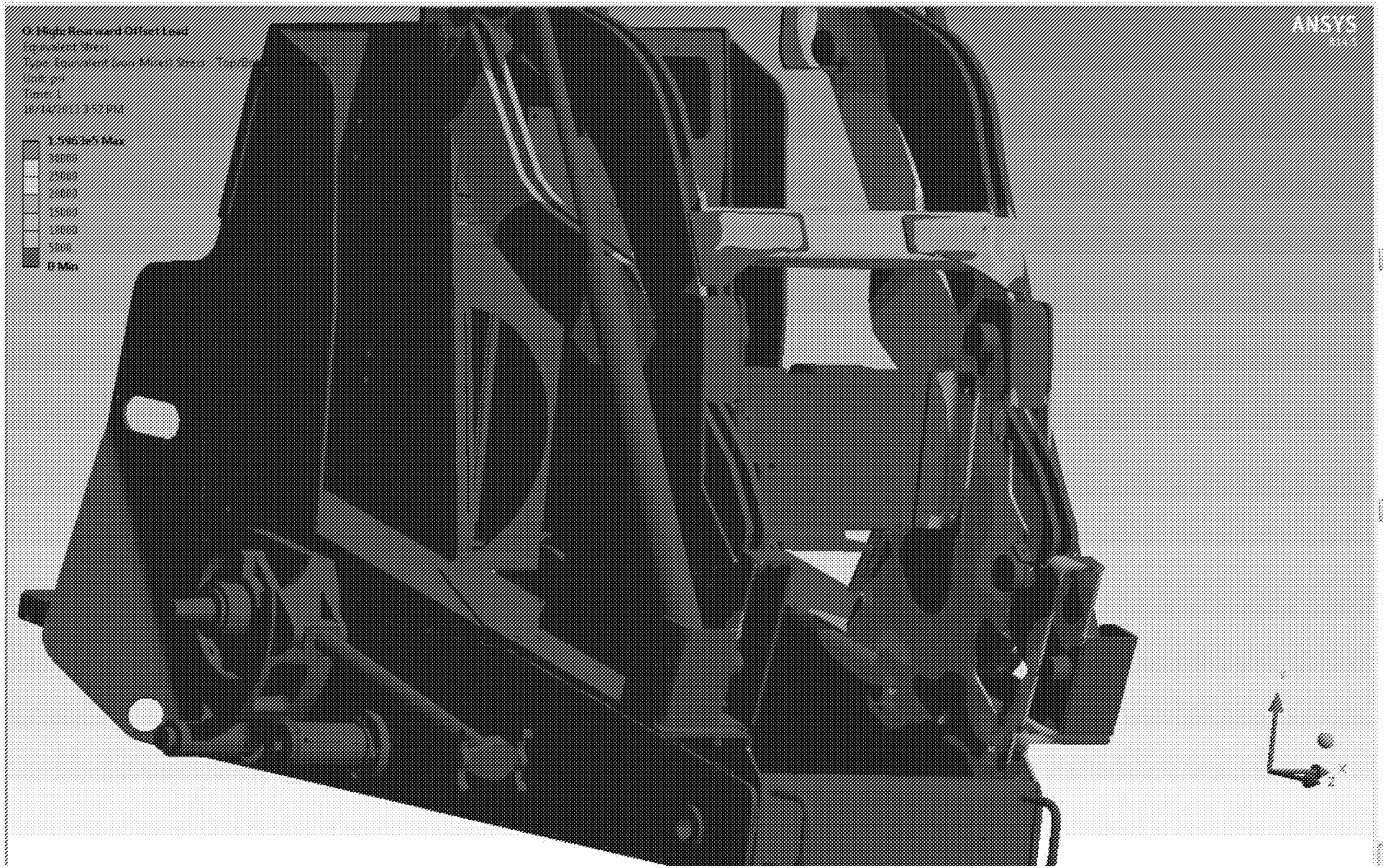


Load Case 4, High Position

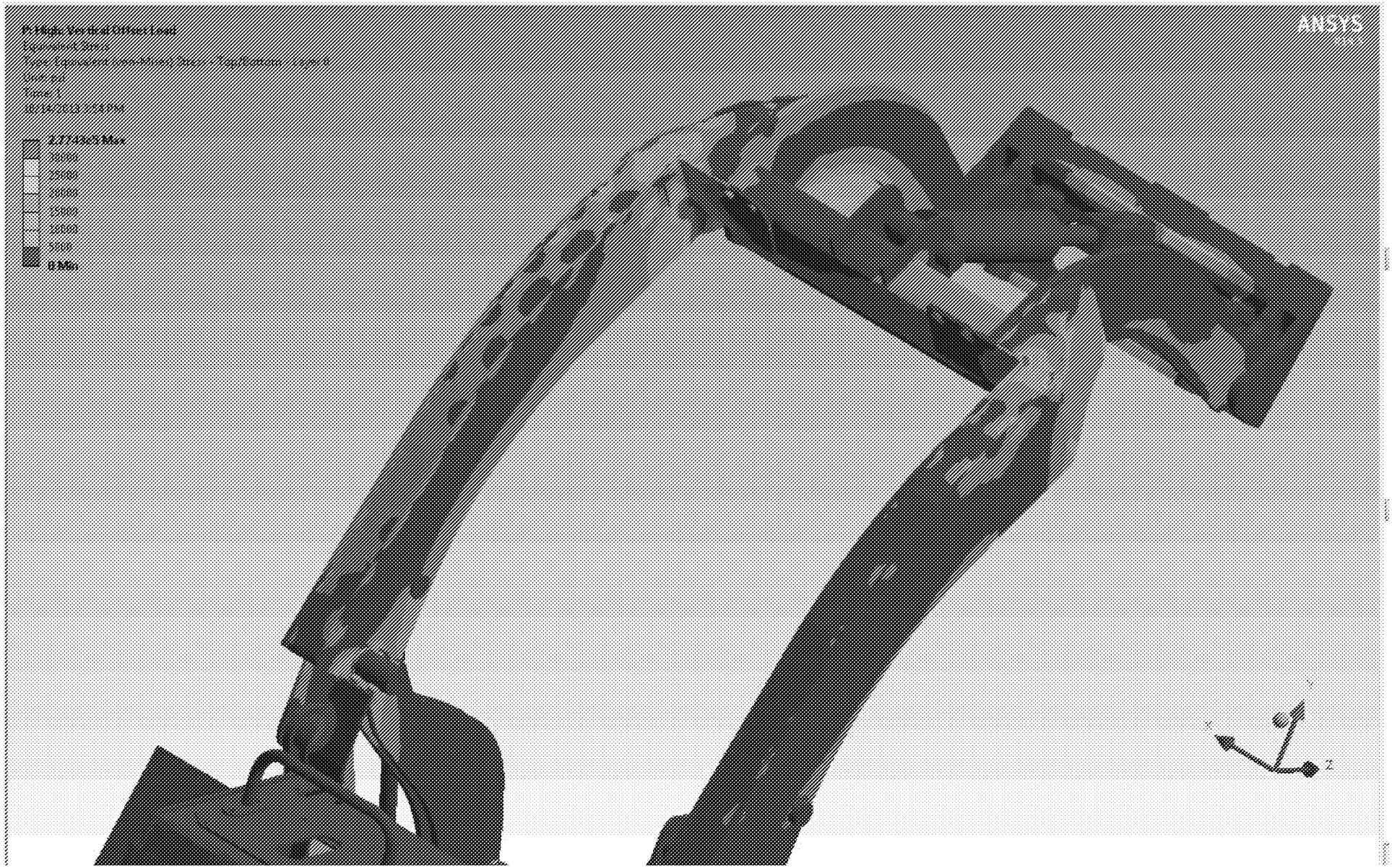


Inside cutaway view

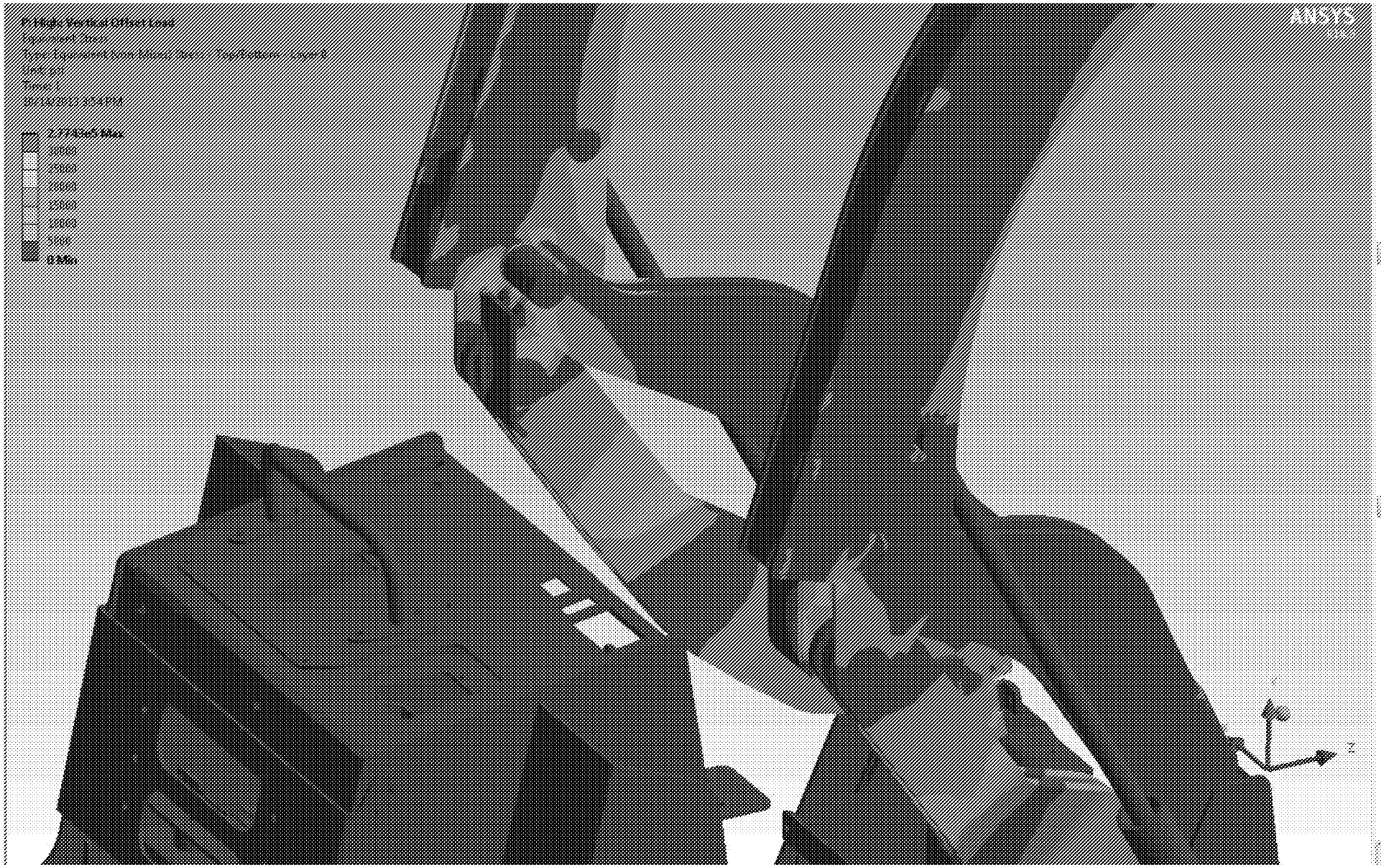
Load Case 4, High Position



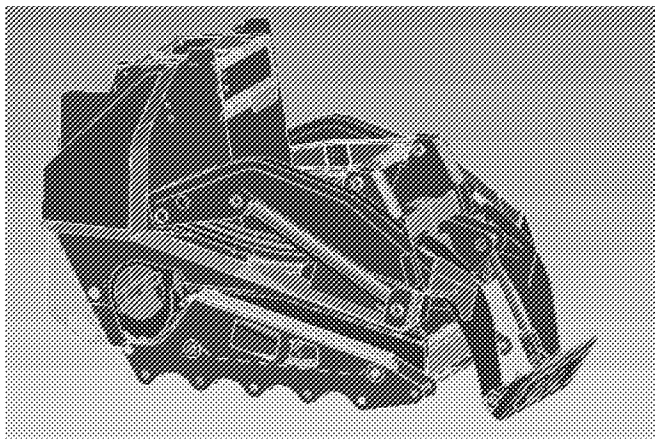
Load Case 5, High Position

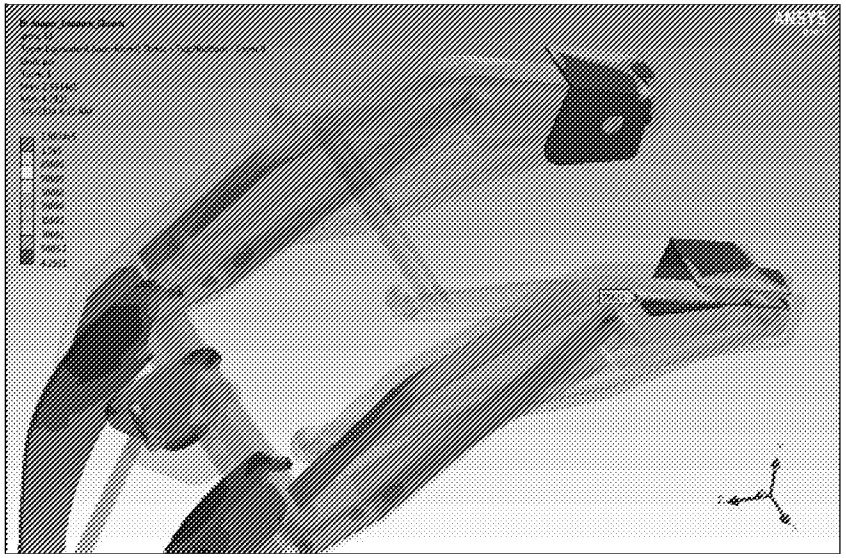


Load Case 5, High Position



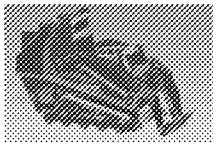
TMAX Loader
Arm Plates
03/06/2014



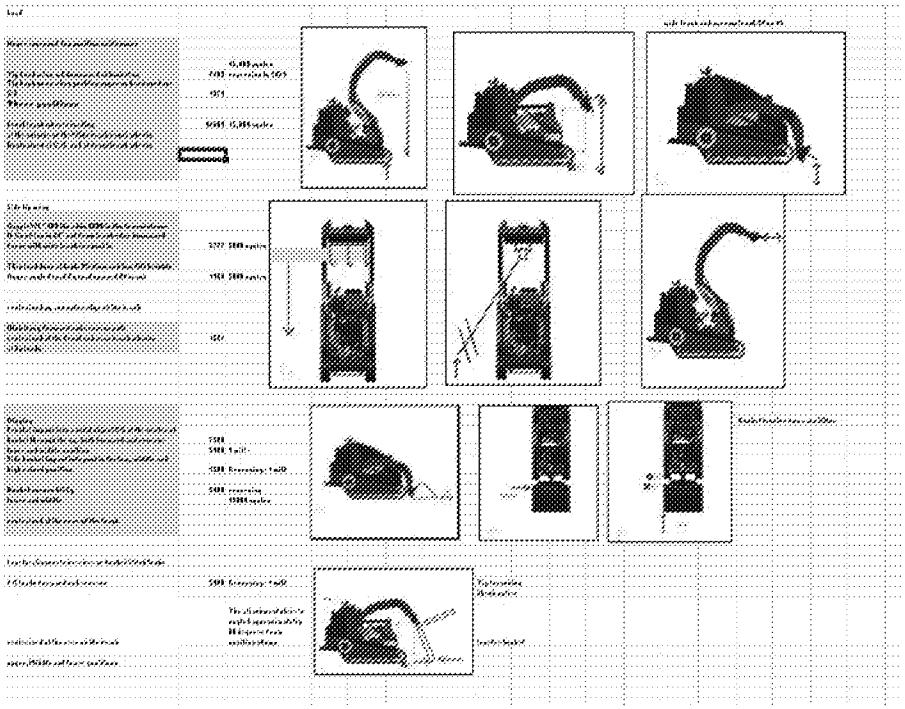


EX1029 / Page 602 of 915
Kubota North America Corporation et al

