

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ARROWS UP, LLC
Petitioner

v.

OREN TECHNOLOGIES, LLC
Patent Owners

Case No. IPR2018-01230
U.S. Patent No. 9,248,772

PETITIONER'S REPLY

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LIST OF EXHIBITS

Exhibit No.	Description
Ex. 1001	U.S. 9,248,772 (“772 patent”)
Ex. 1002	Declaration of Robert Schaaf (“Shaaf Decl.”)
Ex. 1003	U.S. Published Appl. No. 2013/0206415 (“Sheesley”)
Ex. 1004	U.S. 8,915,691 (“Mintz”)
Ex. 1005	U.S. Published Application No. 2013/0022441 (“Uhryn”)
Ex. 1006	U.S. Application No. 13/332,937 (“937 Application”)
Ex. 1007	Redline of U.S. Application No. 13/332,937 and U.S. 9,248,772
Ex. 1008	U.S. Provisional Application No. 61/429,046 (“Mintz Provisional”)
Ex. 1009	U.S. Provisional Application No. 61/509,943 (“Uhryn Provisional”)
Ex. 1010	Portions of the prosecution history for U.S. Application No. 14/314,468 (“468 File History”)
Ex. 1011	Portions of the prosecution history for U.S. Application No. 14/841,942 (“066 File History”)
Ex. 1012	ISO 1496-1: Series 1 Freight Containers—Specification and Testing—Part 1, General Cargo Containers (August 1990) (“ISO 1496 Standard”)
Ex. 1013	Intermodal Transportation: Moving Freight in a Global Economy (published 2011) (“Intermodal Transportation”)
Ex. 1014	<i>Reserved</i>

Ex. 1015	March 21, 2019 Declaration of Robert S. Hill In Support of Petitioners' Unopposed Motion for Pro Hac Vice Admission of Robert S. Hill
Ex. 1016	Transcript of July 30, 2019 Deposition of Fred Smith
Ex. 1017	Web Archive from October 18, 2009 – “Containers for Storage – 20ft Double-door”
Ex. 1018	Web Archive from February 4, 2012 – “‘Mini’ Sand Storage Trailers”

I. INTRODUCTION

Patent Owner begins by editorializing at length about the history between the parties. It suffices to say that Petitioner disagrees with these characterizations, and that the litigation referenced by Patent Owner is on appeal. More to the point, neither that litigation nor Petitioner's motivation in bringing this Petition are relevant, in any way, to the questionable validity of the '772 patent.

As discussed in the Petition, the claims of the '772 patent claims the standard logistical steps involved in moving material from one location to another in containers. It is therefore unsurprising that these claims are invalid in view of the prior art. Patent Owner's Response makes no effort to identify a genuinely novel feature of the claimed system. Instead, Patent Owner falls back on a hyper-technical reading of the prior art that fundamentally misrepresents the scope of those disclosures to persons of ordinary skill in the art. As explained below, Patent Owner's arguments are meritless, and the claims of the '772 patent are invalid.

II. THE SCHAAF DECLARATION IS FACTUALLY SUPPORTED

Much of Patent Owner's Response is devoted to complaints, recycled from the Preliminary Response, about Mr. Schaaf's Declaration (Ex. 1002). Although Patent Owner claims that Mr. Schaaf's opinions are conclusory, it offers no explanation for *why* those opinions are conclusory. Instead, Patent Owner asserts that Mr. Schaaf's Declaration "parrots" the Petition and that his "opinions are not

his own, but are instead those of Petitioner’s lawyers who prepared the Petition.” Paper No. 14 (Response) at 21, 24. In essence, Patent Owner argues that the Petition is *too consistent* with Mr. Schaaf’s opinions. This is certainly not a basis for wholesale exclusion of the Schaaf Declaration. Indeed, the Panel rejected such a drastic approach in its Institution Decision, instead deciding to “weigh Mr. Schaaf’s opinions on particular issues in accordance with the underlying support provided for those opinions.” Paper No. 7 (Decision) at 10. Nor does Mr. Schaaf’s alignment with the Petition undermine the evidentiary value of his Declaration. *See Apple, Inc. v. Uniloc Luxembourg, S.A.*, No. IPR2018-00394, 2018 WL 3216847, at *6 (P.T.A.B. June 29, 2018) (“That the Petition repeats Dr. Houh’s testimony regarding reasons a skilled artisan would have been motivated to combine [prior art] does not undermine that testimony’s persuasiveness or its status as evidence, nor does it mean Petitioner’s argument is mere speculation or conjecture, as Patent Owner suggests.”). As such, Patent Owner’s complaints should be disregarded.

