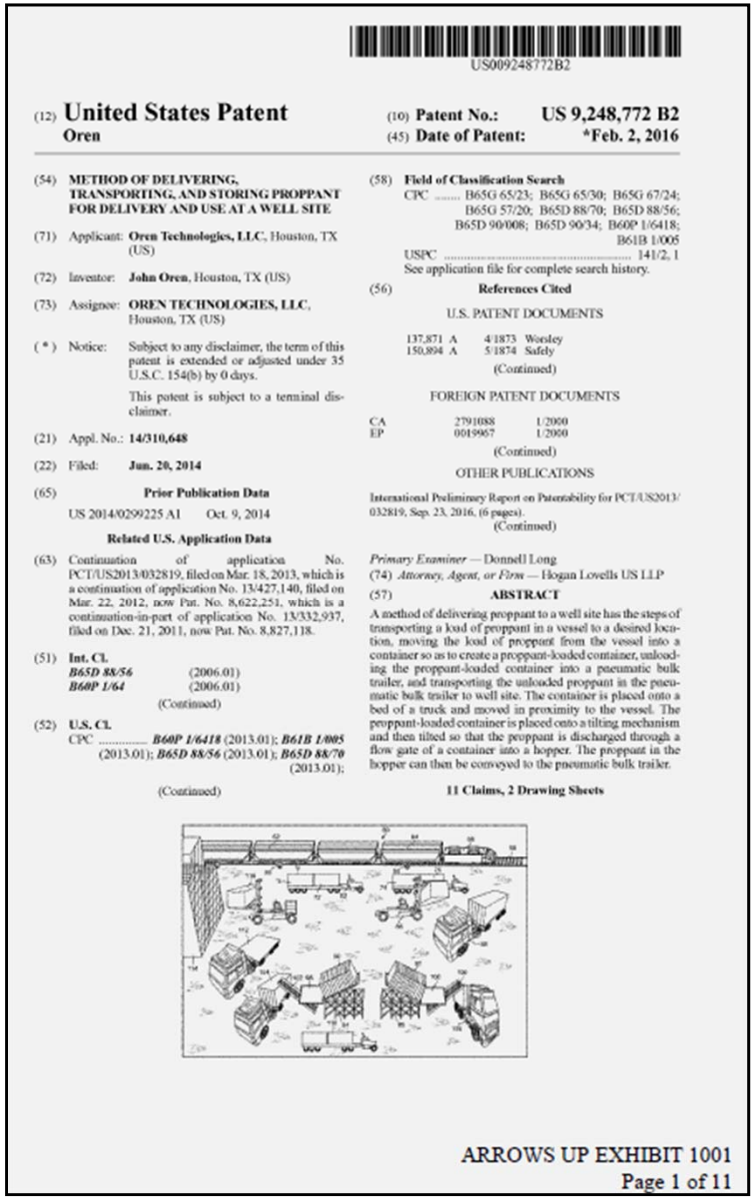
Arrows Up, LLC
v.
Oren Technologies, LLC

Patent Owner's Demonstratives

IPR2018-01230 (U.S. Patent No. 9,248,772)
IPR2018-01231 (U.S. Patent No. 9,617,066)
October 17, 2019 Oral Argument

IPR2018-01230 (’772 Patent)

Background on ’772 Patent



US009248772B2

(12) **United States Patent**
Oren

(10) **Patent No.: US 9,248,772 B2**
(45) **Date of Patent: *Feb. 2, 2016**

(54) **METHOD OF DELIVERING, TRANSPORTING, AND STORING PROPPANT FOR DELIVERY AND USE AT A WELL SITE**

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(73) Assignee: **OREN TECHNOLOGIES, LLC**, Houston, TX (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **14/310,648**

(22) Filed: **Jun. 20, 2014**

(65) **Prior Publication Data**

US 2014/0299225 A1 Oct. 9, 2014

Related U.S. Application Data

(63) Continuation of application No. PCT/US2013/032819, filed on Mar. 18, 2013, which is a continuation of application No. 13/427,140, filed on Mar. 22, 2012, now Pat. No. 8,622,251, which is a continuation-in-part of application No. 13/332,937, filed on Dec. 21, 2011, now Pat. No. 8,827,118.

(51) **Int. Cl.**
B65D 88/56 (2006.01)
B60P 1/64 (2006.01)
(Continued)

(52) **U.S. Cl.**
CPC ***B60P 1/6418*** (2013.01); ***B61B 1/005*** (2013.01); ***B65D 88/56*** (2013.01); ***B65D 88/70*** (2013.01);
(Continued)

(58) **Field of Classification Search**
CPC B65G 65/23; B65G 65/30; B65G 67/24; B65G 57/20; B65D 88/70; B65D 88/56; B65D 90/008; B65D 90/34; B60P 1/6418; B61B 1/005
USPC 141/2, 1
See application file for complete search history.

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(74) *Attorney, Agent, or Firm* — Hogan Lovells US LLP

(57) **ABSTRACT**

A method of delivering proppant to a well site has the steps of transporting a load of proppant in a vessel to a desired location, moving the load of proppant from the vessel into a container so as to create a proppant-loaded container, unloading the proppant-loaded container into a pneumatic bulk trailer, and transporting the unloaded proppant in the pneumatic bulk trailer to well site. The container is placed onto a bed of a truck and moved in proximity to the vessel. The proppant-loaded container is placed onto a tilting mechanism and then tilted so that the proppant is discharged through a flow gate of a container into a hopper. The proppant in the hopper can then be conveyed to the pneumatic bulk trailer.

11 Claims, 2 Drawing Sheets

ARROWS UP EXHIBIT 1001
Page 1 of 11

(57) **ABSTRACT**

A method of delivering proppant to a well site has the steps of transporting a load of proppant in a vessel to a desired location, moving the load of proppant from the vessel into a container so as to create a proppant-loaded container, unloading the proppant-loaded container into a pneumatic bulk trailer, and transporting the unloaded proppant in the pneumatic bulk trailer to well site. The container is placed onto a bed of a truck and moved in proximity to the vessel. The proppant-loaded container is placed onto a tilting mechanism and then tilted so that the proppant is discharged through a flow gate of a container into a hopper. The proppant in the hopper can then be conveyed to the pneumatic bulk trailer. The

- Challenged Claims: 1-11

- Ground 1: Sheesley (Claims 1, 2, 6-10)
- Ground 2: Sheesley in view of Mintz (Claim 1)
- Ground 3: Sheesley in view of Mintz and Uhryn (Claims 3-5, 11)

Background on ’772 Patent - Claims

1. A method of transporting proppant, the method comprising:

a) vertically stacking a plurality of empty proppant containers in close proximity to a rail spur so that one of the plurality of empty proppant containers overlies another one of the plurality of empty containers thereby to reduce footprint of the area required adjacent the rail spur to store the plurality of empty proppant containers, each of the plurality of empty containers including at least a first end surface and at least a second different end surface and each of the first and second end surfaces having a plurality of upright structural support members thereon to enhance integrity of the container so that a large amount of weight can be stacked upon the container and so that heavy weight can be stored therein;

b) filling the plurality of empty proppant containers with proppant from one or more proppant transporting rail vehicles thereby to produce a plurality of proppant filled containers;

c) transferring the plurality of proppant filled containers with a loader onto one or more support platforms associated with one or more proppant transporting road vehicles.

Key Terms:

- “vertically stacking a plurality of empty proppant containers in close proximity to a rail spur”
- each of the plurality of empty containers including at least a “second different end surface”

Background on '772 Patent - Claims

2. The method of claim **1**, wherein the plurality of proppant filled containers comprises a first plurality of proppant filled containers, and the method further comprising:

filling a second plurality of empty proppant containers with proppant from one or more proppant transporting rail vehicles thereby to produce a second plurality of proppant filled containers: and

vertically stacking the second plurality of proppant filled containers with a loader so that one of the plurality of proppant filled containers overlies another one of the plurality of filled containers to reduce the footprint of the area required for storage of the proppant in close proximity to the rail spur.

4. The method of claim **1**, further comprising:

conveying the proppant from the one or more proppant transporting rail vehicles to the plurality of empty proppant containers on a first conveyor; and

conveying the proppant from one or more of the plurality of proppant filled containers to one or more proppant transporting road vehicles on a second conveyor.

Key Terms:

- filling and vertically stacking a second plurality of containers "in close proximity to the rail spur"
- conveying the proppant from proppant filled containers to "proppant transporting road vehicles"

Challenged Claims Are Patentable

Overview

(A) Sheesley does not disclose stacking empty proppant containers in close proximity to a rail spur (all Challenged Claims) (Slides 9-15)

- Sheesley's Figure 5 does not disclose empty containers stacked in close proximity to a rail spur.
- Petitioner's speculation about what a POSITA might envision from various passages of Sheesley does not show disclosure of this limitation.

(B) Sheesley does not disclose containers with "a second different end surface" (all Challenged Claims) (Slides 16-29)

- Sheesley is silent regarding what Petitioner labels as its second "End Wall."
- Petitioner does not show that Sheesley's end walls are "structurally different."

Overview

(C) Sheesley does not disclose storing stacked containers in close proximity to a rail spur (Claim 2) (Slides 30-34)

- Petitioner provides no evidence in its discussion of claim 1 to support its argument for claim 2.
- What a POSITA "could" understand from Sheesley does not evince Sheesley's disclosure.

(D) Sheesley in combination with Uhryn does not disclose or render obvious conveying proppant from containers to proppant transporting road vehicles (Claim 4) (Slides 35-41)

- Petitioner provides no rationale for modifying Sheesley.
- It would not have been obvious to modify Sheesley to convey proppant from its containers to proppant transporting road vehicles.

Disputed Issues

A. Sheesley does not disclose stacking empty proppant containers in close proximity to a rail spur *(All Challenged Claims)*

B. Sheesley does not disclose containers with "a second different end surface" *(All Challenged Claims)*

C. Sheesley does not disclose storing stacked containers in close proximity to a rail spur *(Claim 2)*

D. Sheesley in combination with Uhryn does not disclose or render obvious conveying proppant from containers to proppant transporting road vehicles *(Claim 4)*

(A) Sheesley does not disclose stacking empty proppant containers in close proximity to a rail spur

- Claim 1 recites:

> 1. A method of transporting proppant, the method comprising:
>
> a) vertically stacking a plurality of empty proppant containers in close proximity to a rail spur so that one of the plurality of empty proppant containers overlies another one of the plurality of empty containers thereby to reduce footprint of the area required adjacent the rail spur to store the plurality of empty proppant containers,

Ex. 1001 ('772 Patent) at Claim 1.

- Petitioner does not dispute that it asserted that Sheesley "discloses" this limitation, labeled [1(a)(i)]

Petition at 24-26; Response at 15-16; Reply at 10; Sur-Reply at 4.

(A) Sheesley does not disclose stacking empty proppant containers in close proximity to a rail spur

- Sheesley only discloses containers stacked "either while in transit or at the frac site."

