

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAINT-GOBAIN ABRASIVES, INC.,
Petitioner,

v.

3M INNOVATIVE PROPERTIES COMPANY,
Patent Owner.

Case IPR2014-01281
Patent 8,424,780 B2

Before RICHARD E. RICE, SCOTT A. DANIELS, and
NEIL T. POWELL, *Administrative Patent Judges*.

RICE, *Administrative Patent Judge*.

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

I. INTRODUCTION

A. Summary

Saint-Gobain Abrasives, Inc. (“Petitioner”) filed a Petition (Paper 1, “Pet.”) for *inter partes* review of claims 1–33 of U.S. Patent No. 8,424,780 B2 (“the ’780 Patent”). We instituted a trial as to all claims. Paper 7 (“Inst. Dec.”), 2. After institution, 3M Innovative Properties Company (“Patent Owner”) filed a Patent Owner Response (Paper 14, “PO Resp.”), to which Petitioner filed a Reply (Paper 20, “Pet. Reply”).

The parties relied at trial on the following references, declarations, and deposition testimony:

Reference	Patent No./Title	Date	Exhibit
Spitznagel	US 5,803,360	Sept. 8, 1998	Ex. 1008
De Schrijver	WO 87/01680	March 26, 1987	Ex. 1009
Kaltenbach	US 3,432,104	March 11, 1969	Ex. 1010
Deaton	US 4,321,922	March 30, 1982	Ex. 1011
Mursa	US 5,094,543	March 10, 1992	Ex. 1012
Packaging Digest	<i>Deep-Draw Thermoforming, Plastic discs scrap waste for disposable containers</i> , PACKAGING DIGEST (a Cahners Publication)	June 1996	Ex. 1013
Declaration of Karl R. Leinsing			Ex. 1002
Declaration of Christopher A. Lampe			Ex. 2001
Declaration of Ross M. McLean			Ex. 2013
Transcript of Deposition of Christopher A. Lampe			Ex. 1027

Transcript of Deposition of Ross M. McLean	Ex. 1029
Transcript of Deposition of Karl R. Leinsing	Ex. 2006

The grounds for trial were as follows:¹

References	Basis	Claims Challenged
Spitznagel and De Schrijver	§ 103(a)	1–8, 12, 23, 24, and 29–33
Spitznagel, De Schrijver, and Kaltenbach	§ 103(a)	9, 10, 13–16, 18, 19, and 25–28
Spitznagel, De Schrijver, Kaltenbach, and Deaton	§ 103(a)	11
Spitznagel, De Schrijver, Mursa, and Packaging Digest	§ 103(a)	13, 15–18, 20, and 21
Spitznagel, De Schrijver, Kaltenbach, Mursa, and Packaging Digest	§ 103(a)	22

An oral hearing was held on November 9, 2015. The transcript of the oral hearing has been entered into the record. Paper 26 (“Tr.”).

We have jurisdiction under 35 U.S.C. § 6(c). The evidentiary standard is a preponderance of the evidence. *See* 35 U.S.C. § 316(e);

¹ In our Institution Decision, we merged the five unpatentability grounds asserted in the Petition into four grounds. *Compare* Pet. 16–17, with Inst. Dec. 15. In the table below, we list the five grounds as originally set forth in the Petition and as organized and argued by the parties in the trial. *See* Pet. 16–17, 41–58; PO Resp. 43–49; Pet. Reply 16–19.

37 C.F.R. § 42.1(d). This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73.

For the reasons explained below, we determine that Petitioner has shown by a preponderance of the evidence that claims 1–8, 12, 23, 24, and 29–33 are unpatentable, but has *not* shown by a preponderance of the evidence that claims 9–11, 13–22, and 25–28 are unpatentable.

B. Related Lawsuit

The '780 Patent is involved in *3M Co. v. Saint-Gobain Abrasives, Inc.*, Case No. 0:14-cv-00128-ADM-FLN (D. Minn.). Pet. 1.

C. The '780 Patent

The '780 Patent (Ex. 1001), titled “Apparatus for Spraying Liquids, and Adapters and Liquid Reservoirs Suitable for Use Therewith,” relates to apparatus for spraying liquids, such as spray guns, and liquid reservoirs for such apparatus, including disposable containers and liners. Ex. 1001, 1:25–29. Figure 6 of the '780 Patent is reproduced below.

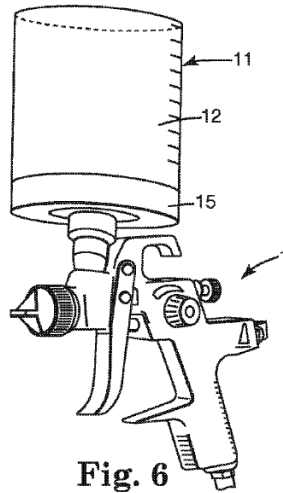


Fig. 6

Figure 6 illustrates spray gun 1, with paint pot 11 attached. *Id.* at 4:18–19, 6:9–30. Figure 2 of the '780 Patent is reproduced below.

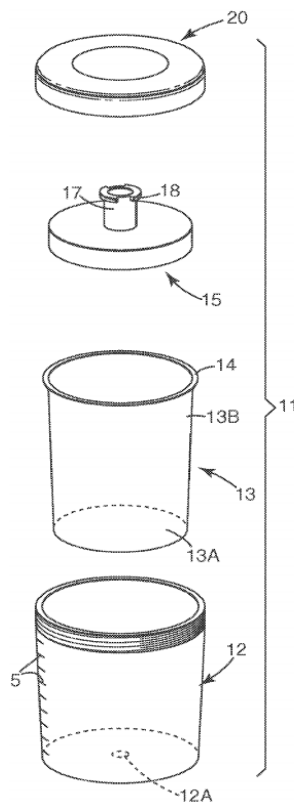


Fig. 2

As shown in Figure 2, paint pot 11 includes open container 12 and disposable liner 13, which closely fits in and corresponds in shape to the interior of the container. *Id.* at 5:25–29. Open container 12 has air hole 12A in its base, and disposable liner 13 has narrow rim 14 at its open end. *Id.* at 5:25–30. Container 12 also has disposable lid 15, which “is a push-fit in the open end of the liner 13” (*id.* at 5:31–32) and includes bayonet connection 17/18 (*id.* at 5:32–35). Lid 15 is held in place on container 12 by annular collar 20, which screws onto the container. *Id.* at 5:37–39.

Paint pot 11 is attached to spray gun 1 by adapter 21. *Id.* at 5:40–42. Figure 3 of the '780 Patent is reproduced below.

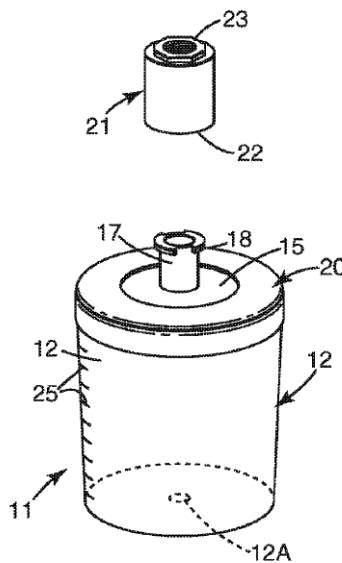
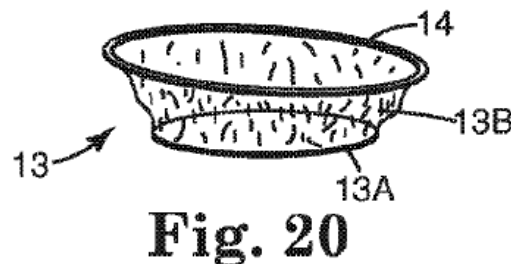


Fig. 3

Adapter 21 and paint pot 11 are shown separately in Figure 3. Adapter 21 has a bayonet connection at one end for connecting to the paint pot, and at the other end, typically, a screw-thread connection for connecting to the spray gun. *Id.* at 5:42–47.

