

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

DYSON TECHNOLOGY LIMITED AND DYSON, INC.,
Petitioners,

v.

OMACHRON INTELLECTUAL PROPERTY INC.,
Patent Owner.

Case No. IPR2024-00670
U.S. Patent No. 8,607,407

PATENT OWNER'S PRELIMINARY RESPONSE

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PATENT OWNER'S EXHIBIT LIST

Exhibit No.	Description
2001	Merriam-Webster (merriam-webster.com) definition of “door”

TABLE OF ABBREVIATIONS

Abbreviation	Term
'407 Patent	U.S. Patent No. 8,607,407 (Ex1001)
Beskow	U.S. Patent Publication No. 2008/0040883 to Beskow
Butler	PCT Publication No. 2007/084543 to Butler et al.
Challenged Claims	Claims 1–25 of U.S. Patent No. 8,607,407
Conrad335	U.S. Patent Publication No. 2007/0209335 to Conrad
Fig.	Figure
IPR	<i>inter partes</i> review
IPVG	U.K. Patent No. GB283,179 to Inventia Patent-Verwertungs-Gesellschaft
Jianan	Chinese Patent Publication No. 101,061,932 to Jianan
Khalil	U.S. Patent Publication No. 2006/0156508 to Khalil
Martelliere	French Patent No. 1,094,603 to Martelliere
Patent Owner	Omachron Intellectual Property Inc.
Petitioners	Dyson Technology Limited and Dyson, Inc.
POSITA	person[s] of ordinary skill in the art

I. INTRODUCTION

Patent Owner Omachron Intellectual Property Inc. provides the following Preliminary Response to the Petition filed by Dyson Technology Limited and Dyson, Inc. requesting *inter partes* review of claims 1–25 of U.S. Patent No. 8,607,407.

Petitioners had the burden of showing that there is a reasonable likelihood that it would prevail with respect to at least one of the challenged claims. 35 U.S.C. § 314(a). Petitioners did not meet that burden. Although Petitioners asserted that “vacuums with openable front doors are over a century old,” none of Petitioners’ references—whether part of an anticipatory or obviousness-based ground—disclose or teach a hand vacuum cleaner having a front wall comprising the openable door as required by all of the Challenged Claims. Petitioners’ failure to identify this feature in *any* of the prior art references in the Petition dooms their challenge.

Anticipation requires that a prior art reference “must not only disclose all elements of the claim within the four corners of the document, but must also disclose those elements arranged as in the claim.” *Net MoneyIn, Inc. v. Verisign, Inc.*, 545 F.3d 1359, 1369 (Fed. Cir. 2008). Because Petitioners fail to identify at least one limitation in each Challenged Claim, all anticipation grounds fail.

Petitioners’ obviousness grounds fare no better. For obviousness, a Petition must provide, with particularity, rationale to combine the teachings of the cited art and establish “whether the relevant skilled artisan had a motivation to combine

pieces of prior art in the way eventually claimed in the patent at issue.” *Intercontinental Great Brands LLC v. Kellogg N. Am. Co.*, 869 F.3d 1336, 1343 (Fed. Cir. 2017). Petitioners failed to provide any such rationale. As explained throughout this Preliminary Response, no reference in the Petition discloses a hand vacuum cleaner having a front wall comprising an openable door. At best, Petitioners rely on hindsight bias to argue that a combination of references (none of which discloses a front wall comprising an openable door) still somehow renders obvious the Challenged Claims. But hindsight bias cannot be “the thread that stitches together prior art patches into something that is the claimed invention.” *Metalcraft of Mayville, Inc. v. The Toro Co.*, 848 F.3d 1358, 1367 (Fed. Cir. 2017). Petitioners’ obviousness grounds therefore fail as well.

Petitioners provide cursory and, at times, illogical, discussion of the asserted prior art references with respect to each element, often merely reproducing the language of a particular claim element and declaring that the element is met by the reference without reason or explanation. *See Netflix, Inc. v. DivX, LLC*, 84 F.4th 1371 (Fed. Cir. 2023) (“Ultimately, it is the petitioner’s burden to present a clear argument.”). Petitioners therefore cannot meet their burden of explaining “with particularity” the “evidence that supports the grounds for the challenge to each claim.” 35 U.S.C. § 312(a)(3); *see also Intelligent Bio-Systems, Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1369 (Fed. Cir. 2016).

For at least these reasons and those set forth below, Petitioners fail to show a reasonable likelihood of success on any Challenged Claim, and the Board should deny institution of IPR.

II. CLAIM CONSTRUCTION

A claim subject to IPR shall be construed using the same standard as in a civil action. 37 C.F.R. § 42.100(b). The Board need only construe terms “to the extent necessary to resolve the controversy.” *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017). At this stage, Patent Owner does not submit any terms for construction. Patent Owner reserves the right to subsequently submit claim terms for construction should the Board institute IPR.

III. LEVEL OF ORDINARY SKILL IN THE ART

Solely for the purpose of this Preliminary Response, Patent Owner does not challenge Petitioners’ proposed definition of a POSITA. Patent Owner reserves the right to provide an alternative definition of a POSITA if IPR is instituted.

IV. TECHNICAL BACKGROUND

A. Summary of the '407 Patent

The '407 Patent is directed to an improved emptying mechanism for hand vacuum cleaners having a dirt collection chamber: a front wall comprising an openable door to facilitate emptying of debris. Ex1001, Abstract, 1:14–16, 1:47–62.

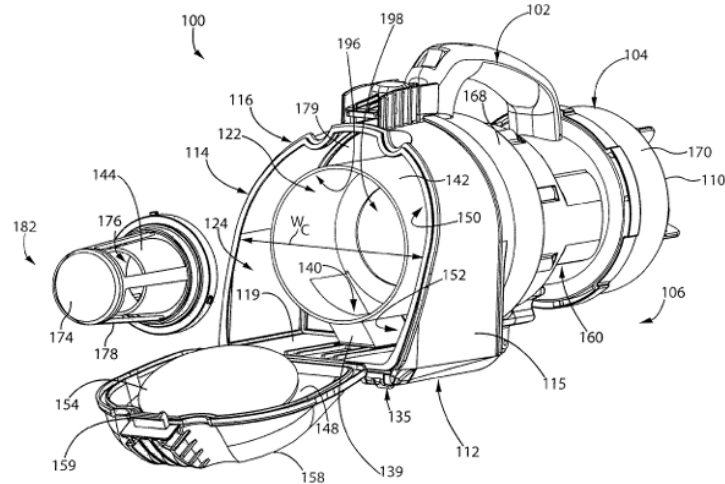


Fig. 5A

Id., Fig. 5A.

