

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

VANGUARD PRODUCTS GROUP, INC.,
D/B/A VANGUARD PROTEX GLOBAL,
Petitioner,

v.

INVUE SECURITY PRODUCTS INC.,
Patent Owner.

IPR2020-00014
Patent 10,008,082 B2

Before MICHAEL R. ZECHER, BARBARA A. PARVIS, and
CYNTHIA M. HARDMAN, *Administrative Patent Judges*.

ZECHER, *Administrative Patent Judge*.

DECISION
Denying Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

Vanguard Products Group, Inc., d/b/a Vanguard Protex Global (collectively, “Vanguard”), filed a Petition requesting an *inter partes* review of claims 1–6, 12, 13, and 15–18 of U.S. Patent No. 10,008,082 B2 (Ex. 1001, “the ’082 patent”). Paper 2 (“Pet.”). Patent Owner, InVue Security Products Inc. (“InVue”), filed a Preliminary Response. Paper 6 (“Prelim. Resp.”).

Based on the authority delegated to us by the Director under 37 C.F.R. § 42.4(a), we may not institute an *inter partes* review unless the information presented in the Petition and any response thereto shows “there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a) (2012). Taking into account InVue’s Preliminary Response, we conclude that the information presented in the Petition does not establish that there is a reasonable likelihood that Vanguard would prevail in challenging at least one of claims 1–6, 12, 13, and 15–18 of the ’082 patent as unpatentable under 35 U.S.C. § 103. We, therefore, *deny* the Petition.

A. Related Matters

The parties indicate that the ’082 patent is one of multiple patents that are the subject of a district court case captioned *InVue Security Products, Inc. v. Vanguard Products Group, Inc., d/b/a Vanguard Protex Global*, No. 8:18-cv-02548-VMC-SPF (M.D. Fla.). Pet. 1–2; Paper 5, 1. In addition to this Petition, the parties indicate that Vanguard filed numerous other petitions challenging the following patents owned by InVue: (1) U.S. Patent No. 9,818,274 B2 (IPR2019-01206); (2) U.S. Patent No. 10,062,253 B2 (IPR2019-01209); (3) U.S. Patent No. 10,098,481 B2 (IPR2020-00018); (4) U.S. Patent No. 9,972,178 B2 (IPR2020-00032); (5) U.S. Patent No.

IPR2020-00014
Patent 10,008,082 B2
9,747,765 B1 (IPR2020-00048); (6) U.S. Patent No. 9,805,564 B1
(IPR2020-00066); and (7) U.S. Patent No. 10,043,358 B1 (IPR2020-00069).
Pet. 2; Paper 5, 1. To date, we denied the petitions on the merits in
IPR2019-01206, IPR2019-01209, and IPR2020-00018, and we granted the
petitions in IPR2020-00048 and IPR2020-00066. *Vanguard Prods. Grp.,
Inc., d/b/a Vanguard Protex Glob. v. InVue Sec. Prods.*, IPR2019-01206,
Paper 8 (PTAB Jan. 8, 2020) (Decision Denying Institution); *Vanguard
Prods. Grp., Inc., d/b/a Vanguard Protex Glob. v. InVue Sec. Prods.*,
IPR2019-01209, Paper 9 (PTAB Jan. 8, 2020) (Decision Denying
Institution); *Vanguard Prods. Grp., Inc., d/b/a Vanguard Protex Glob.
v. InVue Sec. Prods.*, IPR2020-00018, Paper 7 (PTAB Mar. 31, 2020)
(Decision Denying Institution); *Vanguard Prods. Grp., Inc., d/b/a Vanguard
Protex Glob. v. InVue Sec. Prods.*, IPR2020-00048, Paper 8 (PTAB Mar. 30,
2020) (Decision Granting Institution); *Vanguard Prods. Grp., Inc., d/b/a
Vanguard Protex Glob. v. InVue Sec. Prods.*, IPR2020-00066, Paper 7
(PTAB Mar. 30, 2020) (Decision Granting Institution).

The parties also identify the following related matters, each of which
is a continuation application that claims priority to the '082 patent: (1) U.S.
Patent Application No. 16/002,450—now U.S. Patent No. 10,121,336 B2;
(2) U.S. Patent Application No. 16/175,272; and (3) U.S. Patent Application
No. 16/586,286. Pet. 2; Paper 5, 1–2.

B. The '082 Patent

The '082 patent, titled “Merchandise Security System With Sound
Chamber,” issued from U.S. Patent Application No. 15/353,136, filed on
November 16, 2016. Ex. 1001, codes (54), (21), (22). The '082 patent
claims the benefit of U.S. Provisional Patent Application No. 62/257,804,
filed on November 20, 2015. *Id.* at code (60), 1:7–10.

The '082 patent generally relates to a “security system[] for protecting items of merchandise, such as consumer electronics products.” Ex. 1001, 1:15–17. The security system allows retailers to “display[] an item of merchandise so that a potential purchaser can readily view and, in some instances, operate the item when making a decision whether to purchase the item.” *Id.* at 1:31–34. At the same time, the security system physically secures the item of merchandise “to prevent, or at least deter, theft of the item.” *Id.* at 1:34–36. The security system also may include “an alarm that is activated to alert store personnel” when “a shoplifter attempts to separate the item of merchandise from the security system.” *Id.* at 1:36–40. According to the '082 patent, “conventional alarms utilize piezoelectric elements that do not effectively transmit sound from within an enclosure.” 8:11–13. “For instance, many conventional alarms direct sound downwardly towards the bottom of the base and the support surface such that much of the sound is absorbed or reflected within the base and the support surface prior to exiting the base.” *Id.* at 8:13–18. In contrast, the '082 patent discloses “enhancing the sound level” by “facilitat[ing] a more direct path for the sound to exit the base.” *Id.* at 8:18–20.

The '082 patent accomplishes this by using an alarm configured in the manner illustrated in Figure 6, reproduced below. Ex. 1001, 2:39–40, 7:5–8.

