

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD**

**SOLARIS OILFIELD SITE SERVICES OPERATING, LLC and
SOLARIS OILFIELD SITE SERVICES PERSONNEL, LLC**

Petitioners

v.

MASABA, INC.

Patent Owner

Case No. IPR2024-01179
U.S. Patent No. 11,780,689

Oral Hearing November 13, 2025

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

© 2025 Workman Nydegger

Background

The '689 patent pertains to an aggregate transferring system for filling, e.g., a silo.



(Ex. 2005-15)

“The present disclosure relates to a material handling apparatus and more particularly pertains to a new aggregate transferring system for receiving aggregate from a vehicle and elevating the aggregate to a higher vertical level for deposit into, for example, a silo.”

(Pet., 11 (citing Ex. 1001, 1:14-18))

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

workman
nydegger

Background

- 2013: Petitioners used pneumatic systems with a fill rate of 1,000 pounds per minute to fill their silos with frac sand. (Ex. 2042-10-11)
- Early 2020: Petitioners, with an internal design team, tasked Jeremy Weinstein, an engineer with over 20 years experience, to find a system with a fill rate of least 10,000 pounds per minute. (Ex. 2042-10-11, 27, 54; Ex. 1112, p. 3)
- July 2020: Masaba is hired to design a transportable top-fill system with 10,000 pounds per minute capacity for Petitioners. (Ex. 2005, ¶¶ 2-3)

Background

- July 2020: Petitioners ask Masaba to design a transportable, high-capacity belt conveyor with a steep incline to minimize the footprint on the ground. (Ex. 2042-10-11, 27; Ex. 1112, p. 3; Ex. 2005, ¶¶ 2-4)
- August 2020: Masaba presents a design using a belt conveyor. (Ex. 2005; ¶¶ 4-7)
- October 2020: Petitioners provide a specification sheet for desired specifications of the August 2020 design. (Ex. 1104)
- November 2020: Petitioners state this project is the most important project to gain back market share. (Ex. 2006, ¶ 4 and 2006-7)
- November 2020 – January 2021: Masaba presents additional designs using a belt conveyor. (Ex. 2005, ¶¶ 4-7)

Background

- January 2021: Masaba presents using a bucket elevator instead of a belt conveyor. (Ex. 2005, ¶¶ 9-11; Ex. 2006, ¶ 6)
- January 2021: Petitioners instruct Masaba to continue pursuing the belt conveyor concept and “getting to 70-80% incline and [Petitioners] can live with the reduced capacity.” (Ex. 2006, ¶ 6 and 2006-11)
- Early 2021: Masaba presents a design using a bucket elevator. Despite previous misgivings, Petitioners decide to order Masaba’s bucket elevator design. (Ex. 2005, ¶¶ 11-13; Ex. 2006, ¶ 7)
- June 2021: Petitioners visit Masaba and indicate they expect Masaba’s system to change their business and the industry. (Ex. 2005, ¶ 15)
- July – August 2021: Petitioners attend Masaba’s tests of the completed bucket elevator design and express excitement about the system. (Ex. 2005; ¶¶ 16-20; Ex. 2006, ¶¶ 9-10, 2006-15)
 - Petitioners are upset to learn Masaba’s unit is “patent pending” (Ex. 2006, ¶ 10; Ex. 2042-76, 75:19-23)

Background

- October 2021: Masaba delivers the completed unit to Petitioners. (Ex. 2005, ¶¶ 9-11; Ex. 2006, ¶ 6)
- Late 2021: Masaba begins work on a second unit ordered by Petitioners, but stops work when the parties could not reach an agreement on the price. (Ex. 2005, ¶ 23)
- 2022-2023: Petitioners manufacture copies of the system Masaba had delivered. (Ex. 2005, ¶ 24; Ex. 2042, 57:25-58:16, 83:2-84:25)
- 2022-2023: Petitioners heap praise on the system during its earning calls with investors. (POR, 18-22)
- May 2023: Petitioners file a patent application on Masaba's design. That patent issues January 2, 2024. (Ex. 2031)

Introduction & Summary

- Durham is not an expert in the relevant field
- Grounds 1 and 1A fail because:
 - Waldner does not teach a Waldner does not teach a “conveyor extension assembly for conveying aggregate” / “an extension conveyor for moving aggregate”
 - A POSITA would not have combined Waldner and Dynatek
 - Petitioners have not shown the “conveyor support frame” of claims 6 and 7
 - Petitioners have not shown the “extension conveyor lift structure” of claims 6 and 7
- Ground 2 fails because:
 - A POSITA would not have combined Waldner and Pham
 - The Waldner-Dynatek-Pham combination lacks the horizontal rotation of claim 1

workman
nydegger

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Introduction & Summary

- Ground 3 fails because:
 - Auld is not analogous art
 - Auld does not teach (and it would not have been obvious to) a POSITA to put a kingpin directly on the bucket elevator
- Ground 4 fails because:
 - A POSITA would not have combined McIver with Waldner and Dynatek
 - McIver's rocker arm 204 is not “articulated”
- Objective evidence shows the claimed invention would not have been obvious

Durham Is Not an Expert

- Durham's degrees in electrical engineering, technology management, and engineering management do not qualify him. (POR, 23)
- Durham's "experience" working on electrical aspects of the "oil & gas industry" does not qualify him. (POR, 23-24)
- Durham's **only** experience "designing controls" for a single conveyor 25 years ago does not qualify him. (POR, 24)
- Durham's classes in "statics, instrumentation, [and] fluid dynamics" do not qualify him. (POSR, 3-4)
- Durham could not explain why about 40% of his reply declaration was substantially verbatim with Smith's untimely declaration. (POSR, 3-4)
- Mr. Smith created the figures that ended up in Dr. Durham's reply declaration. (POSR, 3)

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

workman
nydegger

Grounds 1 and 1A Fail

Waldner does not teach a “conveyor for moving aggregate”

Claim 1 recites a “conveyor extension assembly for conveying aggregate” and “an extension conveyor for moving aggregate”

- Petitioner’s Expert: “conveyor for moving aggregate” refers to “devices that in some manner or another in part [sic: impart] movement to the particles.” (POR, 28 (citing Ex. 2003, 69:23-70:1; 68:19-69:4))
- Petitioner’s Expert: a “fixed tube” or “a pipeline” would *not* qualify as a “conveyor for moving aggregate.” (POR, 28 (citing Ex. 2003, 69:14-15, 70:4-19))

