

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.

**UTILITY
PATENT APPLICATION
TRANSMITTAL**

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Attorney Docket No.	SOM01 P-325F
First Inventor	Philip D. Halonen
Title	WHEELED CONCRETE SCREEDING DEVI
Express Mail Label No.	

APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

ADDRESS TO:**Commissioner for Patents
P.O. Box 1450
Alexandria VA 22313-1450**

1. ☐ **Fee Transmittal Form** (e.g., PTO/SB/17)
2. ☐ **Applicant claims small entity status.**
See 37 CFR 1.27.
3. ☒ **Specification** [Total Pages 39]
Both the claims and abstract must start on a new page
(For information on the preferred arrangement, see MPEP 608.01(a))
4. ☒ **Drawing(s)** (35 U.S.C. 113) [Total Sheets 18]
5. **Oath or Declaration** [Total Sheets 2]
 - a. ☐ Newly executed (original or copy)
 - b. ☒ A copy from a prior application (37 CFR 1.63(d))
(for continuation/divisional with Box 18 completed)
 - i. ☐ **DELETION OF INVENTOR(S)**
Signed statement attached deleting inventor(s)
name in the prior application, see 37 CFR
1.63(d)(2) and 1.33(b).
6. ☒ **Application Data Sheet.** See 37 CFR 1.76
7. ☐ **CD-ROM or CD-R** in duplicate, large table or
Computer Program (Appendix)
☐ Landscape Table on CD
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 or CD-R (2 copies); or
 - ii. ☐ Paper
 - c. ☐ Statements verifying identity of above copies

ACCOMPANYING APPLICATION PARTS

9. ☐ **Assignment Papers** (cover sheet & document(s))
Name of Assignee _____
10. ☐ **37 CFR 3.73(b) Statement** ☐ **Power of Attorney**
(when there is an assignee)
11. ☐ **English Translation Document** (if applicable)
12. ☒ **Information Disclosure Statement** (PTO/SB/08 or PTO-1449)
☐ Copies of citations attached
13. ☐ **Preliminary Amendment**
14. ☐ **Return Receipt Postcard** (MPEP 503)
(Should be specifically itemized)
15. ☐ **Certified Copy of Priority Document(s)**
(if foreign priority is claimed)
16. ☐ **Nonpublication Request** under 35 U.S.C. 122(b)(2)(B)(i).
Applicant must attach form PTO/SB/35 or equivalent.
17. ☐ Other: _____

18. If a CONTINUING APPLICATION, check appropriate box, and supply the requisite information below and in the first sentence of the specification following the title, or in an Application Data Sheet under 37 CFR 1.76:

☒ Continuation ☐ Divisional ☐ Continuation-in-part (CIP) of prior application No.: 12/186,164.....Prior application information: Examiner Raymond W. Addie Art Unit: 3671**19. CORRESPONDENCE ADDRESS**☐ The address associated with Customer Number: OR ☐ Correspondence address below

Name					
Address					
City		State		Zip Code	
Country		Telephone		Email	

Signature	/taf/	Date	November 22, 2010
Name (Print/Type)	Timothy A. Flory	Registration No. (Attorney/Agent)	42540

This collection of information is required by 37 CFR 1.53(b). 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 1.11 and 1.14. This collection is estimated to take 12 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: 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.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants : Philip D. Halonen, Russ E. Stein, Mark A. Pietila, Michael R. Keranen
and Carl B. Kieranen

For : WHEELED CONCRETE SCREEDING DEVICE

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

Dear Sir or Madam:

REQUEST FOR FILING CONTINUATION APPLICATION
UNDER 37 CFR 1.53(b)

This is a request for filing a continuation application under 37 CFR 1.53 of U.S. patent application Serial No. 12/186,164, filed August 5, 2008, which is a continuation of U.S. patent application Serial No. 11/674,303, filed February 13, 2007, now U.S. Patent No. 7,407,339 on August 5, 2008, and which is a continuation of patent application Serial No. 11/189,396, filed July 26, 2005, now U.S. Patent No. 7,195,423, which claims benefit of U.S. provisional applications, Serial No. 60/521,950, filed July 26, 2004; Serial No. 60/619,672, filed October 18, 2004; and Serial No. 60/666,672, filed March 30, 2005.

1. Copy of Prior Application as Filed Which is Attached

I hereby verify that the attached papers are a copy of what is shown in my records to be the above-identified prior application, including the Declaration as originally filed (37 CFR 1.53). No amendments referred to in any Declaration filed to complete the prior application introduced new matter in that application.

The attached copy of the papers of the parent application includes 33 pages of specification, 5 pages of claims (20 claims), 1 page of Abstract, 18 sheets of drawings, and signed Declaration and Power of Attorney (2 pages). The attached drawings are copies of the formal drawings filed in the parent application and correspond to the drawings originally filed with the parent application.

Applicants : Philip D. Halonen, Russ E. Stein, Mark A. Pietila, Michael R. Keranen
and Carl B. Kieranen
For : WHEELED CONCRETE SCREEDING DEVICE
Page : 2

2. Amendments

The copy of the application includes the amendments made during prosecution of the parent applications and includes a revised/updated Cross Reference to Related Applications and a new Abstract.

The attached copy includes new claims 1-20, which replace the claims of the parent patent application.

3. Patent Application Bibliographic Data Form

A copy of the Patent Application Bibliographic Data Form is enclosed.

4. Drawings

Eighteen (18) sheets of formal drawings are enclosed and are copies of those filed in the parent application. The formal drawings correspond to the drawings originally filed with the parent application and include any revisions made during the prosecution of the parent patent applications.

5. Disclosure Statement

Applicants respectfully request that information cited in the prior parent application, Serial No. 12/186,164, be considered in the present application. An Information Disclosure Statement is included herewith that lists the cited references.

6. Inventorship Statement

With respect to the prior co-pending U.S. application from which this application claims benefit under 35 USC 120, the inventors in this application are the same, namely, Philip D. Halonen, Russ E. Stein, Mark A. Pietila, Michael R. Keranen and Carl B. Kieranen.

Applicants : Philip D. Halonen, Russ E. Stein, Mark A. Pietila, Michael R. Keranen
and Carl B. Kieranen
For : WHEELED CONCRETE SCREEDING DEVICE
Page : 3

7. Assignment

The prior application was originally assigned to Delaware Capital Formation, Inc., a corporation of the State of Delaware, located and doing business at 1403 Foulk Road, Suite 102, Wilmington, Delaware 09803. That Assignment was recorded in the United States Patent and Trademark Office on July 26, 2005, at Reel 016823, Frame 0141.

The application was then assigned to GTG Portfolio Holdings, Inc. That assignment was recorded on September 27, 2005 at Reel 016580, Frame 0769. GTG Portfolio Holdings, Inc. changed its name to Somero Enterprises, Inc. The change of name was recorded on September 27, 2005 at Reel 016580, Frame 0785.

8. Power of Attorney

The original Power of Attorney in application Serial No. 11/189,396 is to Van Dyke, Gardner, Linn & Burkhardt, LLP and the individual patent attorneys and patent agents at such patent law firm.

Please address all future correspondence to:

Timothy A. Flory
Van Dyke, Gardner, Linn & Burkhardt, LLP
2851 Charlevoix Drive, S.E.
P.O. Box 888695
Grand Rapids, MI 49588-8695
Ph: (616) 975-5500
Fax: (616) 975-5505

Applicants : Philip D. Halonen, Russ E. Stein, Mark A. Pietila, Michael R. Keranen
and Carl B. Kieranen
For : WHEELED CONCRETE SCREEDING DEVICE
Page : 4

9. Verification

I hereby declare further 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 are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Respectfully submitted,

PHILIP D. HALONEN ET AL.

By: Van Dyke, Gardner, Linn & Burkhardt, LLP

Date: November 22, 2010



Timothy A. Flory
Registration No. 42 540
2851 Charlevoix Drive, S.E.
P.O. Box 888695
Grand Rapids, MI 49588-8695
(616) 975-5500

TAF/ars
SOM01 P-325F

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.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	SOM01 P-325F
		Application Number	
Title of Invention	WHEELED CONCRETE SCREEDING DEVICE		
The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76. This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.			

Secrecy Order 37 CFR 5.2

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Applicant Information:

Applicant 1						Remove	
Applicant Authority		☒ Inventor		☐ Legal Representative under 35 U.S.C. 117		☐ Party of Interest under 35 U.S.C. 118	
Prefix	Given Name	Middle Name		Family Name		Suffix	
	Philip	D.		Halonen			
Residence Information (Select One)		☒ US Residency		☐ Non US Residency		☐ Active US Military Service	
City	Calumet	State/Province	MI	Country of Residence i	US		
Citizenship under 37 CFR 1.41(b) i		US					
Mailing Address of Applicant:							
Address 1		54871 Golf Course Road					
Address 2							
City	Calumet	State/Province		MI			
Postal Code	49913	Country i	US				
Applicant 2						Remove	
Applicant Authority		☒ Inventor		☐ Legal Representative under 35 U.S.C. 117		☐ Party of Interest under 35 U.S.C. 118	
Prefix	Given Name	Middle Name		Family Name		Suffix	
	Russ	E.		Stein			
Residence Information (Select One)		☒ US Residency		☐ Non US Residency		☐ Active US Military Service	
City	Houghton	State/Province	MI	Country of Residence i	US		
Citizenship under 37 CFR 1.41(b) i		US					
Mailing Address of Applicant:							
Address 1		804 Oak Grove Parkway					
Address 2							
City	Houghton	State/Province		MI			
Postal Code	49931	Country i	US				
Applicant 3						Remove	
Applicant Authority		☒ Inventor		☐ Legal Representative under 35 U.S.C. 117		☐ Party of Interest under 35 U.S.C. 118	
Prefix	Given Name	Middle Name		Family Name		Suffix	
	Mark	A.		Pietila			
Residence Information (Select One)		☒ US Residency		☐ Non US Residency		☐ Active US Military Service	
City	Atlantic Mine	State/Province	MI	Country of Residence i	US		

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.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	SOM01 P-325F
		Application Number	
Title of Invention	WHEELED CONCRETE SCREEDING DEVICE		

Citizenship under 37 CFR 1.41(b) i		US	
Mailing Address of Applicant:			
Address 1		47940 Harma Road	
Address 2			
City	Atlantic Mine	State/Province	MI
Postal Code	49905	Countryⁱ	US
Applicant 4			Remove
Applicant Authority		☒ Inventor ☐ Legal Representative under 35 U.S.C. 117 ☐ Party of Interest under 35 U.S.C. 118	
Prefix	Given Name	Middle Name	Family Name
	Michael	R.	Keranen
Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service			
City	Howell	State/Province	MI
Country of Residence i		US	
Citizenship under 37 CFR 1.41(b) i		US	
Mailing Address of Applicant:			
Address 1		3400 Dona Marie Drive	
Address 2			
City	Howell	State/Province	MI
Postal Code	48843	Countryⁱ	US
Applicant 5			Remove
Applicant Authority		☒ Inventor ☐ Legal Representative under 35 U.S.C. 117 ☐ Party of Interest under 35 U.S.C. 118	
Prefix	Given Name	Middle Name	Family Name
	Carl	B.	Kieranen
Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service			
City	Chassel	State/Province	MI
Country of Residence i		US	
Citizenship under 37 CFR 1.41(b) i		US	
Mailing Address of Applicant:			
Address 1		44851 Paradise Road	
Address 2			
City	Chassel	State/Province	MI
Postal Code	49916	Countryⁱ	US
All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the Add button.			

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

☐ An Address is being provided for the correspondence Information of this application.

Customer Number 28101

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	SOM01 P-325F
		Application Number	
Title of Invention	WHEELED CONCRETE SCREEDING DEVICE		
Email Address	flory@vglb.com		Add Email Remove Email

Application Information:

Title of the Invention	WHEELED CONCRETE SCREEDING DEVICE		
Attorney Docket Number	SOM01 P-325F	Small Entity Status Claimed	☐
Application Type	Nonprovisional		
Subject Matter	Utility		
Suggested Class (if any)		Sub Class (if any)	
Suggested Technology Center (if any)			
Total Number of Drawing Sheets (if any)	18	Suggested Figure for Publication (if any)	

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)
☐ Request Not to Publish. I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application has not and will not be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32). Enter either Customer Number or complete the Representative Name section below. If both sections are completed the Customer Number will be used for the Representative Information during processing.			
Please Select One:	☒ Customer Number	☐ US Patent Practitioner	☐ Limited Recognition (37 CFR 11.9)
Customer Number	28101		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78(a)(2) or CFR 1.78(a)(4), and need not otherwise be made part of the specification.					
Prior Application Status	Pending		Remove		
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)		
	Continuation of	12186164	2008-08-05		
Prior Application Status	Patented		Remove		
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
12186164	Continuation of	11674303	2007-02-13	7407339	2008-08-05

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.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number		SOM01 P-325F	
		Application Number			
Title of Invention		WHEELED CONCRETE SCREEDING DEVICE			
Prior Application Status		Patented		Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
11674303	Continuation of	11189396	2005-07-26	7195423	2007-03-27
Prior Application Status		Expired		Remove	
Application Number		Continuity Type		Prior Application Number	Filing Date (YYYY-MM-DD)
11189396		non provisional of		60521950	2004-07-26
Prior Application Status		Expired		Remove	
Application Number		Continuity Type		Prior Application Number	Filing Date (YYYY-MM-DD)
11189396		non provisional of		60619672	2004-10-18
Prior Application Status		Expired		Remove	
Application Number		Continuity Type		Prior Application Number	Filing Date (YYYY-MM-DD)
11189396		non provisional of		60666672	2005-03-30
Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the Add button. Add					

Foreign Priority Information:

This section allows for the applicant to claim benefit of foreign priority and to identify any prior foreign application for which priority is not claimed. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(a).

Remove			
Application Number	Country ⁱ	Parent Filing Date (YYYY-MM-DD)	Priority Claimed
			☐ Yes ☒ No
Additional Foreign Priority Data may be generated within this form by selecting the Add button. Add			

Assignee Information:

Providing this information in the application data sheet does not substitute for compliance with any requirement of part 3 of Title 37 of the CFR to have an assignment recorded in the Office.

Assignee 1 Remove			
If the Assignee is an Organization check here. ☒			
Organization Name	Somero Enterprises, Inc.		
Mailing Address Information:			
Address 1	16831 Link Court		
Address 2			
City	Fort Myers	State/Province	FL
Country ⁱ	US	Postal Code	33912
Phone Number		Fax Number	
Email Address			

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.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	SOM01 P-325F
		Application Number	
Title of Invention	WHEELED CONCRETE SCREEDING DEVICE		

Additional Assignee Data may be generated within this form by selecting the Add button.

Add

Signature:

A signature of the applicant or representative is required in accordance with 37 CFR 1.33 and 10.18. Please see 37 CFR 1.4(d) for the form of the signature.

Signature	/taf/			Date (YYYY-MM-DD)	2010-11-22
First Name	Timothy	Last Name	Flory	Registration Number	42540

This collection of information is required by 37 CFR 1.76. 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 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet 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 records.
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.

DECLARATION AND POWER OF ATTORNEY

As a below named inventor, I hereby declare:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor, if only one name is listed below, or an original, first and joint inventor, if plural names are listed below, of the subject matter which is claimed and for which a patent is sought on the invention entitled POWERED STRIKE-OFF PLOW, the specification of which is attached hereto.

I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose to the United States Patent and Trademark Office (the Office), all information which is known by me to be material to patentability as defined in Title 37, Code of Federal Regulations (C.F.R.), § 1.56.

CLAIM OF PRIORITY

I hereby claim the benefit under Title 35, United States Code, § 119(e) of any United States provisional applications listed below:

U.S. Serial No. 60/521,950, filed on July 26, 2004;

U.S. Serial No. 60/619,672, filed on October 18, 2004; and

U.S. Serial No. 60/666,672, filed on March 30, 2005.

POWER OF ATTORNEY

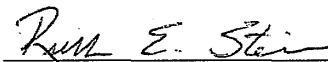
I hereby appoint the patent law firm of Van Dyke, Gardner, Linn & Burkhart, LLP, 2851 Charlevoix Drive, S.E., Suite 207, Grand Rapids, Michigan 49546, telephone number 616/975-5500, facsimile number 616/975-5505, and the individual patent attorneys and patent agents at such patent law firm, namely, Daniel Van Dyke, Reg. No. 25 046; Donald S. Gardner, Reg. No. 25 975; Terence J. Linn, Reg. No. 30 283; Frederick S. Burkhart, Reg. No. 29 288; Catherine S. Collins, Reg. No. 37 599; Timothy A. Flory, Reg. No. 42 540; and Karl T. Ondersma, Reg. No. 55 894, my attorney(s) or agent(s) with full power of substitution and revocation, to prosecute this application and to transact all business in and to receive all correspondence from the Patent and Trademark Office connected therewith.

All statements made herein of my own knowledge are true and all statements made on information and belief are believed to be true, and further, these statements are made with the knowledge that willful false statements and the like 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 this application or any patent issued thereon.

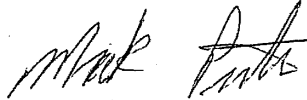
First joint inventor:

Second joint inventor:


Philip D. Halonen
Citizenship: U.S.A.
Residence: 54871 Golf Course Road
Calumet, Michigan 49913
Post Office Address: Same as above.


Russ E. Stein
Citizenship: U.S.A.
Residence: 804 Oak Grove Parkway
Houghton, Michigan 49931
Post Office Address: Same as above.

Third joint inventor:

 7/26/05

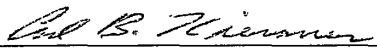
Mark A. Pietila Date
Citizenship: U.S.A.
Residence: 47940 Harma Road
Atlantic Mine, Michigan 49905
Post Office Address: Same as above.

Fourth joint inventor:

 7/26/05

Michael R. Keranen Date
Citizenship: U.S.A.
Residence: 3400 Dona Marie Drive
Howell, Michigan 48843
Post Office Address: Same as above.

Fifth joint inventor:

 7-26-05

Carl B. Kieranen Date
Citizenship: U.S.A.
Residence: 44851 Paradise Road
Chassell, Michigan 49916
Post Office Address: Same as above.

WHEELED CONCRETE SCREEDING DEVICE
CROSS REFERENCE TO RELATED APPLICATIONS

[0001] The present application is a continuation of U.S. patent application Ser. No. 12/186,164, filed Aug. 5, 2008, which is a continuation of U.S. patent application Ser. No. 11/674,303, filed Feb. 13, 2007, now U.S. Pat. No. 7,407,339, which is a continuation of U.S. patent application Ser. No. 11/189,396, filed Jul. 26, 2005, now U.S. Pat. No. 7,195,423, which claims benefit of U.S. provisional applications, Ser. No. 60/521,950, filed Jul. 26, 2004; Ser. No. 60/619,672, filed Oct. 18, 2004; and Ser. No. 60/666,672, filed Mar. 30, 2005, which are all hereby incorporated herein by reference in their entireties.

FIELD OF THE INVENTION

[0002] The present invention relates generally to raking or striking-off devices for striking-off uncured concrete at floors and surfaces.

BACKGROUND OF THE INVENTION

[0003] One common practice for the placement of concrete during the construction of slab-on-grade concrete surfaces and floors is to discharge concrete directly from concrete delivery trucks via a chute onto a subgrade upon which the slab will be formed. In some cases, such as where the truck has a front discharge chute, only the truck driver is required to perform the task of controlling the concrete chute from the driver's seat. However, considerable manual labor is required to spread the concrete to a reasonably uniform depth for subsequent strike-off or screeding. Automated laser system responsive screeding machines, such as a Laser Screed machine manufactured by Somero Enterprises of Houghton, Mich., USA (and/or such as the types described in U.S. Pat. Nos. 4,655,633; 4,930,935; 6,129,481; 6,152,647; 6,183,160; 6,588,976; and/or 6,623,208, which are hereby incorporated herein by reference), reduce the manual labor of screeding concrete substantially over large areas. However, in many instances where such a screeding machine cannot be used, the concrete still must be spread out or struck-off in a somewhat uniform fashion by manual effort which is very labor intensive and costly.

[0004] Therefore, there is a need in the art for an improved striking-off or raking apparatus and/or method that requires less manual labor and thus overcomes the shortcomings of the prior art.

SUMMARY OF THE INVENTION

[0005] The present invention provides a power rake or plow apparatus for striking-off uncured concrete that is moved and/or controlled by an operator walking behind the apparatus as the apparatus is moved over and along and through the uncured concrete. The apparatus includes a wheeled base unit and a plow assembly that is adjustably mounted to the wheeled base unit and adjustable to strike-off the concrete at a desired level or grade. The plow assembly may be adjustable in response to a laser plane reference system. The plow assembly may include a vibrating member to vibrate, compact and smooth the concrete at the desired grade as established by the plow or grade setting device.

[0006] According to an aspect of the present invention, a wheeled concrete working device that is movable over a surface of uncured concrete (that has been placed on a subgrade surface) and operable to establish a desired grade of the uncured concrete surface includes a wheeled support, a plow assembly and a controller. The wheeled support includes a frame portion and a pair of wheels rotatably mounted at the frame portion. The wheeled support is selectively movable in a forward direction and a rearward direction. The plow assembly is mounted to the frame portion and includes at least one plow member for engaging the concrete when the wheeled support is moved in the rearward direction. The device is operable in response to a signal from a laser receiver mounted at the plow assembly to adjust an elevation of the plow member to establish a desired grade of the concrete when the wheeled support is moved in the rearward direction. The controller automatically controls the elevation of the plow member in response to a direction signal indicative of the direction of travel of the wheeled support and controls the elevation of the plow member irrespective of the signal from the laser receiver when the direction signal is indicative of the wheeled support at least one of stopping and moving in the forward direction.

[0007] According to another aspect of the present invention, a wheeled concrete working device that is movable over a surface of uncured concrete and operable to establish a desired grade of the uncured concrete surface includes a wheeled support, a plow assembly and a user input. The wheeled support is selectively movable in a forward direction and a rearward direction. The wheeled support comprises a forward frame portion supported by at least one front wheel and a rearward frame portion pivotally attached to the forward frame portion and supported by at least one rear wheel. The plow assembly is mounted to the forward frame portion and includes at least one plow member for engaging and establishing the desired grade of the concrete when the wheeled support is moved in the rearward direction. The device is operable in response to a

signal from a laser receiver mounted at the plow assembly to adjust an elevation of the plow member to establish the desired grade of the concrete when the wheeled support is moved in the rearward direction. The user input is adjustable by an operator of the wheeled concrete working device to adjust a down pressure of the plow assembly at the concrete when the wheeled support is moved in the rearward direction.

[0008] According to another aspect of the present invention, a wheeled concrete working or processing device or machine may include a bump detecting device that is operable to detect a surface irregularity of the subgrade upon which the wheels travel and at a location rearward or ahead of either of the wheels and in the rearward direction of travel of the wheeled support. The controller may be operable to reduce the rearward speed of the wheeled support in response to a detection of a surface irregularity by the bump detecting device. The controller may control the frame portion and/or the plow assembly to substantially maintain the plow assembly at a desired orientation when at least one of the wheels engages the detected surface irregularity. The controller may be operable to increase the rearward speed of the wheeled support after the wheels have passed the detected surface irregularity. The wheeled support may comprise a four-wheeled support having a forward frame portion supported by a pair of front wheels and a rearward frame portion pivotally attached to the forward frame portion and supported by a pair of rear wheels, with the plow assembly being mounted to the forward frame portion. The bump detecting device may comprise a rear level sensor located at the rear frame portion. The rear level sensor may detect a tilt of the rear frame portion about a longitudinal axis of the rear frame portion, where the detected tilt is indicative of one of the rear wheels engaging a surface irregularity.

[0009] According to yet another aspect of the present invention, a wheeled strike-off device is movable over a surface of uncured concrete or subgrade materials and is operable to establish a desired grade of the uncured concrete surface or subgrade surface. The wheeled strike-off device includes a wheeled support and a plow assembly. The wheeled support has a frame portion and a pair of first wheels rotatably mounted at or near a first end of the frame portion, and a second wheel rotatably mounted at or near a second end of the frame portion. The second wheel is pivotable about a generally vertical pivot axis to assist in steering the strike-off device as it is moved over the surface. The plow assembly is adjustably mounted to the frame portion and is vertically adjustable relative to the frame portion via an actuator. The plow assembly includes at

least one plow member for engaging the uncured concrete or subgrade materials and establishing the desired grade.

[0010] The actuator may be automatically adjustable in response to a laser leveling system. The plow assembly may include a first plow member facing in a first direction and a second plow member facing in a second direction, with the first direction being generally opposite to the second direction. The first plow may establish the desired grade when the wheeled support is moved in the first direction and the second plow may establish the desired grade when the wheeled support is moved in the second direction. Optionally, the plow assembly may be adjustable relative to the wheeled support about a longitudinal axis of the wheeled support.

[0011] The first wheels may be independently rotatably driven to move and steer the strike-off device over and through the uncured concrete surface. The second wheel may be rotatably driven to move the strike-off device. The wheeled support may include a handle portion that extends from the second end of the wheeled support and that is connected to the second wheel, such that pivotal movement of the handle portion imparts a corresponding pivotal movement of the second wheel to steer the wheeled support.

[0012] According to another aspect of the present invention, a method of establishing a desired grade of an uncured concrete surface or subgrade surface includes providing a wheeled strike-off device having a wheeled support and a plow assembly. The wheeled support has a frame portion, a pair of first wheels rotatably mounted at or near a first end of the frame portion, and a second wheel rotatably mounted at or near a second end of the frame portion. The plow assembly is adjustably mounted to the frame portion and is vertically adjustable relative to the frame portion via an actuator. The plow assembly includes at least one plow member for engaging and establishing the desired grade. The strike-off device is moved over a surface of uncured concrete or subgrade materials. The plow assembly is adjusted relative to the wheeled support to establish the desired grade as the strike-off device is moved over the surface. The second wheel is pivoted about a generally vertical pivot axis to assist in steering the strike-off device as it is moved over the surface.

[0013] According to another aspect of the present invention, a screeding device that is manually movable over a surface of uncured concrete placed between opposite forms, and that is operable to level and smooth the uncured concrete surface to a level set by the forms, includes a wheeled unit, a plow and a concrete surface working member, such as a vibrating member or the like. The wheeled unit has a frame portion and at least one wheel rotatably mounted to the frame

portion. The plow is mounted to a rear portion of the frame portion and includes a spacing element for spacing the plow at a desired level above the forms. The concrete surface working member is attached to the plow and positioned rearward of the plow. The concrete surface working member is at least partially supportable on the forms, and works the uncured concrete to a finished condition at a level generally defined by the forms and below the level of the plow.

[0014] The spacing element may comprise a pair of spacing elements, with each of the spacing elements being positioned along a lower edge of the plow at or near an end of the plow. Each of the spacing elements may include a curved lower lip that substantially encompasses the lower edge of the plow.

[0015] Optionally, a powered, laser controlled, four wheel, articulated, strike-off plow, and raking machine or four wheel power rake may be implemented to screed a concrete surface. In one form, the machine is intended for striking-off and leveling uncured concrete and loose subgrade materials. A plow head assembly is attached to the front of the machine for leveling materials whereby a laser leveling system is included to provide automated leveling and power raking of materials to a desired grade elevation.

[0016] A further aspect of the present invention beyond power raking is a machine that can be readily adapted for other uses by a concrete construction contractor with appropriate and optional sets of accessories and attachments. The plow head assembly may be quickly and/or readily detached from the front of the machine and another assembly installed. For example, the machine can be adapted to become a sprayer with a boom containing spray nozzles, a pressurized fluid pumping system, and a reservoir of fluid material, in order to apply sprayed-on coatings and sealers to a freshly cured concrete surface. Optionally, for example, the machine can be adapted to become an automated, laser system responsive screeding machine with a screed head attachment to provide a drive-through-the concrete, laser-guided, concrete strike-off, screeding and finishing machine. Optionally, for example, the machine can be adapted to become a hose handler to drag and otherwise move concrete pumping supply hose at construction sites where concrete is being pumped from a pumping unit to a location where concrete placing operations are taking place. Optionally, for example, the machine can be adapted for use as a powered sweeper having a cylindrical rotating brush attachment where the rotating axis of the brush is roughly parallel to the surface being swept.

[0017] Each of these adaptable uses provides the concrete construction contractor with a machine having a high level of machine utility and utilization. Thus, the present invention

provides a significant increase in productivity, ease of effort, and profitability to the concrete construction industry.

[0018] Therefore, the present invention provides a strike-off device and method that provides a desired and accurate strike-off or raking of an uncured concrete surface or of subgrade materials. The device or apparatus or machine may be moved in either direction to strike-off or establish the desired grade or level of the uncured concrete or subgrade material. The plow is automatically adjusted to maintain the desired grade or level in response to a laser reference system, so that the uncured concrete or subgrade materials are struck-off at the appropriate level over the targeted area. The wheels of the machine may be independently operable or controlled to move the machine over and through the uncured concrete or subgrade materials and to turn or steer the machine as it is moved over and through the uncured concrete or subgrade materials. The rear wheel may be steered via a handlebar or the like to further enhance the steering and controlling of the machine as it is moved over and through the uncured concrete or subgrade materials. The present invention thus provides a strike-off or raking device or apparatus or machine that substantially reduces the manual labor required to strike-off the uncured concrete or subgrade materials, since an operator need only walk behind the apparatus (or in front of the apparatus, depending on the direction of travel of the apparatus) and control and/or steer the apparatus to establish the desired grade.

[0019] The present invention also provides a sidewalk screeding machine that is operable to establish an initial grade of uncured concrete that is slightly above the desired final grade and then to screed the uncured concrete at the initial grade and compact and vibrate the uncured concrete to the final grade, without the use of laser leveling or grade setting systems or the like. The plow functions to cut or establish an initial grade or level of the uncured concrete that is above the level or grade at which the concrete surface working member or vibrating member will work and/or vibrate and/or screed the concrete. The plow thus leaves a small amount of excess concrete for the vibrating member to compact and screed so that the vibrating member provides an enhanced surface of the concrete slab.

