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Paper No. 36
Filed: February 5, 2018

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

PACIFIC MARKET INTERNATIONAL, LLC,
Petitioner,

v.

IGNITE USA, LLC,
Patent Owner.

Case IPR2016-01584
Patent 9,095,233 B2

Before JOSIAH C. COCKS, MITCHELL G. WEATHERLY, and JAMES A. WORTH, *Administrative Patent Judges.*

COCKS, *Administrative Patent Judge*.

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

I. INTRODUCTION

A. Summary

Petitioner, Pacific Market International, LLC ("PMI"), filed a Petition (Paper 2, "Pet.") to institute an *inter partes* review of claims 1–23 of U.S. Patent No. 9,095,233 B2 (Ex. 1008, "the '233 patent"). We instituted a trial to determine whether claims 1–23 were unpatentable under 35 U.S.C. § 103(a) based on Chaffin[1] and Albert.[2] Paper 7, 12 ("Inst. Dec."). Patent Owner, Ignite USA, LLC ("Ignite"), filed a Patent Owner Response (Paper 15, "PO Resp."), to which PMI replied (Paper 18, "Pet. Reply"). Each party filed a Motion to Exclude. Paper 24; Paper 26. Each party also filed corresponding Oppositions to the Motions to Exclude (Papers 29, 30) and Replies to the Oppositions (Papers 31, 32).

Oral argument was conducted on October 28, 2017. A transcript of that oral argument is in the record. Paper 35 ("Tr.").

We have jurisdiction under 35 U.S.C. § 6. This Decision is a final written decision under 35 U.S.C. § 318(a) as to the patentability of the challenged claims. For the reasons that follow, we determine Petitioner has shown by a preponderance of the evidence that claims 1–23 of the '233 patent are unpatentable.

B. Related Matters

PMI and Ignite identify the following proceedings in U.S. District Court as related matters: *Ignite USA, LLC v. Pacific Market International, LLC*, No. 1:16-cv-01928 (N.D. Ill. filed Feb. 3, 2016) involving the '233

[1] U.S. Patent No. 5,711,452 issued Jan. 27, 1998 (Ex. 1002, "Chaffin").

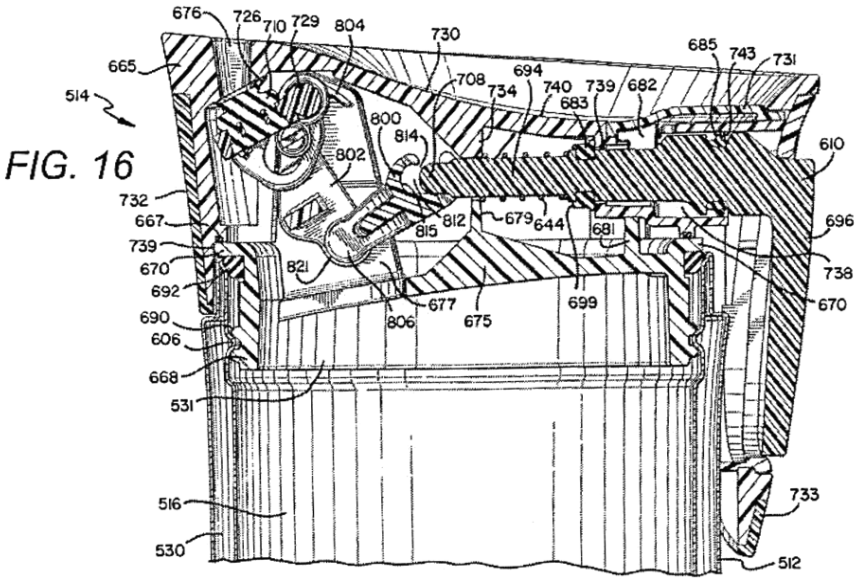
[2] US Patent No. 3,967,748 issued to Albert on July 6, 1976 (Ex. 1001, "Albert").

patent; *Ignite USA, LLC v. Pacific Market International, LLC*, No. 1:14-cv-00856 (N.D. Ill. filed Feb. 7, 2014) involving U.S. Patent 7,997,442 B2 ("the 442 patent"); and *Ignite USA, LLC v. Pacific Market International, LLC*, No. 1:16-cv-01930 (N.D. Ill. filed Feb. 3, 2016) involving U.S. Patent No. 8,590,731 B2 ("the '731 patent"). Pet. 1; Paper 3, 1. The parties also identify the following *inter partes* reviews as related to the instant proceeding: IPR2014-00561 involving the '442 patent; IPR2014-00750 involving U.S. Patent No. 7,546,933 B2 patent; and IPR2016-01488 involving the '731 patent.[3] Pet. 1–2; Paper 3, 1.

C. The '233 patent

The '233 patent is titled "Travel Container Having Drinking Orifice and Vent Apertures." Ex. 1008, Title. Figure 16 is reproduced below:

FIG. 16



[3] Final Written Decisions in IPR2014-00561 and IPR2014-00750 were mailed on September 28, 2015 and November 13, 2015, respectively. In IPR2016-01488, a Final Written Decision has been entered concurrently with the present Decision.

Figure 16 above shows an embodiment according to the invention of the ’233 patent. As depicted, a travel drinking container includes container body 512 and lid assembly 514. *Id*. at 15:47–51. Lid assembly 514 includes trigger 610 with transverse portion 696 and main body portion 694 culminating in a pair of arms 708. *Id*. at 19:3–12. Trigger spring 644 surrounds main body portion 694 and which exerts a force to maintain trigger 610 in an unactuated position. *Id.* at 19:53–65. Depression of trigger 610 permits arms 708 to be fitted into slot 812 of linkage member 800, whose actuation ultimately causes shutter 710 to open and close, which enables opening and sealing of drink orifice 676. *Id*.; *id*. at 20:36–46. Torsion spring 804 operates to exert a force on shutter 710 to retain the shutter in a closed position. *Id*. at 22:38–42.

Figure 17 is reproduced below:

FIG. 17

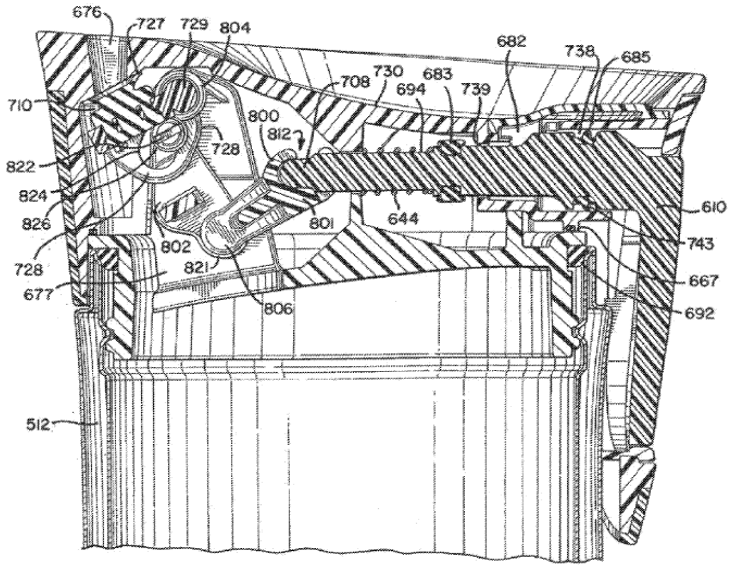


Figure 17 above illustrates a configuration of lid 514, when trigger 610 has been partially actuated. In that configuration, arms 708 have entered slot 812 but have not actuated linkage member 800, causing vent

seal 683 to open and allowing an internal pressure and vapor within the drinking container to escape therethrough (but not yet actuating shutter 710). *Id*. at 20:59–21:19.

Figure 18 is reproduced below:

FIG. 18

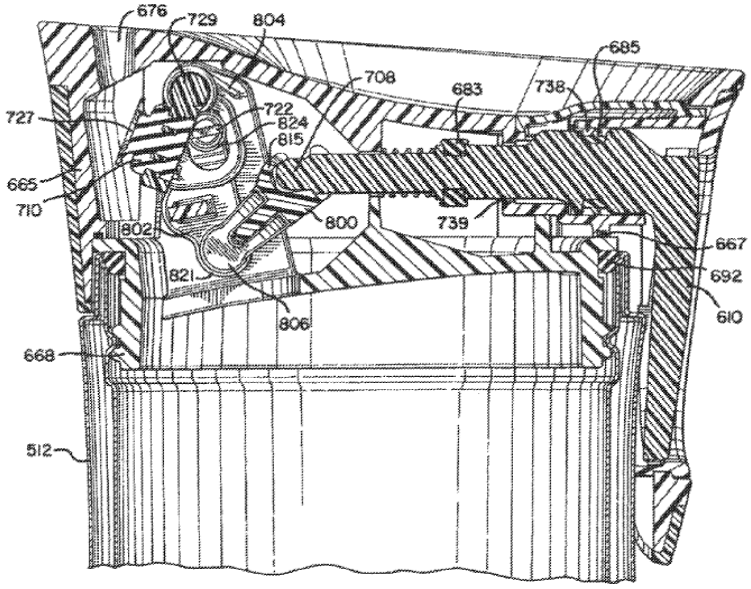


Figure 18 above presents a configuration in which trigger 610 has been fully actuated causing shutter 710 to open drinking aperture 676. *Id*.