III. PATENT OWNER CONCEDES THE INVALIDITY OF THOSE LIMITATIONS THAT IT DID NOT ADDRESS

In its Response, Patent Owner argues only that limitations [1(a)(i)], [1(a)(ii)], [2], and [4(b)] are not disclosed in the prior art. Paper No. 14 (Response) at 15, 25, 28, 32. It does not address the patentability of any other limitations in claims 1 or 4, nor does it address the patentability of claims 3 or 6-11. Patent

Owner has thus waived any such arguments. *See* Paper No. 8 (Scheduling Order) at 5 (“Patent Owner is cautioned that any arguments for patentability not raised in a response may be deemed waived.”).

IV. SHEESLEY TEACHES “A SECOND DIFFERENT END SURFACE”

Claim 1 of the ’772 patent requires in part “each of the plurality of empty containers including at least a first end surface and at least a second different end surface[.]” Ex. 1001 (’772 patent) at claim 1. Sheesley teaches this limitation.

As explained in the Petition, Sheesley teaches the use of an ISO container modified to store proppant. Ex. 1003 (Sheesley) at Abstract; [0004]; [0012].

Sheesley explains that “cargo container 130 is made out of corrugated metal and has doors 132 and 134, on the one end thereof[.]” Ex. 1003 (Sheesley) [0050].

These features may be seen in Figure 9 of Sheesley, shown below.

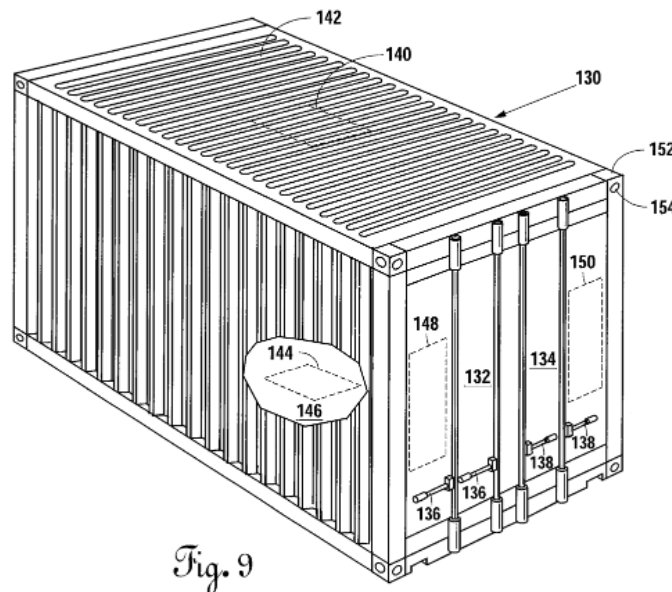


Fig. 9

In its Preliminary Response, Patent Owner proposed that the broadest reasonable construction for the term “a second different end surface” is “an additional end surface that is not the same as the first end surface.” Paper No. 6 (Preliminary Response) at 10. In its Institution Decision, the Panel agreed with Patent Owner’s reasoning, stating that the “term ‘different’ indicates a *structural difference*, rather than the mere duplication of the first surface.” Paper No. 7 (Decision) at 9 (emphasis by Panel).

The Panel disagreed, however, that Sheesley did not disclose a structurally different second end surface. Specifically, the Panel explained that Sheesley “states that the container ‘has doors 132 and 134, *on the one end thereof*,’” and that “Sheesley’s ‘second end surface’ is different from Sheesley’s ‘first end surface’ in that only one of them has doors 132, 134.” Paper No. 7 (Decision) at 17 (quoting Ex. 1003 (Sheesley) [0050]) (emphasis by Panel).

Nevertheless, Patent Owner doubles down on its previously-rejected argument that Sheesley does not disclose this limitation. More precisely, Patent Owner asserts that “Sheesley is silent as to whether the hidden ‘End Wall’ labeled by Petitioner is the same as the visible one.” Paper No. 14 (Response) at 27. Patent Owner hypothesizes that, because the far end of the container portrayed in Figure 9 is obscured, and because a “POSITA would know that many ISO containers were and are available with doors on both ends, including standard 20

ft. cargo containers as disclosed by Sheesley,” it is possible that the second end wall of Sheesley also has doors. Paper No. 14 (Response) at 27. These arguments strain credulity.

As the Panel has already observed, Sheesley plainly states that “cargo container 130 is made out of corrugated metal and has doors 132 and 134, on the one end thereof[.]” Ex. 1003 (Sheesley) [0050]; [0006] (“A general purpose cargo container has doors fitted at one end and is constructed of corrugated weathering steel.”); *see* Paper No. 7 (Decision) at 17. These doors are “operable by handles 136 and 138, respectively.” Ex. 1003 (Sheesley) [0050]. In addition, “Control panel openings 148 and 150 are cut in doors 132 and 134, respectively.” Ex. 1003 (Sheesley) [0050]. These doors, handles, and control panel openings are described as being “on the one end thereof.” Ex. 1003 (Sheesley) [0050]. Nowhere are they described as being duplicated at the other end wall. As such, Figure 9 of Sheesley portrays doors 132 and 134 (and handles 136 and 138, and control panel openings 148 and 150) on one side of the container, but does not indicate equivalent features on the far side of the container.¹ And indeed, Patent Owner’s expert, Mr. Smith,