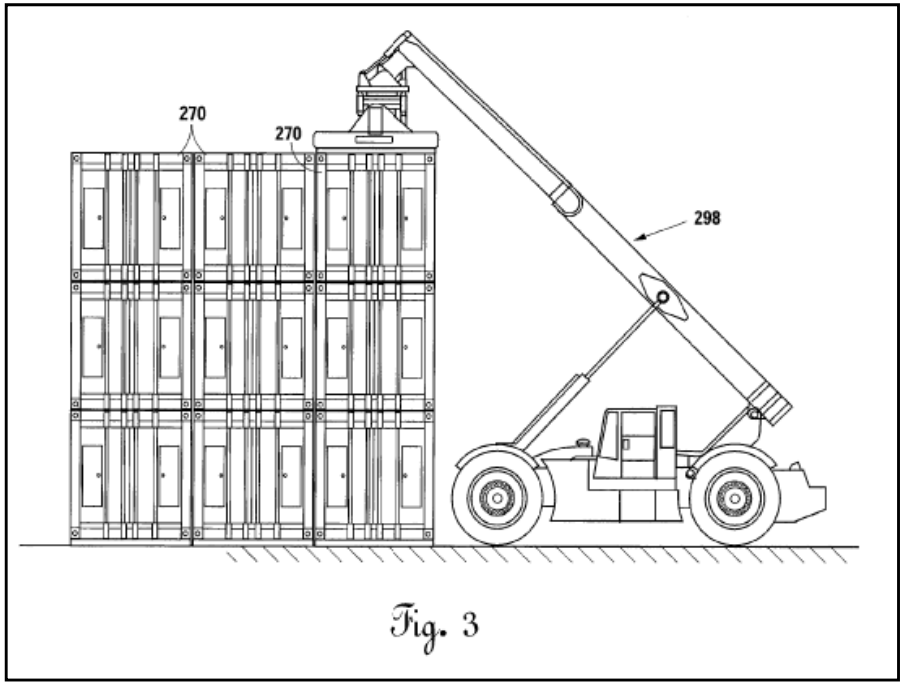


Fig. 3

[0083] At the well site to be fraced, modified cargo containers **270** can be stacked as shown in FIG. **3**. Since well sites have a tendency to be rough, the Rough Terrain Container Handler (RTCH) as made by Kalmar from Cibolo, Tex. may be used to pick up and stack the modified cargo containers **270** as illustrated in FIG. **3**. The Rough Terrain Cargo Handler

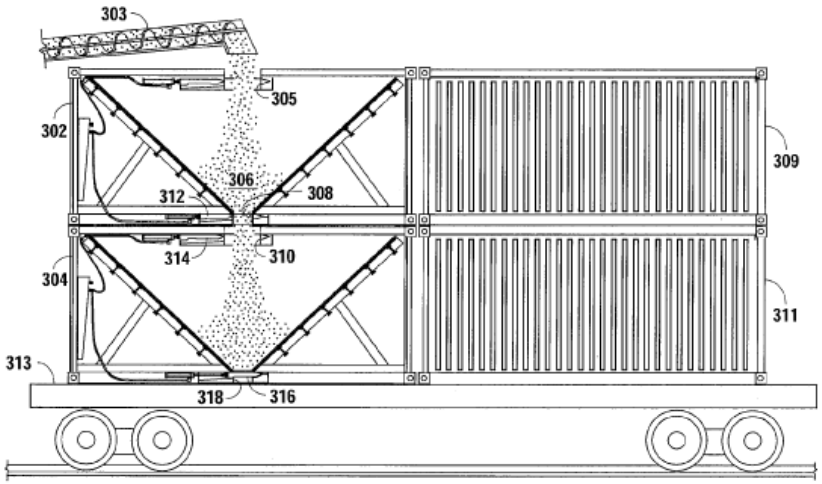


Fig. 5

[0018] Also, the modified frac containers may be stacked in any conventional means, either while in transit or at the frac site. This eliminates the demurrage of waiting to unload sand into bulk sand containers at the frac site.

Ex. 1003 (Sheesley) at Figure 3, Figure 5, [0083], [0018] (cited in Response at 16-17; Sur-Reply at 5-6).

(A) Sheesley does not disclose stacking empty proppant containers in close proximity to a rail spur

- Sheesley discloses filling stacked containers ***on*** a rail car, not ***in close proximity to*** a rail spur

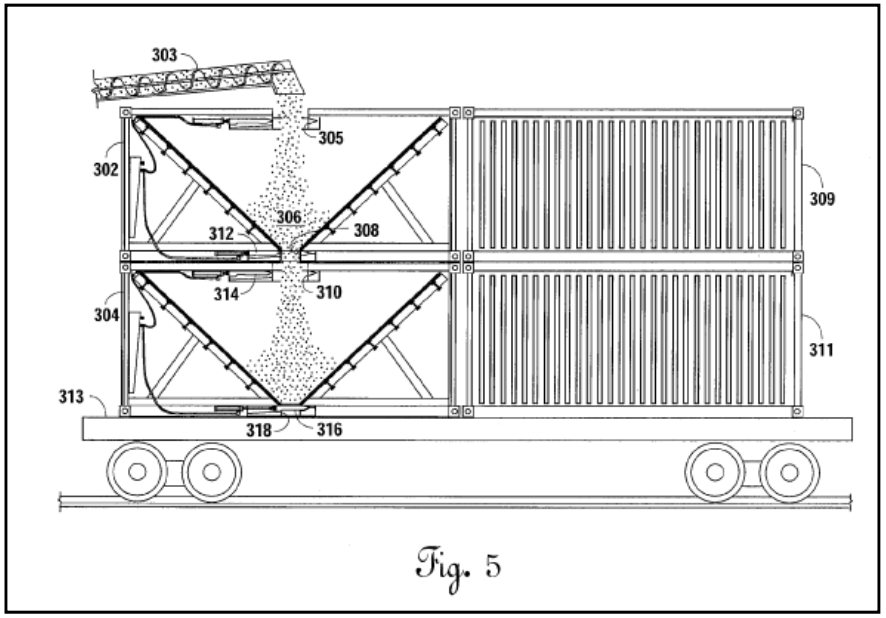


Fig. 5

Ex. 1003 (Sheesley) at Figure 5.

Third, Figure 5 of Sheesley, on which Petitioner and Mr. Schaaf rely, Pet. at 25-26; Ex. 1002 (Schaaf Decl.) ¶¶ 67-68, clearly shows modified cargo containers being filled while on a rail car, which teaches against stacking empty containers near the rail spur. Instead, Sheesley discloses transporting empty containers on a rail car to the rail spur to be filled, and then taking the full containers off of the rail car for delivery to the well site. Ex. 1003

Ex. 2008 (Smith Decl.) ¶ 38 (cited in Sur-Reply at 7).

(A) Sheesley does not disclose stacking empty proppant containers in close proximity to a rail spur

- Petitioner speculates about what a POSITA would envision when reading Sheesley.

Reply at 10-15; Sur-Reply at 4-5.

- The Federal Circuit has rejected this type of speculative analysis:

> Federal Circuit law "does not permit the Board to fill in missing limitations simply because a skilled artisan would immediately envision them."

Nidec Motor Corp v. Zhongshan Broad Ocean Motor Co. Ltd., 851 F.3d 1270, 1274-75 (Fed. Cir. 2017).

(A) Sheesley does not disclose stacking empty proppant containers in close proximity to a rail spur

- The '772 Patent distinguishes between "on" a rail spur and "in close proximity to" a rail spur

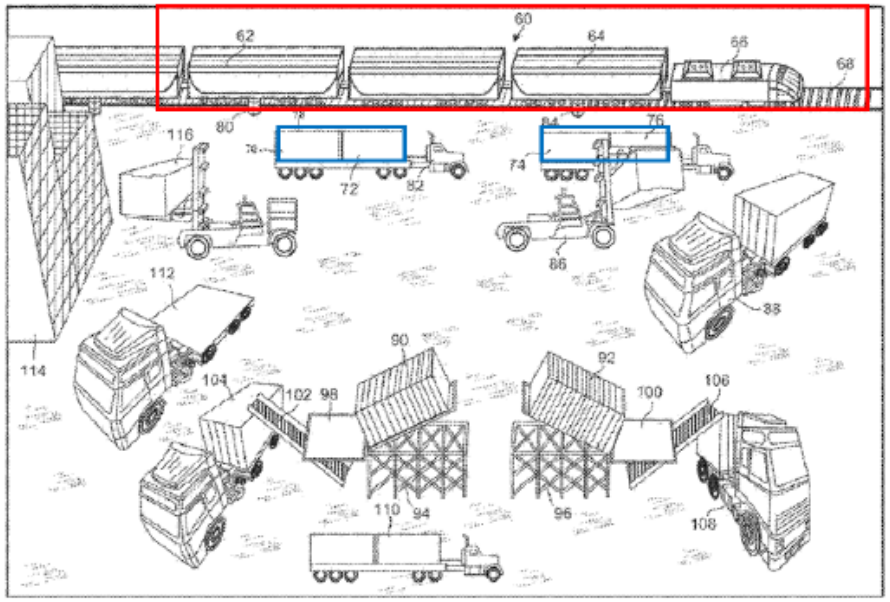


FIG. 3

nature of hoppers associated with a bulk material train **64**. The bulk material train **64** is driven by an engine **66** located on a rail spur **68**. As such, in the present invention, the bulk material is delivered by the bulk material train **64** to the desired location. The vessel **62** of the bulk material train **64** can be immediately unloaded at this desired location so that the engine **66** can return the bulk material train **64** for other railroad usages.

The rail spur **68** is illustrated as being located in an elevated location. As such, containers **70**, **72**, **74** and **76** can be located in proximity to the vessel **62** and adjacent to the bulk material train **64**. Each of the containers **70**, **72**, **74** and **76** has a

Ex. 1001 ('772 Patent) at Figure 3, 7:57-8:1 (cited in Response at 18).

(A) Sheesley does not disclose stacking empty proppant containers in close proximity to a rail spur

- The '772 Patent distinguishes between "on" a rail spur and "in close proximity to" a rail spur

location. The vessel **62** of the bulk material train **64** can be immediately unloaded at this desired location so that the engine **66** can return the bulk material train **64** for other railroad usages.

Ex. 1001 ('772 Patent) at 7:61-64 (cited in Response at 19).

at 7:61-64. Storing empty containers on rail cars on a rail spur would nullify this advantage. The engine driving bulk material train 64 would not be free to "return the bulk material train 64 for other railroad usages," but would instead have to sit on the rail spur while the empty containers remained in storage on that same rail spur.

Ex. 2008 (Smith Decl.) ¶ 40 (cited in Response at 19).

Disputed Issues

A. Sheesley does not disclose stacking empty proppant containers in close proximity to a rail spur *(All Challenged Claims)*

B. Sheesley does not disclose containers with "a second different end surface" *(All Challenged Claims)*

C. Sheesley does not disclose storing stacked containers in close proximity to a rail spur *(Claim 2)*

D. Sheesley in combination with Uhryn does not disclose or render obvious conveying proppant from containers to proppant transporting road vehicles *(Claim 4)*

(B) Sheesley does not disclose containers with "a second different end surface"

- Claim 1 recites:

> each of the plurality of empty containers including at least a first end surface and at least a second different end surface and each of the first and second end surfaces having a plurality of upright structural support members thereon to enhance integrity of the container so that a large amount of weight can be stacked upon the container and so that heavy weight can be stored therein;

Ex. 1001 ('772 Patent) at Claim 1.