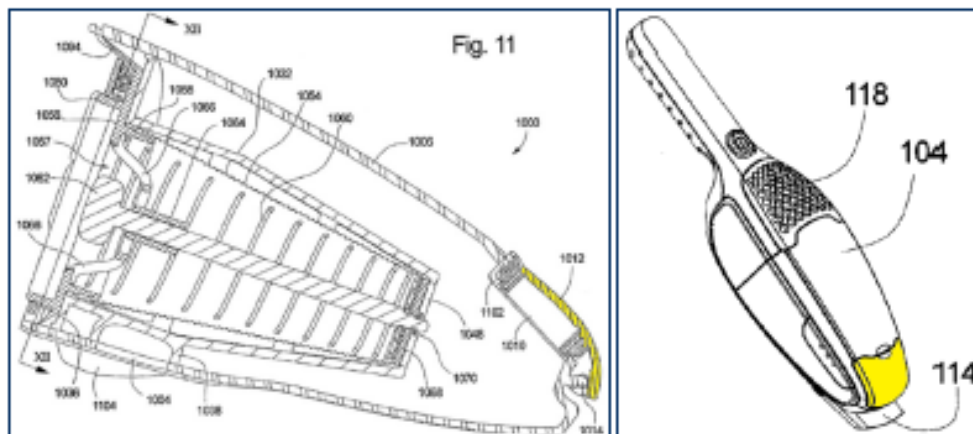
In one exemplary embodiment, the hand vacuum is designed such that when the door is open (*e.g.*, door 158 in Fig. 5A), both of the cyclone and the dirt collection chamber are opened, allowing a user to empty all of the contents of the hand vacuum, including the cyclone where debris can be trapped, at once. *Id.*, cl. 1; Ex1004, 170. The placement of a door at the front of the hand vacuum (as opposed to on a sidewall or in the back of the vacuum) allows a user to empty the vacuum without getting dirt on the body of the vacuum or the user's hand as the dirt is poured out. Ex1001, 1:50–62.

B. Prosecution History of the '407 Patent

For nearly three years, the United States Patent and Trademark Office examined the application that issued as the '407 Patent. Ex1004. Throughout this process, Patent Owner discussed and distinguished the claimed features of the '407 Patent from various cited prior art references, emphasizing (1) the importance of the

placement of the door “on the front wall” of the hand vacuum, *id.* at 143, (2) that the door is large and functions as a “main dirt outlet,” *id.* at 144, and (3) that the door opens both of the cyclone and the dirt collection chamber at once to allow dirt to “easily exit from the dirt collection chamber,” *id.* at 170–71.

The Examiner agreed, noting that the “prior art of record considered as a whole . . . neither anticipates nor renders obvious, the cyclone and dirt collection chamber having an openable door, the front wall comprising the openable door,” in combination with the respective remaining limitations of the independent claims 1, 9 [issued as claim 23], 24, and 25 and issued a notice of allowance. Ex1004, 218–19. The Examiner accepted the Applicant’s arguments distinguishing each of the allowed independent claims from the teachings of Beskow (U.S. Pub. No. 2008/0040883), shown below. Ex1004, 169–72, 217. For example, as explained by the Applicant, “in Beskow, a portion of a *sidewall* of the dirt collection chamber 1006 is opened”—*not* a “front wall.”



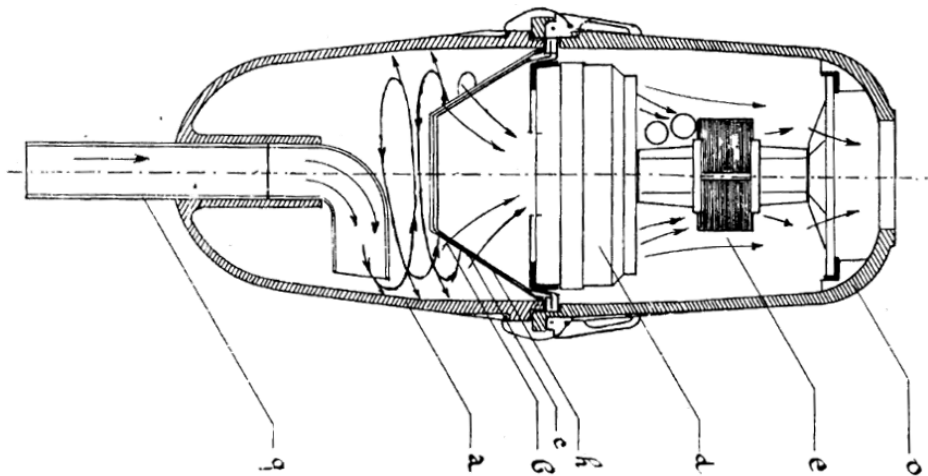
Ex1015, Figs. 1B, 11 (annotated).

Petitioners' superficial treatment of the very features that the Examiner considered, discussed, and explicitly included in the reasons for allowance—most notably, a “front wall comprising [an] openable door”—fails to meet their burden and is fatal to their challenge.

C. Overview of Asserted References

1. Martelliere

Martelliere is a 1955 French patent for an improvement to a “broom type vacuum cleaner model” that addresses the “recognized difficulty” of emptying dust bags by “replacing fabric [dust] bags” with a container made of “smooth and transparent material.” Ex1010, 1. This transparency allows a user to see how full the dust container is to “better judge when it must be emptied” and to “even see a lost object sucked up by the device and recover it.” *Id.*



Id., 2.

2. Butler

Butler is a 2007 PCT publication that details several distinct embodiments of a specialized “Stair Cleaning Vacuum.” Ex1020, Title. Butler discusses various existing solutions such as “upright and canister vacuum cleaners,” “stick vacuums,” and “compact hand-held vacuums,” and concludes that there “exists a need for an improved vacuum cleaner” specifically adapted for cleaning “raised” surfaces, and “particularly stair treads and risers.” *Id.*, 1:5–24, 310–16. Two distinct embodiments from Butler—one associated with Figure 2A and the other with Figure 5—are shown below.

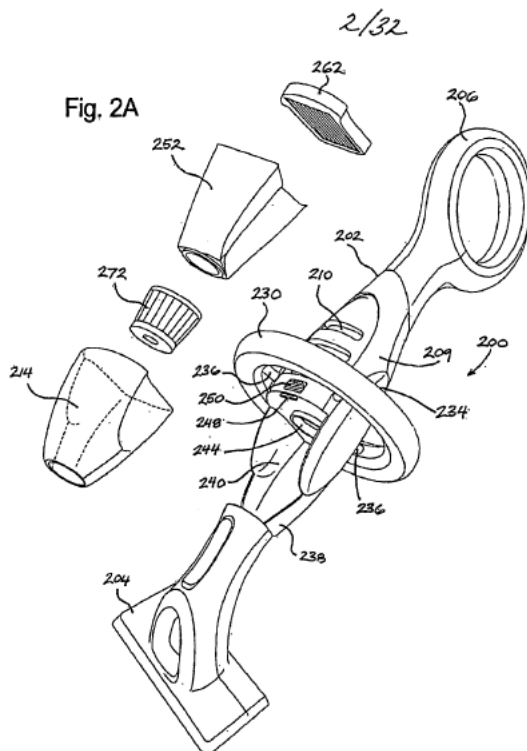
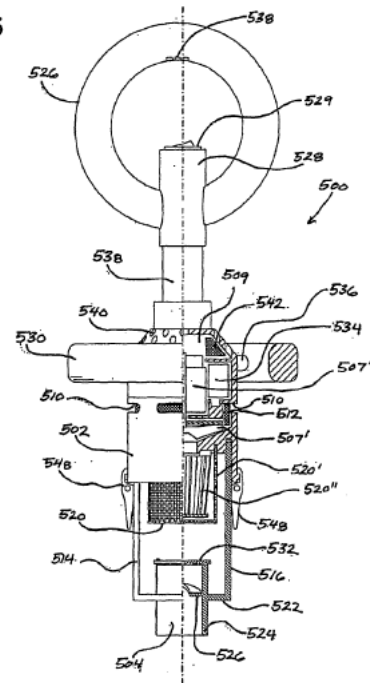