¹ Indeed, Figure 9 of Sheesley suggests that such equivalent features *would* be indicated if they were part of Sheesley’s invention. For example, Figure 9 makes an effort to indicate the location of features 144 and 146 on the container’s bottom

confirmed at his deposition that the '772 patent does not disclose equivalent features on the far side of the container. Ex. 1016 (Smith Dep.) at 23:20-25 (“Q. ‘Do they describe control panels on the other end anywhere in the patent?’ A. ‘No.’ Q. ‘Do they describe doors anywhere on the other end anywhere in the patent?’ A. ‘Not that I am aware of, no.’”).

At his deposition, Mr. Smith stated that “[a]ll of the views of the end wall in the Sheesley patent appear to show one side, but I suppose it could be showing both sides,” and that “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.” Ex. 1016 (Smith Dep.) at 21:3-11. In other words, Mr. Smith speculated that those figures of Sheesley portraying multiple containers with doors (Figure 3, for example) may be showing the front ends of some containers and the back ends of others.

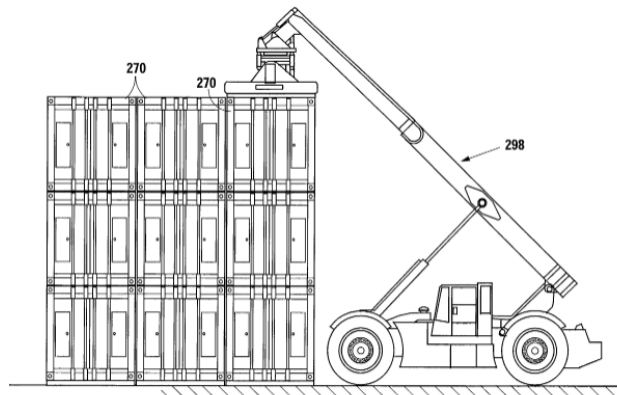


Fig. 3

wall, which is otherwise not shown. That Sheesley does not make the same effort with regard to the back wall further suggests the absence of these features.

But even if the back wall of Sheesley was equipped with doors, the front wall would still be structurally different. In particular, Sheesley explains that “Control panel openings 148 and 150 are cut in doors 132 and 134, respectively.” Ex. 1003 (Sheesley) [0050]. These control panels provide an additional structural difference between the front wall and the back wall. Patent Owner does not argue that the hypothetical doors on the back wall would be fitted with control panels. Indeed, Sheesley’s Figure 16 plainly indicates that control panels are fitted on one end only.

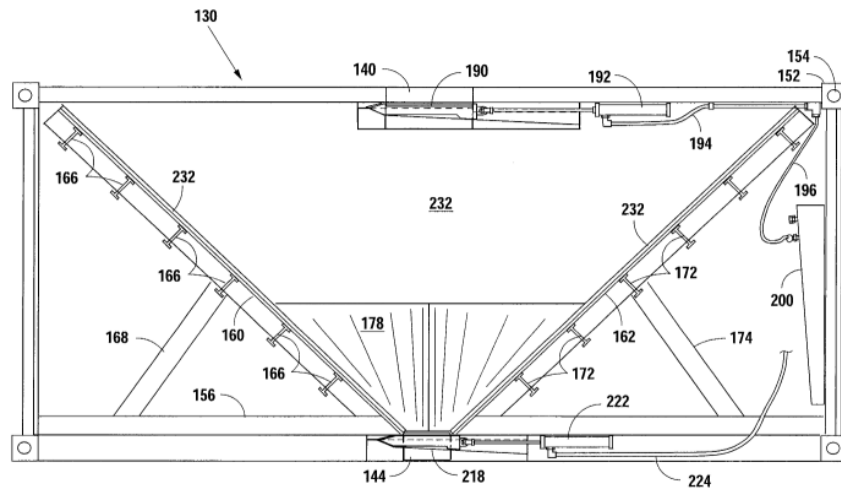


Fig. 16

See also Ex. 1002 (Sheesley) Fig. 5, Fig. 17. Moreover, each of Sheesley’s figures portraying doors *also* portray cut-outs for the described control panels, indicating that those figures are portraying the same side of the containers (*i.e.*, the side with doors 132 and 134, handles 136 and 138, and control panel openings 148 and 150). See Ex. 1002 (Sheesley) Fig. 3, Fig. 4, Fig. 7, Fig. 8.