Disposable liner 13 is “collapsible and, preferably, has a comparatively rigid base 13A and comparatively thin side walls 13B so that, when it collapses, it is in the longitudinal direction by virtue of the side walls collapsing rather than the base.” *Id.* at 5:52–55. “In addition, the liner 13 has no pleats, corrugations, seams, joints or gussets, and also no groove at the internal junction of the side walls 13B with the base 13A.” *Id.* at 5:55–58. As further described, “[t]he comparatively rigid base 13A is circular and the liner 13, like the inside of container 12, is generally cylindrical but tapers inwards slightly from the mouth towards the base 13A.” *Id.* at 11:26–28. “The rim portion 14, like the base, is also comparatively rigid but the side walls 13B are flexible and, as already described, can be made to collapse.” *Id.* at 11:29–32. Figure 20 of the ’780 Patent is reproduced below.



As illustrated in Figure 20, “[w]hen the liner 13 collapses, the comparatively rigid base 13A retains its form but moves towards the rim portion 14 of the liner as a consequence of the collapse of the side walls 13B.” *Id.* at 11:34–37.

In use, as paint is used and removed from liner 13, the side walls of the liner collapse as a result of the decreased pressure within the liner. *Id.* at 6:24–26. “The base of the liner, being more rigid, retains its shape so that

the liner tends to collapse in the longitudinal rather than the transverse direction thereby reducing the possibility of pockets of paint being trapped in the liner.” *Id.* at 6:26–30.

When the liner has been emptied of paint, lid 15 can be pulled out of container 12, bringing with it collapsed liner 13. *Id.* at 6:43–45, Fig. 7. Removing and then discarding the lid and liner “leav[es] the container 12 and collar 20 clean and ready for re-use with a fresh liner and lid.” *Id.* at 6:46–47.

D. Illustrative Claims

Claims 1, 4, 12, and 22 are independent. Claims 2, 3, 23–30, and 33 depend, directly or indirectly, from claim 1; claims 5–11 and 31 depend, directly or indirectly, from claim 4; and claims 13–21 and 32 depend, directly or indirectly, from claim 12. Claims 1, 12, and 13 are illustrative of the claimed subject matter, and are reproduced below:

1. A gravity-fed spray gun comprising
a body comprising a conventional screw
thread attachment point for a gravity-fed spray-gun
paint pot; and
an adapter comprising
at a first end, a first connector for
attachment to a connector of a compatible
liquid reservoir, and
at a second end, a second connector
shaped to fit the attachment point on the
body;
the first connector connecting the
compatible liquid reservoir in a manner
different than the conventional screw

threading of the second connector to adapt the connector of the liquid reservoir to the conventional attachment point of the spray gun;

the second connector being attached to the attachment point on the body such that the adapter remains attached to the body upon the removal of the compatible liquid reservoir from the first connector.

Ex. 1001, 15:64–16:13.

12. A kit for use with a gravity-fed spray gun with a conventional screw thread paint pot attachment point comprising

a liquid reservoir comprising a connector tube having a fluid outlet;

an adapter comprising,

at a first end, a first connector for attachment to the fluid outlet, and

at a second end, a second connector shaped to fit the attachment point of the gravity-fed spray gun

the first connector connecting the liquid reservoir in a manner different than the conventional screw threading of the second connector to adapt the connector of the connector tube of the liquid reservoir to the conventional attachment point of the spray-gun, such that the adapter will remain attached to the body upon removal of the liquid reservoir from the first connector.

13. The kit of claim 12 wherein the liquid reservoir comprises a collapsible liner having an open end and a lid for closing the open end, the fluid outlet being located in the lid.

Ex. 1001, 17:1–20.

II. ANALYSIS

A. Claim Construction; Level of Skill in the Art

In an *inter partes* review, the Board gives claim terms in an unexpired patent their broadest reasonable interpretation in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b); *see also In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1278, 1279 (Fed. Cir. 2015) (“We conclude that Congress implicitly approved the broadest reasonable interpretation standard in enacting the AIA” and “the standard was properly adopted by PTO regulation.”), *cert. granted sub nom. Cuozzo Speed Techs. LLC v. Lee*, 84 U.S.L.W. 3218 (Jan. 15, 2016) (No. 15-446). Under that standard, a claim term generally is given its ordinary and customary meaning, as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). While our claim interpretation cannot be divorced from the specification and the record evidence, *see Microsoft Corp. v. Proxyconn, Inc.*, 789 F.3d 1292, 1298 (Fed. Cir. 2015) (quoting *In re NTP, Inc.*, 654 F.3d 1279, 1288 (Fed.Cir.2011)), we must be careful not to import limitations from the specification that are not part of the claim language. *See Superguide Corp. v. DirecTV Enterprises, Inc.*, 358 F.3d 870, 875 (Fed. Cir. 2004). Any special definition for a claim term must be set forth in the specification with reasonable clarity, deliberateness, and precision. *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994).

In this case, the parties assert different definitions of a person of ordinary skill in the art (“POSA”). Patent Owner contends that a POSA would have had a bachelor’s degree in mechanical engineering, or a similar field, or at least two years of experience designing or operating fluid-dispensing devices. PO Resp. 12 (citing Ex. 2001 ¶ 38). In deposition, Patent Owner’s expert, Mr. Lampe, testified that other relevant experience would have included work experience in fields similar to mechanical engineering. Ex. 1027, 16:9–19:19, 22:7–23:20.²

Petitioner agrees that the level of ordinary skill in the art includes a bachelor’s degree in mechanical engineering, or a similar field, or at least two years of experience designing fluid-dispensing devices, but disputes Patent Owner’s contention that the level of ordinary skill includes at least two years of experience operating fluid-dispensing devices. Pet. Reply 3 (citing Ex. 1002 ¶ 16). Petitioner argues that Patent Owner’s definition “is so low that it is met by a person operating a garden hose for two years.” Pet. Reply 3.

Based on the competing arguments and evidence of record we determine that a POSA would have had at least a bachelor’s degree in mechanical engineering, or a similar field, or at least two years of work experience in mechanical engineering, or a similar field.

² Page citations are to the deposition page numbers at the top right of the pages in Exhibit 1027.

1. “*adapter*”

Patent Owner proposes three dictionary definitions for “adapter”:
(1) “a device for connecting pieces of equipment that *cannot be connected directly*”; (2) “a device, mechanism, or fitting used to mate two parts of *different design, shape, or size to each other*”; and (3) a “device for connecting parts *that will not mate.*” PO Resp. 16–17 (citing Exs. 2003, 2004, 2005). Petitioner does not dispute the proposed dictionary definitions. See Pet. Reply 5. We are persuaded that Patent Owner’s proposed dictionary definitions establish the ordinary and customary meanings of “adapter” as would be understood by one of ordinary skill in the art in the context of the entire disclosure and adopt them, collectively, as the broadest reasonable interpretation consistent with the ’780 Patent Specification.

2. “*collapsible liner*”

Petitioner contends that the broadest reasonable construction of “collapsible liner” is “a liner wherein the side walls are capable of distortion so that, by the application of moderate pressure, the rim of the liner can be pushed towards the base of the liner, without the side walls being ruptured.” Pet. 15 (citing Ex. 1002 ¶ 59). In support of its proposed claim construction, Petitioner relies on the following definition of “collapsible” set forth in the Specification:

The term “collapsible” as used herein with reference to the side walls of a container/liner in accordance with the invention indicates that the side walls can be distorted so that, by the application of moderate pressure (e.g. hand pressure), the rim of

the container can be pushed towards the base of the container, without the side walls being ruptured.

Pet. 15 (citing Ex. 1001, 3:60–65). Patent Owner proposes a claim construction that largely tracks Petitioner’s proposed construction, but adds the additional language emphasized below:

The broadest reasonable construction of a collapsible liner is a liner wherein the side walls are capable of distortion so that, by the application of moderate pressure, the rim of the liner can be pushed towards the base of the liner, *or the base of the liner can be pushed towards the rim of the liner*, without the side walls being ruptured.

PO Resp. 13 (emphasis added; citing Ex. 2001 ¶ 42 and Ex. 1001, 3:60–65, 13:12–14). The passage in the Specification cited by Patent Owner in support of the proposed additional language reads as follows: “The liner 13 can also be collapsed by hand by pushing the base 13A of the liner towards the rim 14.” Ex. 1001, 13:12–14. Petitioner does not raise any objection to Patent Owner’s proposed claim construction. See Pet. Reply 10–11.