[0020] These and other objects, advantages, purposes and features of the present invention will become apparent upon review of the following specification in conjunction with the drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0021] FIG. 1 is a perspective view of a powered strike-off apparatus in accordance with the present invention;

[0022] FIG. 2 is a top plan view of the powered strike-off apparatus of FIG. 1;

[0023] FIG. 3 is a hydraulic schematic of a hydraulic system useful with the powered strike-off apparatus of the present invention;

[0024] FIG. 4 is a perspective view of a powered screeding device in accordance with the present invention;

[0025] FIG. 5 is a perspective view of another powered screeding device in accordance with the present invention;

[0026] FIG. 6 is another perspective view of the powered screeding device of FIG. 5;

[0027] FIG. 7 is an enlarged perspective view of the screeding attachment of the powered screeding device of FIGS. 5 and 6;

[0028] FIG. 8 is an enlarged perspective view of an end of the screeding attachment of FIG. 7;

[0029] FIG. 9 is a perspective view of a spacing member of the screeding device of the present invention;

[0030] FIG. 10 is a perspective view of a mounting member of the screeding device of the present invention;

[0031] FIG. 11 is a perspective view of a powered strike-off device in accordance with the present invention;

[0032] FIG. 12 is another perspective view of the powered strike-off device of FIG. 11;

[0033] FIG. 13 is a top plan view of the powered strike-off device of FIGS. 11 and 12;

[0034] FIG. 14 is another perspective view of the powered strike-off device, shown with an operator standing on the operator's platform;

[0035] FIG. 15 is a perspective view of the powered strike-off device of the present invention, shown with larger width tires;

[0036] FIG. 16 is a block diagram of a control system useful with the strike-off device or screeding device of the present invention;

[0037] FIG. 17 is a side elevation of a powered screeding device in accordance with the present invention;

[0038] FIG. 18 is a block diagram of a control system useful with the strike-off device or screeding device of the present invention;

[0039] FIG. 19 is a side elevation of another powered screeding device in accordance with the present invention; and

[0040] FIG. 20 is a side elevation of another powered screeding device in accordance with the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0041] Referring now specifically to the drawings and the illustrative embodiments depicted therein, a power rake or powered plow or strike-off or raking apparatus or machine 10 is operable to rake or plow or otherwise establish the grade of uncured concrete or subgrade materials as the machine is moved over and through the uncured concrete or subgrade materials. Strike-off apparatus 10 includes a wheeled base unit 12 and a plow head or assembly 14 adjustably mounted to base unit 12 and adjustable relative thereto via an adjustment mechanism or linkage 16. Plow assembly 14 includes a strike-off member or plow, such as a forward facing plow 18a and a rearward facing plow 18b, for engaging and striking-off the uncured concrete or subgrade materials at the desired grade. The level or grade of plows 18a, 18b may be adjusted relative to base unit 12 in response to a signal from a laser receiver 20 of a laser plane generating system, as discussed below. The wheeled base unit 12 may be driven and steered by an operator walking behind the apparatus, as also discussed below.

[0042] Wheeled base unit 12 includes a frame 22 supported by a pair of rubber-tired wheels 24 at one end and a single rubber-tired wheel 26 at the other end. The wheels may be rotatably driven via respective hydraulic motors or the like to provide driving of the apparatus over and through the uncured concrete or subgrade materials. The wheel 26 may be turned relative to the frame 22 to steer the apparatus, such as via a handlebar 28 or the like at the wheel 26. In the illustrated embodiment, the handlebar 28 may support a control panel 29 for an operator to actuate to control the various valves and motors of the strike-off apparatus as the operator walks behind the strike-off apparatus.

[0043] The strike-off apparatus 10 thus is a walk-behind machine with rubber-tired wheels, two in the front and one in the rear. Power for driving the hydraulic motors may be provided via any known power source or power means, such as via a gasoline powered internal combustion engine or the like (although other power means, such as electric motors, diesel engines or the like may be implemented without affecting the scope of the present invention). The base unit 12 may include the mechanical frame and components, a supply of hydraulic fluid or oil in a reservoir, a hydraulic pump, control valves, hydraulic pressure lines, and an electrical system including a battery and charging system.

[0044] The plow head assembly 14 consists of a forward facing plow 18a and a rearward facing plow 18b so that the strike-off apparatus may be operable in either direction. The plow head assembly 14 is able to either push or pull loose material, such as freshly poured concrete or subgrade materials, such as sand, dirt or gravel or the like, as the plow head is moved over and through the material via driving of the wheel motors of the wheeled support unit.

[0045] The plow assembly 14 is attached to the front of the machine through a mechanical linkage or lift mechanism 16 and a hydraulic actuator 30. In the illustrated embodiment, the plow head or plow assembly 14 is supported by the linkage or mechanism 16, which includes a lift arm 32 and an upper tie-rod or head support link 34, and the hydraulic actuator or cylinder 30, which form a vertically movable mechanical linkage. Extension and retraction of actuator 30 causes the plow assembly 14 to lower and raise, respectively, relative to wheeled support 12 via pivotal movement of lift arm 32 and upper link 34 simultaneously relative to the rear end of wheeled support 12. The movement of the linkages 16 relative to wheeled support 12 and to the plow assembly provides generally vertical reciprocal movement of the plow assembly relative to the wheeled support, such that the plow assembly and plows 18a, 18b may remain in generally the same orientation as the plow assembly is raised or lowered relative to wheeled support 12.

[0046] The height or elevation of the plows 18a, 18b may be controlled by an automated laser control system having a laser receiver 20 attached to the plow by a mast 36. The mast 36 that supports the laser receiver 20 is located at a generally middle region of the plow. As can be seen in FIG. 1, mast 36 may be mounted to a central plate 37, which also mounts to lift arm 32 and link 34 of lift mechanism 16. A pair of cross members 37a extend from an upper portion of plate 37 outward and downward to the plows 18a, 18b to support the plows 18a, 18b and to provide enhanced rigidity of the plows.

[0047] The laser receiver 20 may be adjusted to a desired height above the plows 18a, 18b via adjustment collars 36a on mast 36 that may allow for extension or retraction of mast 36, which may be a telescoping rod or mast or the like. A laser transmitter (not shown) provides a laser reference plane for the machine. The actuator 30 thus may be automatically adjusted or extended/retracted and controlled in response to a laser reference plane system, preferably using laser beacon receivers and a laser reference plane generator that establishes a laser reference plane at the worksite, such as the types described in U.S. Pat. Nos. 4,655,633 and/or 4,930,935, which are hereby incorporated herein by reference. For example, a standard laser control system provided by Trimble Navigation comprising the GCR Laser Control System package may be

adapted to the machine to actively control the elevation of the plow head. The laser system may control a hydraulic valve which in turn controls the position of the hydraulic actuator 30 at the plow in response to the position or level of the laser reference plane at the laser receiver while the machine is in operation.

[0048] During operation, an operator stands nearest the single rear wheel 26 and controls and steers the machine at the handlebar 28 and control panel 29. The front wheels 24 are driven, such as via respective hydraulic drive motors 35a, 35b (FIG. 3), and may be independently driven or powered unequally to help steer the machine as the operator controls the handlebars at the rear. The rear wheel can also be turned by the operator through the handlebars to steer the machine. However, the machine may also self-steer via the effect of caster wheel action at the rear wheel (where the rear wheel may freely pivot as the front wheels are independently driven to cause turning of the machine), without affecting the scope of the present invention.

[0049] In a preferred embodiment, two hydraulic flow control valves 40a, 40b are connected to the respective front wheel drive motors 35a, 35b and are actuated by turning of the handlebars, such as by mechanical cables (not shown) or small chains or members or the like attached to the steering column or shaft or the like. The hydraulic valves help control the steering of the machine and may be actuated by the turning of the handlebars. For example, when the handlebar is turned one way, one of these valves will close by an amount that is determined by how far the handlebar is turned in that direction (either left or right). As the respective hydraulic valve closes, it reduces the flow of hydraulic oil delivered to the respective drive motor at the inside of the turn. This creates a differential flow to the drive motors and causes one of the front wheels to rotate more than the other, which in turn causes the machine to turn more easily either left or right under power.

[0050] In addition to providing propulsion power to drive the machine and provide powered steering, the front wheel axle assembly may also have the ability to oscillate or tilt the machine and plow head side-to-side with respect to the horizontal. For example, the front wheels may be attached to a single axle member or subframe 38 (FIG. 1). The axle may have a generally horizontal pivot axis that is generally parallel to the ground and that extends generally parallel to the direction of travel of the machine as the machine is moved during normal operation. Side-to-side tilting or oscillation of the machine is controlled by extension and retraction of an actuator 42 (FIG. 3), such as a hydraulic actuator or the like, where a first end of the actuator is attached to the frame of the machine and a second end of the actuator is attached to the axle or subframe.

The operator may control the amount of tilt of the machine and plow head by a control switch or lever at the control panel 29 at the handlebars 28.

[0051] The tilting of the framework and plow assembly relative to the axle or subframe allows the machine and operator to adjust and maintain a generally horizontal position of the plow head and plows with respect to the desired grade when the wheels of the base unit encounter variations in the subgrade that may cause the machine to tip or tilt either left or right. Thus, the operator may manually control the machine speed, steering of the machine, forward and reverse direction of travel, and side-to-side or horizontal leveling position of the plow, while the elevation of the plow head may be automatically controlled by the laser control system. The controls for these functions may be provided at the control panel 29 at the handlebars 28, where they are readily accessible by the operator walking behind the strike-off machine 10.

[0052] Optionally, it is envisioned that the strike-off apparatus or machine of the present invention may alternately include an auger (or other means for moving or striking-off or raking the uncured concrete or subgrade materials) positioned at the forward or rearward portion of the plow assembly, whereby the auger may be operable to cut or establish the grade height of the concrete or subgrade as the strike-off apparatus is moved along and through the uncured concrete or subgrade materials. Such an embodiment may or may not include a strike-off plow at either or both ends. The auger may replace the function of this component entirely or, optionally, the auger may supplement engagement and strike-off of the concrete or subgrade materials, without affecting the scope of the present invention.

[0053] The strike-off apparatus of the present invention thus may be suitable to facilitate and improve the accuracy of rough raking of uncured concrete and subgrade materials. The strike-off apparatus may reduce labor and increase productivity and may be quite versatile for use on many types of construction jobs. The strike-off apparatus of the present invention is especially well suited to the small to mid-size company contractor who may already use various types of screeding devices, such as, for example, the Somero Copperhead Laser Screed machine and/or Copperhead XD Laser Screed machine, which are commercially available from Somero Enterprises of Houghton, Mich., and which are described in U.S. pat. applications, Ser. No. 10/728,620, filed Dec. 5, 2003, now U.S. Pat. No. 6,953,304; Ser. No. 10/266,305, filed Oct. 2, 2002, now U.S. Pat. No. 6,976,805; and Ser. No. 10/902,528, filed Jul. 29, 2004, now U.S. Pat. No. 7,121,762, which are hereby incorporated herein by reference, or various types of hand-held vibratory screeds, and/or even simple wooden "2x4" hand-held screeds or the like. The strike-off

apparatus of the present invention is preferably small and light enough in weight such that it can be used on elevated decks in addition to on grade sites, thus supplementing the concrete placement work of concrete delivery trucks, pumps, and buggies and the like.

[0054] The strike-off apparatus of the present invention will also help the contractor with subgrade work by having the ability to grade and smooth loose earth working materials such as dirt, sand, and gravel and/or the like. The height of the plow is automatically maintained at the correct elevation by the laser control system. This makes the present invention highly suitable for the powered leveling of dirt, sand, or gravel in relatively small areas before concrete is poured or before precast paving stones or "pavers" are installed to create a finished driveway or sidewalk, for example. Accurate grading of the subgrade improves concrete yield by reducing the chance of low spots in the subgrade and any resulting thicker sections of concrete. High spots in the subgrade are also minimized, which reduces the chances for thin sections in the finished concrete where reduced strength and cracking may occur. Precast paving stones and pavers can also be installed on a more accurately prepared subgrade. This can reduce the likelihood of high or low areas when these materials are installed to create a sidewalk, driveway, or patio, for example.

[0055] The strike-off apparatus may be used primarily by the small to mid-sized concrete contractors who typically install concrete slabs or paved areas in size from about 2,000 to 20,000 square feet. This includes the "hand-rod" concrete contractors up to and including those who may already be using screeding machines, such as, for example, the Somero Copperhead and Copperhead XD line of Laser Screed products, which are commercially available from Somero Enterprises of Houghton, Mich., and which are described in U.S. pat. applications, Ser. No. 10/728,620, filed Dec. 5, 2003, now U.S. Pat. No. 6,953,304; Ser. No. 10/266,305, filed Oct. 2, 2002, now U.S. Pat. No. 6,976,805; and Ser. No. 10/902,528, filed Jul. 29, 2004, now U.S. Pat. No. 7,121,762, which are hereby incorporated herein by reference. The lightweight raking device or strike-off device or apparatus or machine of the present invention is particularly suited for use at both over ground sites as well as on elevated deck surfaces, and may be implemented at other uncured concrete surfaces, such as interior floors, exterior slabs, roadways, ramps, parking areas or the like.

[0056] Optionally, and with reference to FIG. 4, the plow head assembly may be removed from the wheeled base unit 12 and a screeding attachment or screeding device 114 may be attached to the wheeled base unit to adapt the machine to be a screeding machine 110 for grading and

screeding uncured concrete. The screeding attachment 114 includes a plow or strike-off member 118 and a vibrating member 119 mounted to and positioned rearwardly from the plow 118. The screeding attachment 114 is mounted to the rearward ends of the adjustment mechanism or linkage 16, such as at the rearward ends of the lift arm 32, such as in a similar manner as the plow head assembly discussed above. The screeding attachment 114 is configured to be moved over and along side forms or members positioned along the sides of an area or slab of uncured concrete, such as along the sides of poured concrete for a sidewalk or the like. The plow 118 may be set or positioned at a level above the forms while the vibrating member 119 may rest on the forms as the wheeled base unit 12 and screeding attachment 114 move along the forms and over and through the uncured concrete poured or placed between the forms, as discussed below.

[0057] Plow 118 of screeding attachment 114 may comprise any known plowing device or strike-off member, and may include a curved material engaging surface for plowing and carrying or moving the excess uncured concrete along the concrete area as the screeding device is moved along the forms. Plow 118 and screeding attachment 114 may be mounted to the wheeled base unit 112 via connection of a mounting frame 137 to the adjustment mechanism 16 of the wheeled base unit 12.

[0058] The mounting frame 137 of screeding attachment 114 includes a pair of cross members 137a that extend from a generally horizontal beam or member 137c along the rear of plow 118 and that extend upward and toward a center junction of the cross members 137a. A bracket or attachment plate 137b is positioned at the center junction of the cross members 137a for connecting an upper tie-rod or head support link 34 of the adjustment mechanism 16, while a pair of generally vertical members 137d extend between the cross members 137a and the generally horizontal member 137c for connection to the end of the lift arm 132 of adjustment mechanism 16. The cross members 137a, horizontal member 137c and vertical members 137d support the plow 118 and provide enhanced rigidity to the plow when the screeding attachment 114 is mounted to the adjustment mechanism 16 and the wheeled base unit 12.

[0059] Vibrating member 119 of screeding attachment is attached to the frame 137 of plow 118 and behind or at the rear of the plow 118, such as via a pair of mounting members or attachment members or links 146. Vibrating member 119 may comprise any known type of vibrating member, such as a vibrating member of the types described in U.S. pat. applications, Ser. No. 10/728,620, filed Dec. 5, 2003, now U.S. Pat. No. 6,953,304; Ser. No. 10/266,305, filed Oct. 2, 2002, now U.S. Pat. No. 6,976,805; and Ser. No. 10/902,528, filed Jul. 29, 2004, now U.S. Pat.

No. 7,121,762, which are hereby incorporated herein by reference. Vibrating member 119 includes a generally flat member with a generally planar, flat and smooth lower surface for engaging and working the uncured concrete surface. In the illustrated embodiment, vibrating member 119 extends along a longitudinal axis and includes a lower, generally flat planar portion 119a and a pair of generally vertical walls or rails 119b extending therealong to strengthen or stiffen the planar portion and limit or substantially preclude deflection of the member. Although shown and described as having a vibrating beam, the screeding device and/or screed head may alternately include any other type of concrete surface working device or member, such as a roller, a flat or contoured plate or the like, which engages and works the uncured concrete surface to flatten and/or smooth the concrete surface as the screeding device is moved over and along the uncured concrete.

[0060] Vibration of the vibrator member 119 is accomplished by a powered vibrator device or motor 148, which is powered by power source (not shown), such as a gasoline powered drive motor or engine, or a battery powered drive motor, or the like. As is known in the art, the vibrator device 148 includes a pair of eccentric weight shafts or members that are rotatably driven to cause vibration of the vibrating member 119 as the vibrating member is moved along and over the uncured concrete surface.

[0061] Optionally, and with reference to FIG. 5-10, the screeding attachment or device 114 may be mounted to an adjustment mechanism or linkage 116 that extends forwardly from a wheeled base unit or wheeled support 112 of a sidewalk screeding machine 110'. In the illustrated embodiment, wheeled unit 112 is a two-wheeled unit having a pair of wheels 124 that are rotatably driven to move the wheeled base unit over and through the uncured concrete surface. The wheeled unit may be similar to the types of wheeled base units described in U.S. pat. applications, Ser. No. 10/728,620, filed Dec. 5, 2003, now U.S. Pat. No. 6,953,304; Ser. No. 10/266,305, filed Oct. 2, 2002, now U.S. Pat. No. 6,976,805; and Ser. No. 10/902,528, filed Jul. 29, 2004, now U.S. Pat. No. 7,121,762, which are hereby incorporated herein by reference. Because the wheeled base unit 112 is described in the above incorporated applications, a detailed discussion of the wheeled unit 112 will not be repeated herein. Suffice it to say that the wheeled unit may be driven or powered through the uncured concrete and steered and controlled by an operator via handle bars 128 and a control panel 129. Because there are only two wheels supporting the wheeled unit, the wheeled unit may be generally or substantially balanced about

its axle and may be partially supported at its rearward end by the screeding device 114 during operation.

[0062] The operator thus may walk ahead of the wheeled unit as the wheeled unit is driven or moved in the rearward direction and over and through the uncured concrete (with the wheels rolling along and over the subgrade surface beneath the poured/placed concrete) and the screeding attachment is pulled or dragged behind the wheeled unit to establish the grade of the concrete and vibrate and compact and screed the concrete, as discussed below. When a screeding pass is completed, the operator may push down on the handle bars 128 to raise the screeding device or attachment 114 above the concrete surface and to move the machine to another location. Optionally, the wheeled unit 112 may include a kick stand or support leg 113 at a rearward end (opposite to the screed head assembly or device) of the unit to support the rearward end of the unit when the screeding device is not being used. In the illustrated embodiment, the support leg 113 may be pivotally mounted at or near the rearward end of the wheeled unit and may be pivoted between a raised position (as shown in FIGS. 5 and 6) and a lowered position (not shown), where the support leg is pivoted downward to engage the ground and support the rearward end of the wheeled unit to limit or substantially preclude tipping of the unit forwardly when the screeding device is not in use.

[0063] The adjustment mechanism or linkage 116 of wheeled unit 112 may be similar to linkage 16, discussed above, and may include a lift arm 132, an upper tie-rod or head support link 134, and a hydraulic actuator or cylinder 130. Extension and retraction of actuator 130 causes the screeding attachment 114 to lower and raise, respectively, relative to wheeled unit 112 via pivotal movement of lift arm 132 and upper link 134 simultaneously relative to the rear end of wheeled unit 112. The movement of the linkages 116 relative to wheeled unit 112 and to the screeding attachment 114 provides generally vertical reciprocal movement of the screeding attachment relative to the wheeled unit, such that the plow 118 and vibrating member 119 may remain in generally the same orientation as the screeding attachment is raised or lowered relative to wheeled unit 112.

[0064] In the illustrated embodiment, the upper tie-rod 134 attaches to the bracket 137b at the center junction of the cross members 137a of the mounting frame 137, and may be adjusted to adjust the attack angle of the screeding device via pivoting the screeding device about the attachment pins at the end of the lift arm 132. As can be seen with reference to FIGS. 4 and 7, the upper tie-rods 34, 134 may be at a different level between the two illustrated types of

wheeled base units, and thus may attach to the mounting frame 137 of the screeding attachment at different locations, depending on the particular application or base unit or support to which the screeding attachment is attached.

[0065] During operation, the wheeled unit 112 may be moved rearwardly over and through the uncured concrete, such as between a pair of forms or sidewalls 150 that contain the uncured concrete and define the sides or edges of the concrete slab, such as forms that may be placed along opposite sides of a sidewalk or the like during pouring and curing of the concrete sidewalk. As shown in FIGS. 6 and 8, the plow 118 may include a spacer member or element 152 positioned along a lower edge of the plow and at or toward the outer ends of the plow 118 for riding along and resting on the forms 150 as the screeding attachment is moved over and along the forms and uncured concrete. The spacer element 152 provides a spacing or raising function to space the lower edge of the plow above the level of the forms, such as about $\frac{1}{4}$ inch or thereabouts above the level of the forms, and above the level of the vibrating member, which rests on the forms and vibrates and screeds the concrete at the level of the upper surfaces of the forms.

[0066] The spacer member 152 may be attached or secured to the plow via fasteners or the like extending through apertures 152a (FIG. 9) in spacer member 152 and into or at least partially through the plow 118. As best seen with reference to FIGS. 8 and 9, spacer member 152 may include a curved lower lip 152b that may curve around or partially around the lower edge of the plow 118 when spacer member 152 is attached to the plow. The lower lip 152b thus provides a spacing function and raises the lower edge of the plow blade above the forms 150 when the lip 152b rests on the forms. The curved lower lip 152b also provides a curved engaging surface at the plow to ride along the upper surface of the forms 150 and to limit or substantially preclude biting or cutting into the forms or catching burs or obstructions on the upper surfaces of the forms with the sharp lower edge of the plow.

[0067] The vibrating member 119 is dragged or pulled behind the plow 118 while the wheeled unit 112 is moved forwardly over and through the uncured concrete via the attachment links 146 connecting or attaching the vibrating member to the plow. Each attachment link 146 may be connected between a bracket 137e of frame 137 of plow 118 and a bracket 154 at each side of vibrating member 119. The brackets 137e, 154 may comprise generally U-shaped brackets that receive a respective end of the link 146 therein. In the illustrated embodiment, and as shown in FIG. 10, the attachment link 146 is an elongated member that has mounting holes or apertures

146a, 146b at opposite ends of the link and multiple adjustment holes or apertures 146c.

Attachment link 146 pivotally mounts to the bracket 137e at plow 118 via a mounting pin or the like through an opening or aperture 137f (FIG. 8) in the bracket 137e and through aperture 146a, such that the attachment link may pivot about the mounting pin 156 when attached thereto. The other end of the attachment link 146 may be attached to the bracket 154 at the vibrating member 119 via a mounting pin or the like inserted through an opening 154a (FIG. 8) in the bracket 154 and aperture 146b in attachment link 146.

[0068] Optionally, the attachment link 146 may be secured relative to the vibrating member to retain the vibrating member at a desired attack angle as the vibrating member is dragged or pulled along the forms. The attachment link may be pivoted about the pin through the apertures 154a and 146b to adjust the attack angle of the vibrating member until one of the multiple apertures or openings 146c generally aligns with a corresponding one of multiple apertures 154b (FIG. 8) in bracket 154. When a desired set of openings are aligned (so that the vibrating member is at a desired attack angle), a pin may be inserted through the aligned openings to substantially secure or fix the mounting link 146 relative to the bracket 154 and vibrating member 119. The attachment link thus may be pivoted and the pin may be inserted through a selected set of aligned openings to set the desired or appropriate attack angle of the vibrating member relative to the plow.

[0069] During operation of the sidewalk screeding machine, the wheeled unit is moved or driven rearwardly and over and through the uncured concrete and between the forms to move the screeding attachment along the forms and over the uncured concrete placed between the forms. The plow functions to cut and establish the concrete grade to a level above the level of the forms, while the vibrating member is dragged behind the plow and rests on and moves along the upper surfaces of the forms. Because the attachment links are pivotally attached to the rear of the plow, the vibrating member may freely float relative to the plow and thus may rest on the forms so that the vibrating member is generally at the elevation of the forms and at a level slightly below the level of the concrete grade established by the plow 118.

[0070] As shown in FIG. 8, the uncured concrete may be placed at an initial or placed depth or level A in front of the plow, and the plow may remove some of the excess uncured concrete so that the uncured concrete is at a pre-screeding level B after the plow has passed over and through the uncured concrete. The vibrating member is moved over the uncured concrete behind the plow and vibrates and compacts and screeds and finishes the uncured concrete to its desired

finished level C, which is generally level with the upper surfaces of the forms 150 and below the pre-screeding level B established by the plow. The vibrating member thus vibrates and compacts the uncured concrete to the lower desired level or grade that is set by the forms 150. The sidewalk screeding machine thus may establish a desired initial grade with the plow and provide a slight amount of excess uncured concrete above the desired final grade for the vibrating member to compact and vibrate to the desired final grade. The sidewalk screeding machine thus may screed the concrete to an enhanced finished surface at the desired grade and without the use of an automated laser control system having a laser receiver and laser plane generating device or the like.

[0071] Referring now to FIGS. 11-14, an articulated power rake machine or device or apparatus 210 includes an articulatable wheeled base 212, which is supported by four rubber-tired wheels, two front wheels 224 at the front and two rear wheels 226 at the rear, and which supports a plow head assembly 214. Power may be provided by any power means, such as a gasoline powered engine or the like, such as, for example, a thirteen horsepower (or other power) gasoline engine, or other power source or means, such as described above. The machine comprises an articulated main support frame 212 having a front frame portion 212a (supported by front wheels and tires 224) and a rear frame portion 212b (supported by rear wheels and tires 226) and various components, including, for example, a supply of hydraulic oil in a reservoir, hydraulic pump, control valves, hydraulic pressure lines, and an electrical system including a battery and charging system.

[0072] In the illustrated embodiment, the plow head assembly 214 is attached to the front frame portion of the machine through a mechanical linkage 216 and a hydraulic actuator, such as in a similar manner as described above. The height or elevation of the plow blade 218 is controlled by an automated laser control system having a single laser receiver 220 attached to the plow by a vertical mast 236. A laser transmitter (not shown) stationed away from the machine provides or generates a laser reference plane for the machine's automated laser control system.

[0073] As shown in FIG. 14, the machine operator may stand on a platform 227 attached to the rear frame portion 212b of the machine. The operator controls propulsion speed and direction and steers the machine via user activated inputs, such as, for example, thumb-activated controls 229 just below the handlebars 228. The handle bars are fixed to the rear frame portion 212b of the machine and may include foam-padded grips for operator comfort. Steering may be accomplished through a double-acting hydraulic cylinder 231 (FIGS. 12 and 13) at a side of the

machine. The steering cylinder 231 is attached at the ends to both the front and rear frame portions 212a, 212b. Extension and retraction of the steering cylinder 231 thus provides a moment force that acts about the vertical axis of the hinged articulated frame to steer the machine in either the left or right direction.

[0074] Desirably, each of the four wheels may be driven by hydraulic motors providing a four-wheel drive propulsion system. Hydraulically released brakes may be used on preferably two or more of the four wheels. The wheels and tires may be optionally selected for particular site conditions. For example, narrow wheels and tires 224, 226 (FIGS. 11-14) may be used primarily for conditions where the machine will be driven through uncured concrete on firm or otherwise compacted subgrade materials. Optionally, and with reference to FIG. 15, wider wheels and tires 224', 226' may be fitted onto the machine for use on soft or sandy subgrades or in uncured concrete placed upon elevated metal decks. The wider tires may provide greater floatation on soft subgrade materials and improved wheel contact and load distribution on corrugated metal decking materials and the like.

[0075] The plow head assembly 214 is supported by a lift arm 232, upper tie-rod or head support link 234, and a hydraulic actuator or cylinder 230 forming a vertically movable mechanical linkage, such as described above. The plow head assembly consists of a forward plow 218a and a rearward plow 218b. A laser receiver 220 is attached to a mast 236 located in the middle of the plow 218. The plow head is able to either push or pull loose material such as freshly poured concrete, sand, dirt, or gravel. A standard laser control system, such as a laser control system provided by Trimble Navigation and comprising the GCR Laser Control System package (or other suitable laser control system or the like), is adapted to the machine to actively control the elevation of the plow head. The laser control system controls a hydraulic valve which in turn controls the position of the hydraulic actuator at the plow with respect to the laser reference plane while the machine is in operation.

[0076] In addition to providing propulsion power to drive the machine and provide powered steering, the front wheels 224 and axle assembly or subframe 225 of front frame portion 212a may also have the ability to oscillate or tilt the machine and plow head side to side with respect to the horizontal. In the illustrated embodiment, the front wheels are attached to a single axle member or axle assembly or subframe 225, while the frame portion 212a is pivotally mounted to the axle assembly 225 and is pivotable about a generally horizontal axis that is generally parallel to the ground and that extends generally parallel to the direction of travel of the machine as it

moves during operation. Side-to-side tilting or oscillation of the machine (such as the front frame portion 212a and plow head) relative to the axle assembly and wheels may be controlled by an actuator or hydraulic cylinder 238 (or other actuating device) with a first end of the cylinder or actuator attached to the frame portion 212a of the machine and a second or opposite end attached to the axle or subframe 225. In such an application, the hydraulic actuator may comprise a double-rod cylinder having a single piston, whereby the amount of hydraulic oil required for a given displacement in either direction may be substantially the same. The operator thus may manually control the amount of tilt of the machine and plow head by a control switch or lever or input at the user controls or handlebars. This allows the machine and operator to adjust and maintain a generally horizontal position of the plow head with respect to the desired grade due as the machine (such as one or both tires of the front portion of the machine) encounters variations in the subgrade that may cause the machine to tip or tilt toward either side.

[0077] Optionally, the horizontal leveling of the plow may be automatically controlled by the input signal of a left-right horizontal level sensor or cross slope level sensor mounted to or at the forward frame portion of the machine. During most machine operating mode conditions, the operator may manually control the machine speed, steering of the machine, and the forward and reverse direction of travel, while the side-to-side or horizontal leveling position of the plow head is controlled by the left-right leveling sensor and actuator. The elevation of the plow head may be automatically controlled by an input signal from the laser receiver of the laser control system, as discussed above.

[0078] A further aspect of the machine's control system includes an "auto rake" or "auto raise" controller or control system or other control means that is operable to automatically raise the plow head assembly (including the plow blade) at the end of a material leveling or raking or grade establishing pass. For example, as the machine is being driven in the "reverse" travel direction through uncured concrete, the plow is engaged in striking-off and/or leveling of the excess uncured concrete material to the desired grade. In this mode of operation, the height of the plow head is automatically controlled to the desired elevation by height correction signals from the laser receiver (as the laser receiver receives or detects the laser signal or plane transmitted by the laser plane transmitter or generator).

[0079] As shown in FIG. 16, a control system 240 of the machine may include a control or controller 242, which receives signals from the laser receiver 220, and which may control the elevation actuator or cylinder 230 in response to the signals from the laser receiver. The

controller 242 also receives a signal from a direction switch or indicator 244 (or wheel sensor or other direction determining or direction indicating device or means) that is indicative of the direction of travel of the machine. For example, the controller may receive a signal from the direction switch that is indicative of the machine traveling in the reverse direction (the normal direction of travel of the machine when it is used for plowing or raking or screeding the uncured concrete), and may thus control the elevation actuator in response to the correction signals from the laser receiver so that the plow is maintained at the desired level or grade as the machine is moved in the reverse direction over and along the concrete.

[0080] At the end of a material raking or leveling pass, the operator may stop the machine and may then select the "forward" travel direction position of the propulsion direction control. Stopping the machine and/or election of the "forward" travel position of the propulsion direction control may automatically provide a signal (from the direction switch or direction indicating device or wheel encoder or the like) to the controller, whereby the controller may actuate or control the lift actuator or cylinder (such as to a hydraulic raise valve of the plow lift cylinder) to raise the plow blade out of and away from the uncured concrete material in response to the signal. During this part of the operation, any "lower" signal from the laser receiver (as the laser receiver is also raised and thus is raised above the laser reference plane) is temporarily blocked (or the laser receiver is deactivated or its signal is otherwise effectively ignored by the controller) to prevent the plow from being automatically lowered toward the correct grade height. Once the plow and laser receiver are raised so that the laser receiver is out of the sensing range of the laser receiver, blocking of the corrections signal from the laser receiver is no longer necessary.