- Petitioner does not dispute that it asserted that Sheesley "discloses" this limitation, labeled [1(a)(ii)]

Petition at 26-27; Response at 24-25; Reply at 3; Sur-Reply at 8.

(B) Sheesley does not disclose containers with "a second different end surface"

- At institution, the Board agreed with Patent Owner's proposed construction:

> For purposes of this Decision, upon reviewing the claim language in light of the Specification, we agree with Patent Owner and determine that a broad, but reasonable construction of the claimed "second different end surface" limitation requires that the two end surfaces are structurally different.

Paper 7 (Inst. Dec.) at 10.

- Petitioner (i) did not offer a construction and (ii) did not contest Patent Owner and the Board's construction in Reply
- The Board's construction should be maintained

> "The parties have not further argued claim construction and we hereby adopt our preliminary constructions as final along with our reasoning expressed in our Decision to Institute."

Duodecad IT Servs. Luxembourg S.A.R.L. v. Wag Acquisition, LLC, IPR2015-01036, Paper 17 at 9 (P.T.A.B. Oct 20, 2016).

(B) Sheesley does not disclose containers with "a second different end surface"

- Petitioner argues Sheesley's disclosure is the same as the '772 Patent's disclosure, but the '772 Patent describes two end surfaces that are structurally different

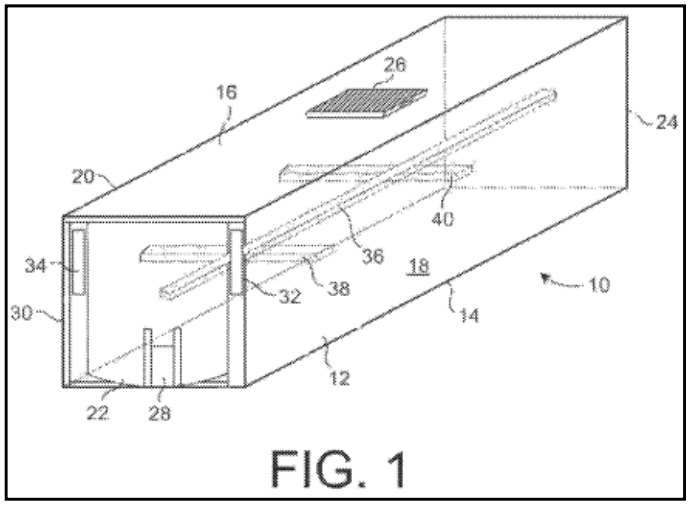


FIG. 1

It can be seen that the end wall **22** is recessed inwardly of an end of the pair of side walls **18** and **20** and inwardly of the bottom wall **14** and the top wall **16**. As such, the outermost end **30** of the container **12** will provide a protective structure for the generally convex surface of the end wall **22**. This

'772 Patent at Figure 1, 6:42-46 (cited in Response at 12-13).

- The Board relied on the '772 Patent's disclosure when agreeing with Patent Owner's construction

> The written description of the '772 patent does not attach particular importance to there being a difference in the two end surfaces, but does describe the two end walls (and, therefore, end surfaces) of the container differently. For example, as noted by Patent Owner, "end wall 22 is

Paper 7 (Inst. Dec.) at 9.

(B) Sheesley does not disclose containers with "a second different end surface"

- Petitioner argues that the '772 patent does not support the claim term

> 24; as in Sheesley, end wall 24 is obscured. Thus, by Patent Owner's logic, the '772 patent fails to support a second end surface that is structurally different from the first.

Reply at 9.

- Written description challenges are not part of *inter partes* reviews

> "written-description and enablement challenges were not, and could not have been, part of the *inter partes* review that is now before us"

Straight Path IP Grp., Inc. v. Sipnet EU S.R.O., 806 F.3d 1356, 1363 (Fed. Cir. 2015).

(B) Sheesley does not disclose containers with "a second different end surface"

- Sheesley's silence as to the structure of the undepicted, undescribed, and unnumbered surface that Petitioner labels as its second "End Wall" is insufficient to show the claim limitation is met

> A prior art reference must disclose the claim limitation with "sufficient precision and detail" to establish that it existed in the prior art

Wasica Finance GmbH v. Cont'l Auto. Sys., Inc., 853 F.3d 1272, 1284 (Fed. Cir. 2017).

- Petitioner's annotations to Figure 9 of Sheesley confirm there is no information regarding the undepicted, undescribed, and unnumbered "End Wall"

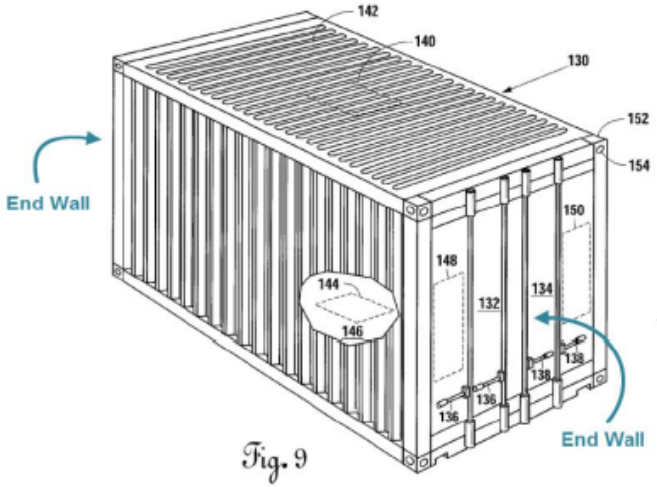


Fig. 9

Sur-Reply at 10-11 (citing Petition at 27).

(B) Sheesley does not disclose containers with "a second different end surface"

- It is irrelevant that Sheesley does not indicate equivalent features on the far side of the container.

Sur-Reply at 11.

- Petitioner's speculation about Sheesley's drafter's annotation tendencies is "in a class with wishful thinking."

> Statements about what drawings disclose were "wholly unjustified" where the Board "magnified a drafting practice" "into an alleged suggestion for an ornamental design through the exercise of hindsight"

In re Klein by Klein, 987 F.2d 1569, 1573 (Fed. Cir. 1993).

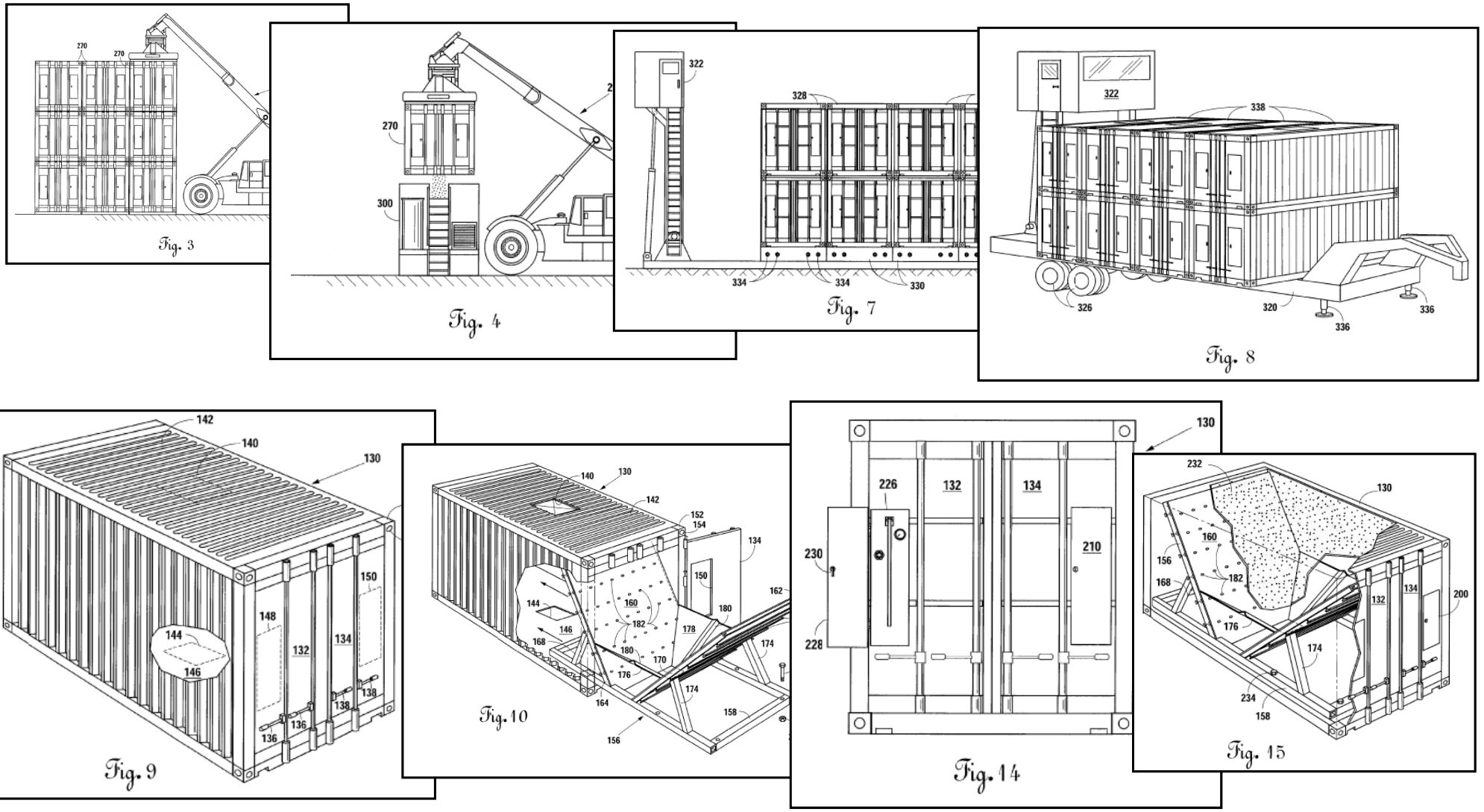
- Sheesley is not clear which "End Wall" is depicted by its figures

> A. So if you have doors on both ends of the Sheesley container you can't tell which end you are looking at because they would all look the same. And

Ex. 1016 (Smith Tr.) at 21:3-11 (cited in Reply at 6).

(B) Sheesley does not disclose containers with "a second different end surface"

- Every figure of Sheesley that shows an "End Wall" shows it equipped with doors.



Ex. 1003 (Sheesley) Figures 3, 4, 7-10, 14-15 (cited in Response at 27).

(B) Sheesley does not disclose containers with "a second different end surface"

- It is undisputed that a POSITA would have known there were ISO containers with doors on both ends.

Containers for Storage - 20ft Double-door

Triple Eight offers these useful 20' containers are a good an economic alternative to 10' individual boxes. They have doors at each end, with a fitted internal partition make two economic compartments. They are ideal for your storage requirements where you have access to both ends.

As with our standard 20's, they are built to the highest international specifications for marine use. We arrange for our new containers to be shipped into the UK with cargo to cover the cost of shipping and offer them from our UK wide depots. Like our standard 20's, these double doored containers are factory painted in our fleet colour, dark cobalt blue, technically listed as RAL5013.

Each container comes with ventilators fitted in each side to ensure against any risk of condensation. Doors, sides and roofs are made of rust resistance corten steel to ensure maximum in service life and the lowest maintenance costs. Floors of treated marine ply. Both sets of doors have locking bars which are made of galvanised steel with lockable handles and if you require we arrange to fit a lock box to each end to protect the locking mechanism for added security.