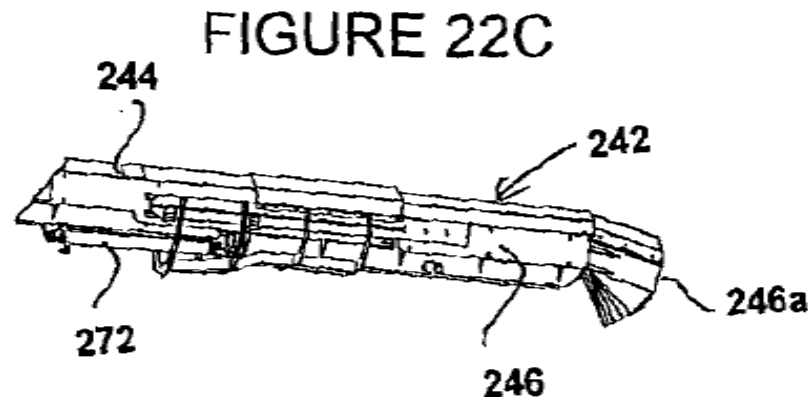
“Q. And you compared that or you contrasted that [i.e., ‘conveyor for moving aggregate’] with, I believe you said a tube, correct?

A. A fixed tube. ... Just a pipeline -- ... -- would not be considered. I don't think that would come to mind to a POSITA when they see the word conveyor from -- the actual term, whatever, conveyor for moving aggregate -- ... -- would not think of a pipeline --”

Grounds 1 and 1A Fail

Waldner does not teach a “conveyor for moving aggregate”

- No dispute that Waldner’s chute is a fixed tube or pipe when aggregate is flowing into the silo (Ex. 1004, 25:7-13; POSR, 4-5):



Referring to FIG. 22, a discharge chute member **242** of the bucket elevator **50'** is of a telescopically adjustable length, having a proximal section **244** and a distal section **246** that are slidably coupled together and collectively form an enclosed tubular passage from an inlet end **244a** of the proximal section to an opposing discharge end **246a** of the distal section. A flexible conduit **248** is connectable between

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

workman
nydegger

Grounds 1 and 1A Fail

Waldner does not teach an “outboard segment” that pivots on a vertical axis

- No dispute Waldner’s chute lacks an “outboard segment” that is “pivotally connected” to pivot “about a substantially vertical axis” (POR, 29)

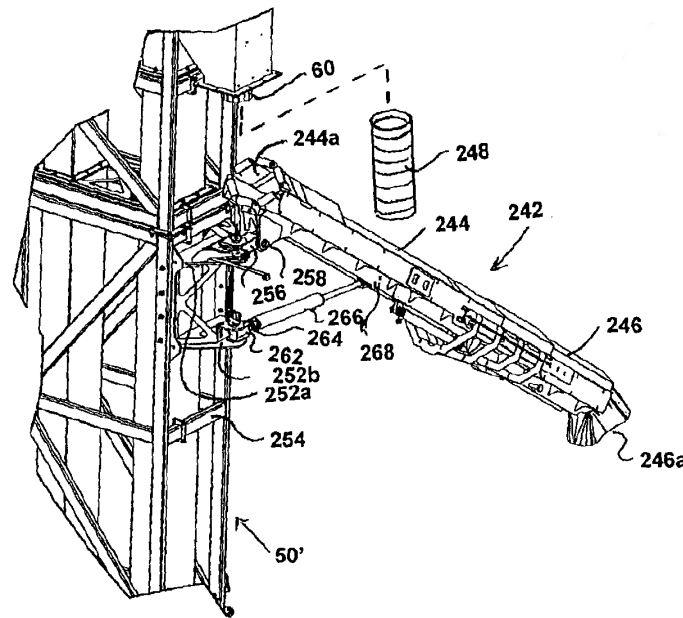


FIGURE 22A

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Grounds 1 and 1A Fail

A POSITA would not have combined Waldner and Dynatek

1. Undisputed skepticism about bucket elevators would have steered POSITAs away from Waldner as a starting point (POR, 30; POSR 6)
2. Belt mistracking would have steered POSITAs away from Dynatek (POR, 34-36; POSR 9-10)
3. Dynatek's increased transport height would have steered POSITAs away from Dynatek (POR, 37-38; POSR 7-9)
4. Dynatek's added weight would have steered POSITAs away from Dynatek (POR, 37; POSR 10)

Grounds 1 and 1A Fail

A POSITA would not have combined Waldner and Dynatek

The “reasons to combine” provided in the Petition fail under scrutiny:

1. Durham admitted he was wrong that Dynatek would “optimize dust control” better than Waldner’s enclosed chute. (POR, 31 (citing (Ex. 2003, 95:6-13, 101:24-102:21, 104:25-105:2; Ex. 1003, 25:7-13))
2. To “maximize range of motion and reach” is a false premise (POR, 30; POSR, 11)
3. To “enhance mechanical control” is a false premise (POR, 32-33)
4. To “Increase discharge rate” is a false premise (POR, 32-33)

Grounds 1 and 1A Fail

A POSITA would not have combined Waldner and Dynatek

The “reasons to combine” provided in the Petition fail:

1. Durham admitted he was wrong that Dynatek would “optimize dust control” better than Waldner’s enclosed chute. (POR, 31 (citing (Ex. 2003, 95:6-13, 101:24-102:21, 104:25-105:2; Ex. 1003, 25:7-13))

“Q. So is it your understanding that Waldner uses an open chute?

A. That's what's depicted in the images in the figures.

Q. And you rendered your opinion based on the understanding that Waldner uses an open chute, correct?

A. Generally speaking, right. There's no teachings in Waldner about controlling dust. There are teachings in DYNATEK about controlling dust. So I think that's POSITA would recognize that advantage.”

[read Waldner 25:7-14] ...

“A. So my understanding was -- at least the one was incorrect.