[0081] At the fully raised position, the plow head may be brought to a point where the plow lift arm or lifting mechanism engages a limit switch, which may limit further raising of the plow head. At this position, the plow remains at rest in the raised position (and may be secured or retained in the raised position) as the machine is driven through the uncured concrete by the operator in the forward direction. During this step of the process, the plow is not engaged in striking-off and leveling the material. At the end of the forward travel pass, the machine's travel may again be stopped by the operator. The operator may again select the "reverse" position of the propulsion control and may also select a switch to once again lower the plow head for engagement with the concrete (optionally, the plow head may be automatically lowered in response to selection of the reverse position or movement of the machine in the reverse direction or in response to the stopping of the wheeled device after traveling in the forward direction). As

the plow is brought toward the desired grade, the laser control system again assumes control and establishes and maintains the cutting edge of the plow at the correct elevation while the operator drives the machine in the reverse travel direction. This semi-automated "auto rake" or "auto raise" process is repeated as many times as is necessary to accomplish the desired strike-off and levelness of the concrete prior to the finish screeding operations. The "auto rake" or "auto raise" system thus provides the operator with an option for reducing the number of necessary control inputs while operating the machine. This can help reduce operator fatigue and increase overall machine productivity.

[0082] A further aspect of the machine's control system may be referred to as an "auto drag" function. The "auto drag" function is provided by an adjustable user input or relief valve input 246 (FIG. 16) that in turn controls or adjusts the setting of a pressure limiting control valve 248 located within the plow raise-lower hydraulic circuit (such as via the controller 242 or other controller of the machine or control system). The adjustable relief valve may be located within reach of the operator on the operator's control console. The actual pressure limiting control valve may be located within the supply pressure line of the plow lift cylinder circuit. By rotating the adjustable knob on the operator's control console, the operator can adjustably limit the maximum hydraulic pressure available to lower or otherwise drive the plow assembly in a downward direction. This effectively adjusts and limits the downward force available at the plow to fully engage the material to be power raked. As shown in FIG. 16, the control valve 248 may be controlled directly by the user input 246 or may be controlled by the controller 242 (which may receive a signal or input from the user input 246) to adjust the down pressure applied by the plow assembly at the concrete surface.

[0083] For example, when an excessive amount of loose subgrade material or uncured concrete is encountered at the plow while driving the machine in the reverse travel direction, the operator may elect to reduce the downward force of the plow by adjusting the "auto drag" setting. By reducing the "auto drag" setting, the plow will tend to rise up and disengage a portion of material whenever it encounters an excessive load of material to be moved. Thus, the load on the machine is reduced to a level that will more closely match the machine's tractive effort and the available engine horsepower under the given conditions. It is then possible to maximize the machine's productivity without actually stalling the hydraulic motors that drive the propulsion wheels, or cause the wheels themselves to spin from a loss of traction at high levels of tractive effort. Therefore, the "auto drag" feature provides the operator with the ability to readily adjust

the degree of engagement of the material with the plow and promote the highest available level of productivity of the machine. Optionally, the down pressure of the plow may be automatically adjusted or reduced by a control or controller or control system of the machine in response to a detection of slippage of the wheels/tires at the subgrade or other input (such as a resistance measurement of the resistance against rearward movement of the plow against material that has accumulated at the plow or the like) that may be indicative of excess material at the plow that limits the rearward progress of the concrete working or processing machine or device.

[0084] Referring now to FIG. 17, an articulated powered rake or plow or screeding or concrete working or processing machine or device or apparatus 310 includes an articulatable wheeled base 312, which is supported by four rubber-tired wheels, two front wheels 324 at the front frame portion 312a and two rear wheels 326 at the rear frame portion 312b. The front frame portion 312a supports a plow and/or screed head assembly 314. The wheeled support or base may be substantially similar to the wheeled supports described above, such that a detailed description of the wheeled supports will not be repeated herein.

[0085] In the illustrated embodiment, the head assembly 314 comprises a screed head assembly, having a plow member 318 and a vibrating member 319. Optionally, and as shown in FIG. 17, the screed head assembly 314 may include a material moving device or auger 321, whereby the plow member may roughly establish the grade of the concrete and the auger may further establish the desired grade of the concrete before the vibrating member vibrates, compacts and smooths the concrete at the desired grade. The screed head may utilize aspects similar to those described in U.S. Pat. Nos. 4,655,633; 4,930,935; 6,129,481; 6,152,647; 6,183,160; 6,588,976; and/or 6,623,208; and/or U.S. pat. applications, Ser. No. 10/728,620, filed Dec. 5, 2003, now U.S. Pat. No. 6,953,304; Ser. No. 10/266,305, filed Oct. 2, 2002, now U.S. Pat. No. 6,976,805; Ser. No. 10/902,528, filed Jul. 29, 2004, now U.S. Pat. No. 7,121,762; and/or Ser. No. 10/804,325, filed Mar. 19, 2004, now U.S. Pat. No. 7,044,681, which are hereby incorporated herein by reference. In the illustrated embodiment, screed head assembly 314 is attached to a substantially rigid boom 316 extending from the front frame portion 312a of the wheeled support unit 312. The height or elevation of the plow blade 318, auger 321 and vibrating member 319 is adjusted via at least one elevation actuator or hydraulic cylinder 330, which is controlled by an automated laser control system having a laser receiver 320 attached to the plow by a vertical mast 336. A laser transmitter (not shown) stationed away from the machine provides or generates a laser reference plane for the machine's automated laser control system.

[0086] As shown in FIG. 17, the machine operator may stand on a platform 327 attached to the rear frame portion 312b of the wheeled support 312. The operator controls propulsion speed and direction and steers the machine via user activated inputs, such as in a similar manner as described above. Steering may be accomplished through a double-acting hydraulic cylinder 331 at or toward a side of the machine. The steering cylinder 331 is attached at the ends to both the front and rear frame portions 312a, 312b. Extension and retraction of the steering cylinder 331 thus provides a moment force that acts about the vertical axis 331a of the hinged articulated frame to steer the machine in either the left or right direction. Optionally, each of the rear or front wheels or each of all four wheels of the wheeled support may be driven by hydraulic motors providing a two-wheel or four-wheel drive propulsion system.

[0087] In the illustrated embodiment, the rear frame portion 312b may pivot about its longitudinal axis 350 relative to a mounting or connecting arm or member 352 that pivotally mounts to front frame portion 312a and that pivots relative to front frame portion 312a about the generally vertical pivot axis 331a of the wheeled support 312. For example, the rear frame portion may rotatably receive a generally cylindrical connecting arm within a generally cylindrical receiving member; where the connecting arm may rotate or pivot within the receiving member to allow for pivoting or tilting of the rear frame portion relative to the connecting arm and the front frame portion. The rear frame portion 312b thus may pivot about two axes relative to the front frame portion. Optionally, the rear frame portion may pivotally attach to the front frame portion via other pivotal means, such as a ball and socket type arrangement or universal joint or a flexible connecting member or the like, in order to provide the desired degree of freedom between the front and rear frame portions.

[0088] As can be seen in FIG. 17, the front wheels 324 and axle assembly or subframe 325 at front frame portion 312a may have the ability to oscillate or tilt the machine and plow head about a longitudinal pivot axis 354 so as to pivot side-to-side with respect to the horizontal. In the illustrated embodiment, the front wheels are attached to the axle or subframe 325, and the front frame portion 312a is pivotally mounted to the axle or subframe and is pivotable about longitudinal pivot axis 354. Side-to-side tilting or oscillation of the front frame portion (and the screed head assembly) may be controlled by an actuator or hydraulic cylinder 338 (or other actuating device) with a first end of the cylinder or actuator attached to the frame portion 312a of the machine and a second or opposite end attached to the axle or subframe 325, such as described above.

[0089] As shown in FIG. 17, front frame portion 312a may include a front level sensor or tilt sensor or cross slope level sensor 356 (which may be mounted at the frame portion 312a, as shown, or which may be mounted at the screed head assembly). The front level sensor 356 is operable to detect a side-to-side tilt or pivotal movement of the front frame portion (or the screed head assembly) about the longitudinal axis 354. A control 358 (FIG. 18) of a control system 360 may be responsive to a signal from the front level sensor 356 and may be operable to actuate or adjust or control actuator 338 to control the tilt of the front frame portion 312a relative to the axle assembly 325 and front wheels 324, so as to substantially maintain the screed head assembly at a level or desired orientation, even when the wheels and axle assembly may tilt as the wheels encounter bumps or surface irregularities or uneven terrain as the machine is moved rearward over and through the concrete and generally along and above the subgrade surface.

[0090] The control system of the concrete screeding or working device may be operable to detect a bump or surface irregularity on or at the subgrade surface as it is encountered by the rear wheels (such as via a bump detecting device or system or the like) and may reduce or decrease the speed of the machine (by reducing or controlling an output of a drive system 364 of the machine) in anticipation of the front wheels encountering the bump, so that the control 358 and actuator 338 may more readily adapt to and accommodate the surface irregularity when the front wheels subsequently encounter the surface irregularity at the reduced rate of travel. In the illustrated embodiment, the bump detecting system comprises a rear level sensor or tilt sensor or cross slope level sensor 362, which is operable to detect a side-to-side tilt or pivotal movement of the rear frame portion 312b about its longitudinal axis 350, such as in a similar manner as the front level sensor 356. As shown in FIG. 18, control or controller 358 of control system 360 may receive a signal from rear level sensor 362 to detect when one of the rear wheels 326 encounters an object or bump or uneven terrain or surface irregularity (such as object 366 in FIG. 17) as the wheeled support is traveling in the rearward direction through the concrete. In response to a signal from rear level sensor 362 that is indicative of a sufficient or threshold bump or surface irregularity, control 358 reduces the drive speed of the wheels so as to reduce the rearward speed of travel of the wheeled support unit so that the wheeled support unit will be traveling at a slower or reduced rate when the front wheels encounter the detected bump or surface irregularity.

[0091] The control 358 may also receive an input signal from a speed or distance or travel indicating device or indicator 368 (which may comprise a wheel encoder, a wheel speed sensor,

a distance sensor and/or a timing device and/or the like). The control 358 thus may determine when the front wheels 324 have passed over the detected bump or surface irregularity (such as by calculating the distance traveled based on the speed of travel and/or determining when the distance traveled since the bump detection is at least equal to the distance between the front and rear wheels or axles, or by other suitable distance or time or speed detecting or determining means). After the control determines that the front wheels have passed the detected bump, the control may increase the speed of travel of the machine to resume the previous speed of travel before the bump was detected.

[0092] The control system of the present invention thus provides an enhanced plowing or screeding device and method that allows for faster passes over the concrete surface. This is because the machine may travel at a greater speed when the wheels are traveling over a substantially smooth subgrade surface, but the speed of the machine is automatically reduced when surface irregularities are encountered, thereby providing enhanced responsiveness to the tilt control at the front frame portion or screed head assembly. Thus, the operator may set the speed of the machine to a desired level for smooth subgrades, and the control system will automatically adjust the speed to an appropriate speed level when bumps or other surface irregularities are encountered by the machine. It is envisioned that the control system may adjust or vary the degree of reduction in speed depending on the size or height of the bump that is detected or encountered by the rear wheel or wheels of the machine.

[0093] Optionally, and particularly for plowing or raking or screeding machines of the present invention with two-wheeled supports or bases or units (such two-wheeled devices as of the types described in U.S. Pat. Nos. 4,655,633; 4,930,935; 6,129,481; 6,152,647; 6,183,160; 6,588,976; and/or 6,623,208; and/or U.S. pat. applications, Ser. No. 10/728,620, filed Dec. 5, 2003, now U.S. Pat. No. 6,953,304; Ser. No. 10/266,305, filed Oct. 2, 2002, now U.S. Pat. No. 6,976,805; and/or Ser. No. 10/902,528, filed Jul. 29, 2004, now U.S. Pat. No. 7,121,762, which are hereby incorporated herein by reference), the bump detecting device or system may comprise a movable sensing device, such as a wheel or roller or the like, that may be positioned generally ahead of each wheel of the wheeled support (in the rearward direction of travel) to encounter and detect any bump or subgrade surface irregularity before the respective wheel encounters the bump or surface irregularity. For example, a wheel or roller may be mounted on an arm that extends rearward and downward from the wheeled support, whereby a detected upward movement of the

arm (such as upward pivotal movement of the arm) is indicative of the wheel or roller encountering a bump at the subgrade surface.

[0094] Therefore, when one or both of the front wheels encounter the detected bump or surface irregularity, the machine travel speed is reduced to a reduced level so that the control and tilt actuator 338 may more readily substantially maintain the screed head in the level or desired orientation as the front wheels 324 and axle assembly 325 twist or pivot as the front wheels encounter and roll over the bump. The sensed event at the rear wheels is thus used to automatically slow (anticipate) the travel speed of the machine such that screeding can continue at a reduced machine travel speed during the controller-calculated duration of the bump event. The front frame cross slope control system helps keep the boom and screed head substantially level in the cross slope direction, and the temporary slowing of the machine's travel speed helps keep the control system responses within the capabilities of the respective components. Then, when the machine has cleared the bump event after a controller-calculated amount of travel distance (such as sensed by wheel encoders or the like), the machine can resume its previous travel speed. If no further bump (rear frame cross slope) signals are generated and the subgrade remains substantially smooth or even, the screeding machine can continue screeding at the faster travel speed. Although shown and described as detecting a side-to-side tilt of the rear frame portion and slowing the machine down in anticipation of a similar side-to-side tilt of the front frame portion and screed head, the machine of the present invention may also detect a change in pitch of the rear frame portion (such as may happen when both wheels encounter the same bump or surface irregularity) and the machine may slow down in anticipation of similar encounter by the wheels/tires of the front frame portion (in order to provide a pitch adjustment of the screed head assembly while the machine is traveling at a reduced rate).

[0095] Optionally, and as shown in FIG. 19, a concrete working or processing device or machine 310' may include the wheeled support 312 and a screed head assembly 314' mounted at the front frame portion 312a of the wheeled support 312. The screed head assembly 314' includes a frame 370, a vibrating member 319' mounted at the frame 370 and a plow member 318' that is adjustably mounted at the frame 370, and that is adjustable via a pair of actuators and in response to respective laser receivers 320' on masts 336' to establish the grade of the concrete so that the vibrating member may vibrate, compact and smooth the concrete to the desired grade as the machine moves over the subgrade and concrete. In the illustrated embodiment, screed head assembly 314' is attached at the front frame portion 312a and generally floats on or is supported

by the concrete surface, such as in the manner described in U.S. pat. applications, Ser. No. 10/728,620, filed Dec. 5, 2003, now U.S. Pat. No. 6,953,304; Ser. No. 10/266,305, filed Oct. 2, 2002, now U.S. Pat. No. 6,976,805; and Ser. No. 10/902,528, filed Jul. 29, 2004, now U.S. Pat. No. 7,121,762, which are hereby incorporated herein by reference. The actuators may be responsive to the respective laser receivers at or near opposite ends of the screed head assembly and may be adjusted or controlled to adjust the degree of cutting into the concrete so as to establish the desired grade for the floating vibrating member as the machine is moved along the concrete. Optionally, the screed head may also include an auger, such as described above.

[0096] In the illustrated embodiment, screed head assembly 314' is pivotally mounted to front frame portion 312a via an upper arm linkage 334 and a lower arm linkage 332, and may be raised and lowered relative to the front frame portion 312a via a lift cylinder or actuator 330'. During the screeding operation, the screed head is allowed to float upon the concrete surface at the vibrating member by substantially free pivoting movement at the upper and lower lift arm linkages and through selected free movement or free floating of the lift-arm cylinder. With this design, the front cross slope or tilt sensor may be located on the vibrating member resting upon the surface of the concrete, whereby the plow actuators may be responsive to the tilt sensor to substantially maintain the screed head assembly in the desired orientation, while both the front axle and the rear frame portion of the machine are free to oscillate over uneven subgrade surfaces through their respective longitudinal pivot axes.

[0097] Optionally, the upper link 334 of the lift arm linkage may be an adjustable length linkage, and may include a linear actuator, such as an electric linear actuator or the like. The linear actuator may comprise a substantially rigid member, and may be automatically adjusted to change its length according to a signal from a pitch level sensor 372 on the screed head frame 370. The pitch level sensor 372 may sense the pitch or fore-aft tilt of the screed head assembly as the screed head assembly may tilt when the wheels of the wheeled unit encounter bumps or inclines in the subgrade. Such an adjustable lift arm linkage and pitch sensor arrangement may enable the pitch of the screed head to be controlled so as to remain substantially constant as the wheels of the machine encounter bumps or inclines in the subgrade. As described above, the rear frame portion may include a pitch detecting sensor and the control may slow the rate of travel of the machine when a sufficient or threshold pitch change is detected, in anticipation of the front wheels/tires and the screed head assembly encountering a similar pitch change.

[0098] Depending on the design weight of the screed head and the conditions of the concrete, it may be desirable to either add or subtract "weight" at the screed head. Thus, the normally free floating lift cylinder 330' may optionally and selectively act as a "constant force" actuator as selected by the operator, whereby the operator may cause the actuator or cylinder to extend or retract or become substantially rigid or locked. Such an application may allow the operator to increase or decrease a down pressure of the screed head assembly onto the concrete surface so as to adjust the desired amount of force the vibrating/floating member exerts upon the surface of the concrete. Optionally, the machine may include variably adjustable torsional springs or other biasing elements or springs or the like at the pivot between the lower lift arm and the front frame portion. Such an arrangement may counteract the weight of the screed head through the range of movement of the screed head, such as in a similar manner as the torsional springs used on overhead garage doors counteract the weight of the door through its range of movement.

[0099] The machine may also include the bump anticipation and speed control system described above, where the actuator 338 may maintain the front frame portion 312a in a substantially level or desired orientation as the front wheels encounter and roll over a bump (and at a reduced speed due to the prior detection of the bump by the bump detection device or sensor at the rear frame portion). Optionally, however, the front level sensor or cross slope or tilt sensor 356 may be removed in this embodiment, since a tilt sensor may be provided at the screed head assembly.

[00100] Optionally, and with reference to FIG. 20, a concrete working or plowing or screeding machine 410 of the present invention may include a wheeled support or base or unit 412, with a screed head assembly 414 mounted at a front or forward end of wheeled support 412. The screed head assembly 414 may be substantially similar to screed head assembly 314', discussed above, and may be mounted to the wheeled support so as to substantially float on or be supported by the concrete surface in a similar manner as described above, such that a detailed discussion of the screed head assemblies will not be repeated herein. Common or similar components or elements of the screed head assemblies are shown in FIG. 20 with the similar reference numbers as used in FIG. 19, but with 100 added to each reference number.

[00101] Also, the wheeled support 412 may be substantially similar to the wheeled support 312, discussed above, such that a detailed discussion of the wheeled supports will not be repeated herein. However, a front portion 412a of wheeled support 412 includes a front frame portion 413a, which is pivotally mounted to the axle assembly 425 and pivotable relative to the axle assembly via actuator 438 (such as described above), and includes a pivotable support arm or

support frame 413b that is pivotally attached to front frame portion 413a and pivotable about a generally horizontal axis 413c. The screed head assembly 414 is mounted to a forward portion 413d of pivotable support frame 413b via the linkages 432, 434 and actuator 430 (such as in a similar manner as screed head assembly 314' is mounted to front frame portion 312a as described above).

[00102] As can be seen in FIG. 20, the pivot axis 413c of the support frame 413b is generally horizontal and generally perpendicular to the direction of travel of the machine. The generally mid-point attachment of the support frame to the front frame portion of the wheeled support may reduce the effects of unwanted elevation changes at the lift arm and unwanted changes in the pitch (attack angle) of the screed head as the wheels of the machine may travel over bumps and irregularities within the subgrade. The pivotable support frame is pivotally attached to the wheeled support near its midpoint and well rearward of the forward end of the wheeled support because such an arrangement reduces elevation changes to the lift arm linkages (and thus to the screed head assembly) as the machine is moved through the concrete. This is a desirable arrangement, since it is desirable to maintain a generally horizontal pitch attitude of the screed head assembly while screeding, so as not to upset the desired attack angle of the screed head.

[00103] The forward end portion 413d of the pivotable support frame 413b may be adjustably connected to the forward end of the front frame portion 413a via an adjustable actuator 474 or the like. During operation of the concrete working device or machine, the actuator 474 between the support frame and the front portion of the front frame portion is allowed to freely extend and retract. However, the small actuator 474 may be selectively locked in a fixed position to allow the lift cylinder or actuator 430 to raise or lift the screed head out of the concrete. When the actuator 474 is in its free float mode, the screed head assembly is supported by the vibrating member on the concrete, such as described in U.S. pat. applications, Ser. No. 10/728,620, filed Dec. 5, 2003, now U.S. Pat. No. 6,953,304; Ser. No. 10/266,305, filed Oct. 2, 2002, now U.S. Pat. No. 6,976,805; and Ser. No. 10/902,528, filed Jul. 29, 2004, now U.S. Pat. No. 7,121,762, which are hereby incorporated herein by reference.

[00104] It is further envisioned that the actuator 474 may also function as a constant-force actuator to help control the desired amount of either down pressure or up pressure at the vibrating member as it is partially supported on the surface of the concrete. A pressure sensor or load cell (not shown) may be mounted between the vibrator and the frame of the screed head, and may sense the amount of vertical force the vibrator is exerting on the concrete surface. An

output signal from the pressure sensor or load cell may be directed to a controller to adjust the output force of the constant-force actuator to provide a desired down-pressure at the concrete surface.

[00105] Optionally, the forward end portion 413d of support frame 413b may be pivotally attached to the generally horizontal portion 413e of support frame 413b and thus may be pivotable about a generally vertical pivot axis at the forward end of the horizontal portion 413e of support frame 413b. Such a pivotal arrangement allows pivotal movement of the screed head assembly about the vertical pivot axis and relative to the wheeled support to reduce or alleviate sideward movement of the screed head assembly when the articulating wheeled support is articulated or steered to one side or the other. Optionally, an actuator (not shown) or the like may be provided to selectively allow the support frame to be locked or to float about the generally vertical pivot axis. The actuator may be actuatable to control or adjust the position or orientation of the support frame about the pivot axis and in the sidewardly direction relative to the wheeled support.

[00106] Although shown and described as being driven over a subgrade surface and being operable to plow or establish a desired grade of the concrete and/or to vibrate or screed the uncured concrete, aspects of the wheeled working or processing devices or machines of the present invention may be suitable for plowing or screeding other materials as well, such as subgrade materials (such as dirt, sand, gravel or the like) or other uncured materials placed or poured on subgrade surfaces (such as other types of concrete, cement, asphalt or the like), without affecting the scope of the present invention.

[00107] The present invention thus may provide a concrete working or processing device or machine that includes a plow assembly for striking off concrete and/or a screed head assembly for screeding or smoothing and compacting the concrete. The plow head or screed head assembly may be mounted to a two-wheeled or three-wheeled or four-wheeled unit or base and may be adjustable relative to the wheeled unit in response to a laser receiver to establish and/or screed the concrete at the desired grade. Optionally, the plow or screed head assembly may be mounted at the wheeled unit and may substantially freely float relative to the wheeled unit, whereby the grade is established via a grade setting device or plow of the plow/screed head assembly in response to actuators and laser receivers at the plow/screed head assembly. The machine may include a control system that is operable to automatically raise the plow/screed head assembly after a pass and may hold the plow/screed head assembly at the raised position

while the machine is moved to the beginning of another pass along and through the concrete. The machine may include a control system that includes a down-pressure control that controls or increases/reduces the down pressure applied by the plow/screed head assembly at the concrete surface, so that the plow/screed head assembly may rise over excessive concrete that may accumulate at the plow as the plow/screed head assembly is moved over the concrete surface. The machine may include a control system that may detect a bump or surface irregularity at the subgrade and that may automatically adjust the speed of the wheeled unit in response to the detection of the bump or uneven terrain by one of the wheels of the wheeled unit, so that the machine may reduce the speed over uneven terrain to allow for enhanced grading or screeding of the concrete in those areas by providing additional time for the machine to adjust and maintain the plow/screed head assembly in a generally horizontal orientation.

[00108] Therefore, the present invention may serve to produce a desired and rough but substantially accurate strike-off of a concrete surface in order to facilitate and complement concrete placing and screeding operations that may follow, as well as generally smooth and accurately level loose and spreadable materials for subgrade preparation found within the construction industry. A further advantage of this machine is that the machine operator can stand and ride upon the machine with his feet out of the concrete and/or loose materials. This improves ease of use of the machine and personal safety during the use of the machine. For example, the operator is not as likely to catch his feet in loose materials such as uncured concrete or trip upon objects obscured by loose and flowable materials. Additionally, higher machine travel speeds are possible and a commanding view of the work area are provided with the operator in a stand-and-ride-on design. This provides a significant increase in productivity of the machine over walk-behind versions. Additionally, the machine of the present invention provides a high level of utilization to the owner operator within the concrete construction industry in that it can optionally be adapted for use as a concrete coatings sprayer, a laser responsive screeding machine, a concrete pumping hose handler, and a surface sweeper. The machine may be suitable for other applications as well, without affecting the scope of the present invention.

[00109] The present invention may also provide an apparatus and method for achieving a desired and accurate strike-off of an uncured concrete surface in order to facilitate and complement concrete placing and screeding operations that may follow, as well as generally smooth and accurately level loose and spreadable materials for subgrade preparation found within the construction industry. The apparatus or machine may be moved in either direction to strike-off

or establish the desired grade or level of the uncured concrete or subgrade material. The plow is automatically adjusted to maintain the desired grade or level in response to a laser reference system, so that the uncured concrete or subgrade materials are struck-off at the appropriate level over the targeted area. The wheels of the machine may be independently operable or controlled to move the machine over and through the uncured concrete or subgrade materials and to turn or steer the machine as it is moved over and through the uncured concrete or subgrade materials. The rear wheel may be steered via a handlebar or the like to further enhance the steering and controlling of the machine as it is moved over and through the uncured concrete or subgrade materials. Optionally, the wheeled base unit may comprise an articulatable frame with front and rear wheels. One frame portion may support a plow head or screed head or other attachment or head assembly or the like, while the other frame portion may provide an operator control station with a platform on which the operator may stand during the plowing or striking off or screeding or other concrete processing operation.

[00110] The present invention may also provide a sidewalk screeding machine that is operable to establish an initial grade that is slightly above the final grade and then to screed the uncured concrete at the initial grade and compact and vibrate the uncured concrete to the final grade, without the use of laser leveling or grade setting systems or the like. The plow rides on forms and the lower edge of the plow is spaced above the level of the forms by the spacer members or elements such that the plow cuts and establishes a grade that is above the level of the forms. The planar portion or surface of the vibrating member rests on and moves along the forms behind the plow such that the planar surface vibrates and compacts and screeds and smoothes the excess concrete to the level set by the forms. The plow thus functions to cut or establish an initial grade or level of the uncured concrete that is above the level or grade at which the vibrating member will vibrate and screed the concrete. The plow thus leaves a small amount of excess concrete for the vibrating member to compact and screed so that the vibrating member provides an enhanced surface of the concrete slab.

[00111] Changes and modifications in the specifically described embodiments may be carried out without departing from the principles of the present invention, which is intended to be limited only by the scope of the appended claims, as interpreted according to the principles of patent law.

The embodiments of the invention in which an exclusive property right or privilege is claimed are defined as follows:

1. A wheeled concrete screeding device for screeding uncured concrete, said wheeled concrete screeding device comprising:

a wheeled unit having at least two wheels for movably supporting a frame portion of said wheeled unit, said frame portion having a forward end and a rearward end, wherein said wheeled unit is movable through uncured concrete in a screeding direction;

a screed head supported at said rearward end of said frame portion and following behind said wheeled unit when said wheeled unit is moved in said screeding direction, said screed head comprising a grade establishing element and a vibratable member;

wherein said grade establishing element is generally vertically adjustable responsive to a signal from a laser receiver disposed at said screed head to establish a struck-off surface of the uncured concrete at a desired grade when said wheeled unit is moved in said screeding direction; and

wherein said vibratable member is adjustably attached at a rearward end of said grade establishing element and wherein said vibratable member at least partially floats behind said grade establishing element on the struck-off surface of the uncured concrete and is at least partially supported at the struck-off surface of the uncured concrete as said wheeled unit is moved in said screeding direction.

2. The wheeled concrete screeding device of claim 1, wherein said grade establishing element comprises a plow member.

3. The wheeled concrete screeding device of claim 2, wherein said grade establishing element comprises an auger disposed behind said plow member, and wherein said auger is generally vertically adjustable with said plow member.

4. The wheeled concrete screeding device of claim 3, wherein said rearward end of said grade establishing element comprises a rearward end of said auger and wherein said vibratable member is adjustably attached at said rearward end of said auger.

5. The wheeled concrete screeding device of claim 1, wherein said vibratable member is pivotally attached at said rearward end of said grade establishing element.
6. The wheeled concrete screeding device of claim 5, wherein said vibratable member is pivotally attached at said rearward end of said grade establishing element via a pair of links that are pivotally attached at said rearward end of said grade establishing element.
7. The wheeled concrete screeding device of claim 5, wherein said vibrating member is pivotally attached at at least one bracket at said rearward end of said grade establishing element.
8. The wheeled concrete screeding device of claim 7, wherein said vibrating member is pivotally attached at said at least one bracket via at least one mounting pin.
9. The wheeled concrete screeding device of claim 7, wherein said vibrating member is securable relative to said at least one bracket to retain said vibrating member at a desired attack angle as said vibrating member is moved in said screeding direction behind said grade establishing element.
10. The wheeled concrete screeding device of claim 1, wherein said wheeled unit comprises a pair of front wheels supporting a front frame portion and a pair of rear wheels supporting a rear frame portion, wherein said screed head is supported at a rearward end of said rear frame portion.
11. The wheeled concrete screeding device of claim 10, wherein said wheeled unit comprises an articulatable wheeled unit and wherein said front frame portion is articulatable relative to said rear frame portion about a generally vertical pivot axis when said wheeled unit is supported at a generally horizontal support surface.
12. The wheeled concrete screeding device of claim 11, wherein said front frame portion includes a platform at its forward end, and wherein said platform supports an operator of said wheeled concrete screeding device during operation of said wheeled concrete screeding device.

13. A wheeled concrete screeding device for screeding uncured concrete, said wheeled concrete screeding device comprising:

an articulatable wheeled unit having a front frame portion movably supported by front wheels and a rear frame portion movably supported by rear wheels, wherein said front frame portion is articulatable relative to said rear frame portion about a generally vertical pivot axis when said wheeled unit is supported at a generally horizontal support surface, wherein said articulatable wheeled unit is movable through uncured concrete in a screeding direction;

a screed head supported at a rearward end of said rear frame portion so that said screed head follows behind said articulatable wheeled unit when said articulatable wheeled unit is moved in said screeding direction, said screed head comprising a grade establishing element and a vibratable member, wherein said grade establishing element comprises a plow member;

wherein said grade establishing element is generally vertically adjustable relative to said rear frame portion responsive to a signal from a laser receiver disposed at said screed head to establish a struck-off surface of the uncured concrete at a desired grade when said articulatable wheeled unit is moved in said screeding direction;

wherein said vibratable member is pivotally attached at a rearward end of said grade establishing element, and wherein said vibratable member at least partially floats behind said grade establishing element on the struck-off surface of the uncured concrete and is at least partially supported at the struck-off surface of the uncured concrete as said articulatable wheeled unit is moved in said screeding direction.