D. Illustrative Claim

Claims 1, 5, 16, and 21 are independent. Claims 2–4, 6–15, 17–20, 22, and 23 ultimately depend from one of those independent claims. Claim 1 is illustrative and is reproduced below:

> 1. A drinking container comprising:
>
> a container body having a cavity and a removable lid covering the cavity, the lid having a top surface transverse to a longitudinal axis of the container body, the top surface having a drink aperture and a vent aperture extending therethrough, a drink seal operably closing the drink aperture from the cavity of the container body, a vent seal operably closing the vent aperture from the cavity of the container body, the lid further having a trigger with an end that operates as a push-button end, the trigger

> translating in a straight line perpendicular to the longitudinal axis of the container body during the entire movement of the trigger to define a straight-line actuation stroke, wherein pushing the trigger operates to cause the drink seal to move to an open position to open the drink aperture during the actuation stroke of the trigger, wherein pushing the trigger operates to cause the vent seal to move to an open position to open the vent aperture during the actuation stroke of the trigger, wherein the vent aperture is initially opened during a first portion of the straight-line actuation stroke of the trigger, and wherein the drink aperture is initially opened during a second portion of the straight-line actuation stroke of the trigger.

II. ANALYSIS

A. Claim Construction

In an *inter partes* review, a claim in an unexpired patent shall be given its broadest reasonable construction in light of the specification of the patent in which it appears. 37 C.F.R. § 42.100(b); *Cuozzo Speed Techs. LLC v. Lee*, 136 S. Ct. 2131, 2144–46 (2016) (upholding the use of the broadest reasonable interpretation standard). Consistent with the broadest reasonable construction, claim terms are presumed to have their ordinary and customary meaning as understood by a person of ordinary skill in the art in the context of the entire patent disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007).

In the Institution Decision, we determined that it was not necessary, at that time, to construe expressly any claim term of the ’233 patent. Inst. Dec. 6. For purposes of this Final Written Decision, we address the meanings of the claim terms/phrases: (1) “vent chamber”; (2) “vent seal”; and (3) the vent chamber being “between” the vent aperture and vent seal.

1. "vent chamber"

Ignite contends that "vent chamber" means "a space having an entrance and an exit for lowering the pressure of vapor or gas." PO Resp. 10. Ignite contends that such meaning is derived directly from the specification of the '233 patent. *Id*. at 10–11. PMI states that it agrees with the meaning of "vent chamber" offered by Ignite. Pet. Reply 4. We adopt the parties' agreed-to meaning of "vent chamber."

2. "vent seal"

In the Petition, PMI urged that the term "seal" means "a member that provides an airtight or watertight closure to prevent the passage of liquid or gas." Pet. 8–9. PMI expressed that such was the meaning of "seal" that had been construed by this panel in two other *inter partes* review proceedings (IPR2014-00750 and IPR2014-00561), which involved patents for which the '233 patent is a continuation, and, thus, has a substantively identical specification. *Id*. PMI contends that such meaning should also be assigned to the term "vent seal" in this proceeding. Pet. Reply 7.

Ignite proposes a construction of "vent seal" as "a dedicated member that prevents the passage of gases or vapor." PO Resp. 12. The apparent substantive distinction between that construction and the one proffered by PMI rests solely on the term "dedicated."

Ignite does not point to any specific content of the '233 patent to justify why the term "dedicated" should be read into the meaning of "vent seal." In that respect, Ignite generally states that "a plain reading of the claims and description of the '233 patent describe the vent seal as an independent and dedicated component used to prevent the passage of gas or vapor into the vent chamber." *Id*. Ignite also does not point to any other

evidence in the record that suggests the meaning of "vent seal" that it advocates in connection with the claims of the '233 patent.

Although Ignite attempts to justify its claim construction by challenging the presence of a vent seal that is a "dedicated member" in Chaffin, that is not meaningful in explaining why the "vent seal" recited in the '233 patent must be a structure viewed as "dedicated" in the first place. Indeed, Ignite does not explain cogently from where it derives the assertion that the '233 patent "define[s]" a vent seal "in terms of both purpose and structure" as a component that must be "dedicated." Simply put, it is not apparent to us, based on the record at hand, why a structure that "provides an airtight or watertight closure to prevent the passage of liquid or gas" is, nevertheless, not a "vent seal" if it is not "dedicated" to that function.

For the foregoing reasons, we conclude that the broadest reasonable interpretation of "vent seal" is "a member that provides an airtight or watertight closure to prevent the passage of liquid or gas."

3. "between"

Claims 2, 5, and 21 recite that the vent chamber is "between" the vent aperture and the vent seal. Ignite contends that the term "between" in that context means that "the vent chamber 'separates' the vent seal and the vent aperture." PO Resp. 14.

PMI characterizes Ignite's construction of "between" as requiring that the "entire" vent chamber must be physically located between the vent seal and vent aperture. Pet Reply 8. PMI contends that such a requirement is not the broadest reasonable interpretation of the claim phrase at issue, and that proper construction requires that "only a portion of a vent chamber must separate the vent seal and the vent aperture." *Id*. at 11.

As noted by PMI (Pet. Reply 8–11), this panel considered a similar issue in IPR2014–00750, which, as noted above, involved a patent that has the same specification as the ’233 patent. The analysis employed in that proceeding is also germane to this proceeding. In particular, we observed that the Specification of the patent involved in that proceeding (US Patent No. 7,546,933 (“the ’933 patent”)) set forth an embodiment of a drinking container (Figure 16), which we determined disclosed a vent chamber that “is not located solely and entirely between” a vent seal and a vent aperture. *See* Ex. 1021, 31–32. We, thus, concluded that an interpretation of “between” as requiring that the vent chamber must reside entirely between the vent seal and vent aperture was inconsistent with the Specification of the ’933 patent. That Specification is substantively similar to the Specification of the ’233 patent involved in this proceeding. Indeed, Figure 16 of the ’933 patent is of somewhat lesser quality but is substantively identical to Figure 16 of the ’233 patent.

As noted above, Ignite’s position on the issue is that the claim term “between” conveys that the vent chamber “separates or intermediates” the vent seal and vent aperture. PO Reply 14–16. Ignite does not appear to expressly articulate whether its meaning of “separates” requires that the vent chamber must be entirely between the vent seal and vent aperture. We agree that the claims of the ’233 patent require that the vent seal and vent aperture are separated by the vent chamber. However, for essentially the reasons referenced above in connection with IPR2014-00750, we do not agree that such separation dictates that the entirety of the vent chamber must reside between, or separate, the vent seal and vent aperture. *See* Ex. 1021 31–32.

B. Unpatentability Based on Chaffin and Albert

PMI contends that claims 1–23 of the '233 patent are unpatentable under 35 U.S.C. § 103(a) as obvious over Chaffin and Albert. A claim is unpatentable under § 103(a) if the differences between the claimed subject matter 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 said subject matter pertains. *KSR Int'l Co. v. Teleflex Inc*., 550 U.S. 398, 406 (2007). 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) when in evidence, so-called secondary considerations. *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).[4]

1. Level of Skill in the Art

PMI contends the following in connection with the level of skill in the art:

> One of ordinary skill in the relevant art at the time of filing the '233 patent and the applications on which priority is claimed would have knowledge by way of education, training or experience of general mechanical engineering principles. A person with a Bachelor's degree in mechanical engineering would possess such knowledge.

Pet. 14 (citing Ex. 1024 ¶¶ 16–19) (Declaration of Aron Dahlgren).

Ignite contends the following:

> A person of ordinary skill in the art of spill-resistant drinking containers would be a person with experience as a

[4] No evidence pertaining to "secondary considerations" has been offered by either party in connection with this proceeding.

> designer of consumer mechanical devices with spring-biased linkages to move components of devices between predetermined locations, and with experience in designing means to seal liquids against spillage, and with knowledge of the materials available to create such seals. This person would also consider the degree of complexity and access to mechanisms to optimize the ability to clean the vessel and lid after use. This person would also have some knowledge or experience with ergonomics or human factors engineering to enable him to design the consumer-focused products in this art. The sophistication of the art is approaching a medium level, since knowledge of plastic injection molding constraints, limitations of small components, and CAD (computer assisted drafting) are beneficial to one of ordinary skill in the art. A few years of experience in such activities would qualify one as a person of ordinary skill in the art. Alternatively, a holder of a bachelor's degree in industrial design, mechanical engineering, or mechanical technology would qualify.

PO Resp. 17.

Although Ignite provides a more specific assessment of the particular knowledge that a skilled artisan would possess, we do not discern that there is any tangible disagreement between the parties as to the level of ordinary skill in the art. In that respect, both parties generally agree that a person of ordinary skill in the art would have some type of mechanical engineering knowledge or experience as reflected by a degree in a field such as mechanical engineering. For completeness and clarity of record, however, we adopt Ignite's assessment of the level of ordinary skill in the art.