Q. Okay. So you now understand that the chute in Waldner is an enclosed tube, correct?

A. Yes, it at least teaches that. Yes.”

workman
nydegger

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Grounds 1 and 1A Fail

A POSITA would not have combined Waldner and Dynatek

The untimely “reasons to combine” in Petitioners’ Reply should not be considered and also fail:

2. Petitioner does not identify any need to “reduce the weight” on Waldner’s chute. (POSR, 11-12)
3. Petitioner does not identify any problem overcome or advantage obtained by reducing the force needed to move Waldner's chute. (POSR 12)
4. Petitioner does not identify any problem overcome or advantage obtained by maintaining constant discharge rate regardless of the chute angle. (POSR, 12)
5. Petitioner does not identify any problem overcome or advantage obtained by maintaining discharge rate while increasing reach. (POSR, 12)

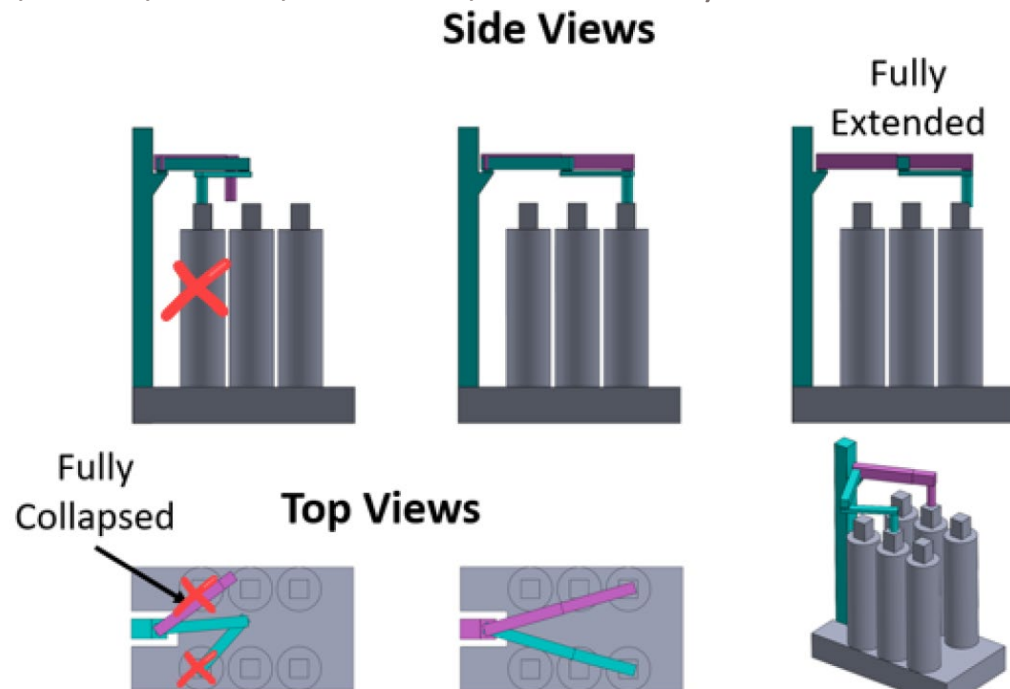
Grounds 1 and 1A Fail

A POSITA would not have combined Waldner and Dynatek

The untimely “reasons to combine” in Petitioners’ Reply should not be considered and also fail (continued):

6. Petitioner’s fabricated hypothetical about reaching silos is unrealistic, self-serving and rebutted by Petitioner’s own expert.

(Pet. R, 7; PORS, 12-13; Ex. 2040, 37:21-38:3)



workman
nydegger

Grounds 1 and 1A Fail

A POSITA would not have combined Waldner and Dynatek

(Pet. R, 7; PORS, 12-13; Ex. 2040, 37:21-38:3)

Q. (By Mr. Nydegger) It's your opinion that Waldner's system could reach all six silos in a six-pack configuration, correct?

A. [Dr. Durham] If it was configured in such a way that it had the proper height and length of the chute, and, perhaps, in some cases a drop chute coming off of that, then it could if it was configured properly, sure.

Q. And a POSITA would know how to configure Waldner properly to reach all six silos of a six-pack, correct?

A. I would say that, yes. I can agree with that.

Q. Could a telescoping conveyor have more than two overlapping sections?

A. Yes.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

workman
nydegger

Ground 1 Fails

Waldner-Dynatek does not teach the “conveyor support frame”

Petitioners have not shown the “conveyor support frame” of claims 6 and 7.

- Dynatek’s truss frame is clearly not the claimed “conveyor support frame. (POSR, 14)



(Ex. 1005, p. 2)

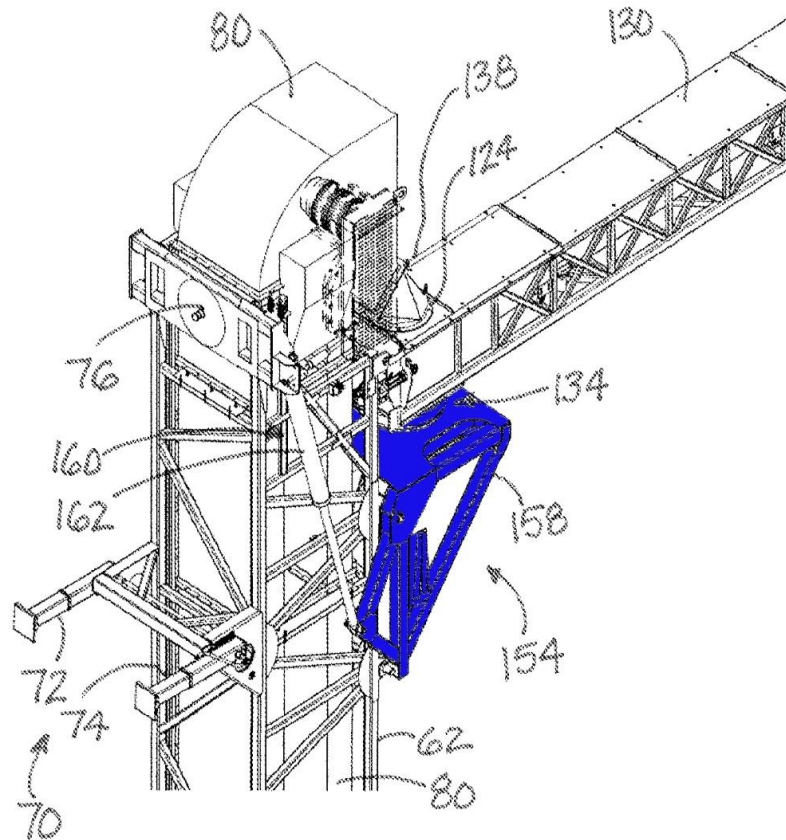
DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

workman
nydegger

Ground 1 Fails

Waldner-Dynatek does not teach the “conveyor support frame”