Patent Owner also relies on Exhibit 2010 for the proposition that a “POSITA would know that many ISO containers were and are available with doors on both ends, including standard 20 ft. cargo containers as disclosed by Sheesley.” Paper No. 14 (Response) at 27. Patent Owner’s Exhibit 2010 is an archived website describing Triple Eight Containers’ “20ft Double-door” containers. But this website plainly indicates that these “20ft Double-door” containers are an alternative, double-door version of Triple Eight Containers’ standard, single-door 20 ft. container. *See* Ex. 2010 (“As with our standard 20s’...”; “Like our standard 20’s, these double doored containers...”). *See also* Ex. 1017 (expanded view of same webpage, distinguishing between “20ft Double-door” and “20ft Standard” containers). At his deposition, Mr. Smith revealed that he did not research this company’s container offerings and did not know whether its “standard” containers had one set of doors or two. Ex. 1016 (Smith Dep.) at 38:14-39:6.

Finally, although Patent Owner interprets Sheesley’s lack of explicit language as a license to speculate, the ’772 patent specification itself is entirely silent as to the claimed “second different end surface.” Specifically, the ’772 patent describes a “proppant storage apparatus 10” including “a pair of end walls 22 and 24.” Ex. 1001 (’772 patent) at 6:26-28. The patent explains that “the end wall 22 is recessed inwardly,” and has a “convex shape [that] facilitates the ability to funnel the proppant from within the interior volume of container 12 outwardly

through the flow gate 28.” Ex. 1001 (’772 patent) at 6:42-49. In addition, “[a]n inlet 32 is generally positioned at the end wall 22 and opened through the end wall 22 to the interior volume of the container 12.” Ex. 1001 (’772 patent) at 6:53-55. “A vent 34 is also positioned at the end wall 22.” Ex. 1001 (’772 patent) at 6:65-66. Yet nowhere does the ’772 patent state that these features of end wall 22 (convex shape, inlet 32, and vent 34) are *not also present* in end wall 24. Nor does Figure 1 of the ’772 patent demonstrate the absence of these features from end wall 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.

At base, Patent Owner’s speculative arguments are irrelevant. By asserting that a person of ordinary skill in the art reading Sheesley would understand that the back wall could include doors, Patent Owner implicitly acknowledges that a back wall without doors is also disclosed. The proper inquiry is not whether Sheesley also contemplates embodiments with doors on the back wall, but whether a person of ordinary skill in the art would understand Sheesley to teach a compartment with structurally different end surfaces. *See Leggett & Platt, Inc. v. VUTEk, Inc.*, 537 F.3d 1349, 1356 (Fed. Cir. 2008) (“This argument relies on the erroneous assumption that the disclosure of multiple examples renders one example less anticipatory.”). For these reasons, Sheesley teaches this limitation.

V. SHEESLEY TEACHES “VERTICALLY STACKING A PLURALITY OF EMPTY PROPPANT CONTAINERS IN CLOSE PROXIMITY TO A RAIL SPUR”

Claim 1 of the '772 patent requires in part “vertically stacking a plurality of empty proppant containers in close proximity to a rail spur.” Ex. 1001 ('772 patent) at claim 1. Sheesley teaches this limitation.

As explained in the Petition, Sheesley teaches that the modified containers may be stacked while empty. Specifically, Figure 3 of Sheesley offers “a pictorial illustration of the stackability of modified cargo containers, with or without sand therein.” Ex. 1003 (Sheesley) at [0021]. Sheesley also explains that “the modified frac containers may be stacked in any conventional means either while in transit or at the frac site.” Ex. 1003 (Sheesley) at [0018].

Sheesley also teaches that empty containers may be filled with proppant in a stacked configuration. Figure 5 of Sheesley illustrates this process. Ex. 1003 (Sheesley) at [0023]; [0085]; Fig. 5. And while Figure 5 specifically portrays these containers being filled on a rail car, Sheesley makes clear that containers may be filled at any location in the supply chain (which includes, *inter alia*, a rail site). *See* Ex. 1003 (Sheesley) at [0078] (“sand from the sand quarry 30 *or source* can now be loaded by a conveyor . . . to a modified cargo container.”) (emphasis added); claim 21 (“wherein said source may be any point along a supply chain of said proppant.”); [0017] (“The modified cargo containers can then move through

all of the normal modes of transportation, including ship, barge, rail or by truck[.]”); [0019]; [0020]; [0042]; [0049]; [0077]; Fig. 1.

Taken together, these disclosures teach that Sheesley’s containers may be stacked while empty, that these empty containers may be filled² while in a stacked configuration, and that this filling may occur at any point in the supply chain, including at a rail line. And indeed, to fill containers at a rail line, empty containers must be present in close proximity to that rail line. As such, Sheesley teaches that empty containers may be stacked in close proximity to a rail spur. *See Cisco Sys., Inc. v. Focal IP, LLC*, No. IPR 2016-01254, 2017 WL 6611482, at *25 (P.T.A.B. Dec. 27, 2017) (“a reference need not . . . explain every detail since it is speaking to those skilled in the art.”) (quotations omitted).