2. Overview of Chaffin

Chaffin is titled "Valve controlled Receptacle Cover." Ex. 1002, Title. Chaffin's Figure 11 is reproduced on the right and depicts a cross-sectional view of a receptacle cover according to an embodiment of Chaffin's invention. Lid unit 40, attached to a drinking receptacle (not numbered), includes base unit 20 with inlet supply aperture 24 and base vent aperture 25. *Id*. at 4:35–46. Figure 12 is reproduced below on the left and shows a partially cut away top view of a receptacle. Each of Figures 11 and 12 shows that within a receptacle cover resides valve members 160 that includes fluid supply valve heads 162', 162". *Id*. at 5:58–6:5. Compression of handle element 51 manipulates actuator rod 152 and causes the fluid supply valve heads to uncover inlet supply aperture 24 and base vent aperture 25, permitting fluid communication between mouthpiece 44 (i.e., an opening) and vent aperture 45. *See id*. at 5:21–6:5. Spring biasing element 163 is disposed between portioned walls in base unit 20 and valve arms associated with each of fluid supply valve heads 162', 162". *Id*. at 5:44–57.

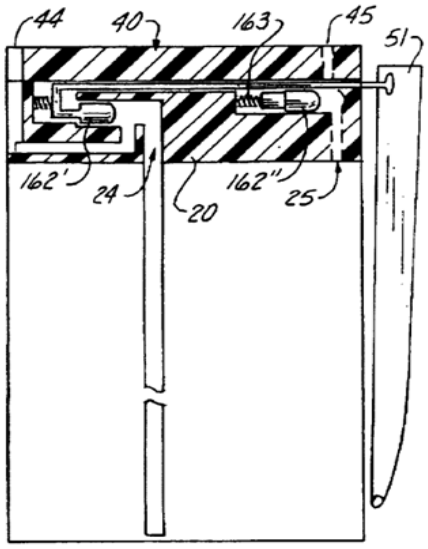


Fig. 11

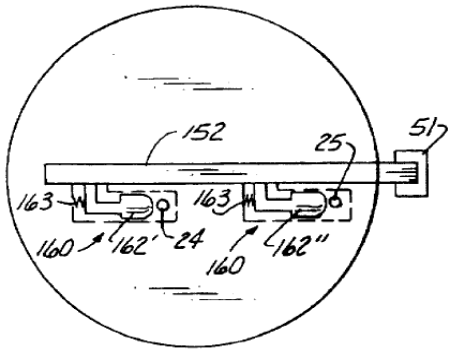


Fig. 12

Chaffin's Figures 4 and 5 are reproduced below.

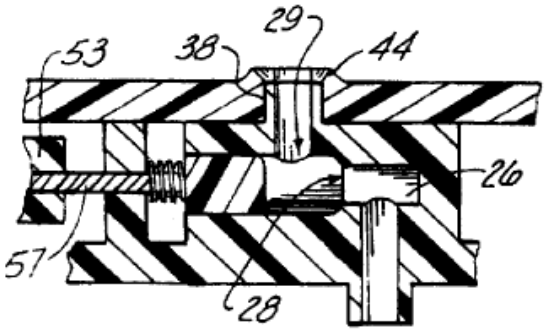


Fig. 4

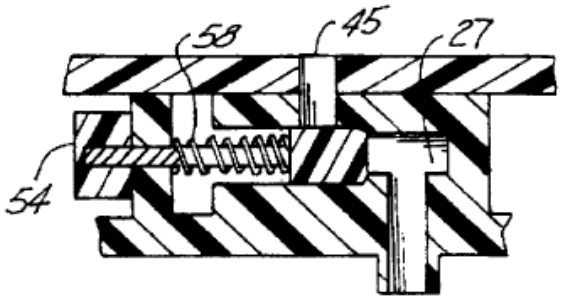


Fig. 5

Figures 4 and 5 above depict cross-sectional views of, respectively, a supply chamber valve in an open position and a vent chamber valve head in closed position. Chaffin further explains the following:

> As can best be seen by reference to FIGS. 4 and 5, the valve stem 57, the helical spring 58 and the elongated valve head 56 are dimensioned to project into the inlet supply chamber 26 and the vent chamber 27 wherein when the helical spring 58 is in its relaxed state, the valve head 56 sealingly engages the inlet 22 and outlet 29 valve seat in a well recognized manner. However, as shown in FIG. 4, when the helical spring 58 is compressed by the handle element 51, moving the actuator element 50 away from the discrete apertured partitions, the valve head 56 is retracted from engagement with the valve seats 28 and 29 to open up fluid communication through the chambers 26 and 27.

Ex. 1002, 5:10–20.[5]

[5] We note that, unlike Figure 4, Figure 5 does not designate reference characters for inlet seat 28 and outlet valve seat 29. It is clear, however, from Chaffin's disclosure that those components are also part of the vent chamber valve, and associated vent chamber 27, that is shown in Figure 5. *See id.* at 5:17–20 ("the valve head 56 is retracted from engagement with the valve seats 28 and 29 to open fluid communication through the chambers 26 and 27"); 4:50–53 ("each of the chambers 26 and 27 are provided with an

3. Overview of Albert

Albert is titled "Drinking Receptacle Valve Means." Ex. 1001, Title. Albert describes its invention as a drinking receptacle including a cover that includes a manually operable drinking valve and an associated pressure relief valve. *Id*. at 1:27–47. Albert's Figure 2 is reproduced below:

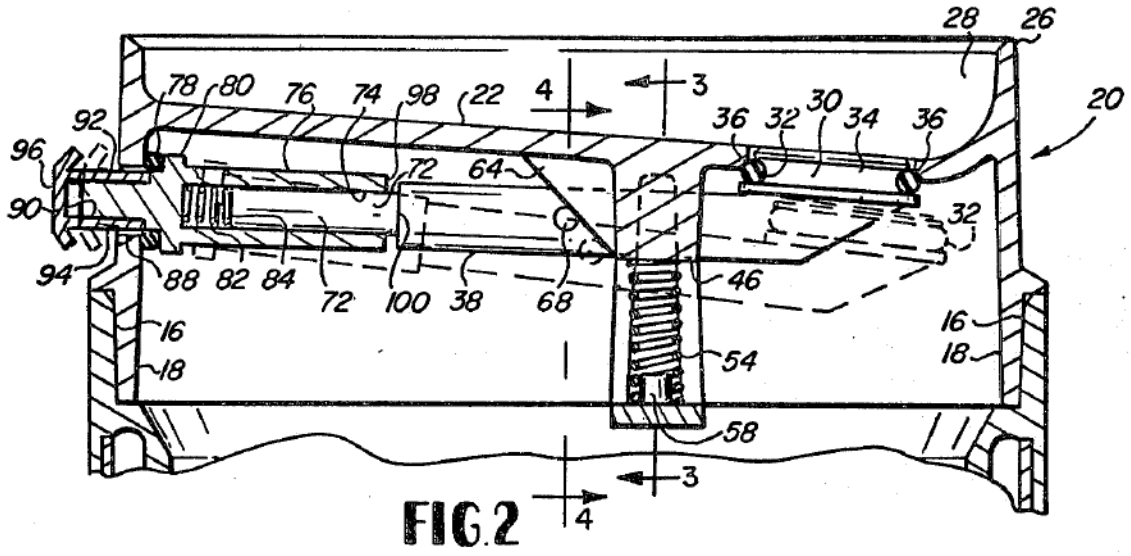


FIG.2

Figure 2 above depicts a sectional view of the receptacle cover of Albert's invention. *Id*. at 3:11–12. More particularly, Albert's drinking receptacle or container 10 (not numbered in Figure 2) includes cover 20 having enclosing top portion 22 with drinking opening 24 (not numbered). *Id*. at 3:41–46. The drinking opening is preferably a circular opening and is enclosed by valve member 30 with peripherally connected O-ring 32. *Id*. at 3:52–59. Manually engageable knob 96 serves as an actuation member that ultimately serves to manipulate movable member 38 to the position

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inlet valve seat 28 and an outlet valve seat 29 disposed generally perpendicular to one another").

shown with broken lines in Figure 2 in which valve 30 is displaced and the drinking opening is unsealed. *Id*. at 3:60–4:2. Spring 54 exerts a force on moveable member that, when pressure is release from knob 96, operates to reposition valve 30 and O-ring 32 into the solid line position shown in Figure 2. *Id*. at 5:26–33. Integral with movable member 38 is a reduced diameter shank portion 72 that is telescopically mounted in bore 74 of plunger 76. *Id*. at 4:31–33. Spring 82 is disposed within bore 74 and exerts a force on end 84 of reduced diameter portion 72 to hold O-ring pressure relief valve 78 against inner side wall 86 (not numbered in Figure 2) of cover 20. *Id*. at 4:37–41.

Albert explains the following in conjunction with components of Albert's cover 20, and their function, that contribute to the actuation of manually engageable knob 96 (with hollow portion 94), the movement of plunger 76, and the operation of relief valve 78:

> The hollow portion 94 of the manually engageable knob 96 may be pressed on the reduced diameter portion 92 of the plunger 76, if desired.
>
> The plunger 76 is provided with an abutment end 98 normally spaced from an abutment shoulder 100 which forms a transition between the main body of the shank 38 and the reduced diameter portion 72.
>
> The spacing between the abutment portions 98 and 100 provides for a lost motion relationship between the plunger 76 and the moveable member 38 so as to permit initial movement of the relief valve 78 from its position around the enlarged opening 88 so that steam may be relieved before the abutment portion 98 touches the abutment portion 100 and starts to open the valve member 30 relative to the drinking opening 36[6]. In this

[6] The quoted portion of Albert identifies the drinking opening using reference character "36." Elsewhere, however, reference character 36 is

> manner, the relief of steam and pressure from the receptacle is accomplished when the receptacle is titled so that the relief valve 78 is above the level of the liquid and the liquid is in the area of the valve member 30 and the drinking opening 24 adjacent the drinking lip 26.