As discussed above, both parties propose to construe the claim term “collapsible liner” based on the definition of “collapsible” explicitly set forth in the Specification. By its express terms, the definition of “collapsible” in the Specification is “*with reference to the side walls of a container/liner in accordance with the invention.*” See Ex. 1001, 3:60–65 (emphasis added).

The “invention” of the ’780 Patent, as expressly described in the Specification, includes a container having a base and side walls that extend from the base, wherein the base is comparatively rigid and the side walls are

thin in comparison to the base and are collapsible. *Id.* at 2:40–43, 46–51.

The Specification states:

[T]he present invention provides a container comprising a base, and side walls extending from the base; wherein the base and side walls are thermo/vacuum formed together from a plastics material in such a manner that the base is comparatively rigid and the side walls are thin in comparison to the base and are collapsible.

Id. at 2:46–51. Consistent with this description of the “invention,” the Specification describes a collapsible liner having a base, side walls that extend from the base, and an open end with a rim. *See* Ex. 1001, 2:40–43, 46–51, 3:35–40, 5:28–31, 48–55, 6:24–30, 11:26–40, 43–50, 13:9–14, Figs. 2, 19, 20. As illustrated in Figure 20, “[w]hen the liner 13 collapses, the comparatively rigid base 13A retains its form but moves towards the rim portion 14 of the liner as a consequence of the collapse of the side walls 13B.” *Id.* at 11:34–37, Fig. 20.

Having reviewed the Specification, we adopt the claim construction proposed by Patent Owner, clarifying only that the liner has a base, side walls, and a rim. We determine that the broadest reasonable interpretation of “collapsible liner” consistent with the Specification is a liner having a base, side walls, and a rim, wherein the side walls are capable of distortion so that, by the application of moderate pressure, the rim can be pushed towards the base, or the base can be pushed towards the rim, without the side walls being ruptured.

B. Asserted Obviousness

A claim is unpatentable for obviousness under 35 U.S.C. § 103(a) if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. *See KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). A patent claim composed of several elements, however, is not proved obvious merely by demonstrating that each of its elements was known, independently, in the prior art. *Id.* at 418. In analyzing the obviousness of a combination of prior art elements, it can be important to identify a reason that would have prompted one of skill in the art to combine the elements in the way the claimed invention does. *Id.* A precise teaching directed to the specific subject matter of a challenged claim is not necessary to establish obviousness. *Id.* Rather, “any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed.” *Id.* at 420. The question of obviousness is resolved on the basis of underlying factual determinations, including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) objective evidence of nonobviousness, i.e., secondary considerations, if in evidence. *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

1. *Obviousness of Claims 1–8, 12, 23, 24, and 29–33
over Spitznagel and De Schrijver*

a. *Overview of Spitznagel*

Spitznagel discloses a gravity-fed spray gun comprising a swivel joint assembly for connecting the spray gun to a fluid cup. Ex. 1008, 1:35–45.

Figures 1 and 2 of Spitznagel are reproduced below:

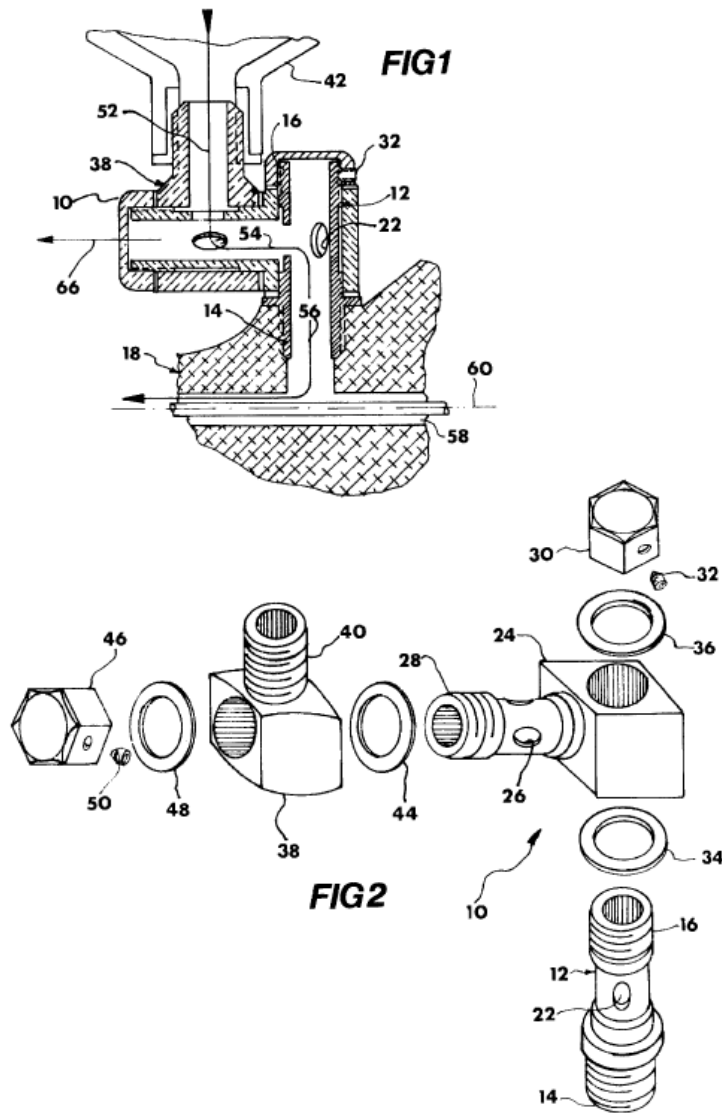


Figure 1 is a cross-sectional view of an embodiment that can be rotated about two different axes, and Figure 2 is an exploded view of the embodiment depicted in Figure 1. *Id.* at 1:58–62. As shown in Figure 2, orthogonal extension 40 has external (male) threads for mounting to fluid cup 42, and nipple 12 has external (male) threads 14 for fastening to spray gun body 18. *Id.* at 2:23–28, 46–48.

b. Overview of De Schrijver

Figures 1 and 2 of De Schrijver are reproduced below.