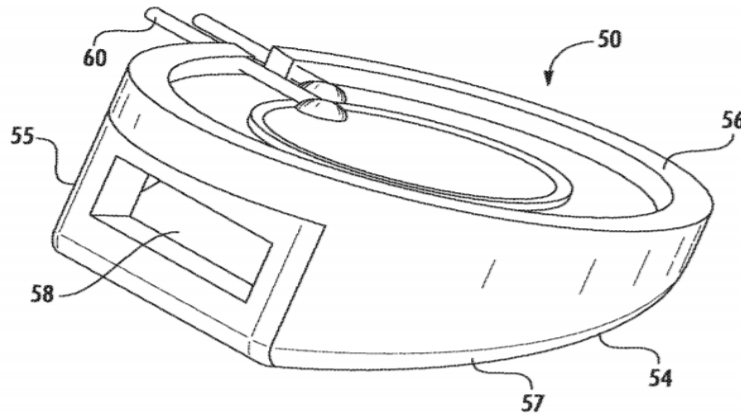


FIG. 6

Figure 6, reproduced above, illustrates alarm 50 that includes, among other things, chamber 54 and cap 56. *Id.* at 6:60–62. Cap 56 “may be in the form of a piezoelectric element that is configured to resonate or vibrate in response to an electronic signal” received from conductors 60. *Id.* at 6:62–67. These vibrations generated by cap 56 “create sound that is formed within . . . chamber 54 and exits through . . . opening 58,” which, according to the ’082 patent, may correspond to opening 52 defined in sidewall 19 of base 18 of security system 10 (not illustrated in Figure 6, but illustrated in Figure 4). *Id.* at 7:5–14, Fig. 4.

Figure 7, reproduced below, illustrates a cross-sectional view of the alarm shown in Figure 6. Ex. 1001, 2:41–42, 7:5–8.

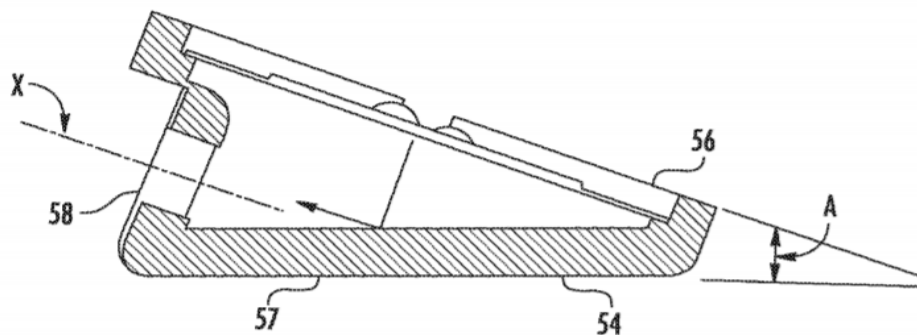


FIG. 7

Figure 7, reproduced above, illustrates cap 56 disposed at angle “A” relative to bottom surface 57 of chamber 54. *Id.* at 7:19–21. According to the ’082 patent, this configuration allows “at least some of the sound generated” via cap 56 to be “directed downwardly and deflected off of” bottom surface 57 of chamber 54 towards opening 58. *Id.* at 7:24–28.

C. Challenged Claims

Of the challenged claims, claim 1 is the only independent claim. Independent claim 1 is directed to “[a] security system for securing an item of merchandise from theft or unauthorized removal.” Ex. 1001, 8:38–40. Claims 2–6, 12, 13, and 15–18 directly or indirectly depend from independent claim 1. Independent claim 1 is illustrative of the challenged claims and is reproduced below:

1. A security system for securing an item of merchandise from theft or unauthorized removal, the security system comprising:

a base configured to removably support the item of merchandise thereon, the base comprising a sidewall and a bottom surface, the sidewall defining an opening; and

an alarm configured to generate sound in response to a security event, the alarm comprising a sound chamber,

wherein the sound chamber comprises a cap coupled to a chamber and an opening defined in the chamber for allowing sound to exit the chamber,

wherein the cap is disposed at an angle relative to a bottom surface of the chamber, and

wherein the cap is configured to resonate for generating sound and directing the sound towards the bottom surface of the chamber, and

wherein the sound chamber is configured to direct the sound generated by the sound chamber out of the opening of the chamber and towards the opening in the sidewall,

wherein the chamber is configured to direct the sound generated by the sound chamber in a direction towards the opening in the chamber that is different than a direction that the sound is directed by the cap.

Id at 8:38–62.

D. Asserted Prior Art References

Vanguard relies on the prior art references set forth in the table below.

Name¹	Reference	Dates	Exhibit No.
Fawcett	US 2012/0019383 A1	published Jan. 26, 2012; filed July 20, 2010	1003
Blanc	US 2013/0076511 A1	published Mar. 28, 2013; filed Sept. 28, 2011	1004
Vogt	US 5,912,619	issued June 15, 1999; filed Dec. 31, 1997	1005
Campman	US 5,317,305	issued May 31, 1994; filed Jan. 30, 1992	1006
Wheeler	US 2014/0159898 A1	published June 12, 2014; filed Nov. 27, 2013	1011

E. Asserted Grounds of Unpatentability

Vanguard challenges claims 1–6, 12, 13, and 15–18 of the '082 patent based on the asserted grounds of unpatentability set forth in the table below.
Pet. 10, 40–113.

Claim(s) Challenged	35 U.S.C. §	References
1–6, 12, 13, 16, 17	103	Fawcett, Campman
1–4, 6, 12, 13, 15, 17	103	Fawcett, Blanc
18	103	Wheeler, Fawcett, Campman, Vogt
18	103	Wheeler, Fawcett, Blanc, Vogt

¹ For clarity and ease of reference, we only list the first named inventor.

II. ANALYSIS

A. Claim Construction

In an *inter partes* review proceeding based on a petition filed on or after November 13, 2018, such as here, claim terms are construed using the same claim construction standard as in a civil action under 35 U.S.C. § 282(b). *See* 37 C.F.R. § 42.100(b) (2019). That is, claim terms generally are construed in accordance with their ordinary and customary meaning, as understood by one of ordinary skill in the art, and the prosecution history pertaining to the patent at issue. *Id.*

In its Petition, Vanguard proposes constructions for the following claim terms: (1) “sidewall” (independent claim 1 and dependent claim 12); (2) “sidewall opening” and “sound chamber opening” (independent claim 1); and (3) “optical transceiver” (dependent claim 18). Pet. 14–20. For the limited purposes of its Preliminary Response, InVue contends that it “does not dispute at this time the . . . claim constructions proposed by [Vanguard].” Prelim. Resp. 2.