'689 “conveyor support frame 154”



(POR, 47 (citing Ex. 1001, Fig. 8C, 11:46-47))

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

workman
nydegger

Ground 1 Fails

Waldner-Dynatek does not teach the “conveyor support frame”

'689 conveyor “truss frame”

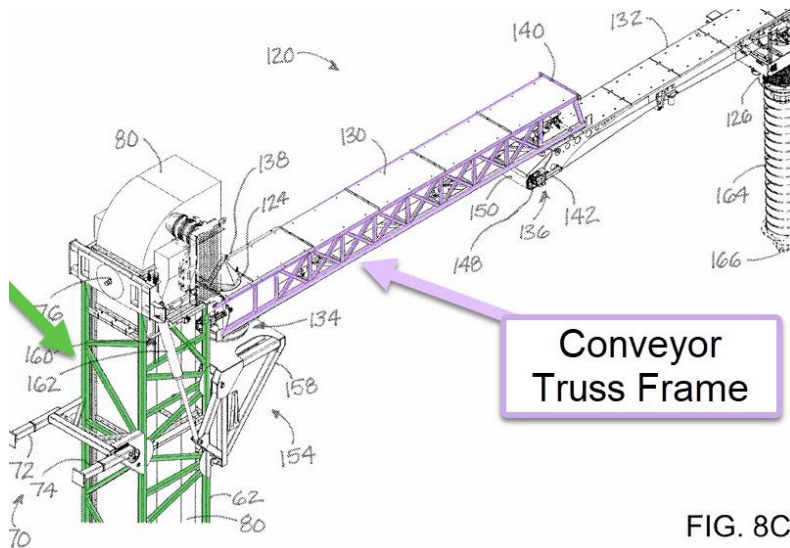
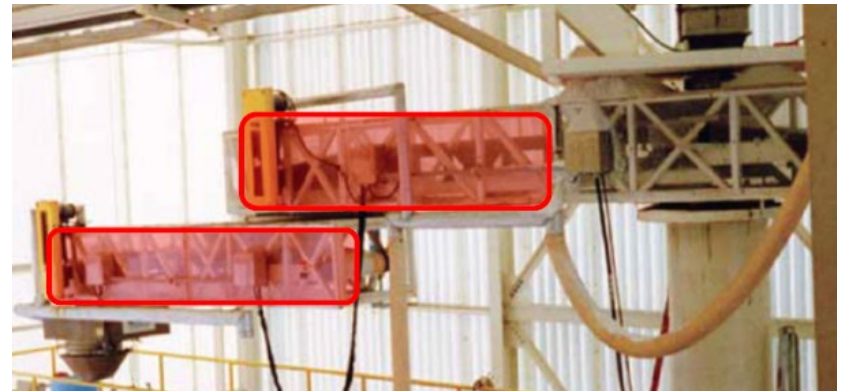


FIG. 8C

(Durham, Ex. 1110, ¶ 57)

Petitioners' argued Dynatek “conveyor support frame”



(Pet., 50; Pet. Rply., 16-17)

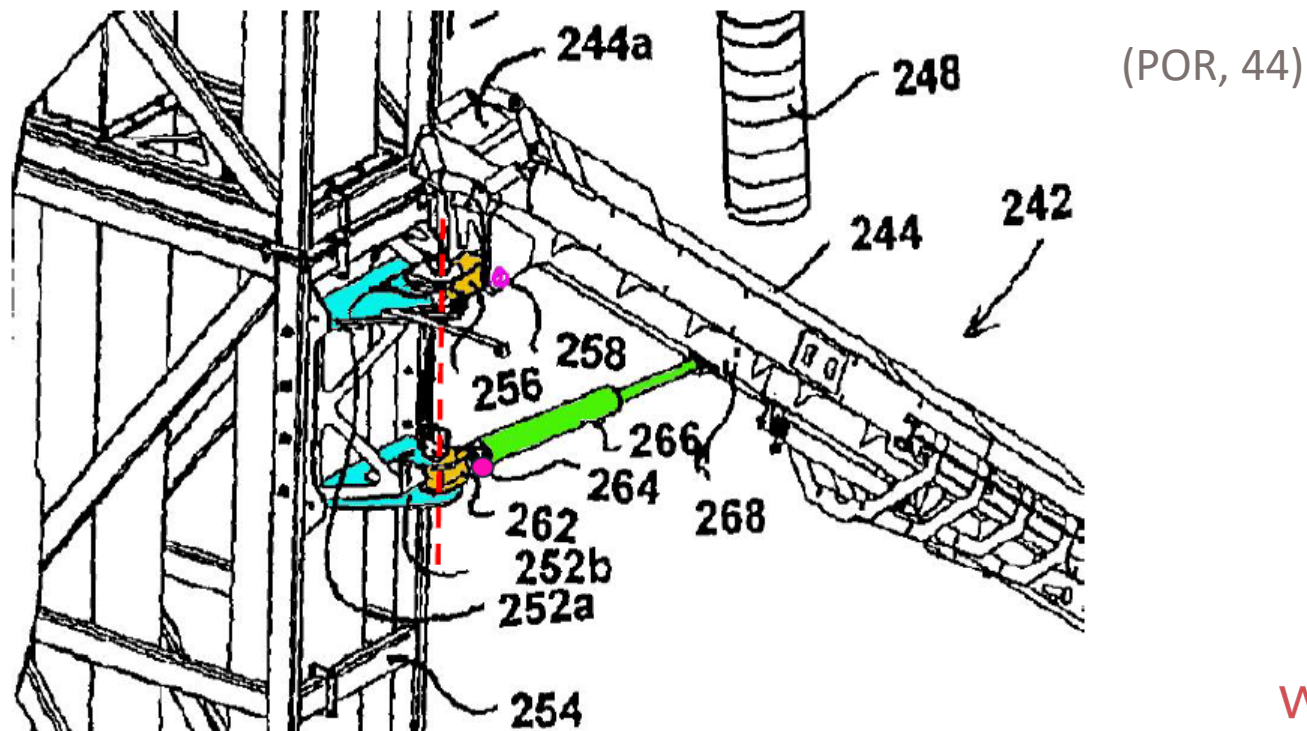
DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

workman
nydegger

Ground 1 Fails

Waldner-Dynatek does not teach the “conveyor support frame”