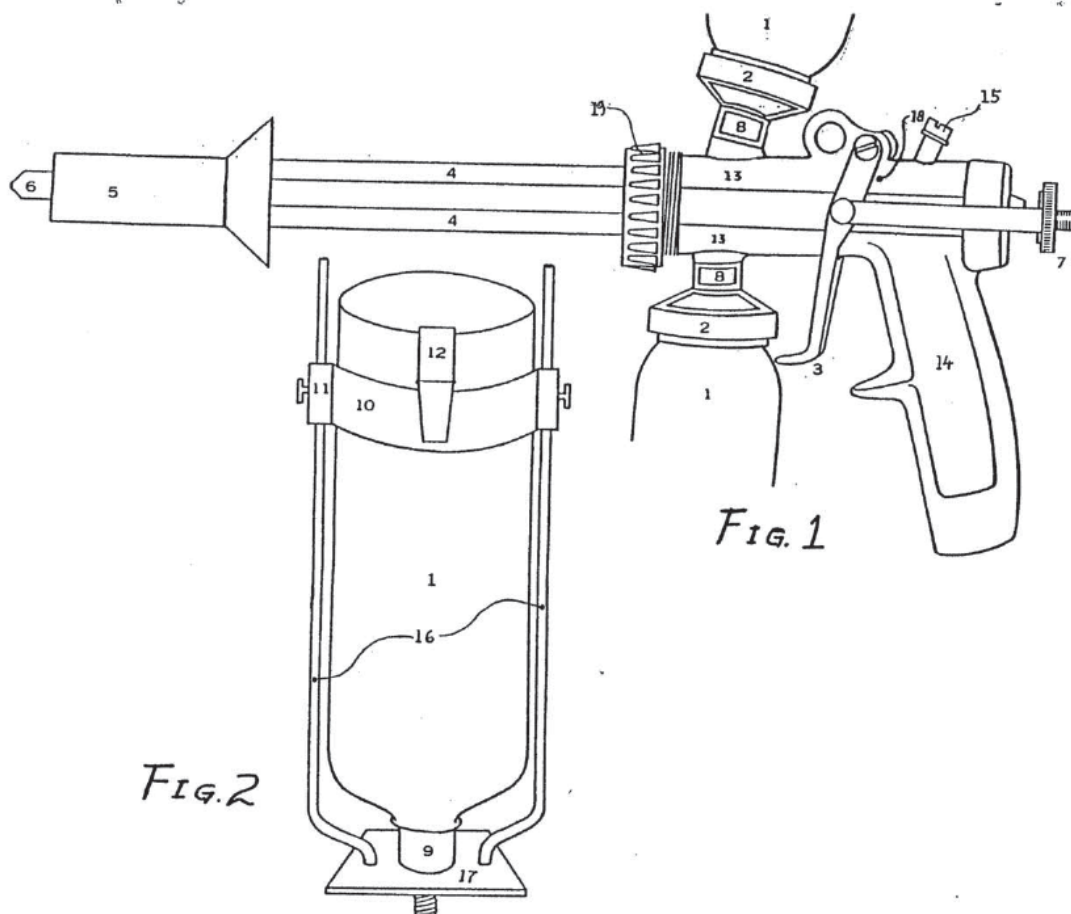


Figure 1 depicts two aerosol containers 1 projecting upward and downward, respectively, from a gun for dispensing flowable substances stored in the containers and fed directly into the gun. Ex. 1009, 2:11–14, 4:20–23.³ Figure 2 discloses a universal mount. *Id.* at 4:30–31. As shown in Figure 1, aerosol container 1 is removably connected to gun frame 18 by adapter 2, “which, with the aerosol nozzle, may form a male-female threaded coupling, bayonet coupling, friction-fit coupling, or the like.” *Id.* at 4:26–30. The adapter may also be in the form of the universal mount depicted in Figure 2. *Id.* at 4:30–31. “The adapter also opens the valve of the aerosol container, in a conventional manner.” *Id.* at 4:32–33.

c. Analysis

In support of its challenge to claims 1–8, 12, 23, 24, and 29–33 as obvious over Spitznagel and De Schrijver, Petitioner presents a detailed claim chart asserting that Spitznagel teaches all limitations of independent claims 1, 4, and 12 except an adapter comprising a “first connector connecting the compatible liquid reservoir in a manner different than the conventional screw threading of the second connector.” Pet. 24–31.

Petitioner argues that De Schrijver remedies that deficiency:

It would have been obvious to have Spitznagel’s adapter employ a well-known non-screw threaded connection. ([Ex. 1002 ¶ 96]) One of skill in the art would know that many types of fluid connections—screw threaded or non-screw

³ Page citations are to the publication page numbers at the top center of the pages in Exhibit 1009.

threaded—were known for a paint gun. (*Id.*) As shown by De Schrijver, a bayonet connection is one of numerous mechanisms by which to couple two components. (Ex. 1009, Page 4:26–30.)

One of skill in the art would be motivated to use a bayonet connection because it provides a relatively quick mechanism to attach and remove a paint reservoir to and from a spray gun. ([Ex. 1002 ¶ 97]) Specifically, a bayonet connection requires a quarter or half-turn to attach components, where a threaded connection may require a number of full turns. (*Id.*) This makes bayonet connections easier to release. (*Id.*)

Pet. 20–21. Petitioner asserts that “[t]he Spitznagel and De Schrijver combination teaches all the limitations of claims 1–8, 12, 23, 24, and 29–33. *Id.*; see *id.* at 22–33.

In opposition, Patent Owner asserts that Petitioner has failed to demonstrate why a POSA “would have been motivated to combine the Spitznagel swivel apparatus with the aerosol bayonet coupling of De Schrijver.” PO Resp. 36. Patent Owner argues that “the Spitznagel swivel apparatus is not an adapter, at least because it does not adapt one connection type to a different connection type,” and that the gravity-fed paint spray gun of Spitznagel is “technically incompatible,” and would not have been combined by a POSA, with the aerosol application gun of De Schrijver, which is “akin to a glue or caulking gun.” *Id.* at 36–37 (citing Ex. 2001 ¶ 80). Patent Owner further argues that “aerosol canisters and gravity-feed guns are fundamentally different devices that use entirely different mechanisms for feeding material to a gun from a reservoir” (*id.* at 37, citing Ex. 2001 ¶ 56), and that “De Schrijver specifically teaches

against using its aerosol spray gun with a gravity-feed system” (*id.*, citing Ex. 1009, 8:18–25⁴).

In addition, Patent Owner argues “there would have been no reason to change the double-threaded connectors of the Spitznagel swivel apparatus to incorporate different connector types at each end of the apparatus,” or “to add a swivel function to the pressurized system of De Schrijver.” *Id.* at 38. Patent Owner further argues that, “[i]n view of the known differences between gravity-feed paint spray guns and aerosol canisters, one of ordinary skill in the art would not have viewed the apparatuses of Spitznagel and De Schrijver to provide for a simple substitution of one known element for another.” *Id.* As a result, Patent Owner concludes, a POSA “would have had no motivation to take the aerosol bayonet coupling of De Schrijver, in combination with the swivel assembly of Spitznagel, to form an adapter for a hypothetical bayonet-connector paint reservoir that is not disclosed by either reference.” *Id.*

Patent Owner also argues that “[o]bjective indicia of nonobviousness furthermore demonstrate that it was not obvious at the time to develop the claimed invention.” *Id.* at 1; *see id.* at 50–58. According to Patent Owner, its PPS™ system, when coupled to a conventional screw-thread attachment point of a gravity-fed paint spray gun by a corresponding adapter, represents a commercial embodiment covered by the challenged claims. *Id.* at 50.

⁴ As indicated above, page citations are to the publication page numbers at the top center of the pages in Exhibit 1009.

Patent Owner asserts that sales in the United States of in-scope systems increased from \$3.4 million in 2001 to \$75.03 million in 2014. *Id.* at 51. Patent Owner argues that “this commercial success is enabled by the in-scope adapters, without which the in-scope PPS™ systems would not be operable with the gravity-feed paint spray guns recited in [the] challenged claims.” *Id.* at 55. Patent Owner also argues that industrial acclaim for the PPS™ system demonstrates that the challenged claims are non-obvious over the asserted prior art. *Id.* at 56–58.

Petitioner argues that Patent Owner has not shown nexus between the claimed invention and either the asserted commercial success or industrial acclaim. Pet. Reply 20–25.

Upon consideration of the competing arguments and evidence of record, we are persuaded by Petitioner that the subject matter of claims 1–8, 12, 23, 24, and 29–33 would have been obvious over Spitznagel and De Schrijver. We provide our reasons below.

First, we agree with Petitioner that Spitznagel’s swivel apparatus is an “adapter.” Pet. Reply 5. As Petitioner argues, Spitznagel’s cup and gun cannot connect directly, because they both have female threads. Pet. Reply 5. The swivel apparatus has male threads at both ends for connecting the cup and gun to each other, and, therefore, is an “adapter” under our claim interpretation. See Ex. 1009, 2:23–28, 46–48. Fig. 2 (describing external/male threads on orthogonal extension 40 at the cup end and nipple 12 at the gun end); *supra* Section II.A.1. As Petitioner points out,

Patent Owner's expert, Mr. Lampe, agreed during his deposition that the swivel apparatus is an adapter. *See* Pet. Reply 5 (citing Ex. 1027, 49:1–4⁵).

Second, we also agree with Petitioner that a POSA would have known that a bayonet connection could have been used at the cup end of Spitznagel's adapter, instead of a threaded connection, for connecting the adapter to the cup. Pet. Reply 6–7 (citing Ex. 1002 ¶ 99, and arguing that “[t]he relevant De Schrijver teaching is that threaded and bayonet connections are substitutable”). We credit the testimony of Petitioner's expert, Mr. Leinsing, that:

Although De Schrijver is related to aerosol guns, it teaches that a variety of mechanisms could be used for attaching components. De Schrijver teaches that two examples of such mechanisms are threaded coupling and bayonet coupling.

Ex. 1002 ¶ 69.

De Schrijver discloses mechanisms for connecting containers to spray guns. . . . As shown by De Schrijver, a bayonet connection is one of numerous mechanisms by which to couple two components.

Id. ¶¶ 95, 96 (citing Ex. 1009, 4:26–30); *see* Ex. 1009, 4:26–30 (“Each aerosol container (1) is removably connected to gun frame 18 by an adapter (2), which, with the aerosol nozzle, may form a male-female threaded coupling, bayonet coupling, friction-fit coupling, or the like.”).