Because there is no dispute between the parties regarding claim construction, we need not construe any claim term of the ’082 patent for purposes of this Decision. *See, e.g., Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (“[W]e need only construe terms ‘that are in controversy, and only to the extent necessary to resolve the controversy.’” (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

B. Obviousness Over the Combined Teachings of Fawcett and Campman

Vanguard contends that claims 1–6, 12, 13, 16, and 17 of the ’082 patent are unpatentable under § 103 as obvious over the combined teachings of Fawcett and Campman. Pet. 40–57. Vanguard contends that the

combined teachings of Fawcett and Campman account for the subject matter of each challenged claim, and provides reasoning as to why one of ordinary skill in the art would have been prompted to modify or combine the teachings of these references. *Id.* at 33–34, 40–57. Vanguard also relies on the Declaration of John “Jack” Figh, Jr., to support its positions. Ex. 1012.

We determine that Vanguard has not shown that there is a reasonable likelihood that it would prevail in challenging at least one of claims 1–6, 12, 13, 16, and 17 of the ’082 patent. We begin our analysis with the principles of law that generally apply to an obviousness ground, an assessment of the level of skill in the art, followed by brief overviews of Fawcett and Campman, and then we address InVue’s contentions with respect to whether Vanguard presents a sufficient rationale to combine the teachings of Fawcett and Campman.

1. Principles of Law

A claim is unpatentable under § 103 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, objective indicia of non-obviousness

(i.e., secondary considerations).² *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

An invention “composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art.” *KSR*, 550 U.S. at 418. Instead, a determination of unpatentability on a ground of obviousness must include “articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *Id.* (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)). The obviousness evaluation “should be made explicit,” and it “can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.” *Id.* We analyze the asserted grounds based on obviousness with the principles identified above in mind.

2. *Level of Skill in the Art*

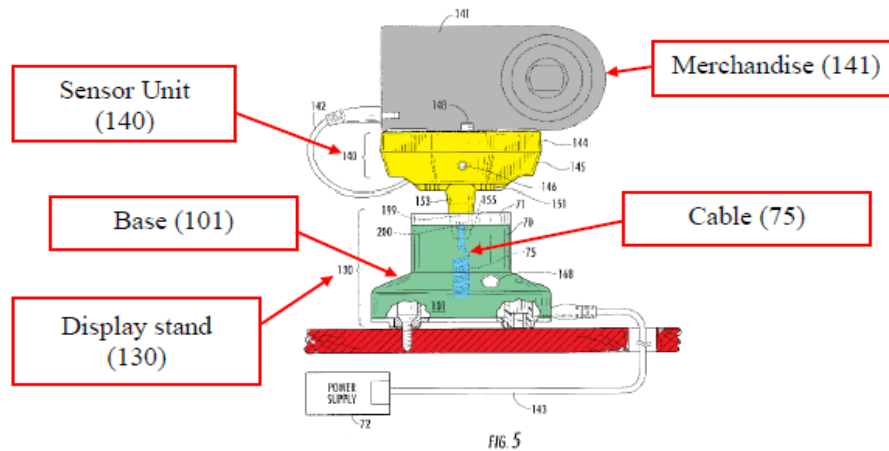
At this stage in the proceeding, there is sufficient evidence in the current record that enables us to determine the knowledge level of a person of ordinary skill in the art. Relying on the testimony of its declarant, Mr. Figh, Vanguard contends that “[a] person of ordinary skill in the art . . . at the time of the invention would have had 4–5 years of experience working with point-of-purchase anti-theft devices and [would] have [had] at least a bachelor’s degree in electrical engineering.” Pet. 9 (citing Ex. 1012 ¶ 13). Mr. Figh further testifies that a person of ordinary skill in the art “would have had knowledge of known systems, devices, and techniques used in the field, such as those described in the ’082 [p]atent and the prior art

² In its Preliminary Response, InVue does not present arguments or evidence of secondary considerations. *See generally* Prelim. Resp.

references.” Ex. 1012 ¶ 13. For the limited purposes of its Preliminary Response, InVue contends that it “does not dispute at this time the level of ordinary skill in the art . . . proposed by [Vanguard].” Prelim. Resp. 2. To the extent necessary, and for purposes of this Decision, we accept the assessment offered by Vanguard and Mr. Figh because it is consistent with the ’082 patent and the asserted prior art.

3. Overview of Fawcett

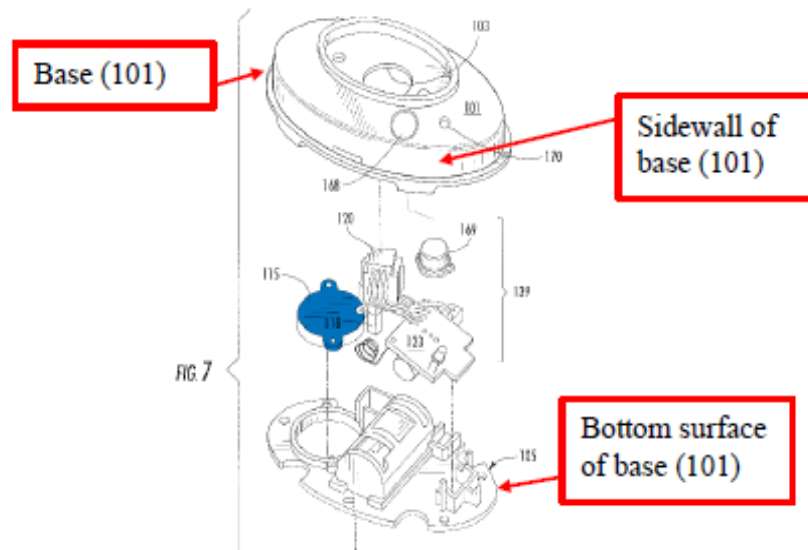
Fawcett discloses “merchandise display security devices” that include “anti-theft features for preventing theft of an item of merchandise being displayed in a display area of a retail store.” Ex. 1003, code (57). An annotated version of Figure 5, reproduced below, illustrates one embodiment of a merchandise display security device according to Fawcett. *Id.* ¶ 20.



VPG-1003, Figure 5 (annotated)

Pet. 40. This annotated version of Figure 5, reproduced above, illustrates, among other things, item of merchandise 141 coupled to sensor unit 140 that is connected to base 101 via cable 75. *Id.* ¶ 63.