Id. at 4:67–5:11.

Thus, Albert contemplates an arrangement of components contributing to a "lost motion" operation that initially allows for the opening of relief valve 78 and the release of steam and pressure. Further depression of knob 96 subsequently opens valve 30 permitting a user to drink the contents of the drinking receptacle. *Id*. at 5:12–26. Albert characterizes the operation of the valve components discussed above as "provid[ing] for safe drinking of the contents of the receptacle such as hot coffee or the like." *Id*. at 1:47–52.

4. Summary of PMI's Arguments

PMI describes in detail where it believes all the features of claims 1–23 of the '233 patent are disclosed in Chaffin and Albert. Pet 17–73 (citing content of Exs. 1001, 1002, and 1024). Generally, PMI is of the view that Chaffin discloses most of the features of claims 1–23 with the exception of those features pertaining to the operation of a first actuation stroke of a trigger to cause a vent aperture to be initially opened, and a second actuation stroke of the trigger to cause the opening of a drink aperture. PMI summarizes that operation using the term "pre-venting." *See*, *e.g.*, Pet. 19.

In accounting for the "pre-venting" aspects of the claims, PMI turns to Albert. As discussed above, Albert contemplates spacing between abutment

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used to identify a "chamfered valve seat" disposed around drink opening "24." *See* Ex. 1001, 3:56–59.

portions 98, 100 of plunger 76 and moveable member 38, respectively, that provides for a "lost motion relationship." Ex. 1001, 4:67–5:11. That lost motion relationship permits the initial opening of relief valve 78 prior to the opening of drinking opening 24. *Id*. In allowing the initial opening of relief valve 78, steam and pressure may escape the drinking container before a user drinks the contents of the container, which serves a safety purpose. *Id*. at 5:12–26, 1:47–52.

PMI presents the following illustrations as to a proposed combination of Chaffin when modified by Albert's teachings as would be understood by a person of ordinary skill in the art:

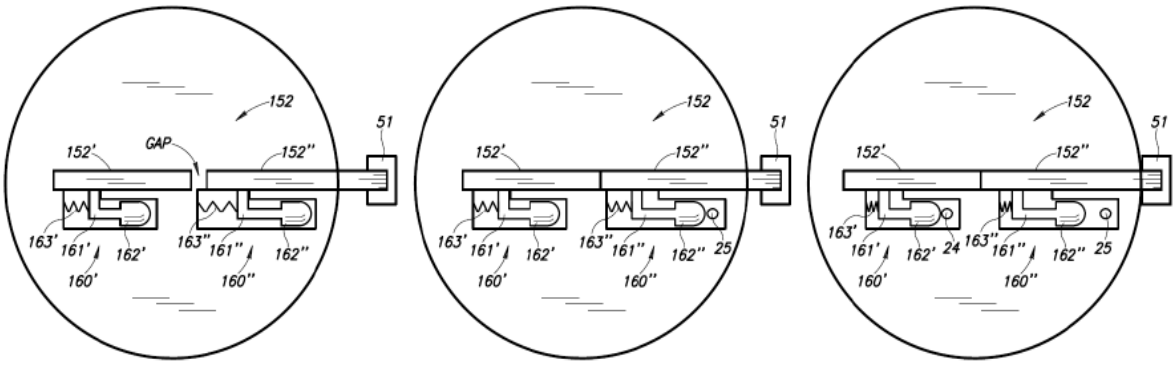


FIG.12A FIG.12B FIG.12C

Modified Chaffin in Fully Closed Position PMI-1042

Modified Chaffin in Partially Opened Position PMI-1043

Modified Chaffin in Fully Opened Position PMI-1044

Pet. 28. PMI explains that, in light of Albert's teachings, one of ordinary skill in the art would have recognized that a gap or space would be employed in Chaffin's actuator rod 152 (as proposed in Figure 12A above). *Id*. at 26–29. According to PMI, in applying such a gap, a skilled artisan would have appreciated that actuator rod 152 would be split into two aligned rods 152', 152" allowing for the initial opening of base vent aperture 25 and

venting of gas through lid vent aperture 45. *Id*. PMI reasons that an ordinarily skilled artisan would have viewed the combination of Chaffin and Albert as a "simple substitution of one known element in closely related prior art for another" and that such artisan would endeavor to so combine the teachings to harness the "lost motion pre-venting solution" enjoyed by Albert in the drinking container of Chaffin. *Id*. at 30–31. PMI supports its reasoning with recourse to the declaration testimony of Mr. Dahlgren. *Id*. (citing Ex. 1024 ¶¶ 81–82).

5. Summary of Ignite's Arguments

Ignite does not agree with PMI that claims 1–23 are unpatentable based on the teachings of Chaffin and Albert. In particular, Ignite argues:

(1) that the extent of Chaffin's "vent chamber 27" urged by PMI is incorrect (PO Resp. 27–31);

(2) Chaffin's "vent chamber 27" is not a "vent chamber" required by the claims because vent chamber 27 in Chaffin does not provide for lowering the pressure of vapor or gas (*id.* at 31–41);

(3) Chaffin does not disclose any vent chamber "located between the vent seal and the vent aperture when the vent seal [is] in a closed position" (claims 5 and 21) (PO Resp. 41–48);

(4) "Chaffin does not disclose a trigger extending partially through the vent chamber" (claims 5 and 22) (PO Resp. 49–50);

(5) "Chaffin does not disclose a vent seal directly connected to the trigger and a drink seal not directly/indirectly connected to the trigger" (independent claim 16 and dependent claims 7–9, 18, and 19) (PO Resp. 50–57);

(6) PMI "failed to show Chaffin meets the limitation 'the vent chamber having a cross-sectional area greater than a cross-sectional area of the vent aperture'" (claim 21) (PO Resp. 57–59);

(7) "Chaffin does not disclose a vent seal closing access between the vent chamber and the cavity of the container" (claim 2) (PO Resp. 59–60);

(8) "Chaffin does not disclose a second aperture" (claim 23) (PO Resp. 61–62);

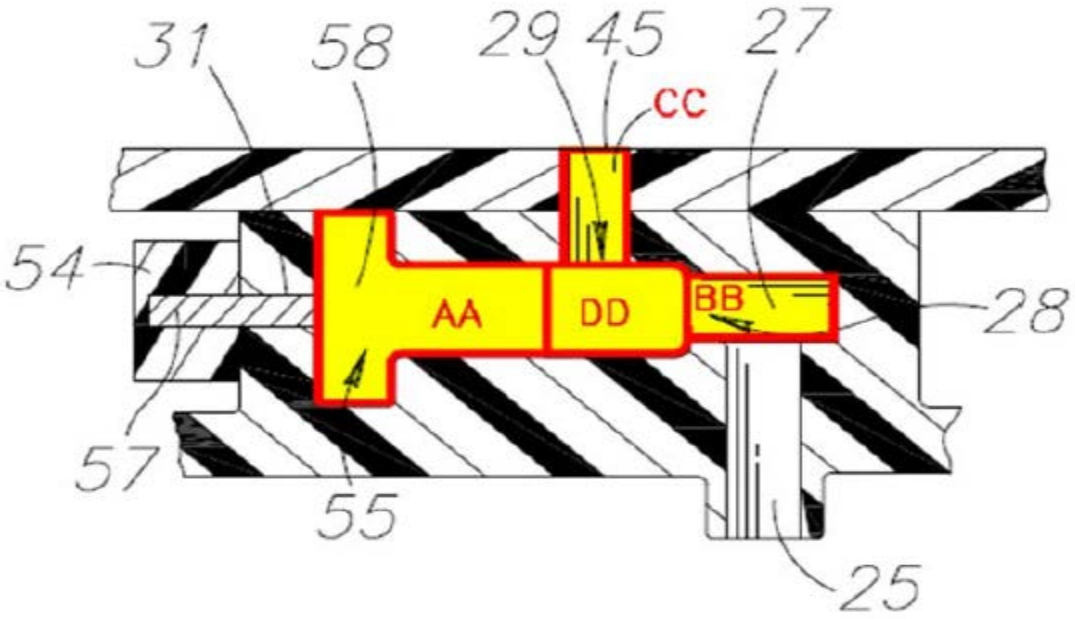
(9) "Chaffin does not disclose a spring member exerting a force on the trigger" (claim 13) (PO Resp. 62–63); and

(10) dependent claims 3, 4, 6, 9–12, 14, 15, 17, and 20 are also not unpatentable based on Chaffin and Albert (*id.* at 64).

6. Discussion—Unpatentability

a. The extent of Chaffin's "vent chamber 27"

In its Petitioner Reply, PMI provides an annotated version of Chaffin's Figure 5 that PMI has advanced during the course of the trial and in connection with the Petition as constituting Chaffin's vent chamber 27. Pet. Reply 17 (citing Ex. 1050); *see also* Pet. 33. That annotated version is reproduced below:



PMI–1050

We understand that the figure reproduced above depicts Chaffin's Figure 5 with portions highlighted and with interior valve components removed.[7] As noted by PMI, this panel had cause to visit this very issue in connection with the Final Written Decision in IPR2014-00750. PMI reproduced the pertinent discussion from that Decision, and we also reproduce it here as presented in PMI's Petitioner Reply:

> Chaffin describes elongated vent chamber 27 as being "provided with an inlet valve seat 28 and an outlet valve seat 29." Ex. 1006 [Chaffin], 4:51–52. [i.e., Portion DD] Chaffin also describes vent chamber 27 as having an "outlet port" that "is disposed flush with the vent aperture 45." *Id*. at 5:34–35. [i.e., Portion CC] Chaffin states that as "can best be seen by reference to FIGS. 4 and 5, the valve stem 57, the helical spring 58 and the

[7] During the course of the trial, both parties have referenced the particular demarcation scheme which identifies portions AA–DD.