14. The wheeled concrete screeding device of claim 13, wherein said grade establishing element comprises an auger disposed behind said plow member, and wherein said auger is generally vertically adjustable with said plow member, and wherein said rearward end of said grade establishing element comprises a rearward end of said auger and wherein said vibratable member is pivotally attached at said rearward end of said auger.

15. The wheeled concrete screeding device of claim 13, wherein said front frame portion includes a platform at its forward end, and wherein said platform supports an operator of said wheeled concrete screeding device during operation of said wheeled concrete screeding device.

16. A method of establishing a desired grade of an uncured concrete surface, said method comprising:

providing a wheeled concrete working device having a wheeled support having a frame portion and a pair of wheels rotatably mounted at said frame portion, wherein said wheeled support comprises a plow assembly mounted at said frame portion, said plow assembly including at least one plow member for engaging the uncured concrete;

moving said wheeled concrete working device in a screeding direction;

adjusting an elevation of said plow member in response to a signal from a laser receiver mounted at said plow assembly to establish a desired grade of the concrete when said wheeled concrete working device is moved in said screeding direction;

detecting a surface irregularity of the subgrade upon which the wheels travel and at a location forward of either of said wheels and in the screeding direction of travel of said wheeled concrete working device;

reducing the speed of said wheeled concrete working device in said screeding direction in response to a detection of a surface irregularity; and

controlling at least one of said frame portion and said plow assembly to substantially maintain said plow assembly at a desired orientation when at least one of said wheels engages the detected surface irregularity.

17. The method of claim 16 comprising increasing the speed of said wheeled concrete working device in said screeding direction after said wheels have passed the detected surface irregularity.

18. The method of claim 16, wherein said frame portion of said wheeled support comprises a forward frame portion supported by a pair of front wheels and a rearward frame portion pivotally attached to said forward frame portion and supported by a pair of rear wheels, and wherein said plow assembly is mounted to said rearward frame portion, and wherein detecting a surface irregularity comprises detecting a tilt of said forward frame portion about a longitudinal axis of said forward frame portion.

19. The method of claim 18, wherein controlling at least one of said frame portion and said plow assembly comprises controlling at least one of said rearward frame portion and said plow

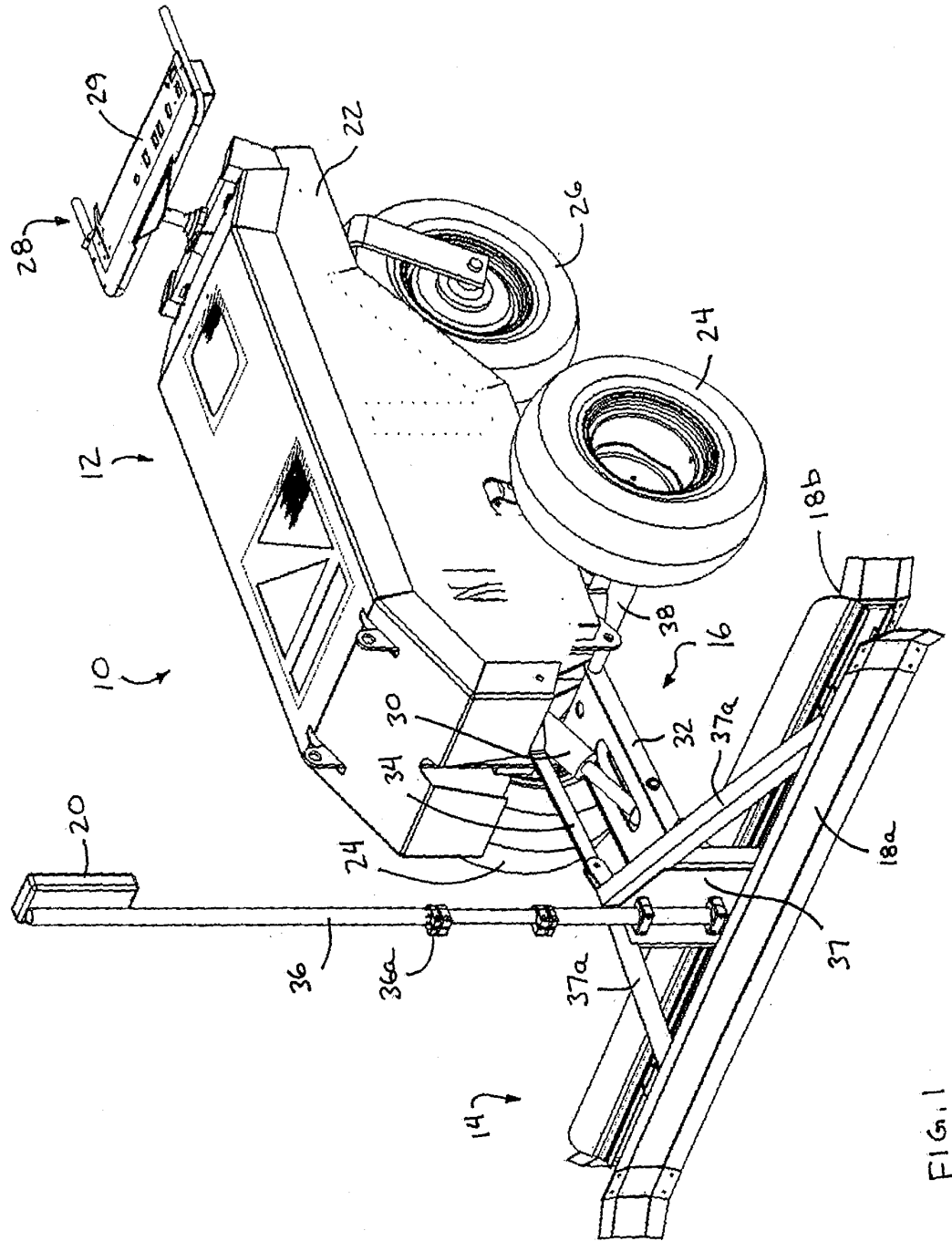
assembly in response to a detection of a tilt that is indicative of one of said front wheels engaging a surface irregularity.

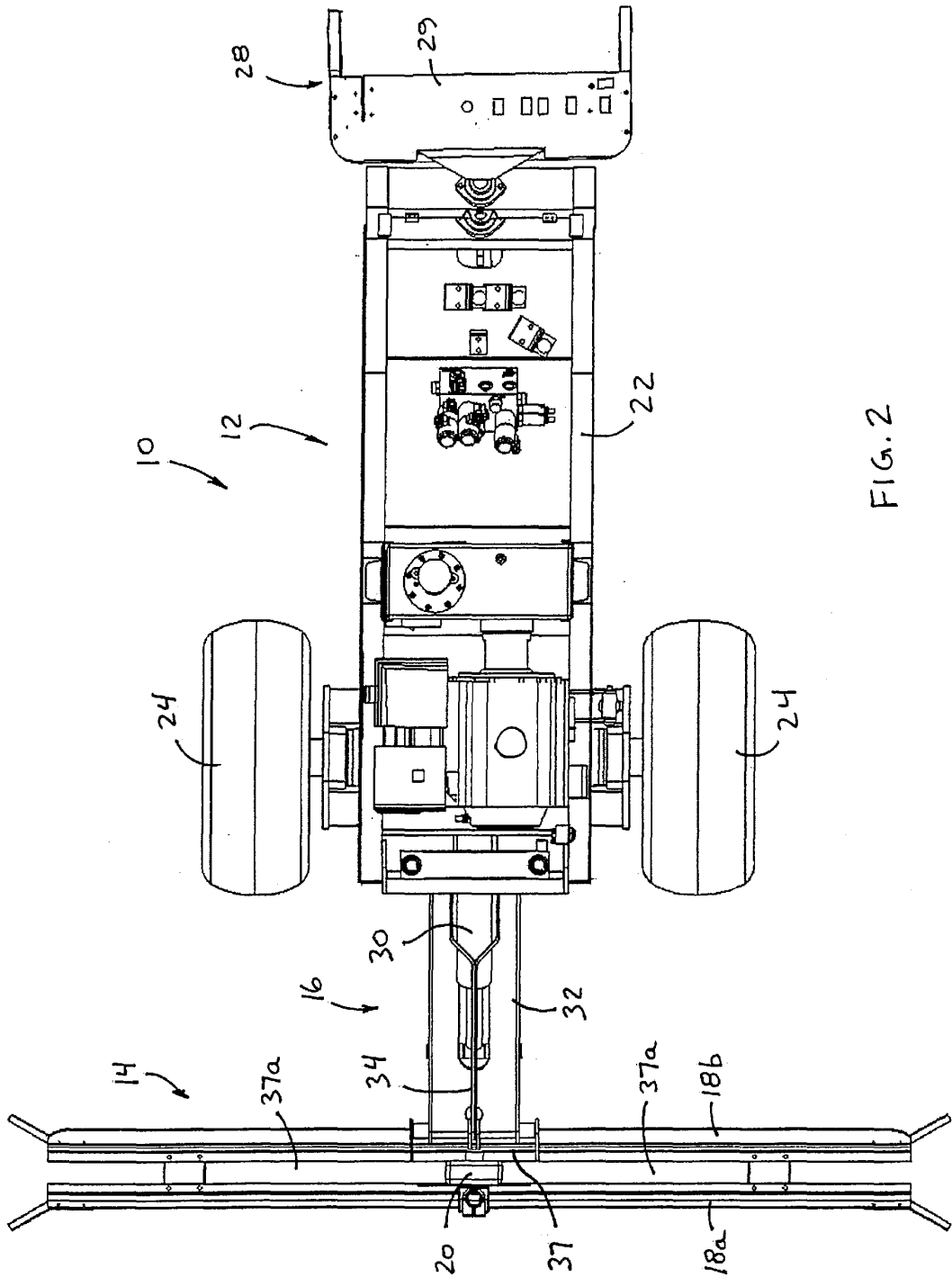
20. The method of claim 16 comprising rotatably driving said wheels to move said wheeled concrete working device over and through the uncured concrete surface in said screeding direction.

WHEELED CONCRETE SCREEDING DEVICE

ABSTRACT

A wheeled concrete screeding device includes a wheeled unit having wheels for movably supporting a frame portion, and a screed head supported at the frame portion and following behind the wheeled unit when the wheeled unit is moved in a screeding direction. The screed head includes a grade establishing element and a vibratable member. The grade establishing element is generally vertically adjustable responsive to a signal from a laser receiver disposed at the screed head to establish a struck-off surface of the uncured concrete at a desired grade. The vibratable member is adjustably attached at the grade establishing element and the vibratable member at least partially floats behind the grade establishing element on the struck-off surface of the uncured concrete and is at least partially supported at the struck-off surface of the uncured concrete as the wheeled unit is moved in the screeding direction.





Applicants : Philip D. Halonen et al.
 Title : WHEELED CONCRETE SCREEDING DEVICE
 Docket No. : SOM01 P-325F
 Sheet No. : 3 of 18

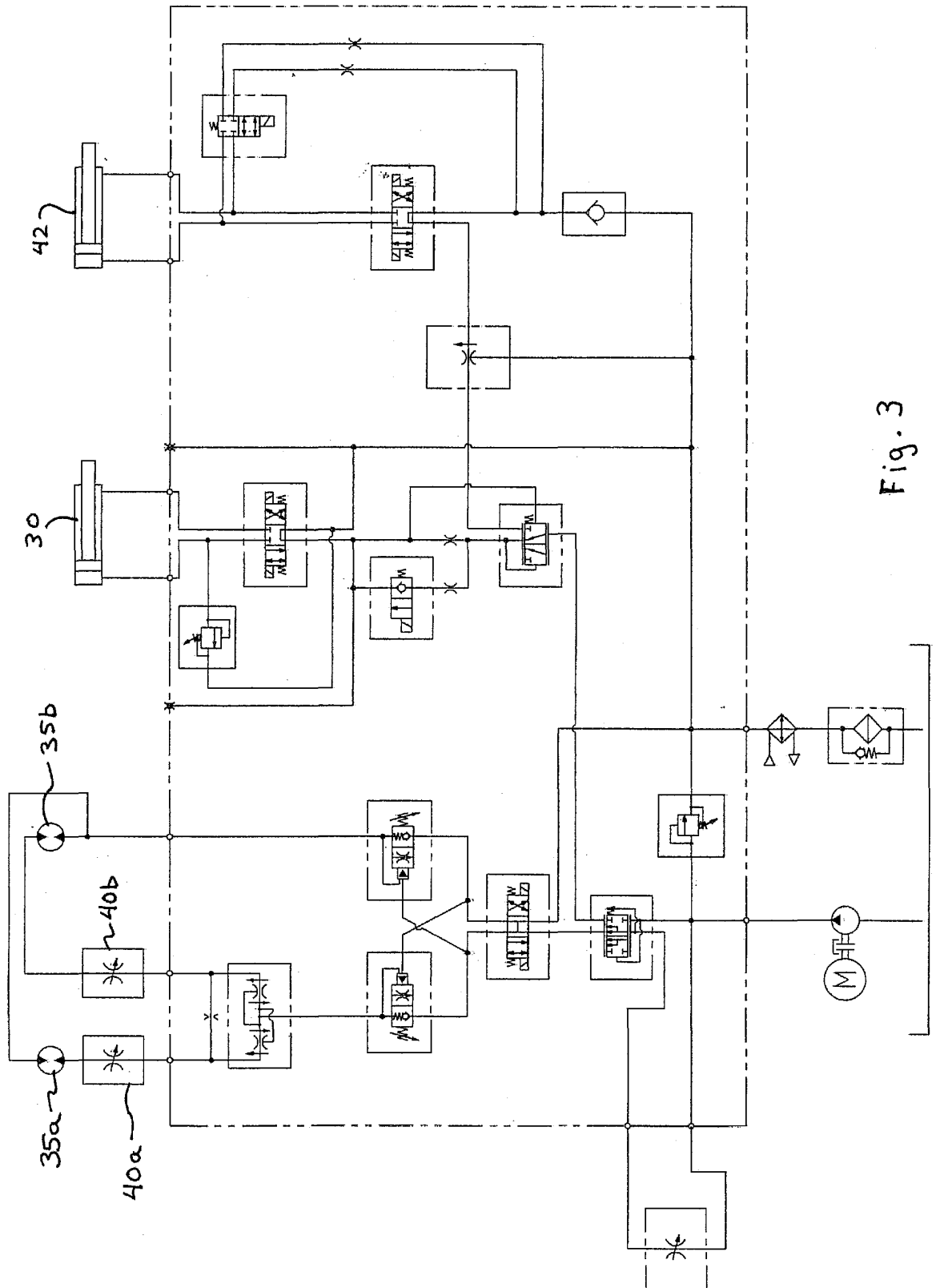
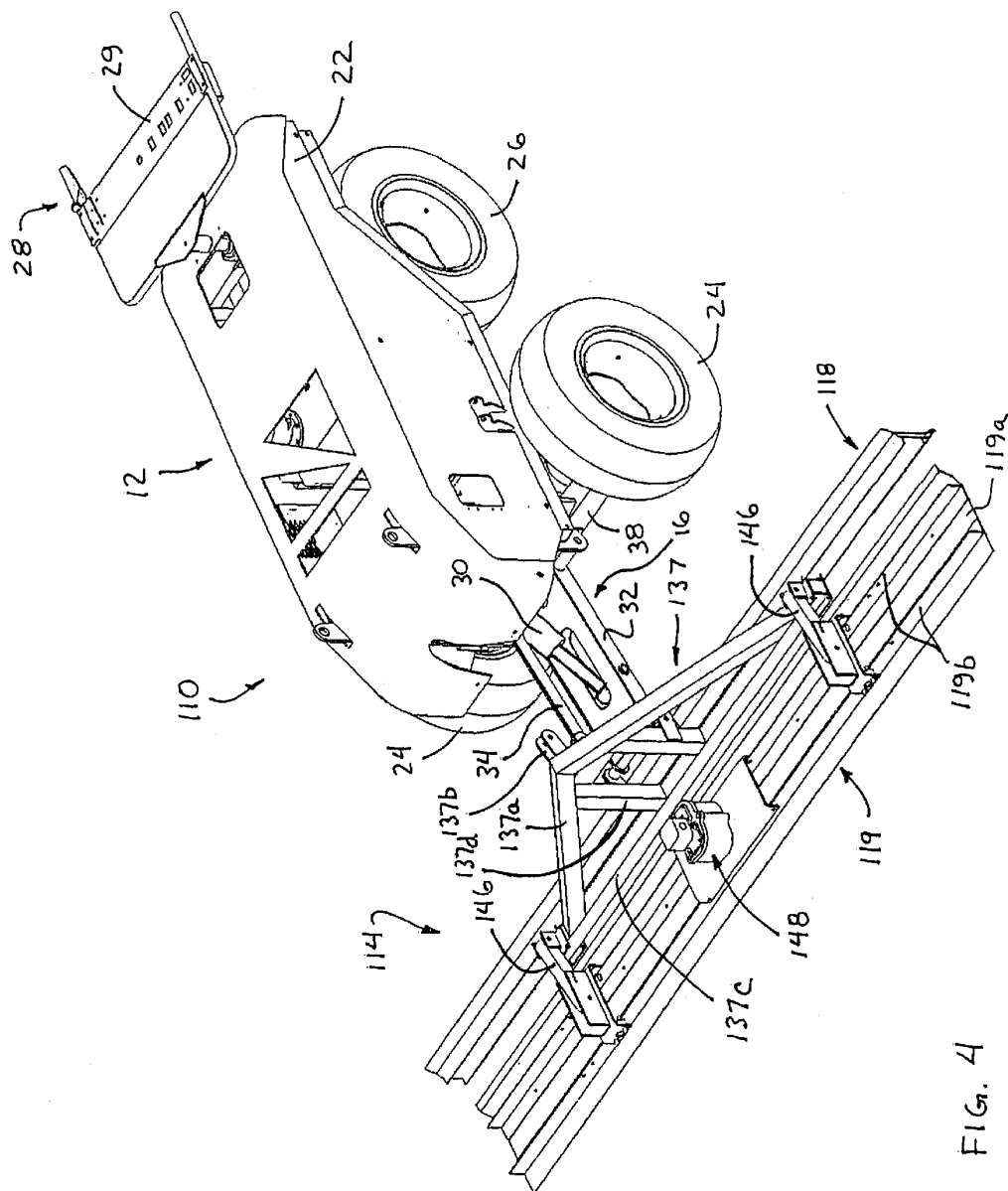


Fig. 3



Applicants : Philip D. Halonen et al.
 Title : WHEELED CONCRETE SCREEDING DEVICE
 Docket No. : SOM01 P-325F
 Sheet No. : 5 of 18

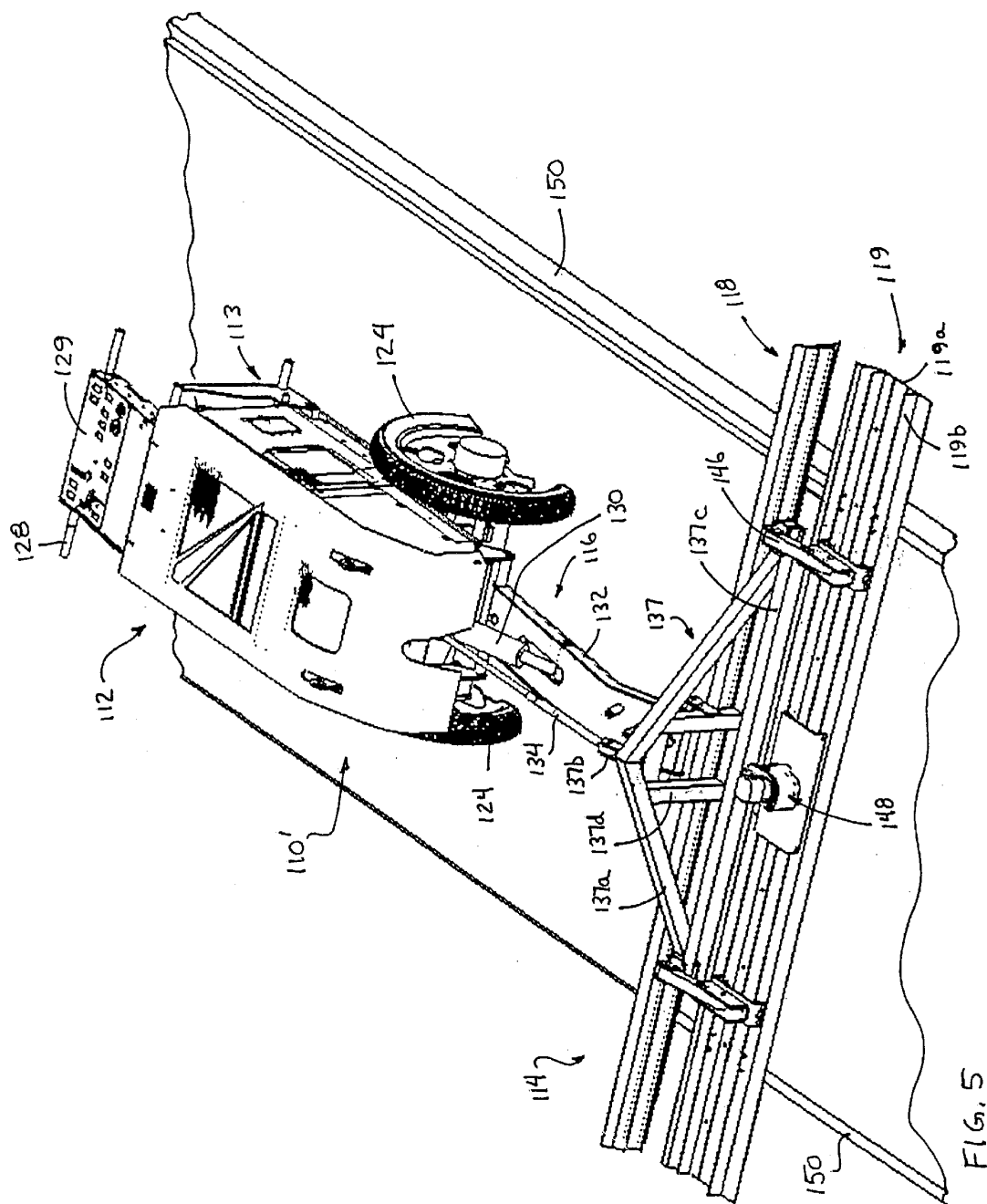


FIG. 5

Applicants : Philip D. Halonen et al.
 Title : WHEELED CONCRETE SCREEDING DEVICE
 Docket No. : SOM01 P-325F
 Sheet No. : 6 of 18

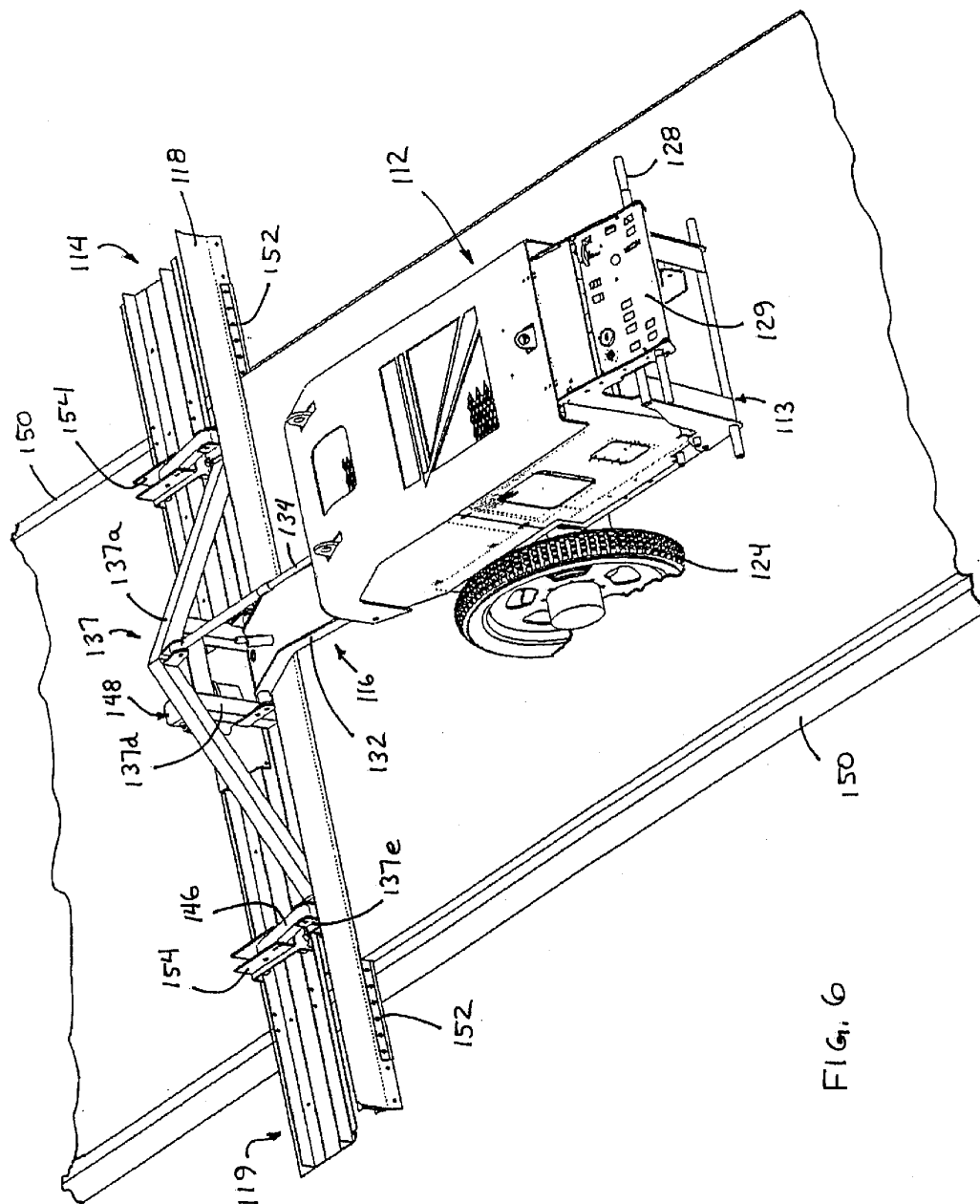


FIG. 6

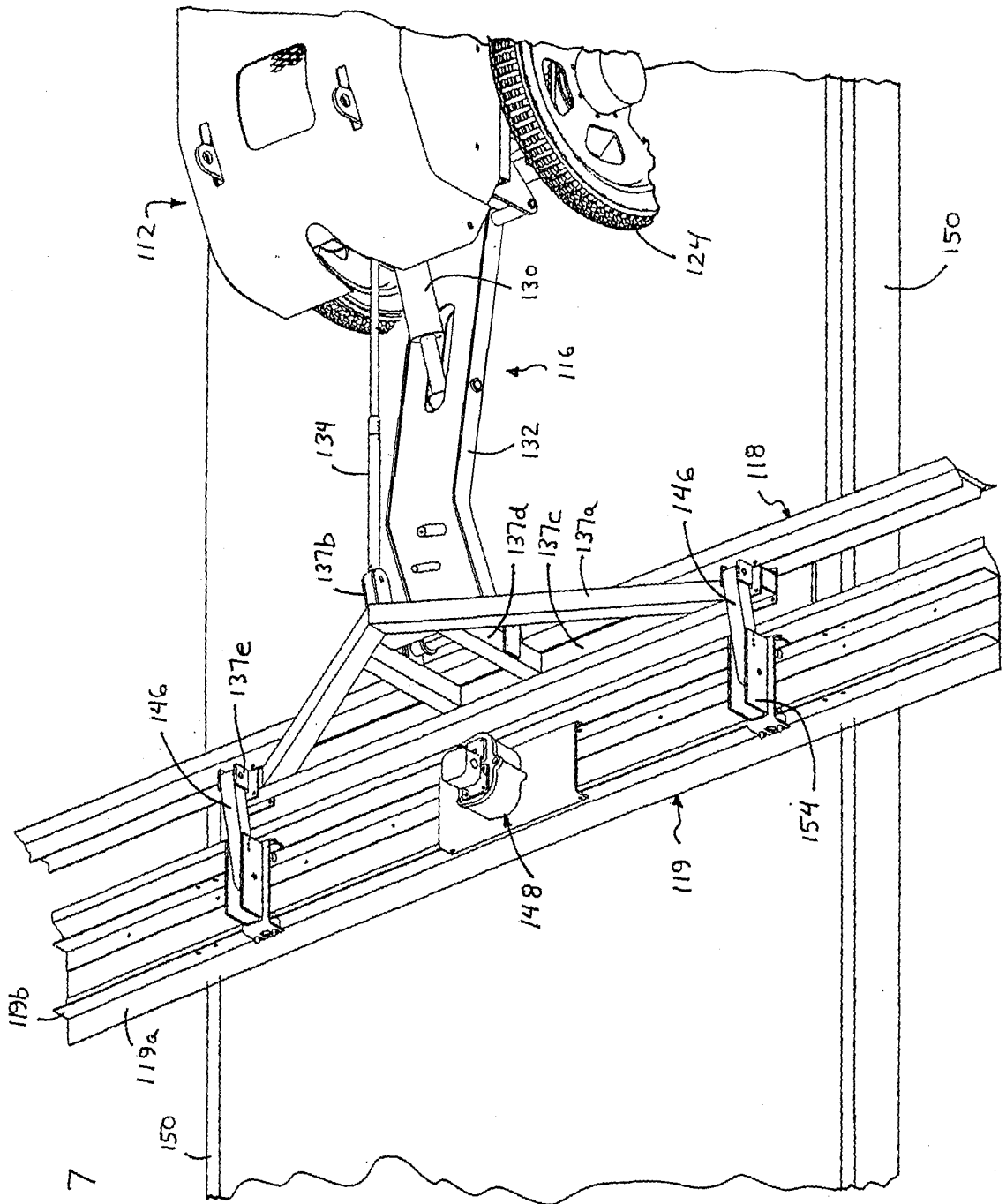


FIG. 7

Applicants : Philip D. Halonen et al.
 Title : WHEELED CONCRETE SCREEDING DEVICE
 Docket No. : SOM01 P-325F
 Sheet No. : 8 of 18