An annotated, cropped version of Figure 7, reproduced below, illustrates an exploded version of base 101 of the merchandise display security device shown in Figure 5. Ex. 1003 ¶ 22.

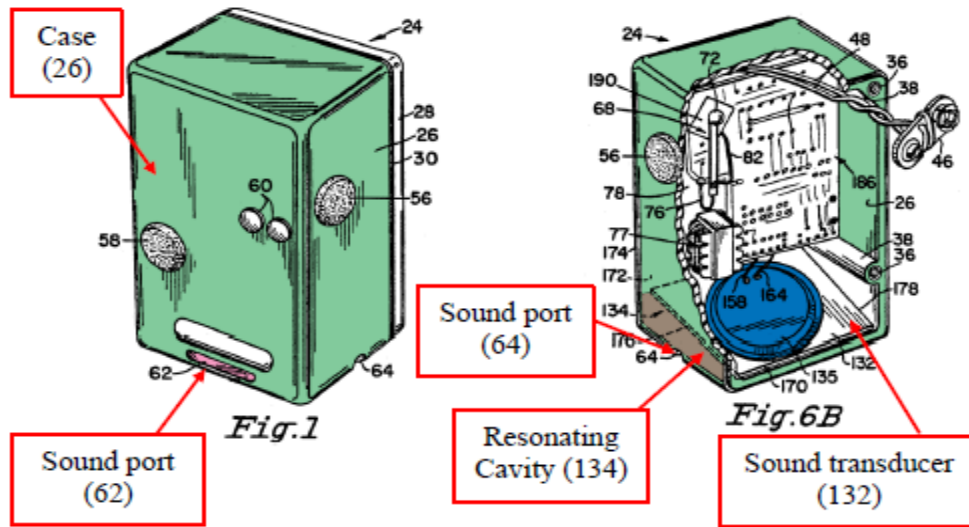


VP-1003, Fig. 7 (annotated, cropped)

Pet. 41. This annotated, cropped version of Figure 7, reproduced above, illustrates that base 101 includes, among other things, a side wall and bottom surface with alarm 115 disposed within that “produces an audible and/or visible alarm signal” when an item of merchandise is separated from the sensor unit. *Id.* ¶ 58.

4. Overview of Campman

Campman discloses a “personal alert safety system” that includes, among other things, “a hi-level sound generator transducer . . . in a small casing.” Ex. 1006, 1:7–14. Annotated versions of Figures 1 and 6B, reproduced below, illustrate a front perspective and a rear perspective of a personal alarm device in accordance with Campman, respectively, where the rear perspective shows the personal alarm device “with the rear outer cover and the inner compartment cover removed and with the walls partially broken-away.” *Id.* at 5:33–36, 5:48–52.

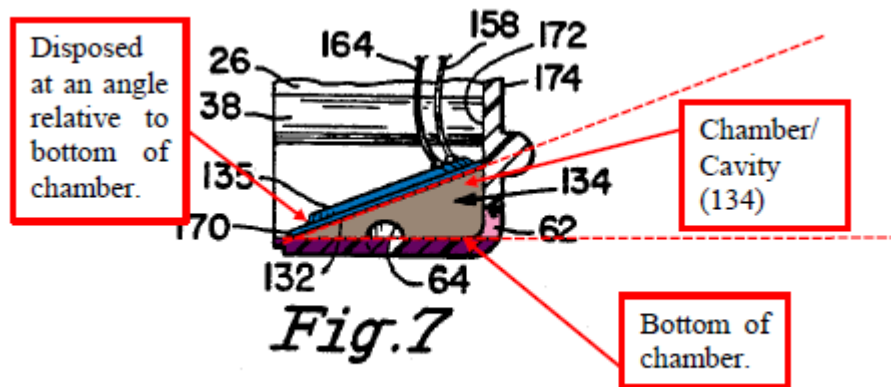


VPG-1006, Figure 1 (annotated)

VPG-1006, Figure 6B (annotated)

Pet. 23. These annotated versions of Figures 1 and 6B, reproduced above, illustrate that the personal alarm device is enclosed in rectangular case 26 with four sidewalls that includes, among other things, sound transducer 132 located in the lower portion of the casing that emits sound into resonating cavity 134, which, in turn, allows the sound to exit via front wall port 62 and side wall port 64 (i.e., labeled in the annotated versions of Figures 1 and 6B as sound port 62 and sound port 64, respectively). Ex. 1006, 12:46–13:2.

An annotated version of Figure 7, reproduced below, illustrates the lower portion of the casing shown in Figure 5 and, in particular, the orientation of sound transducer 132 with respect to resonating cavity 134. Ex. 1006, 5:53–55.



VPG-1006, Figure 7 (annotated)

Pet. 48. This annotated version of Figure 7, reproduced above, illustrates how sound transducer 132 is disposed at an angle relative to the bottom surface of resonating chamber 134. *See id.* at 12:46–13:2.

5. Claim 1

Vanguard contends that Fawcett’s merchandise display security device and, in particular, base 101 and item of merchandise 141 teach or suggest “a base configured to removably support the item of merchandise” and “the base comprising a sidewall and a bottom surface,” as recited in independent claim 1. Pet. 40–42 (citing Ex. 1003, code (57), ¶¶ 56, 63, Figs. 5, 7). Vanguard then relies on Campman to teach or suggest the remaining limitations of independent claim 1. *Id.* at 42–50. That is, Vanguard turns to Campman’s front wall port 62 and sidewall port 64, personal alarm device with resonating cavity 134, and sound transducer 132 to teach or suggest the “opening” in the sidewall, “alarm comprising a sound chamber,” and “cap coupled to the chamber,” respectively, as recited in independent claim 1. *Id.* at 42–46 (citing Ex. 1006, 1:23, 1:25, 1:33, 7:40–42, 8:52, 11:3–7 12:65–13:2, Figs. 1, 6B, 7; Ex. 1012 ¶¶ 67–69). According to Vanguard, Campman’s sound transducer 132 is disposed at an angle relative to the bottom surface of resonating cavity 134, thereby allowing sound to be

directed out of either front wall port 62 or sidewall port 64 in the manner required by independent claim 1. *Id.* at 47–50 (citing Ex. 1006, 12:48–13:2, 16:20–23, Figs. 6B, 7; Ex. 1012 ¶¶ 75, 77).