> elongated valve head 56 are dimensioned to project into . . . vent chamber 27." *Id*. at 5:10–13. [i.e., Portions AA and DD] Chaffin, thus, describes stem 57 and spring 58 as projecting into vent chamber 27 in Figure 4 (when valve 56 is fully open) and Figure 5 (when valve 56 is fully closed). Accordingly, we determine that PMI has identified correctly the extent of Chaffin's vent chamber 27 as the portion that is highlighted in PMI's annotated and modified versions of Chaffin's Figure 5.

Pet. Reply 17–18 (stating "Bracketed identification of Vent Chamber Portions AA-DD added," and citing Ex. 1021, 30; Ex. 1024 ¶ 86; and Ex. 1045 ¶ 48.)

We are mindful that Ignite challenges the bounds of vent chamber 27 as proposed by PMI. PO Resp. 27–31. Ignite's declarant, Mr. Charles Austen Angell, testifies that a "fair reading" of Chaffin should limit the vent chamber 27 to only the area now designated BB. *See* Ex. 2011 ¶ 92. Mr. Angell explains the underlying basis for his position and the basis of his disagreement with Mr. Dahlgren. *See id*. ¶¶ 82–96. Mr. Angell's testimony, however, is inconsistent with Chaffin's plain disclosure, including that referenced above, which clearly characterizes vent chamber 27 as extending beyond that limited BB area. More specifically, and as referenced above, Chaffin discloses that "the outlet port of the vent chamber 27 is disposed flush with the vent aperture 45." Ex. 1002, 5:34–35. That disclosure conveys that portion CC should be regarded as part of vent chamber 27. Furthermore, Chaffin's description that valve stem 57, helical spring 58, and valve head 56 "are dimensioned to project into . . . vent chamber 27" readily conveys that portions AA and DD are encompassed by vent chamber 27. *Id.* at 5:10–12. Lastly, there is no question that portion BB is part of vent chamber 27.

We have considered the competing views of PMI and Ignite as to the extent of Chaffin's vent chamber 27. We have also considered the conflicting testimony of Mr. Dahlgren and Mr. Angell. In connection with this current proceeding, we credit Mr. Dahlgren's testimony (*see, e.g.*, Ex. 1024 ¶¶ 83–89) over that of Mr. Angell (*see, e.g.*, Ex. 2011 ¶¶ 82–96). We do so because, on the record before us, we determine that Mr. Dahlgren's testimony is more consistent with Chaffin's own description as to the nature of its disclosed vent chamber. Accordingly, as in our Final Written Decision in IPR2014-00750, we once again conclude that all of the highlighted portions shown in the annotated figure of Chaffin, reproduced above, are understood reasonably as forming vent chamber 27.

b. A vent chamber "for lowering the pressure of vapor or gas" (claims 1–23)

At the outset, we note that none of the claims of the '233 patent recites that pressure must be lowered or reduced. We, however, are cognizant that the parties agree that the meaning of "vent chamber" is "a space having an entrance and an exit for lowering the pressure of vapor or gas." PO Resp. 10; Pet Reply 4.

Ignite is of the view that none of the above-noted highlighted portions (i.e., portions AA–DD) constitutes a vent chamber "for lowering the pressure of vapor or gas." *See, e.g.*, PO Resp. 33. Ignite's premise is based on assertions such as: (1) Chaffin's "vent chamber 27" should be regarded as being in "equilibrium" with respect to the contents of the receptacle; (2) Chaffin is "silent with respect to venting hot gases" and "silent with respect to venting *out* any vapor or gas;" (3) "Chaffin does not contemplate the problems associated with including a hot beverage within the container

and the need to vent hot vapor/gas out the vent aperture 45;" and (4) "vent chamber 27 of Chaffin could not lower the pressure of vapor/gas." *See, e.g.*, *id.* at 30–41.

In our view, Ignite's positions expressed in its Patent Owner Response, such as those noted above, simply discount what a skilled artisan reasonably would have taken from disclosure of a "vent chamber" in a drinking receptacle, as in Chaffin. Although Chaffin may be "silent" when it comes to venting out hot gases, that does not mean that a skilled artisan would not appreciate readily that Chaffin's "vent chamber" would perform a venting operation when a hot beverage that generates hot gases is contained within Chaffin's receptacle. We share PMI's view (and credit the supporting testimony of Mr. Dahlgren) that: "[i]t is an inherent capability of an unobstructed passageway that air can flow in both directions, in and out"; and that "the valve head 56 of the fluid supply chamber 26 and the valve head 56 of the vent chamber 27 open simultaneously, which means that any pressurized gas/vapor in the receptacle 12 will simultaneously vent outward through both the mouth piece 44 and the lid vent aperture 45." Pet. Reply 13–14 (citing Ex. 1045 ¶¶ 37, 38). Indeed, there can be no credible argument levied that Chaffin's vent chamber 27 and vent aperture 45 are somehow incapable of permitting the exit of gases or vapor from within the container.

We also observe that PMI advanced the following:

> [T]he 1834 "ideal gas law" expressed by the equation PV=nRT dictates that if the total volume a gas occupies increased, the pressure of the gas is reduced. (PMI-1045, ¶ 53).
>
> Chaffin teaches the use of a vent chamber to reduce pressure. When valve head 56 moves left to open, any

> pressurized gas/vapor which occupied the vent chamber's vertical channel and Portion BB, will expand into Portions DD and CC, and reduce the pressure of the expanded gas/vapor within the lid/ (PMI-1045, ¶¶ 54–58).

Pet. Reply 19.

We share the view expressed above, and we credit the testimony of Mr. Dahlgren proffered in support of that view (i.e., Ex. 1045 ¶¶ 53–58). We conclude that the countervailing testimony of Mr. Angel (e.g, Ex. 2011 ¶¶ 91–96, 99–103, 105–108, 110–112, and 116–118) on which Ignite relies (PO Resp. 31–41) simply does not reflect adequately, based on other evidence of record, what a person of ordinary skill in the art would have appreciated as to the lowering of pressure by Chaffin's vent chamber 27 that would occur in various circumstances (e.g., a hot beverage used in Chaffin's drinking container).

c. A vent chamber located between the vent seal and the vent aperture when the vent seal is in a closed position (claims 5 and 21).[8]

Each of claims 5 and 21 requires "a vent chamber located between the vent seal and the vent aperture when the vent seal is in a closed position." PMI contends that, in Chaffin, when the vent chamber valve is in a closed position, "valve head [56] is seated against the inlet valve seat 28 and blocks the flow of fluid, such as pressurized gases, thereby blocking flow from the base vent aperture 25 upward to the lid vent aperture 45 and operably

[8] We observe that claim 2 includes a similar limitation of "a vent chamber between the vent aperture and the vent seal" but does not limit that configuration to a period "when the vent seal is in a closed position" (claim 21), or "when the trigger is in the closed position" (i.e., the vent seal also in a closed position) (claim 5).

closing the vent aperture." Pet. 37–38. In contending that the noted feature of claims 5 and 21 (and also claim 2) is satisfied, PMI also makes reference to the Final Written Decision in IPR2014-00750 in which this panel concluded that "Chaffin's vent chamber 27 meets the claimed limitation of 'between the vent seal and the vent aperture'" *Id.* at 37; *see also* Ex. 1021, 32 ("[W]e conclude that Chaffin's vent chamber 27 meets the claimed limitation of 'between the vent seal and the vent aperture' because Chaffin's vent chamber 27 extends between valve seat 28 (located at the vent seal) and valve seat 29 (located at the vent aperture).").

Ignite contends that none of the noted portions of Chaffin's vent chamber 27 (i.e., those identified by the parties and above as portions AA–DD) is considered as being "located between the vent seal and the vent aperture when the vent seal [is] in a closed position" as required by claims 5 and 21. PO Resp. 41–48.

It is apparent from the Petition that PMI is of the view that valve head 56 forms a vent seal that engages with inlet valve seat 28, and in that configuration, valve head 56 resides in the portion DD of vent chamber 27, and that portions CC and DD extend between the vent seal and vent aperture 45. PMI, thus, contends that the requirements in claims 2, 5, and 21 of "a vent chamber extends between the vent aperture and the vent seal" (all three claims) when the "trigger" and "vent seal" "are in a closed position" (claims 5 and 21, respectively) are met. Indeed, PMI and Mr. Dahlgren emphasize that such is the correct understanding of PMI's position. Pet. Reply 19–20; Ex. 1045 ¶¶ 59–61. As discussed above, we conclude that portions CC and DD are recognized reasonably as being part of Chaffin's vent chamber 27. And as noted above in connection with claim construction

of a vent chamber "between the vent seal and vent aperture," we determine that such limitation does not require that the entirety of the vent chamber reside between (or separate) the vent seal and vent aperture.