21 Load cases



- Uses defined loads (21 cases)
- High Position - Leveler Load now originates 32” below bucket
  - And 12” forward

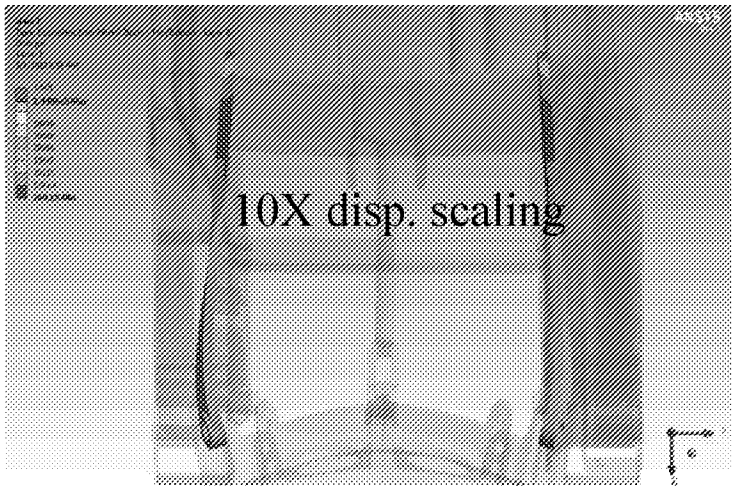


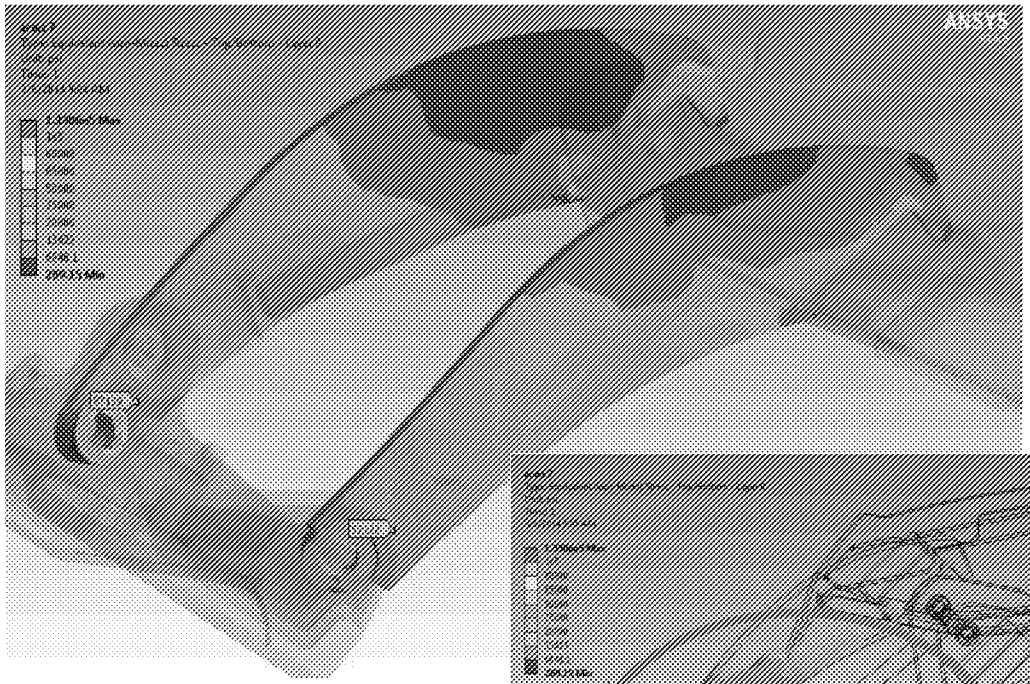
... within Epsilon

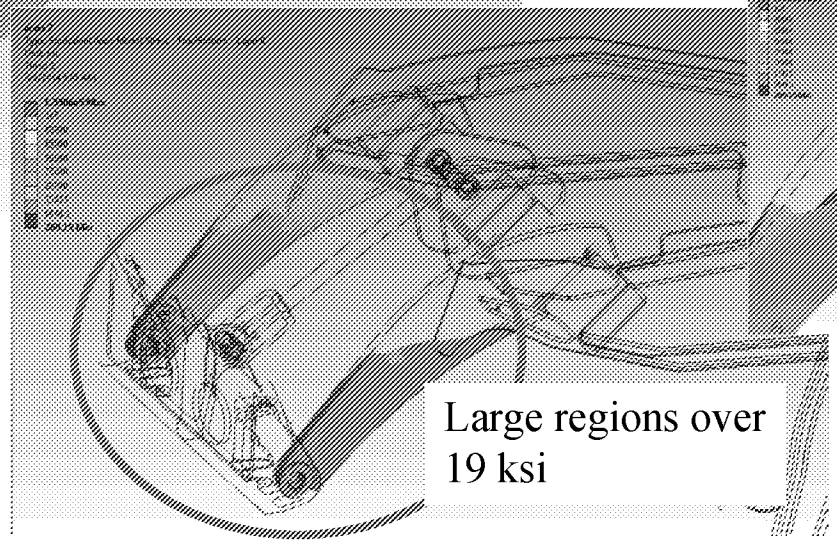
EX1029 / Page 603 of 915
Kubota North America Corporation et al

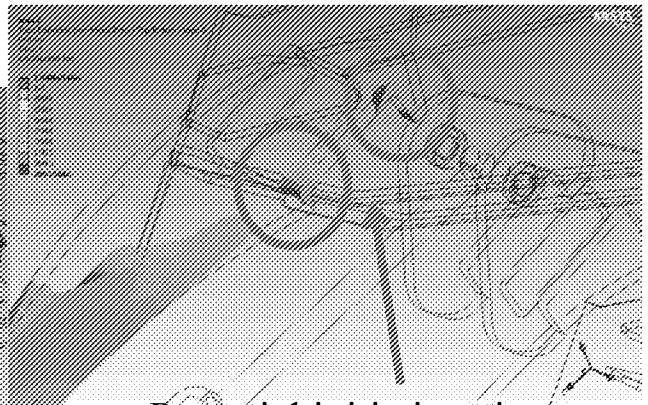
Fatigue Criteria (19 ksi?)

- Leveler, High Position
  - Force originates 32” below bucket
  - 45 Kip bucket piston force