Nonetheless, Patent Owner disputes that Sheesley teaches stacking empty containers “in close proximity to a rail spur.” It does this through a piecemeal dissection of Sheesley that disregards the interaction between these teachings. This approach is improper. *See In re Wesslau*, 53 C.C.P.A. 746, 353 F.2d 238, 241 (C.C.P.A. 1965) (prior art reference should be considered in its entirety for what it fairly suggests to one skilled in the art); *Cisco*, 2017 WL 6611482, at *25 (“A prior

² To be filled with proppant, such containers must first be empty. It is unclear whether Patent Owner disputes this.

art reference must be considered together with the knowledge of one of ordinary skill in the pertinent art.”) (internal quotations omitted).

The first disclosure that Patent Owner improperly isolates is Figure 3. Patent Owner asserts that Sheesley’s Figure 3 teaches stacking containers *only* at the well site, based on paragraph [0083]’s statement that “[a]t the well site to be fraced, modified cargo containers 270 can be stacked as shown in FIG. 3.” Ex. 1003 (Sheesley) at [0083]; *see* Paper No. 14 (Response) at 16. But this statement simply emphasizes *that* the stackability portrayed in Figure 3 *may be implemented* at the well site. Sheesley’s primary characterization of Figure 3 – “a pictorial illustration of the stackability of modified cargo containers, with or without sand therein” – contains no such spatial limitation. Ex. 1003 (Sheesley) at [0021]. Nor does Patent Owner attempt to explain why, in the context of Sheesley’s disclosure, the stacking capability portrayed in Figure 3 may only be practiced at the well site.

Nor can it, because Sheesley quite clearly teaches that the containers may be stacked in other locations. For example, Sheesley explains that “the modified frac containers may be stacked in any conventional means, either while in transit or at the frac site.” Ex. 1003 (Sheesley) at [0018]. Further, Figure 5 of Sheesley portrays stacked, empty containers being filled with proppant “while sitting on rail car 313.” Ex. 1003 (Sheesley) at [0085].

Patent Owner next addresses Figure 5. Patent Owner argues that, because Figure 5 portrays empty containers stacked on a rail car, “at best, Sheesley discloses *filling* stacked containers *on* a rail car, not ‘*vertically stacking* a plurality of empty containers *in close proximity to* a rail spur.’” Paper No. 14 (Response) at 17 (emphasis by Patent Owner). In other words, because the empty containers in Sheesley’s Figure 5 are positioned on a rail car, a person of ordinary skill in the art would not understand Sheesley to teach stacking empty containers in other locations. There are two issues with this argument.

The first issue is that Patent Owner’s attempt to limit Sheesley to an illustrative example is improper. Sheesley discloses stacking empty containers at various places, and filling these stacked containers anywhere in the supply chain, including at a rail site. Figure 5’s portrayal of stacked containers being filled on a rail line is illustrative, not limiting. *See Ultradent Prod., Inc. v. Life-Like Cosmetics, Inc.*, 127 F.3d 1065, 1068 (Fed. Cir. 1997) (“The district court thus erred by construing the scope of the Rosenthal disclosure as limited to the preferred embodiment.”). By focusing myopically on the illustrative example portrayed in Figure 5, Patent Owner misses the larger teaching of Sheesley: that because Sheesley’s containers may be stacked while empty, and may be filled while stacked at any point in the supply chain (including at a rail site), they may be stacked while empty in close proximity to a rail site. *See Cisco*, 2017 WL

6611482, at *25 (“a reference need not . . . explain every detail since it is speaking to those skilled in the art.”) (quotations omitted).

The second issue is that Patent Owner’s argument relies on the premise that empty containers stacked on a rail car are not “in close proximity to a rail spur.”³ And indeed, Patent Owner does argue that the “’772 Patent makes clear that ‘in close proximity to’ is distinct from ‘on.’” Paper No. 14 (Response) at 17. This is a backdoor claim construction argument, and one which Patent Owner did not raise in the proper course.

Nor would such a claim construction be supported. Patent Owner’s argument hinges on an illustrative embodiment portrayed in Figure 3 of the ’772 patent, and the relative positions of components that are “located on a rail spur” or “adjacent to the bulk material train 64.” “bulk material train 64,” “a vessel 62,” and an “engine 66,” which are “located on a rail spur 68.” Ex. 1001 (’772 patent) at 7:57-59; 7:66-8:01. *See* Paper No. 14 (Response) at 18-19 (“While it is clear that bulk material train 64 and engine 66 are on rail spur 68, it is similarly clear that containers 70, 72, 74, and 76 are situated in close proximity to the rail spur,

³ To be clear, a POSITA would understand that empty containers stacked on a rail car “would necessarily be in ‘close proximity’ to the rail spur.” Ex. 1002 (Schaaf Decl.), ¶ 68.

not on it.”). But Figure 3 merely “shows a system [] of the present invention.”

Ex. 1001 (’772 patent) at 7:54. “It is well established that claims are not limited to preferred embodiments, unless the specification clearly indicates otherwise.”