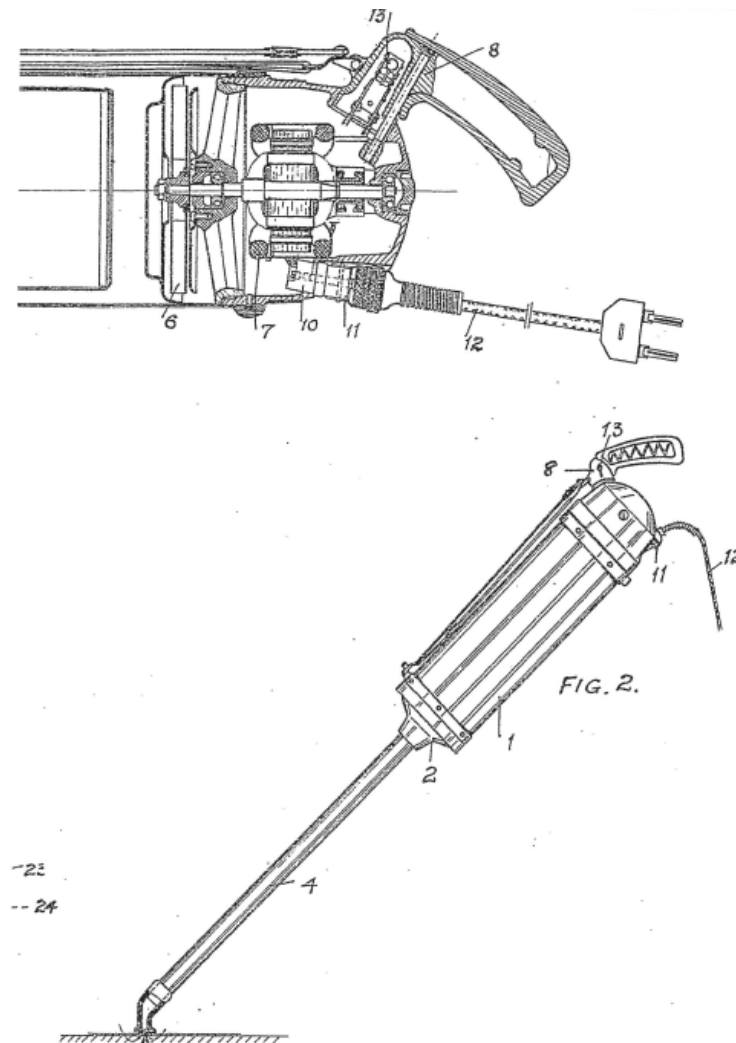
Fig. 5



Id., Figs. 2A, 5.

3. IPVG

IPVG is a 1928 UK patent directed to a stick vacuum cleaner having an “enclosed dust bag” that protects the user from “accidental contact with current carrying parts” of the vacuum, such as the “securing means for the handle.” Ex1006, 1:10–21, 1:34–41. IPVG describes a “one-piece insulating cover adapted to cover the handle,” including a conductive screw that secures the handle to the casing of the vacuum cleaner. *Id.*, 1:34–41.



Ex1006, Fig. 2.

4. Conrad335

Conrad335 is a 2007 U.S. patent application publication describing an upright vacuum with “a cyclone separator” having a cyclone chamber divided by a plate into “an upper cyclone chamber and a lower dirt collection chamber.” Ex1005, ¶¶4, 23. The cyclone chamber and dirt collection chamber are “removable as a closed unit from the vacuum cleaner” and, once removed from the body of the vacuum cleaner, can be emptied through an “openable bottom.” *Id.*, ¶98.