Containers for Storage - 20ft Double-door

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As with our standard 20's, they are built to the highest international specifications for marine use. We arrange for our new containers to be shipped into the UK with cargo to cover the cost of shipping and offer them from our UK wide depots. Like our standard 20's, these double doored containers are factory painted in our fleet colour, dark cobalt blue, technically listed as RAL5013.

Each container comes with ventilators fitted in each side to ensure against any risk of condensation. Doors, sides and roofs are made of rust resistance corten steel to ensure maximum in service life and the lowest maintenance costs. Floors of treated marine ply. Both sets of doors have locking bars which are made of galvanised steel with lockable handles and if you require we arrange to fit a lock box to each end to protect the locking mechanism for added security.

structure of the other "End Wall" is not shown. A POSITA at the time of invention would recognize that many ISO containers were made with doors on both ends, including the 20 ft. long ISO container disclosed in Sheesley's Figure 9, Ex. 1003 (Sheesley) at [0050], and were readily available. *See* Ex.

Ex. 1017 (cited in Sur-Reply at 14); Ex. 2008 (Smith Decl.) ¶ 46 (same); Ex. 2010 (same).

(B) Sheesley does not disclose containers with "a second different end surface"

- Sheesley cannot, through silence, disclose a genus (the purported "End Wall") and at least two species (doors and no doors)

Textron Inc. v. Nivel Parts & Mfg. Co., LLC, PGR2017-00035, Paper 9 (P.T.A.B. Jan. 12, 2018).

  - In *Textron*, the petitioner contended a prior art reference ("Liu") disclosed that its "stationary cargo board" was "plastic instead of metal or wood." *Id.* at 23-24.
  - Liu did "not disclose anything about the material." *Id.* at 24.
  - Anticipation can be found when "the reference disclosed the subject matter of the claim element" not when the reference "does not disclose anything about" it. *Id.*
  - Though "Liu seems to broadly disclose that the components are made of some material," the petitioner could not "read[] into this lack of disclosure a purported genus with only two species—metal and plastic." *Id.* at 25.

Sur-Reply at 12-13.

(B) Sheesley does not disclose containers with "a second different end surface"

- Even if Sheesley can be alternatively interpreted to show an "End Wall" including doors and an "End Wall" without doors, then it would be an ambiguous reference and not disclose limitation [1(a)(ii)]

> "if we accept arguendo the [B]oard's position that [a reference] can be alternatively interpreted to show either of two final core structures, then [it] becomes an ambiguous reference which will not support an anticipation rejection"

Application of Hughes, 345 F.2d 184, 188 (C.C.P.A. 1965).

> "we cannot, with any degree of certainty, ascertain whether [a reference] discloses one or two exhaust valves in each bank communicating with the transverse passage. Under these circumstances we cannot agree with the majority of the [B]oard that [it] anticipates applicant's appealed claim"

Application of Turlay, 304 F.2d 893, 899 (C.C.P.A. 1962).

Sur-Reply at 12-13.

(B) Sheesley does not disclose containers with "a second different end surface"

- Patent Owner's expert (Mr. Smith) is clear that two sets of doors wouldn't be structurally different even if only one had control panels or control panel openings

> case, but it doesn't change the structure of the doors simply by cutting a control panel in there.

> Actually, when I look at the structure I am looking at what makes the door strong and it is the tubing that goes around the door and that part, not the plate part, that would make any difference.

Ex. 1016 (Smith Tr.) at 42-44 (cited in Sur-Reply at 16).

- Petitioner provides only attorney argument regarding what is "structurally different" between Sheesley's end walls.

> a party's "unsworn attorney argument … is not evidence"

Gemtron Corp. v. Saint-Gobain Corp., 572 F.3d 1371, 1380 (Fed. Cir. 2009).

> "Attorney argument is no substitute for evidence."

Enzo Biochem, Inc. v. Gen-Probe, Inc., 424 F.3d 1276, 1284 (Fed. Cir. 2005).

(B) Sheesley does not disclose containers with "a second different end surface"

- Petitioner provides no evidence regarding what is "structurally different" between Sheesley's end walls.
  - Petitioner's expert (Mr. Schaaf) says only that this limitation is "disclosed" without support

> 70. Sheesley discloses the use of an ISO container modified to store and transport proppant. Ex. 1003 (Sheesley) Abstract; ¶[0004]; ¶[0012]. The modified ISO container disclosed in Sheesley contains a first end surface and a second different end surface, as shown in annotated Fig. 9 below. Ex. 1003 (Sheesley)

> 71. Therefore, it is my opinion that Sheesley discloses this limitation.

Ex. 1002 (Schaaf Decl.) ¶¶ 70-71.

  - After Patent Owner's expert disputed this, Petitioner's expert provided no rebuttal

> while a "supporting expert declaration is not, *per se*, a requirement of a reply, … relying only on attorney argument" "shield[s] [Petitioner's] interpretation" of the evidence from cross-examination and leaves the Board with little evidence "upon which to base its decision"

Baker Hughes Oilfield Operations, Inc. v. Smith Int'l, Inc., IPR2016-01452, Paper 31 at 21 n.8 (P.T.A.B. Feb. 2, 2018).

(B) Sheesley does not disclose containers with "a second different end surface"

- Petitioner's expert (Mr. Schaaf) adds minimal value and parrots the Petition

Petition at 26-27	Ex. 1002 (Schaaf Decl.) ¶¶ 70-71
Sheesley discloses the use of an ISO container modified to store and transport proppant. Ex. 1003 (Sheesley) Abstract; ¶[0004]; ¶[0012]. The modified ISO container disclosed in Sheesley contains a first end surface and a second different end surface as shown in annotated Fig. 9 below. Ex. 1003 (Sheesley) ¶[0050]; Fig. 9.	Sheesley discloses the use of an ISO container modified to store and transport proppant. Ex. 1003 (Sheesley) Abstract; ¶[0004]; ¶[0012]. The modified ISO container disclosed in Sheesley contains a first end surface and a second different end surface, as shown in annotated Fig. 9 below. Ex. 1003 (Sheesley) ¶[0050]; Fig. 9.
Sheesley therefore discloses this limitation.	Therefore, **it is my opinion that** Sheesley discloses this limitation.

Response at 27-28.

Disputed Issues

A. Sheesley does not disclose stacking empty proppant containers in close proximity to a rail spur *(All Challenged Claims)*

B. Sheesley does not disclose containers with "a second different end surface" *(All Challenged Claims)*

C. Sheesley does not disclose storing stacked containers in close proximity to a rail spur *(Claim 2)*

D. Sheesley in combination with Uhryn does not disclose or render obvious conveying proppant from containers to proppant transporting road vehicles *(Claim 4)*

(C) Sheesley does not disclose storing stacked containers in close proximity to a rail spur

- Petitioner sets forth the requirements of claim 2:

> Claim 2 depends from claim 1 and further requires filling and stacking a second plurality of containers in close proximity to the rail spur. As discussed

Petition at 33.

- Petitioner does not dispute that it asserted that Sheesley "discloses" the limitations of claim 2

Petition at 34; Response at 28; Reply at 16; Sur-Reply at 17.

(C) Sheesley does not disclose storing stacked containers in close proximity to a rail spur

- As discussed with respect to (A), Petitioner has not shown that Sheesley discloses stacking containers in close proximity to a rail spur.

- Mr. Smith's unrebutted testimony is clear:

> storage 286 or to the fracing site 288." *Id.* at [0080]. Sheesley does not disclose that the filled containers are stored in close proximity to the rail spur, rather they must be hauled from the rail spur to a separate storage location.

Ex. 2008 (Smith Decl.) ¶ 51 (cited in Sur-Reply at 17-18).

(C) Sheesley does not disclose storing stacked containers in close proximity to a rail spur

- What a POSITA "could" understand from Sheesley does not evince Sheesley's disclosure.

> containers in close proximity to the rail spur with a loader. A POSITA would understand that multiple containers could be filled with proppant and stacked at the rail spur, particularly in light of Sheesley's disclosures of multiple filled and

Petition at 33.

> could modify Sheesley to include the claimed configuration. Rather, he was simply opining that the claimed configuration is within the range of options disclosed by Sheesley. *See Cisco*, 2017 WL 6611482, at *25 ("a reference need

Reply at 19.

(C) Sheesley does not disclose storing stacked containers in close proximity to a rail spur

- What a POSITA "could" understand from Sheesley does not evince Sheesley's disclosure.

> a prior art reference must disclose the claim limitation with "sufficient precision and detail" to establish that it existed in the prior art

Wasica Finance GmbH v. Cont'l Auto. Sys., Inc., 853 F.3d 1272, 1284 (Fed. Cir. 2017).

> in an obviousness determination, "[w]e first must determine whether [the accused infringer] carried its burden to prove that all claimed limitations are disclosed in the prior art"

PAR Pharm., Inc. v. TWI Pharm., Inc., 773 F.3d 1186, 1194 (Fed. Cir. 2014).

> we consider motivation to combine and reasonable expectation of success only "if all the elements of an invention are found in a combination of prior art references"

Medichem, S.A. v. Rolabo, S.L., 437 F.3d 1157, 1164 (Fed. Cir. 2006).

Disputed Issues

A. Sheesley does not disclose stacking empty proppant containers in close proximity to a rail spur *(All Challenged Claims)*

B. Sheesley does not disclose containers with "a second different end surface" *(All Challenged Claims)*

C. Sheesley does not disclose storing stacked containers in close proximity to a rail spur *(Claim 2)*

D. Sheesley in combination with Uhryn does not disclose or render obvious conveying proppant from containers to proppant transporting road vehicles *(Claim 4)*

(D) Sheesley in combination with Uhryn does not disclose or render obvious conveying proppant from containers to proppant transporting road vehicles

- Claim 4 recites:

> conveying the proppant from one or more of the plurality of proppant tilled containers to one or more proppant transporting road vehicles on a second conveyor.

Ex. 1001 ('772 Patent) at Claim 4.

- Petitioner asserts that Sheesley "renders this limitation obvious" or that Uhryn "teaches" this limitation.

Petition at 55-57; Response at 32; Reply at 20-21; Sur-Reply at 19-20.

(D) Sheesley in combination with Uhryn does not disclose or render obvious conveying proppant from containers to proppant transporting road vehicles

- Petitioner provides no rationale for modifying Sheesley.

> at [0083]. In light of these disclosures, "a POSITA would understand that proppant could just as easily be unloaded from filled containers by opening the

Reply at 20 (quoting Petition at 55-56).

- Petitioner's argument about what a POSITA ***could*** have done is insufficient.

> "Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness."

KSR Int'l Co. v. Teleflex Inc., 550 U.S. 398, 418 (2007).

> "obviousness concerns whether a skilled artisan not only *could have made* but *would have been motivated to make* the combinations or modifications of prior art to arrive at the claimed invention"

- *Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1073 (Fed. Cir. 2015).

(D) Sheesley in combination with Uhryn does not disclose or render obvious conveying proppant from containers to proppant transporting road vehicles

- It would not have been obvious to modify Sheesley to convey proppant from its containers to proppant transporting road vehicles.

storing and distributing sand at a well site. Sand Kings, mountain movers, and Frac Sanders are trailers that can be transported on the road, not proppant transporting road vehicles—they are not transported while full of sand. They are transported in an empty condition to a well site. Once there,

Ex. 2008 (Smith Decl.) ¶ 56 (cited in Sur-Reply at 20-21).

