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Paper 27
Entered: June 13, 2018

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GRIT ENERGY SOLUTIONS, LLC,
Petitioner,

v.

OREN TECHNOLOGIES, LLC,
Patent Owner.

Case IPR2017-00768
Patent 8,585,341 B1

Before MITCHELL G. WEATHERLY, KEVIN W. CHERRY, and MICHAEL L. WOODS, *Administrative Patent Judges.*

WOODS, *Administrative Patent Judge.*

FINAL WRITTEN DECISION
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

Grit Energy Solutions, LLC ("Petitioner"), filed a Petition (Paper 2, "Pet.") requesting *inter partes* review of claims 1–7 of U.S. Patent No. 8,585,341 B1 (Ex. 1001, "the '341 patent"). Pet. 6. We issued a Decision to Institute an *inter partes* review of all challenged claims (claims 1–7) under all grounds, namely, Grounds 1 and 2. *Compare* Pet. 6 (identifying Ground 1 as challenging claims 1–3 and 5 as unpatentable over Eng Soon and Constantin and identifying Ground 2 as challenging claims 4, 6, and 7 as unpatentable over Eng Soon, Constantin, and Olson), *with* Paper 8, 29 (instituting under Grounds 1 and 2); *see also infra* Part II.D (providing citations to prior art references).

After institution of trial, Oren Technologies, LLC ("Patent Owner") filed a Patent Owner Response (Paper 15, "PO Resp."), to which Petitioner replied (Paper 17, "Pet. Reply"). Petitioner also filed a Motion to Seal, which seeks to seal portions of Petitioner's confidential information and non-party Liberty Oilfield Services, LLC ("Liberty") confidential information.[1] Paper 18, 1. Petitioner also filed a protective order seeking to protect this confidential information. *Id.*

Oral argument was conducted on April 17, 2018, and the transcript of the hearing has been entered as Paper 26.

We have jurisdiction under 35 U.S.C. § 318(a). After considering the evidence and arguments of both parties, and for the reasons set forth below, we determine that Petitioner has not met its burden of showing, by a

[1] Petitioner also filed several redacted versions of the related exhibits, as well. *See* discussion *infra* Part IV.

preponderance of the evidence, that any of claims 1–7 of the ’341 patent are unpatentable.

II. BACKGROUND

A. The ’341 patent (Ex. 1001)

The ’341 patent relates to storage containers for proppant, which is a material (e.g., sand) that is introduced into rock channels to prevent the channels from closing during hydraulic fracking. *See* Ex. 1001, 1:37–58. The ’341 patent explains that large amounts of proppant is required in fracturing operations (*id.* at 2:12–13) and one of the objects of the patent is “to provide a proppant storage container that allows proppant to be easily transported and stored” (*id.* at 7:28–30).

To illustrate the ’341 patent’s container, we reproduce Figures 1 and 3, below:

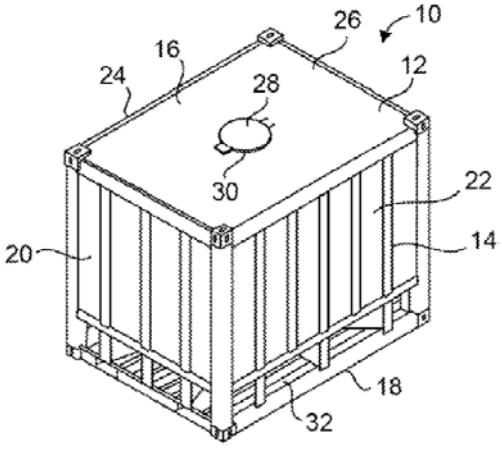


FIG. 1

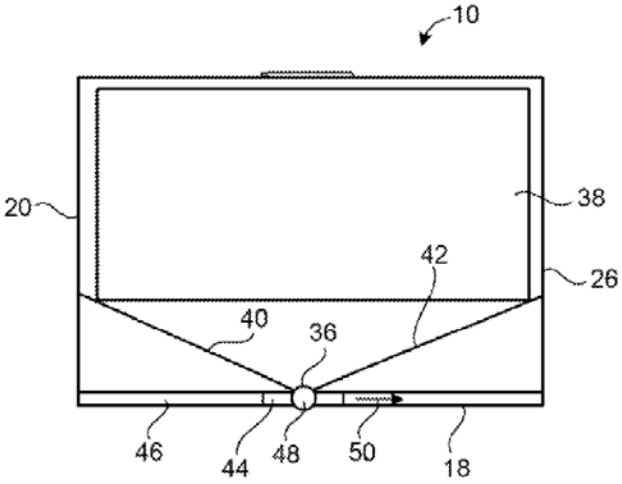


FIG. 3

Figures 1 and 3 depict a perspective view and a cross-sectional view of container 10, respectively. *Id.* at 9:37–43, 66. Container 10 has hatch 30 over inlet 28 for allowing proppant to be introduced into its interior volume 38. *Id.* at 10:6–8, 43–45. Container 10 also has ramps 40, 42 for

funneling proppant within volume 38 toward outlet 36, located at bottom 18 of the container. *Id.* at 10:48–50. Gate 44 is positioned within track 46 for covering outlet 36. *Id.* at 10:45–52. Gate 44 includes pin 48, which can be connected to an actuator for opening and closing the gate. *Id.* at 10:53–57. Container 10 can also be placed upon a support structure. *Id.* at 11:15–20.

To illustrate the support structure, we reproduce Figure 5, below:

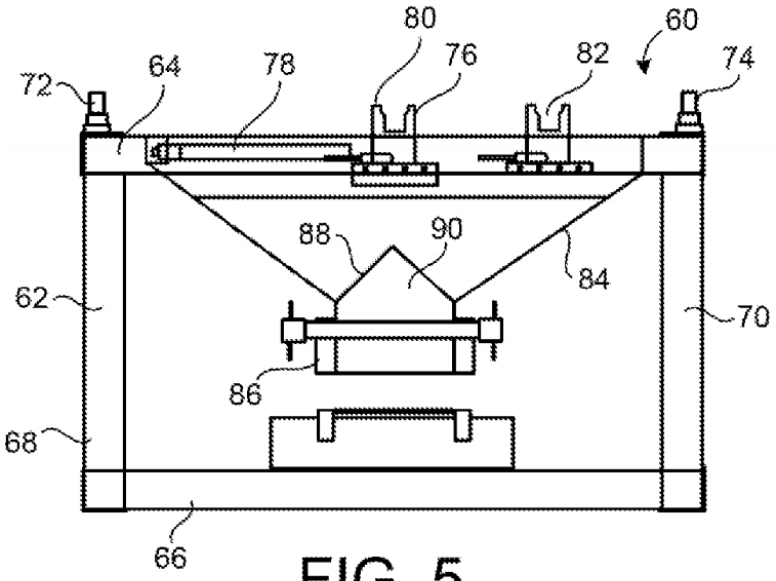


FIG. 5

Figure 5 depicts support structure 60 with frame 62, bottom surface 66, sides 68, 70, and top surface 64, upon which container 10 can be placed. *Id.* at 11:15–20. Hopper 84 is positioned below top surface 64 and functions to receive proppant discharged from the container's outlet 36 when gate 44 is open. *Id.* at 11:41–45. Hopper 84 can be used for metering proppant onto conveyor 86, located below opening 88. *Id.* at 11:45–47. Metering gate 90 opens to achieve a desired flowrate of proppant onto conveyor 86. *Id.* at 12:22–24. Structure 60 also includes actuator 78 with receptacle 76 for receiving pin 48 of container 10's gate 44. *Id.* at 11:26–33.

Once receptacle 76 receives container 10's pin 48, gate 44 of container 10 can be moved from open to close with actuator 78. *See id.* at 11:26–33

We reproduce Figure 7, below, which shows container 10 placed on support structure 60.

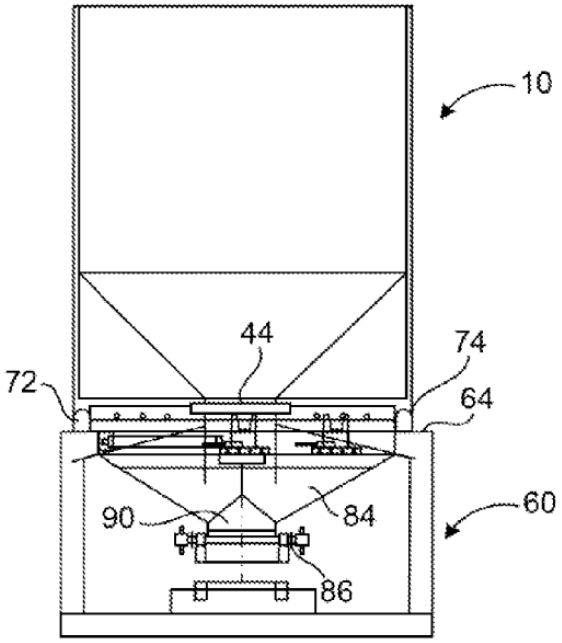


FIG. 7

According to the '341 patent, Figure 7 depicts a preferred embodiment with container 10 on support structure 60. *Id.* at 9:51–53; 12:11–12. Prior to positioning, gates 44 and 90 are closed. *See id.* at 12:14–16. Once container 10 is positioned on structure 60, gate 44 can be opened to discharge proppant into hopper 84. *Id.* at 12:16–20. When it is later desired to transfer the proppant from hopper 84 onto conveyor 86, metering gate 90 is opened. *Id.* at 12:20–24.

B. Related Matters

Petitioner is a defendant in a lawsuit involving the '341 patent. Pet. 3 (referencing *SandBox Logistics, LLC v. Grit Energy Solutions, LLC*, Case No. 3:16-cv-00012-GCH (S.D. Tex.)).

C. Illustrative Claim

Of the challenged claims, claims 1 and 6 are independent. Ex. 1001, 14:66–16:20. Claim 1, reproduced below, illustrates the claimed subject matter:

> 1. A proppant discharge system comprising:
>
> a container having a bottom and a pair of sidewalls and a pair of end walls and a top, said container having an inlet formed at or adjacent to said top, said container having an outlet formed at said bottom, said container having a gate slidably affixed at said outlet so as to be horizontally movable between a first position covering said outlet and a second position opening said outlet, *said gate having a pin fixedly affixed thereto, said pin extending outwardly of said gate*; and
>
> a support structure having a top surface and an actuator, said container being removably positioned on *said* top surface of said support structure, said actuator having a receptacle, said actuator for moving said receptacle horizontally adjacent said top surface of said support structure, *said pin of said gate engageable with said receptacle when said container is positioned on said top surface of said support structure,* said actuator for moving said gate from said first position to said second position.

Id. at 14:65–15:17 (emphases added).

D. References

Petitioner relies on the following references:

Name	Reference	Ex. No.
Eng Soon	US 7,252,309 B2, issued Aug. 7, 2007	1002
French Constantin	French Patent Application No. 2,640,598 A1, published June 22, 1990	1003
Constantin	English translation of French Constantin, Exhibit 1003	1004
Olson	US 5,803,296, issued Sept. 8, 1998	1007

E. Grounds Asserted

Petitioner contends that claims 1–7 of the '341 patent are unpatentable under the following two grounds:

Basis	Prior Art	Claim(s)
§ 103	Eng Soon and Constantin	1–3 and 5
§ 103	Eng Soon, Constantin, and Olson	4, 6, and 7

Pet. 6.

Petitioner also relies on the declaration testimony of Dr. Gary R. Wooley (Ex. 1015) in support of the grounds. *Id*. at 7 n.1.

III. ANALYSIS

A. Claim Construction

We determine that no claim term requires express construction for the purposes of this Decision. *See Wellman, Inc. v. Eastman Chem. Co.*, 642 F.3d 1355, 1361 (Fed. Cir. 2011) ("[C]laim terms need only be construed 'to the extent necessary to resolve the controversy.'") (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

B. Eng Soon and Constantin

Petitioner contends that claims 1–3 and 5 are unpatentable over Eng Soon and Constantin. Pet. 20.