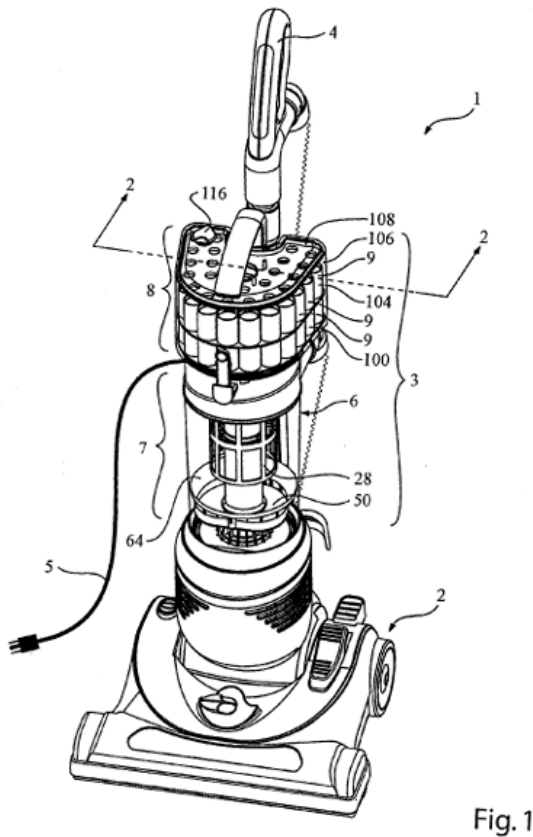


Fig. 1

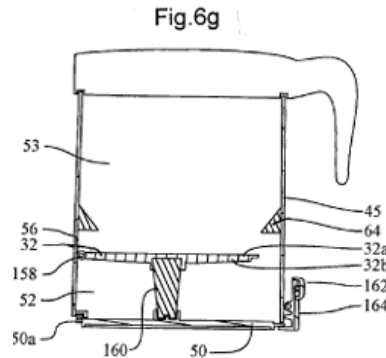


Fig. 6g

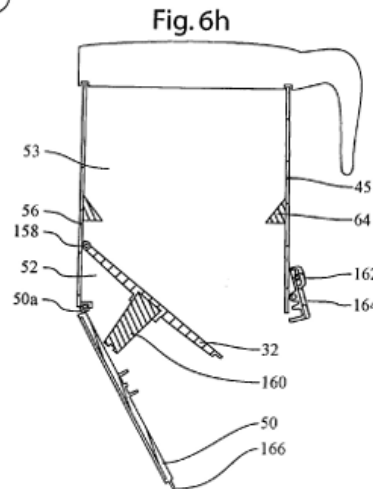
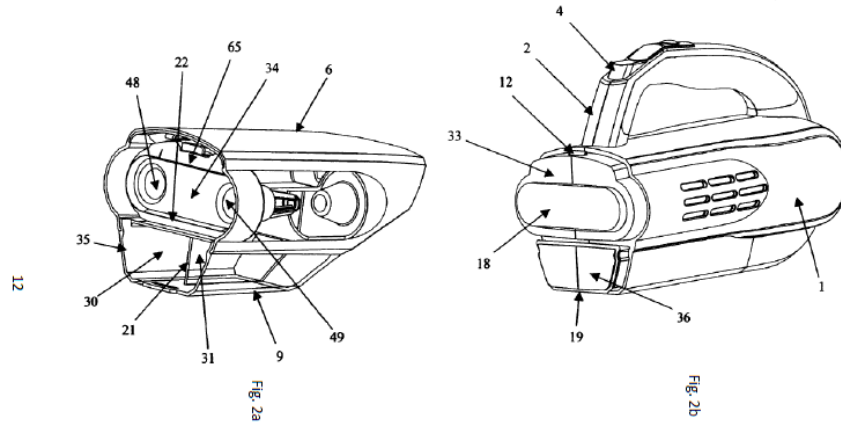


Fig. 6h

Figs. 1, 6g, 6h.

5. Jianan

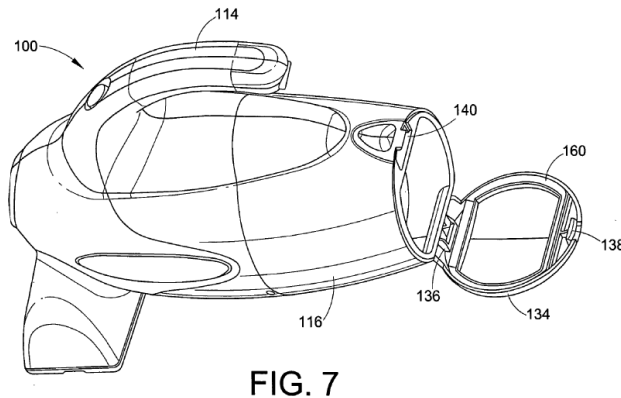
Jianan is a 2007 Chinese patent application publication describing a “handheld vacuum cleaner” with a “detachable dust cup” “connected to the cyclone body through the dust release hole.” Ex1013, Abstract.



Id., Figs. 2a, 2b.

6. Khalil

Khalil is a 2006 U.S. patent application publication describing a “hand-held vacuum” with a “cyclonic flow chamber” and “rotatably detachable” “dirt cup” and “dirt cup door” located at the rear of the vacuum. Ex1014, Abstract.



Id., Fig. 7.

V. SPECIFIC GROUNDS OF UNPATENTABILITY

A. Martelliere Does Not Anticipate Challenged Independent Claims 23–24 (Ground 1)

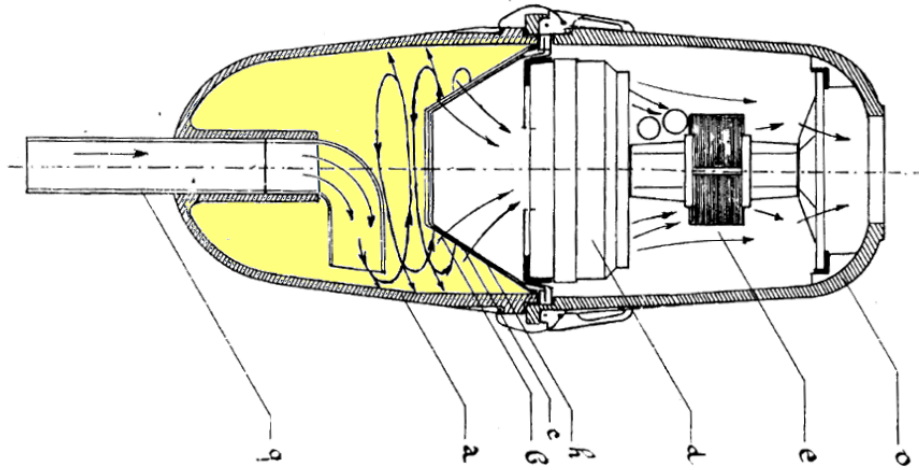
1. Martelliere does not disclose the claimed “openable door, the front wall comprising the openable door” [23d]/[24d]

Petitioners identify the entirety of “container *a*” in Martelliere as “an openable door.” Pet., 16–17. This is a flawed interpretation of Martelliere, supported by only conclusory opinions of an expert. Contrary to Petitioners’ arguments, Martelliere does not disclose an “openable door,” let alone one on a “front wall.”

Martelliere seeks to improve on disadvantages of using “dust bags” for collecting dust and debris for a cyclonic separation device, including “difficulty” in emptying dust bags. Ex1010, 1. Martelliere’s alleged improvement is to replace the dust bags of the prior art with a container made of “smooth and transparent material.” *Id.* Martelliere explains that its application of “Whirlwind” or cyclonic separation results in dirt being “deposited in the bottom of the container, after having separated from the air” and that this dirt can be emptied from the container with ease due to the smooth internal surface of the container. *Id.*

Because the dirt collects on the bottom of the container, Martelliere states that the “container” (*a* in the figure, shaded in yellow) “is very easily detachable” for emptying. *Id.* At most, this suggests that the entire container can be detached and removed for emptying. *Id.* Nowhere does Martelliere describe its container as a

“door,” let alone explain how it is an “openable door” on a “front wall.” Indeed, a container that is entirely removed (*i.e.*, does not swing or slide) is not a “door” at all.¹



Id., 2 (with container *a* annotated in yellow).

Lacking any disclosure in Martelliere (which is a mere nine paragraphs long) of how an entire dust collection chamber is a “door,” Petitioners turn to their expert to speculate on the operation of the device in Martelliere. Petitioners, through their expert, claim without support or citation that container *a* in Martellier is “pivotal” and that unlatching one latch allows the “‘container’ to pivot open.” Pet., 16. This argument is entirely speculative and insufficient to demonstrate that this element is disclosed in Martelliere. Martelliere makes no mention of its container *a* being

¹ See, e.g., Ex2002 (defining “door” as “a usually swinging or sliding barrier by which an entry is closed and opened”).

pivotable, and there is no evidence that opening just one of the latches will result in container *a* pivoting. For example, there may be more than two latches or the unopened latch may not be secure enough to allow container *a* to pivot about it—Petitioners present no evidence that undoing one latch and attempting to rotate the container about a secured latch would not break the secured latch.

Furthermore, even if the entire dust collection chamber were to pivot, that does not necessarily make the chamber a door. In the Challenged Claims, the “openable door” is a door to the dust collection chamber. Under Petitioners’ interpretation, however, the dust collection chamber is an “openable door” to itself, which makes no sense in the context of the Challenged Claims.