- Waldner’s brackets 252a/252b, links 256/262, and pins 258/264 are not “movable ***with respect to the deployable frame*** of the aggregate elevating assembly ***when the extension conveyor moves between the lowered position and the raised position.***”



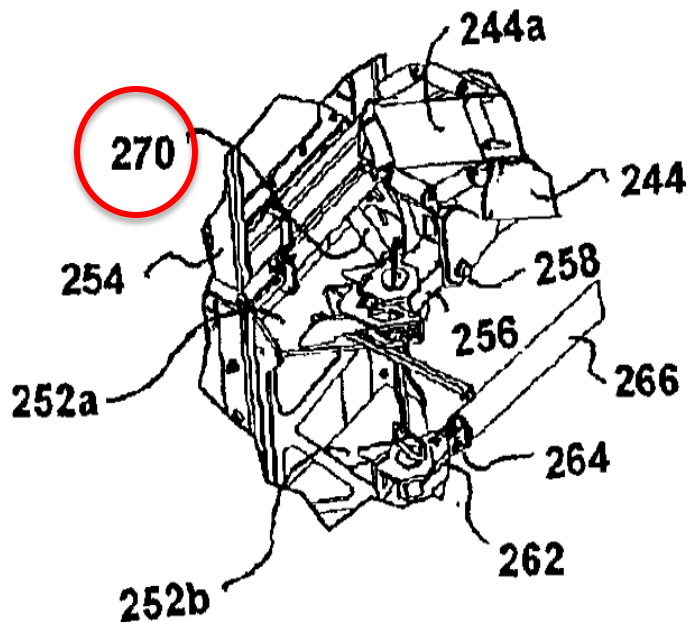
DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

workman
nydegger

Ground 1 Fails

Waldner-Dynatek does not teach the “extension conveyor lift structure”

The “extension conveyor lift structure” moves the extension conveyor **vertically** between the “raised position” and “lowered position” (POR, 48)



- Waldner’s “actuator 270” moves the chute **horizontally**.

FIGURE 22D

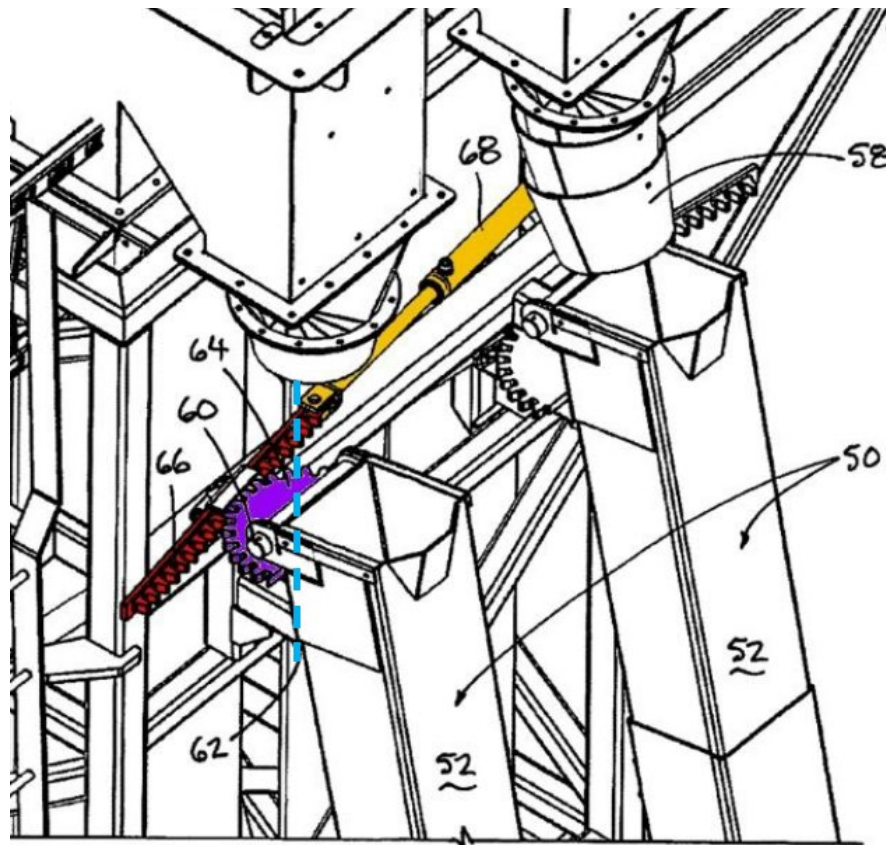
DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Ground 1A Fails

Waldner-Dynatek-Sleeman does not teach the “extension conveyor lift structure”

Sleeman’s “actuator 68” is not a “extension conveyor lift structure” because it moves the chutes **horizontally**

(POR, 51)