1. Eng Soon (Ex. 1002)

Eng Soon describes containerized handling, stockpiling, and batching of bulk materials (Ex. 1002, 1:6–9) and purports to disclose novel containers and a system for handling these materials (*id.* at 2:9–11). To illustrate Eng Soon's system, we reproduce Figure 10, below:

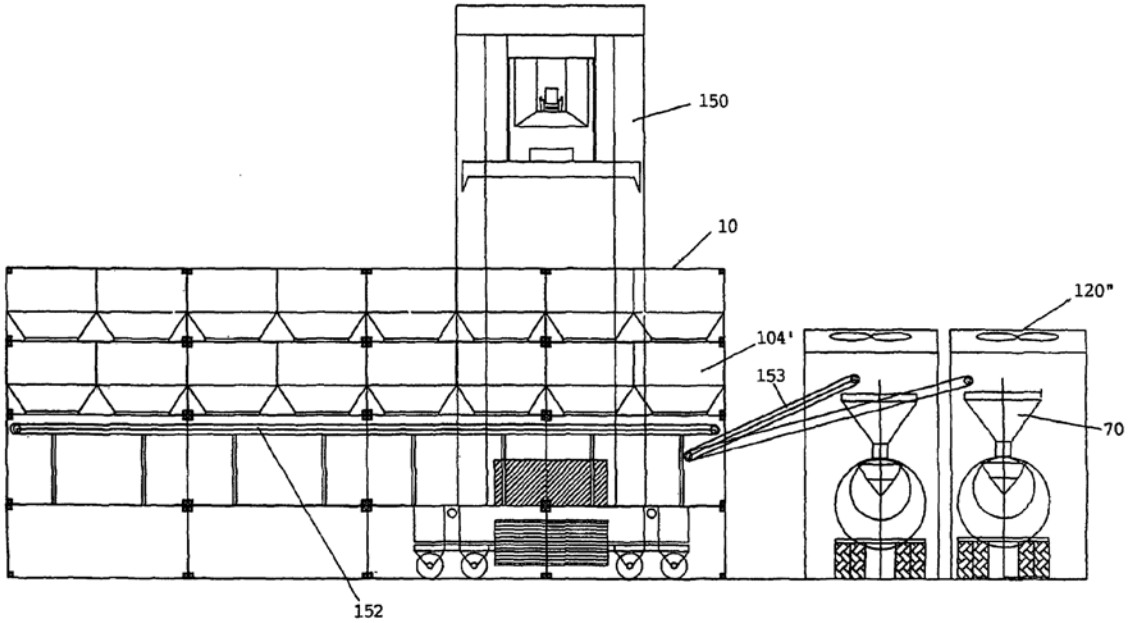
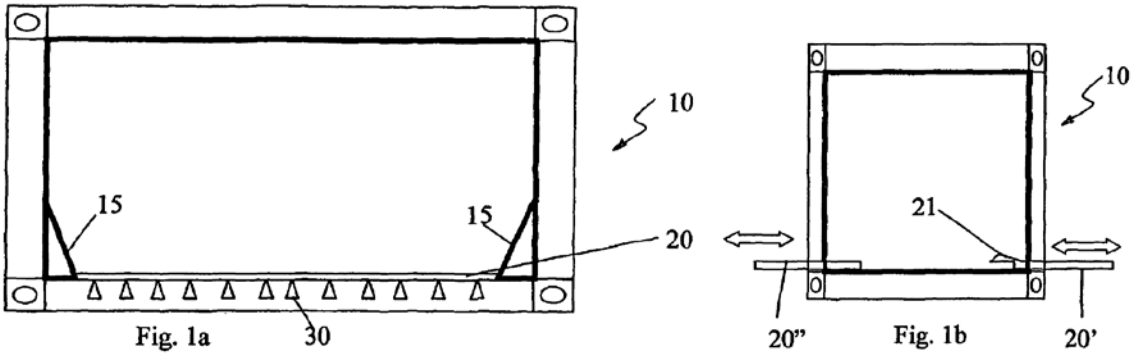


Fig. 10

Figure 10 depicts a "system for containeri[z]ed handling of raw materials at a concrete production plant." *Id.* at 3:47–48. In this particular embodiment, transtainer 150 loads and unloads material supply containers 10 onto stock containers 104′. *Id.* at 11:5–8. Once supply container 10 is placed on stock container 104′, the bottom of supply container 10 can be opened to discharge material into stock container 104′. *See id.* at 3:4–6, 2:15–20. Below stock container 104′ is scaling

conveyor 152, which feeds the material onto link conveyor 153. *Id.* at 11:11–14. Link conveyor 153 then discharges the material into stations 70. *Id.*

Figures 1A and 1B further illustrate container 10 and are reproduced below:



As described in Eng Soon, Figures 1A and 1B depict containers 10 having sliding base plate 20, which can slide open to allow materials to exit the bottom of the container. *Id.* at 3:26–27, 3:61–4:2. Base plate 20 may be a single piece (shown in Fig. 1A) or made of two pieces 20′, 20″ (shown in Fig. 1B). *Id.* at 3:61–4:13. Eng Soon also discloses the presence of actuators for opening and closing base plate 10. *See id.* at 5:18–23; *see also id.* at 7:59–64.

2. Constantin (Exs. 1003, 1004)[2]

Constantin discloses "a device for shutting-off orifices used for transferring a product . . . from one container to another." Ex. 1004, 1. To illustrate Constantin's device, we reproduce Figure 1, below:

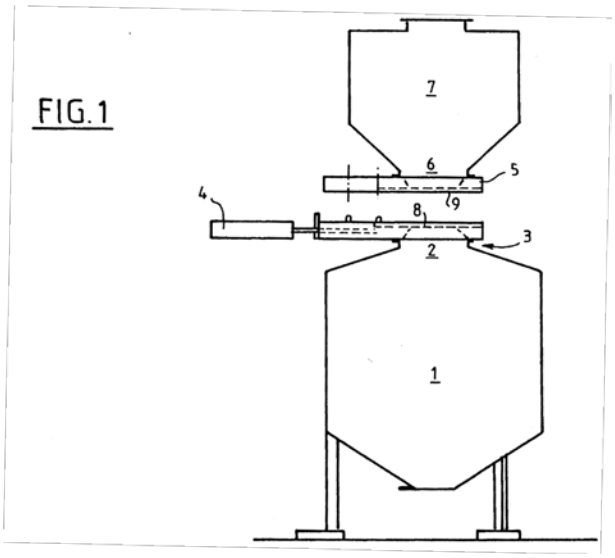


Figure 1 depicts Constantin's mobile container 7 for placement over fixed container 1. *Id.* at 5. Mobile container 7 has lower orifice 6, shutter device 3, and shutter blade 9. *Id.* at 4–5. Fixed container 1 has filling orifice 2, shutter device 5, and shutter blade 8. *Id.* at 5. In operation, shutter blades 8, 9 slide to open orifices 2, 6, respectively, thereby allowing product to transfer from mobile container 7 to fixed container 1. *See id.* at 4–5, Abstr.

[2] References to Constantin will be to the English-language translation, Exhibit 1004.