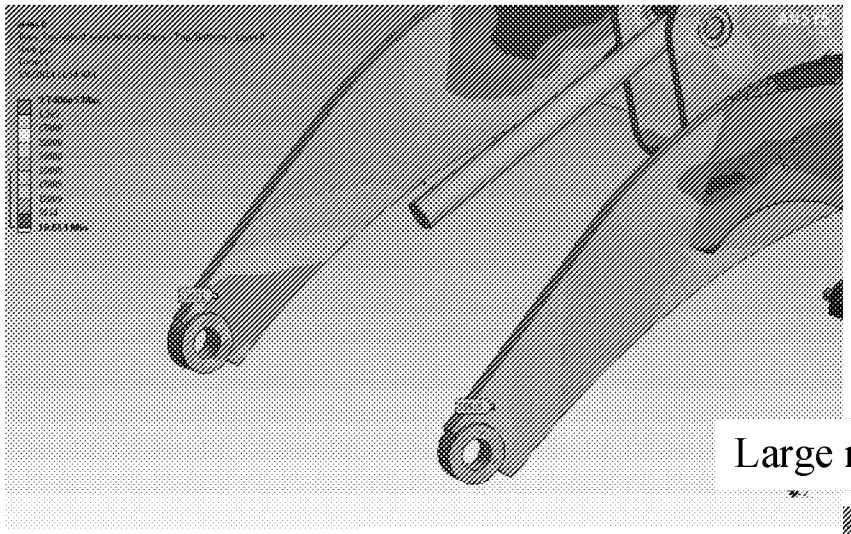


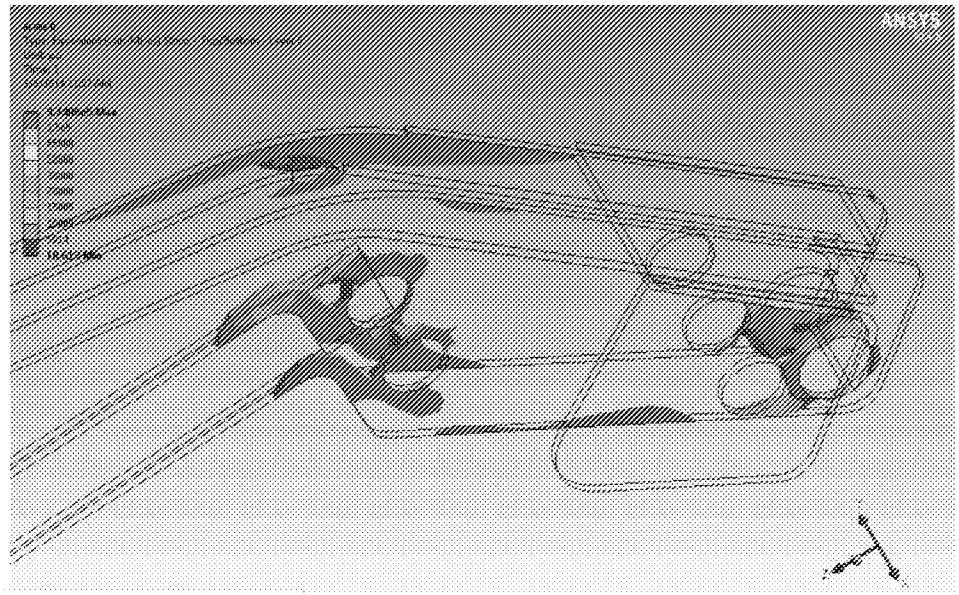
... within Epsilon

EX1029 / Page 604 of 915
Kubota North America Corporation et al

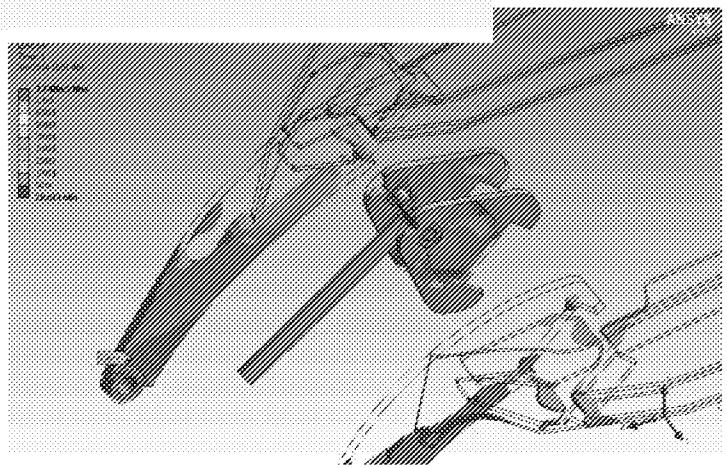
Fatigue Criteria (19 ksi?)

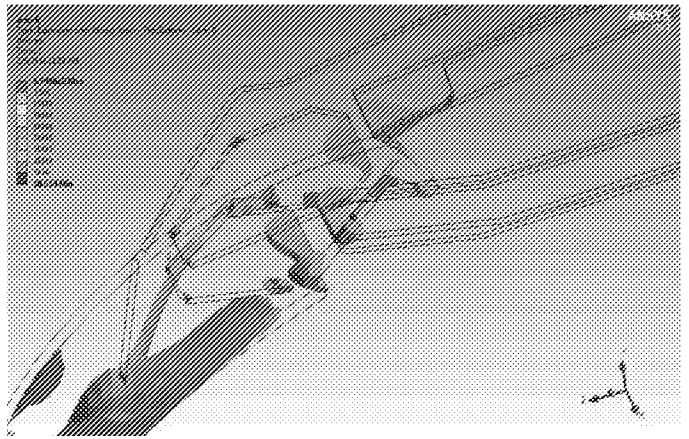
- Leveler, Med Position
  - Force originates 32” below bucket
  - 45 Kip bucket piston force





Large regions over 19 ksi



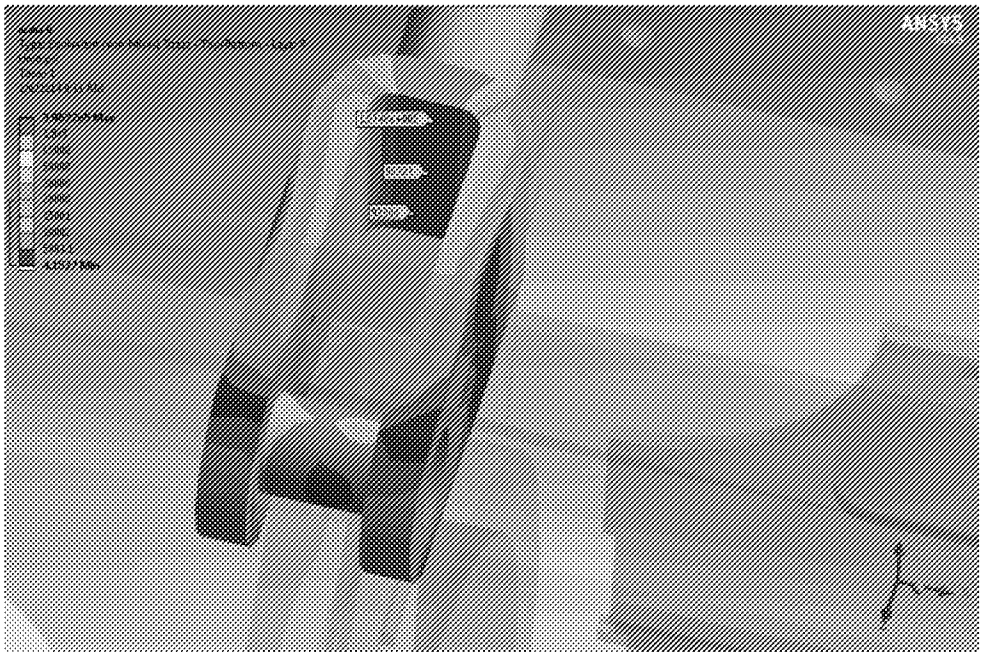


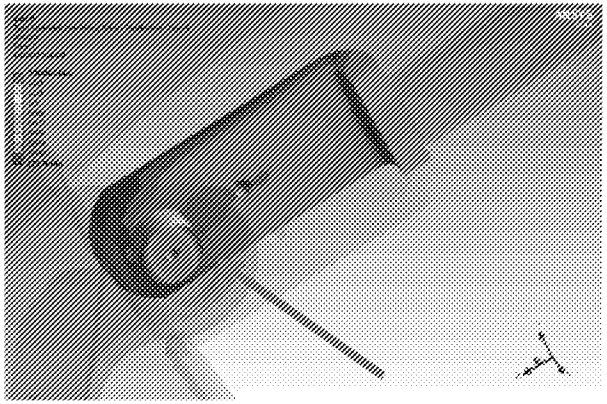
... within Epsilon

EX1029 / Page 605 of 915
Kubota North America Corporation et al

Fatigue Criteria (19 ksi?)

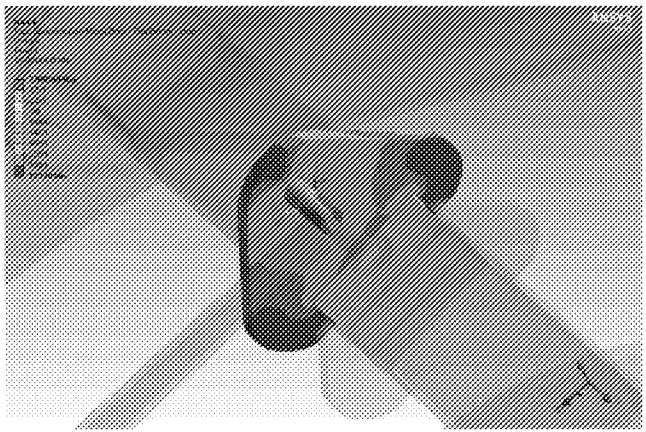
- Leveler, High Position
  - Force originates 32” below bucket
  - 45 Kip Bucket Piston Force





Pin x-sect. area = 0.78 in^2
45 kip gives 58 ksi avg. shear stress!

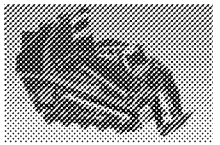
Pin x-sect. area = 0.59 in^2
45 kip gives 58 ksi avg. shear stress!



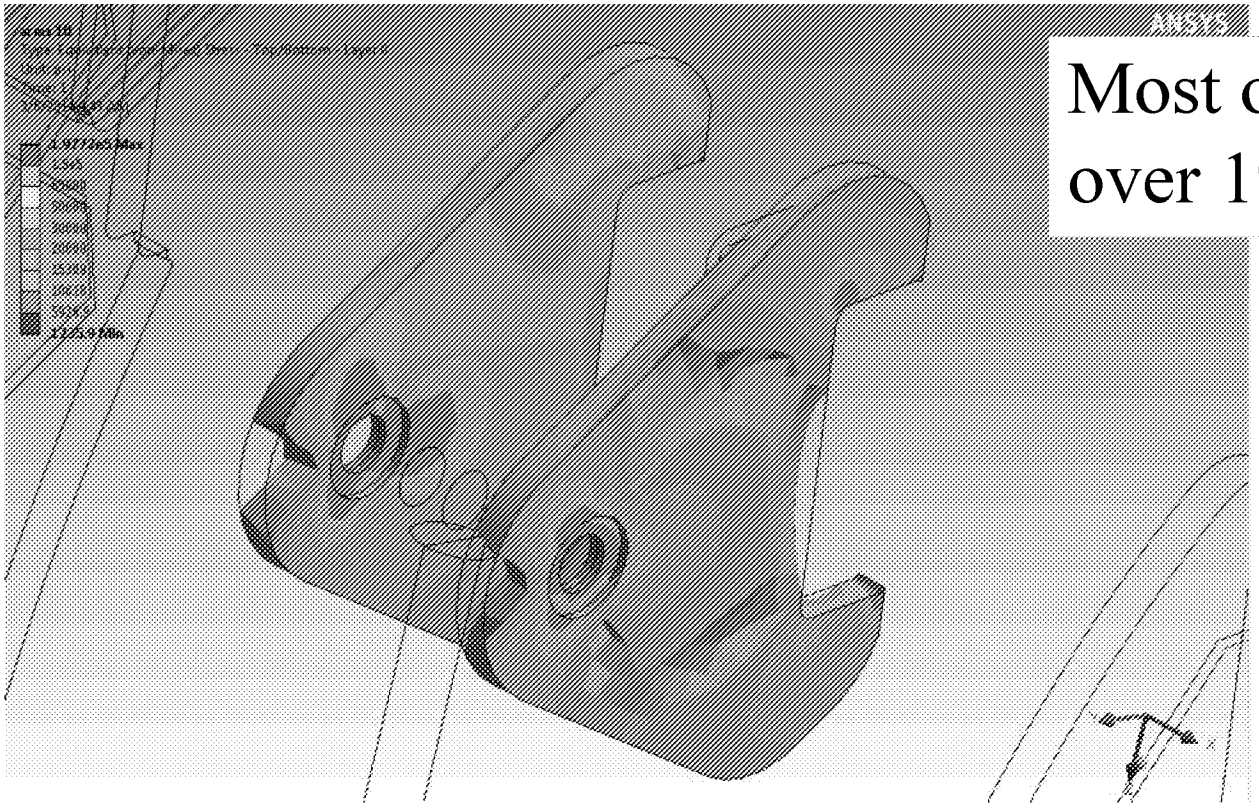
... within Epsilon

EX1029 / Page 606 of 915
Kubota North America Corporation et al

Fatigue Criteria (19 ksi?)