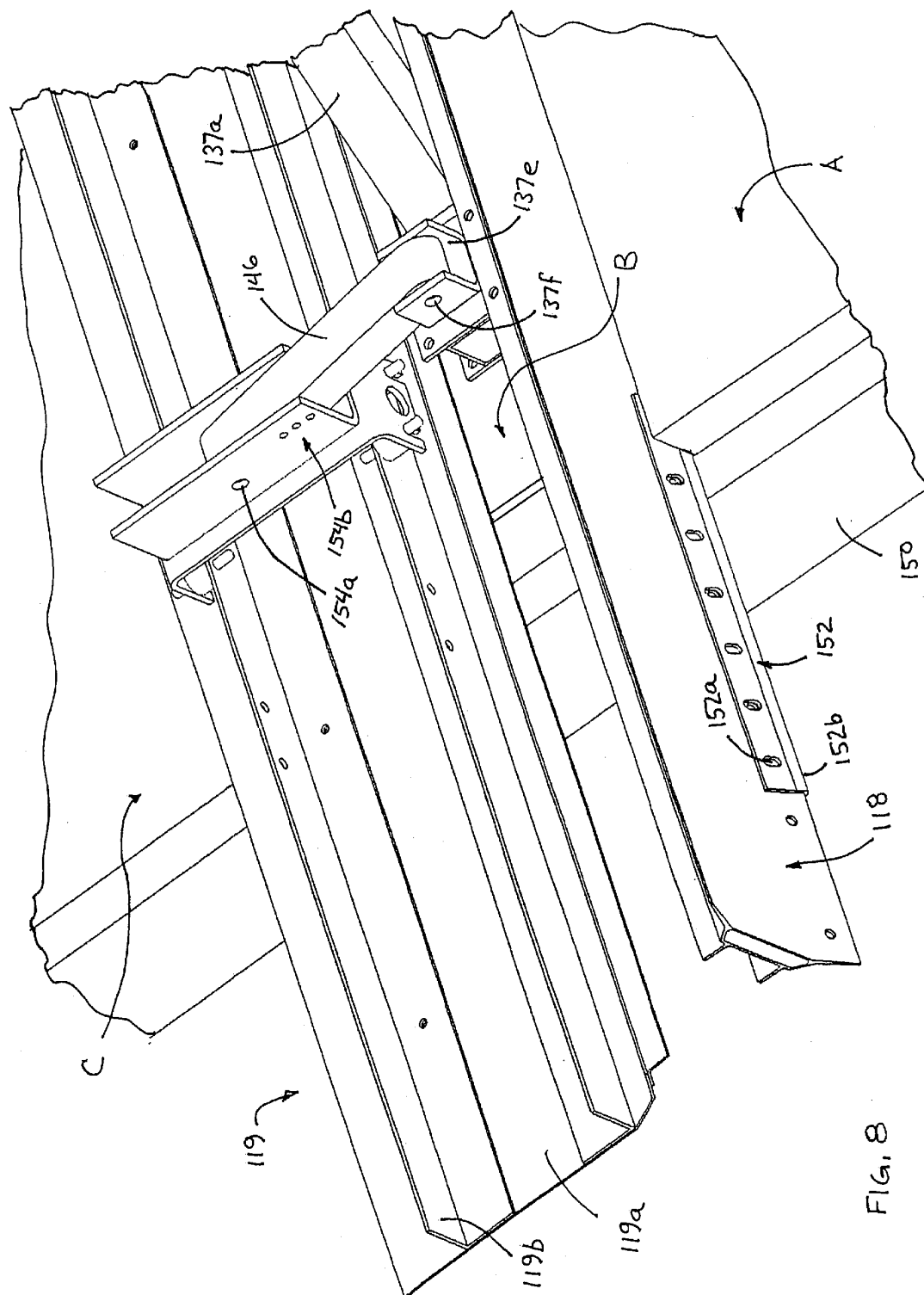
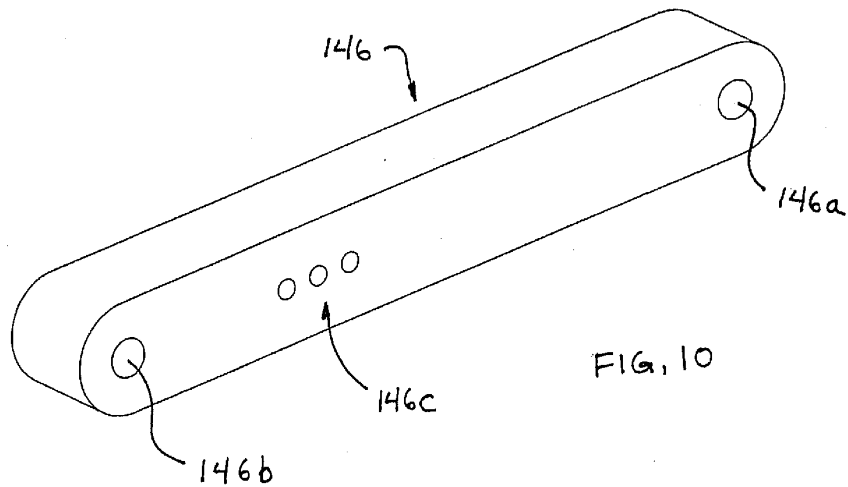
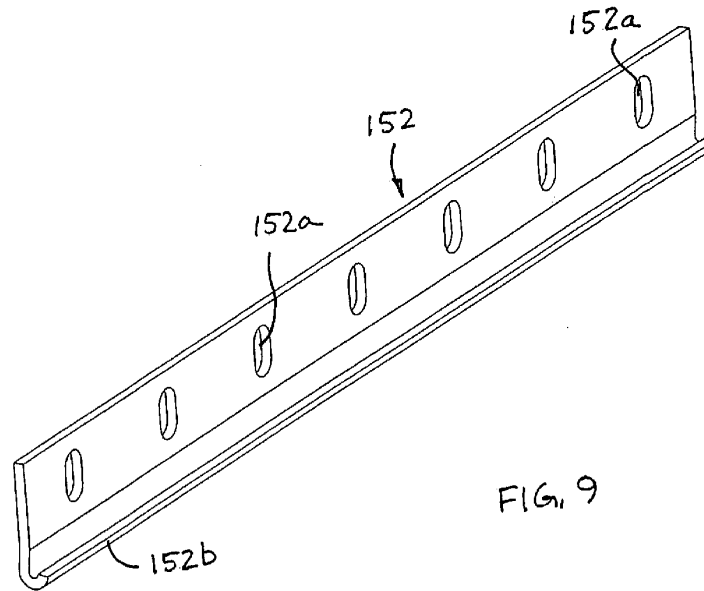
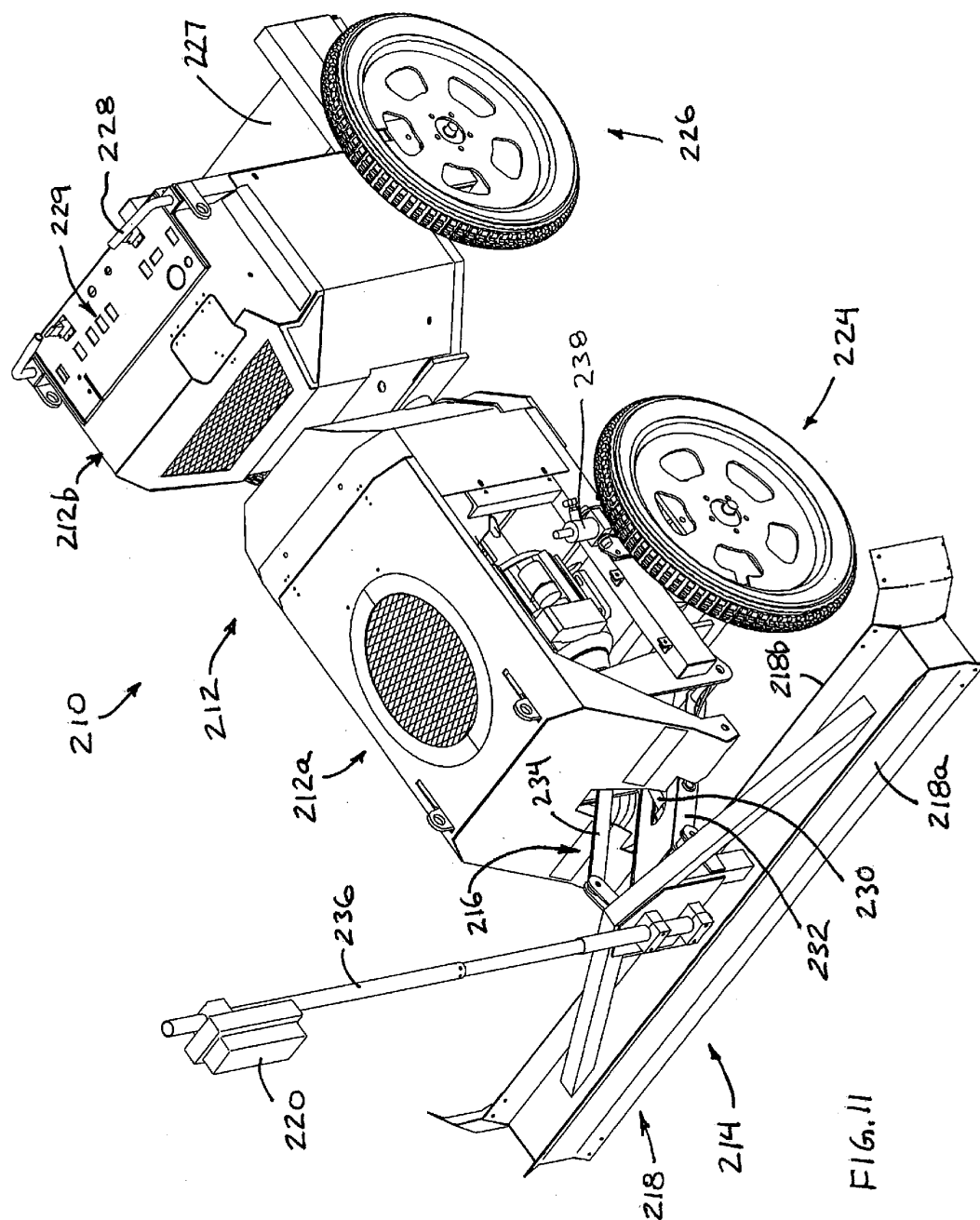


Fig. 8

Applicants : Philip D. Halonen et al.
Title : WHEELED CONCRETE SCREEDING DEVICE
Docket No. : SOM01 P-325F
Sheet No. : 9 of 18





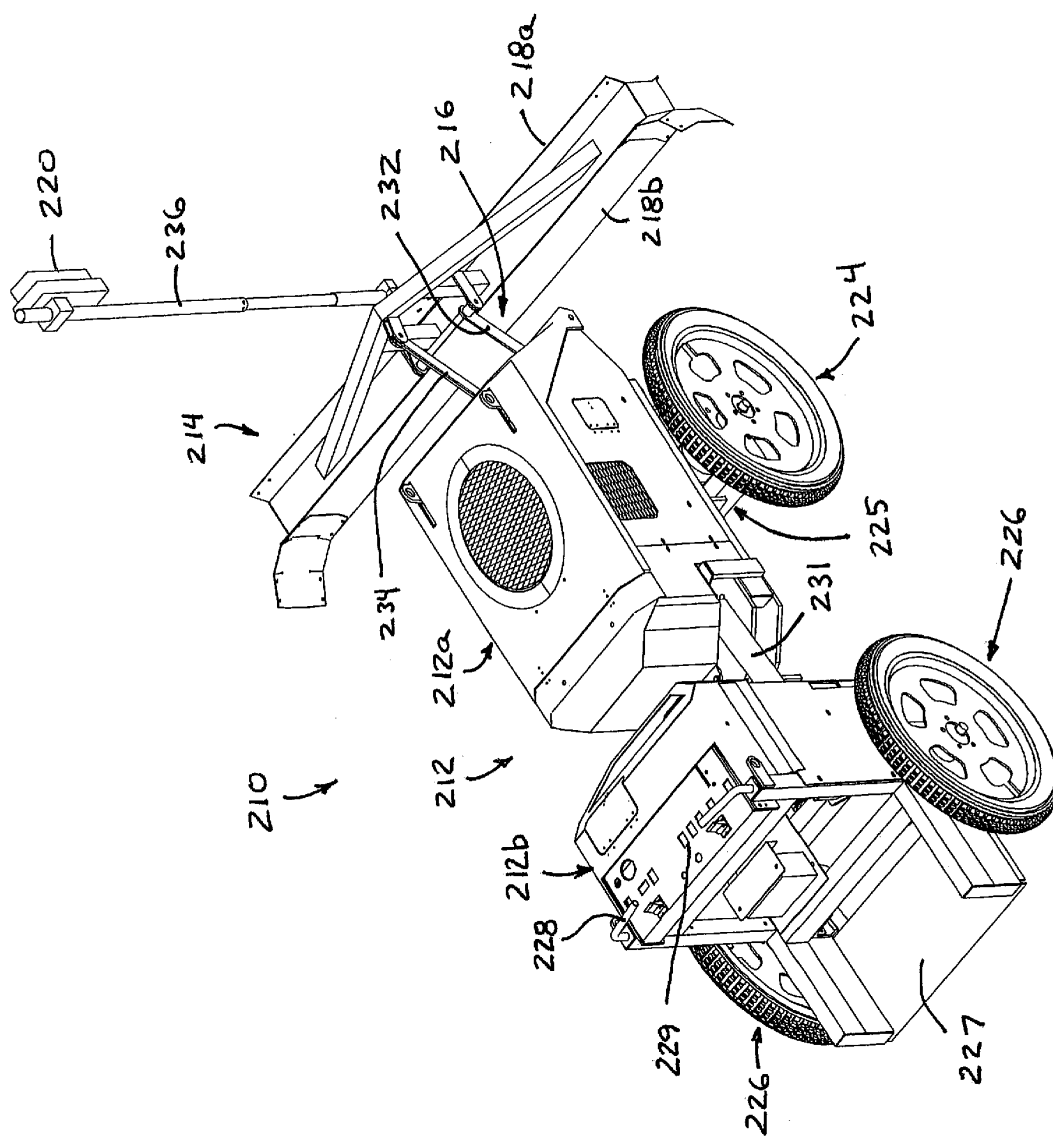


FIG. 12

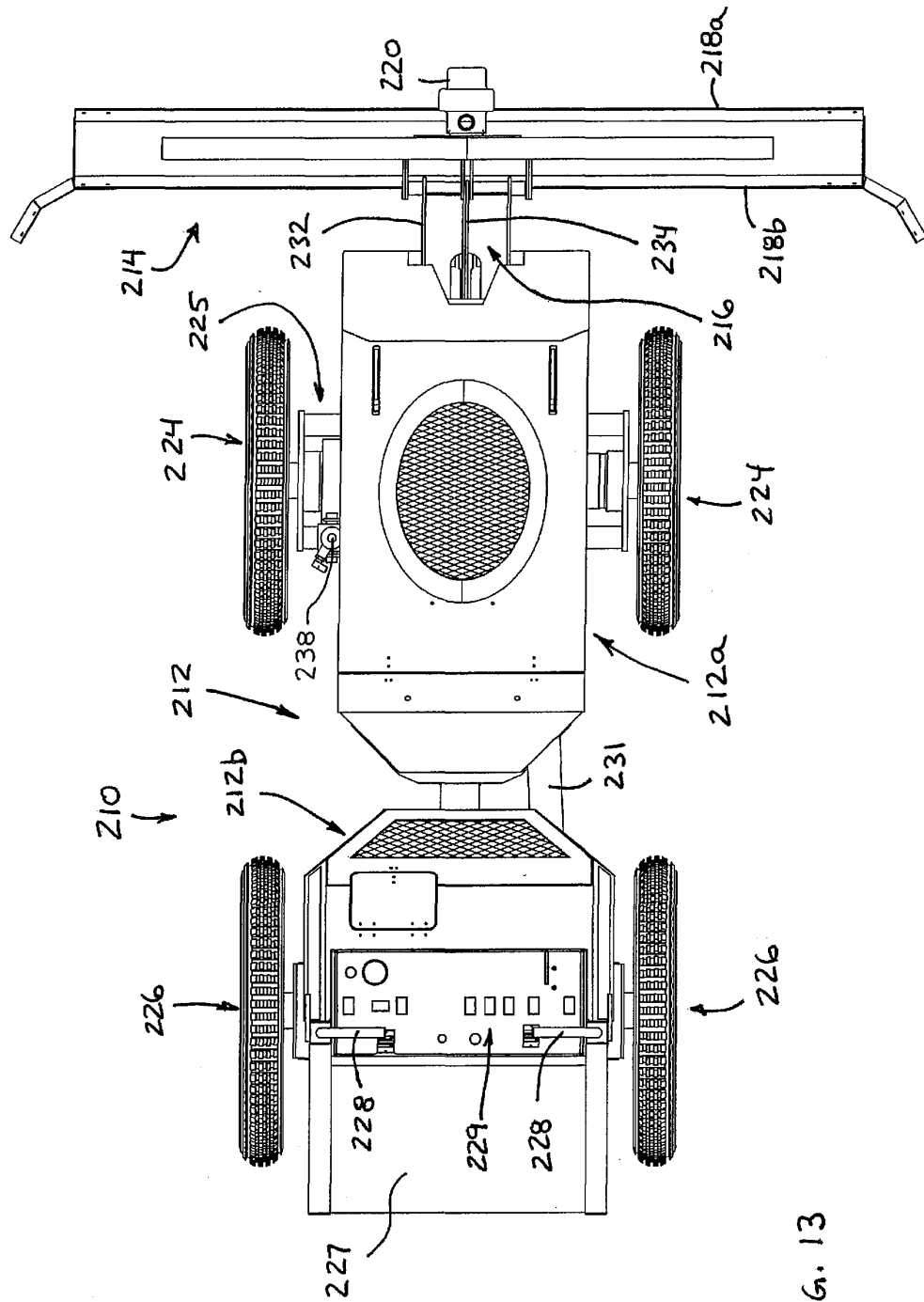
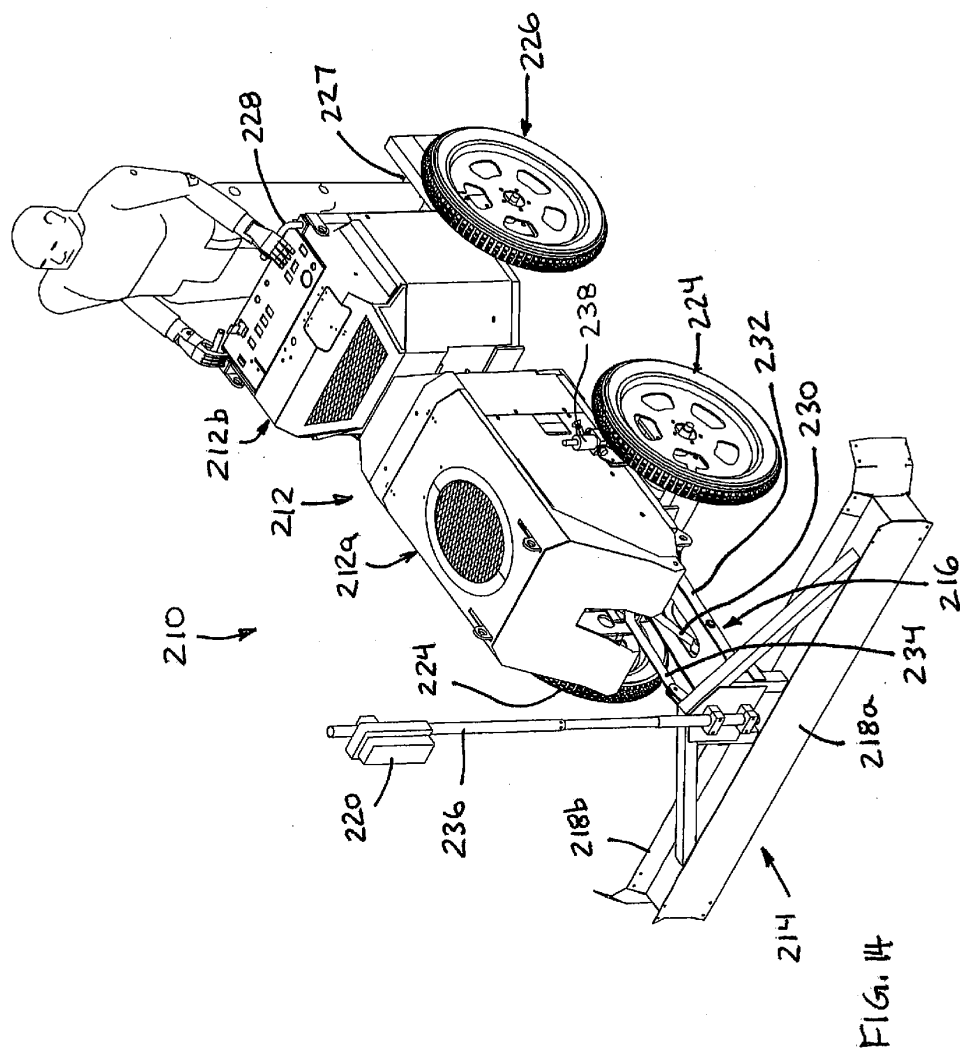
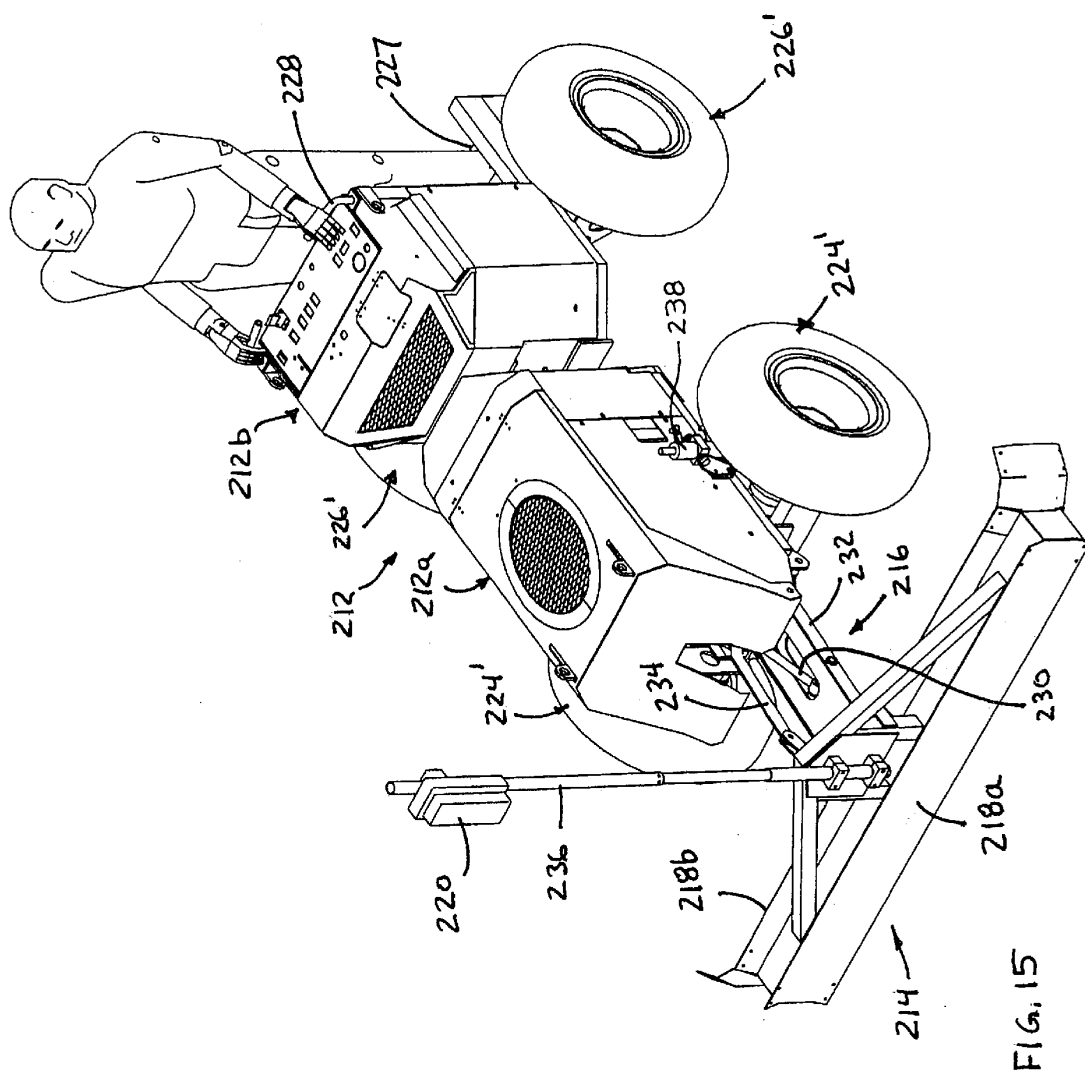


FIG. 13

Applicants : Philip D. Halonen et al.
 Title : WHEELED CONCRETE SCREEDING DEVICE
 Docket No. : SOM01 P-325F
 Sheet No. : 13 of 18



Applicants : Philip D. Halonen et al.
 Title : WHEELED CONCRETE SCREEDING DEVICE
 Docket No. : SOM01 P-325F
 Sheet No. : 14 of 18



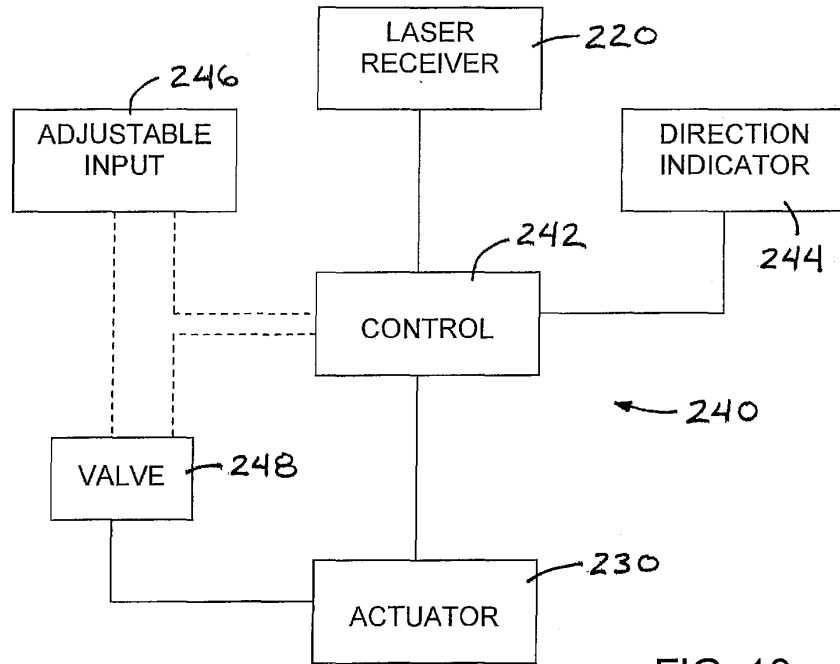


FIG. 16

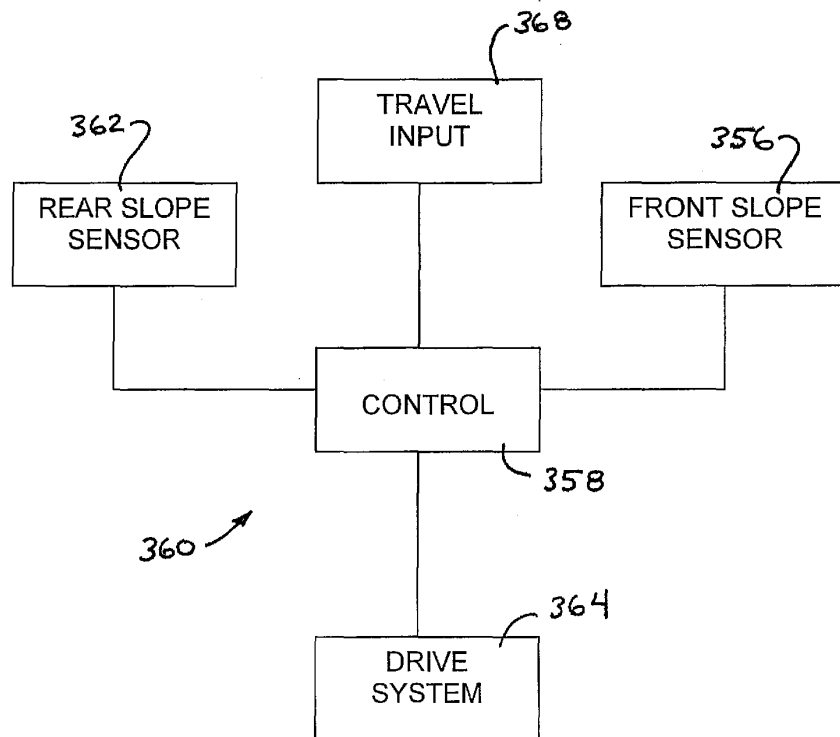


FIG. 18

Applicants : Philip D. Halonen et al.
 Title : WHEELED CONCRETE SCREEDING DEVICE
 Docket No. : SOM01 P-325F
 Sheet No. : 16 of 18

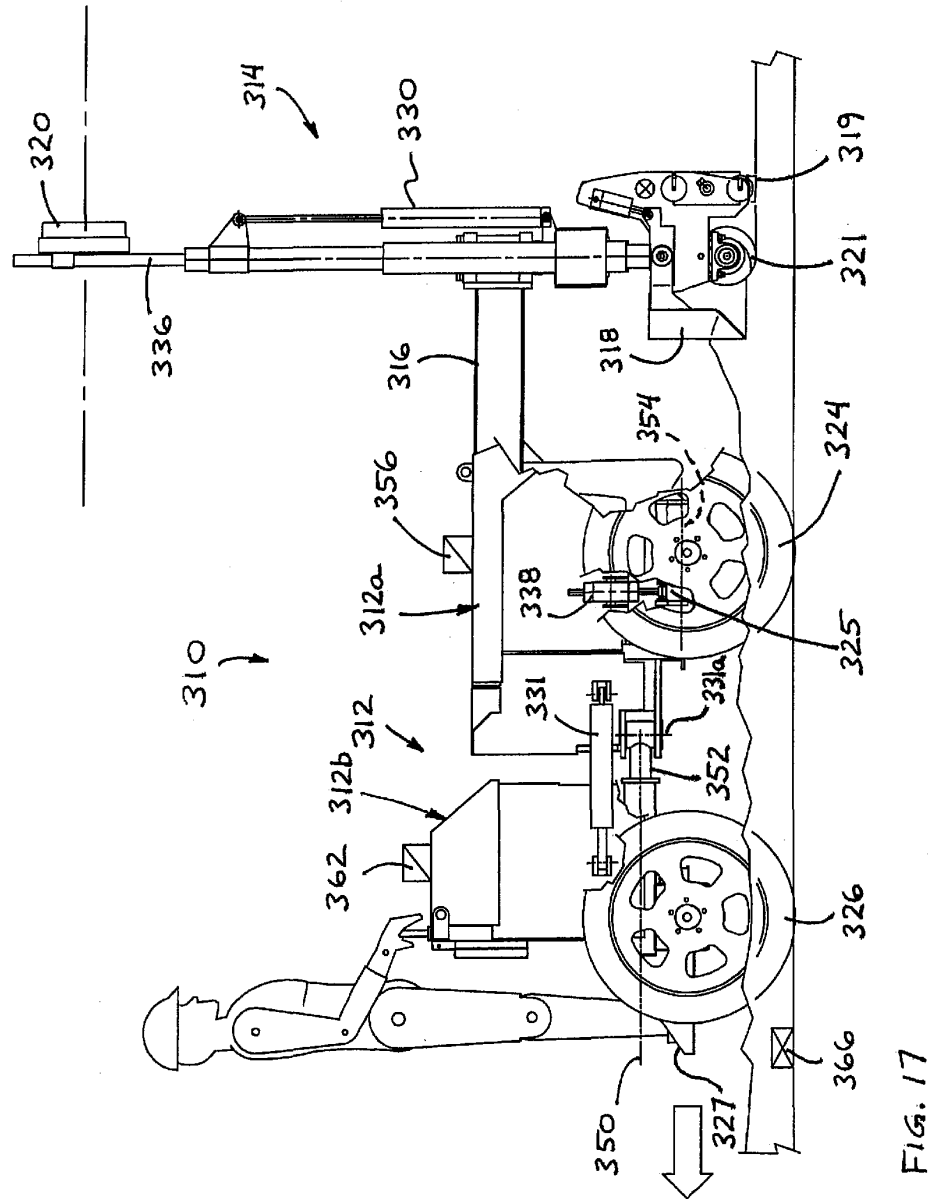
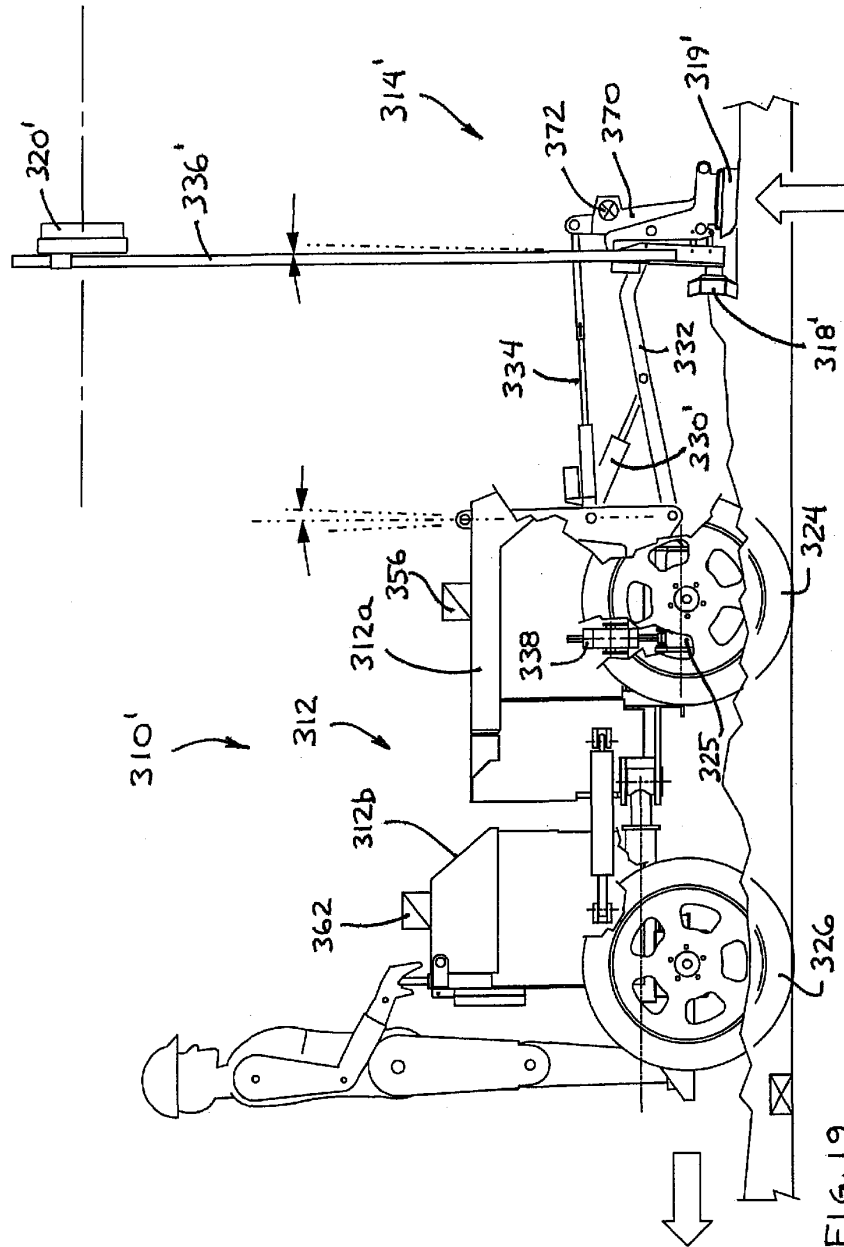


FIG. 17



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants : Philip D. Halonen, Russ E. Stein, Mark A. Pietila, Michael R. Keranen
and Carl B. Kieranen
For : WHEELED CONCRETE SCREEDING DEVICE

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

Dear Sir or Madam:

INFORMATION DISCLOSURE STATEMENT

In accordance with 37 CFR 1.51, 1.56, 1.97 and 1.98, Applicants submit herewith patents, publications or other information listed on attached Form PTO/SB/08A for consideration by the Examiner in connection with examination of the present application. Copies of the non U.S. patent/publication references are not included herewith because they are available in the file of the parent application Serial No. 12/186,164.