WesternGeco LLC v. ION Geophysical Corp., 889 F.3d 1308, 1323-24 (Fed. Cir. 2018). Moreover, the ’772 patent is clear that the claimed invention is *not* limited to this illustrative embodiment. Ex. 1001 (’772 patent) at 9:62-66. (“The foregoing disclosure and description of the invention is illustrative and explanatory thereof. Various changes in the details of the illustrated construction can be made within the scope of the appended claims without departing from the true spirit of the invention.”). As such, Patent Owner’s backdoor claim construction argument is without merit.⁴

⁴ Patent Owner also references testimony from Mr. Schaaf’s deposition, stating that containers 70, 72, 74, and 76 are not “on rail line 68[.]” Paper No. 14 (Response) at 19. These statements are inapposite. Mr. Schaaf was answering specific questions about the components portrayed in Figure 3, not offering a universal definition of the terms “on” and “in close proximity to.” Moreover, these questions concerned the position of containers 70, 72, 74, and 76, which has no bearing on the issue disputed by Patent Owner: whether containers on rail cars are “in close proximity to a rail spur.”

For these reasons, Patent Owner's attempts to confine Sheesley's teachings to certain illustrative examples should be rejected.

VI. SHEESLEY TEACHES "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"

Claim 2 of the '772 patent depends from claim 1, and requires in part "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." Ex. 1001 ('772 patent) at claim 2. Sheesley teaches this limitation.

As explained in the Petition, Sheesley teaches vertically stacking filled containers with a loader. For instance, Sheesley teaches the use of "Rough Terrain Cargo Handler 298," which "may be used to pick up and stack the modified cargo containers 270 as illustrated in FIG. 3." Ex. 1003 (Sheesley) at [0083]. Further, as discussed above in Section IV, Sheesley makes clear that containers may be stacked "with or without sand therein" (Ex. 1003 (Sheesley) at [0021]), that they "may be stacked in any conventional means either while in transit or at the frac site," (Ex. 1003 (Sheesley) at [0018]), that they may be filled while stacked (Ex.

1003 (Sheesley) at [0023]; [0085]; Fig. 5), and that this filling may occur anywhere in the supply chain, including at a rail site (Ex. 1003 (Sheesley) at [0019]; [0042]; [0049]; [0077]; [0078]; Fig. 1; claim 21). In light of Sheesley’s disclosures, “a POSITA would understand that multiple containers could be filled and stacked at the rail spur,” and therefore that “Sheesley discloses this limitation.” Ex. 1002 (Schaaf Decl.), ¶¶ 80, 81; Paper No. 1 (Petition) at 33-34.

Patent Owner disputes that “stacking full containers in close proximity to a rail spur” is obvious in light of Sheesley’s teachings. Paper No. 14 (Response) at 28. The crux of Patent Owner’s argument appears to be that, although “Sheesley discloses that modified cargo containers may be filled while stacked on a rail car,” “*on a rail car* is not the same as *in close proximity* to a rail spur.” Paper No. 14 (Response) at 28 (emphasis by Patent Owner). But as discussed above in Section V, Patent Owner’s backdoor claim construction of “in close proximity” is both unsupported and irrelevant. Figure 5 does not circumscribe Sheesley, but rather elaborates Sheesley’s clear disclosure that its containers may be stacked, empty or full, anywhere in the supply chain.

Patent Owner supports its argument by observing that “Figure 3 discloses stacked containers ‘at the well site to be fraced,’ not at the rail spur,” and that “Sheesley teaches that rail spurs and frac sites are distinct.” Paper No. 14 (Response) at 30. As discussed above in Section V, Patent Owner’s artificially

narrow reading of Figure 3 disregards other, non-limiting characterizations of that figure. And while no one disputes that rail spurs and frac sites are distinct, Sheesley does not place limitations on where filled containers may be stacked, but rather teaches that containers may be stacked and filled anywhere in the supply chain, including at a rail site. Ex. 1003 (Sheesley) at [0017]; [0018]; [0019]; [0020]; [0021]; [0042]; [0049]; [0077]; [0078]; Fig. 1.

Patent Owner's final argument is that "Sheesley discloses that its container is offloaded from the rail spur to a flatbed truck and then taken to the frac site to be stored; it does not disclose stacking filled containers in close proximity to the rail spur as claimed." Paper No. 14 (Response) at 31. But Patent Owner misrepresents the scope of claim 2. That claim does not require, as Patent Owner implies, that filled containers are stored for extended periods of time at the rail site. Rather, claim 2 requires "vertically stacking" filled containers "so that one [plurality of] containers overlies another [plurality of] containers to reduce the footprint of the area required for storage of the proppant in close proximity to the rail spur." Ex. 1001 ('772 patent) at claim 2. This claim does not necessitate storing large quantities of proppant at the rail spur. Instead, it requires that, after the containers are filled but before they are moved onto proppant transporting rail vehicles (as required by claim 1), the filled containers are stacked to maximize available space

at the rail site. As such, it is immaterial that Sheesley's filled containers are ultimately taken to the frac site.