- Leveler, High Position
  - Force originates 32” below bucket
  - 42 Kip Bucket Piston Force



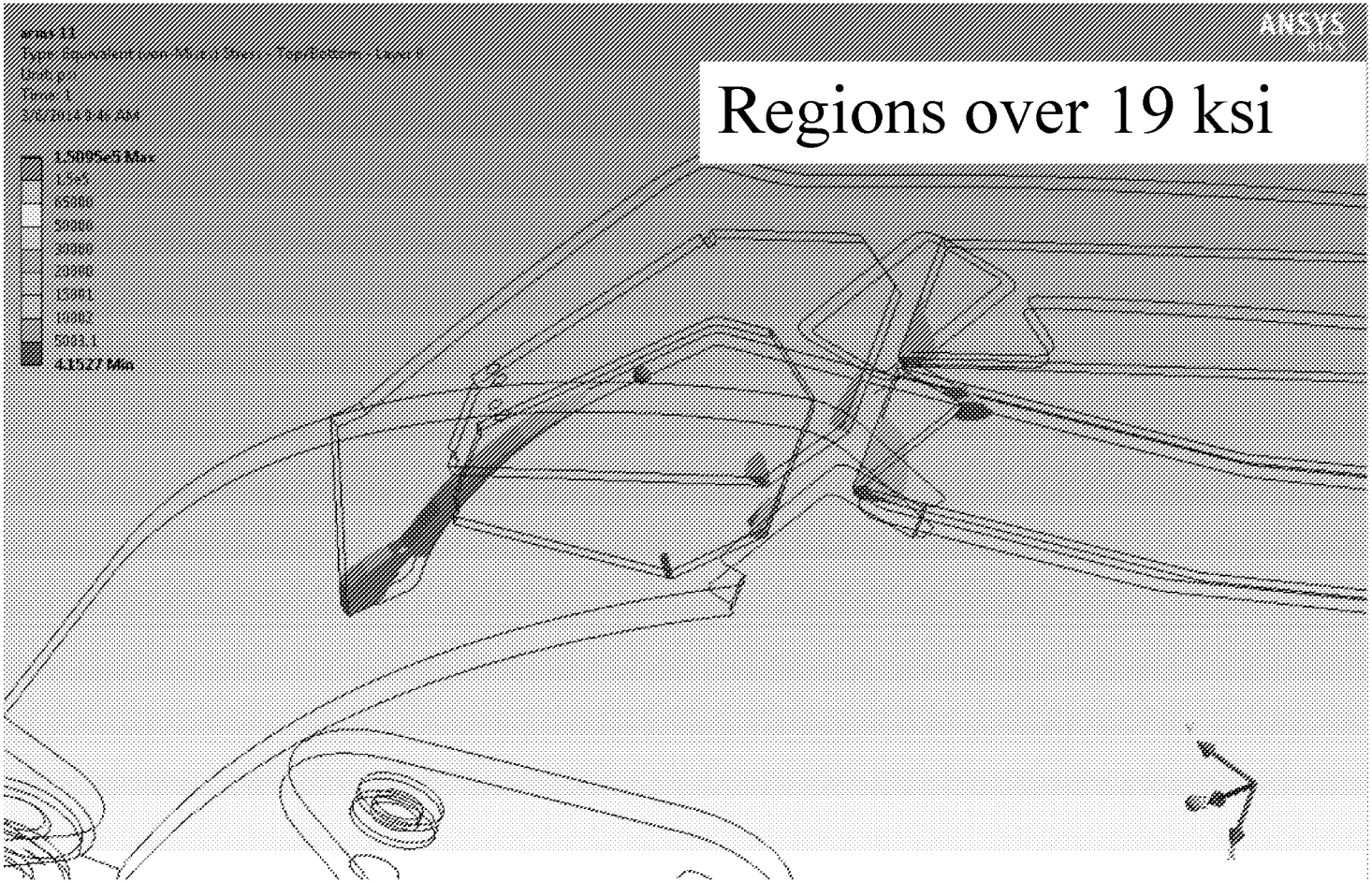
Most of the plates are over 19 ksi

... within Epsilon

EX1029 / Page 607 of 915
Kubota North America Corporation et al

Fatigue Criteria (19 ksi?)

- Leveler, High Position
  - Force originates 32” below bucket
  - 45 Kip Bucket Piston Force



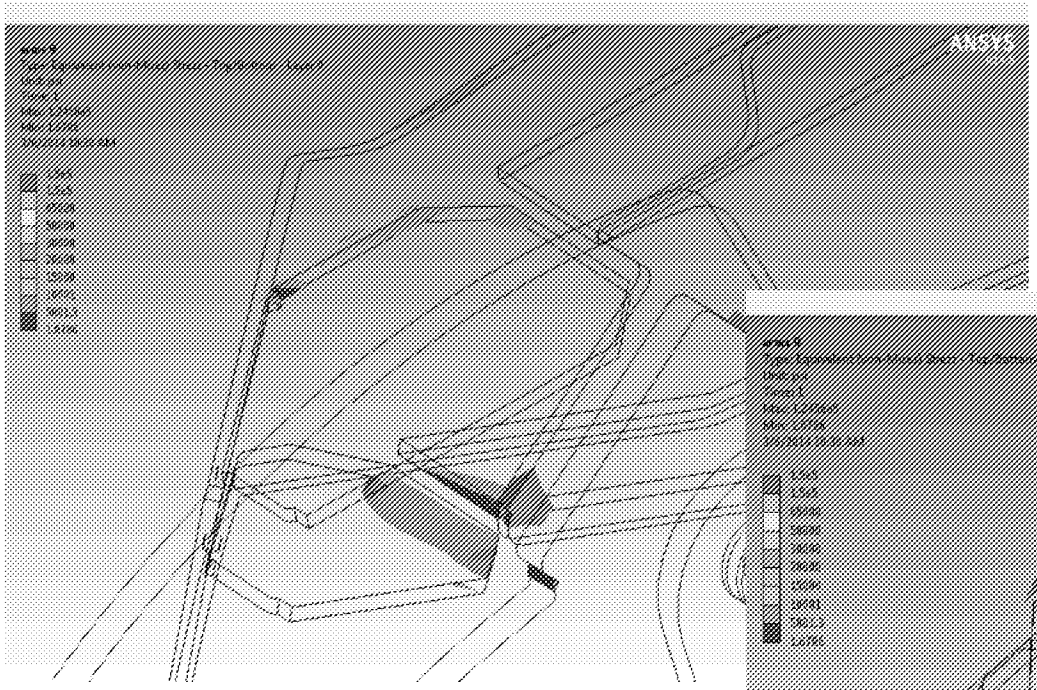
EX1029 / Page 608 of 915
Kubota North America Corporation et al

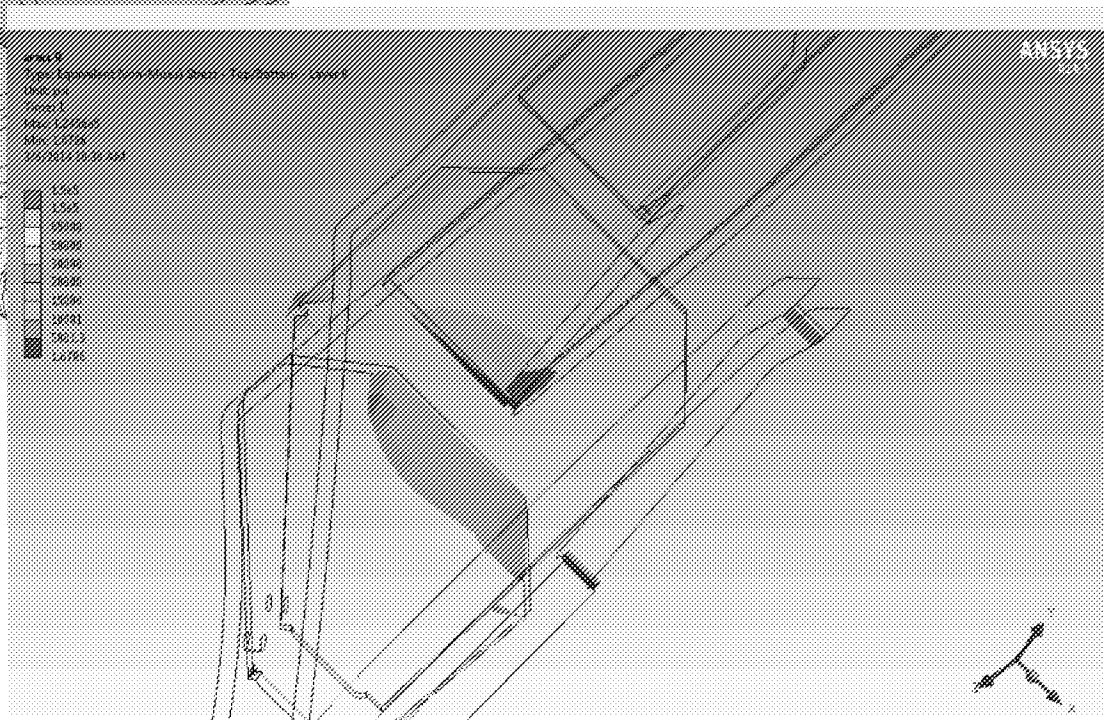
... within Epsilon

Fatigue Criteria (19 ksi?)

- Digging, Down Position

Regions over 19 ksi



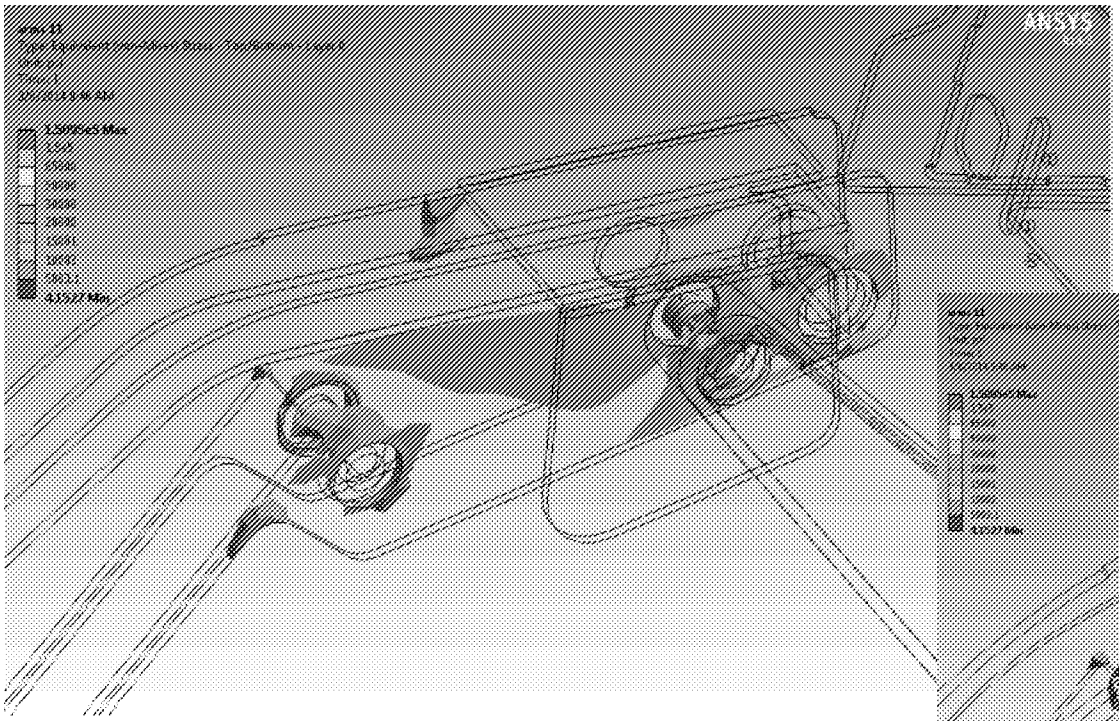


... within Epsilon

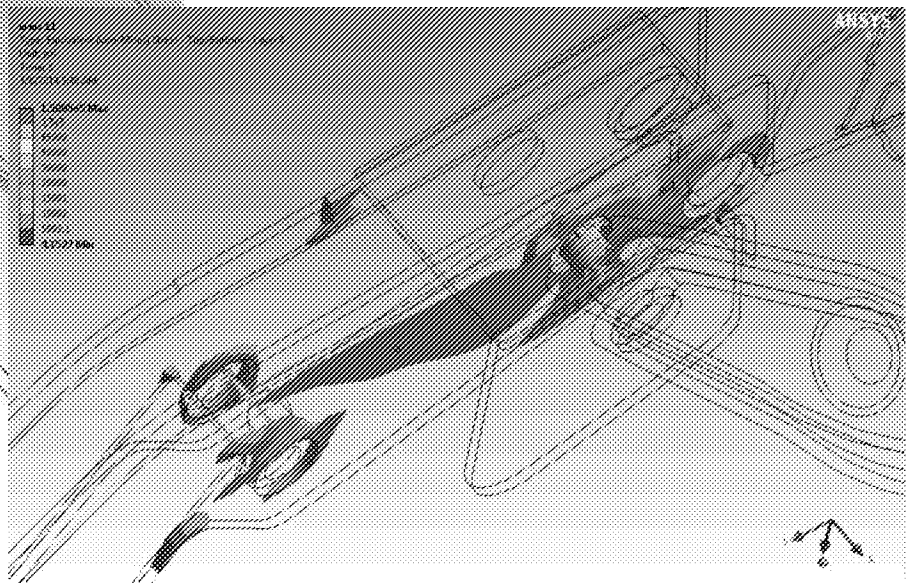
EX1029 / Page 609 of 915
Kubota North America Corporation et al

Fatigue Criteria (19 ksi?)