To further illustrate Constantin's shutter devices 3, 5, we reproduce Figure 3, below:

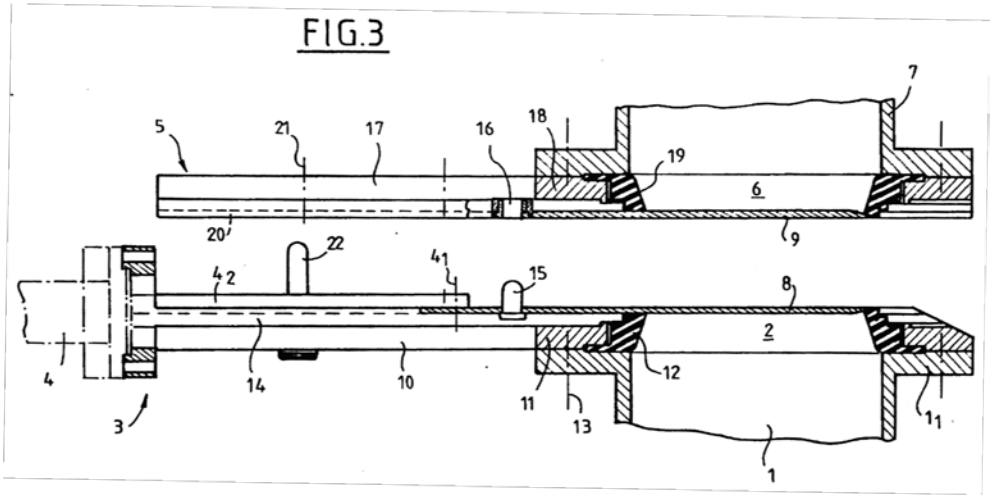
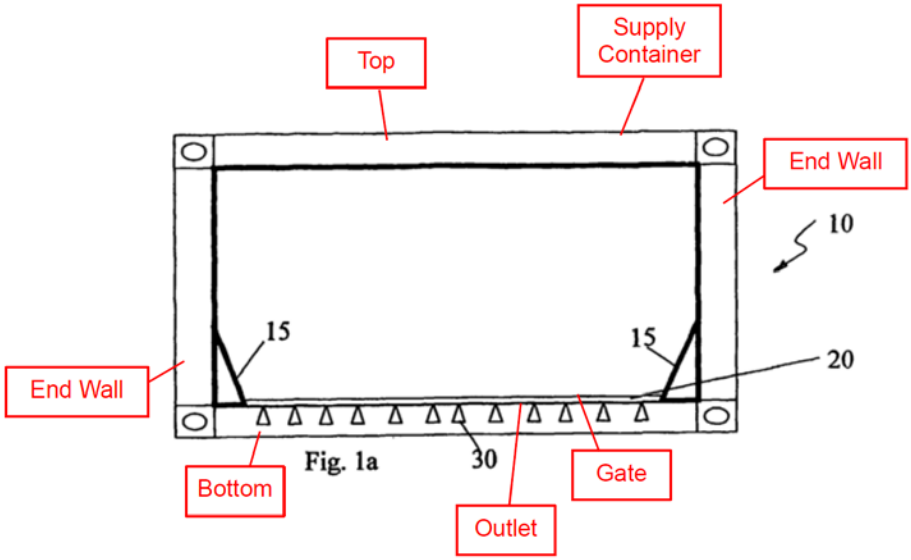


Figure 3 depicts shutter devices 3, 5 with shutter blades 8, 9. *Id.* at 5. Shutter blade 8 includes stud 15 that engages with orifice 16 of opposing shutter blade 9. *See id.* When stud 15 is inserted in orifice 16, actuator 4 (attached to shutter blade 8) provides for simultaneous opening and closing of orifices 2, 6 through the simultaneous sliding of shutter blades 8, 9—which are now engaged with one another. *See id.* at 5–6; *see also id.* at Fig. 4 (depicting shutter devices 3, 5 engaged).

3. Independent Claim 1 and its Dependent Claims 2, 3, and 5

In addressing the claimed "container," Petitioner relies on Eng Soon's supply container 10 (Pet. 24–27) and submits an annotated copy of Eng Soon's Figure 1A (*id.* at 26), which we reproduce below:

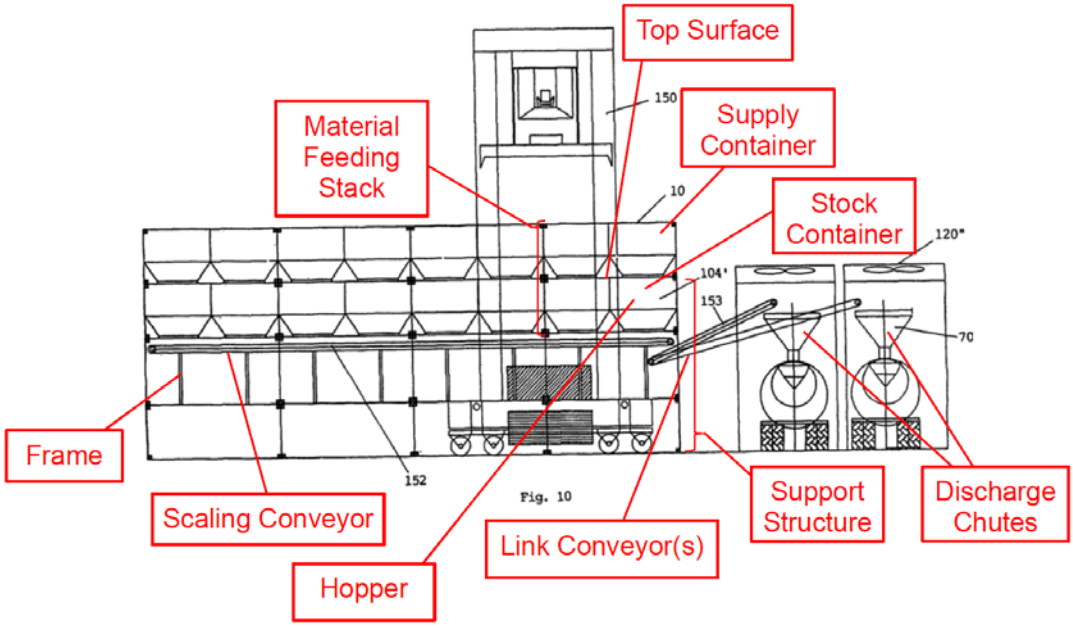


ES's FIG. 1A: supply container 10, shown with a single-piece gate in a closed position (annotated)

According to Petitioner, and as shown in the above figure, Eng Soon's container 10 meets the claimed "bottom," "pair of end walls," "pair of sidewalls" (by virtue of being a rectangular freight container), "inlet formed at or adjacent to said top" (citing Eng Soon's Abstract in explaining that the top can be opened), "an outlet formed at said bottom," and "a gate slidably affixed at said outlet." *See id.* at 25–27.