At bottom, Petitioners’ speculation is insufficient to teach that the “the dirt collection chamber” of Martelliere has a door, that the door is “openable,” or that the “front wall” of the vacuum comprises the openable door.

2. Martelliere does not disclose that a “door is openable when the dirt collection chamber is mounted to the hand vacuum cleaner” [23f]

With respect to independent claim 23, Petitioners appear to identify Martelliere’s container *a* as both of the dirt collection chamber and the claimed “front wall” of the front end. *See* Pet., 13–17. With respect to element [23f], Petitioners appear to argue instead that it is somehow possible for Martelliere’s

container *a* to at once pivot open and remain mounted to metal frame *f* “through the other latch.” Pet., 17.

As an initial point, it is unclear what Petitioners are attempting to argue. And as the Petitioners, they bear the burden of showing, with specificity, that the references disclose each element as recited.

Assuming, for the sake of argument, that Petitioners mean to assert that the entirety of container *a* can pivot around one latch while disconnected from a second latch, container *a* would no longer be “mounted” to metal frame *f* of Martelliere and such operation is neither discussed nor contemplated by Martelliere. In other words, claim 23 specifies that “the door is openable when the dirt collection chamber is mounted to the hand vacuum cleaner.” Under Petitioners’ theory, the claimed “door” and “dirt collection chamber” are the same component—namely, container *a* of Martelliere. But it makes no sense—and Martelliere does not explain how it is possible—for container *a* to be simultaneously “mounted” (by one latch) to the metal frame and “openable.” *Topliff v. Topliff*, 145 U.S. 156, 161 (1892) (“It is not sufficient to constitute an anticipation that the device relied upon might, by modification, be made to accomplish the function performed by the patent in question, if it were not designed by its maker, nor adapted, nor actually used, for the performance of such functions.”).

3. Martelliere does not disclose that an “openable door covers an end of the dirt collection chamber” [24f]

With respect to independent claim 24, Petitioners state, without support or explanation, that “Martelliere’s ‘container’ ‘wall’ (the openable door) covers the front end of ‘container a’ (the dirt collection chamber).” Pet., 17. Petitioners have neither explained how what they have identified as Martelliere’s “container wall” differs from Martelliere’s container *a*, nor established how something can be argued to “cover[] the front end of” itself.

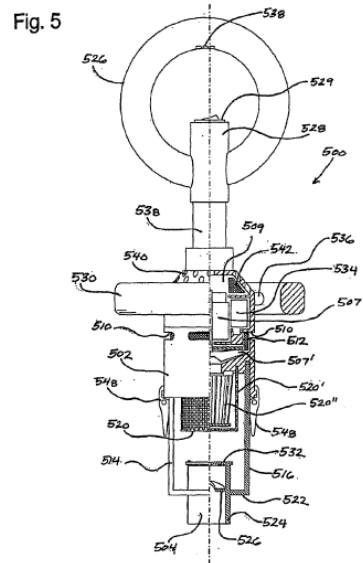
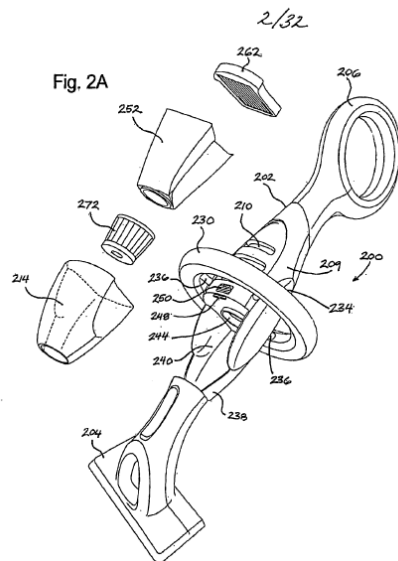
Thus, Petitioners have not met their burden of showing that any of the Challenged Claims are anticipated by Martelliere under Ground 1.

B. Butler Does Not Anticipate Challenged Independent Claims 23–24 (Ground 2)

1. Petitioners improperly combine Butler’s separate and distinct embodiments

Each of Butler’s Figs. 1, 2A–D, and 5 discusses a separate, independent embodiment of a stair vacuum cleaner (*i.e.*, there are at least six different embodiments associated with these figures alone). *See, e.g.*, Ex1020, 4:7–10 (“Figure 1 is a perspective view of *an embodiment* of a vacuum cleaner of the present invention. Figure 2A is a perspective view of *another embodiment* of a vacuum cleaner of the present invention”), 4:11–16 (Fig. 2B is a “view of a dust bag configuration,” Fig. 2C is a “view of a dirt cup configuration,” and Fig. 2C is a “view of a cyclone separator configuration”), 4:21–22 (“Figure 5 is a partial cut away side

view of *still another embodiment* of a vacuum cleaner of the present invention.”); *see also id.*, 7:14–21, 15:19–20, 17:1–2, 17:15–16, 18:3–5, 20:3–4. Most relevant here, these separate embodiments have different dirt receptacles, and yet Petitioners rely on disclosure associated with these multiple, separate embodiments indiscriminately, without acknowledgement or explanation of how or why a POSITA would have considered such disclosure to be combined in an anticipation analysis. Pet., 18–24.



Compare id., 16:14–15 (“dirt receptable 214 . . . is shaped and sized to be selectively positionable in the pocket 240”), with *id.*, 21:8–9 (“cylindrical dirt receptacle 514 is removably attached at a bottom end of the housing 502”).

In particular, when discussing elements [23d]/[24d], Petitioners combine discussion of Butler’s Figure 2 embodiments with discussion of Butler’s Figure 5 embodiment. For example, in the very same sentence, Petitioners point to the

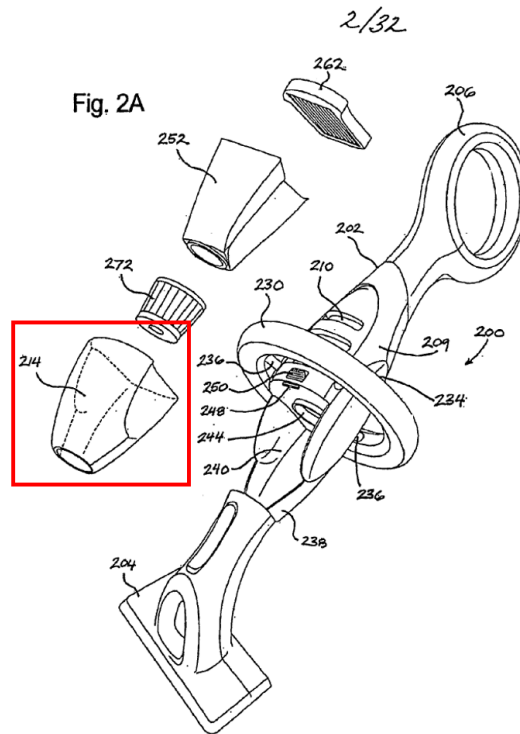
alleged “chamber emptying” feature of “dirt receptacle 214,” which is a component of the Figure 2A embodiment, and the alleged “removab[ility]” of “bottom wall 522,” which is a component of the Figure 5 embodiment. As separate embodiments, it is improper for Petitioners to combine them as a basis for anticipation. *Microsoft Corporation v. Biscotti, Inc.*, 878 F.3d 1052, 1071–73 (Fed. Cir. 2017) (affirming determination that combining separate embodiments within a single reference to account for the limitations of the claim was an improper basis for anticipation).