- Leveler, High Position
  - Force originates 32” below bucket
  - 45 Kip Bucket Piston Force



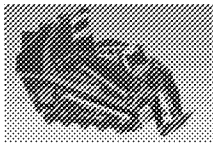
Other regions over 19 ksi



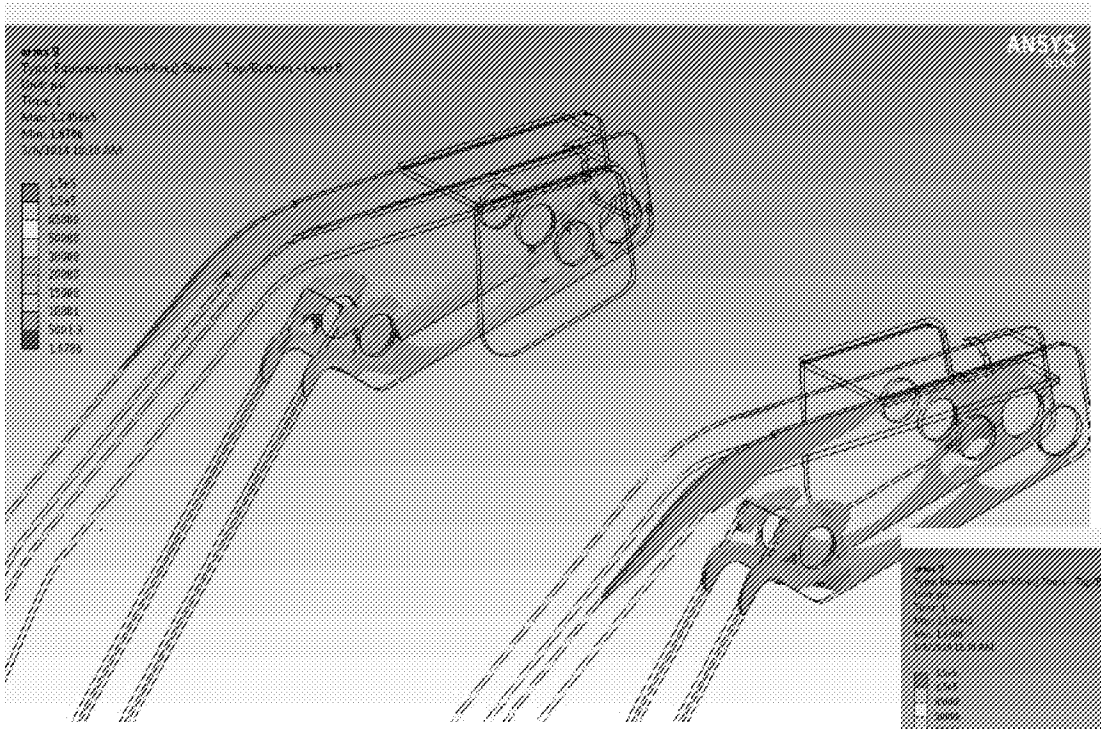
... within Epsilon

EX1029 / Page 610 of 915
Kubota North America Corporation et al

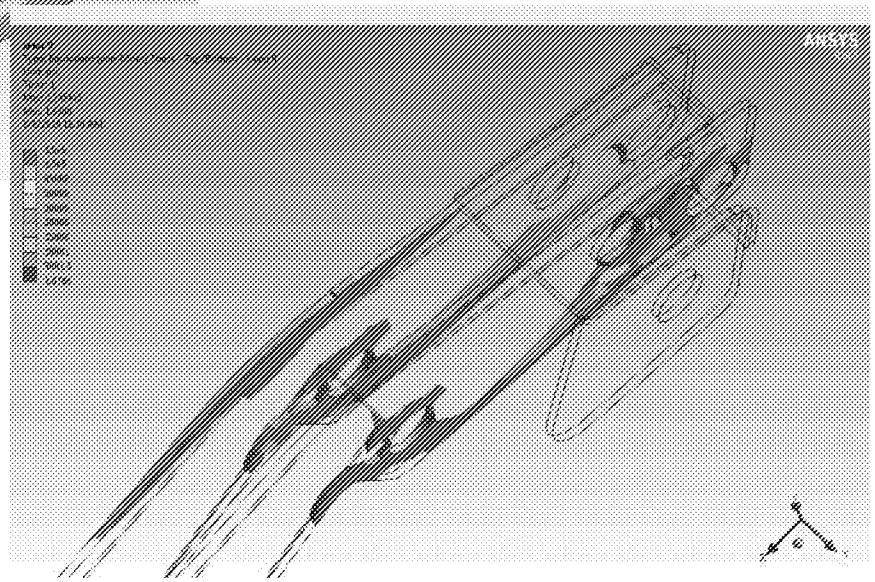
Fatigue Criteria (19 ksi?)



- Digging, Low Position



Regions over 19 ksi

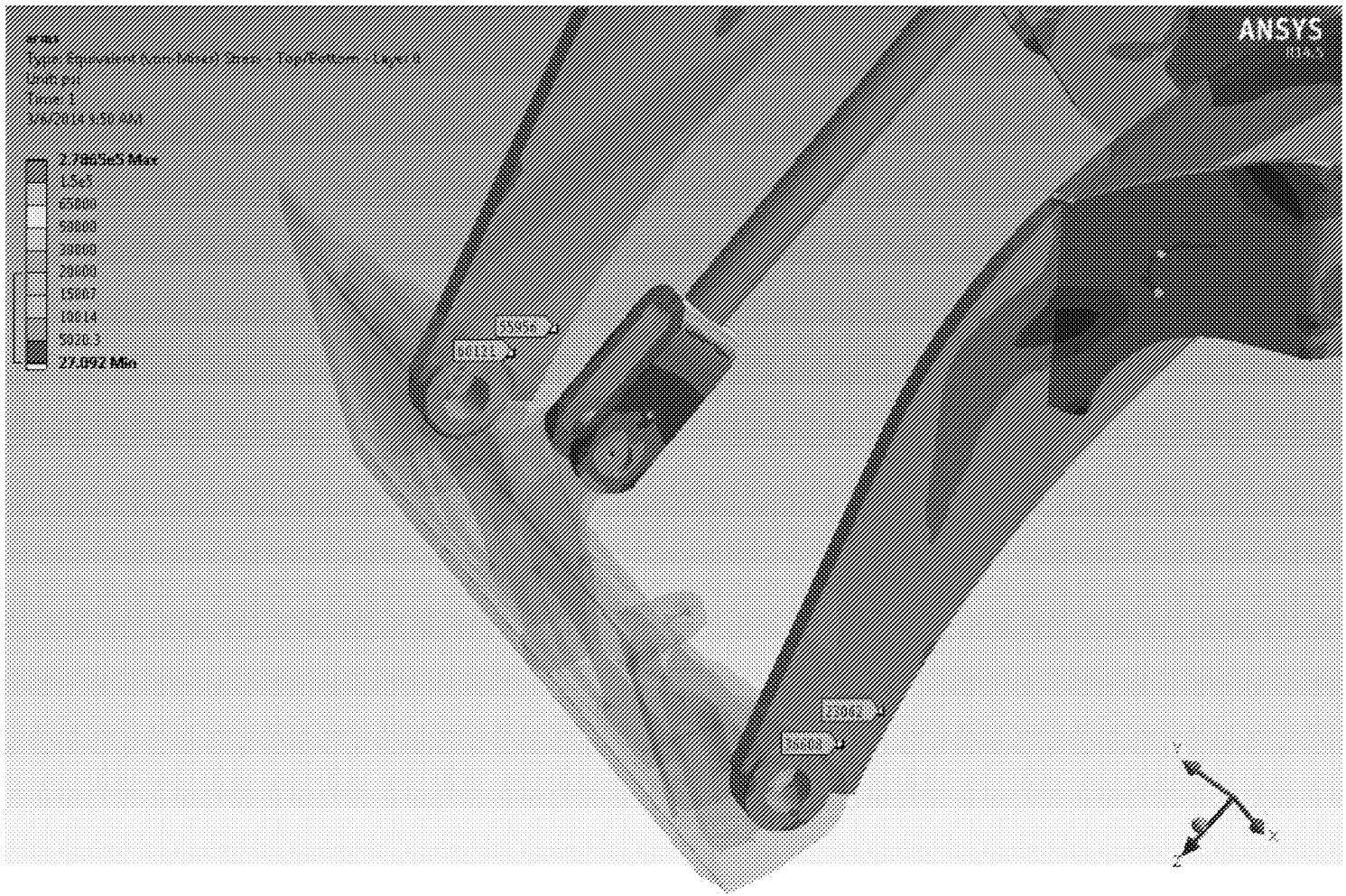


... within Epsilon

EX1029 / Page 611 of 915
Kubota North America Corporation et al

Yield Criteria (50 ksi)

- Auger Bounce, High Position
  - 27 kip bucket piston force

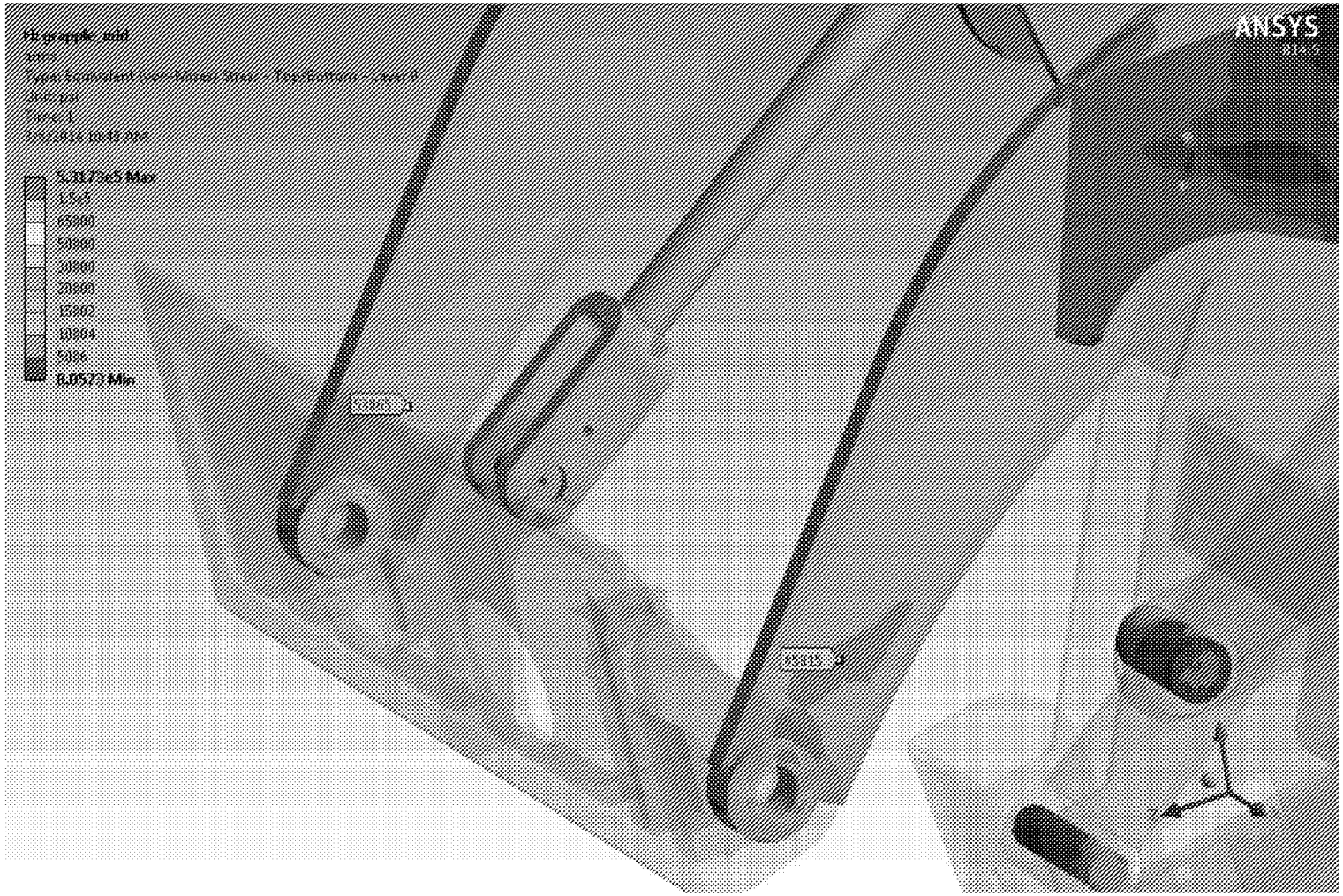


EX1029 / Page 612 of 915
Kubota North America Corporation et al

TORO-0000381.11/22

Yield Criteria (50 ksi)