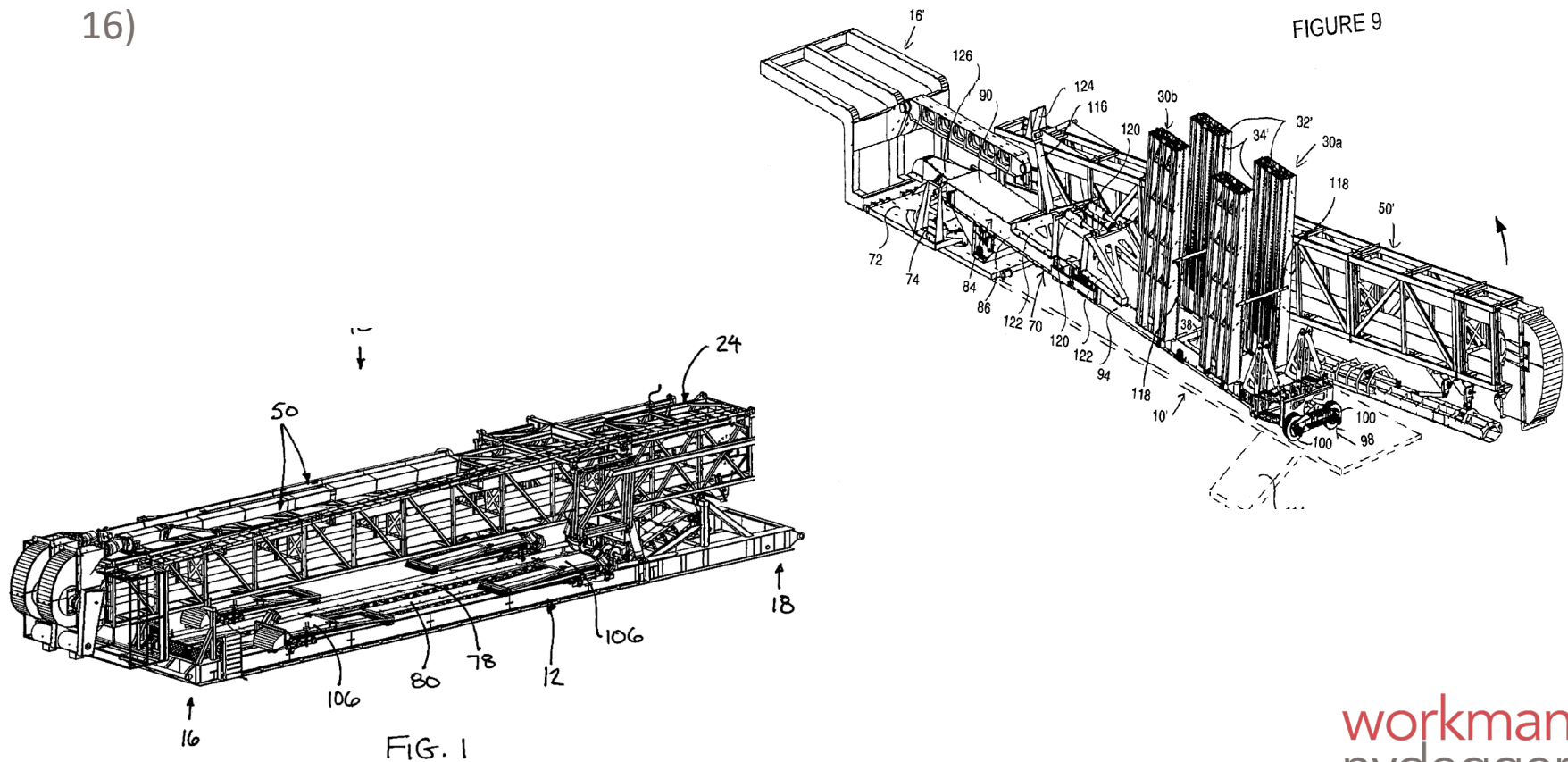
DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

workman
nydegger

Grounds 2 and 2A Fail

A POSITA would not have added Pham to Waldner-Dynatek

Pham adds nothing to Waldner's ability to collapse the discharge chute into the stowed position. (POR, 53-54; POSR, 16)



DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

workman
nydegger

Grounds 2 and 2A Fail

Pham does not remedy the deficiencies of Waldner-Dynatek

Substituting Pham's "support frame [802] and articulation mechanism [808] ...for...Waldner's brackets 252" as Petitioners argue would not satisfy claim 1's requirement for rotation in the horizontal direction. (Pet., 76-77; POR, 55-56; POSR, 16-17)