- Uhryn and Stegemoeller are consistent with Mr. Smith's opinion.

Uhryn

modal transport containers **30** at a time. A mountain mover **64**, also called a sand king, may be connected to receive proppant from the proppant transfer device **58**, the mountain mover **64** being provided to load one or more blenders **66** on site for mixing proppant into treatment fluids for injection downhole into a well **68** at the well site **18**. The mountain

Stegemoeller

In hydraulic fracturing operations, for example, proppant may be transferred to a horizontal storage unit, sometimes referred to as a "mountain mover" in the oilfield services industry. A horizontal storage unit may be positioned on a well site pad while the unit is empty. The horizontal storage unit may then be filled, via tractor-trailer proppant transport vehicles, for example. These transport vehicles may have a

Ex. 1005 (Uhryn) at [0020] (cited in Response at 37-38); Ex. 2011 (Stegemoeller) at 1:17-23 (same).

(D) Sheesley in combination with Uhryn does not disclose or render obvious conveying proppant from containers to proppant transporting road vehicles

- There is no evidence that Cambelt's "'Mini' Sand Storage Trailer" is a "Sand King," Frac Sander, or "mountain mover" of Sheesley, Uhryn, or Stegemoeller

> Sanders are not "proppant transporting road vehicles." Rather, a POSITA would know that a Sand King is a Frac Sand Handling and Storage Solution manufactured and sold by Convey-All and a Mountain Mover is a device for storing and distributing sand at a well site. Sand Kings, mountain movers,

Ex. 2008 (Smith Decl.) ¶ 56 (cited in Sur-Reply at 20-21).

> sand container **300** at the frac site (see FIG. **4**). The bulk sand container **300** may be the Frac Sander as is made by NOV-HPCO, located at 492 N. W.W. White Road, San Antonio, Tex. 78219. From the Sand King **300**, sand travels on a

Ex. 1003 (Sheesley) at [0083] (cited in Sur-Reply at 21-22).

(D) Sheesley in combination with Uhryn does not disclose or render obvious conveying proppant from containers to proppant transporting road vehicles

- Sheesley would not be modified to use a "proppant transporting road vehicle" as claimed because it contradicts Sheesley's teachings.

> A POSITA reading Sheesley would understand that the benefit is that the proppant can be transported in the container from the quarry to the well site in the container, without being removed or transferred, saving time and money. Ex. 1003 (Sheesley) at [0009]-[0017]. Specifically, Sheesley states:

> Taking the proppant out of Sheesley's modified cargo containers and putting it in a proppant transporting road vehicle is expressly against the teachings of Sheesley and a POSITA would not be motivated to do so.

Ex. 2008 (Smith Decl.) ¶¶ 57-58 (cited in Sur-Reply at 22).

(D) Sheesley in combination with Uhryn does not disclose or render obvious conveying proppant from containers to proppant transporting road vehicles

- Sheesley specifically seeks to avoid the claimed conveying from containers to proppant transporting road vehicles.

> **[0049]** As can be seen from FIG. **1**, there are numerous different ways of moving the sand from the quarry **30** or manufacturing site to the various frac sites. Each time the sand has to be handled through a conveyer, it is an additional expense. Each additional expense means that sand costs more money for the well operator, which goes into additional costs of producing oil, which flows on to the end consumer through higher prices of gasoline, diesel fuel, or natural gas.

Ex. 1003 (Sheesley) at [0049] (cited in Sur-Reply at 23-24).

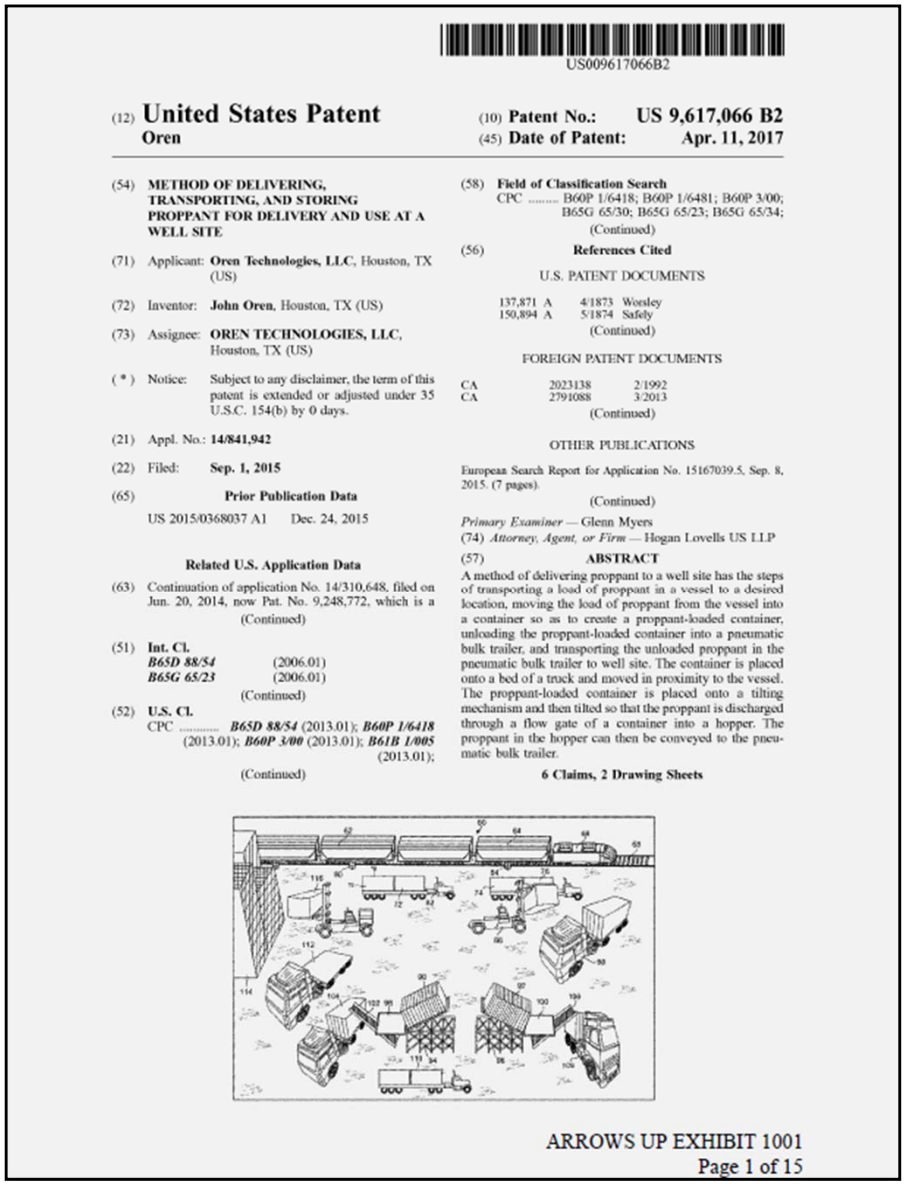
- A POSITA's ability to implement the limitation is insufficient.

> "the mere fact that a person having ordinary skill in the art could make such a change is insufficient evidence of a motivation to combine"

Olympia Tools Int'l, Inc. v. JPW Indus., Inc., IPR2018-00388, Paper 8 at 19 (P.T.A.B. June 20, 2018).

IPR2018-01231 (’066 Patent)

Background on ’066 Patent



US009617066B2

(12) **United States Patent**
Oren

(10) **Patent No.: US 9,617,066 B2**
(45) **Date of Patent: Apr. 11, 2017**

(54) **METHOD OF DELIVERING, TRANSPORTING, AND STORING PROPPANT FOR DELIVERY AND USE AT A WELL SITE**

(71) Applicant: **Oren Technologies, LLC**, Houston, TX (US)

(72) Inventor: **John Oren**, Houston, TX (US)

(73) Assignee: **OREN TECHNOLOGIES, LLC**, Houston, TX (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **14/841,942**

(22) Filed: **Sep. 1, 2015**

(65) **Prior Publication Data**

US 2015/0368037 A1 Dec. 24, 2015

Related U.S. Application Data

(63) Continuation of application No. 14/310,648, filed on Jun. 20, 2014, now Pat. No. 9,248,772, which is a (Continued)

(51) **Int. Cl.**
B65D 88/54 (2006.01)
B65G 65/23 (2006.01)
(Continued)

(52) **U.S. Cl.**
CPC ***B65D 88/54*** (2013.01); ***B60P 1/6418*** (2013.01); ***B60P 3/00*** (2013.01); ***B61B 1/005*** (2013.01);
(Continued)

(58) **Field of Classification Search**
CPC B60P 1/6418; B60P 1/6481; B60P 3/00; B65G 65/30; B65G 65/23; B65G 65/34;
(Continued)

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Primary Examiner — Glenn Myers
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(57) **ABSTRACT**

A method of delivering proppant to a well site has the steps of transporting a load of proppant in a vessel to a desired location, moving the load of proppant from the vessel into a container so as to create a proppant-loaded container, unloading the proppant-loaded container into a pneumatic bulk trailer, and transporting the unloaded proppant in the pneumatic bulk trailer to well site. The container is placed onto a bed of a truck and moved in proximity to the vessel. The proppant-loaded container is placed onto a tilting mechanism and then tilted so that the proppant is discharged through a flow gate of a container into a hopper. The proppant in the hopper can then be conveyed to the pneumatic bulk trailer.

6 Claims, 2 Drawing Sheets

ARROWS UP EXHIBIT 1001
Page 1 of 15

(57) **ABSTRACT**

A method of delivering proppant to a well site has the steps of transporting a load of proppant in a vessel to a desired location, moving the load of proppant from the vessel into a container so as to create a proppant-loaded container, unloading the proppant-loaded container into a pneumatic bulk trailer, and transporting the unloaded proppant in the pneumatic bulk trailer to well site. The container is placed onto a bed of a truck and moved in proximity to the vessel.

- Challenged Claims: 1-6

- Ground 1: Sheesley in view of Mintz (Claims 1-6)
- Ground 2: Sheesley (Claims 1-2, 4-6)
- Ground 3: Sheesley in view of Mintz and Hedrick (Claim 3)

Background on ’066 Patent - Claims

1. A method of loading and transporting proppant, the method comprising:

a) positioning a plurality of empty proppant containers, each removably positioned on a trailer of a respective proppant transporting road vehicle and structurally strengthened to receive a large volume of proppant having a substantially spherical shape therein, in close proximity to a rail spur so that each of the plurality of empty proppant containers underlies a source of proppant received from rail cars on the rail spur, each of the plurality of empty containers including at least a first end surface and at least a second different end surface and each of the first and second end surfaces having a plurality of upright structural support members thereon to enhance integrity of the container for stacking and so that heavy weight from the proppant can be stored therein;

b) filling the plurality of empty proppant containers with proppant thereby to produce a plurality of proppant filled containers, the plurality of empty proppant containers being filled when positioned on the respective trailer of the respective proppant transporting road vehicles;

c) transferring the plurality of proppant filled containers with one or more proppant transporting road vehicles to a drill site; and

d) unloading each of the plurality of proppant filled containers with an unloader.