- Offset Grapple, Middle Position

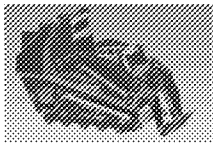


... within Epsilon

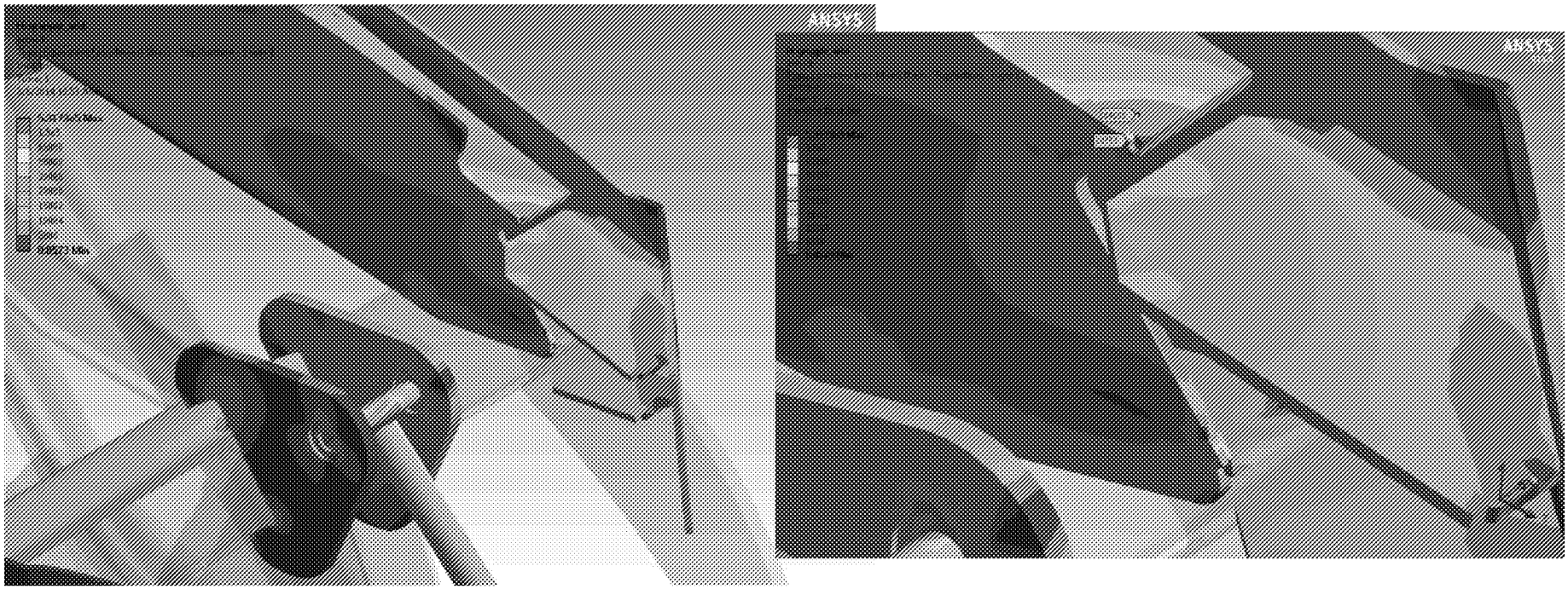
EX1029 / Page 613 of 915
Kubota North America Corporation et al

TORO-0000381.12/22

Yield Criteria (50 ksi)



- Offset Grapple, Middle Position



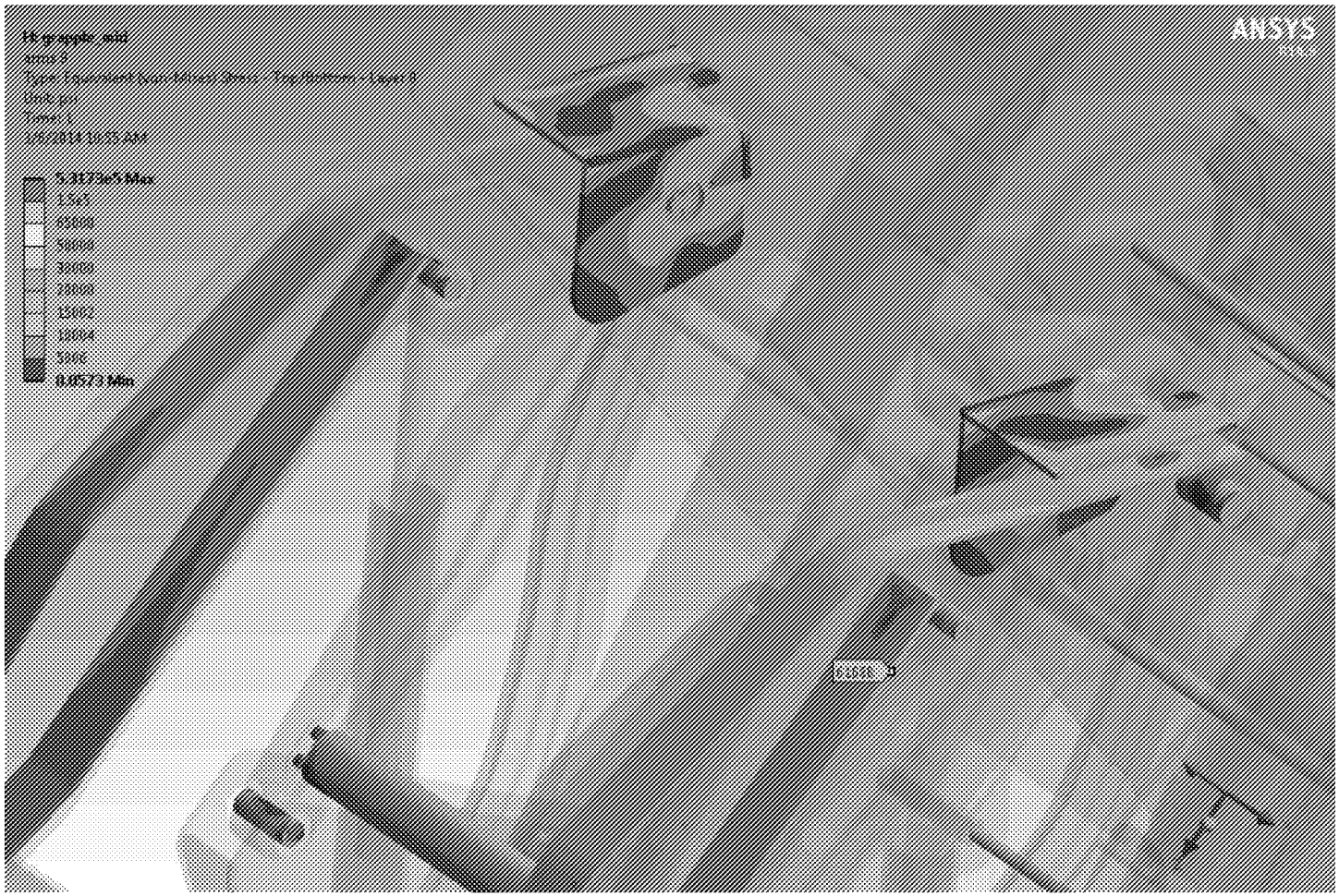
Top 85, ksi
Bottom, 21 ksi

... within Epsilon

EX1029 / Page 614 of 915
Kubota North America Corporation et al

Yield Criteria (50 ksi)

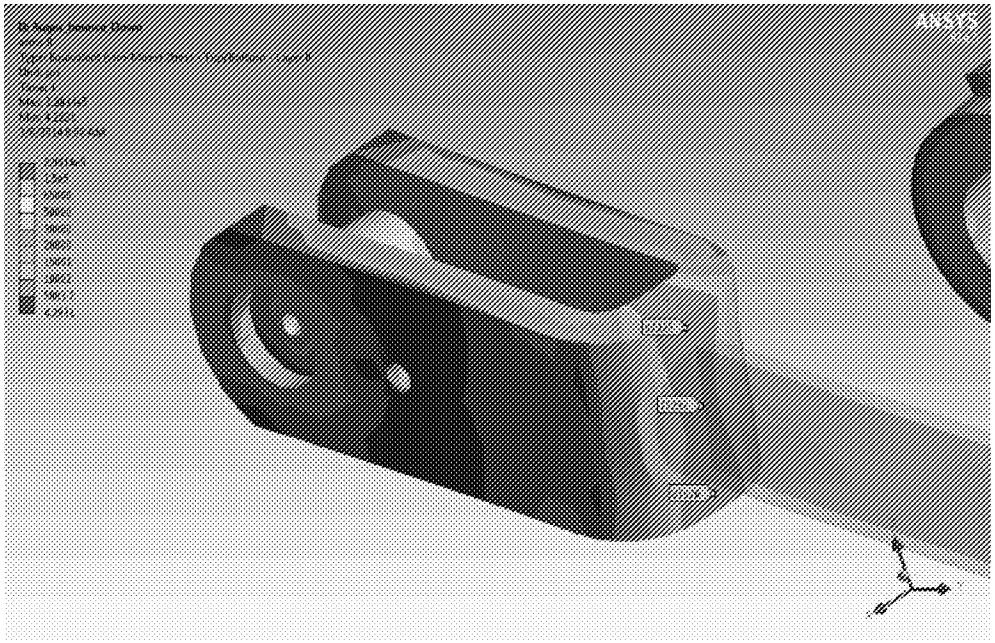
- Offset Grapple, Middle Position

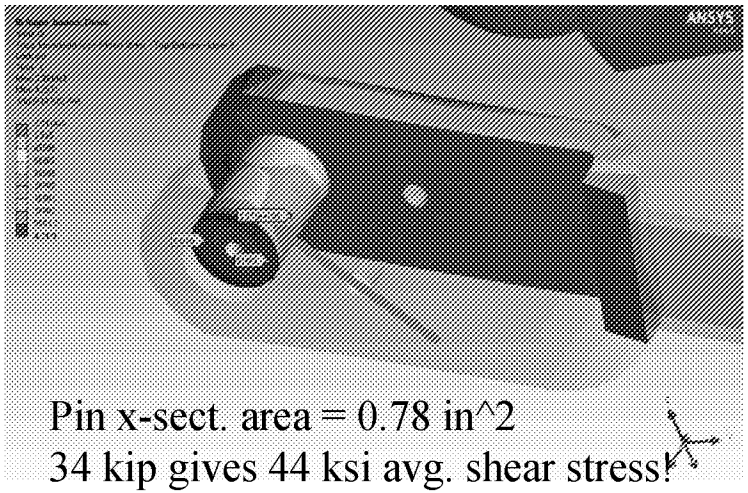


... within Epsilon

Yield Criteria (50 ksi)

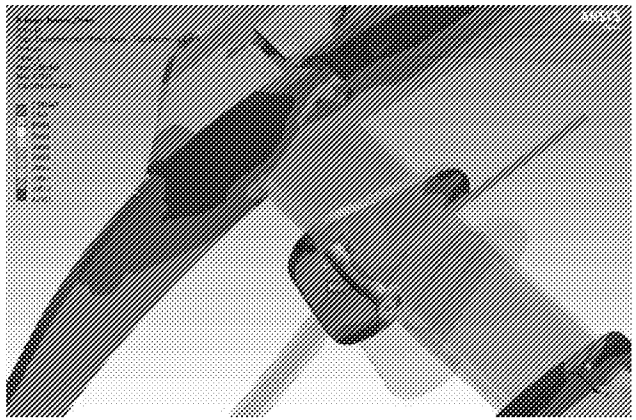
- Auger Bounce, Down Position
  - 34 Kip Bucket Piston Force





Pin x-sect. area = 0.78 in^2
34 kip gives 44 ksi avg. shear stress!