⁵ As indicated above, page citations are to the deposition page numbers at the top right of the pages in Exhibit 1027.

During his deposition, Mr. Leinsing explained credibly that “bayonet coupling . . . [is] a very typical type fluid connection.” Ex. 2006, 40:11–41:4.⁶ Mr. Leinsing supported his testimony by referencing the Kaltenbach prior art reference, which he testified describes a bayonet connection for use with a gravity-fed spray gun. *Id.* at 41:9–43:10. We credit Mr. Leinsing’s testimony that a POSA would have understood Kaltenbach’s quick detachable fluid connection as including a bayonet connection. *Id.* at 41:9–21.

Patent Owner’s opposing argument is unpersuasive. Patent Owner relies on the declaration testimony of its expert, Mr. Lampe, to support its argument that a POSA “would have viewed the bayonet coupling of De Schrijver as requiring an aerosol nozzle as the corresponding structure to its adapter’s ‘bayonet coupling,’” and that a POSA “would also have recognized that an aerosol ‘bayonet coupling’ is not structurally the same as a bayonet connection for a non-aerosol interface, such as in a gravity-feed spray gun, which does not have an aerosol nozzle.” PO Resp. 22 (citing Ex. 2001 ¶ 56). The cited declaration testimony of Mr. Lampe, however, is conclusory, and lacks sufficient supporting evidence and technical explanation.

During his deposition, moreover, Mr. Lampe displayed a lack of technical knowledge about the structure of aerosol bayonet couplings.

⁶ Page citations are to the deposition page numbers at the top right of the pages in Exhibit 2006.

Ex. 1027, 77:20–78:22, 79:7–81:17, 83:22–84:14, 85:19–86:1, 86:7–16, 87:16–88:4, 88:5–90:4, 92:17–93:5. Accordingly, we give little weight to Mr. Lampe’s proffered declaration testimony purporting to compare the structural characteristics of an aerosol bayonet coupling to a non-aerosol bayonet coupling. *See* Ex. 2001 ¶ 56. For the same reason, we give little weight to Mr. Lampe’s testimony that De Schrijver “requires” an aerosol nozzle as the corresponding structure to its adapter’s bayonet coupling. *See id.*

Third, we determine that Petitioner has provided articulated reasoning with rational underpinning sufficient to support the legal conclusion of obviousness. Pet. 20–21; *see KSR*, 550 U.S. at 418 (*citing In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)). Based on Mr. Leinsing’s testimony, one of skill in the art would have been motivated to use a bayonet coupling as disclosed by De Schrijver at the cup end of Spitznagel’s adapter, instead of a threaded connection, for its known benefit of providing a relatively quick mechanism to attach and remove a paint cup to and from a gravity-fed spray gun. *See* Ex. 1002 ¶¶ 96–99.

We have considered Patent Owner’s opposing arguments, but find them unpersuasive. We disagree, for example, that De Schrijver teaches away. PO Resp. 37 (citing Ex. 1009, 8:18–25). While De Schrijver expresses a general preference for self-contained portable guns, Patent Owner has not shown sufficiently that De Schrijver criticizes, discredits, or otherwise discourages investigation into the invention claimed. *See Depuy*

Spine, Inc. v. Medtronic Sofamor Danek, Inc., 567 F.3d 1314, 1327 (Fed. Cir. 2009) (citing *In re Fulton*, 391 F.3d 1195, 1201 (Fed.Cir.2004)).

Patent Owner’s argument that the gravity-fed paint spray gun of Spitznagel is “fundamentally different” from, and “technically incompatible” with, the aerosol application gun of De Schrijver is largely unresponsive to the relevant De Schrijver teaching that threaded and bayonet connections are substitutable. *See* Pet. Reply 6–7 (citing Ex. 1002 ¶ 99). As discussed above, that teaching is not limited to connections between an adapter and the aerosol container of De Schrijver’s application gun, but extends to connections between an adapter and other types of fluid containers such as the paint pot of Spitznagel’s gravity-fed paint spray gun. *See In re Sneed*, 710 F.2d 1544, 1550 (Fed. Cir. 1983) (holding that “it is not necessary that the inventions of the references be physically combinable to render obvious the invention under review”).

At the Oral Hearing, Patent Owner also argued that dependent claim 8 is patentable over Spitznagel and De Schrijver. Tr. 46:8–47:10. Patent Owner asserted that claim 8 requires “inverting the spray gun” to drain liquid back into the reservoir before detaching the gun, that “turning the cup upside down is the exact opposite of what Spitznagel teaches,” and that Spitznagel, therefore, teaches away from claim 8. *Id.* Petitioner responded that Patent Owner’s argument with respect to claim 8 should not have been made for the first time at the Oral Hearing. Tr. 61:19—62:10. We agree. In any event, however, we are not persuaded by Patent Owner that Spitznagel teaches away from inverting the spray gun to drain liquid from the gun

before detaching it from the reservoir. Spitznagel's teaching is directed to maintaining a vertical position of the fluid cup during painting operations, so as to prevent problems such as paint dripping out of the cup, and does not concern draining paint back into the reservoir before detaching the gun after painting operations have ceased. *See, e.g.*, Ex. 1009, 3:24–36.

We have considered Patent Owner's evidence of objective indicia of nonobviousness, but agree with Petitioner that Patent Owner has not shown sufficient nexus between the claimed invention and either commercial success or industrial acclaim. *See* Pet. Reply 20–25. In particular, we are not persuaded by Patent Owner's argument that, because the in-scope adapters are necessary for use of the in-scope PPS™ systems with gravity-fed paint spray guns, the adapters provide the requisite nexus between the claims and the asserted success and acclaim. *See* PO Resp. 50–58. As discussed above, the “adapter” of the challenged claims is an element that was known in the prior art, *see* Ex. 1009, 4:26–30, and at least for that reason there can be no nexus based on the in-scope adapters, contrary to Patent Owner's argument. *See In re Kao*, 639 F.3d 1057, 1068 (Fed. Cir. 2011) (“Where the offered secondary consideration actually results from something other than what is both claimed and novel in the claim, there is no nexus to the merits of the claimed invention.”) (citing *Tokai Corp. v. Easton Enters., Inc.*, 632 F.3d 1358, 1369 (Fed. Cir. 2011) (“If commercial success is due to an element in the prior art, no nexus exists.”)). Moreover, Patent Owner's evidence does not show sufficiently that sales or acclaimed benefits of the in-scope systems were “a direct result of the unique characteristics” of

the in-scope adapters—as opposed to other economic and commercial factors unrelated to the merits of the patented subject matter. *See In re Huang*, 100 F.3d 135, 140 (Fed. Cir. 1996) (citing *Cable Elec. Prods., Inc. v. Genmark, Inc.*, 770 F.2d 1015, 1027 (Fed. Cir. 1985)). As Petitioner argues, the evidence of record shows that factors largely unrelated to the adapters drove customer demand for Patent Owner’s in-scope systems. *See* Pet. Reply 20–21; Ex. 2001 ¶ 23; Ex. 1029, 85:22–86:6. Similarly, Patent Owner’s evidence of commercial acclaim also is largely unrelated to the adapters. PO Resp. 56–57; Ex. 2013 ¶¶ 23–24; *see* Pet. Reply 25.

For the reasons given, we conclude that Petitioner has shown by a preponderance of the evidence that claims 1–8, 12, 23, 24, and 29–33 would have been unpatentable under 35 U.S.C. § 103(a) as obvious over Spitznagel and De Schrijver.

2. *Obviousness of Claims 9, 10, 13–16, 18, 19, and 25–28 over Spitznagel, De Schrijver, and Kaltenbach*

a. *Overview of Kaltenbach*

Kaltenbach discloses a spray gun secured to a cup assembly with a swivel nut or a quick detachable connection. Ex. 1010, 2:12–21. Figures 1 and 2 of Kaltenbach are reproduced below.