This Information Disclosure Statement is not intended to constitute an admission that any patent, publication or other information referred to herein is "prior art" for this invention unless specifically designated as such.

Applicants : Philip D. Halonen, Russ E. Stein, Mark A. Pietila, Michael R. Keranen
and Carl B. Kieranen
For : WHEELED CONCRETE SCREEDING DEVICE

Under 37 CFR 1.97, the filing of this Information Disclosure Statement shall not
be construed to mean that a search has been made or that no other material information as
defined in 37 CFR 1.56(a) exists.

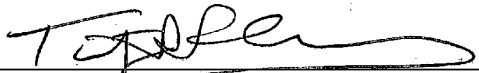
An early and favorable action on the merits is respectfully requested.

Respectfully submitted,

PHILIP D. HALONEN ET AL.

By: Van Dyke, Gardner, Linn & Burkhart, LLP

Dated: November 22, 2010.


Timothy A. Flory
Registration No. 42 540
2851 Charlevoix Drive, S.E., Suite 207
P.O. Box 888695
Grand Rapids, Michigan 49546
(616) 975-5500

TAF/ars
SOM01 P-325F

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.

Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>				Complete if Known	
				Application Number	
				Filing Date	November 22, 2010
				First Named Inventor	Phillip D. Halonen
				Art Unit	
				Examiner Name	
Sheet	1	of	7	Attorney Docket Number	SOM01 P-325F

U. S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
		US-6,623,208 B2	09-23-2003	Quenzi et al.	
		US-6,588,976 B2	07-08-2003	Quenzi et al.	
		US-6,227,761 B1	05-08-2001	Kieranen et al.	
		US-6,183,160 B1	02-06-2001	Tapio et al.	
		US-6,152,647	11-28-2000	Tapio et al.	
		US-6,129,481	10-10-2000	Tapio et al.	
		US-5,328,295	07-12-1994	Allen	
		US-5,288,166	02-22-1994	Allen et al.	
		US-5,156,487	10-20-1992	Haid	
		US-5,129,803	07-14-1992	Nomura et al.	
		US-4,930,935	06-05-1990	Quenzi et al.	
		US-4,655,633	04-07-1987	Somero et al.	
		US-5,771,978	06-30-1998	Davidson et al.	
		US-5,588,776	12-31-1996	Swisher, Jr. et al.	
		US-5,752,783	05-19-1998	Malone	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T 6
		Country Code ³ Number ⁴ Kind Code ⁵ (if known)				

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

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 2 hours 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, 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.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>		Complete if Known			
		Application Number			
		Filing Date	November 22, 2010		
		First Named Inventor	Philip D. Halonen		
		Art Unit			
		Examiner Name			
Sheet	2	of	7	Attorney Docket Number	SOM01 P-325F

U. S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
		US-5,549,412	08-27-1996	Malone	
		US-5,375,663	12-27-1994	Teach	
		US-5,288,167	02-22-1994	Gaffard et al.	
		US-5,258,961	11-02-1993	Sehr et al.	
		US-5,039,249	08-13-1991	Hansen et al.	
		US-4,978,246	12-18-1990	Quenzi et al.	
		US-4,807,131	02-21-1989	Clegg	
		US-3,953,145	04-27-1976	Teach	
		US-3,870,427	03-11-1975	Allen	
		US-3,604,325	09-14-1971	Borges	
		US-2,796,685	06-25-1957	Bensinger	
		US-2006/0018715	01-26-2006	Halonen et al.	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T 6
		Country Code *Number ⁴ -Kind Code ⁵ (if known)				

Examiner Signature	Date Considered
-----------------------	--------------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

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 2 hours 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, 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.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

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.

Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>		Complete if Known			
		Application Number			
		Filing Date	November 22, 2010		
		First Named Inventor	Philip D. Halonen		
		Art Unit			
		Examiner Name			
Sheet	3	of	7	Attorney Docket Number	SOM01 P-325F

U. S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
		US-6,089,787	07-18-2000	Allen et al.	
		US-5,279,501	01-18-1994	Shelley	
		US-5,807,022	09-15-1998	McCleary	
		US-5,803,656	09-08-1998	Turck	
		US-5,778,482	07-14-1998	Sbrigato	
		US-5,567,075	10-22-1996	Allen	
		US-5,352,063	10-04-1994	Allen et al.	
		US-5,288,166	02-22-1994	Allen et al.	
		US-5,190,401	03-02-1993	Wilson	
		US-5,062,738	11-05-1991	Owens	
		US-4,838,730	06-13-1989	Owens	
		US-4,318,631	03-09-1982	Vickers	
		US-3,850,541	11-26-1974	Baillet et al.	
		US-6,685,390 B1	02-03-2004	Eitzen	
		US-6,238,135 B1	05-29-2001	Rower	
		US-6,174,105 B1	01-16-2001	Holmes et al.	
		US-6,056,474	05-02-2000	Nolan	
		US-6,029,752	02-29-2000	Young	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T ₆
		Country Code *Number*Kind Code ² (if known)				

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

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 2 hours 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, 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.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

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.

Substitute for form 1449/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>		Application Number	
		Filing Date	November 22, 2010
		First Named Inventor	Philip D. Halonen
		Art Unit	
		Examiner Name	
Sheet 4	of 7	Attorney Docket Number	SOM01 P-325F

U. S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
		US-6,022,171	02-08-2000	Munoz	
		US-5,924,819	07-20-1999	Breidenbach	
		US-5,779,390	07-14-1998	Tuusinen	
		US-5,080,525	01-14-1992	Bricher et al.	
		US-5,039,249	08-13-1991	Hansen et al.	
		US-4,470,783	09-11-1984	Friebel et al.	
		US-4,408,978	10-11-1983	Owens	
		US-4,379,653	04-12-1983	Brown	
		US-4,249,327	02-10-1981	Allen	
		US-3,838,933	10-01-1974	Lehman et al.	
		US-3,540,360	11-17-1970	Snow et al.	
		US-3,403,609	10-01-1968	Bradshaw et al.	
		US-3,396,642	08-13-1968	Martinson	
		US-3,262,378	07-26-1966	Schrimper et al.	
		US-3,147,678	09-08-1964	Lewis	
		US-3,088,384	05-07-1963	Heer et al.	
		US-2,916,836	12-15-1959	Stewart et al.	
		US-2,400,321	05-14-1946	Troxell	
		US-2,373,828	04-17-1945	Harrington	
		US-2,303,335	12-01-1942	Day	

FOREIGN PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear
		Country Code ³ Number ⁴ -Kind Code ⁵ (if known)			

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

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 2 hours 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, 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.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

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.

Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>		Complete if Known			
		Application Number			
		Filing Date	November 22, 2010		
		First Named Inventor	Philip D. Halonen		
		Art Unit			
Examiner Name					
Sheet	5	of	7	Attorney Docket Number	SOM01 P-325F

U. S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
		US-2,255,343	09-09-1941	Baily	
		US-2,219,246	10-22-1940	Jackson	
		US-2,032,205	02-25-1936	Gage	
		US-1,695,202	12-11-1928	Newell	
		US-6,336,769	01-08-2002	Cincis et al.	
		US-2,009,542	07-30-1935	Day	
		US-4,734,022	03-29-1988	Shimabukuro	
		US-4,614,486	09-30-1986	Bragagnini	
		US-4,427,358	01-24-1984	Stilwell	
		US-2,453,510	11-09-1948	Jackson	
		US-2,449,851	09-21-1948	Jackson	
		US-6,976,805 B2	12-20-2005	Quenzi et al.	
		US-6,953,304 B2	10-11-2005	Quenzi et al.	
		US-4,299,290	11-10-1981	Nunes	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T 8
		Country Code ³ Number ⁴ -Kind Code ⁵ (if known)				
		JP 06306813 A	01-11-1994	Seirei Ind. Co. Ltd.		X
		DE 42402	11-25-1965	Manfred Kramm		X
		FR 636,563	04-12-1928	Pérouse		
		CA 2,051,776	12-12-1995	Raymond F. Haid		
		EP 1887138	02-13-2008	Conrado Pont Feixes		

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

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 2 hours 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, 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.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>		Complete if Known			
		Application Number			
		Filing Date	November 22, 2010		
		First Named Inventor	Philip D. Halonen		
		Art Unit			
Examiner Name					
Sheet	6	of	7	Attorney Docket Number	SOM01 P-325F

U. S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
		US-6,860,676	03-01-2005	Pont Feixes	
		US-5,224,793	07-06-1993	De Pol et al.	
		US-2,599,330	06-03-1952	Jackson	
		US-4,933,853	06-12-1990	Musil et al.	
		US-3,914,064	10-21-1975	Gurries	
		US-7,195,423	03-27-2007	Halonen et al.	
		US-7,407,339	08-05-2008	Halonen et al.	
		US-3,415,173	12-10-1968	Paul	
		US-6,923,595	08-02-2005	Chek	
		US-4,861,188	08-29-1989	Rouillard	
		US-6,679,652	01-20-2004	Suriano	
		US-7,121,762	10-17-2006	Quenzi et al.	
		US-7,357,596	04-15-2008	Face, III et al.	
		US-			
		US-			
		US-			

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T 6
		Country Code ³ Number ⁴ Kind Code ⁵ (if known)				
		EP 0 743 408 B1	10/07/1998	Alfa Industries		X
		ES 1 052 554 U	01/01/2003	Conrado Pont Feixes		
		ES 1 056 566 U	04/01/2004	Bombform, S.L.		
		ES 1 059 142 U	12-17-2004	ES Maquinaria Lorenzana, S.A.		
		WO 02/25016	03-28-2002	Jose Mas Garcia		

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

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 2 hours 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, 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.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

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.

Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>		Complete if Known	
		Application Number	
		Filing Date	November 22, 2010
		First Named Inventor	Philip D. Halonen
		Art Unit	
		Examiner Name	
Sheet 7	of 7	Attorney Docket Number	SOM01 P-325F

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	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, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		Screed King TSK 308 Brochure "Are you Tired of Screeding Concrete This Way?", believed to be published more than one year prior to the filing date of the present application.	
		European Search Report for corresponding European Application No. 05784217.1.	

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 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 2 hours 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, 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.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Electronic Patent Application Fee Transmittal				
Application Number:				
Filing Date:				
Title of Invention:		WHEELED CONCRETE SCREEDING DEVICE		
First Named Inventor/Applicant Name:		Philip D. Halonen		
Filer:		Timothy A. Flory/Amanda Sytsma		
Attorney Docket Number:		SOM01 P-325F		
Filed as Large Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Utility application filing	1011	1	330	330
Utility Search Fee	1111	1	540	540
Utility Examination Fee	1311	1	220	220
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				1090

Electronic Acknowledgement Receipt	
EFS ID:	8887469
Application Number:	12951532
International Application Number:	
Confirmation Number:	9920
Title of Invention:	WHEELED CONCRETE SCREEDING DEVICE
First Named Inventor/Applicant Name:	Philip D. Halonen
Customer Number:	28101
Filer:	Timothy A. Flory/Amanda Sytsma
Filer Authorized By:	Timothy A. Flory
Attorney Docket Number:	SOM01 P-325F
Receipt Date:	22-NOV-2010
Filing Date:	
Time Stamp:	15:23:57
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$ 1090
RAM confirmation Number	2147
Deposit Account	220190
Authorized User	FLORY,TIMOTHY A

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)					
File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal of New Application	Transmittal.pdf	219427	no	1
			c2d72bda433c1add25b472613b6355f8e47d2a01		
Warnings:					
Information:					
2	Miscellaneous Incoming Letter	RequestforContinuation.pdf	190911	no	4
			6f5f9c4656203ed79eed2c6c26ce81c8b9123861		
Warnings:					
Information:					
3	Application Data Sheet	ApplicationDataSheet.pdf	1031923	no	6
			640bdbb7f61590d3a5adcf62d8f78f5cf703588d		
Warnings:					
Information:					
4	Oath or Declaration filed	Declaration.pdf	80193	no	2
			3b02e5031f13b7e4e9374d8fecfc27d12efc0ecd		
Warnings:					
Information:					
5		Specification.pdf	3543109	yes	39
			96223ada44d70fb593eb5d816c08f01237a82083		
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Specification		1	33	
	Claims		34	38	
	Abstract		39	39	
Warnings:					
Information:					
6	Drawings-only black and white line drawings	P325FDrawings.pdf	1010375	no	18
			67e8ce6cedd4862c8e23f5afdd71c5e36815a232		
Warnings:					
Information:					

7	Transmittal Letter	IDSLetter.pdf	66291 dfbxd2eeca76ec0c3ed22979584c27f42ae4ec0	no	2
Warnings:					
Information:					
8	Information Disclosure Statement (IDS) Filed (SB/08)	IDSForms.pdf	585158 3bc2ad039d45296cfb2dd80b39f15ca7d0d689c1	no	7
Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
9	Fee Worksheet (PTO-875)	fee-info.pdf	32707 4bd8b0cba2f4777161cb82ea308a0dbad0346fd0	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			6760094		
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. <u>New Applications Under 35 U.S.C. 111</u> 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. <u>National Stage of an International Application under 35 U.S.C. 371</u> 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. <u>New International Application Filed with the USPTO as a Receiving Office</u> 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.					

Electronic Acknowledgement Receipt	
EFS ID:	8887469
Application Number:	12951532
International Application Number:	
Confirmation Number:	9920
Title of Invention:	WHEELED CONCRETE SCREEDING DEVICE
First Named Inventor/Applicant Name:	Philip D. Halonen
Customer Number:	28101
Filer:	Timothy A. Flory/Amanda Sytsma
Filer Authorized By:	Timothy A. Flory
Attorney Docket Number:	SOM01 P-325F
Receipt Date:	22-NOV-2010
Filing Date:	
Time Stamp:	15:23:57
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$ 1090
RAM confirmation Number	2147
Deposit Account	220190
Authorized User	FLORY,TIMOTHY A
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees) Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)	

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)					
File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal of New Application	Transmittal.pdf	219427	no	1
			c2d72bda433c1add25b472613b6355f8e47d2a01		
Warnings:					
Information:					
2	Miscellaneous Incoming Letter	RequestforContinuation.pdf	190911	no	4
			6f5f9c4656203ed79eed2c6c26ce81c8b9123861		
Warnings:					
Information:					
3	Application Data Sheet	ApplicationDataSheet.pdf	1031923	no	6
			640bdbb7f61590d3a5adcf62d8f78f5cf703588d		
Warnings:					
Information:					
4	Oath or Declaration filed	Declaration.pdf	80193	no	2
			3b02e5031f13b7e4e9374d8fecf627d12efc0ecd		
Warnings:					
Information:					
5		Specification.pdf	3543109	yes	39
			96223ada44d70fb593eb5d816c08f01237a82083		
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Specification		1	33	
	Claims		34	38	
	Abstract		39	39	
Warnings:					
Information:					
6	Drawings-only black and white line drawings	P325FDrawings.pdf	1010375	no	18
			67e8ce6cedd4862c8e23f5afdd71c5e36815a232		
Warnings:					
Information:					

7	Transmittal Letter	IDSLetter.pdf	66291 dfbxd2eeca76ec0c3ed22979584c27f42ae4ec0	no	2
Warnings:					
Information:					
8	Information Disclosure Statement (IDS) Filed (SB/08)	IDSForms.pdf	585158 3bc2ad039d45296cfb2dd80b39f15ca7d0d689c1	no	7
Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
9	Fee Worksheet (PTO-875)	fee-info.pdf	32707 4bd8b0cba2f4777161cb82ea308a0dbad0346fd0	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			6760094		
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. <u>New Applications Under 35 U.S.C. 111</u> 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. <u>National Stage of an International Application under 35 U.S.C. 371</u> 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. <u>New International Application Filed with the USPTO as a Receiving Office</u> 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.					

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875						Application or Docket Number 12/951,532				
APPLICATION AS FILED - PART I										
(Column 1)		(Column 2)		SMALL ENTITY		OTHER THAN SMALL ENTITY				
FOR	NUMBER FILED	NUMBER EXTRA	RATE(\$)	FEE(\$)		RATE(\$)	FEE(\$)			
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	330			
SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A			N/A	540			
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	220			
TOTAL CLAIMS (37 CFR 1.16(j))	20	minus 20 = *				x 52 =	0.00			
INDEPENDENT CLAIMS (37 CFR 1.16(h))	3	minus 3 = *				x 220 =	0.00			
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$270 (\$135 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						0.00			
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							0.00			
			TOTAL			TOTAL	1090			
* If the difference in column 1 is less than zero, enter "0" in column 2.										
APPLICATION AS AMENDED - PART II										
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OTHER THAN SMALL ENTITY		
AMENDMENT A		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)	ADDITIONAL FEE(\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	x	=		x	=
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x	=		x	=
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))									
						TOTAL ADD'L FEE			TOTAL ADD'L FEE	
AMENDMENT B		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)	ADDITIONAL FEE(\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	x	=		x	=
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x	=		x	=
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))									
						TOTAL ADD'L FEE			TOTAL ADD'L FEE	
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3. ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20". *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3". The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.										



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 NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
12/951,532	11/22/2010	3671	1090	SOM01 P-325F	20	3

CONFIRMATION NO. 9920

28101
VAN DYKE, GARDNER, LINN & BURKHART, LLP
SUITE 207
2851 CHARLEVOIX DRIVE, S.E.
GRAND RAPIDS, MI 49546

FILING RECEIPT



OC000000044808026

Date Mailed: 12/07/2010

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Applicant(s)

Philip D. Halonen, Calumet, MI;
Russ E. Stein, Houghton, MI;
Mark A. Pietila, Atlantic Mine, MI;
Michael R. Keranen, Howell, MI;
Carl B. Kieranen, Chassel, MI;

Assignment For Published Patent Application

SOMERO ENTERPRISES, INC., Fort Myers, FL

Power of Attorney:

Daniel Van Dyke--25046 Timothy Flory--42540
Donald Gardner--25975 Karl Ondersma--55894
Frederick Burkhart--29288
Terence Linn--30283
Catherine Collins--37599

Domestic Priority data as claimed by applicant

This application is a CON of 12/186,164 08/05/2008 PAT 7,854,565
which is a CON of 11/674,303 02/13/2007 PAT 7,407,339
which is a CON of 11/189,396 07/26/2005 PAT 7,195,423
which claims benefit of 60/521,950 07/26/2004
and claims benefit of 60/619,672 10/18/2004
and claims benefit of 60/666,672 03/30/2005

Foreign Applications

If Required, Foreign Filing License Granted: 12/03/2010

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 12/951,532**

Projected Publication Date: 03/17/2011

Non-Publication Request: No

Early Publication Request: No

Title

WHEELED CONCRETE SCREEDING DEVICE

Preliminary Class

404

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4158).

LICENSE FOR FOREIGN FILING UNDER
Title 35, United States Code, Section 184
Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).



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.
12/951,532	11/22/2010	Philip D. Halonen	SOM01 P-325F	9920
28101 7590 01/25/2011 VAN DYKE, GARDNER, LINN & BURKHART, LLP SUITE 207 2851 CHARLEVOIX DRIVE, S.E. GRAND RAPIDS, MI 49546			EXAMINER ADDIE, RAYMOND W	
			ART UNIT 3671	PAPER NUMBER
			MAIL DATE 01/25/2011	DELIVERY MODE 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.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. 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:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Nomura et al. US 5,129,803.

Nomura et al. discloses a wheeled concrete screeding device (1), comprising:

A wheeled unit (3) having at least two wheels (5) to move the unit through uncured concrete being leveled.

A screed head (22) supported at a rearward end (19) of the unit (3), and further comprising: a grade-setting assembly (33) and a vibratable screed (34).

A laser receiver assembly (29) for adjusting the height and cross-slope of the the screed head, relative to a laser beacon reference plane.

Wherein said grade setting assembly includes a plow (33) and auger (32), vertically adjustable, as at (21) to said laser receiver assembly (29) for spreading and striking a concrete surface, relative to said laser beacon. Further wherein said vibratable member (34) is adjustably attached at a rearward end of said grade setting assembly, as at (28), such that said vibratable screed (34) at least partially floats behind said plow (33) on the struck-off concrete surface, as said wheeled unit is in moving through said concrete (C1). See Cols. 3-4; Figs. 7-14.

Claim Rejections - 35 USC § 103

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

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nomura et al. US 5,129,803 in view of Munoz US 6,022,171.

Nomura et al. discloses an in situ concrete screeding machine, (1) having drive wheels specially adapted for traveling through soft concrete (C1) and a pair skis (14) for supporting the front of the machine, in the paving zone. See Figs. 2, 11. But do not disclose a 4 wheel embodiment, equally able to traverse a pour site. However, Munoz teaches a similar, laser-guided screeding machine (20) having a 4-wheel primary mover with operator's station (22) directed toward the screeding tool (24), such that the prime mover can traverse mesh, rebar and gravel subgrades, see Figs. 10-13. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the screeding machine of Nomura et al., with a 4-wheel prime mover, as taught by Munoz, in order to improve mobility and positioning of the operators station, as reasonably suggested by Munoz, Cols. 3-4.

3. Claims 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nomura et al. US 5,129,803 in view of Burdick et al. US 5,607,205.

Nomura et al. discloses an in situ concrete screeding machine, (1) having drive

wheels specially adapted for traveling through soft concrete (C1); but does not disclose the an object avoidance method for protecting the paving machine from common subgrade obstacles. However, Burdick et al. teaches underground utilities (56) pose serious damage and safety obstacles when construction machines (12) are paving roadways (20) and the like. Burdick et al. teaches a control system (50, 62, 28, 94), for controlling the position of the paving tool (30), the speed of the machine (18), relative to a sensed (36) obstacle, see Figs. 1-5. Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to provide the screeding machine of Nomura et al., with an obstacle detection/machine control system, as taught by Burdick et al., in order to prevent damage to the machine or the paving layer (C1) being formed.

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond W. Addie whose telephone number is 571 272-6986. The examiner can normally be reached on 7am-3:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas B. Will can be reached on 571 272-6998. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information

for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Raymond W. Addie/
Primary Examiner, Art Unit 3671

1/20/2011

Notice of References Cited	Application/Control No. 12/951,532		Applicant(s)/Patent Under Reexamination HALONEN ET AL.	
	Examiner Raymond W. Addie		Art Unit 3671	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-5,129,803	07-1992	Nomura et al.	425/62
*	B	US-7,854,565	12-2010	Halonon et al.	404/75
*	C	US-6,672,797	01-2004	Zachman et al.	404/84.5
*	D	US-6,022,171	02-2000	Munoz, Armando G.	404/124
*	E	US-5,607,205	03-1997	Burdick et al.	299/1.5
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

<i>Index of Claims</i> 	Application/Control No. 12951532	Applicant(s)/Patent Under Reexamination HALONEN ET AL.
	Examiner Raymond W Addie	Art Unit 3671

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant											☐ CPA		☐ T.D.		☐ R.1.47	
CLAIM		DATE														
Final	Original	01/20/2011														
	1	✓														
	2	✓														
	3	✓														
	4	✓														
	5	✓														
	6	✓														
	7	✓														
	8	✓														
	9	✓														
	10	✓														
	11	✓														
	12	✓														
	13	✓														
	14	✓														
	15	✓														
	16	✓														
	17	✓														
	18	✓														
	19	✓														
	20	✓														

Search Notes 	Application/Control No. 12951532	Applicant(s)/Patent Under Reexamination HALONEN ET AL.
	Examiner Raymond W Addie	Art Unit 3671

SEARCHED			
Class	Subclass	Date	Examiner
404	83-86, 93, 96, 102, 113, 114, 118	1/19/11	rwa

SEARCH NOTES		
Search Notes	Date	Examiner
text search enclosed	1/19/11	rwa

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

--	--

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	2	("5129803").PN.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2011/01/19 20:33
L2	8	(("7407339") or ("7195423")).PN.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2011/01/19 21:06
L3	1035	404/83-86,96.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2011/01/19 21:14
L4	173	L3 and (bump or profile)	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2011/01/19 21:14
L5	1	(10/929469).APP.	USPAT; USOCR	AND	ON	2011/01/19 21:24
L6	24	("3967912" "4012160" "4918608" "4933853" "4943119" "5201604" "5258961" "5356238" "5362176" "5393167" "5401115" "5549412" "5556226" "5588776" "5752783" "6152238" "6161986" "6227761" "6238135" "6352386" "6364028" "6749364" "6916070").PN. OR ("7172363").URPN.	US-PGPUB; USPAT; USOCR	AND	ON	2011/01/19 21:24
S1	255	("1695202" "2009542" "2032205" "2219246" "2255343" "2303335" "2400321" "2449851" "2453510" "2599330" "2737828" "2796685" "2916836" "20060018715" "3088384" "3147678" "3262378" "3396642" "3403609" "3415173" "3540360" "3604325"	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2011/01/17 15:15

		"3838933" "3850541" "3870427" "3914064" "3953145" "4249327" "4299290" "4318631" "4378653" "4408978" "4427358" "4470783" "4614486" "4655633" "4734022" "4807131" "4838730" "4861188" "4930935" "4933853" "5039249" "5062738" "5080525" "5129803" "5156487" "5190401" "5224793" "5258961" "5279501" "5288166" "5288167" "5328295" "5352063" "5375663" "5549412" "5567075" "5588776" "5752783" "5771978" "5778482" "5779390" "5803656" "5807022" "5924819" "6022171" "6029752" "6056474" "6089787" "6129481" "6152647" "6174105" "6183160" "6227761" "6238135" "6336769" "6588976" "6623208" "6679652" "6685390" "6860676" "6923595" "6953304" "6976805" "7121762" "7195423" "7357596" "7407339").PN.				
S2	20	gyroscope and (cross adj slope)	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2011/01/17 15:24
S3	3659565	speed	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2011/01/17 15:24
S4	1	S1 and S2 S3 and "4"	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2011/01/17 15:24

S5	2	S1 and S2	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2011/01/17 15:25
S6	1	S3 and S4	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2011/01/17 15:25
S7	1035	404/83-86,96.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2011/01/17 15:56
S8	8	S2 and S7	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2011/01/17 15:56
S9	0	S3 and S8	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2011/01/17 15:56
S10	6	("7407339").PN.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2011/01/17 15:58
S11	2	("7195423").PN.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2011/01/17 16:01
S12	104	("1695202" "2009542" "2032205" "2219246" "2255343" "2303335" "2373828" "2400321" "2449851" "2453510" "2599330" "2796685" "2916836" "3088384" "3147678" "3262378" "3396642" "3403609" "3540360" "3604325" "3838933" "3850541" "3870427" "3953145" "4249327" "4299290" "4318631" "4379653" "4408978" "4427358" "4470783" "4614486" "4655633" "4734022" "4807131" "4838730" "4930935" "4978246" "5039249" "5062738" "5080525" "5129803" "5156487" "5190401" "5224793" "5258961" "5279501" "5288166"	US-PGPUB; USPAT; USOCR	AND	ON	2011/01/17 16:01

		"5288167" "5328295" "5352063" "5375663" "5549412" "5567075" "5588776" "5752783" "5771978" "5778482" "5779390" "5803656" "5807022" "5924819" "6022171" "6029752" "6056474" "6089787" "6129481" "6152647" "6174105" "6183160" "6227761" "6238135" "6336769" "6588976" "6623208" "6685390" "6860676" "6953304" "6976805").PN. OR ("7195423").URPN.				
S13	2	("7195423").PN.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2011/01/17 16:07
S14	8	S2 and S3	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2011/01/17 16:16
S15	3	("20050225477" "6141617" "6161071").PN. OR ("7509214").URPN.	US-PGPUB; USPAT; USOCR	AND	ON	2011/01/17 16:17
S16	8	S2 and S7	US-PGPUB; USPAT; USOCR	AND	ON	2011/01/17 16:17
S17	10927	machine adj speed	US-PGPUB; USPAT; USOCR	AND	ON	2011/01/17 16:17
S18	24782	gyroscope	US-PGPUB; USPAT; USOCR	AND	ON	2011/01/17 16:17
S19	19	S17 and S18	US-PGPUB; USPAT; USOCR	AND	ON	2011/01/17 16:18
S20	0	S7 and S19	US-PGPUB; USPAT; USOCR	AND	ON	2011/01/17 16:18
S21	31048	(machine or wheel) adj speed	US-PGPUB; USPAT; USOCR	AND	ON	2011/01/17 16:18
S22	1761	S18 and "221"	US-PGPUB; USPAT; USOCR	AND	ON	2011/01/17 16:18
S23	632	S18 and S21	US-PGPUB; USPAT; USOCR	AND	ON	2011/01/17 16:19
S24	0	S7 and S23	US-PGPUB; USPAT; USOCR	AND	ON	2011/01/17 16:19

S25	677718	tilt or pitch	US-PGPUB; USPAT; USOCR	AND	ON	2011/01/17 16:19
S26	142	S7 and S25	US-PGPUB; USPAT; USOCR	AND	ON	2011/01/17 16:19
S27	10	S18 and S26	US-PGPUB; USPAT; USOCR	AND	ON	2011/01/17 16:19
S28	304	cross adj slope	US-PGPUB; USPAT; USOCR	AND	ON	2011/01/17 16:28
S29	121	S25 and S28	US-PGPUB; USPAT; USOCR	AND	ON	2011/01/17 16:28
S30	30	S7 and S29	US-PGPUB; USPAT; USOCR	AND	ON	2011/01/17 16:29

1/ 19/ 11 9:27:36 PM

C:\ Documents and Settings\ RAddie\ My Documents\ EAST\ Workspaces\ 12951532.wsp

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.

Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>				Complete if Known	
				Application Number	
				Filing Date	November 22, 2010
				First Named Inventor	Phillip D. Halonen
				Art Unit	
				Examiner Name	
Sheet	1	of	7	Attorney Docket Number	SOM01 P-325F

U. S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
		US-6,623,208 B2	09-23-2003	Quenzi et al.	
		US-6,588,976 B2	07-08-2003	Quenzi et al.	
		US-6,227,761 B1	05-08-2001	Kieranen et al.	
		US-6,183,160 B1	02-06-2001	Tapio et al.	
		US-6,152,647	11-28-2000	Tapio et al.	
		US-6,129,481	10-10-2000	Tapio et al.	
		US-5,328,295	07-12-1994	Allen	
		US-5,288,166	02-22-1994	Allen et al.	
		US-5,156,487	10-20-1992	Haid	
		US-5,129,803	07-14-1992	Nomura et al.	
		US-4,930,935	06-05-1990	Quenzi et al.	
		US-4,655,633	04-07-1987	Somero et al.	
		US-5,771,978	06-30-1998	Davidson et al.	
		US-5,588,776	12-31-1996	Swisher, Jr. et al.	
		US-5,752,783	05-19-1998	Malone	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T 6
		Country Code ³ Number ⁴ Kind Code ⁵ (if known)				

Examiner Signature	/Raymond Addie/ (01/20/2011)	Date Considered	
-----------------------	------------------------------	--------------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

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 2 hours 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, 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.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /RA/

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.

Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>				Complete if Known	
				Application Number	
				Filing Date November 22, 2010	
				First Named Inventor Philip D. Halonen	
				Art Unit	
				Examiner Name	
Sheet 2	of	7	Attorney Docket Number SOM01 P-325F		

U. S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
		US-5,549,412	08-27-1996	Malone	
		US-5,375,663	12-27-1994	Teach	
		US-5,288,167	02-22-1994	Gaffard et al.	
		US-5,258,961	11-02-1993	Sehr et al.	
		US-5,039,249	08-13-1991	Hansen et al.	
		US-4,978,246	12-18-1990	Quenzi et al.	
		US-4,807,131	02-21-1989	Clegg	
		US-3,953,145	04-27-1976	Teach	
		US-3,870,427	03-11-1975	Allen	
		US-3,604,325	09-14-1971	Borges	
		US-2,796,685	06-25-1957	Bensinger	
		US-2006/0018715	01-26-2006	Halonen et al.	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T 6
		Country Code *Number ⁴ -Kind Code ⁵ (if known)				

Examiner Signature	/Raymond Addie/ (01/20/2011)	Date Considered	
-----------------------	------------------------------	--------------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

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 2 hours 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, 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.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /RA/

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.

Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>		Complete if Known			
		Application Number			
		Filing Date	November 22, 2010		
		First Named Inventor	Philip D. Halonen		
		Art Unit			
		Examiner Name			
Sheet	3	of	7	Attorney Docket Number	SOM01 P-325F

U. S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
		US-6,089,787	07-18-2000	Allen et al.	
		US-5,279,501	01-18-1994	Shelley	
		US-5,807,022	09-15-1998	McCleary	
		US-5,803,656	09-08-1998	Turck	
		US-5,778,482	07-14-1998	Sbrigato	
		US-5,567,075	10-22-1996	Allen	
		US-5,352,063	10-04-1994	Allen et al.	
		US-5,288,166	02-22-1994	Allen et al.	
		US-5,190,401	03-02-1993	Wilson	
		US-5,062,738	11-05-1991	Owens	
		US-4,838,730	06-13-1989	Owens	
		US-4,318,631	03-09-1982	Vickers	
		US-3,850,541	11-26-1974	Baillet et al.	
		US-6,685,390 B1	02-03-2004	Eitzen	
		US-6,238,135 B1	05-29-2001	Rower	
		US-6,174,105 B1	01-16-2001	Holmes et al.	
		US-6,056,474	05-02-2000	Nolan	
		US-6,029,752	02-29-2000	Young	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T 6
		Country Code *Number*-Kind Code ² (if known)				

Examiner Signature	/Raymond Addie/ (01/20/2011)	Date Considered	
-----------------------	------------------------------	--------------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

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 2 hours 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, 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.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /RA/

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.

Substitute for form 1449/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>		Application Number	
		Filing Date	November 22, 2010
		First Named Inventor	Philip D. Halonen
		Art Unit	
		Examiner Name	
Sheet 4	of 7	Attorney Docket Number	SOM01 P-325F

U. S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
		US-6,022,171	02-08-2000	Munoz	
		US-5,924,819	07-20-1999	Breidenbach	
		US-5,779,390	07-14-1998	Tuusinen	
		US-5,080,525	01-14-1992	Bricher et al.	
		US-5,039,249	08-13-1991	Hansen et al.	
		US-4,470,783	09-11-1984	Friebel et al.	
		US-4,408,978	10-11-1983	Owens	
		US-4,379,653	04-12-1983	Brown	
		US-4,249,327	02-10-1981	Allen	
		US-3,838,933	10-01-1974	Lehman et al.	
		US-3,540,360	11-17-1970	Snow et al.	
		US-3,403,609	10-01-1968	Bradshaw et al.	
		US-3,396,642	08-13-1968	Martinson	
		US-3,262,378	07-26-1966	Schrimper et al.	
		US-3,147,678	09-08-1964	Lewis	
		US-3,088,384	05-07-1963	Heer et al.	
		US-2,916,836	12-15-1959	Stewart et al.	
		US-2,400,321	05-14-1946	Troxell	
		US-2,373,828	04-17-1945	Harrington	
		US-2,303,335	12-01-1942	Day	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T ⁶
		Country Code *Number ⁴ -Kind Code ⁵ (if known)				

Examiner Signature	/Raymond Addie/ (01/20/2011)	Date Considered	
--------------------	------------------------------	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

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 2 hours 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, 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.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /RA/

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.

Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>		Complete if Known			
		Application Number			
		Filing Date	November 22, 2010		
		First Named Inventor	Philip D. Halonen		
		Art Unit			
Examiner Name					
Sheet	5	of	7	Attorney Docket Number	SOM01 P-325F

U. S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
		US-2,255,343	09-09-1941	Baily	
		US-2,219,246	10-22-1940	Jackson	
		US-2,032,205	02-25-1936	Gage	
		US-1,695,202	12-11-1928	Newell	
		US-6,336,769	01-08-2002	Cincis et al.	
		US-2,009,542	07-30-1935	Day	
		US-4,734,022	03-29-1988	Shimabukuro	
		US-4,614,486	09-30-1986	Bragagnini	
		US-4,427,358	01-24-1984	Stilwell	
		US-2,453,510	11-09-1948	Jackson	
		US-2,449,851	09-21-1948	Jackson	
		US-6,976,805 B2	12-20-2005	Quenzi et al.	
		US-6,953,304 B2	10-11-2005	Quenzi et al.	
		US-4,299,290	11-10-1981	Nunes	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T ₈
		Country Code ³ Number ⁴ Kind Code ⁵ (if known)				
		JP 06306813 A	01-11-1994	Seirei Ind. Co. Ltd.		X
		DE 42402	11-25-1965	Manfred Kramm		X
		FR 636,563	04-12-1928	Pérouse		
		CA 2,051,776	12-12-1995	Raymond F. Haid		
		EP 1887138	02-13-2008	Conrado Pont Feixes		

Examiner Signature	/Raymond Addie/ (01/20/2011)	Date Considered	
--------------------	------------------------------	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

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 2 hours 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, 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.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /RA/

Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>		Complete if Known			
		Application Number			
		Filing Date	November 22, 2010		
		First Named Inventor	Philip D. Halonen		
		Art Unit			
Examiner Name					
Sheet	6	of	7	Attorney Docket Number	SOM01 P-325F

U. S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
		US-6,860,676	03-01-2005	Pont Feixes	
		US-5,224,793	07-06-1993	De Pol et al.	
		US-2,599,330	06-03-1952	Jackson	
		US-4,933,853	06-12-1990	Musil et al.	
		US-3,914,064	10-21-1975	Gurries	
		US-7,195,423	03-27-2007	Halonen et al.	
		US-7,407,339	08-05-2008	Halonen et al.	
		US-3,415,173	12-10-1968	Paul	
		US-6,923,595	08-02-2005	Chek	
		US-4,861,188	08-29-1989	Rouillard	
		US-6,679,652	01-20-2004	Suriano	
		US-7,121,762	10-17-2006	Quenzi et al.	
		US-7,357,596	04-15-2008	Face, III et al.	
		US-			
		US-			
		US-			

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T 6
		Country Code ³ Number ⁴ Kind Code ⁵ (if known)				
		EP 0 743 408 B1	10/07/1998	Alfa Industries		X
		ES 1 052 554 U	01/01/2003	Conrado Pont Feixes		
		ES 1 056 566 U	04/01/2004	Bombform, S.L.		
		ES 1 059 142 U	12-17-2004	ES Maquinaria Lorenzana, S.A.		
		WO 02/25016	03-28-2002	Jose Mas Garcia		

Examiner Signature	/Raymond Addie/ (01/20/2011)	Date Considered	
--------------------	------------------------------	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

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 2 hours 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, 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.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /RA/

Substitute for form 1449/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>		Application Number	
		Filing Date	November 22, 2010
		First Named Inventor	Philip D. Halonen
		Art Unit	
		Examiner Name	
		Attorney Docket Number	SOM01 P-325F
Sheet	7	of	7

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	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, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		Screed King TSK 308 Brochure "Are you Tired of Screeding Concrete This Way?", believed to be published more than one year prior to the filing date of the present application.	
		European Search Report for corresponding European Application No. 05784217.1.	

Examiner Signature	/Raymond Addie/ (01/20/2011)	Date Considered	
-----------------------	------------------------------	--------------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 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 2 hours 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, 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.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /RA/



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 NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
12/951,532	11/22/2010	Philip D. Halonen	SOM01 P-325F

CONFIRMATION NO. 9920

PUBLICATION NOTICE



OC000000046624030

28101
VAN DYKE, GARDNER, LINN & BURKHART, LLP
SUITE 207
2851 CHARLEVOIX DRIVE, S.E.
GRAND RAPIDS, MI 49546

Title:WHEELED CONCRETE SCREEDING DEVICE

Publication No.US-2011-0064518-A1

Publication Date:03/17/2011

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publicly available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently <http://www.uspto.gov/patft/>.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Office of Public Records. The Office of Public Records can be reached by telephone at (703) 308-9726 or (800) 972-6382, by facsimile at (703) 305-8759, by mail addressed to the United States Patent and Trademark Office, Office of Public Records, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently <http://pair.uspto.gov/>. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

Further assistance in electronically accessing the publication, or about PAIR, is available by calling the Patent Electronic Business Center at 1-866-217-9197.

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Group Art Unit : 3671
Examiner : Raymond W. Addie
Applicants : Philip D. Halonen, Russ E. Stein, Mark A. Pietila, Michael R. Keranen
and Carl B. Kieranen
Serial No. : 12/951,532
Filed : November 22, 2010
For : WHEELED CONCRETE SCREEDING DEVICE

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

REQUEST FOR RECONSIDERATION

Responsive to the Office Action mailed January 25, 2011, Applicants submit the following:

Amendments to the Specification are on page 2 of this paper.

Remarks begin on page 3 of this paper.

Applicants : Philip D. Halonen, Russ E. Stein, Mark A. Pietila, Michael R. Keranen
and Carl B. Kieranen
Serial No. : 12/951,532
Page : 2

Amendments to the Specification:

Please amend paragraph [0001] on page 1 as follows:

[0001] The present application is a continuation of U.S. patent application Ser. No. 12/186,164, filed Aug. 5, 2008, now U.S. Pat. No. 7,854,565, which is a continuation of U.S. patent application Ser. No. 11/674,303, filed Feb. 13, 2007, now U.S. Pat. No. 7,407,339, which is a continuation of U.S. patent application Ser. No. 11/189,396, filed Jul. 26, 2005, now U.S. Pat. No. 7,195,423, which claims benefit of U.S. provisional applications, Ser. No. 60/521,950, filed Jul. 26, 2004; Ser. No. 60/619,672, filed Oct. 18, 2004; and Ser. No. 60/666,672, filed Mar. 30, 2005, which are all hereby incorporated herein by reference in their entireties.

Applicants : Philip D. Halonen, Russ E. Stein, Mark A. Pietila, Michael R. Keranen
and Carl B. Kieranen
Serial No. : 12/951,532
Page : 3

Remarks:

The remarks presented herein are believed to be fully responsive to the Office Action dated January 25, 2011.

Claims 1-20 are pending in the application. The specification has been amended to update an incorporated parent patent application that has now issued as United States Patent No. 7,854,565. The amendment is fully supported in the specification and drawings as originally filed. No new matter has been added.

CLAIM REJECTIONS

Claims 1-9 were rejected under 35 U.S.C. §102(b) as being anticipated by Nomura et al., U.S. Patent No. 5,129,803 ("Nomura"), while claims 10-15 were rejected under 35 U.S.C. §103(a) as being unpatentable over Nomura et al., in view of Munoz, U.S. Patent No. 6,022,171, and claims 16-20 were rejected under 35 U.S.C. §103(a) as being unpatentable over Nomura et al., in view of Burdick et al., U.S. Patent No. 5,607,205 ("Burdick").

Applicants respectfully traverse the rejections under 35 U.S.C. §102(b) and §103(a) and submit that the present claims are in condition for allowance for at least the reasons set forth below.

§102 Rejection of Claims 1-9:

With respect to the rejection of independent claim 1, Applicants submit that Nomura does not disclose, suggest or anticipate or render obvious the presently claimed invention.

The presently claimed invention, as claimed in independent claim 1, comprises a wheeled concrete screeding device for screeding uncured concrete that (collectively and combined with other claimed elements) comprises the following:

- a wheeled unit having at least two wheels for movably supporting a frame portion of said wheeled unit, said frame portion having a forward end and a

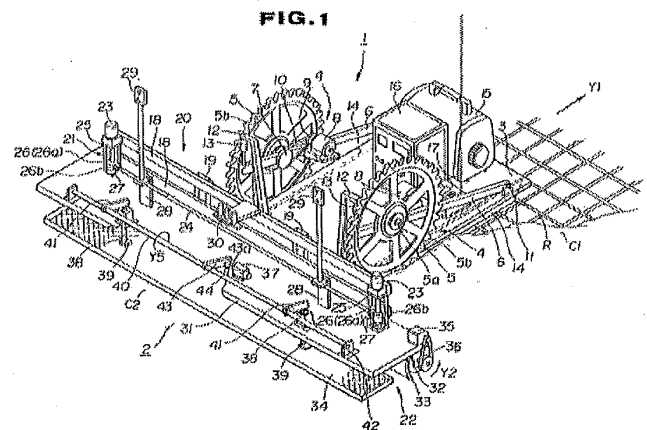
Applicants : Philip D. Halonen, Russ E. Stein, Mark A. Pietila, Michael R. Keranen
and Carl B. Kieranen
Serial No. : 12/951,532
Page : 4

rearward end, wherein said wheeled unit is movable through uncured concrete in a screeding direction;

- a screed head supported at said rearward end of said frame portion and following behind said wheeled unit when said wheeled unit is moved in said screeding direction, said screed head comprising a grade establishing element and a vibratable member;
- wherein said grade establishing element is generally vertically adjustable responsive to a signal from a laser receiver disposed at said screed head to establish a struck-off surface of the uncured concrete at a desired grade when said wheeled unit is moved in said screeding direction; and
- wherein said vibratable member is adjustably attached at a rearward end of said grade establishing element and wherein said vibratable member at least partially floats behind said grade establishing element on the struck-off surface of the uncured concrete and is at least partially supported at the struck-off surface of the uncured concrete as said wheeled unit is moved in said screeding direction.

Thus, the presently claimed invention has its vibratable member adjustably attached at a rearward end of the grade establishing element, with the vibratable member at least partially *floating* behind the grade establishing element *on the struck-off surface* of the uncured concrete and *being at least partially supported at the struck-off surface* of the uncured concrete as the wheeled unit is moved in the screeding direction. Nomura does not disclose or suggest such a wheeled concrete screeding device.

In stark contrast to the claimed wheeled concrete screeding device, Nomura (such as shown in Figure 1, reproduced to the right) includes a leveling section 22 that has a leveling auger 32, a leveling blade 33 and a tamper 34 all attached to and supported by a leveler platform 31. The tamper is attached to the leveler platform via a pair of support rods that are forced downward with a spring and that are moved up and down in response to rotation



Applicants : Philip D. Halonen, Russ E. Stein, Mark A. Pietila, Michael R. Keranen
and Carl B. Kieranen
Serial No. : 12/951,532
Page : 5

of an actuator shaft (see, for example, column 5, lines 10-33 and Figures 1 and 2 of Nomura). Thus, the tamper of Nomura is pushed downward and pulled upward to tamp the concrete via rotation of the actuator shaft. Clearly, the tamper of Nomura does not at least partially *float* behind a grade establishing element and is not at least partially *supported at* a struck-off surface of the uncured concrete. To the contrary, the nominal level of the tamper of Nomura is set by adjusting the level of the platform, which also sets the level of the leveling auger and the leveling blade in the Nomura device. There is no adjustment of the tamper relative to the leveling auger in Nomura.

Thus, Applicants submit that Nomura does not disclose or suggest or anticipate or render obvious the wheeled concrete screeding device of claim 1. With respect to the rejection of dependent claims 2-9, Applicants submit that Nomura does not disclose or suggest or anticipate or render obvious the wheeled concrete screeding device of these claims for at least the reasons set forth above.

Moreover, and with respect to the rejection of dependent claims 5-9, Applicants submit that Nomura clearly does not disclose or suggest any pivotal attachment of the tamper at the rear of the leveling blade (such as set forth in claims 5-8), nor does Nomura disclose or suggest securement of the tamper relative to a bracket to retain the tamper at a desired attack angle (such as set forth in claim 9). To the contrary, Nomura clearly discloses that the tamper is vertically and linearly moved up and down to tamp the concrete at the level set by the height of the platform, which sets the level of the tamper and also sets the level of the leveling auger and the leveling blade. There is no disclosure in Nomura of any pivotal movement of the tamper, nor is there any disclosure in Nomura of any adjustment of the attack angle of the tamper. Further, Applicants note that the Office Action does not even address the pivotal attachment and attack angle limitations of these claims in making these rejections.

§103 Rejection of Claims 10-15:

Applicants : Philip D. Halonen, Russ E. Stein, Mark A. Pietila, Michael R. Keranen
and Carl B. Kieranen
Serial No. : 12/951,532
Page : 6

With respect to the §103 rejections of dependent claims 10-12 and independent claim 13 and its dependent claims 14 and 15, Applicants submit that Nomura, in combination with Munoz, does not disclose or suggest or render obvious the presently claimed invention of these claims, for at least the reasons set forth above. Further, Applicants submit that Munoz merely discloses a four wheeled concrete finishing apparatus, and the Office Action merely states:

However, Munoz teaches a similar, laser-guided screeding machine (20) having a 4-wheel primary mover with operator's station (22) directed toward the screeding tool (24), such that the prime mover can traverse mesh, rebar and gravel subgrades, see Figs. 10-13. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the screeding machine of Nomura et al., with a 4-wheel prime mover, as taught by Munoz, in order to improve mobility and positioning of the operators station, as reasonably suggested by Munoz, Cols. 3-4.

Applicants respectfully traverse the rejection. Although Munoz may disclose a 4-wheel primary mover, there is no disclosure or suggestion in Munoz of, for example, an *articulatable* wheeled unit (such as claimed in claims 11-15), which includes a front frame portion that is *articulatable* relative to a rear frame portion *about a generally vertical pivot axis*. Moreover, Applicants respectfully submit that the Office Action makes no reference to these limitations when making these rejections, which falls well short of the requirements for establishing a *prima facie* case of obviousness of the claimed invention.

§103 Rejection of Claims 16-20:

With respect to the rejection of claims 16-20, Applicants submit that Nomura, in combination with Burdick, does not disclose or suggest or render obvious the presently claimed invention of these claims. Burdick merely discloses a device that senses an object in front of a cutting portion of a work implement (such as a circular saw for cutting the ground or a cured

Applicants : Philip D. Halonen, Russ E. Stein, Mark A. Pietila, Michael R. Keranen
and Carl B. Kieranen
Serial No. : 12/951,532
Page : 7

concrete slab or the like), where the sensor comprises a ground penetrating means that uses radar, metal detectors, magnetometers or other electromagnetic devices (see column 4, lines 40-45 of Burdick), and where the sensor senses buried objects or utilities, such as buried pipe of both the metallic and non-metallic variety, cable, electrical wire, fibre-optic cable, reinforcing rod and the like (see column 4, lines 64-67 of Burdick). Responsive to a detection of a buried undesirable object ahead of the cutting portion, the control of Burdick raises the cutting portion to avoid contacting the detected buried undesirable object. Thus, Burdick teaches detection of a particular type of object that is buried beneath the surface that is being cut, and when such detection is made, the cutting portion or blade is raised to avoid contacting or cutting the detected buried object.

This is in stark contrast to the presently claimed invention of claim 16, which (collectively and in combination with other claimed elements) includes:

- detecting a surface irregularity of the subgrade upon which the wheels travel and at a location forward of either of said wheels and in the screeding direction of travel of said wheeled concrete working device;
- reducing the speed of said wheeled concrete working device in said screeding direction in response to a detection of a surface irregularity; and
- controlling at least one of said frame portion and said plow assembly to substantially maintain said plow assembly at a desired orientation when at least one of said wheels engages the detected surface irregularity.

Thus, the presently claimed invention includes detecting a surface irregularity of the subgrade and *reducing the speed* of the wheeled concrete working device in response to such a detection, and controlling at least one of the frame portion and the plow assembly to substantially *maintain the plow assembly at a desired orientation when at least one of the wheels engages the detected surface irregularity*. The present invention thus is all about establishing a desired grade of an uncured concrete surface and maintaining the desired grade (via maintaining the desired orientation of the plow assembly) even when a wheel of the concrete working device encounters an irregularity or bump as it moves along the surface.

Applicants : Philip D. Halonen, Russ E. Stein, Mark A. Pietila, Michael R. Keranen
and Carl B. Kieranen
Serial No. : 12/951,532
Page : 8

Clearly, this is not what is disclosed and suggested in Burdick. To the contrary, Burdick discloses detecting a particular type of undesirable object (such as a wire or cable or pipe) buried beneath the surface and avoiding any and all contact of the cutting portion with the detected buried utility or object. There is no disclosure or suggestion in Burdick of, for example, reducing the speed of the device in response to detection of a surface irregularity of a subgrade, nor is there any disclosure or suggestion in Burdick of, for example, controlling the device to maintain an orientation of a plow assembly when at least one wheel engages the detected surface irregularity. In stark contrast, Burdick is all about detecting buried objects (such as buried utilities or pipes or cables) and Burdick is all about completely avoiding the detected utilities or objects and not cutting the detected utilities or objects with the blade.

As noted above, the presently claimed invention of claims 16-20 comprises a method of establishing a desired grade of an uncured concrete surface that includes (collectively and in combination with the other claimed elements) detecting a surface irregularity and reducing the speed of the wheeled concrete working device in response to such a detection, and controlling at least one of the frame portion and the plow assembly to substantially maintain the plow assembly at a desired orientation when at least one of the wheels engages the detected surface irregularity. This clearly is not disclosed nor taught nor suggested in Burdick and, moreover, Burdick teaches away from such a method by its teaching of detecting buried undesirable objects or utilities and completely avoiding contact with the detected undesirable objects as the work implement moves along the ground or surface.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some 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 combine the reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference or references when combined must teach or suggest all the claimed limitations. Obviousness requires a suggestion of all the elements in a claim (*CFMT, Inc. v. Yieldup Int'l Corp.*, 349 F.3d 1333, 1342 (Fed. Cir. 2003)) and 'a reason that would have

Applicants : Philip D. Halonen, Russ E. Stein, Mark A. Pietila, Michael R. Keranen
and Carl B. Kieranen
Serial No. : 12/951,532
Page : 9

prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.' *KSR Int'l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1741 (2007); see also *Ex Parte Alexander*, 86 USPQ2d at 1122 (BPAI 2007). Here, we find that the Examiner has not identified all the elements of claim 16, nor provided a reason that would have prompted the skilled worker to have arranged them in the manner necessary to reach the claimed invention.

Thus, Applicants submit that the combination of Nomura and Burdick does not disclose or suggest or render obvious the presently claimed invention of independent claim 16. With respect to the rejection of dependent claims 17-20, Applicants submit that the combination of Nomura and Burdick does not disclose or suggest or render obvious the claimed invention of these claims for at least the reasons set forth above.

More particularly, and with respect to the rejection of dependent claims 18 and 19, Applicants submit that Burdick does not disclose or suggest or render obvious a wheeled support that includes a forward frame portion supported by a pair of front wheels and a rearward frame portion pivotally attached to the forward frame portion and supported by a pair of rear wheels, and wherein a plow assembly is mounted to the rearward frame portion, and wherein detecting a surface irregularity comprises detecting a tilt of the forward frame portion about a longitudinal axis of the forward frame portion, such as claimed in claim 18, and Applicants submit that Burdick does not disclose or suggest controlling at least one of the frame portion and the plow assembly in response to a detection of a tilt that is indicative of one of the front wheels engaging a surface irregularity. Further, Applicants respectfully submit that the Office Action makes no reference to these limitations when making these rejections, which falls well short of the requirements for establishing a *prima facie* case of obviousness of the claimed invention.

Accordingly, Applicants respectfully submit that Nomura, either alone or in combination with Munoz and/or Burdick and/or with any other prior art of record, does not disclose, teach, suggest or anticipate or render obvious the wheeled concrete screeding device and/or method of the present invention, particularly as set forth in independent claims 1, 13 and 16 and in the claims depending therefrom. Thus, Applicants respectfully submit that Nomura, either

Applicants : Philip D. Halonen, Russ E. Stein, Mark A. Pietila, Michael R. Keranen
and Carl B. Kieranen
Serial No. : 12/951,532
Page : 10

alone or in combination with Munoz or Burdick or any other prior art reference of record, does not disclose or suggest or anticipate or render obvious to one of ordinary skill in the art the combination of features that collectively and combined together constitute the claimed subject matter of the wheeled concrete screeding device and/or method as set forth in claims 1-20. Reconsideration and withdrawal of the rejections of claims 1-20 is respectfully requested.

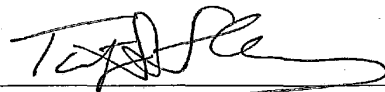
Claims 1-20 remain pending in the application. Applicants respectfully submit that claims 1-20 are in condition for allowance and a notice to that effect is earnestly and respectfully requested.

Respectfully submitted,

PHILIP D. HALONEN ET AL.

By: Van Dyke, Gardner, Linn & Burkhardt, LLP

Date: April 25, 2011.



Timothy A. Flory
Registration No. 42 540
2851 Charlevoix Drive, S.E., Suite 207
P.O. Box 888695
Grand Rapids, Michigan 49588-8695
(616) 975-5500

Electronic Acknowledgement Receipt	
EFS ID:	9943726
Application Number:	12951532
International Application Number:	
Confirmation Number:	9920
Title of Invention:	WHEELED CONCRETE SCREEDING DEVICE
First Named Inventor/Applicant Name:	Philip D. Halonen
Customer Number:	28101
Filer:	Timothy A. Flory/Amanda Sytsma
Filer Authorized By:	Timothy A. Flory
Attorney Docket Number:	SOM01 P-325F
Receipt Date:	25-APR-2011
Filing Date:	22-NOV-2010
Time Stamp:	13:13:12
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
------------------------	----

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	TransmittalForm.pdf	80084 19a935c67582123af69931c510cd4fa2b43a967e	no	1

Warnings:

Information:

2	Amendment/Req. Reconsideration-After Non-Final Reject	ResponseA.pdf	650484 e16e04e9c2b8a45a5ad5020c04dd3e6260095e13	no	10
Warnings:					
Information:					
Total Files Size (in bytes):			730568		
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. <u>New Applications Under 35 U.S.C. 111</u> 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. <u>National Stage of an International Application under 35 U.S.C. 371</u> 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. <u>New International Application Filed with the USPTO as a Receiving Office</u> 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.					