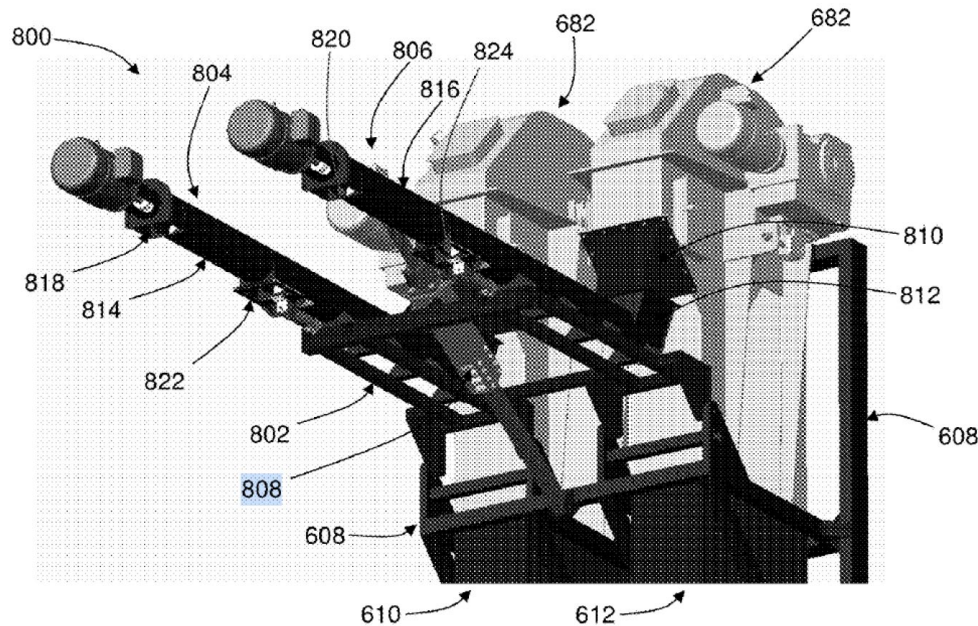


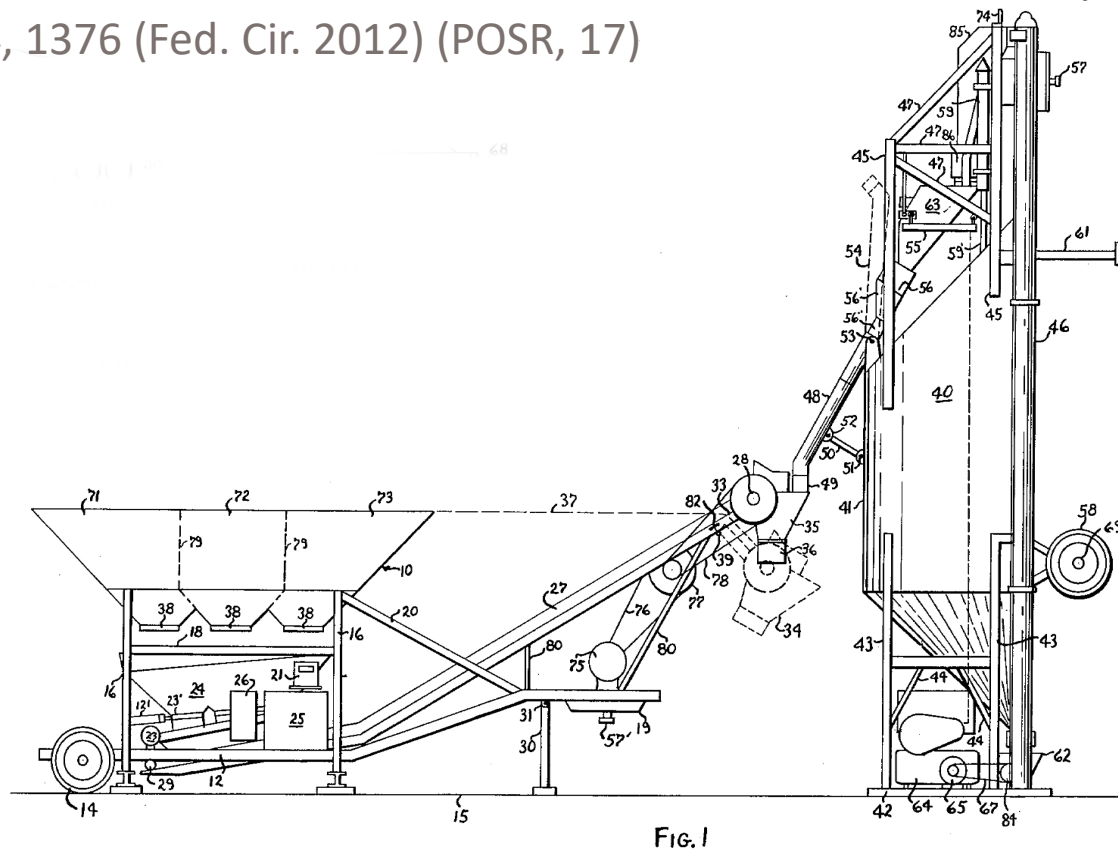
FIG. 19

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Grounds 3 and 3A Fail

Auld is not analogous art

Petitioner has the burden to establish that Auld is analogous art to the '689 Patent. *K-Tec, Inc. v. Vita-Mix Corp.*, 696 F.3d 1364, 1376 (Fed. Cir. 2012) (POSR, 17)



DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

workman
nydegger

Grounds 3 and 3A Fail

Auld is not analogous art

Petitioner's argument that Auld is "sufficiently analogous to Waldner" (as opposed to the '689 Patent) is legal error. *Sanofi-Aventis Deutschland GmbH v. Mylan Pharmaceuticals, Inc.*, 66 F.4th 1373 (Fed. Cir. 2023) (POSR, 18)

Grounds 3 and 3A Fail

Auld is not analogous art

Auld is in a different field of endeavor:(POR, 59; POSR 17-18)

- The field of endeavor of the '689 Patent is transferring aggregate to an elevated position.
- The field of endeavor of Auld is to mix concrete.

Auld addresses a different problem: (POR 59)

- The problem solved by the '689 Patent is how to transfer aggregate to an elevated position with a transportable system
- The problem solved by Auld is how to measure and load proper amounts of ingredients to make concrete

Grounds 3 and 3A Fail

A POSITA would not attach a kingpin to Waldner's bucket elevator

Waldner's statement that "[o]ther hitch types may alternatively be employed" merely suggests swapping hitch types. (POSR, 18)

- It does not suggest chopping off the front of Waldner's trailer (POSR, 18-19)
- It does not suggest placing a hitch directly on the bucket elevator (POSR, 18)
- It does not suggest centering Waldner's bucket elevator (POR, 63)
- Petitioners' new references showing hitches on frames submitted with the reply must be disregarded as untimely. (POSR, 19)
- Petitioner's reliance on the centered bucket elevator in Sleeman must be disregarded as untimely. (POSR, 20)

Grounds 4 and 4A Fail

Adding McIver to Waldner-Dynatek does not remedy the deficiencies in Ground 1

Claim 13 contains the same claim elements
Waldner-Dynatek fail to render obvious in claim 1,
and Petitioners do not assert that McIver remedies
any of those deficiencies. (POR, 66)

Grounds 4 and 4A Fail

There is no reason to combine McIver's lift mechanism with Waldner-Dyantek

The Petition's reason for combining McIver's lift mechanism to make Waldner-Dynatek "more compact" fails because McIver's system is not "more compact." (POR, 67; POSR, 20)

Petitioners' reason in the Reply for combining McIver's lift mechanism to give Waldner-Dynatek "a longer range of motion" fails because it is untimely.

Petitioners' reason in the Reply for combining McIver's lift mechanism to give Waldner-Dynatek "a longer range of motion" also fails because both McIver and Waldner have the same range of motion: moving between a horizontal storage position and vertical operational position. (POSR, 20-21).

Grounds 4 and 4A Fail

Mclver's rocker arm is not “articulated”

The Petition points solely to Mclver's rocker arm 204 as teaching “as least one lift arm structure ***being articulated***” between opposite first and second ends of the arm structure.” (Pet., 95)

Mclver's rocker arm 204 is not articulated. (POR, 68-69)

Petitioners' Reply argument that Mclver's elements 204, 206 and 210 together are “articulated” (Rply, 22-23) is untimely and must be disregarded. (POSR, 21)

Objective Evidence Confirms There Was No Obviousness

- Petitioners had a long-felt but unmet need for an aggregate transferring system that was portable, moved aggregate at 10,000 pounds per minute, and had a small footprint. (POR, 70)
- Petitioners demonstrated clear skepticism of using bucket elevators in the “oil field” industry (POR, 71)
- Petitioners copied Patent Owner’s patented system after it was delivered to Petitioners. (POR, 71)
- Petitioners heaped praise on Patent Owner’s patented system and have continued to heap praise on its copies of that system. (POR, 72)
- Petitioners’ copies of Patent Owner’s patented system has been a commercial success. (POR, 72)
- Petitioners filed their own patent application and obtained claims on the very system Petitions now say would have been obvious. (POR, 70, 22; POSR 25-26)

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

workman
nydegger

Objective Evidence Confirms There Was No Obviousness

There is a nexus between Petitioners' systems and the '689 Patent

Testimony that Petitioners' systems infringe the '689 Patent is not required. *Nuna Baby Essentials, Inc. v. Britax Child Safety, Inc.*, IPR2019-00663, 2020 WL 5261299, at *22-23 (PTAB Sept. 2, 2020) (POSR, 21)