2. No embodiment in Butler discloses the claimed “openable door, the front wall comprising the openable door” [23d]/[24d]

Setting aside Petitioners improper amalgamation of embodiments, neither the Figure 2 embodiments nor the Figure 5 embodiment disclose the claimed “openable door, the front wall comprising the openable door.”

In the Figure 2 embodiments, the vacuum cleaner includes “dirt receptacle 214” (in red below). Ex1020, 16:14–15. Petitioners quote disclosure from Butler that “‘dirt receptacle 214 may be covered by an access panel or door’ to ‘facilitate the chamber’s emptying.’” Pet., 22 (quoting Ex1020, 18:26–30). Nowhere does Butler suggest, let alone disclose, that a *front wall* of the dirt receptacle would comprise such a door. Moreover, the disclosure regarding a “door” to “facilitate the chamber’s emptying” relates to an embodiment in which “dirt receptacle 214” is “omitted and replaced by a non-removable chamber within the housing.” Ex1020,

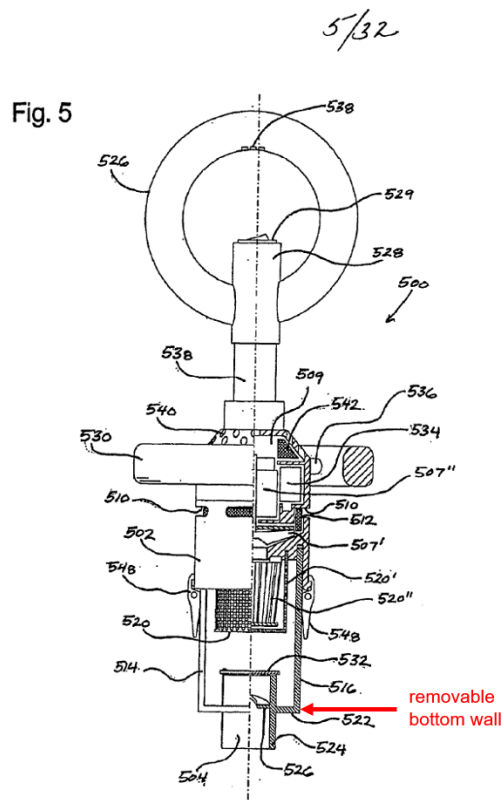
18:27–28. In that instance, there could not be a “door” on the front wall of the chamber because the chamber would be connected to the air inlet passage coming from inlet nozzle 204.



Id., Fig. 2A (annotated).

The Figure 5 embodiment likewise does not disclose the claimed “openable door, the front wall comprising the openable door.” Petitioners point to “bottom wall 522” in Butler, which Butler states is “removably attached to the sidewalls 516 by threaded engagement, bayonet fittings, clamps, screws, or the like.” Ex1020, 21:19–23. Petitioners quote Butler that “bottom wall 522” is “removable from the device,” Pet., 22, but for the reasons explained above, simply being “removable” does not make bottom wall 522 a “door.” As explained above, a POSITA would

have understood that a “door” swings or slides to open; a door is not something that must be entirely removed to open.² Petitioners never argue that bottom wall 522 is pivotable or slidable (as opposed to completely removable). Because it is fully removable, and not a swinging or sliding barrier, bottom wall 522 cannot be the claimed “openable door.”



Id., Fig. 5 (annotated).

² See, e.g., Ex2002 (defining “door” as “a usually swinging or sliding barrier by which an entry is closed and opened”).

Thus, because no embodiment in Butler raised by Petitioners discloses the claimed “openable door,” Butler cannot anticipate independent claims 23 and 24.

C. IPVG in View of Conrad335 Does Not Render Obvious Challenged Claims 1–25 (Ground 3)

1. Petitioners have not shown that a POSITA would have been motivated to combine IPVG and Conrad335

Petitioners’ Ground 3 fails from the start because Petitioners have not sufficiently demonstrated a motivation to combine IPVG and Conrad335. Rather, Petitioners provide conclusory statements about simple substitution and alleged advantages of modifying IPVG based on Conrad335’s disclosure without providing any explanation for such conclusory statements. For example, Petitioners assert that “a POSA would have modified IPVG’s dust-separation unit (‘dust bag 5’) to use a cyclonic-filtration unit, such as Conrad335’s ‘cyclone separator’” because Conrad335 contemplates that its “cyclonic embodiments . . . may be used in conjunction with . . . a hand vacuum,” and a “POSA would have understood that cyclonic filtration had certain advantages over dust-bag filtration.” Pet., 28, 30. Petitioners also argue that a “POSA would have modified IPVG’s screwed-open door . . . to use a pivot-open door, such as Conrad335’s ‘opening door 50’ with ‘pivot hinges 50a’” and because “Conrad335’s hinged ‘opening door 50’ had certain advantages over IPVG’s ‘screwed cover 2,’ including ease of opening for cleaner emptying.” Pet., 28, 31.

Each of Petitioners' alleged rationales are merely conclusory statements with no explanation for why the combination is a simple substitution, why the advantages of the cyclonic separation mechanism or hinged door in Conrad335 apply to the enclosed dust bag stick vacuum of IPVG, or why the substitutions would improve the vacuum of IPVG.

To support these alleged rationales for combining Conrad335's cyclonic separation mechanism and openable bottom door with IPVG, Petitioners cite the Declaration of Mr. Giachetti (Ex1002). However, these paragraphs also merely make conclusory statements about simple substitution and alleged advantages without providing any explanation for such conclusory statements. *E.g.*, Ex1002, ¶¶144–56. For example, neither Petitioners nor Mr. Giachetti provide any explanation for why a POSITA, reading IPVG, would have been motivated to replace the disclosed screwed cover that covers the dust bag cavity to implement a hinged door beyond the hindsight-informed statement that such a cover would have made opening the cavity easier. *See id.*

Thus, Petitioners have not met their burden of showing that the Challenged Claims were obvious in view of IPVG in combination with Conrad335 under Ground 3.

2. The IPVG and Conrad335 combination does not render obvious the claimed “openable door, the front wall comprising the openable door” [1d]/[23d]/[24d]/[25d]

For each of independent claims 1, 23, 24, and 25, Petitioners allege that Petitioners assert that IPVG “teaches the dirt collection chamber having an openable door, the front wall comprising the openable door” because a “POSA would have understood IPVG’s ‘screwed cover 2’ is a front wall comprising an openable door.” Pet., 44. Petitioners are incorrect—IPVG does not teach a dirt collection chamber having an openable door on a front wall. Petitioners provide no explanation as to why a POSITA would have understood a cover that must be removed—not opened—to be an openable door. As explained above, a removable cover that does not pivot or swing is not an “openable door.” *See* Ex2001.