Key Terms:

- “positioning a plurality of empty proppant containers, each removably positioned on a trailer of a respective proppant transporting road vehicle”
- each of the plurality of empty containers including at least a “second different end surface”

Background on ’066 Patent - Claims

3. The method of claim 1, further comprising:
conveying, on a conveyor, the proppant from one or more proppant transporting rail vehicles to a source from which to fill the plurality of empty proppant containers, each proppant container of the plurality of empty proppant containers being structurally strengthened by a plurality of support braces positioned separate from a frame of the respective proppant container.

Key Term:

- “conveying, on a conveyor, the proppant from one or more proppant transporting rail vehicles to a source from which to fill the plurality of empty proppant containers”

Challenged Claims Are Patentable

Overview

(A) Sheesley does not disclose positioning empty containers on proppant transporting road vehicles (all Challenged Claims) (Slides 49-55)

- Sheesley's Figure 5 does not disclose positioning empty containers on proppant transporting road vehicles.
- Petitioner's speculation about what a POSITA might envision from various passages of Sheesley does not show disclosure of this limitation.

(B) Sheesley does not disclose containers with "a second different end surface" (all Challenged Claims) (Slides 56-68)

- Sheesley is silent regarding what Petitioner labels as its second "End Wall."
- Petitioner does not show that Sheesley's end walls are "structurally different."

Overview

(C) Sheesley does not disclose conveying proppant from proppant transporting rail vehicles to a source from which to fill empty proppant containers (Claim 3) (Slides 69-80)

- Petitioner's argument that the "source" is the "conveyor" is illogical and unsupported.
- Petitioner's new theory on Reply is both procedurally barred and as flawed as its initial theory

Disputed Issues

A. Sheesley does not disclose positioning empty containers on proppant transporting road vehicles *(All Challenged Claims)*

B. Sheesley does not disclose containers with "a second different end surface" *(All Challenged Claims)*

C. Sheesley does not disclose conveying proppant from proppant transporting rail vehicles to a source from which to fill empty proppant containers *(Claim 3)*

(A) Sheesley does not disclose positioning empty containers on proppant transporting road vehicles

- Claim 1 recites:

> 1. A method of loading and transporting proppant, the method comprising:
> a) positioning a plurality of empty proppant containers, each removably positioned on a trailer of a respective proppant transporting road vehicle and structurally

Ex. 1001 ('066 Patent) at Claim 1.

- Petitioner does not dispute that it asserted that Sheesley "discloses" this limitation, labeled [1(a)(i)]

Petition at 25-27; Response at 14; Reply at 10; Sur-Reply at 4.

(A) Sheesley does not disclose positioning empty containers on proppant transporting road vehicles

- Petitioner concedes that Sheesley does not *actually* disclose this limitation

> Sheesley did not teach this limitation. Petitioner asserts that the examiner erred, because "a POSITA reading Sheesley would understand that containers could be filled with sand when positioned on a flatbed trailer." Paper No. 2 (Petition) at 39;

Reply at 11.

(A) Sheesley does not disclose positioning empty containers on proppant transporting road vehicles

- Sheesley teaches that once containers are loaded with sand, only "then" can they be transported by truck to the frac site, after which the containers are never emptied.

> **[0017]** The modified cargo containers may be taken directly to the quarry and loaded with sand. The modified cargo containers can then move through all of the normal modes of transportation including ship, barge, rail or by truck, all the way to the frac site. The sand never has to be handled again. All that has to occur is the modified cargo container is moved from one mode of transportation to another (i.e., ship-to-rail-to-truck) as it moves from the quarry to the frac site.

Ex. 1005 (Sheesley) at [0017] (cited in Response at 15-16).

> "sand never has to be handled again." This means prior to being loaded on the truck, the containers are first filled with sand and never emptied until they are transported to the frac site.

Ex. 2009 (Smith Decl.) ¶¶ 36-37 (cited in Response at 15-16).

(A) Sheesley does not disclose positioning empty containers on proppant transporting road vehicles

- Sheesley teaches only that "loaded" containers are transported on flatbed trucks.

[0078] Turning to FIG. **2**, sand from the sand quarry **30** or source can now be loaded by a conveyer **268** to a modified cargo container which hereinafter will be referred to by reference numeral **270**. Modified cargo containers **270** can be loaded on a ship **272**, barge **274**, rail **276** or a flatbed truck trailer **278**. Obviously, multiple modified cargo containers

Ex. 1005 (Sheesley) at [0078] (cited in Response at 16-17).

[0079]. This disclosure shows that the modified cargo containers of Sheesley are filled at a sand quarry or source and only after that are they moved via a flatbed truck trailer to the frac site. Similarly, a POSITA would recognize there would be no benefit to taking an empty container to the fracing site.

Ex. 2009 (Smith Decl.) ¶¶ 36-37 (cited in Response at 16-17).

(A) Sheesley does not disclose positioning empty containers on proppant transporting road vehicles

- Sheesley's Figure 3 depicts stacked empty containers at the well site

> [0083] At the well site to be fraced, modified cargo containers **270** can be stacked as shown in FIG. **3**. Since well sites

Ex. 1005 (Sheesley) at [0083] (cited in Response at 17-18).

- Sheesley's Figure 5 discloses containers loaded on a rail car.

> [0085] However, rather than being located over a belt, FIG. **5** illustrates the loading of multiple modified cargo containers **302**, **304**, **309** and **311** while sitting on rail car **313**.

Ex. 1005 (Sheesley) at [0085] (cited in Response at 16).

(A) Sheesley does not disclose positioning empty containers on proppant transporting road vehicles

- Petitioner conflates the rail car of Figure 5 with the claimed proppant transporting road vehicle

> 1001 ('066 Patent) at Claim 1. A POSITA would recognize that proppant transporting road vehicles and proppant transporting rail vehicles are different parts of the supply chain with different functions and benefits.

Ex. 2009 (Smith Decl.) ¶ 39 (cited in Sur-Reply at 6-7).

Disputed Issues

A. Sheesley does not disclose positioning empty containers on proppant transporting road vehicles *(All Challenged Claims)*

B. Sheesley does not disclose containers with "a second different end surface" *(All Challenged Claims)*

C. Sheesley does not disclose conveying proppant from proppant transporting rail vehicles to a source from which to fill empty proppant containers *(Claim 3)*

(B) Sheesley does not disclose containers with "a second different end surface"

- Claim 1 recites:

> pant received from rail cars on the rail spur, each of the plurality of empty containers including at least a first end surface and at least a second different end surface and each of the first and second end surfaces having a plurality of upright structural support members thereon to enhance integrity of the container for stacking and so that heavy weight from the proppant can be stored therein;

Ex. 1001 ('066 Patent) at Claim 1.

- Petitioner does not dispute that it asserted that Sheesley "discloses" this limitation, labeled [1(a)(iv)]

Petition at 32-33; Response at 23; Reply at 3; Sur-Reply at 7.

(B) Sheesley does not disclose containers with "a second different end surface"

- At institution, the Board agreed with Patent Owner's proposed construction:

> For purposes of this Decision, upon reviewing the claim language in light of the Specification, we agree with Patent Owner and determine that a broad, but reasonable construction of the claimed "second different end surface" limitation requires that this surface is structurally different from the "first end surface."

Paper 7 (Inst. Dec.) at 9.

- Petitioner (i) did not offer a construction and (ii) did not contest Patent Owner and the Board's construction in Reply
- The Board's construction should be maintained

> "The parties have not further argued claim construction and we hereby adopt our preliminary constructions as final along with our reasoning expressed in our Decision to Institute."

Duodecad IT Servs. Luxembourg S.A.R.L. v. Wag Acquisition, LLC, IPR2015-01036, Paper 17 at 9 (P.T.A.B. Oct 20, 2016).

(B) Sheesley does not disclose containers with "a second different end surface"

- Petitioner argues Sheesley's disclosure is the same as the '066 Patent's disclosure, but the '066 Patent describes two end surfaces that are structurally different

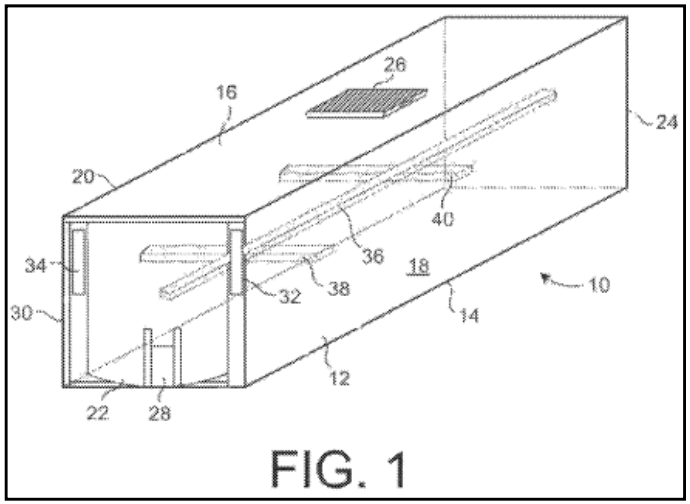


FIG. 1

> It can be seen that the end wall **22** is recessed inwardly of an end of the pair of side walls **18** and **20** and inwardly of the bottom wall **14** and the top wall **16**. As such, the outermost end **30** of the container **12** will provide a protective structure for the generally convex surface of the end wall **22**. This

'066 Patent at Figure 1, 6:62-67 (cited in Response at 11-12).

- The Board relied on the '066 Patent's disclosure when agreeing with Patent Owner's construction

> The Patent Owner's proposed construction is also consistent with the Specification. As discussed above (*supra* Part I.B), the Specification describes an embodiment where the end walls (22, 24) are different in that only one end wall, end wall 22, has a "generally convex surface." Ex. 1001, 6:62–67, Fig. 1.

Paper 7 (Inst. Dec.) at 9.

(B) Sheesley does not disclose containers with "a second different end surface"

- Petitioner argues that the '066 patent does not support the claim term

> 24; as in Sheesley, end wall 24 is obscured. Thus, by Patent Owner's logic, the '066 patent fails to support a second end surface that is structurally different from the first.

Reply at 9.

- Written description challenges are not part of *inter partes* reviews

> "written-description and enablement challenges were not, and could not have been, part of the *inter partes* review that is now before us"

Straight Path IP Grp., Inc. v. Sipnet EU S.R.O., 806 F.3d 1356, 1363 (Fed. Cir. 2015).

(B) Sheesley does not disclose containers with "a second different end surface"

- Sheesley's silence as to the structure of the undepicted, undescribed, and unnumbered surface that Petitioner labels as its second "End Wall" is insufficient to show the claim limitation is met

> A prior art reference must disclose the claim limitation with "sufficient precision and detail" to establish that it existed in the prior art

Wasica Finance GmbH v. Cont'l Auto. Sys., Inc., 853 F.3d 1272, 1284 (Fed. Cir. 2017).