In addressing the claimed "support structure" for supporting the container, Petitioner relies on Eng Soon's stock container 104′ and the corresponding structure that supports stock container 104′ (*id.* at 28), and

provides an annotated copy of Eng Soon's Figure 10 (*id.* at 22), which we reproduce below:



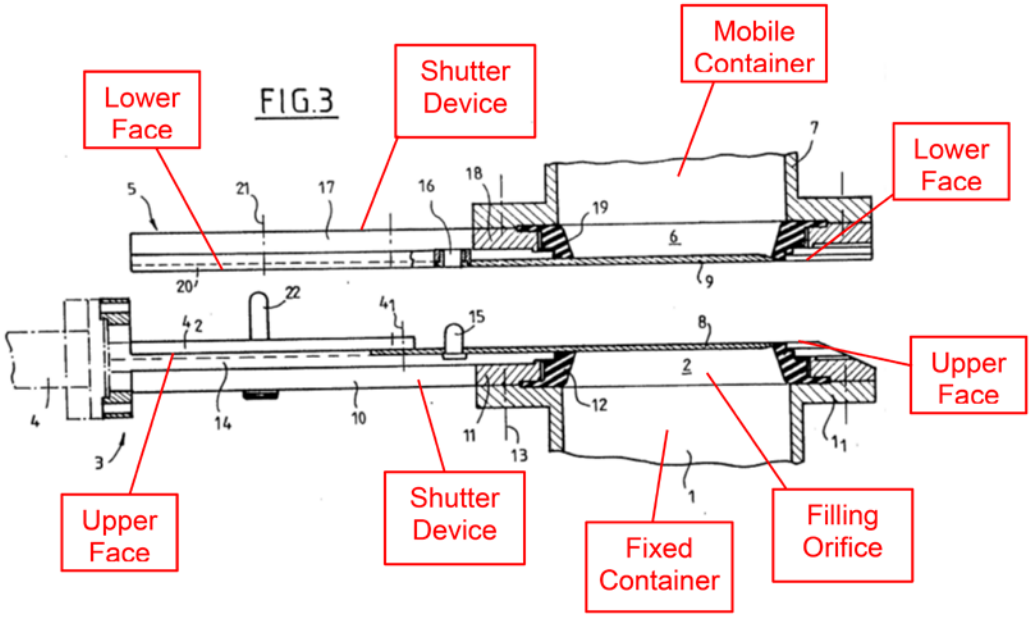
Petitioner asserts that Figure 10 illustrates supply container 10 (the claimed "container") removably stacked and supported on top of stock container 104′ (the claimed "support structure"). *Id.* at 22 (citing Ex. 1002, 11:5–8). In citing Dr. Wooley's testimony, Petitioner asserts that stock container 104′, and the structure that supports it, satisfy the claimed "support structure, because they support the weight of the supply container [10] and any materials within the supply container [10] above ground level." *Id.* at 28 (citing Ex. 1015 ¶ 53).

In addressing the claimed "support structure having . . . an actuator," Petitioner cites to Eng Soon's disclosure of actuators for operating the gate, or base plate, of supply container 10. *Id.* at 35 (citing Ex. 1002, 5:18–21 ("the actuators . . . for operating the base plate . . . of container 10 . . . are mounted in the structure on which container 10 . . . sits")); *see also id.*

at 7:59–64 ("actuators . . . could be similarly installed . . . on a stock container **104**.").

To satisfy the claimed "actuator having a receptacle" and the claimed "gate having a pin fixedly attached thereto . . . [and] engageable with said receptacle" for moving the gate, Petitioner relies on a combination of Eng Soon and Constantin. *See* Pet. 58, 59 (claim chart, elements 1d, g). Specifically, in combining Eng Soon with Constantin, Petitioner cites to Eng Soon's disclosure that "a projection at the moving end of the actuator engages with a *catch on the lower side of base plate 20*." *Id.* at 36 (citing Ex. 1002, 5:21–23) (emphasis added). Accordingly, Eng Soon discloses a projection (the claimed "pin") on the actuator and a catch (the claimed "receptacle") on the base plate (the claimed "gate"), rather than a "pin fixedly attached" to the gate, as called for in claim 1. Ex. 1001, 15:5–7.

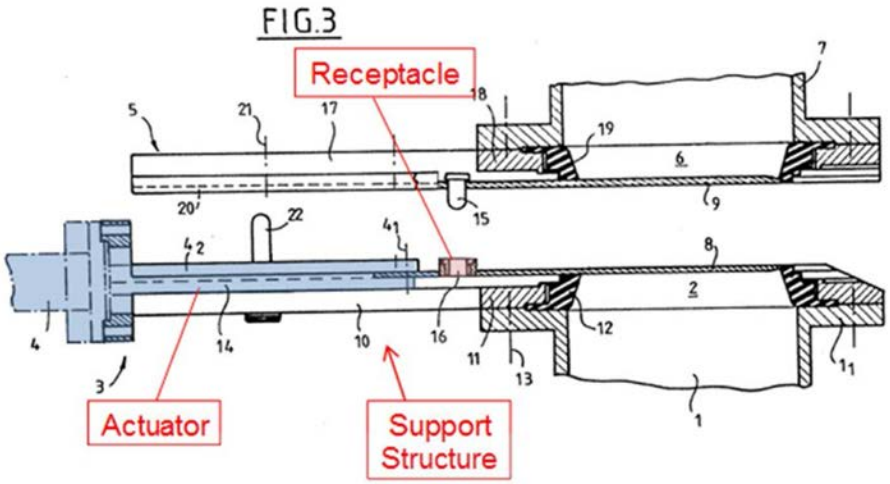
To address this shortcoming, Petitioner relies on Constantin (*see* Pet. 49) and provides an annotated version of Constantin's Figure 3, which we reproduce below:



Constantin's FIG. 3: the FIG. 1 System, shown with the mobile container decoupled from the fixed container (annotated-first version)

According to Petitioner, and as shown in the above-Figure 3, Constantin's shutter blade 9 is a "gate" at lower orifice 6 of mobile container 7 (*id.* at 41 (citing Ex. 1004, 3)), and the "gate" is connected to actuator 4 via stud 15 and orifice 16 (*id.* at 49 (citing Ex. 1004, 4, 5, Fig. 3)). Petitioner acknowledges that, although Figure 3 depicts stud 15 attached to actuator 4 and orifice 16 attached to shutter blade 9, this is merely one of many embodiments. *See* Pet. 49–50 (citing Ex. 1015 ¶ 94). Petitioner submits that Constantin *also discloses* actuator 4 attached to orifice 16. *See id.*

To depict this other embodiment, Petitioner submits the following annotated figure (Ex. 1015 ¶ 85):



As can be seen above, in this allegedly alternate embodiment of Constantin's shutter blade assembly, Constantin's "gate" (blade 9) has a "pin" (stud 15) "fixedly affixed thereto" and the actuator has a "receptacle" (orifice 16) for engaging the pin. In support of its assertion that Constantin discloses this other embodiment, Petitioner cites to Constantin's claim 5, Constantin's page 3, and relies on the declaration testimony of Dr. Wooley. *See* Pet. 49–50.