Conrad335 does not cure this deficiency. Conrad335 discloses an upright vacuum cleaner with a cyclone chamber and dirt collection chamber that must first be removed from the body of the vacuum cleaner before it can be emptied through an openable **bottom**. Ex1005, ¶98. Petitioners simply cite Conrad335’s disclosure regarding its openable bottom and state “[w]hen Conrad335’s teachings of its ‘cyclone separator 20’ are incorporated into IPVG, Conrad335’s ‘openable door [50]’ is a front wall comprising the openable door.” Pet., 57–58. Petitioners neither explain nor address how or why a POSITA would implement this modification or why Conrad335’s openable bottom door—which is placed within the body of an

upright vacuum and positioned such that the filter/motor housing on which it sits prevents the door from accidentally opening during operation—would be a front wall if incorporated into IPVG's stick vacuum. Nor do Petitioners explain why IPVG's screwed front cover would become Conrad335's openable bottom door (50) when the two references are combined.

Thus, Petitioners have not shown that the IPVG and Conrad335 combination suggests an “openable door” as recited by the Challenged Claims and Ground 3 fails for this additional reason.

3. The IPVG and Conrad335 combination does not render obvious Challenged Dependent Claims 2–22

Because IPVG in view of Conrad335 fails to render obvious claim 1 of the '407 Patent, the IPVG and Conrad335 combination necessarily fails to teach dependent claims 2–22, which depend on claim 1. As such, Petitioner has failed to demonstrate a reasonable likelihood of success on any claim in Ground 3.

D. Martelliere in View of IPVG Does Not Render Obvious Challenged Independent Claims 23–24 (Ground 4)

1. Petitioners do not address each element of the Challenged Claims 23–24

Ground 4 only addresses elements [23pre]/[24pre] and [23d]/[24d]/[23f]. Pet., 73–77. Nowhere does Ground 4 purport to address or cite to any discussion of the remaining elements of the Challenged Claims 23–24, including by reference to earlier portions of its Petition. *See id.* Petitioners' citation to the cursory discussion

in Mr. Giachetti's declaration of the alleged motivations to combine IPVG and Martelliere and of elements [23pre]/[24pre] and [23d]/[24d]/[23f] fails to cure this glaring and fatal deficiency. This is critical with respect to an obviousness theory because it is not clear to Patent Owner which references Petitioners rely on for each limitation.

Furthermore, nothing in the proposed combination of Martelliere and IPVG cures the issues described above with respect to neither reference disclosing an "openable door, the front wall comprising the openable door"—*i.e.*, neither reference discloses a pivotally or swingably mounted door. Thus, for the same reasons as explained with respect to Grounds 2 and 3, Ground 4 fails.

Thus, Petitioners have not shown that the IPVG and Conrad335 combination renders Challenged Independent Claims 23–24 obvious.

2. Petitioners failed to show that a POSITA would have been motivated to combine Martelliere and IPVG

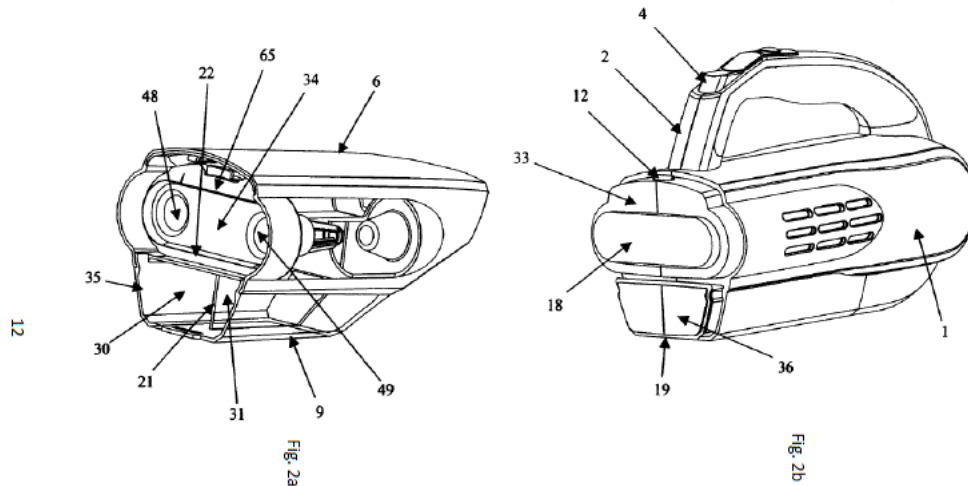
Petitioners argue that "[a] POSA reading IPVG—including its teaching that a 'dust bag or like member through which the air stream passes' may be used as an air-filtration unit (Ex1006, 1:22-33)—would have been motivated to incorporate Martelliere's teachings . . . for its many known advantages." Pet., 74. In Ground 4, however, Petitioners' alleged motivations to combine all relate to using IPVG's stick vacuum with Martelliere's cyclonic separation mechanism. Furthermore, Petitioners provide only conclusory statements about simple substitution and alleged

advantages of modifying IPVG based on Martelliere's disclosure without providing any explanation for such conclusory statements. Thus, Petitioners have not met their burden of showing that a POSITA would have been motivated to combine the art to result in Petitioners' proposed combination and Ground 4 fails for this additional reason. *Netflix, Inc.*, 84 F.4th at 1371; *Intelligent Bio-Sys.*, 821 F.3d at 1359.

E. Jianan in View of Khalil Does Not Render Obvious Challenged Claims 1–25 (Ground 5)

1. Petitioners failed to show that a POSITA would have been motivated to combine Jianan and Khalil

Petitioners' Ground 5 fails from the start because Petitioners have not sufficiently demonstrated a motivation to combine Jianan and Khalil. Rather, Petitioners provide conclusory statements about simple substitution and alleged advantages of modifying Jianan based on Khalil's disclosure without providing any explanation for such conclusory statements. For example, Petitioners claim that "Jianan does not specify further implementation details for its dust-collection chamber's 'moveable door'" and a "POSA would have substituted Khalil's detailed dirt-cup door teachings of using an end-wall as a door, including its hinged door-opening mechanism." Pet., 78, 80–81. Petitioners do not explain why a POSITA would have looked to Khalil's disclosure of a *rearward* opening dirt cup door to inform the design and placement of an "opening and closing device such as a door" of Jianan's removable dust collection chamber.



Ex1013, cl. 3, Figs. 2a, 2b.