Turning to the rationale to combine, Vanguard contends that a person of ordinary skill in the art would have been motivated to combine Fawcett’s “security display base alarm” with Campman’s “sound-increasing resonating cavity” “to increase the sound level of a speaker or piezoelectric element in the display base to alert employees of a theft.” Pet. 33 (citations omitted) (citing Ex. 1003 ¶ 56, Fig. 7 (base 101, alarm 115); Ex. 1006, Figs. 6B, 7 (resonating cavity 134); Ex. 1012 ¶¶ 53, 66, 68, 69, 117). According to Vanguard, “[t]his modification would have been straightforward wherein well-known components and principles of resonance chambers would continue to perform their functions.” *Id.* at 33–34. Vanguard further argues that “[t]he louder alarm resulting from the Fawcett-Campman combination produces a product that is more desirable with greater alerting advantages and benefits than from Fawcett alone.” *Id.* at 34.

In its Preliminary Response, InVue contends that Vanguard fails to present evidence demonstrating that a person of ordinary skill in the art would have combined the teachings of Fawcett with those of Campman, and would have had a reasonable expectation of success in doing so. Prelim. Resp. 3. InVue argues that, even assuming that “a louder sound is desirable or needed for the merchandise security device claimed,” Vanguard does not present evidence as to “why a [person of ordinary skill in the art] would have [had] a reasonable expectation that the proposed combination” of Fawcett’s alarm 115 and Campman’s resonating cavity 134 “would succeed in actually increasing the sound output.” *Id.* at 4. Instead, InVue asserts that “[Vanguard] simply presents conclusory assertions that Campman’s

[resonating] cavity [134] would increase the sound of Fawcett’s alarm [115] without evidence of how or why a [person of ordinary skill in the art] would reach such a conclusion.” *Id.* (citing Pet. 33–34). InVue then presents arguments and evidence suggesting that enclosing Fawcett’s alarm 115 within Campman’s resonating cavity 134 would result in a reduction in sound due to absorption of the sound waves. *Id.* at 5–6 (citing Ex. 2001, 10:4–6, 10:9–18).

In addition, InVue contends that, even if Vanguard had presented evidence demonstrating that a person of ordinary skill in the art would have had a reasonable expectation in “producing a louder alarm,” Vanguard does not explain why such a person would have combined the teachings of Fawcett with those of Campman in the first place. Prelim. Resp. 7. InVue argues that Vanguard does not “present evidence of a problem, market pressure, or need that would lead a [person of ordinary skill in the art] to constrain Fawcett’s alarm 115 within Campman’s [resonating] cavity 134.” *Id.* Indeed, InVue asserts that “Fawcett already discloses that its device ‘alerts store personnel that a theft has been attempted within the display area.’” *Id.* at 8 (quoting Ex. 1003 ¶ 46). Moreover, InVue asserts that “Fawcett discloses that its device can be equipped with two alarms.” *Id.* (emphasis omitted) (citing Ex. 1003 ¶¶ 8, 46, 47). Based on these disclosures in Fawcett, InVue argues that Vanguard does not present sufficient evidence explaining why a person of ordinary skill in the art would have understood that “Fawcett’s solution is deficient,” “that such deficiency is solved by a combination of Fawcett and Campman,” or “that Fawcett is somehow improved by” incorporating the teachings of Campman. *Id.*

Based on the current record, we are persuaded by InVue’s argument that Vanguard does not present a sufficient rationale to combine the teachings of Fawcett and Campman in the manner required by independent claim 1. We understand Vanguard to argue that a person of ordinary skill in the art would have combined the teachings of Fawcett with those of Campman “to increase the sound level of a speaker or piezoelectric element,” thereby creating a “louder alarm.” Pet. 33–34. Vanguard, however, does not explain adequately why a person of ordinary skill in the art would look to modify Fawcett’s merchandise display security device in a manner that would result in a louder alarm. As InVue correctly notes, Fawcett discloses that its merchandise display security device already includes a dual alarm system (Ex. 1003 ¶¶ 8, 47), where at least one alarm is capable of “alert[ing] store personnel that a theft has been attempted within the display area” (*id.* ¶ 46). Vanguard does not provide a reasoned explanation as to why Fawcett’s dual alarm system would have benefited from an increased audible level. In our view, what is missing from Vanguard’s explanation is a convincing reason (e.g., an identified problem, a market demand, a specific design need, etc.) that would have prompted a person of ordinary skill in the art to look to Campman’s resonating cavity 134 to create a louder alarm in Fawcett, especially when, as here, Fawcett already discloses that its dual alarm system is sufficient to alert store personnel of an attempted theft. *See Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1075 (Fed. Cir. 2015) (“KSR does not establish that it suffices for obviousness that a variation of the prior art would predictably work, but requires consideration of whether, in light of factors such as ‘design incentives and other market forces,’ the hypothetical skilled artisan would

recognize the potential benefits and pursue the variation.” (quoting *KSR*, 550 U.S. at 417)).

We also are not persuaded by Mr. Figh’s supporting testimony on this particular issue. *See* Ex. 1012 ¶¶ 53, 66, 68, 69, 117. Similar to Vanguard’s explanation in its Petition, Mr. Figh’s supporting testimony does not address the pivotal issue—namely, why a person of ordinary skill in the art would have looked to Campman’s resonating cavity 134 to create a louder alarm in Fawcett, especially when, as here, Fawcett already discloses that its dual alarm system is sufficient to alert store personnel of an attempted theft. Moreover, Mr. Figh’s supporting testimony is replete with conclusory statements that are insufficient to support a ground of unpatentability based on obviousness. *See, e.g., id.* ¶¶ 53 (“A [person of ordinary skill in the art] would [have been] motivated to generate a louder alarm to alert employees and security of the theft of an article of merchandise.”), 68 (“A [person of ordinary skill in the art] seeking to enhance the compactness and sound output of a sound-generating security device would look to the teachings of Campman to notify others or seek assistance responsive to the attempted theft of merchandise by increasing the sound output of an alarm.”), 69 (“A [person of ordinary skill in the art] would be motivated to increase the sound output of Fawcett using a resonating cavity disclosed in Campman in the event of an alarm to draw attention to the attempted theft and alert employees and/or security to the incident.”), 117 (“A [person of ordinary skill in the art] seeking to enhance the sound output of a sound-generating security device would look to the teachings of Campman to notify others or seek assistance responsive to the attempted theft of merchandise by increasing the sound output of an alarm.”).