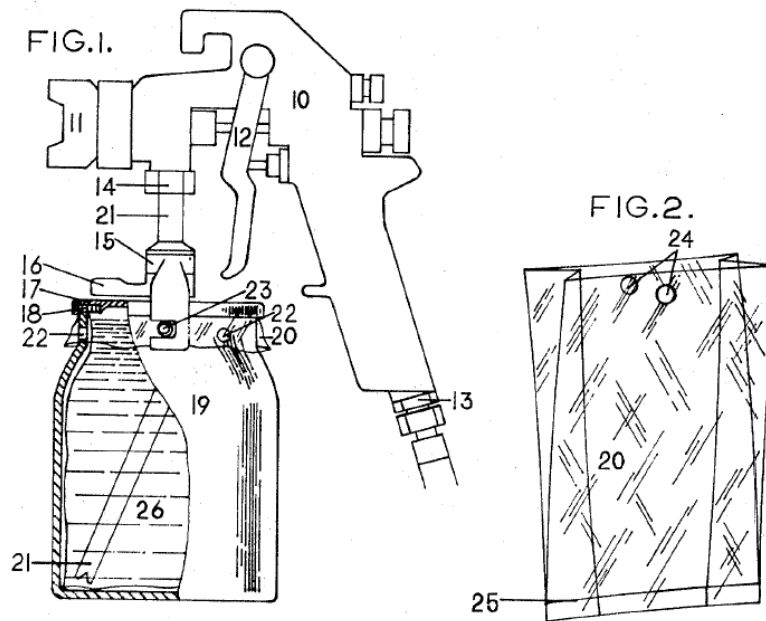


Figure 1 is a side, cutaway, sectional view of a clamp type siphon cup secured to a spray gun, and Figure 2 is a perspective view of “a partially opened liner or bag utilized as a collapsible container.” *Id.* at 1:72–2:5. Dry-vented cup structure 19 forms a container and support for disposable liner 20. *Id.* at 2:28–29. As depicted in Figure 1, when liner 20 is placed within cup 19, the open top of liner 20 is turned back over the rim of cup 19, and openings 24 in liner 20 are slipped over hollow pins 23 of cup 19. *Id.* at 2:34–37. Liner 20 is flexible and, as shown in Figure 2, its sides “are pleated to allow the liner to expand when filled with liquid.” *Id.* at 2:59–63. As also shown in Figure 2, the bottom end of liner 20 is sealed to form a container. *Id.* at 2:56–57.

b. Analysis

To support its challenge to claims 9, 10, 13–16, 18, 19, and 25–28 as obvious over the combination of Spitznagel, De Schrijver, and Kaltenbach,

Petitioner argues that Kaltenbach “teaches . . . ‘a collapsible liner.’” Pet. 36–37 (citing Ex. 1010, Figs. 2, 3); *see id.* at 38–40. As discussed above, the broadest reasonable interpretation of “collapsible liner” consistent with the Specification is a liner having a base, side walls, and a rim, wherein the side walls are capable of distortion so that, by the application of moderate pressure, the rim can be pushed towards the base, or the base can be pushed towards the rim, without the side walls being ruptured. *See supra* Section II.A.

In its Petition, Petitioner argued that “Kaltenbach Figure 2 demonstrates that the liner is collapsible” (*id.* at 36), but made no effort to apply the claim construction of “collapsible liner” advocated elsewhere in its Petition (*see* Pet. 15, citing Ex. 1002 ¶ 59) to the liner depicted in Kaltenbach Figure 2, or to explain otherwise how the liner described in Kaltenbach is a “collapsible liner” under a proper claim construction. In his declaration accompanying the Petition, Mr. Leinsing testified that the Kaltenbach liner depicted in Figure 2 is collapsible “[b]ecause the liner was collapsed before it filled with paint, [and] it will return to a collapsed state after the paint is withdrawn.” Ex. 1002 ¶ 118.

In its Reply, Petitioner argued that “Kaltenbach explicitly states that its liner is collapsible.” Pet. Reply. 10 (citing Ex. 1010, 2:3–5). Petitioner also argued that Kaltenbach teaches a “collapsible liner” in accordance with the preliminary claim construction set forth in the Institution Decision because Kaltenbach Figure 2 “illustrates the liner as flat before it expands to fill with paint, and Figure 3 illustrates the liner as expanded.” *Id.* Petitioner

further argued: “It is the ability to expand with liquid and return to a ‘collapsed state’ that evidences a liner wherein the side walls are *capable* of distortion so that, by the application of moderate pressure, the rim of the liner can be pushed towards the base of the liner, without the side walls being ruptured.” *Id.* at 10–11. Petitioner asserted that “Patent Owner offers no persuasive evidence or argument that Kaltenbach’s liner is *incapable* of distorting from rim to base under moderate pressure without rupturing the side walls.” *Id.* at 11 (emphasis added). Petitioner also asserted that “Mr. Lampe is not sufficiently qualified to opine on the subject matter of the ’780 Patent’s claims.” *Id.* at 3.

In its Patent Owner Response, Patent Owner argued that Kaltenbach does *not* teach a liner that meets the preliminary claim construction set forth in the Institution Decision. PO Resp. 25–26 (citing Ex. 2001 ¶ 61). In particular, Patent Owner argued that “[t]he disclosure of Kaltenbach does not teach that the liner of Kaltenbach would be capable of distortion so that, by the application of moderate pressure, the rim of the liner could be pushed towards the base of the liner without the side walls being ruptured.” *Id.*

Upon consideration of the competing arguments and the evidence of record, we determine that Petitioner has not shown sufficiently that the side walls of the Kaltenbach liner are capable of distortion so that, by the application of moderate pressure, the rim of the liner can be pushed towards the base of the liner, or the base of the liner can be pushed towards the rim of the liner, without the side walls being ruptured, as required under the proper claim construction. *See supra* Section II.A. Petitioner’s reliance on

Figures 2 and 3 of Kaltenbach is misplaced. Those figures teach utilizing a liner with longitudinal pleats that allow the side walls to expand laterally when filled with liquid. Ex. 1010, 2:62–63, Figs. 2, 3; Ex. 2001 ¶ 60 (Mr. Lampe testifying that Kaltenbach describes the liner “as a ‘pleated liner,’ which dictates how the liner will expand when filled with a liquid”). Petitioner has not explained sufficiently how Kaltenbach Figures 2 and 3 teach a liner with side walls that are capable of distortion from rim to base or from base to rim, i.e., longitudinally, without the side walls being ruptured, as required.

We are not persuaded by Petitioner that Mr. Lampe is insufficiently qualified to opine on the subject matter of the ’780 Patent’s claims. See Pet. Reply 3. Although Mr. Lampe lacks a degree in mechanical engineering, he possesses 15 years of work experience in fields similar to mechanical engineering. Ex. 1027, 16:9–19:19, 22:7–23:20.

We also are not persuaded by Petitioner’s reasoning that, if the Kaltenbach liner is in a *collapsed* state before it was filled with paint (as shown in Figure 2), and will return to a *collapsed* state after the paint is withdrawn, it is a collapsible liner. See Pet. Reply 10. The problem with that reasoning is that Figure 2 does not depict distortion of the side walls from rim to base or base to rim, i.e., longitudinally. Ex. 1001, Figs. 2, 3. Rather, as shown by comparing Figures 2 and 3, Kaltenbach’s liner is the same height before and after it is filled with paint and, by Petitioner’s reasoning, will remain that same height after the paint is withdrawn. We agree with Patent Owner that “the Kaltenbach liner is not initially in a

‘collapsed’ state (i.e., *collapsed from base to rim or rim to base*) before being filled with paint, and it will not ‘return to a collapsed state’ after paint is withdrawn.” *Id.* (emphasis added).

Petitioner’s reliance on the statement in Kaltenbach that the liner depicted in Figure 2 is “collapsible” also is misplaced. *See* Pet. Reply 10 (citing Ex. 1010, 2:3–5). Kaltenbach does not explain explicitly what is meant by “collapsible,” but merely states: “FIGURE 2 is a perspective view of a partially opened liner or bag utilized as a *collapsible* liner in this invention.” Ex. 1010, 2:3–5 (emphasis added). That statement must be viewed in context. As discussed above, Figure 2 of Kaltenbach depicts a liner with longitudinal pleats that allow the liner to expand laterally when filled with liquid. Ex. 1010, 2:62–63, Fig. 2. We are not persuaded that the statement in Kaltenbach describing Figure 2, or anything in the figure itself or elsewhere in Kaltenbach, teaches side walls that are capable of distortion from rim to base or base to rim, without the side walls being ruptured, as required of a “collapsible liner” in the present case. *See supra* Section II.A.