Doc Code: TRAN.LET

Document Description: Transmittal Letter

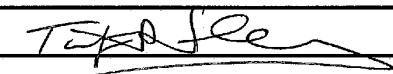
PTO/SB/21 (07-09)

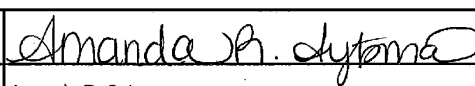
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

TRANSMITTAL FORM (to be used for all correspondence after initial filing)	Application Number	12/951,532
	Filing Date	November 22, 2010
	First Named Inventor	Philip D. Halonen
	Art Unit	3671
	Examiner Name	Raymond W. Addle
	Attorney Docket Number	SOM01 P-325F
Total Number of Pages in This Submission		

ENCLOSURES (Check all that apply)		
☐ Fee Transmittal Form ☐ Fee Attached ☒ Amendment/Reply ☐ After Final ☐ Affidavits/declaration(s) ☐ Extension of Time Request ☐ Express Abandonment Request ☐ Information Disclosure Statement ☐ Certified Copy of Priority Document(s) ☐ Reply to Missing Parts/Incomplete Application ☐ Reply to Missing Parts under 37 CFR 1.52 or 1.53	☐ Drawing(s) ☐ Licensing-related Papers ☐ Petition ☐ Petition to Convert to a Provisional Application ☐ Power of Attorney, Revocation ☐ Change of Correspondence Address ☐ Terminal Disclaimer ☐ Request for Refund ☐ CD, Number of CD(s) _____ ☐ Landscape Table on CD	☐ After Allowance Communication to TC ☐ Appeal Communication to Board of Appeals and Interferences ☐ Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) ☐ Proprietary Information ☐ Status Letter ☐ Other Enclosure(s) (please identify below):
Remarks		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT		
Firm Name	VAN DYKE, GARDNER, LINN & BURKHART, LLP	
Signature		
Printed name	Timothy A. Flory	
Date	April 25, 2011	Reg. No. 42540

CERTIFICATE OF TRANSMISSION/MAILING		
I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:		
Signature		
Typed or printed name	Amanda R. Sytsma	Date April 25, 2011

This collection of information is required by 37 CFR 1.5. 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 1.11 and 1.14. This collection is estimated to 2 hours 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.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



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

NOTICE OF ALLOWANCE AND FEE(S) DUE

28101 7590 06/23/2011
VAN DYKE, GARDNER, LINN & BURKHART, LLP
SUITE 207
2851 CHARLEVOIX DRIVE, S.E.
GRAND RAPIDS, MI 49546

EXAMINER

ADDIE, RAYMOND W

ART UNIT

PAPER NUMBER

3671

DATE MAILED: 06/23/2011

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/951,532	11/22/2010	Philip D. Halonen	SOM01 P-325F	9920

TITLE OF INVENTION: WHEELED CONCRETE SCREEDING DEVICE

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	09/23/2011

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail** Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or **Fax** (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

28101 7590 06/23/2011
VAN DYKE, GARDNER, LINN & BURKHART, LLP
SUITE 207
2851 CHARLEVOIX DRIVE, S.E.
GRAND RAPIDS, MI 49546

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

12/951,532 11/22/2010 Philip D. Halonen SOM01 P-325F 9920

TITLE OF INVENTION: WHEELED CONCRETE SCREEDING DEVICE

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	09/23/2011

EXAMINER	ART UNIT	CLASS-SUBCLASS
ADDIE, RAYMOND W	3671	404-118000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____
(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____
3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
☐ Publication Fee (No small entity discount permitted)
☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
☐ Payment by credit card. Form PTO-2038 is attached.
☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____

Date _____

Typed or printed name _____

Registration No. _____

This collection of information is required by 37 CFR 1.311. 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 12 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, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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.



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.
12/951,532	11/22/2010	Philip D. Halonen	SOM01 P-325F	9920

28101	7590	06/23/2011
VAN DYKE, GARDNER, LINN & BURKHART, LLP		
SUITE 207		
2851 CHARLEVOIX DRIVE, S.E.		
GRAND RAPIDS, MI 49546		

EXAMINER	
ADDIE, RAYMOND W	

ART UNIT	PAPER NUMBER
3671	

DATE MAILED: 06/23/2011

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 0 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 0 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

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.

Notice of Allowability	Application No.	Applicant(s)	
	12/951,532	HALONEN ET AL.	
	Examiner	Art Unit	
	RAYMOND ADDIE	3671	

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

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the arguments filed 4/25/2011.
2. ☒ The allowed claim(s) is/are 1-20.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892) 2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____ 4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material	5. ☐ Notice of Informal Patent Application 6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ 7. ☐ Examiner's Amendment/Comment 8. ☐ Examiner's Statement of Reasons for Allowance 9. ☐ Other _____.
---	---

/Raymond W. Addie/ Primary Examiner, Art Unit 3671	
---	--

<i>Search Notes</i> 	Application/Control No. 12951532	Applicant(s)/Patent Under Reexamination HALONEN ET AL.
	Examiner Raymond W Addie	Art Unit 3671

SEARCHED			
Class	Subclass	Date	Examiner
404	83-86, 93, 96, 102, 113, 114, 118	6/14/11	rwa

SEARCH NOTES		
Search Notes	Date	Examiner
updated search	6/14/11	rwa

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner
404	84.5, 101, 114, 118	6/14/11	rwa

--	--

Applicants : Philip D. Halonen, Russ E. Stein, Mark A. Pietila, Michael R. Keranen
and Carl B. Kieranen
Serial No. : 12/951,532
Page : 2

Amendments to the Specification:

Please amend paragraph [0001] on page 1 as follows:

[0001] The present application is a continuation of U.S. patent application Ser. No. 12/186,164, filed Aug. 5, 2008, now U.S. Pat. No. 7,854,565, which is a continuation of U.S. patent application Ser. No. 11/674,303, filed Feb. 13, 2007, now U.S. Pat. No. 7,407,339, which is a continuation of U.S. patent application Ser. No. 11/189,396, filed Jul. 26, 2005, now U.S. Pat. No. 7,195,423, which claims benefit of U.S. provisional applications, Ser. No. 60/521,950, filed Jul. 26, 2004; Ser. No. 60/619,672, filed Oct. 18, 2004; and Ser. No. 60/666,672, filed Mar. 30, 2005, which are all hereby incorporated herein by reference in their entireties.

OK TO ENTER: /RA/ (06/13/2011)



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. 9920

SERIAL NUMBER	FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.		
12/951,532	11/22/2010	404	3671	SOM01 P-325F		
APPLICANTS Philip D. Halonen, Calumet, MI; Russ E. Stein, Houghton, MI; Mark A. Pietila, Atlantic Mine, MI; Michael R. Keranen, Howell, MI; Carl B. Kieranen, Chassel, MI;						
** CONTINUING DATA ***** This application is a CON of 12/186,164 08/05/2008 PAT 7,854,565 which is a CON of 11/674,303 02/13/2007 PAT 7,407,339 which is a CON of 11/189,396 07/26/2005 PAT 7,195,423 which claims benefit of 60/521,950 07/26/2004 and claims benefit of 60/619,672 10/18/2004 and claims benefit of 60/666,672 03/30/2005						
** FOREIGN APPLICATIONS *****						
** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** 12/03/2010						
Foreign Priority claimed ☐ Yes ☒ No 35 USC 119(a-d) conditions met ☐ Yes ☒ No Verified and Acknowledged <u>/Raymond W. Addie/</u> Examiner's Signature		☐ Met after Allowance Initials	STATE OR COUNTRY MI	SHEETS DRAWINGS 18	TOTAL CLAIMS 20	INDEPENDENT CLAIMS 3
ADDRESS VAN DYKE, GARDNER, LINN & BURKHART, LLP SUITE 207 2851 CHARLEVOIX DRIVE, S.E. GRAND RAPIDS, MI 49546 UNITED STATES						
TITLE WHEELED CONCRETE SCREEDING DEVICE						
FILING FEE RECEIVED 1090	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		

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

28101 7590 06/23/2011
VAN DYKE, GARDNER, LINN & BURKHART, LLP
SUITE 207
2851 CHARLEVOIX DRIVE, S.E.
GRAND RAPIDS, MI 49546

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

Amanda R. Sytsma	(Depositor's name)
<i>Amanda R. Sytsma</i>	(Signature)
September 16, 2011	(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/951,532	11/22/2010	Philip D. Halonen	SOM01 P-325F	9920

TITLE OF INVENTION: WHEELED CONCRETE SCREEDING DEVICE

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	09/23/2011

EXAMINER	ART UNIT	CLASS-SUBCLASS
ADDIE, RAYMOND W	3671	404-118000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

Gardner, Linn, Burkhardt
& Flory, LLP

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

SOMERO ENTERPRISES, INC.

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

FORT MYERS, FL

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☒ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☒ Issue Fee
☒ Publication Fee (No small entity discount permitted)
☐ Advance Order - # of Copies

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
☐ Payment by credit card. Form PTO-2038 is attached.
☒ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number 50-5553 (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature

Timothy A. Flory

Date September 16, 2011

Typed or printed name

Timothy A. Flory

Registration No. 42540

This collection of information is required by 37 CFR 1.311. 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 12 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, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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.

Electronic Patent Application Fee Transmittal				
Application Number:		12951532		
Filing Date:		22-Nov-2010		
Title of Invention:		WHEELED CONCRETE SCREEDING DEVICE		
First Named Inventor/Applicant Name:		Philip D. Halonen		
Filer:		Timothy A. Flory/Amanda Sytsma		
Attorney Docket Number:		SOM01 P-325F		
Filed as Large Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Utility Appl issue fee	1501	1	1510	1510
Publ. Fee- early, voluntary, or normal	1504	1	300	300

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				1810

Electronic Acknowledgement Receipt	
EFS ID:	10962621
Application Number:	12951532
International Application Number:	
Confirmation Number:	9920
Title of Invention:	WHEELED CONCRETE SCREEDING DEVICE
First Named Inventor/Applicant Name:	Philip D. Halonen
Customer Number:	28101
Filer:	Timothy A. Flory/Amanda Sytsma
Filer Authorized By:	Timothy A. Flory
Attorney Docket Number:	SOM01 P-325F
Receipt Date:	16-SEP-2011
Filing Date:	22-NOV-2010
Time Stamp:	16:24:18
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$ 1810
RAM confirmation Number	3241
Deposit Account	
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
-----------------	----------------------	-----------	----------------------------------	------------------	------------------

1	Issue Fee Payment (PTO-85B)	IssueFeeTransmittal.pdf	107798 6ad793ee5b1835d682119aba55c7f126805b10ac	no	1
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	31727 886d8d9fd2b2e71c60aeba57c066c31d4461dd87	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			139525		
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. <u>New Applications Under 35 U.S.C. 111</u> 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. <u>National Stage of an International Application under 35 U.S.C. 371</u> 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. <u>New International Application Filed with the USPTO as a Receiving Office</u> 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

APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/951,532	10/18/2011	8038366	SOM01 P-325F	9920

28101 7590 09/28/2011
VAN DYKE, GARDNER, LINN & BURKHART, LLP
SUITE 207
2851 CHARLEVOIX DRIVE, S.E.
GRAND RAPIDS, MI 49546

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site <http://pair.uspto.gov> for additional applicants):

Philip D. Halonen, Calumet, MI;
Russ E. Stein, Houghton, MI;
Mark A. Pietila, Atlantic Mine, MI;
Michael R. Keranen, Howell, MI;
Carl B. Kieranen, Chassel, MI;

**UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION**

Page 1 of 1

PATENT NO. : 8,038,366

APPLICATION NO.: 12/951,532

ISSUE DATE : October 18, 2011

INVENTOR(S) : Philip D. Halonen, Russ E. Stein, Mark A. Pietila, Michael R. Keranen
and Carl B. Kieranen

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 1

Line 37, "machines;" should be --machines--

Column 4

Line 3, "plow," should be --plow.--

Column 7

Line 17, "aim" should be --arm--

Line 26, Insert --.—after "machine"

Column 12

Line 26, "foul's" should be --forms--

Column 15

Line 10, Insert --.-- after "machine"

Column 17

Line 4, Insert --. -- after "machine"

Line 53, "FIG," should be --FIG.--

Column 19

Line 31, "surface," should be --surface.--

Column 22

Line 63, Insert --from- after "signal"

MAILING ADDRESS OF SENDER (Please do not use customer number below):

GARDNER, LINN, BURKHART & FLORY, LLP
2851 Charlevoix Dr., S.E., Suite 207
Grand Rapids, MI 49546

This collection of information is required by 37 CFR 1.322, 1.323, and 1.324. 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 1.0 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: Attention Certificate of Corrections Branch, 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.

Electronic Patent Application Fee Transmittal				
Application Number:		12951532		
Filing Date:		22-Nov-2010		
Title of Invention:		WHEELED CONCRETE SCREEDING DEVICE		
First Named Inventor/Applicant Name:		Philip D. Halonen		
Filer:		Timothy A. Flory/Amanda Sytsma		
Attorney Docket Number:		SOM01 P-325F		
Filed as Large Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Certificate of correction	1811	1	100	100
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Total in USD (\$)				100

Electronic Acknowledgement Receipt	
EFS ID:	12208548
Application Number:	12951532
International Application Number:	
Confirmation Number:	9920
Title of Invention:	WHEELED CONCRETE SCREEDING DEVICE
First Named Inventor/Applicant Name:	Philip D. Halonen
Customer Number:	28101
Filer:	Timothy A. Flory/Amanda Sytsma
Filer Authorized By:	Timothy A. Flory
Attorney Docket Number:	SOM01 P-325F
Receipt Date:	02-MAR-2012
Filing Date:	22-NOV-2010
Time Stamp:	11:32:26
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$ 100
RAM confirmation Number	9790
Deposit Account	
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
-----------------	----------------------	-----------	-------------------------------------	------------------	------------------

1	Transmittal Letter	TransmittalForm.pdf	82724 953d99c70360be0186c7937a9f44649824107336	no	1
Warnings:					
Information:					
2	Request for Certificate of Correction	RequestforCertificateofCorrection.pdf	113490 9cbfeb19b2f10588694c87f4e9937e9d1149004a	no	1
Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	30016 18973b289279ed2606cb40f21b40beadfa099c02	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			226230		
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. <u>New Applications Under 35 U.S.C. 111</u> 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. <u>National Stage of an International Application under 35 U.S.C. 371</u> 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. <u>New International Application Filed with the USPTO as a Receiving Office</u> 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.					

Doc Code: TRAN.LET

Document Description: Transmittal Letter

PTO/SB/21 (07-09)

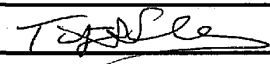
Approved for use through 07/31/2012, OMB 0651-0031

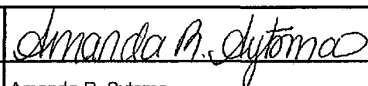
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

TRANSMITTAL FORM (to be used for all correspondence after initial filing)	Application Number	12/951,532
	Filing Date	November 22, 2010
	First Named Inventor	Phillip D. Halonen
	Art Unit	3671
	Examiner Name	Raymond W. Addie
Total Number of Pages in This Submission	Attorney Docket Number	SOM01 P-325F

ENCLOSURES (Check all that apply)		
☐ Fee Transmittal Form ☐ Fee Attached ☐ Amendment/Reply ☐ After Final ☐ Affidavits/declaration(s) ☐ Extension of Time Request ☐ Express Abandonment Request ☐ Information Disclosure Statement ☐ Certified Copy of Priority Document(s) ☐ Reply to Missing Parts/ Incomplete Application ☐ Reply to Missing Parts under 37 CFR 1.52 or 1.53	☐ Drawing(s) ☐ Licensing-related Papers ☐ Petition ☐ Petition to Convert to a Provisional Application ☐ Power of Attorney, Revocation Change of Correspondence Address ☐ Terminal Disclaimer ☐ Request for Refund ☐ CD, Number of CD(s) _____ ☐ Landscape Table on CD	☐ After Allowance Communication to TC ☐ Appeal Communication to Board of Appeals and Interferences ☐ Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) ☐ Proprietary Information ☐ Status Letter ☒ Other Enclosure(s) (please identify below): -Request for Certificate of Correction
Remarks		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT			
Firm Name	GARDNER, LINN, BURKHART & FLORY, LLP		
Signature			
Printed name	Timothy A. Flory		
Date	March 2, 2012	Reg. No.	42540

CERTIFICATE OF TRANSMISSION/MAILING			
I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:			
Signature			
Typed or printed name	Amanda R. Sytsma	Date	March 2, 2012

This collection of information is required by 37 CFR 1.5. 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 1.11 and 1.14. This collection is estimated to 2 hours 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.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 8,038,366 B2
APPLICATION NO. : 12/951532
DATED : October 18, 2011
INVENTOR(S) : Philip D. Halonen et al.

Page 1 of 1

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 1

Line 37, "machines;" should be --machines--

Column 4

Line 3, "plow," should be --plow.--

Column 7

Line 17, "aim" should be --arm--

Line 26, Insert --.-- after "machine"

Column 12

Line 26, "foul's" should be --forms--

Column 15

Line 10, Insert --.-- after "machine"

Column 17

Line 4, Insert --.-- after "machine"

Line 53, "FIG," should be --FIG.--

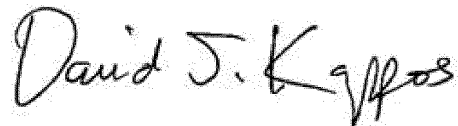
Column 19

Line 31, "surface," should be --surface.--

Column 22

Line 63, Insert --from-- after "signal"

Signed and Sealed this
Twenty-seventh Day of March, 2012



David J. Kappos
Director of the United States Patent and Trademark Office

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.

POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(b).

I hereby appoint:



Practitioners associated with the Customer Number:

153522

OR



Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number	Name	Registration Number

as attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignment documents attached to this form in accordance with 37 CFR 3.73(b).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(b) to:



The address associated with Customer Number:

153522

OR

☐ Firm or Individual Name			
Address			
City	State	Zip	
Country			
Telephone	Email		

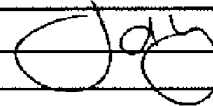
Assignee Name and Address:

Somero Enterprises, Inc.
46980 State Hwy. M-26
Houghton, MI 49931

A copy of this form, together with a statement under 37 CFR 3.73(b) (Form PTO/SB/96 or equivalent) is required to be filed in each application in which this form is used. The statement under 37 CFR 3.73(b) may be completed by one of the practitioners appointed in this form if the appointed practitioner is authorized to act on behalf of the assignee, and must identify the application in which this Power of Attorney is to be filed.

SIGNATURE of Assignee of Record

The individual whose signature and title is supplied below is authorized to act on behalf of the assignee

Signature		Date	5/9/18
Name	John Yuncza	Telephone	
Title	Chief Financial Officer		

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. 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 1.11 and 1.14. This collection is estimated to take 3 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: 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.

"FEE ADDRESS" INDICATION FORM

Address to:
Mail Stop M Correspondence
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Fax to:
571-273-6500

- OR -

INSTRUCTIONS: The issue fee must have been paid for application(s) listed on this form. In addition, only an address represented by a Customer Number can be established as the fee address for maintenance fee purposes (hereafter, fee address). A fee address should be established when correspondence related to maintenance fees should be mailed to a different address than the correspondence address for the application. **When to check the first box below:** If you have a Customer Number to represent the fee address. **When to check the second box below:** If you have no Customer Number representing the desired fee address, in which case a completed Request for Customer Number (PTO/SB/125) must be attached to this form. For more information on Customer Numbers, see the Manual of Patent Examining Procedure (MPEP) § 403.

For the following listed application(s), please recognize as the "Fee Address" under the provisions of 37 CFR 1.363 the address associated with:

☒ Customer Number: 153522

OR

☐ The attached Request for Customer Number (PTO/SB/125) form.

PATENT NUMBER (if known)	APPLICATION NUMBER
8,038,366	12/951,532

Completed by (check one):

☐ Applicant/Inventor

/Timothy A. Flory/

Signature

☒ Attorney or Agent of record 42540
(Reg. No.)

Timothy A. Flory

Typed or printed name

☒ Assignee of record of the entire interest. See 37 CFR 3.71.
Statement under 37 CFR 3.73(b) is enclosed.
(Form PTO/SB/96)

616.649.1924

Requester's telephone number

☐ Assignee recorded at Reel Frame

May 10, 2018

Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☒ * Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.363. 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 1.11 and 1.14. This collection is estimated to take 5 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 COMPLETE D FORMS TO THIS ADDRESS. **SEND TO: Mail Stop M Correspondence, 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.

STATEMENT UNDER 37 CFR 3.73(c)

Applicant/Patent Owner: Philip D. Halonen, et al. / Somero Enterprises, Inc.

Application No./Patent No.: 12/951,532 / 8,038,366 Filed/Issue Date: November 22, 2010 / October 18, 2011

Titled: WHEELED CONCRETE SCREEDING DEVICE

Somero Enterprises, Inc., a Corporation

(Name of Assignee)

(Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that, for the patent application/patent identified above, it is (choose **one** of options 1, 2, 3 or 4 below):

1. ☒ The assignee of the entire right, title, and interest.
2. ☐ An assignee of less than the entire right, title, and interest (check applicable box):
- ☐ The extent (by percentage) of its ownership interest is ____%. Additional Statement(s) by the owners holding the balance of the interest must be submitted to account for 100% of the ownership interest.
- ☐ There are unspecified percentages of ownership. The other parties, including inventors, who together own the entire right, title and interest are:

Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

3. ☐ The assignee of an undivided interest in the entirety (a complete assignment from one of the joint inventors was made). The other parties, including inventors, who together own the entire right, title, and interest are:

Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

4. ☐ The recipient, via a court proceeding or the like (e.g., bankruptcy, probate), of an undivided interest in the entirety (a complete transfer of ownership interest was made). The certified document(s) showing the transfer is attached.

The interest identified in option 1, 2 or 3 above (not option 4) is evidenced by either (choose **one** of options A or B below):

- A. ☐ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.
- B. ☒ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: Philip D. Halonen, et al. To: Delaware Capital Formation, Inc.

The document was recorded in the United States Patent and Trademark Office at
Reel 016823, Frame 0141, or for which a copy thereof is attached.

2. From: Delaware Capital Formation, Inc. To: GTG Portfolio Holdings, Inc.

The document was recorded in the United States Patent and Trademark Office at
Reel 016580, Frame 0769, or for which a copy thereof is attached.

[Page 1 of 2]

This collection of information is required by 37 CFR 3.73(b). 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 1.11 and 1.14. This collection is estimated to take 12 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: 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.

STATEMENT UNDER 37 CFR 3.73(c)3. From: GTG Portfolio Holdings, Inc. To: Somero Enterprises, Inc.

The document was recorded in the United States Patent and Trademark Office at
 Reel 016580, Frame 0785, or for which a copy thereof is attached.

4. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
 Reel _____, Frame _____, or for which a copy thereof is attached.

5. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
 Reel _____, Frame _____, or for which a copy thereof is attached.

6. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
 Reel _____, Frame _____, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

☒ As required by 37 CFR 3.73(c)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/Timothy A. Flory/

Signature

Timothy A. Flory

Printed or Typed Name

May 10, 2018

Date

42540

Title or Registration Number

Electronic Acknowledgement Receipt	
EFS ID:	32592669
Application Number:	12951532
International Application Number:	
Confirmation Number:	9920
Title of Invention:	WHEELED CONCRETE SCREEDING DEVICE
First Named Inventor/Applicant Name:	Philip D. Halonen
Customer Number:	28101
Filer:	Timothy A. Flory/Cindy Cory
Filer Authorized By:	Timothy A. Flory
Attorney Docket Number:	SOM01 P-325F
Receipt Date:	10-MAY-2018
Filing Date:	22-NOV-2010
Time Stamp:	16:37:33
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
------------------------	----

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		SOM01-P325F_POA.pdf	235428	yes	4
			fedd798a66889c982094caa460e133246000c1c7		

	Multipart Description/PDF files in .zip description		
	Document Description	Start	End
	Power of Attorney	1	1
	Change of Address	2	2
	Assignee showing of ownership per 37 CFR 3.73	3	4
Warnings:			
Information:			
Total Files Size (in bytes):		235428	
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. <u>New Applications Under 35 U.S.C. 111</u> 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. <u>National Stage of an International Application under 35 U.S.C. 371</u> 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. <u>New International Application Filed with the USPTO as a Receiving Office</u> 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

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
12/951,532	11/22/2010	Philip D. Halonen	SOM01 P-325F

CONFIRMATION NO. 9920

POWER OF ATTORNEY NOTICE

28101
VAN DYKE, GARDNER, LINN & BURKHART, LLP
2851 CHARLEVOIX DRIVE, S.E., SUITE 207
GRAND RAPIDS, MI 49546



Date Mailed: 05/23/2018

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 05/10/2018.

- The Power of Attorney to you in this application has been revoked by the assignee who has intervened as provided by 37 CFR 3.71. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at (571) 272-4000 or (571) 272-4200 or 1-888-786-0101.

/snguyen/



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 NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
12/951,532	11/22/2010	Philip D. Halonen	SOM01 P-325F

CONFIRMATION NO. 9920

POA ACCEPTANCE LETTER



OC00000099732133

153522

Honigman Miller Schwartz and Cohn LLP/TAF
650 Trade Centre Way
Suite 200
KALAMAZOO, MI 49002-0402

Date Mailed: 05/23/2018

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 05/10/2018.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at (571) 272-4000 or (571) 272-4200 or 1-888-786-0101.

/snguyen/

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

LIGCHINE INTERNATIONAL CORPORATION
Petitioner,

v.

SOMERO ENTERPRISES, INC.
Patent Owner.

IPR2021-00490
Patent 8,038,366 B2

Before JAMES A. WORTH, JASON W. MELVIN, and RYAN H. FLAX,
Administrative Patent Judges.

FLAX, *Administrative Patent Judge.*

TERMINATION

Due to Settlement Before Institution of Trial;
Granting Joint Motion to Treat Settlement Agreement
Documents as Confidential Information
35 U.S.C. § 317(a); 37 C.F.R. § 42.72; 37 C.F.R. § 42.74

Ligchine International Corporation is the Petitioner in this *inter partes* review of U.S. Patent 8,038,366 B2 (“the ’366 patent,” Ex. 1001), and Somero Enterprises, Inc. is the Patent Owner. The Board has not instituted trial in this proceeding, and no final decision has been rendered by the Board in this proceeding.

The parties have now filed a Joint Motion to Terminate the proceeding (Paper 7) on the basis of a settlement reached by the parties. *See* 35 U.S.C. § 317(a) (2019). 35 U.S.C. § 317(b) states:

Any agreement or understanding between the patent owner and a petitioner, including any collateral agreements referred to in such agreement or understanding, made in connection with, or in contemplation of, the termination of an *inter partes* review under this section shall be in writing and a true copy of such agreement or understanding shall be filed in the Office before the termination of the *inter partes* review as between the parties.

Id. Pursuant to that statute, and in connection with the Joint Motion to Terminate, the parties filed a copy of their written settlement agreement resolving this *inter partes* review and the related district court litigation. Exhibit 1013 (“Settlement Agreement”).

The parties also move that the Settlement Agreement be treated as confidential information. Paper 8. This request is *granted*.

Generally, the Board expects that a proceeding will terminate after the filing of a settlement agreement, unless the Board has already decided the merits of the proceeding. *See* 35 U.S.C. § 317(a) (“An *inter partes* review instituted under this chapter shall be terminated with respect to any petitioner upon the joint request of the petitioner and the patent owner, unless the Office has decided the merits of the proceeding before the request for termination is filed.”); 37 C.F.R. § 42.72 (“The Board may terminate a

trial without rendering a final written decision, where appropriate, including . . . pursuant to a joint request under 35 U.S.C. 317(a)"). As noted above, the Board has not yet rendered a final decision here. Thus, we *grant* the Joint Motion to Terminate the proceedings.

This Decision does not constitute a final written decision pursuant to 35 U.S.C. § 318(a).

Accordingly, it is:

ORDERED that the Joint Motion to Treat the Settlement Agreement (Ex. 1013) as confidential information is *granted*, and this agreement shall be kept separate from the public files of the '366 patent, and made available only to Federal Government agencies on written request, or to any person on a showing of good cause, under 35 U.S.C. § 317(b) and 37 C.F.R. § 42.74(c); and

FURTHER ORDERED that the Joint Motion to Terminate this proceeding is *granted*, and this proceeding is hereby *terminated* under 35 U.S.C. § 317(a) and 37 C.F.R. § 42.72.

IPR2021-00490
Patent 8,038,366 B2

For PETITIONER:

Robert H. Eichenberger
Alexander P. Brackett
Megan Gibson
MIDDLETON REUTLINGER
reichenberger@middletonlaw.com
abrackett@middletonlaw.com
mgibson@middletonlaw.com

For PATENT OWNER:

Sarah E. Waidelich
Dennis J. Abdelnour
David J. Thomas
HONIGMAN LLP
swaidelich@honigman.com
dabdelnour@honigman.com
dthomas@honigman.com

AO 120 (Rev. 08/10)

TO: Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
---	---

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been
 filed in the U.S. District Court Southern District of Indiana on the following

☐ Trademarks or ☒ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO. 1:20-cv-02356-JRS-MJD	DATE FILED 9/10/2020	U.S. DISTRICT COURT United States District Court
PLAINTIFF SOMERO ENTERPRISES, INC.		DEFENDANT LIGCHINE INTERNATIONAL CORPORATION
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 8,038,366		***SEE ATTACHMENTS***
2		
3		
4		
5		

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY	☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1		
2		
3		
4		
5		

In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK Roger A.G. Sharpe	(BY) DEPUTY CLERK <i>James J. Cury</i>	DATE 9/14/2020
----------------------------	---	-------------------

Copy 1—Upon initiation of action, mail this copy to Director Copy 3—Upon termination of action, mail this copy to Director
 Copy 2—Upon filing document adding patent(s), mail this copy to Director Copy 4—Case file copy

AO 120 (Rev. 08/10)

TO: Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
---	---

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court Southern District of Indiana on the following

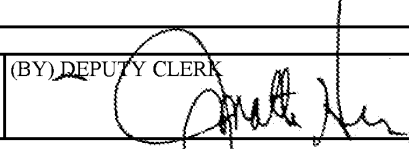
☐ Trademarks or ☒ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO. 1:20-cv-02356-JMS-MJD	DATE FILED 9/10/2020	U.S. DISTRICT COURT United States District Court
PLAINTIFF SOMERO ENTERPRISES, INC.		DEFENDANT LIGCHINE INTERNATIONAL CORPORATION
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 8,038,366		***SEE ATTACHMENTS***
2		
3		
4		
5		

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED 10/02/2020	INCLUDED BY ☒ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 8,038,366		***SEE ATTACHMENTS***
2		
3		
4		
5		

In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT		
CLERK Rogers A.G. Sharpe	(BY) DEPUTY CLERK 	DATE 10/05/2020

Copy 1—Upon initiation of action, mail this copy to Director Copy 3—Upon termination of action, mail this copy to Director
Copy 2—Upon filing document adding patent(s), mail this copy to Director Copy 4—Case file copy

AO 120 (Rev. 08/10)

TO: Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
---	---

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court Southern District of Indiana on the following

☐ Trademarks or ☒ Patents. (☐ the patent action involves 35 U.S.C. § 292.);

DOCKET NO. 4:21-cv-00028-JMS-DML	DATE FILED 3/15/2021	U.S. DISTRICT COURT United State District Court
PLAINTIFF SOMERO ENTERPRISES, INC.		DEFENDANT LIGCHINE INTERNATIONAL CORPORATION
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
¹ 8,038,366		***SEE ATTACHMENTS***
2		
3		
4		
5		

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☒ Other Pleading		
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK	
1			
2			
3			
4			
5			

In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT Order of Dismissal with Prejudice Attached
--

CLERK <i>Roger A.G. Sharpe</i>	(BY) DEPUTY CLERK <i>Lana Cottingham</i>	DATE 3/15/2021
-----------------------------------	---	-------------------

Copy 1—Upon initiation of action, mail this copy to Director Copy 3—Upon termination of action, mail this copy to Director
Copy 2—Upon filing document adding patent(s), mail this copy to Director Copy 4—Case file copy