For the reasons given above, we are persuaded by PMI and Mr. Dahlgren that portions CC and DD of Chaffin's vent chamber 27 are viewed reasonably as lying between (or separating) (1) the seal formed by valve head 56 at inlet seat 28, and (2) vent aperture 45. Accordingly, we conclude that the corresponding limitations discussed above for each of claims 2, 5, and 21 are accounted for by the combined teachings of Chaffin and Albert.

d. A trigger extending partially through the vent chamber (claims 5 and 22)

Claim 5 recites "the trigger extending partially through the vent chamber." Claim 22 recites "the trigger extends at least partially through the vent chamber." PMI contends that "[a]s found by the Board, the valve stem 57, the helical spring 58 and the elongated valve head 56 of the valve member 55 of Chaffin are dimensioned to project into the vent chamber 27, and as such extend at least partially through the vent chamber 27, as recited in claims 5 and 22 of the '233 patent." Pet. 39 (citing Ex. 1024 ¶ 92). We understand that the reference to the Board's findings are to pages 28–32 of the Final Written Decision in IPR2014-00750 in which this panel concluded that the combined teachings of Chaffin and Albert '748 disclosed or suggested the invention recited in claim 11 of the '933 patent, which includes a limitation that "the trigger extends partially through the vent chamber." *See* Ex. 1021, 28–32.

Ignite argues that valve head 56 does not constitute a part of the trigger and, thus, that component does not satisfy the requirement in claims 5 and 22 that the "trigger extends partially through the vent chamber." PO Resp. 49–50. Ignite also argues the following:

> Moreover, because vapor and gas do not enter the area behind the valve head 56 as explained above in Section B.3.d, and admitted by Petitioner's expert (*see* Ex. 2007, 210:22–211:10), the area behind the valve head 56 does not disclose a vent chamber for lowering the pressure of vapor or gas. Accordingly, to the extent that the valve stem 57 and spring element 58 form part of the claimed trigger, they do not "extend partially through" a chamber for lowering the pressure of vapor or gas.

Id. at 50.

Thus, Ignite effectively contends that, to the extent valve stem 57 and spring element 58 are part of the trigger, they reside only in portion AA of Chaffin's vent chamber 27, which Ignite does not view as part of the vent chamber.

As discussed above, we conclude that portion AA does form part of Chaffin's vent chamber 27. We also agree with PMI that valve stem 57 and helical spring 58 are part of the trigger (*see* Pet. 39; Pet. Reply 20). In that respect, Chaffin describes that "valve stem 57 projects inwardly from the arms 53, 54, of the actuator element 50" (Ex. 1002, 5:5–9) and that valve stem 57 "is provided with a helical spring element 58 which slideably engages the valve stem 57" (*id*. at 4:62–64). Those disclosures readily convey that valve 57 and helical spring 58 are considered reasonably as part of the actuating or trigger components of Chaffin's drinking container. We further credit Mr. Dahlgren's corresponding testimony that the position of the valve stem 57 and helical spring 58 in vent chamber 27 account for the

requirement in claims 5 and 22 of a "trigger extending partially through the vent chamber" (Ex. 1024 ¶ 92; Ex. 1045 ¶¶ 62, 63).

We conclude that the corresponding limitations discussed above for each of claims 5 and 22 are disclosed or suggested by the combined teachings of Chaffin and Albert.

e. A vent seal directly connected to the trigger and a drink seal not directly/indirectly connected to the trigger (claims 16, 7–9, 18, and 19)

Independent claim 16, and dependent 9 (which ultimately depends from claim 1), recite that "the vent seal is directly connected to the trigger." Claims 7 and 19 recite that the "drink seal is indirectly connected to the trigger," and claim 8 recites that "the drink seal is not directly connected to the trigger." [9] Claim 18 (which depends from claim 16) recites that the "drink seal is indirectly operated by the trigger." Thus, the configuration that emerges from the above-noted claims is one in which the "vent seal" of a drinking container lid is directly connected to the trigger, whereas the "drink seal" is indirectly connected/operated by the trigger.

PMI contends that indirect connection of the drink seal and trigger and direct connection of the vent seal and trigger results when Chaffin's drinking container lid is modified to incorporate the "lost motion" configuration of Albert's actuation components. Pet. 42–44 (citing Ex. 1024 ¶¶ 98, 99); Pet. Reply 21–23 (citing Ex. 1045 ¶¶ 64–69). Ignite challenges PMI's contention urging that it is "an illogical and inconsistent approach" because it allegedly requires that "the same connection between the trigger

[9] Claims 7 and 8 depend from claim 5, and claim 19 depends from claim 16.

and the vent and drink seals teaches both a direct and indirect connection." PO Resp. 50 (emphasis omitted).

We do not agree with Ignite that PMI's position with respect to claims 7–9, 16, 18, and 19 requires that a given connection configuration must simultaneously be both direct and indirect. Rather, we agree with PMI that Ignite seemingly misstates the nature of PMI's position in that respect. *See* Pet. Reply 21. Although the Specification of the '233 patent does not use the terminology "indirectly connected," or "not directly connected," we agree with PMI that it is apparent that the nature of such a connection arises due to the relationship of components permitting "pre-venting." *See* Pet. Reply 21–23. We again reproduce the illustrations offered by PMI to show what a person of ordinary skill would have understood from the combined teachings of Chaffin and Albert.

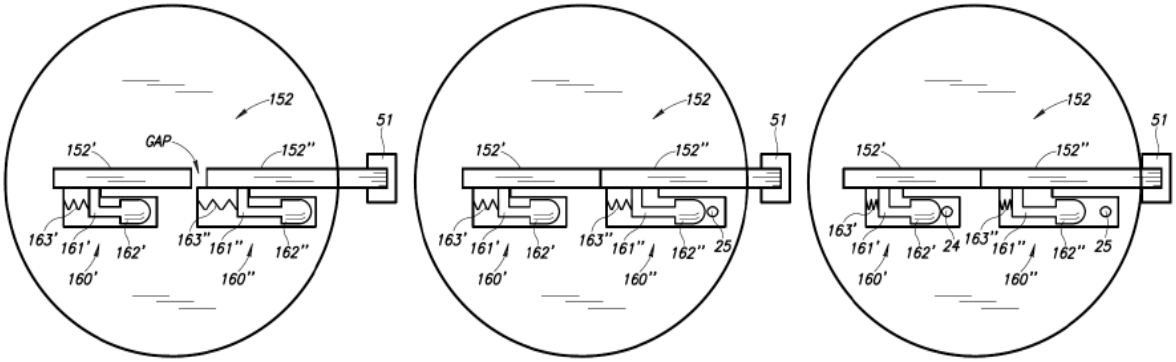


FIG.12A FIG.12B FIG.12C

Modified Chaffin in Fully Closed Position PMI-1042

Modified Chaffin in Partially Opened Position PMI-1043

Modified Chaffin in Fully Opened Position PMI-1044

Pet. 28.

When the lost motion arrangement of Albert is implemented into the actuator rod 152 of Chaffin in the manner illustrated above by PMI (and

described by Mr. Dahlgren (Ex. 1024 ¶ 78)), a skilled artisan would have understood that the drink seal portion 162′ is indirectly, or not directly, connected to the portion of the actuator rod portion 152″ (as designated in the illustrations above). On the other hand, vent seal portion 162″ remains directly connected to actuator rod portion 152″. We have considered Ignite's arguments urging that PMI's position be discounted (PO Resp. 50–54), but we are not satisfied that those arguments are correct. We credit the initial and responsive testimony of Mr. Dahlgren (*see, e.g.,* Ex. 1024 ¶¶ 78–80; Ex. 1045 ¶¶ 64–69) over the arguments offered by Ignite, which are not supported by underlying testimony.

We conclude that the corresponding limitations discussed above for each of claims 7–9, 16, 18, and 19 are accounted for by the combined teachings of Chaffin and Albert.

f. The vent chamber having a cross-sectional area greater than a cross-sectional area of the vent aperture (claim 21)

Independent claim 21 recites "the vent chamber having a cross-sectional area greater than a cross-sectional area of the vent aperture." PMI contends that Chaffin's Figure 5 conveys that "a cross-sectional area for the vent chamber 27 [is] about 2.24 times larger than the cross-sectional area for the lid vent aperture 45." Pet. 40–41. In so making that contention, PMI relies on the testimony of Mr. Dahlgren who testifies that he made measurements of the pertinent dimensions in Chaffin's Figure 5. *Id*. at 41 (citing 1024 ¶¶ 93, 94). PMI, thus, submits that the relative proportions of the above-noted cross-sectional areas set forth in claim 21 of the '233 patent are satisfied by Chaffin.

Ignite contends that Mr. Dahlgren analyzed a modified version of Chaffin's Figure 5 that is in the record as Exhibit 1040. PO Resp. 58. Ignite, thus, argues that in taking measurements of the Exhibit 1040 version of Chaffin's Figure 5 and not the "original" version of that figure, PMI's position, and Mr. Dahlgren's testimony, should be rejected. *Id*. at 58–59.