Finally, Petitioner’s conclusion that “Patent Owner offers no persuasive evidence or argument that Kaltenbach’s liner is *incapable* of distorting from rim to base under moderate pressure without rupturing the side walls,” Pet. Reply 11 (emphasis added), is unpersuasive because the burden of persuasion to show unpatentability is on the petitioner throughout an *inter partes* review and never shifts to the patent owner. *Dynamic Drinkware, LLC v. National Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (“In an *inter partes* review, the burden of persuasion is on the

petitioner to prove “unpatentability by a preponderance of the evidence,” 35 U.S.C. § 316(e), and that burden never shifts to the patentee.”).

For the reasons given, we conclude that Petitioner has *not* shown by a preponderance of the evidence that claims 9, 10, 13–16, 18, 19, and 25–28 would have been unpatentable under 35 U.S.C. § 103(a) as obvious over Spitznagel, De Schrijver, and Kaltenbach.

*3. Obviousness of Claim 11 over Spitznagel,
De Schrijver, Kaltenbach, and Deaton*

With respect to claim 11, Petitioner relies on its challenge to claim 10, from which claim 11 depends directly. Pet. 40–41. As we have determined that claim 10 is not unpatentable as obvious over Spitznagel, De Schrijver, and Kaltenbach, and Petitioner relies on Deaton solely for the additional limitation set forth in claim 11, we determine that Petitioner has *not* shown by a preponderance of the evidence that claim 11 would have been unpatentable under 35 U.S.C. § 103(a) as obvious over Spitznagel, De Schrijver, Kaltenbach, and Deaton.

*4. Obviousness of Claims 13, 15–18, 20, and 21 over
Spitznagel, De Schrijver, Mursa, and Packaging Digest*

a. Overview of Mursa

Mursa discloses a paint mixing container comprising a main body, a stirring arm with a helical blade rigidly mounted about a rotatable central shaft, and a removable cover to seal the container and to support the stirring arm. See Ex. 1012, 1:30–40. The container also may include a disposable

plastic liner that can be discarded after the paint has been mixed. *Id.*

at 1:46–49. Figures 6 and 9 of Mursa are reproduced below.

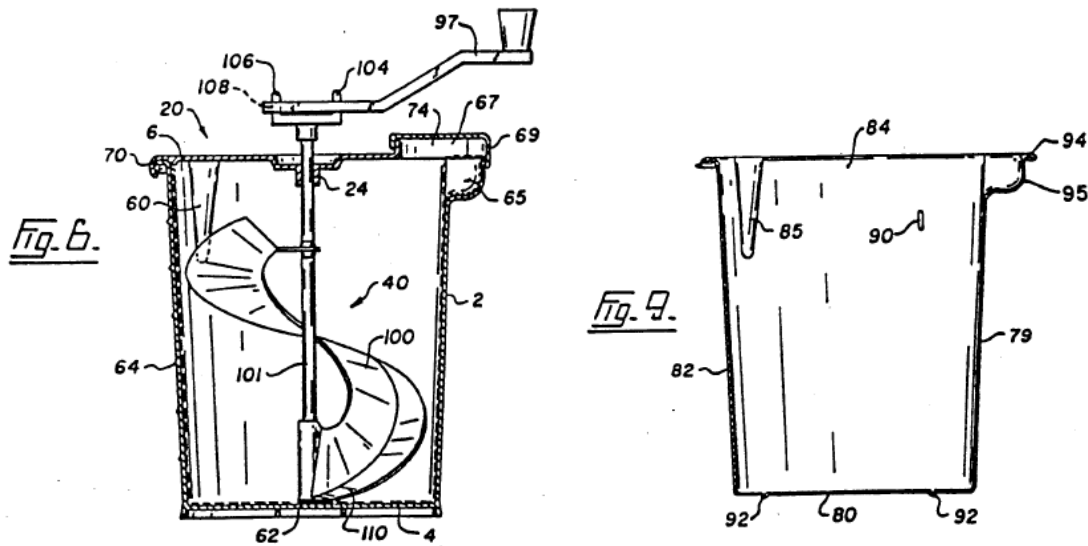


Figure 6 depicts a paint mixing container with main body 2, stirring arm 40, and removable cover 20. *Id.* at 3:45–47. Figure 9 depicts removable liner 79. *Id.* at 4:20–24. Stirring arm 40 comprises helical blade 100 mounted to shaft 101. *Id.* at 4:47–48. “Helical blade 100 is mounted about shaft 101 and spans the diameter of the main body with adequate clearance of the side walls and the liner to allow the blade to rotate freely.” *Id.* at 4:54–57. Liner 79 comprises a thin-walled, self-supporting flexible shell having base 80, side walls 82, and open top 84. *Id.* at 4:20–24.

Tapered indentations 85 are formed in the side walls 82 of liner 79 to align with similar indentations 60 in main body 2. *Id.* at 4:24–26.

b. Overview of Packaging Digest

Packaging Digest discloses “a flexible, seamless disposable liner for baby bottles.” Ex. 1013, 60. A photograph from Packaging Digest is reproduced below.



Id. The center of the above photograph depicts a stack of disposable baby bottle liners. *Id.* As described in Packaging Digest, the liners are sufficiently rigid that they “do not fold flat,” but also are sufficiently flexible that they “collapse[] as the baby drinks, preventing any air from being swallowed along with the fluid.” *Id.* at 60, 62. The liner (bag) “won’t rip when the mother pushes the bag up with her finger.” *Id.* at 64. The liners are manufactured using a thermoforming process. *Id.* at 60.

c. Analysis

Challenged claims 13, 15–18, 20, and 21 each require a liquid reservoir comprising “a *collapsible liner* having an open end and a lid for closing the open end, the fluid outlet being located in the lid” (emphasis added). Ex. 1001, 17:18–20. In asserting that the challenged claims would have been obvious over Spitznagel, De Schrijver, Mursa, and Packaging Digest, Petitioner relies on the sub-combination of Mursa and Packaging Digest to teach the “collapsible liner” limitation. Pet. 45–50.

Petitioner argues that “[o]ne of skill in the art would incorporate Packaging Digest’s collapsibility in Mursa’s liner because it would have *enabled compact disposal of the liner after use.*” Pet. 47 (emphasis added). Petitioner asserts that “Mursa teaches that the flexible liner can be disposed of after use (col. 3:36–39, 4:21–24, 30–32), and providing a liner that did not rupture when collapsed would prevent any remaining paint in the liner from leaking out.” *Id.* (citing Ex. 1002 ¶ 153). Petitioner further asserts that “Packaging Digest teaches a liner that does not rupture when collapsed.” *Id.* (citing Ex. 1013, 64). Petitioner argues that modifying Mursa’s liner to incorporate Packaging Digest’s collapsibility would have been routine and would not have affected Mursa’s operation:

Modifying Mursa’s liner to incorporate Packaging Digest’s collapsibility would be routine for one of skill in the art—one would follow the manufacturing technique taught by Packaging Digest and use a mold that corresponded to the internal configuration of Mursa’s receptacle. ([Ex. 1002 ¶ 153].)

Further, the collapsibility of the liner would have no effect on Mursa's operation. ([Ex. 1002 ¶ 154].) . . . One of skill in the art could also have modified the Mursa liner so that it is collapsible while retaining its self-supporting nature.

Id.

Petitioner additionally argues that “the Mursa and Packaging Digest combination could also be viewed under any number of *KSR* rationales, including the *KSR* rationale of applying a known technique to improve similar devices in the same way.” *Id.* at 48. In this regard, Petitioner asserts:

Mursa teaches a liner for holding a liquid (paint) and Packaging Digest discloses a comparable device—a liner for holding a liquid (baby formula)—that was improved by making it collapsible without rupturing. The inventors here appear to have purchased a Munchkin baby bottle, and then improved a paint liner by utilizing the Munchkin baby bottle's collapsibility. (Ex. 1005, Pages 12:9-17, 17:22-18:13, 23:25-24:5.) One of ordinary skill in the art could have applied the known improvement (the collapsible liner of Packaging Digest) to the liner of Mursa, and the result would have been predictable as discussed above. ([Ex. 1002 ¶ 155].)