In combining Eng Soon with Constantin, Petitioner reasons that it would have been obvious to "further modify [Eng Soon] to swap its receptacle and pin *as taught by Constantin* such that the pin was on the lower side of the gate and the receptacle formed part of the actuator." Pet. 53 (citing Ex. 1015 ¶ 76) (emphasis added). Petitioner asserts that "there is no functional difference between these configurations . . . and the result of the modification would have been predictable." *Id.* at 54 (citing Ex. 1015 ¶¶ 76, 94–98); *see also* Paper 26, 45:5–12 ("you could use Constantin's structures in Eng Soon because it would lead to predictable

results. They would function predictably, you would just be substituting one known element for another and nothing unpredictable comes out of it."). Petitioner reasons that the proposed modification would have been obvious "*to reduce slop* between the actuator and the gate, *to ensure that the actuator's movement was completely translated* into movement of the gate . . . , *and to reduce cost or complexity* associated with the modification." *Id.* (citing Ex. 1015 ¶ 76) (emphases added).

4. Analysis

In response to Petitioner's contention that claims 1–3 and 5 are unpatentable over Eng Soon and Constantin, Patent Owner argues, *inter alia*, that a POSITA would not have combined Eng Soon with Constantin as Petitioner has done. *See* PO Resp. 39–56.

We agree. Petitioner sets forth that Eng Soon "discloses all of the limitations of claims 1–3 and 5 except" for the positions of Eng Soon's pin and receptacle, and relies on Constantin for disclosing that "such means can be reversed." *See* Pet. 21–22. Constantin, however, does not disclose the reversal of such structure.

As discussed above, Petitioner relies on Constantin's claim 5 and its description on page 3 for disclosing an *orifice attached to the actuator device* and a stud attached to the opposing shutter blade. *See* Pet. 49 ("Constantin's claim 5 discloses *orifice 16 attached to the actuator device* and stud 15 attached to shutter blade") (emphasis added); *see also id.* at 49–50 ("This interpretation of Constantin's claim 5 is also consistent with Constantin's explanation [on page 3 of Constantin]"). Upon reviewing

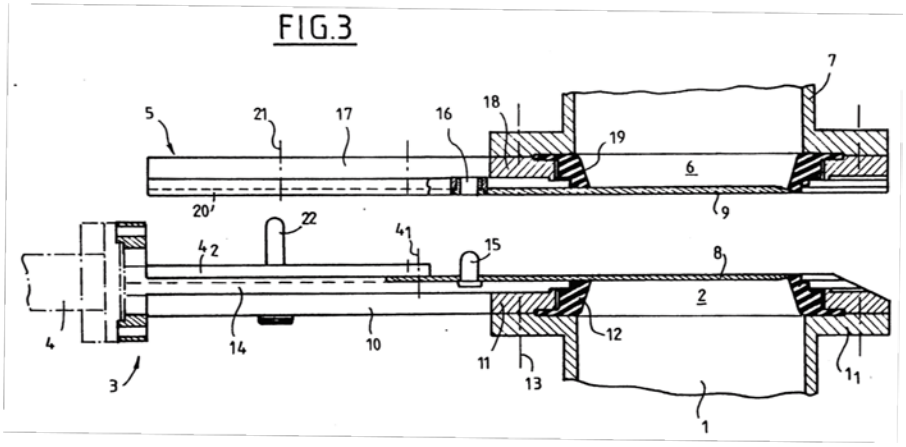
Constantin's claim 5, page 3, and after weighing the declaration testimony of Dr. Wooley and Mr. Smith, however, we disagree with Petitioner.

Focusing first on Constantin's claim 5, we disagree with Petitioner's assertion that this claim discloses an orifice (the claimed "receptacle") attached to an actuator device. *See* Pet. 49. In its entirety, Constantin's claim 5 recites:

> 5) Device according to any one of the preceding claims, characterized in that the means for mechanical connection of the shutters are constituted by *at least one stud (15) provided on one of the shutter blades (8) that lodges in a corresponding orifice (16) of the blade of the other shutter*.

Ex. 1004, 7 (emphasis added). Notably, the relevant portion of claim 5 recites, "at least one *stud (15) provided on one of the shutter blades (8)* that lodges in a corresponding *orifice (16) of the blade of the other shutter*." *Id.* (emphases added). In other words, Constantin's claim 5 discloses *stud 15 provided on shutter blade 8*, which is attached to its *actuator*. Ex. 1004, 4 ("shutter blade 8 is connected [to] actuator 4"). Accordingly, claim 5 discloses that a *stud* is attached to the actuator device, rather than an orifice, as Petitioner asserts, and as required by the challenged claims. *See* Pet. 49.

Constantin's Figure 3, which we reproduce below, further illustrates the structure disclosed in claim 5:



As shown above, and described by Constantin, stud 15 and shutter blade 8 are connected to actuator 4. Ex. 1004, 5 ("shutter blade 8 is connected to . . . actuating actuator 4 [and] . . . shutter blade 8 is provided with a stud 15"). Constantin's "orifice" 16, on the other hand, is attached to shutter blade 9, which is not attached to an actuator. *See id.*

We also find unavailing Petitioner's assertion that claim 5's "shutter blade 8" refers to either the shutter blade on the mobile container or the fixed container. *See* Ex. 1015 ¶ 94 ("[in] Constantin's claim 5 . . . the stud can be on either blade 8 of the mobile container or on blade 9 of the fixed container"). Unlike Constantin's claims 3 and 4, which explicitly recite shutter blade 8 *and* shutter blade 9, *claim 5 recites only shutter blade 8*. As such, we are not persuaded that claim 5's reference to shutter blade 8 describes or suggests the shutter blade for the mobile container—or shutter blade 9—as well. Accordingly, the plain language of Constantin's claim 5 does not support Petitioner's assertion that the claim discloses a "receptacle" (orifice 16) attached to the actuator.[3]

[3] In its Reply, Petitioner submits evidence of French court decisions about how the scope of claim 5 would be interpreted under French patent law. Pet.