Lastly, we take this opportunity to note that Vanguard’s rationale to combine the teachings of Fawcett with those of Campman also appears to be based on impermissible hindsight reconstruction. As we explain in our overview of the ’082 patent, the claims at issue in this proceeding purportedly are distinguishable from “conventional alarms” because they disclose “enhancing the sound level” by “facilitat[ing] a more direct path for the sound to exit the base.” Ex. 1001, 8:11–20. It appears that Vanguard has used the aforementioned disclosure in the ’082 patent as a guide to combine the teachings of Fawcett with those of Campman—namely, “to increase the sound level of a speaker or piezoelectric element,” thereby creating a “louder alarm.” Pet. 33–34. This is precisely the type of impermissible hindsight reconstruction that we have been cautioned to avoid. *See Grain Processing Corp. v. Am.-Maize Prods. Co.*, 840 F.2d 902, 907 (Fed. Cir. 1988) (“Care must be taken to avoid hindsight reconstruction by using ‘the patent in suit as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit.’” (quoting *Orthopedic Equip. Co. v. United States*, 702 F.2d 1005, 1012 (Fed. Cir. 1983))); *see also Purdue Pharma L.P. v. Depomed, Inc.*, 643 F. App’x 960, 966 (Fed. Cir. 2016) (affirming a holding that a petitioner improperly relied on hindsight where the petitioner “failed to demonstrate to the Board that the problem was known in the art or that [the petitioner’s] formulation of the problem was derived directly from the prior art, rather than from the challenged claims”).

In summary, we are not persuaded that Vanguard presents a sufficient rationale to combine the teachings of Fawcett and Campman in the manner required by independent claim 1. Accordingly, Vanguard has not shown a reasonable likelihood that it would prevail on its assertions that the subject

matter of independent claim 1 would have been obvious over the combined teachings of Fawcett and Campman.

6. Claims 2–6, 12, 13, 16, and 17

As we explained previously, claims 2–6, 12, 13, 16, and 17 directly or indirectly depend from independent claim 1. Vanguard does not present arguments or evidence with respect to these dependent claims that remedy the deficiencies identified above. *See* Pet. 50–57. Accordingly, for the same reasons we discuss above with respect to independent claim 1, Vanguard has not shown a reasonable likelihood that it would prevail on its assertions that the subject matter of dependent claims 2–6, 12, 13, 16, and 17 would have been obvious over the combined teachings of Fawcett and Campman.

C. Obviousness Over the Combined Teachings of Fawcett and Blanc

Vanguard contends that claims 1–4, 6, 12, 13, 15, and 17 of the '082 patent are unpatentable under § 103 as obvious over the combined teachings of Fawcett and Blanc. Pet. 58–80. Vanguard contends that the combined teachings of Fawcett and Blanc account for the subject matter of each challenged claim, and provides reasoning as to why one of ordinary skill in the art would have been prompted to modify or combine the teachings of these references. *Id.* at 34, 58–80. Vanguard also relies on the Declaration of Mr. Figh to support its positions. Ex. 1012.

We determine that Vanguard has not shown that there is a reasonable likelihood that it would prevail in challenging at least one of claims 1–4, 6, 12, 13, 15, and 17 of the '082 patent. We begin our analysis with a brief overview of Blanc, and then we address InVue's contentions with respect to whether Vanguard presents a sufficient rationale to combine the teachings of Fawcett and Blanc.

1. Overview of Blanc

Blanc generally relates to “the field of generating audible signals” and, in particular, “to a resonator [that] is sized and configured for use with an audible alert device such as a detector or sounder.” Ex. 1004 ¶ 1.

Annotated versions of Figures 1 and 2, reproduced below, illustrate one embodiment of a detector assembly that includes a sound enhancement device housed inside an assembly. *Id.* ¶¶ 8, 9.

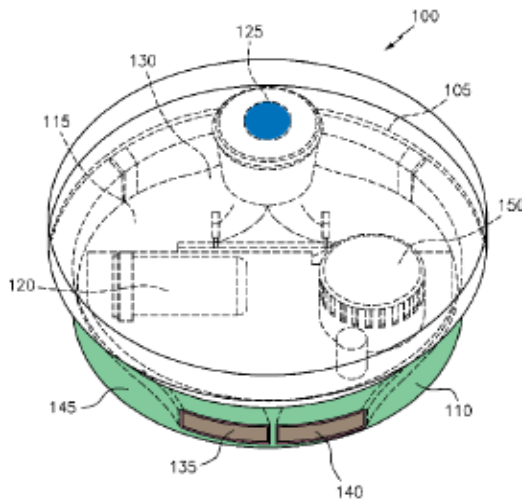


FIG. 1

VPG-1004, Figure 1 (annotated)

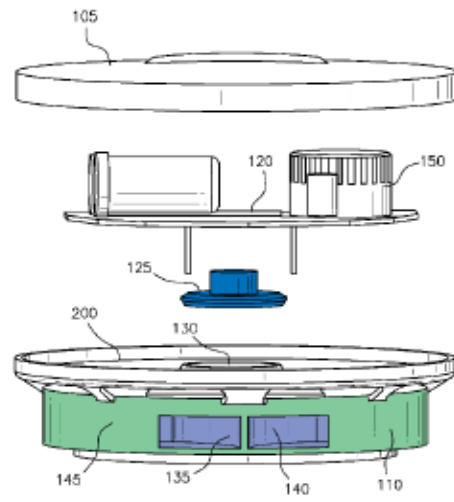


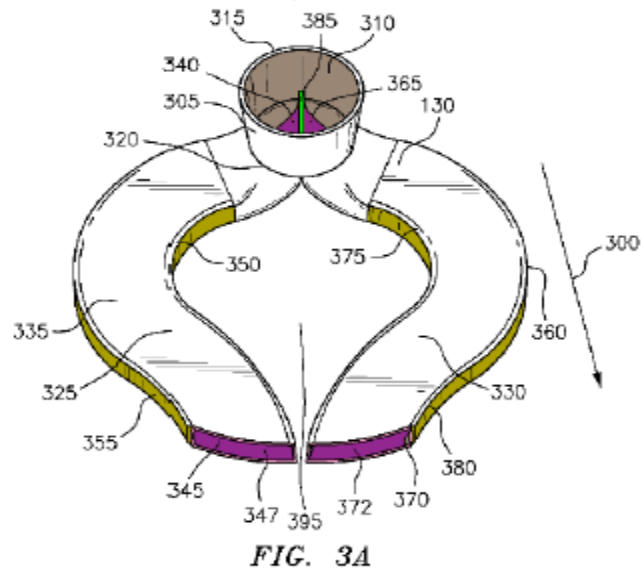
FIG. 2

VPG-1004, Figure 2 (annotated)

Pet. 25. These annotated versions of Figures 1 and 2, reproduced above, illustrate, among other things, assembly 100 that includes sound generating device 125 coupled to sound enhancement device 130. Ex. 1004 ¶ 15.