Patent Owner also fixates on Mr. Schaaf's use of the word "could," in the context of the statement "a POSITA would understand that multiple containers could be filled and stacked at the rail spur" in light of Sheesley's teachings. Ex. 1002 (Schaaf Decl.), ¶ 81. In Patent Owner's view, "Petitioner [sic] statement that multiple containers *could* be filled with proppant concedes that Sheesley does not *actually* disclose this claim 2 limitation." Paper No. 14 (Response) at 29 (emphasis by Patent Owner). Here, Patent Owner misses the point. Mr. Schaaf was not stating, as Patent Owner suggests, that a person of ordinary skill in the art 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 not . . . explain every detail since it is speaking to those skilled in the art.") (quotations omitted).

VII. SHEESLEY TEACHES “CONVEYING THE PROPPANT FROM ONE OR MORE OF THE PLURALITY OF PROPPANT [F]ILLED⁵ CONTAINERS TO ONE OR MORE PROPPANT TRANSPORTING ROAD VEHICLES ON A SECOND CONVEYOR”

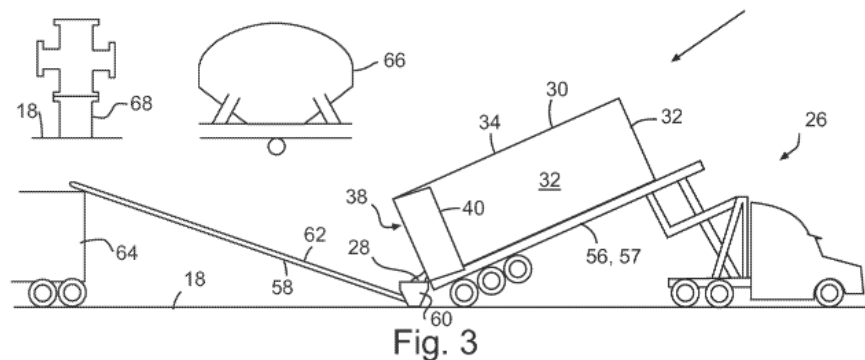
Claim 4 of the ’772 patent depends from claim 1, and requires in part “conveying the proppant from one or more of the plurality of proppant tilled containers to one or more proppant transporting road vehicles on a second conveyor.” Ex. 1001 (’772 patent) at claim 4.

Sheesley renders this limitation obvious. As explained in the Petition, Sheesley teaches that proppant may be unloaded from the filled containers by opening the lower hatch, thus unloading proppant onto a second conveyor which conveys proppant into a blender. Ex. 1003 (Sheesley) at [0084]; [0089]; Fig. 5; Fig. 7. Sheesley also teaches unloading proppant from “the modified cargo container 270 to a bulk sand container 300 at the frac site[.]” Ex. 1003 (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 lower hatch, unloading proppant onto a second conveyor which conveys proppant into proppant transporting road vehicles, particularly where Sheesley discloses the use of a conveyor to unload containers, and that containers may be emptied into

⁵ Petitioner and Patent Owner agree that the claim term “tilled” should be read as “filled.”

bulk proppant containers such as the Sand King,” and therefore that “Sheesley renders this limitation obvious.” Ex. 1002 (Schaaf Decl.), ¶¶ 121, 122; Paper No. 1 (Petition) at 55-56.

This limitation is also rendered obvious by Sheesley in view of Uhryn. Uhryn teaches unloading proppant from “from intermodal transport container 30 into a proppant transfer device 58,” and that “[p]roppant transfer device 58 may comprise one or more of a hopper 60 and a conveyor 62.” Ex. 1005 (Uhryn) at [0020]. Further, Uhryn explains that “[a] mountain mover 64, also called a sand king, may be connected to receive proppant from the proppant transfer device 58,” as shown in Figure 3 of Uhryn.



As explained in the Petition, “a POSITA would understand that the ‘mountain mover’ referenced in Uhryn is a road vehicle capable of transporting proppant,” that “Uhryn . . . teaches conveying proppant from containers to road vehicles,” and therefore that “Sheesley, in combination with Uhryn, renders this limitation obvious.” Paper No. 1 (Petition) at 56-57; Ex. 1002 (Schaaf Decl.), ¶¶ 123, 124.

Patent Owner's primary argument is that neither Sheesley's "bulk sand container 300" nor Uhryn's "mountain mover 64" are a "proppant transporting road vehicle" as claimed. Paper No. 14 (Response) at 36. Specifically, Patent Owner's expert, Mr. Smith, states that "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." Ex. 2008 (Smith Decl.), ¶ 56. This is an oversimplification. For instance, in the relevant timeframe, frac equipment provider Cambelt International offered three "frac sander" models, all of which "allow for transport of a specific frac sand payload 'over the road.'" *See* Ex. 1018. Further, Mr. Smith confirmed at his deposition that "over-the road frac sanders" are "in the same category as the Sand Kings and Mountain Movers and Frac Sanders, they are essentially the same type of unit, and they do go over-the-road." Ex. 1016 (Smith Dep.) at 50:8-14. As such, Patent Owner's assertion that frac sanders cannot transport proppant over a road is inaccurate.