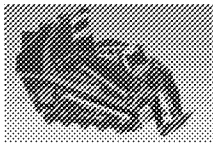
Pin x-sect. area = 0.59 in^2
34 kip gives 58 ksi avg. shear stress!



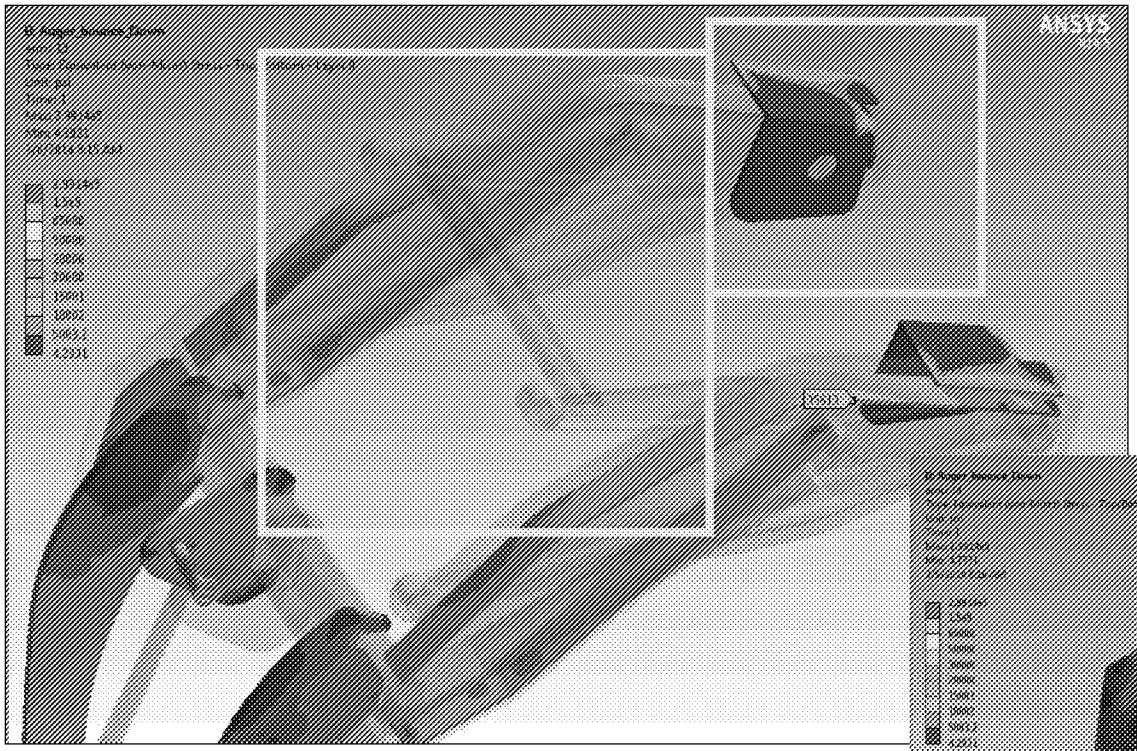
... within Epsilon

EX1029 / Page 616 of 915
Kubota North America Corporation et al

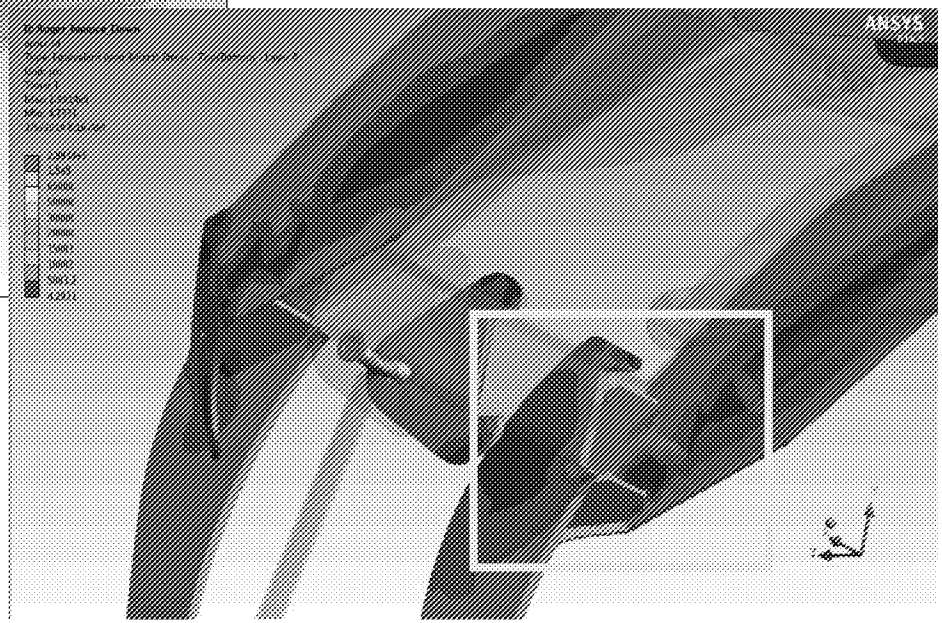
Yield Criteria (50 ksi)



- Auger Bounce, Down Position



Looks good!

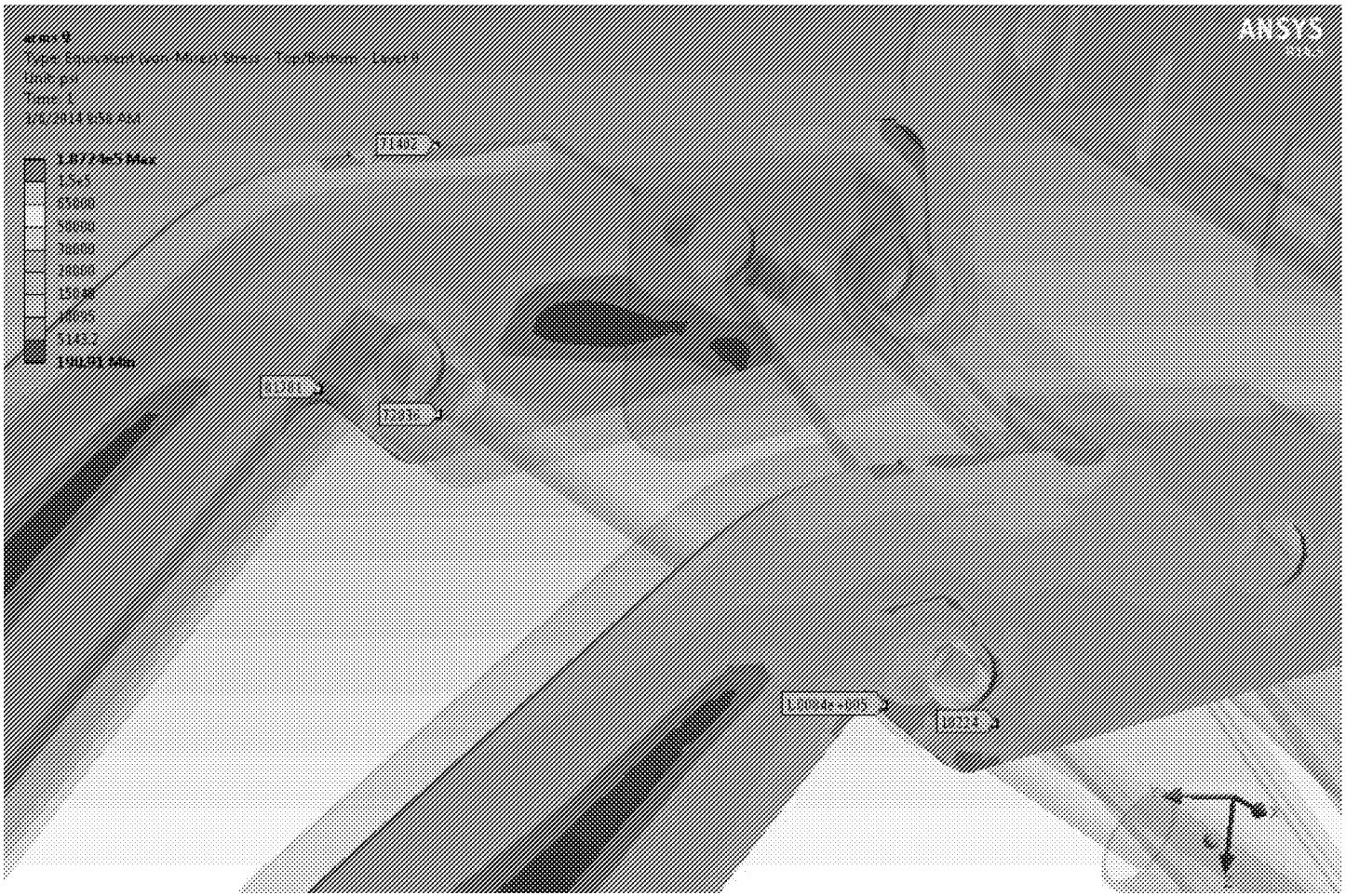


... within Epsilon

EX1029 / Page 617 of 915
Kubota North America Corporation et al

Yield Criteria (50 ksi)

- Auger Bounce, high Position
  - Outboard Plates

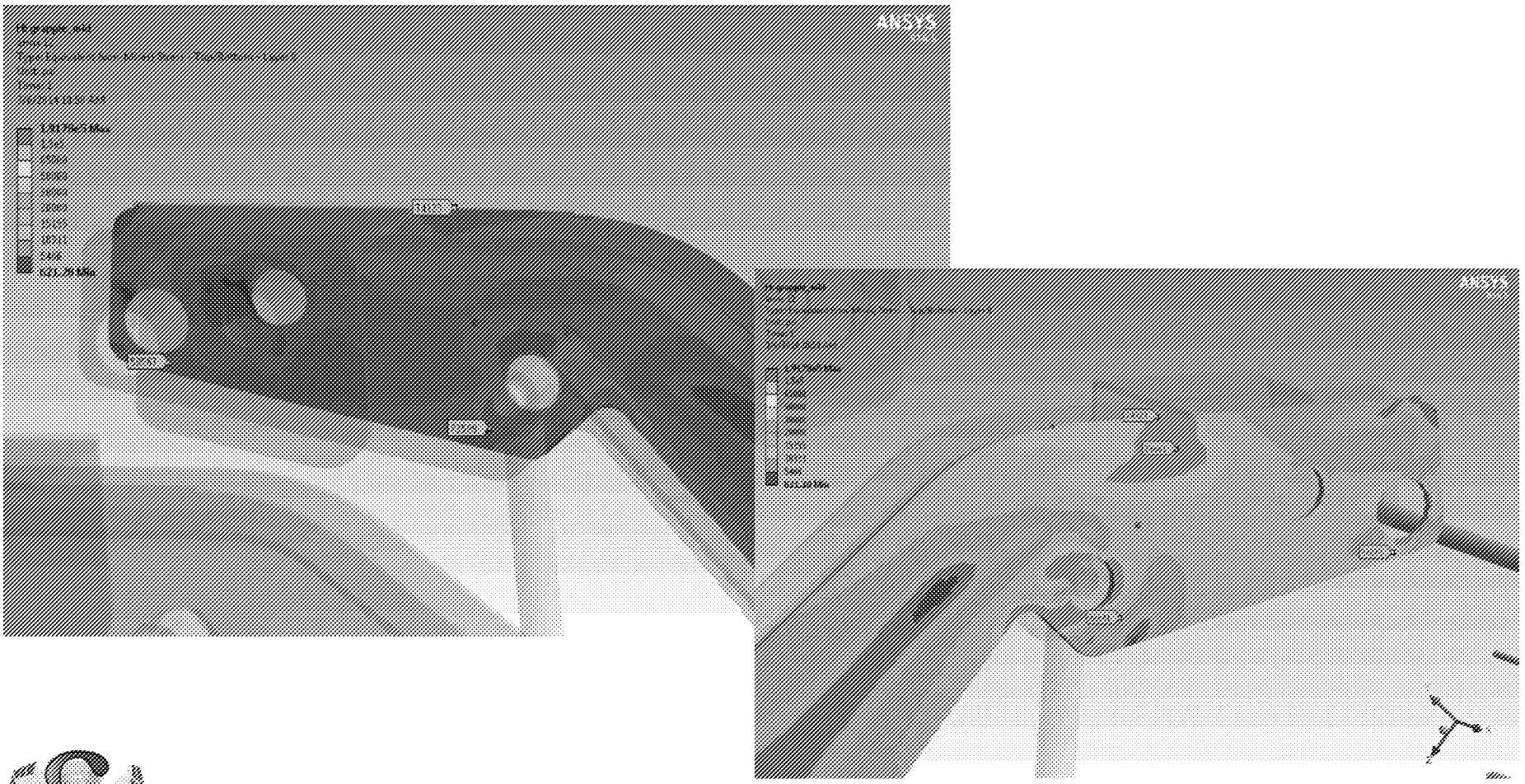


EX1029 / Page 618 of 915
Kubota North America Corporation et al

... within Epsilon

Yield Criteria (50 ksi)