Masaba presented ample evidence for a presumption of nexus:
(POSR, 21)

- Masaba's complaint shows where all the elements are found on Petitioners' system. (POSR, 21-22 (citing Ex. 2037, pp. 68-95))
- Petitioners admit using Masaba's design to make its systems (POSR, 22 (citing Ex. 2042, 57:25-58:16, 83:2-84:25))
- Petitioners' marketing materials show its systems has all the elements of the claims at issue. (POSR, 21 (citing Exs. 2007, 2008, 2011, 2025-2030, 2005 ¶¶17-21 & Appx. B))

Objective Evidence Confirms There Was No Obviousness

There is a nexus between Petitioners' systems and the '689 Patent

Petitioner's arguments to rebut the presumption of nexus fail:
(POSR, 22-26)

- The only claim element Petitioners argue is missing is “unloader ramps.” (Pet. Rply., 23-24)
 - Petitioners clearly use “unloader ramps” with their systems (POSR, 22 (citing Exs. 2008 (p. 9), 2011 (p. 11), 2025 (p. 1), 2026 (p. 1), and 2029 (pp. 3-4))
 - In any event, at least claims 18-25 of the '689 Patent do not require unloader ramps. (POSR, 22)
- The transportability and ability to accept belly-dumped sand, to which Petitioners attribute commercial success (Pet. Rply., 23-24), are accomplished by the combination of claimed elements so do not defeat the nexus. *Ecolochem, Inc. v. Southern California Edison Co.*, 227 F.3d 1361, 1378 (Fed. Cir. 2000) (POSR, 22)

Objective Evidence Confirms There Was No Obviousness

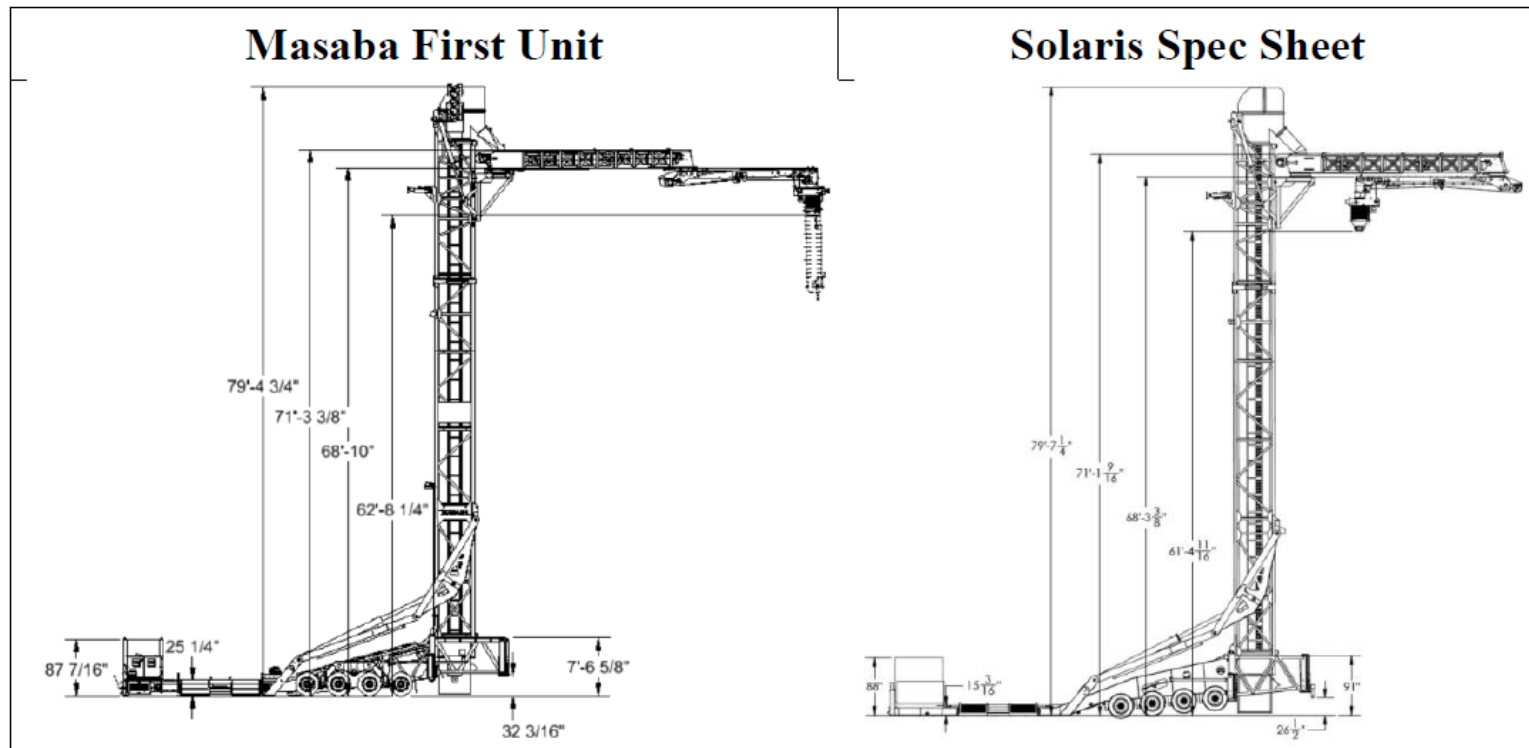
There is a nexus between Petitioners' systems and the '689 Patent

Petitioner's arguments to rebut the presumption of nexus fail (continued): (POSR, 22-26)

- The broken axle of Masaba's unit does not defeat the nexus. (POSR 23-24)
 - Petitioners had no problems after the axle was repaired (POSR, 23 (citing Ex. 2005, ¶121; Ex. 2042, 97:1-22))
 - Petitioners touted the performance and success of Masaba's unit to investors. (POSR, 23-24 (citing Ex. 2008, pp. 5, 8, 9; Ex. 2011, p. 4; Ex. 2012, 2:36-3:08, 20:21-20:48))
 - Petitioners copied Masaba's unit despite the fixed broken axle. (POSR, 24 (citing Ex. 2042, 57:25-58:16, 83:2-84:25))

Objective Evidence Confirms There Was No Obviousness There is a nexus between Petitioners' systems and the '689 Patent

Petitioner's arguments to rebut the presumption of nexus fail
(continued): (POSR, 22-26)



DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

workman
nydegger