Id.

We have considered Petitioner's arguments, but agree with Patent Owner that Petitioner has not articulated a sufficient reason to combine the teachings of Mursa and Packaging Digest. *See* PO Resp. 43. Petitioner's argument that incorporating Packaging Digest's collapsibility in Mursa's liner would have enabled compact disposal of the liner after use ignores the

different teachings of the references. Packaging Digest teaches using a liner that “collapses as the baby drinks, preventing any air from being swallowed along with the fluid.” Ex. 1013, 62. In comparison, Mursa teaches using a liner that holds its shape during paint-mixing operations so there is “adequate clearance of the side walls and the liner to allow the blade to rotate freely [within the liner].” Ex. 1012, 4:54–57. Implicit in these teachings is that Packaging Digest’s liner is in a collapsed state when discarded after use, while Mursa’s liner is in its original, non-collapsed state when discarded after use.

Petitioner has not provided articulated reasoning with rational underpinning sufficient to support a legal conclusion of obviousness. *See KSR*, 550 U.S. at 418 (*citing In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)). Petitioner has failed to explain why incorporating Packaging Digest’s collapsibility in Mursa’s liner would have been understood by a person of ordinary skill in the art to enable compact disposal of the liner after use, when Mursa’s liner is not in a collapsed state after use. Petitioner also has failed to show that compact disposal is an advantage associated with Packaging Digest’s collapsible liner when in a non-collapsed state after use. Petitioner also has failed to show that a person of ordinary skill in the art would have had a reason to cause the collapse of Mursa’s modified collapsible liner after use, in view of the risk that any remaining paint in the liner would be squeezed or spilled out the rim of the liner during compaction. Petitioner has failed to show why a person of ordinary skill in the art, concerned with the volume of liner waste generated by Mursa’s

paint-mixing operation, would not have collected and stacked the “dirty” liners discarded after use, for compact disposal, rather than take time and effort to collapse the liners and to clean up and dispose of the paint squeezed or spilled from them.

We are not persuaded by Petitioner’s argument that “providing a liner that did not rupture when collapsed would prevent any remaining paint in the liner from leaking out.” Pet. 47 (citing Ex. 1002 ¶ 153). That argument erroneously assumes that Mursa’s modified collapsible liner already would be in a collapsed state at the time of disposal. As discussed above, Petitioner has not shown that a person of ordinary skill in the art would have collapsed Mursa’s liner after use. Further, providing a liner that did not rupture when collapsed would not prevent any remaining paint in the liner from being squeezed or spilled out the rim of the liner as the liner is collapsed.

Petitioner improperly relies on inventor disclosures that are not prior art to the challenged claims. For example, Petitioner relies on the disclosure of the ’780 Patent itself to argue that collapsibility would have no effect on Mursa’s operation. Pet. 47 (citing Ex. 1002 ¶ 154). In that regard, Petitioner argues that “the ’780 patent teaches that a liner in a spray gun during use can collapse onto a siphon tube without rupturing; in the same way, the mixing implements of Mursa would also not rupture the liner during mixing, for example, even if the liner were to collapse onto the mixing elements.” *Id.* (citing Ex. 1001, 11:1–12). Petitioner also relies on the alleged disclosure, subsequent to the effective filing date of the ’780 Patent, that the inventors purchased a Munchkin baby bottle and

then improved a paint liner by utilizing the Munchkin baby bottle's collapsibility. Pet. 48 (citing Ex. 1005, 12:9–17, 17:22–18:13, 23:25–24:5). Using such disclosures as evidence of what would have been known to those of ordinary skill in the art at the time of the invention is improper. *See, e.g., W.L. Gore & Assocs. v. Garlock, Inc.*, 721 F.2d 1540, 1547 (Fed. Cir. 1983) (identifying as error the lower court's attribution of “that which only the inventor taught . . . to the prior art”).

Finally, we disagree with Petitioner's argument that incorporating Packaging Digest's collapsibility in Mursa's liner would have amounted to applying a known technique to improve a similar device in the same way. *See* Pet. 48. Contrary to Petitioner's argument, the Packaging Digest and Mursa liners are not similar. As discussed above, the former collapses as a baby drinks, while the latter holds its shape as blades rotate freely within its circumference. As such, Packaging Digest's liner, which must collapse without rupturing as a baby drinks, is *not* similar to Mursa's liner, which must not collapse as the blades rotate. As such, the principle of operation taught by Mursa is substantially different from the principle of operation taught by Packaging Digest.

Further, we are not persuaded that the result of incorporating Packaging Digest's collapsibility in Mursa's liner would have been predictable. *See id.* (citing Ex. 1002 ¶ 155). We give little weight to Mr. Leinsing's testimony that “[o]ne of skill in the art could . . . have modified the Mursa liner so that it is collapsible while retaining its self-supporting nature.” Ex. 1002 ¶ 154. Mr. Leinsing relies on a photograph in

Packaging Digest (reproduced above) that he asserts “demonstrates that self-supporting *and* collapsible liners can be manufactured using the Packaging Digest process.” *Id.* (citing Ex. 1013, 60). The photograph, however, simply shows baby bottle liners lying in a stack on their sides and, therefore, provides little factual support for Mr. Leinsing’s testimony. Rather, we credit the rebuttal testimony of Mr. Lampe that Packaging Digest does not teach collapsible liners that will hold their shape as required for use in Mursa’s paint-mixing container with rotating blades:

Packaging Digest provides no indication that its thermoforming process could be used for significantly larger liners, and it does not indicate that larger thermoformed liners could retain the collapsibility characteristics of the liner disclosed in Packaging Digest while being formed in the same shape as the liner of Mursa. Mursa’s liner also has a number of aforementioned structural requirements, including being sufficiently sturdy to avoid contacting the helical mixing blades and the liner protrusions that lock the liner in place within the container, that Packaging Digest does not disclose as being possible to make using a thermoforming process.

Ex. 2001 ¶ 93.

For the reasons given, we conclude that Petitioner has *not* shown by a preponderance of the evidence that claims 13, 15–18, 20, and 21 are unpatentable under 35 U.S.C. § 103(a) as obvious over Spitznagel, De Schrijver, Mursa, and Packaging Digest.

5. *Obviousness of Claim 22 over Spitznagel, De Schrijver, Kaltenbach, Mursa, and Packaging Digest*

Claim 22 recites “*a collapsible, self-supporting liner.*” Ex. 1001, 17:42–43 (emphasis added). In asserting that claim 22 would have been obvious over the combination of Spitznagel, De Schrijver, Kaltenbach, Mursa, and Packaging Digest, Petitioner relies on the sub-combination of Mursa and Packaging Digest to teach the “collapsible [] liner” limitation. Pet. 56. As Petitioner has not articulated a sufficient reason to combine the teachings of Mursa and Packaging Digest, as discussed *supra* in Section II.B.4.c, we determine that Petitioner has *not* shown by a preponderance of the evidence that claim 22 would have been unpatentable under 35 U.S.C. § 103(a) as obvious over Spitznagel, De Schrijver, Kaltenbach, Mursa, and Packaging Digest.

III. CONCLUSION

For the foregoing reasons, we determine that Petitioner has shown by a preponderance of the evidence that claims 1–8, 12, 23, 24, and 29–33 are unpatentable, but has *not* shown by a preponderance of the evidence that claims 9–11, 13–22, and 25–28 are unpatentable .

IV. ORDER

In view of the foregoing, it is hereby:

ORDERED that claims 1–8, 12, 23, 24, and 29–33 of U.S. Patent No. 8,424,780 B2 are unpatentable.

IPR2014-01281
Patent 8,424,780 B2

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.

IPR2014-01281
Patent 8,424,780 B2

For PETITIONER:

Mehran Arjomand
Desmond O'Sullivan
MORRISON & FOERSTER LLP
marjomand@mofo.com
dosullivan@mofo.com

For PATENT OWNER:

Mark D. Sweet
Michele C. Bosch
Timothy McAnulty
Finnegan, Henderson, Farabow,
Garrett & Dunner, L.L.P.
Mark.sweet@finnegan.com
Michele.bosch@finnegan.com
timothy.mcanulty@finnegan.com