The version of Chaffin's Figure 5 appearing in Exhibit 1040 is reproduced below:

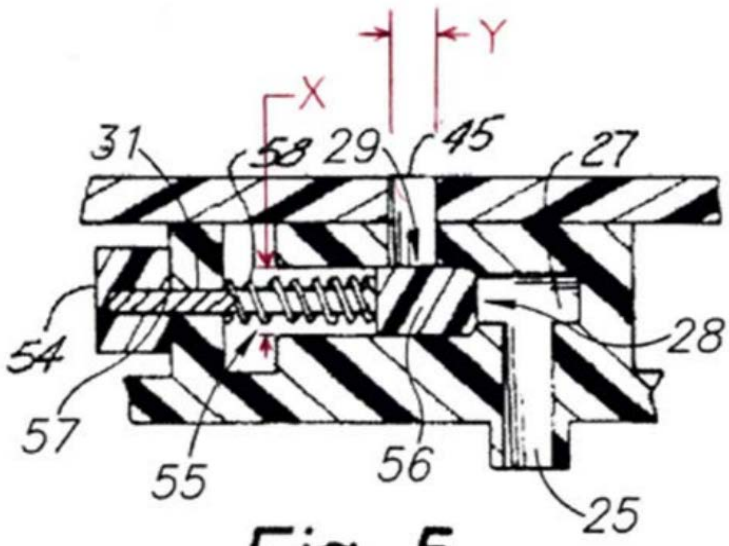


Fig. 5

The figure reproduced above includes annotations identifying a dimension "X" and a dimension "Y." The version of the noted figure in Exhibit 1040 also does appear to be somewhat enlarged. Mr. Dahlgren testifies that dimension "X" corresponds to the cross-sectional area of the vent chamber, and dimension "Y" correspond to the cross-sectional area of the vent aperture. Ex. 1024 ¶ 94. It is not apparent to us that Exhibit 1040 distorts or alters the proportions of Chaffin's "original" Figure 5. We also are cognizant of Mr. Dahlgren's testimony that "[w]hile the actual measured dimensions depend upon how much Figure 5 is enlarged, regardless of the

enlargement, proportionally the measurements will be the same and produce the same results." Ex. 1024 ¶ 93. Indeed, Mr. Dahlgren also testifies that "I conducted the same measurements and analysis using Fig. 5 without enlargement and found my original conclusion was accurate." Ex. 1045 ¶ 70; *see also* Pet Reply 23–24 (citing Ex. 1045 ¶¶ 70–71).

On this record, we do not discern that Mr. Dahlgren's measurements of the version of Chaffin's Figure 5 that appears in Exhibit 1040 should be regarded as unreliable to show relative proportions of dimensions "X" and "Y." We credit Mr. Dahlgren's testimony in that respect, and conclude that PMI has provided adequate evidence establishing that pertinent cross-sectional area proportions required by claim 21 are shown in the prior art.

g. A vent seal closing access between the vent chamber and the cavity of the container (claim 2)

Claim 2 adds to claim 1 "the vent seal closing access between the vent chamber and cavity of the container body to operably close the vent aperture." In the Petition, PMI urged that in Chaffin "valve head (vent seal) 56 when in the fully closed position, closes access between the vent chamber 27 and the cavity of the container body below the lid to operably close the lid vent aperture 45." Pet. 37–38. Ignite challenges PMI's position that valve head 56 does not "close access" to vent chamber 27 because portion "BB" of Chaffin's vent chamber is "always" open to the cavity of Chaffin's drinking container. PO Resp. 59–60.

At issue, here, is whether "access" between Chaffin's vent chamber 27 and its drinking receptacle 12 via base vent aperture 25 is not "closed" because portion BB of that vent chamber ostensibly remains exposed to the container body. We observe that claim 2, itself, provides

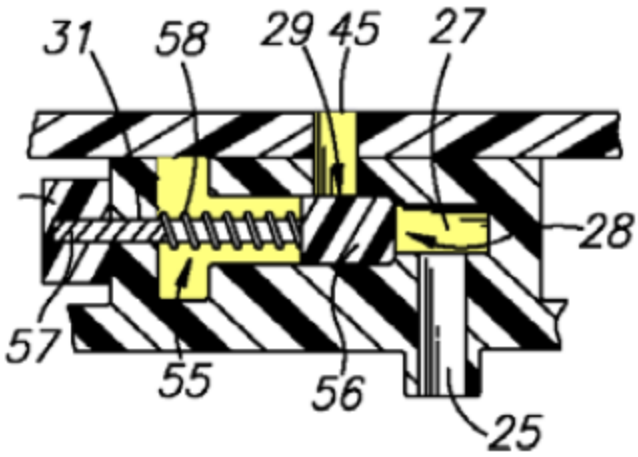
context for understanding the nature of closing access between the vent chamber and the container body in providing that the purpose of closing access therebetween is "to operably close the vent aperture." When valve head 56 is in its closed position against inlet valve seat 28, a skilled artisan would recognize readily that vent aperture 45 is "operably closed" as there is no fluid communication through the vent chamber between vent aperture 45 and drinking receptacle 12. Thus, in considering the context of claim 2, we share PMI's view (*see* Pet. 37–38; Pet. Reply 24) and credit Mr. Dahlgren's testimony (Ex. 1045 ¶ 72) that access between Chaffin's drinking receptacle 12 and vent chamber is understood reasonably as closed when valve head 56 sits against inlet valve seat 28 even though portion BB is to the right of the seat.

Accordingly, we conclude that the corresponding limitation discussed above for claim 2 is accounted for by the combined teachings of Chaffin and Albert.

h. A second aperture (claim 23)

Claim 23 depends from claim 2 and adds that the vent chamber "includes a first aperture providing fluid communication between the vent chamber and the cavity of the container body" and "a second aperture providing fluid communication between the vent chamber and the trigger." PMI points to Chaffin's base vent aperture 25 as the first aperture and aperture 31 as the second aperture. Pet. 41–42 (citing Ex. 1024 ¶¶ 95, 96). Ignite counters with argument that aperture 31 in Chaffin does not provide fluid communication between any trigger and vent chamber. PO Resp. 61–62.

Chaffin discloses that "discrete apertures 31 are provided in the partitions that are disposed opposite the portion chambers 26 and 27 wherein the apertures are dimensioned to slideably receive the valve stem 57 which project inwardly from arms 53, 54 of the actuator element 50." Ex. 1008, 5:5–9. Although Chaffin does not illustrate an aperture 31 in any of its figures, both parties are in agreement that the following annotated version of Chaffin's Figure 5 shows the location of the aperture:



Ex. 1039; PO Resp. 62.

The annotated figure reproduced above depicts Chaffin's Figure 5 in an annotated form that includes a lead line identifying the location of aperture 31. As has been discussed, in this Decision, we conclude that portion AA (the leftmost yellow portion in the above-reproduced figure) is part of Chaffin's vent chamber 27. As is clear from Chaffin's disclosure, and also informed by the figure reproduced above, aperture 31 is positioned such that it would provide fluid communication between vent chamber 27 and portions of Chaffin's trigger/actuation assembly. The issue is whether a

skilled artisan would glean that "fluid communication" is possible through aperture 31.

We discern that the '233 patent provides little, if any, context for the meaning of "fluid communication" when it comes to such communication between the trigger assembly and vent chamber. It is not evident that the Specification of the '233 patent provides any meaningful discussion in that respect. The only apparent description in the '233 patent of an aperture that correlates with the "second aperture" of claim 23 is "aperture 743" which is set forth as simply "to provide access to the interior of the lid assembly 514 for the trigger 610." Ex. 1008, 18:1–3. Ignite is of the view that the following disclosure in Chaffin means that aperture 31 does not permit fluid communication:

> The present invention comprises an improved valve arrangement for the receptacle cover incorporating an elongated actuator operatively connected to a pair of biased valves that seal off the fluid supply inlet and the vent from the top side of the cover. This construction isolates the valves and the actuator unit from the contents of the receptacle.

See PO Resp. 62; Ex. 1002; 3:14–20.

Yet, it is not clear what the above-quote means in connection with any aperture 31. In response to Ignite's argument, PMI directs us to testimony of Mr. Dahlgren. Pet. Reply 24–25. Mr. Dahlgren again takes note of the similarity in function and purpose of Chaffin's aperture 31 and aperture 743 of the '233 patent. Ex. 1045 ¶ 74. Mr. Dahlgren also testifies "I note that in Chaffin there is no trigger seal at aperture 31 which would prevent fluid (air) communication through the aperture 31 to additional portions of the trigger, such as actuator arm 54." *Id*.

Given the record at hand, we do not discern how the recitation in claim 23 of "a second aperture providing fluid communication between the vent chamber the trigger" is patentably distinguished from the second aperture that is aperture 31 in Chaffin.

i. A spring member exerting a force on the trigger (claim 13)

Claim 13 depends from claim 5 and adds "a spring member exerting a force on the trigger to move the trigger from a second position, where the drink seal and vent seal are open, to a first position, where the drink seal and vent seal are closed."

In the Petition, PMI takes the position that "[t]he spring biasing elements 163 between each valve arms 161 [sic] and the walls in the compartmented base unit 20 of Chaffin" teach the spring member of claim 13. Pet. 44 (citing Ex. 1002, 5:54–57; Ex. 1024 ¶ 100). Ignite challenges PMI's position on the theory that the container lid of Chaffin is modified based on Albert's teachings "the spring biasing elements 163 exert a force on the vent seal (valve arm 161), not the trigger of Chaffin." PO Resp. 62–63. In response to that challenge, PMI reiterates its position, arguing that "[i]n Chaffin modified by Albert as shown in [Exs. 1042–1044], spring 163' forces the second actuator rod portion 152' to move the drink seal/valve head 162', and spring 163' forces the second rod portion 152" to move the vent seal valve head 162'." Pet Reply 26 (citing Ex. 1045 ¶ 75).