Assembly 100 further includes lower enclosure 110 with sidewall 145 and openings 135 and 140 provided along the sidewall that transmit audible sound. *Id.*

An annotated version of Figure 3A, reproduced below, illustrates a perspective view of sound enhancement device 130 shown in both Figures 1 and 2. Ex. 1004 ¶ 10.



VPG-1004, Figure 3A (annotated)

Pet. 26. This annotated version of Figure 3A, reproduced above, illustrates that sound enhancement device 130 “follow[s] the contours of . . . sidewall 145 . . . of lower enclosure 100” and it is used “to amplify the sound level emanating from openings 347, 372 that are aligned with openings 135, 140 in . . . detector assembly 100.” Ex. 1004 ¶ 17. According to Blanc, sound is directed downward from sound generating device 125 through interior cavity 310 and “resonate[s] at a particular frequency as it passes through . . . resonators 325, 330.” *Id.*

2. Claim 1

Vanguard contends that Fawcett’s merchandise display security device and, in particular, base 101 and item of merchandise 141 teach or suggest “a base configured to removably support the item of merchandise” and “the base comprising a sidewall and a bottom surface,” as recited in independent claim 1. Pet. 58–60 (citing Ex. 1003, code (57), ¶¶ 56, 63, Figs. 5, 7; Ex. 1012 ¶ 17). Vanguard then relies on Blanc to teach or suggest the remaining limitations of independent claim 1. *Id.* at 61–74. That is,

Vanguard turns to Blanc's openings 135, 140 provided along sidewall 145, sound generating device 125 coupled to sound enhancement device 130, and tubular portion 305 together with resonators 325, 330 to teach or suggest the "opening" in the sidewall, "alarm comprising a sound chamber," and "cap coupled to the chamber," respectively, as recited in independent claim 1. *Id.* at 61–68 (citing Ex. 1004 ¶¶ 2, 5, 15, 17, Figs. 2, 3A; Ex. 1012 ¶¶ 67, 69). According to Vanguard, Blanc's sound generating device 125 emits sound downward into sound enhancement device 130, which, in turn, allows the sound to emanate off deflecting lens 385 through tubular portion 305 and resonators 325, 330 and then out openings 347, 372, which are aligned with openings 135, 140 provided along sidewall 145. *Id.* at 69–74 (citing Ex. 1004 ¶¶ 15, 17, 20, Figs. 2, 3A).

Turning to the rationale to combine, Vanguard contends that a person of ordinary skill in the art would have been motivated to combine Fawcett's "security display base alarm" with Blanc's "sound enhancement device" "to increase the sound level of a speaker or piezoelectric element in the display base to alert employees of a theft." Pet. 34 (citations omitted) (citing Ex. 1003 ¶ 56, Fig. 7 (base 101, alarm 115); Ex. 1004, Figs. 1–3A; Ex. 1012 ¶¶ 56, 89, 136). According to Vanguard, "[t]he resonator of Blanc is sized and configured for use with an audible alert device such as a detector or sounder," and a person of ordinary skill in the art "would have recognized the need to increase the output of an alert signal such as those produced by a piezoelectric device or speaker with a chamber that resonates sound." *Id.* (citing Ex. 1003 ¶¶ 1, 2). Similar to the asserted ground based on obviousness over the combined teachings of Fawcett and Campman, Vanguard argues that "the components and their arrangement in the Fawcett-Blanc combination perform their respective functions as intended." *Id.*

Vanguard further argues that “[t]he piezoelectric element vibrates creating sound waves which resonate within a void and out an opening to increase the loudness of the audible alarm.” *Id.* (citing Ex. 1012 ¶¶ 55, 56).

In its Preliminary Response, InVue contends that Vanguard fails to present evidence demonstrating that a person of ordinary skill in the art would have combined the teachings of Fawcett with those of Blanc. Prelim. Resp. 13. InVue argues that Vanguard “provides no evidence of a problem, market pressure, or need that would lead a [person of ordinary skill in the art] to combine Fawcett’s alarm 115 with the sound enhancement device 130 of Blanc’s smoke detector.” *Id.* at 14. According to InVue, Vanguard does not submit evidence “show[ing] that Fawcett’s alarm 115 is not loud enough, needs improvement, or is otherwise somehow deficient.” *Id.* Indeed, InVue asserts that “Fawcett already discloses that its device ‘alerts store personnel that a theft has been attempted within the display area.’” *Id.* at 15 (quoting Ex. 1003 ¶ 46). Moreover, InVue asserts that “Fawcett discloses that its device can be equipped with two alarms.” *Id.* (emphasis omitted) (citing Ex. 1003 ¶¶ 8, 46, 47). Based on these disclosures in Fawcett, InVue argues that Vanguard does not present sufficient evidence explaining why a person of ordinary skill in the art would have understood that “Fawcett’s solution is deficient,” “that such deficiency is solved by a combination of Fawcett and Blanc,” or “that Fawcett is somehow improved by” incorporating the teachings of Blanc. *Id.*

Based on the current record, we are persuaded by InVue’s argument that Vanguard does not present a sufficient rationale to combine the teachings of Fawcett and Blanc in the manner required by independent claim 1. Similar to our analysis of the asserted ground based on obviousness over the combined teachings of Fawcett and Campman, we understand Vanguard

to argue that a person of ordinary skill in the art would have combined the teachings of Fawcett with those of Blanc “to increase the loudness of an audible alarm.” Pet. 34. Vanguard, however, does not explain adequately why a person of ordinary skill in the art would look to modify Fawcett’s merchandise display security device in a manner that would result in a louder alarm. As InVue correctly notes, Fawcett discloses that its merchandise display security device already includes a dual alarm system (Ex. 1003 ¶¶ 8, 47), where at least one alarm is capable of “alert[ing] store personnel that a theft has been attempted within the display area” (*id.* ¶ 46). Vanguard does not provide a reasoned explanation as to why Fawcett’s dual alarm system would have benefited from an increased audible level. In our view, what is missing from Vanguard’s explanation is a convincing reason (e.g., an identified problem, a market demand, a specific design need, etc.) that would have prompted a person of ordinary skill in the art to look to the configuration of Blanc’s sound enhancement device 130 to create a louder alarm in Fawcett, especially when, as here, Fawcett already discloses that its dual alarm system is sufficient to alert store personnel of an attempted theft. *See Belden*, 805 F.3d at 1075.