Moreover, Sheesley repeatedly emphasizes that loading proppant into road vehicles is known in the art. For example, in describing known methods of transporting proppant, Sheesley explains that "rail car 42 may be unloaded by conveyer 56 into storage 58 or truck 60." Ex. 1005 (Sheesley) at [0044]. As such, Sheesley's detailed description of prior art methods also teaches this limitation. *See In re Applied Materials, Inc.*, 692 F.3d 1289, 1298 (Fed. Cir. 2012) ("A

reference must be considered for everything that it teaches, not simply the described invention or a preferred embodiment.”).⁶

Patent Owner also argues that “it would be contrary to the teachings of Sheesley to unload a container filled with proppant into a separate proppant transporting road vehicle.” Paper No. 14 (Response) at 38. For support, Patent Owner references Sheesley’s emphasis on reducing the number of times that proppant is handled. *See* Ex. 1003 (Sheesley) at [0017]; [0009]. To the contrary, Sheesley does not teach the complete elimination of transferring or handling sand, but rather merely explains that Sheesley’s modified containers “can carry sand all the way from the quarry to the ultimate destination of a fracing site without repeated handling of the sand.” *See* Ex. 1003 (Sheesley) at [0015]. To be sure, Sheesley emphasizes that handling is reduced, but certainly still contemplates that

⁶ While Petitioner’s expert did not find it necessary to rely on this particular disclosure in Sheesley, Patent Owner’s Response makes this disclosure relevant. *See Growlerwerks, Inc. v. Drink Tanks Corp.*, No. IPR 2017-00262, 2018 WL 1037399, at *4 (P.T.A.B. Feb. 21, 2018) (“As the Federal Circuit has explained, however, “expert testimony is not required when the references and the invention are easily understandable.”) (quoting *Wyers v. Master Lock Co.*, 616 F.3d 1231, 1242 (Fed. Cir. 2010)).

some handling may still happen. *See* Ex. 1003 (Sheesley) at [0082] (‘By just comparing FIGS. 1 and 2, it can be easily seen that the sand is being handled *fewer times* by the use of the modified cargo container 270.’) (emphasis added). Indeed, immediately prior to making this argument, Patent Owner addresses one example of a post-container transfer: Sheesley’s disclosure of unloading proppant from “the modified cargo container 270 to a bulk sand container 300 at the frac site[.]” Ex. 1003 (Sheesley) at [0083]. As such, Sheesley can hardly be said to explicitly teach away from this step. *See Santarus, Inc. v. Par Pharm., Inc.*, 694 F.3d 1344, 1355–56 (Fed. Cir. 2012) (“A statement that a particular combination is not a preferred embodiment does not teach away absent clear discouragement of that combination.”) (quotations omitted).

Finally, Patent Owner fixates again on Mr. Schaaf’s use of the word “could.” *See* Paper No. 14 (Response) at 33 (“Petitioner’s argument about what a POSITA *could* have done is legally insufficient to make a prima facie case of obviousness.”) (emphasis by Patent Owner). Again, Patent Owner misses the point. Mr. Schaaf explained that, in light of Sheesley’s disclosures, “a POSITA would understand that proppant could just as easily be unloaded from filled containers by opening the lower hatch, unloading proppant onto a second conveyor which conveys proppant into proppant transporting road vehicles[.]” Ex. 1002 (Schaaf Decl.), ¶ 121; Paper No. 1 (Petition) at 55-56. In that same sentence, Mr. Schaaf explained that a

POSITA would reach this conclusion because “Sheesley discloses the use of a conveyor to unload containers, and that containers may be emptied into bulk proppant containers such as the Sand King.” Ex. 1002 (Schaaf Decl.), ¶ 121. Mr. Schaaf was not simply speculating about modifications that could be made to Sheesley, as Patent Owner suggests. Instead, he was identifying the specific teachings of Sheesley that would inform a person of ordinary skill in the art that Sheesley discloses this limitation. *See Cisco*, 2017 WL 6611482, at *25.

VIII. CONCLUSION

For the foregoing reasons, and those set forth in the Petition, claims 1-11 of the '772 patent are obvious in view of the prior art.

Dated: August 5, 2019

Respectfully submitted,

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CERTIFICATE OF SERVICE

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CERTIFICATE OF COMPLIANCE WITH 37 C.F.R. § 42.24

I hereby certify that this Petition complies with the word count limitation of 37 C.F.R. § 42.24(c)(1) because the Petition contains 5,572 words, excluding the cover page and the parts of the Petition exempted by 37 C.F.R. § 42.24(c).

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