We also disagree with Petitioner's argument that page 3 of Constantin supports its position that claim 5 discloses both configurations, including a receptacle attached to its actuator. *See* Pet. 49–50; *see also* Paper 26, 12:20–13:2 (referencing in particular "[t]he second paragraph on page 3").

The first three paragraphs of Constantin's page 3 discloses:

> The same problems arise for all of the shutters of product transfer orifices since these orifices may be located at either one or both ends of a rigid or flexible pipe for product flow.
>
> The object of the present invention is, in particular, to remedy these disadvantages and, for this purpose, relates to a device for shutting off product transfer orifices, in particular from one container to another, these orifices being intended to be placed facing each other in order to enable the transfer of a product, such device being characterized in that the shutters are provided with means ensuring their mechanical connection when the orifices are placed facing each other so that the opening and closing maneuvers of one ensure the simultaneous opening and closing of the other.
>
> According to another characteristic of the invention, the shutter of one of the orifices is provided with an actuating means, while the shutter of the orifice facing it is devoid of actuating means and is operated by the means that ensures the mechanical connection of the two shutters.

Although the third paragraph states generally that one of the shutters has an actuating means, there is nothing in this description to support Petitioner's argument that Constantin's claim 5 describes or suggests a receptacle (for engaging a stud on the opposite shutter blade) attached to the

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Reply 14–15 (citing Ex. 1024 ¶¶ 1–4; Ex. 1021). We interpret the prior art according to the understanding of one of ordinary skill in the art, not according to the understanding of a French patent lawyer. There is no evidence that a person of ordinary skill would understand French patent law and incorporate that law into their understanding of this technical reference. Thus, we do not find this evidence persuasive.

actuator device, as Petitioner would have us believe. *See* Pet. 49–50 ("claim 5 discloses orifice 16 attached to the actuator device and stud 15 attached to shutter blade 8 . . . [and t]his interpretation of Constantin's claim 5 is also consistent with Constantin's [page 3]").

We now turn to the competing testimony of Petitioner's expert—Dr. Wooley (Ex. 1015)—and Patent Owner's expert—Mr. Smith (Ex. 2040).

Dr. Wooley testifies that "[a] person of ordinary skill in the art may consider the positions of stud 15 and orifice 16 in Constantin's FIG. 3 to be a preferred embodiment, but no more . . . [and] that an embodiment having these features inverted, as explained above, was also contemplated by Constantin as evidenced at least by Constantin's claim 5." Ex. 1015 ¶ 94.

Mr. Smith, on the other hand, testifies that Constantin does not disclose an actuator having a receptacle and "Petitioner and Dr. Wooley's argument that Constantin teaches that one could switch the location of stud 15 and orifice 16 is not supported." Ex. 2040 ¶¶ 65–66. Mr. Smith further testifies that "Constantin does not describe the location of stud 15 and orifice 16 as a 'preferred embodiment.' . . . Constantin's disclosure does not disclose or suggest that stud 15 could be switched for orifice 16 on the other shutter blade." *Id.* ¶ 68.

Having considered Petitioner's and Patent Owner's competing evidence and argument, we agree with Patent Owner and credit Mr. Smith's testimony. Specifically, we find that Petitioner has not shown that Constantin teaches, discloses, or suggests its orifice as being attached to its actuator, as Petitioner asserts. *See* Pet. 49. Petitioner's assertion is premised on a misapprehension of Constantin's claim 5.

Having established that Constantin does not teach, disclose, or suggest an orifice attached to its actuator, we also find unpersuasive Petitioner's argument that a POSITA would have modified Eng Soon's structure so as "to fix the pin on the bottom of the gate *as taught by Constantin*." Pet. 54 (emphasis added). Because Petitioner has not shown Constantin teaches or suggests such structure and has failed to provide adequate explanation for why one would have modified Constantin, Petitioner's reasoning is insufficient.

Furthermore, and for at least the following two reasons, we disagree with Petitioner's argument that transposing Eng Soon's pin and receptacle would have been a simple substitution to achieve predictable results. *See* Pet. 54 ("POSITA would have been able to make such a modification, and the result of the modification, and the result of the modification would have been predictable") (citing Ex. 1015 ¶ 76).

First, Petitioner's "simple substitution" argument erroneously relies on Constantin for disclosing an actuator attached to a receptacle. *See id.* Specifically, Dr. Wooley's testimony that the modification would lead to predictable results relies on Constantin's claim 5 for disclosing an orifice attached to its actuator. Ex. 1015 ¶ 76 ("As explained in paragraphs 92, 94, and 98 below, *Constantin discloses* a pin (stud 15) that extends from the lower side of a gate and a receptacle (orifice 16) on an actuator") (emphasis added); *see also id.* ¶ 92 ("Constantin discloses both configurations, as disclosed in Constantin's claim 5"); *see also id.* ¶ 94 ("Even though Constantin shows the stud on the actuator and the orifice on shutter blade 9's gate, *it also teaches that the orifice can be on the actuator* and the stud on the shutter blade 9. *See* Constantin claim 5 . . .") (emphasis added); *see also*

Paper 26, 45:5–12 ("The [simple substitution that would lead to predictable results] position is *you could use Constantin's structures* in Eng Soon because it would lead to predictable results") (emphasis added). Because Petitioner's "simple substitution" argument mistakenly relies on Constantin for disclosing or teaching a receptacle attached to an actuator, Petitioner's reasoning lacks rationale underpinnings.

Second, and as discussed below, Patent Owner presents persuasive evidence that swapping the location of Eng Soon's pin and receptacle would result in a more expensive system. For this additional reason, we are not persuaded that switching the location of Eng Soon's pin and receptacle would have been a simple substitution yielding predictable results at a reduced cost, as argued by the Petitioner.