- Figure 9 of Sheesley confirms there is no information regarding the undepicted, undescribed, and unnumbered "End Wall"

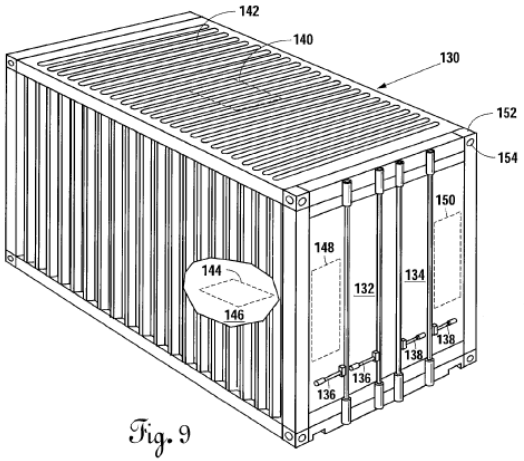


Fig. 9

Sur-Reply at 10-11 (citing Petition at 32).

(B) Sheesley does not disclose containers with "a second different end surface"

- It is irrelevant that Sheesley does not indicate equivalent features on the far side of the container.

Sur-Reply at 11.

- Petitioner's speculation about Sheesley's drafter's annotation tendencies is "in a class with wishful thinking."

> Statements about what drawings disclose were "wholly unjustified" where the Board "magnified a drafting practice" "into an alleged suggestion for an ornamental design through the exercise of hindsight"

In re Klein by Klein, 987 F.2d 1569, 1573 (Fed. Cir. 1993).

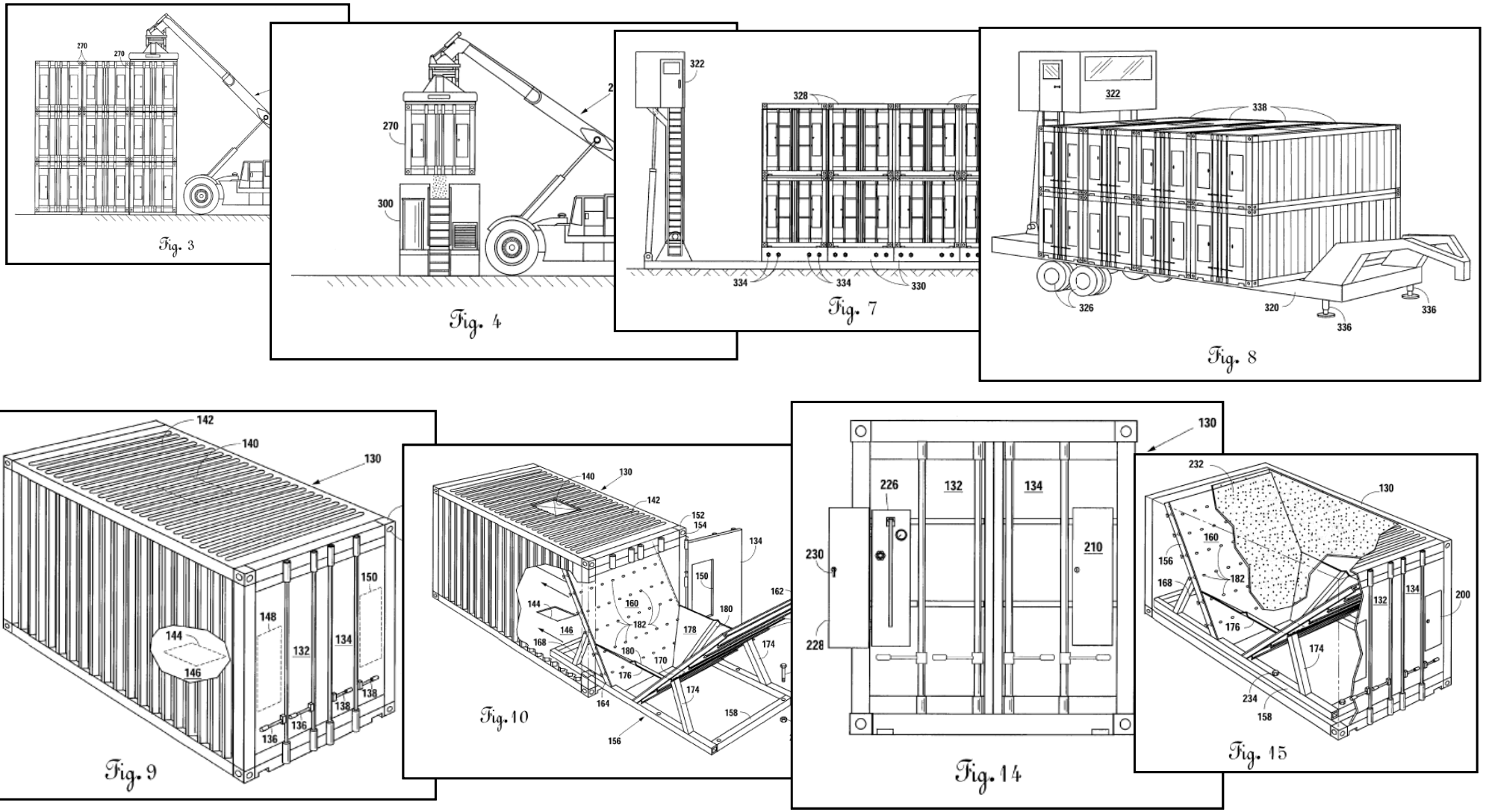
- Sheesley is not clear which "End Wall" is depicted by its figures

> A. So if you have doors on both ends of the Sheesley container you can't tell which end you are looking at because they would all look the same. And

Ex. 1016 (Smith Tr.) at 21:3-11 (cited in Reply at 6).

(B) Sheesley does not disclose containers with "a second different end surface"

- Every figure of Sheesley that shows an "End Wall" shows it equipped with doors.



Ex. 1005 (Sheesley) Figures 3, 4, 7-10, 14-15 (cited in Response at 26).

(B) Sheesley does not disclose containers with "a second different end surface"

- It is undisputed that a POSITA would have known there were ISO containers with doors on both ends.

Containers for Storage - 20ft Double-door

Triple Eight offers these useful 20' containers are a good an economic alternative to 10' individual boxes. They have doors at each end, with a fitted internal partition make two economic compartments. They are ideal for your storage requirements where you have access to both ends.

As with our standard 20's, they are built to the highest international specifications for marine use. We arrange for our new containers to be shipped into the UK with cargo to cover the cost of shipping and offer them from our UK wide depots. Like our standard 20's, these double doored containers are factory painted in our fleet colour, dark cobalt blue, technically listed as RAL5013.

Each container comes with ventilators fitted in each side to ensure against any risk of condensation. Doors, sides and roofs are made of rust resistance corten steel to ensure maximum in service life and the lowest maintenance costs. Floors of treated marine ply. Both sets of doors have locking bars which are made of galvanised steel with lockable handles and if you require we arrange to fit a lock box to each end to protect the locking mechanism for added security.

Containers for Storage - 20ft Double-door

Triple Eight offers these useful 20' containers are a good an economic alternative to 10' individual boxes. They have doors at each end, with a fitted internal partition make two economic compartments. They are ideal for your storage requirements where you have access to both ends.

As with our standard 20's, they are built to the highest international specifications for marine use. We arrange for our new containers to be shipped into the UK with cargo to cover the cost of shipping and offer them from our UK wide depots. Like our standard 20's, these double doored containers are factory painted in our fleet colour, dark cobalt blue, technically listed as RAL5013.

Each container comes with ventilators fitted in each side to ensure against any risk of condensation. Doors, sides and roofs are made of rust resistance corten steel to ensure maximum in service life and the lowest maintenance costs. Floors of treated marine ply. Both sets of doors have locking bars which are made of galvanised steel with lockable handles and if you require we arrange to fit a lock box to each end to protect the locking mechanism for added security.

Ex. 1005 (Sheesley) at Figure 9. A POSITA at the time of invention would recognize that many ISO containers were made with doors on both ends, including the 20 ft. long ISO container disclosed in Sheesley's Figures 9 and 16, Sheesley at [0050], and were readily available. *See* Ex. 2010 (20 ft. ISO

Ex. 1017 (cited in Sur-Reply at 14); Ex. 2009 (Smith Decl.) ¶ 44 (same); Ex. 2010 (same).

(B) Sheesley does not disclose containers with "a second different end surface"

- Sheesley cannot, through silence, disclose a genus (the purported "End Wall") and at least two species (doors and no doors)

Textron Inc. v. Nivel Parts & Mfg. Co., LLC, PGR2017-00035, Paper 9 (P.T.A.B. Jan. 12, 2018).

  - In *Textron*, the petitioner contended a prior art reference ("Liu") disclosed that its "stationary cargo board" was "plastic instead of metal or wood." *Id.* at 23-24.
  - Liu did "not disclose anything about the material." *Id.* at 24.
  - Anticipation can be found when "the reference disclosed the subject matter of the claim element" not when the reference "does not disclose anything about" it. *Id.*
  - Though "Liu seems to broadly disclose that the components are made of some material," the petitioner could not "read[] into this lack of disclosure a purported genus with only two species—metal and plastic." *Id.* at 25.

Sur-Reply at 12-13.

(B) Sheesley does not disclose containers with "a second different end surface"

- Even if Sheesley can be alternatively interpreted to show an "End Wall" including doors and an "End Wall" without doors, then it would be an ambiguous reference and not disclose limitation [1(a)(iv)]

> "if we accept arguendo the [B]oard's position that [a reference] can be alternatively interpreted to show either of two final core structures, then [it] becomes an ambiguous reference which will not support an anticipation rejection"

Application of Hughes, 345 F.2d 184, 188 (C.C.P.A. 1965).

> "we cannot, with any degree of certainty, ascertain whether [a reference] discloses one or two exhaust valves in each bank communicating with the transverse passage. Under these circumstances we cannot agree with the majority of the [B]oard that [it] anticipates applicant's appealed claim"

Application of Turlay, 304 F.2d 893, 899 (C.C.P.A. 1962).

Sur-Reply at 13-14.

(B) Sheesley does not disclose containers with "a second different end surface"

- Patent Owner's expert (Mr. Smith) is clear that two sets of doors wouldn't be structurally different even if only one had control panels or control panel openings

> case, but it doesn't change the structure of the doors simply by cutting a control panel in there.

> Actually, when I look at the structure I am looking at what makes the door strong and it is the tubing that goes around the door and that part, not the plate part, that would make any difference.

Ex. 1016 (Smith Tr.) at 42-44 (cited in Sur-Reply at 16).

- Petitioner provides only attorney argument regarding what is "structurally different" between Sheesley's end walls.

> a party's "unsworn attorney argument … is not evidence"

Gemtron Corp. v. Saint-Gobain Corp., 572 F.3d 1371, 1380 (Fed. Cir. 2009).

> "Attorney argument is no substitute for evidence."

Enzo Biochem, Inc. v. Gen-Probe, Inc., 424 F.3d 1276, 1284 (Fed. Cir. 2005).

(B) Sheesley does not disclose containers with "a second different end surface"

- Petitioner provides no evidence regarding what is "structurally different" between Sheesley's end walls.
  - Petitioner's expert (Mr. Schaaf) says only that this limitation is disclosed without support

> 89. The containers of Sheesley include a pair of spaced-apart end walls. As shown in Fig. 9, the end wall is composed of doors 132 and 134; *see also* Ex. 1005 (Sheesley) Fig. 16 (reproduced and annotated below); Figs. 14-18; ¶[0058]; ¶[0061].

Ex. 1002 (Schaaf Decl.) ¶¶ 89.