We agree with PMI that the combined teachings of Chaffin and Albert account for the requirements of claim 13. Even assuming *arguendo* that Chaffin's valve arms 161 are considered part of a vent seal and not a trigger, as Ignite contends, the force applied by spring biasing elements 163′ to valve arms 161 would also be translated to Chaffin's actuator unit 15 (i.e., a

trigger), and its associated components to return the actuator unit to a position ready for actuation. The spring biasing elements, thus, are viewed reasonably as exerting a force "on" Chaffin's trigger. It would appear that implicit to Ignite's argument is the assertion that claim 13 requires that the spring biasing member exert a force "directly on" the trigger. The term "directly," however, does not appear in claim 13, and we do not view direct connection of the spring member and trigger as a requirement of the claim.

For the foregoing reasons, we conclude that the combined teachings of Chaffin and Albert disclose or suggest the features recited in claim 13.

j. Dependent claims 3, 4, 6, 9–12, 14, 15, 17, and 20

PMI contends that all the features of claims 3, 4, 9–12, 14, 15, 17, and 20 are present in the teachings of Chaffin and Albert. *See* Pet. 54–55, 60–63, 67, and 68. Claim 3 depends from claim 2; claims 6, 9–12, 14, and 15 depends from independent claim 5; and claims 17 and 20 depend from claim 16. Ignite does not offer separate arguments as to the patentability of claims 3, 4, 6, 9–12, 14, 15, 17, and 20 beyond those that were presented for claims 2, 5, and 16. *See* PO Resp. 64. As discussed above, we are not persuaded by Ignite's arguments as to claims 2, 5, and 16.

Having considered the record before us, we are satisfied that PMI has shown the combined teachings of Chaffin and Albert meet all the features of claims 3, 4, 6, 9–12, 14, 15, 17, and 20.

7. Conclusion—Unpatentability

For the foregoing reasons, we conclude that PMI has shown where all the features of claims 1–23 of the '233 patent are found in the combined teachings of Chaffin and Albert. We also conclude that PMI has shown that a person of ordinary skill in the art would have had adequate reason to

combine the teachings of Albert with Chaffin in order to harness the "lost motion pre-venting" benefits taught by Albert and, thus, improve Chaffin's drinking container. *See* Pet. 30–31 (citing Ex. 1024 ¶¶ 81–82); *see also KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) ("If a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.").[10]

C. Motions to Exclude

1. Ignite's Motion to Exclude

Ignite filed a Motion to Exclude. Paper 26 ("PO Mot. to Excl."). In that Motion, Ignite requests that various content of the record "should be excluded and not considered by the Board." PO Mot. to Excl. 1. In summary, Ignite seeks exclusion of:

(1) certain content of the record that allegedly was not relied upon by PMI (e.g., Exs. 1003–1007, 1014, 1020–1023; Ex. 1024 ¶¶ 63, 89e–92 Exs. 1030, 1033; Ex. 1045 ¶¶ 60–61) (PO Mot. to Excl. 1–3);

(2) Exhibits 1024 and 1045 as allegedly relying on "inadmissible exhibits" or constituting "cumulative evidence" (*id.* at 4);

(3) Exhibit 1032 as constituting hearsay (*id*. at 5);

(4) Exhibits 1035–1040, 1042–1044, and 1047–1050 as allegedly not being "evidence" or "prior art" (*id*. at 5–6);

[10] We reach these conclusions after having considered the parties' Motions to Exclude, which we address below.

(5) Exhibit 1045 ¶¶ 49–52 and 54–58 "under 37 C.F.R. § 42.6(a)(3) as an improper attempt by PMI to incorporate the cited testimony by reference without providing argument or explanation" (*id*. at 7);

(6) Exhibits 1051 and 1052 as allegedly being "misquoted or incomplete testimony" of Austen Angel (*id.* at 7–8);

(7) Exhibit 1053 as allegedly "cumulative of documents already in the record" (*id*. at 8); and

(8) content of PMI's Petitioner Reply at pages 5–7 as being newly submitted arguments pertaining to a theory of collateral estoppel (*id*. at 9–10).

Of the content of the record referenced above, only Exhibits 1021, 1024, 1045, and 1050 are cited in this Final Written Decision and factored into our conclusion that a preponderance of the evidence showed that claims 1–23 would have been obvious in view of Chaffin and Albert. Thus, with the exception of Exhibits 1021, 1024 1045, and 1050, the consideration of whether that content "should be excluded" or "not considered" is immaterial to our decision in connection with the patentability of claims 1–23. Ignite's Motion to Exclude is *dismissed as moot* as to that un-relied upon content.

With respect to Exhibit 1021, Ignite's premise that it is content of the record that was not relied upon by PMI is in error. Exhibit 1021 is a copy of the Final Written Decision in IPR2014-00750. As a part of its Petition, PMI relied multiple times on Exhibit 1021. *See, e.g.*, Pet. 8–14, 17–18, and 33–37. Thus, Ignite's contention that Exhibit 1021 should be excluded because it was not relied upon by PMI is factually incorrect. For at least that reason, Ignite's Motion to Exclude is *denied* with respect to Exhibit 1021.

With respect to Exhibit 1024, Ignite contends that paragraphs 44–58 rely on "irrelevant prior art Exhibits 1003 through 1007," and, thus, should be excluded on that basis. Exhibits 1003–1007 did not factor into our patentability decision of claims 1–23, and neither did Mr. Dahlgren's testimony in connection with those exhibits.[11] Ignite's Motion to Exclude with respect to paragraphs 44–58 of Exhibit 1024 is *dismissed as moot*.

Ignite also contends that paragraphs 59–63 and 86–92 of Exhibit 1024 should be excluded because it is "testimony of Aron Dahlgren regarding PTAB decision IPR2014-00561 and IPR2014-00750," which Ignite contends was not cited by PMI. PO Mot. to Excl. 4. Ignite is incorrect. As discussed above, the Final Written Decision in IPR2014-00750 was relied upon by PMI. So too was the Final Written Decision in IPR2014-00561. *See, e.g.* Pet. 8–14. Ignite's Motion to Exclude with respect to paragraphs 59–63 and 86–92 of Exhibit 1024 is *denied* as being requested on a factually incorrect basis.

With respect to Exhibit 1045, Ignite's urges that paragraphs 23 and 39 should be excluded "because Mr. Dahlgren is merely testifying as to the content of other documents already in evidence." PO Mot. to Excl. 7. That a party's declarant may opine as to his understanding of the content of

[11] With respect to Ignite's arguments as to PMI's "collateral estoppel" theory (PO Resp. 9–10), estoppel did not factor into our decision as to the patentability of claims 1–23 of the '233 patent. We observe, however, that under the recent decision in *Maxlinear, Inc. v. CF Crespe LLC*, 2018 WL542676 (Fed. Cir. 2018), collateral estoppel may attach to arguments fully litigated in previous Board decisions (especially where affirmed and directed to identical issues, or where differences do not materially alter a question of patentability).

record evidence, without more, is not an appropriate basis for exclusion. We also disagree with Ignite that Mr. Dahlgren's testimony as to the content of a document is "cumulative" to the document itself. *See* PO Mot. to Excl. 4. Ignite's Motion to Exclude as to paragraphs 23 and 39 of Exhibit 1045 is *denied*.

We also *deny* Ignite's Motion to Exclude with respect to paragraphs 49–52 and 54–58 of Exhibit 1045. We determine, as unfounded, Ignite's contention that PMI attempted to "incorporate the cited testimony by reference." PMI cited to that content as evidentiary support for positions advanced in briefing. *See* Pet. Reply 18–19. Such citation, here, does not amount to improper incorporation by reference.

With respect to Exhibit 1050, Ignite's view that the exhibit should be excluded as "not evidence" and "not prior art" is flawed. Exhibit 1050 is content entered into the record as explanation to support PMI's positions of unpatentability. This panel does not agree with Ignite's position that PMI sought to have Exhibit 1050 entered into the record as, itself, prior art. Ignite's Motion to Exclude is *denied* as to Exhibit 1050.

2. PMI's Motion to Exclude

PMI moves to exclude the testimony of Ignite's declarant Mr. Charles Austen Angell (Ex. 2011). Paper 24. We observe that the bases upon which PMI seeks exclusion of Mr. Angell's testimony generally go to his credibility rather than appropriate reasons to exclude that testimony. In any event, the content of Mr. Angell's testimony that PMI seeks to exclude either did not factor into our patentability decision or was viewed in a light that did not disadvantage PMI. PMI's Motion to Exclude is *dismissed as moot*.

III. CONCLUSION

Having considered the record before us, we conclude that PMI has shown by a preponderance of the evidence that claims 1–23 of the ’233 patent are unpatentable under 35 U.S.C. 35 U.S.C. § 103 based on the combined teachings of Chaffin and Albert.

IV. ORDER

It is

ORDERED that claims 1–23 of the ’233 patent are held unpatentable;

FURTHER OREDERED that Ignite’s Motion to Exclude (Paper 26) is *dismissed in-part* and *denied in-part;*

FURTHER ORDERED that PMI’s Motion to Exclude (Paper 24) is *dismissed as moot*; and

FURTHER ORDERED that, because this is a Final Written Decision, the 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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