- Offset Grapple, Middle Position
  - Outboard Plates



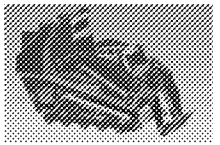
Kubota North America Corporation et al
EX1029 / Page 619 of 915

Yield Criteria (50 ksi)

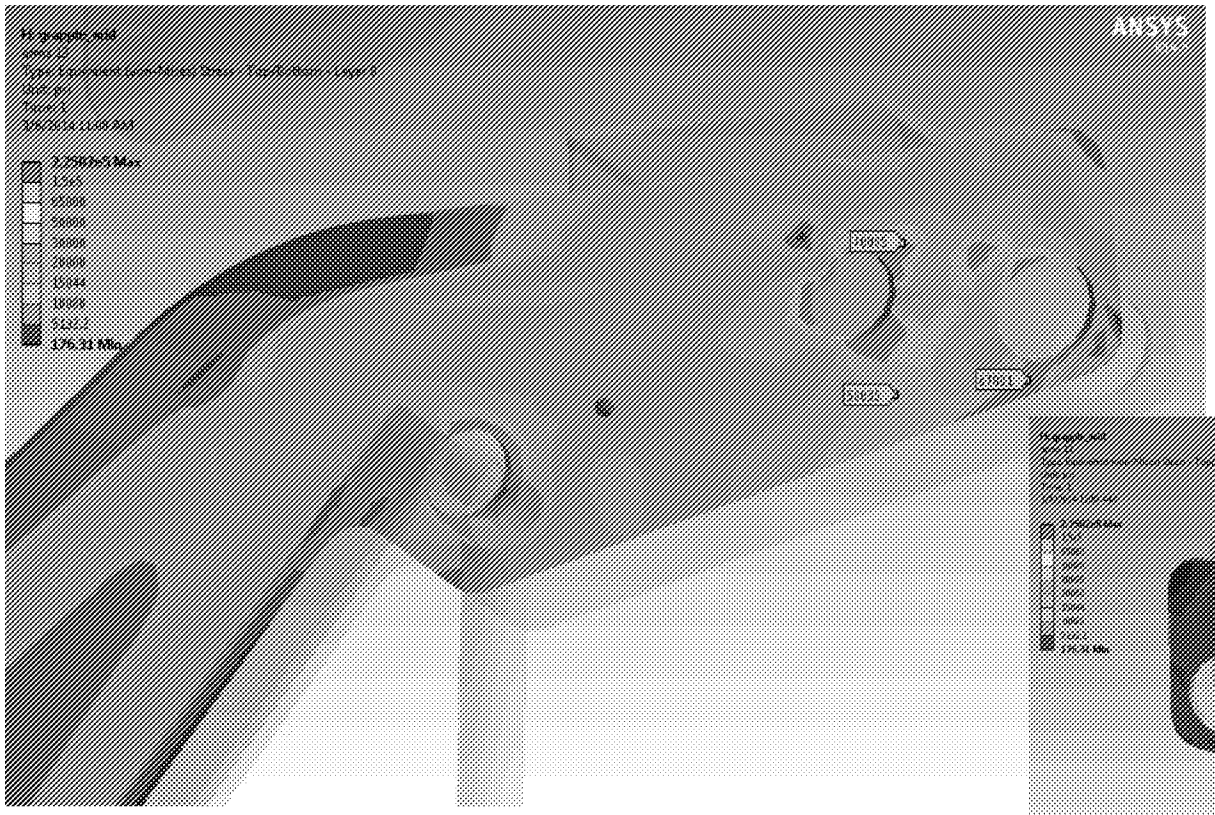
- Auger Bounce, High Position
  - inboard Plates

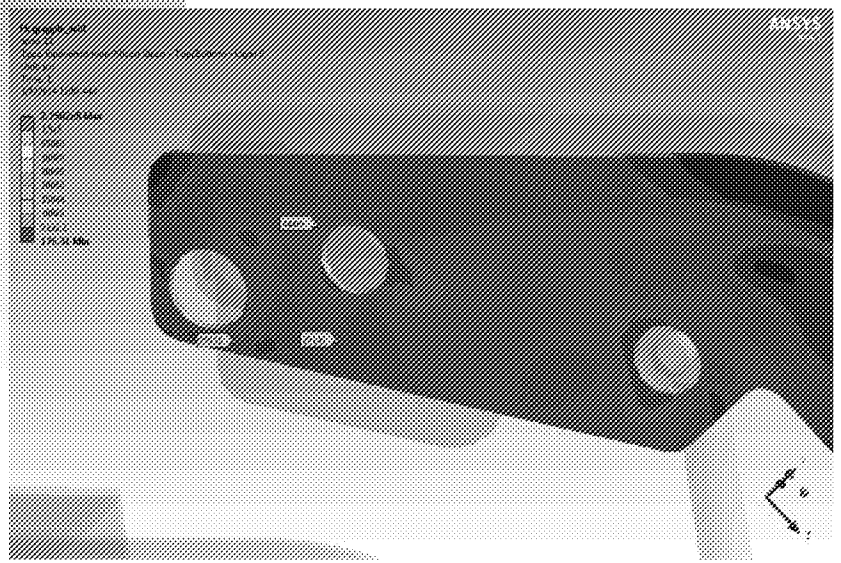
EX1029 / Page 620 of 915
Kubota North America Corporation et al

Yield Criteria (50 ksi)



- Offset Grapple, Middle Position
  - inboard Plates



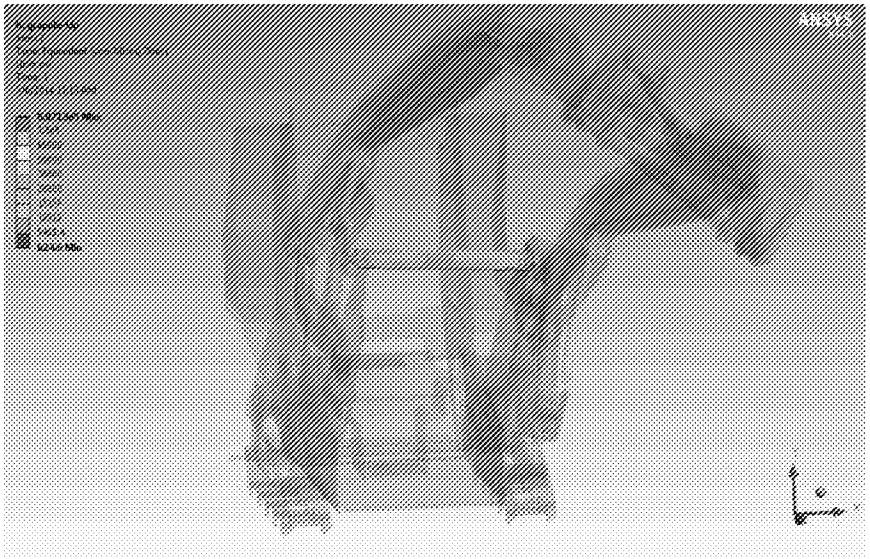


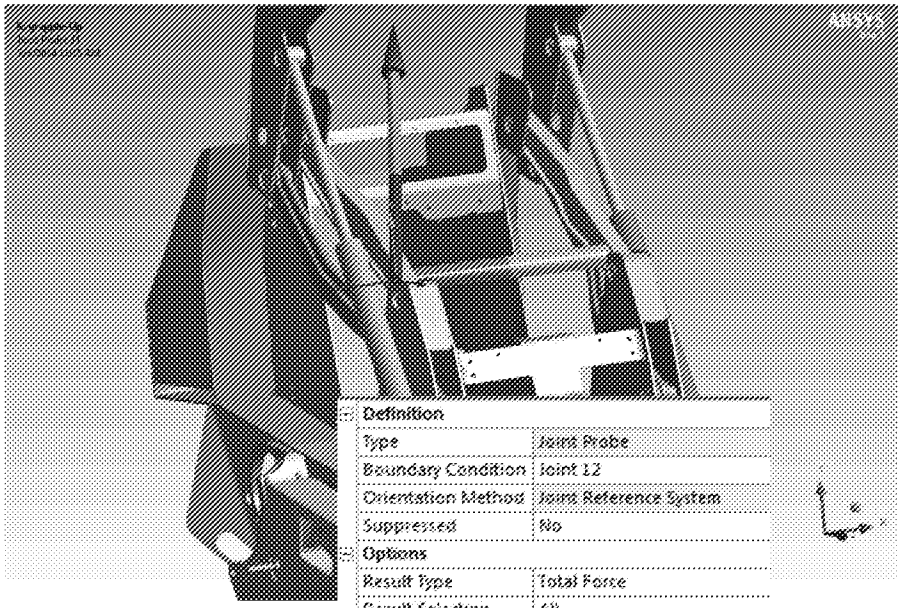
... within Epsilon

EX1029 / Page 621 of 915
Kubota North America Corporation et al

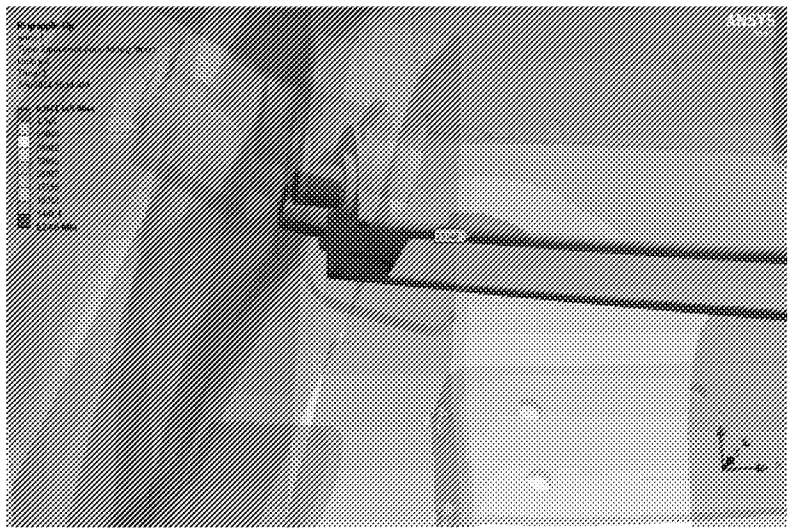
Yield Criteria (50 ksi)

- Offset Grapple, High Position
  - Crossbar
  - 5X displacement scaling
  - No bolt-pretension modeled





Definition	
Type	Joint Probe
Boundary Condition	Joint 12
Orientation Method	Joint Reference System
Suppressed	No
Options	
Result Type	Total Force
Result Selection	All
Display Time	End Time
Results	
Maximum Value Over Time	
X Axis	-2020.1 lbf
Y Axis	2890.5 lbf
Z Axis	-1191.3 lbf
Total	3727.7 lbf



... within Epsilon

EX1029 / Page 622 of 915
Kubota North America Corporation et al