  - After Patent Owner's expert disputed this, Petitioner's expert provided no rebuttal

> while a "supporting expert declaration is not, *per se*, a requirement of a reply, … relying only on attorney argument" "shield[s] [Petitioner's] interpretation" of the evidence from cross-examination and leaves the Board with little evidence "upon which to base its decision"

Baker Hughes Oilfield Operations, Inc. v. Smith Int'l, Inc., IPR2016-01452, Paper 31 at 21 n.8 (P.T.A.B. Feb. 2, 2018).

Disputed Issues

A. Sheesley does not disclose positioning empty containers on proppant transporting road vehicles *(All Challenged Claims)*

B. Sheesley does not disclose containers with "a second different end surface" *(All Challenged Claims)*

C. Sheesley does not disclose conveying proppant from proppant transporting rail vehicles to a source from which to fill empty proppant containers *(Claim 3)*

(C) Sheesley does not disclose conveying proppant from proppant transporting rail vehicles to a source from which to fill empty proppant containers

- Claim 3 recites:

> 3. The method of claim 1, further comprising:
> conveying, on a conveyor, the proppant from one or more proppant transporting rail vehicles to a source from which to fill the plurality of empty proppant containers,

Ex. 1001 ('066 Patent) at Claim 3.

- Petitioner does not dispute that it asserted that Sheesley "discloses" this limitation, labeled [3(a)]

Petition at 44-45; Response at 28; Reply at 15; Sur-Reply at 16.

(C) Sheesley does not disclose conveying proppant from proppant transporting rail vehicles to a source from which to fill empty proppant containers

- Claim 3 recites:

> 3. The method of claim 1, further comprising:
> conveying, on a conveyor, the proppant from one or more proppant transporting rail vehicles to a source from which to fill the plurality of empty proppant containers,

Ex. 1001 ('066 Patent) at Claim 3.

- **Claim 3 requires:**
  - (1) a **conveyor**;
  - (2) a **proppant transporting rail vehicle**;
  - (3) a **source** [from which to fill empty proppant containers];
  - (4) **empty proppant containers**; and
  - (5) conveying, on the **conveyor**, proppant from the **proppant transporting rail vehicle** to the **source**

Sur-Reply at 17.

(C) Sheesley does not disclose conveying proppant from proppant transporting rail vehicles to a source from which to fill empty proppant containers

- Petitioner's original theory is wrong: auger 303 of Sheesley's Figure 5 cannot be both the claimed "conveyor" and the claimed "source"

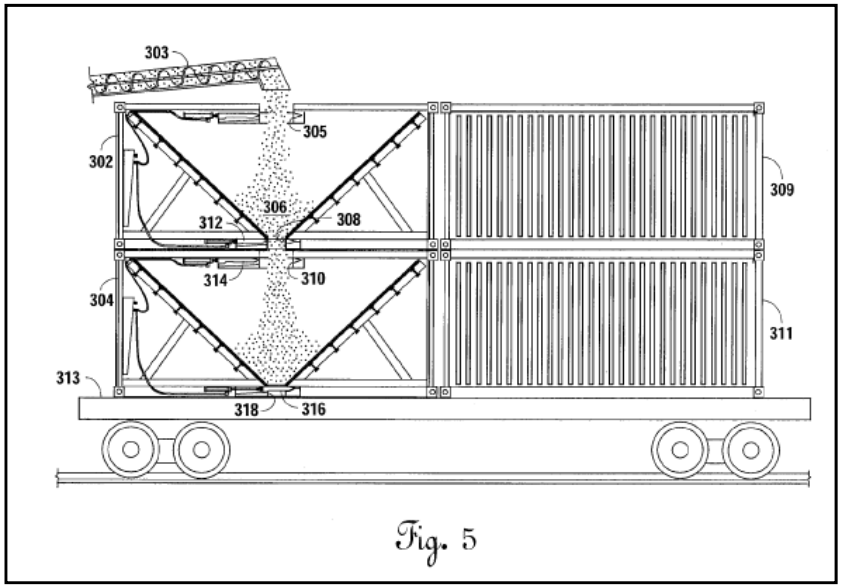


Fig. 5

Ex. 1005 (Sheesley) at Fig. 5.

- Petitioner agrees that an auger is a "conveyor," not a "source"

> [5] A POSITA would understand that an auger moves sand through conveyance. Ex. 1002 (Schaaf Decl.) ¶91, n.8.

IPR2018-01230, Paper 1 at 41 n.5 (cited in Response at 29).

(C) Sheesley does not disclose conveying proppant from proppant transporting rail vehicles to a source from which to fill empty proppant containers

- Auger 303 of Sheesley's Figure 5 cannot be both the claimed "conveyor" and the claimed "source"

> "Where a claim lists elements separately, 'the clear implication of the claim language' is that those elements are 'distinct components' of the patented invention."

Becton, Dickinson & Co. v. Tyco Healthcare Grp., LP, 616 F.3d 1249, 1254 (Fed. Cir. 2010).

> Where a claim provides for two separate elements, a "second portion" and a "return portion," these two elements "logically cannot be one and the same."

Engel Indus., Inc. v. Lockformer Co., 96 F.3d 1398, 1404-05 (Fed. Cir. 1996).

- Petitioner sets forth no construction or evidence in support of its position

Sur-Reply at 17-18.

(C) Sheesley does not disclose conveying proppant from proppant transporting rail vehicles to a source from which to fill empty proppant containers

- "Source" would not be construed to be the same element as the claimed "conveyor"

Interactive Gift Exp., Inc. v. Compuserve Inc., 256 F.3d 1323 (Fed. Cir. 2001).

- In *Interactive Gift*, the court confronted construction of "material object" where the claim language "requires that [] information be reproduced in a material object." *Id.* at 1336.

- "A material object cannot be the information itself" because "[i]f the information itself is the material object, as [patentee] argues, then claim 1 would require the information to be reproduced in itself. Such a construction is illogical and does not accord with the plain import of the claim language." *Id.*

Sur-Reply at 18-19.

(C) Sheesley does not disclose conveying proppant from proppant transporting rail vehicles to a source from which to fill empty proppant containers

- On Reply, Petitioner changed course and suggests that one "modified cargo container 306" can be the claimed source:

> immediately there below." Ex. 1005 (Sheesley) at [0084]. As such, Sheesley teaches conveying proppant to "modified cargo containers 306," which then "may feed sand" to the empty containers positioned below. Moreover, Sheesley plainly

Reply at 18.

(C) Sheesley does not disclose conveying proppant from proppant transporting rail vehicles to a source from which to fill empty proppant containers

- Petitioner's new position on Reply is prohibited

> "It is of the utmost importance that petitions in the IPR proceedings adhere to the requirement that the initial petition identify 'with particularity' the 'evidence that supports the grounds for the challenge to each claim.'"

> "Unlike district court litigation—where parties have greater freedom to revise and develop their arguments over time and in response to newly discovered material—the expedited nature of IPRs bring with it an obligation for petitioners to make their case in their petition to institute."

Intelligent Bio-Sys, Inc. v. Illumina Cambridge Ltd., 821 F.3d 1359, 1369 (Fed. Cir. 2016).

(C) Sheesley does not disclose conveying proppant from proppant transporting rail vehicles to a source from which to fill empty proppant containers

- Petitioner's new position on Reply is prohibited

> "Rather than explaining how its original petition was correct, [the petitioner's] subsequent arguments amount to an entirely new theory of prima facie obviousness absent from the petition. Shifting arguments in this fashion is foreclosed by statute, our precedent, and Board guidelines."

Wasica Fin. GmbH v. Cont'l Auto. Sys., Inc., 853 F.3d 1272, 1286 (Fed. Cir. 2017).

> "the Petition in this case relied on inherency for the softening point limitation, and Patent Owner successfully rebutted that theory in its Patent Owner Response. Following that rebuttal, Petitioner is not permitted to abandon inherency to pursue a different theory that it did not present in its Petition. Accordingly, we do not reach the issue of whether the claim is obvious under a different theory than Petitioner advanced in its Petition."

Colas Solutions Inc. v. Blacklidge Emulsions, Inc., IPR2016-01031, Paper 38 at 27 (P.T.A.B. Nov. 2, 2017).

(C) Sheesley does not disclose conveying proppant from proppant transporting rail vehicles to a source from which to fill empty proppant containers

- Petitioner's new theory is as flawed as its first: the "source" cannot also be the separately claimed "empty proppant containers"

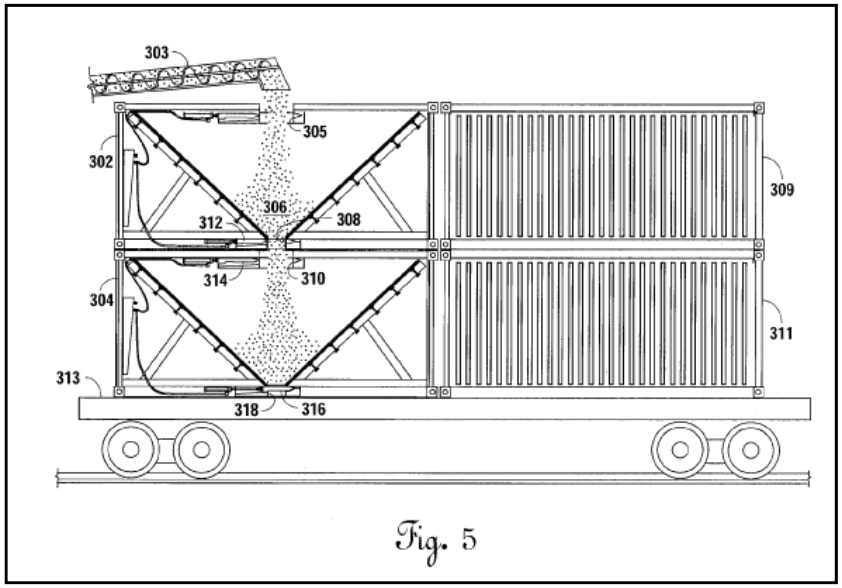


Fig. 5

Ex. 1005 (Sheesley) at Fig. 5.

- Petitioner would change the claim language to "conveying, on a conveyor, the proppant from one or more proppant transporting rail vehicles to [an empty proppant container] from which to fill the plurality of empty proppant containers."

- This is "illogical" under *Interactive Gift*. 256 F.3d at 1336.

Sur-Reply at 21-22.

(C) Sheesley does not disclose conveying proppant from proppant transporting rail vehicles to a source from which to fill empty proppant containers

- Petitioner provides no evidence or argument that a POSITA would consider an empty proppant container to be a "source."
  - A POSITA would not; empty proppant containers are distinct from sources that fill them
  - Claim language requires the "source" be able to fill a "plurality of empty proppant containers," but a single filled container can only fill another single container.

Sur-Reply at 22-23.

(C) Sheesley does not disclose conveying proppant from proppant transporting rail vehicles to a source from which to fill empty proppant containers

- No evidence or argument that Sheesley teaches:

1. filling an empty proppant container;
2. using it to fill a second empty proppant container stacked below it on a rail car;
3. removing the top container from the rail car;
4. removing the bottom container from the rail car;
5. placing an empty proppant container on the rail car;
6. replacing the top container on the new empty proppant container on the rail car;
7. filling the top container again; and
8. depositing more proppant into the new empty proppant container on the rail car.

Sur-Reply at 22-23.