In particular, Petitioner reasons that transposing Eng Soon's pin and receptacle so that the receptacle is attached to the actuator would *reduce the cost* of Eng Soon's multiple mobile containers. *See* Pet. 54 (citing Ex. 1015 ¶ 76). Petitioner's cost savings argument is premised on an understanding that there are more mobile supply containers than support structures, and the system would be cheaper if the cheaper component—either the stud or orifice—is located on the mobile containers. *See* Ex. 1015 ¶ 77; *see also* Ex. 2040 ¶¶ 73–74. Specifically, Petitioner explains that such a modification would "reduce slop," "ensure that the actuator's movement was completely translated," and "reduce cost or complexity." Pet. 54 (citing Ex. 1015 ¶ 76). Petitioner's reasoning, however, is not supported by persuasive evidence. Neither Petitioner nor Dr. Wooley adequately explain how or why the proposed modification would presumably improve Eng Soon's device by "reducing slop," ensuring its "actuator's movement was

completely translated," or how the modification would "reduce cost or complexity." *See id.* Although Dr. Wooley testifies that "the receptacle is a more complicated feature than the pin so that placing the receptacle on the actuator of the support structure, rather than on the mobile supply containers, would *reduce costs of the supply containers*" (Ex. 1015 ¶ 77 (emphasis added)), Mr. Smith's competing testimony persuades us otherwise (Ex. 2040 ¶¶ 73–76). In particular, we credit Mr. Smith's testimony that "Dr. Wooley's assertion that the orifice is more expensive than the stud is incorrect" and rather than reducing costs, the proposed modification would "*increase* the overall costs of [the] mobile container[s]." Ex. 2040 ¶ 76 (emphasis added); *see also id.* ¶ 75 ("Attaching the stud would result in additional costs."). In support of this particular assertion, Mr. Smith testifies that three-dimensional models were created of Constantin's stud and orifice and submitted to independent machine shops for cost analysis. *See id.* ¶ 76 (citing Exs. 2042, 2043). Based on this analysis, Mr. Smith testifies, "[f]or steel pieces, the stud was 23% more expensive than the orifice" and for aluminum pieces, "the stud was 16% more expensive than the orifice." *Id.* Accordingly, we agree with Mr. Smith that a POSITA would not modify Eng Soon to "reduce cost," as Petitioner proposes (*see* Pet. 54), when doing so would increase the overall cost of the mobile containers (*see* Ex. 2040 ¶ 76).

For the forgoing reasons, we conclude that Petitioner has failed to establish by a preponderance of evidence that the combination of Eng Soon and Constantin renders claims 1–3 and 5 unpatentable as obvious under 35 U.S.C. § 103.

C. Eng Soon, Constantin, and Olson

Petitioner also contends that claims 4, 6, and 7 are unpatentable over Eng Soon, Constantin, and Olson. Pet. 64. In presenting this challenge, Petitioner relies on Olson's disclosure of a *metering gate*, but otherwise relies on the same flawed assertions and reasoning discussed above with respect to the manner in which Eng Soon and Constantin render claim 1 obvious. *See, e.g.*, Pet. 74–77 (referencing in claim charts elements discussed in its challenge based on Eng Soon and Constantin).

For the same reasons that Petitioner has failed to establish by a preponderance of evidence that the combination of Eng Soon and Constantin renders claims 1–3 and 5 unpatentable, we also conclude that Petitioner has failed to establish by a preponderance of evidence that the combination of Eng Soon, Constantin, and Olson renders claims 4, 6, and 7 unpatentable as obvious under 35 U.S.C. § 103.

IV. MOTION TO SEAL

In seeking to keep certain business information of Petitioner and non-party Liberty confidential, Petitioner filed an unopposed Motion to Seal documents that "have not previously been published or made public." Paper 18, 1, 3. ("Motion").

The Motion seeks to seal the following exhibits:

1. Exhibit 1016 — Petitioner moves to seal this exhibit and asserts that Petitioner lacks authority to file this exhibit as a publicly-available document (*id.* at 2);
2. Exhibits 2010, 2021, 2022, and 2044 — Petitioner moves to seal portions of these exhibits as they include "dollar amounts

of funding, ownership shares, and other financial details in the formation of PropX Investments" (*id.*), and submits redacted versions of these exhibits as Exhibits 1025, 1029, 1030, and 1037 (*id.* at ii);

3. Exhibits 2012, 2013, and 2023 — Petitioner moves to seal portions of e-mails and a deposition transcript "that include business, technical, and research and development strategy" information (*id.* at 2), and submits redacted versions of these exhibits as Exhibits 1026, 1027, 1031 (*id.* at ii);
4. Exhibits 2020, 2024, and 2039 — Petitioner moves to seal portions of e-mails and a deposition transcript "that include business, technical, and research and development strategy" information (*id.* at 2), and submits redacted versions of these exhibits as Exhibits 1028, 1032, and 1036 (*id.* at ii);
5. Exhibits 2029 and 2033 — Petitioner moves to seal portions of e-mails "that include employee usernames and passwords and dollar amounts related to compensation packages" (*id.* at 2–3) and submits redacted versions of these exhibits as Exhibits 1033 and 1035 (*id.* at ii); and
6. Exhibit 2032 — Petitioner moves to seal portions of an e-mail and attachment that includes an invoice amount and PropX Solutions bank account information (*id.* at 3) and submits a redacted version of this exhibit as Exhibit 1034 (*id.* at ii).

Petitioner also seeks entry of a jointly proposed, modified version of the Board's Default Protective Order. *Id.* at 1 (referencing the modified version as Appendix A and a red-line version of the modified protective

order as Appendix B). According to Petitioner, the parties agreed to the modified protective order in order "to be consistent with the protective order entered in the concurrent district court litigation." *Id.*

"The Board may, for good cause, issue an order to protect a party or person from disclosing confidential information." 37 C.F.R. § 42.54(a).

Upon considering the content of the Exhibits, including those redacted versions, and Petitioner's representations as to the confidentiality of the information, we determine that Petitioner has shown good cause for sealing Exhibit 1016 in its entirety and the redacted portions of the Exhibits 2010, 2012, 2013, 2020–2024, 2029, 2032, 2033, 2039, and 2044, which redacted versions have been submitted as Exhibits 1025–1037. *Id.* at ii.

Accordingly, we grant Petitioner's unopposed Motion to Seal (Paper 18). We also enter the default protective order as modified and agreed to by the parties and order that it shall govern the conduct of this proceeding.

We further note that in this Final Written Decision, and in reaching a determination with respect to the claims of the '341 patent, we have not relied upon any of the confidential information identified by Petitioner.

V. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that (1) claims 1–3 and 5 of the '341 patent have not been shown to be unpatentable as obvious over Eng Soon and Constantin, and (2) claims 4, 6, and 7 of the '341 patent have not been shown to be unpatentable as obvious over Eng Soon, Constantin, and Olson;

FURTHER ORDERED that Petitioner's Motion to Seal (Paper 18) is granted and that Exhibits 1016, 2010, 2012, 2013, 2020–2024, 2029, 2032, 2033, 2039, and 2044 will be kept under seal;

FURTHER ORDERED that the modified default protective order (Paper 18, Appendix A), agreed to by the parties, is entered; and

FURTHER ORDERED that this is a Final Written Decision. Parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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