We also are not persuaded by Mr. Figh’s supporting testimony on this particular issue. *See* Ex. 1012 ¶¶ 55, 56, 89, 136. Similar to Vanguard’s explanation in its Petition, Mr. Figh’s supporting testimony does not address the pivotal issue—namely, why a person of ordinary skill in the art would have looked to the configuration of Blanc’s sound enhancement device 130 to create a louder alarm in Fawcett, especially when, as here, Fawcett already discloses that its dual alarm system is sufficient to alert store personnel of an attempted theft. Moreover, Mr. Figh’s supporting testimony is replete with conclusory statements that are insufficient to support a ground

of unpatentability based on obviousness. *See, e.g., id.* ¶¶ 56 (“This combination of Blanc and Fawcett would have been routine and predictable wherein known components would continue to perform their intended functions.”), 89 (“The Fawcett-Blanc combination would have been straightforward wherein known components would continue to perform their intended functions.”), 136 (“A [person of ordinary skill in the art] would further be motivated to enhance the sound output of the alarm. Accordingly, a [person of ordinary skill in the art] would [have been] motivated to adopt the sound-enhancing teachings of Blanc to increase the sound output of an alarm with no special modifications, using the structure features for their intended purpose.”).

Lastly, we take this opportunity to note that Vanguard’s rationale to combine the teachings of Fawcett with those of Blanc also appears to be based on impermissible hindsight reconstruction. As we explain in our overview of the ’082 patent, the claims at issue in this proceeding purportedly are distinguishable from “conventional alarms” because they disclose “enhancing the sound level” by “facilitat[ing] a more direct path for the sound to exit the base.” Ex. 1001, 8:11–20. It appears that Vanguard has used the aforementioned disclosure in the ’082 patent as a guide to combine the teachings of Fawcett with those of Blanc—namely, “to increase the loudness of an audible alarm.” Pet. 34. This is precisely the type of impermissible hindsight reconstruction that we have been cautioned to avoid. *See Grain Processing*, 840 F.2d at 907; *see also Purdue Pharma*, 643 F. App’x at 966.

In summary, we are not persuaded that Vanguard presents a sufficient rationale to combine the teachings of Fawcett and Blanc in the manner required by independent claim 1. Accordingly, Vanguard has not shown a

reasonable likelihood that it would prevail on its assertions that the subject matter of independent claim 1 would have been obvious over the combined teachings of Fawcett and Blanc.

3. Claims 2–4, 6, 12, 13, 15, and 7

As we explained previously, claims 2–4, 6, 12, 13, 15, and 17 directly or indirectly depend from independent claim 1. Vanguard does not present arguments or evidence with respect to these dependent claims that remedy the deficiencies identified above. *See* Pet. 74–80. Accordingly, for the same reasons we discuss above with respect to independent claim 1, Vanguard has not shown a reasonable likelihood that it would prevail on its assertions that the subject matter of dependent claims 2–4, 6, 12, 13, 15, and 17 would have been obvious over the combined teachings of Fawcett and Blanc.

D. Remaining Grounds

Vanguard contends that claim 18 of the '082 patent is unpatentable under § 103 as obvious over the combined teachings of (1) Wheeler, Fawcett, Campman, and Vogt; and (2) Wheeler, Fawcett, Blanc, and Vogt. Pet. 80–113. To support its rationale to combine the teachings of Wheeler and Fawcett with those of Campman, Vanguard contends that, “[a]s noted above, a [person of ordinary skill in the art] seeking to improve the sound output of an audible alarm of Wheeler and Fawcett would look to the sound-enhancing resonating cavity of Campman.” *Id.* at 35 (citing Ex. 1006, Figs. 6B, 7; Ex. 1012 ¶¶ 69, 115). To support its rationale to combine the teachings of Wheeler and Fawcett with those of Blanc, Vanguard contends that “[a person of ordinary skill in the art] would be similarly motivated to combine Wheeler and Fawcett with the resonators of Blanc to increase the loudness of an alarm.” *Id.* at 35–36 (citations omitted) (citing Ex. 1004 ¶ 21, Figs. 3A (resonators 325, 330), 4 (sound enhancement device 405, resonator

415); Ex. 1012 ¶¶ 89, 136). According to Vanguard, “[t]he alarms, resonators and resonating cavities in the Wheeler-Fawcett-Campman and Wheeler-Fawcett-Blanc combinations require no special modifications and all function as intended to produce a superior product.” *Id.* at 36 (citing Ex. 1012 ¶ 136).

For the same reasons identified above in our analysis of the asserted grounds based on obviousness over the combined teachings of Fawcett with those of either Campman or Blanc, we are not persuaded that Vanguard provides a sufficient rationale to combine the teachings of Wheeler and Fawcett with those of either Campman or Blanc. *See supra* Section II.B.5, II.C.2. Accordingly, Vanguard has not demonstrated a reasonable likelihood that it will prevail on its assertion that the subject matter of dependent claim 18 would have been obvious over the combined teachings of (1) Wheeler, Fawcett, Campman, and Vogt; or (2) Wheeler, Fawcett, Blanc, and Vogt.

III. CONCLUSION

Taking into account InVue’s Preliminary Response, we conclude that the information presented in the Petition does not demonstrate that there is a reasonable likelihood that Vanguard would prevail in challenging at least one of claims 1–6, 12, 13, and 15–18 of the ’082 patent as unpatentable under § 103.

IV. ORDER

In consideration of the foregoing, it is ORDERED that the Petition is *denied* and no trial is instituted.

IPR2020-00014
Patent 10,008,082 B2
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