Although Jianan contemplates that “[a]nother opening device that replaces the dust collection chamber opening 35 can be a moveable door on the dust collection chamber 9,” *id.*, 10, Jianan provides no details or disclosure of where the door would be placed or how the door would be implemented. If anything, because Jianan explains that dust collection chamber 9 is emptied through opening 35 in the rear, Ex1013, 10, an “openable door” in Jianan would be placed at the rear of dust collection chamber 9. Petitioners present Jianan’s silence as its primary motivation to modify Jianan based on the disclosure of Khalil. Petitioners argue that “[a] POSA would have looked to references teaching implementation details for moveable doors on dust collection chambers in handvacs to enable Jianan’s goal of providing a ‘clean and convenient dust removal process,’” and that “Khalil is one such reference.” Pet., 80. Even if this silence was a reason to select a door mechanism from the prior art or common knowledge, Petitioners failed to provide a reason why a POSITA would

select Khalil's implementation (using a hinge and the entire rear end-wall), rather than any other known mechanisms and/or placements to use in Jianan's vacuum.

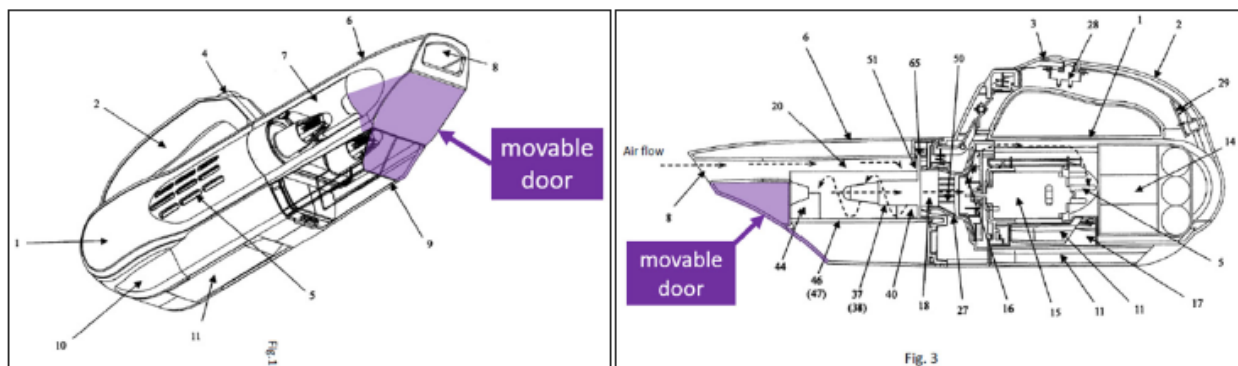
Furthermore, Petitioners do not explain why Khalil's rear-wall openable door would be moved to a "front wall" of Jianan (as opposed to a rear, side or bottom wall). In fact, as noted above, Jianan teaches that the dust collection chamber is emptied through "dust collection chamber opening 35," which is in the *rear* of Jianan's dust collection chamber and faces towards the *rear* of Jianan's vacuum. Ex1013, 10, Fig. 2a. Thus, even if modifying Jianan in view of Khalil, a POSITA would have included a pivoting door on the rear of Jianan's dust collection chamber. Nothing in either Jianan or Khalil suggests placing an openable door on the front of the dust collection chamber. Thus, it is clear that hindsight alone drove Petitioners' proposed combination of Jianan and Khalil for Ground 5.

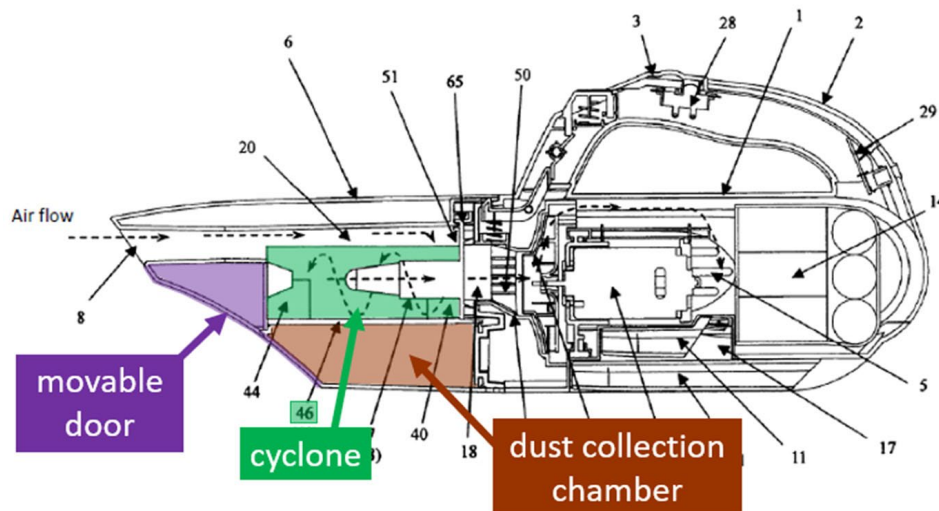
To support the alleged rationales for combining Khalil's disclosure with Jianan's vacuum, Petitioners cite the Declaration of Mr. Giachetti (Ex1002). However, these paragraphs also merely make conclusory statements about simple substitution and alleged advantages without providing any explanation for such conclusory statements. *E.g.*, Ex1002, ¶¶320–23. Thus, Petitioners have not met their burden of showing that the Challenged Claims were obvious in view of Jianan in combination with Khalil under Ground 5, and the Petition should be denied.

2. The Jianan and Khalil combination does not render obvious claimed “openable door, the front wall comprising the openable door” [1d]/[23d]/[24d]/[25d]/[23f]/[24f]

For each of independent claims 1, 23, 24, and 25, Petitioners allege that they would have been obvious over Jianan in view of Khalil. But Petitioners have failed to show that either of Jianan or Khalil discloses a “front wall comprising [an] openable door,” as required by all independent claims.

As explained above, Jianan describes a “handheld vacuum” with a “detachable dust cup” “connected to the cyclone body through the dust release hole.” Ex1013, Abstract. Petitioners state that Jianan contemplates a “moveable door on the dust collection chamber,” *id.*, 10, but nowhere does Jianan state where on the dust collection chamber the moveable door is located. Indeed, when Petitioners attempt to identify where the “moveable door” would be positioned, it points to portions of the *sidewall* of the main body of Jianan’s vacuum, as shown below in purple, not a “front wall.”





Pet., 81, 86 (as annotated in the Petition). This location is no different than that of Beskow (U.S. Publication No. 2008/0040883), discussed above, which Applicant successfully distinguished during prosecution as having a door on a “*sidewall* of the dirt collection chamber.” Ex1004, 169–72, 217. Thus, even Petitioners’ interpretation of Jianan does not disclose an “openable door” on a “front wall” of the vacuum cleaner.

Petitioners also make the conclusory statement that “[a] POSA would have been motivated to implement Jinan’s [sic] moveable-door teachings using Khalil’s dirt-cup-door teachings and would have reasonably expected success.” Pet., 88. But, as shown below, Khalil discloses a detachable “dirt cup” and “dirt cup door” located at the *rear* of the vacuum. Ex1014, Abstract.

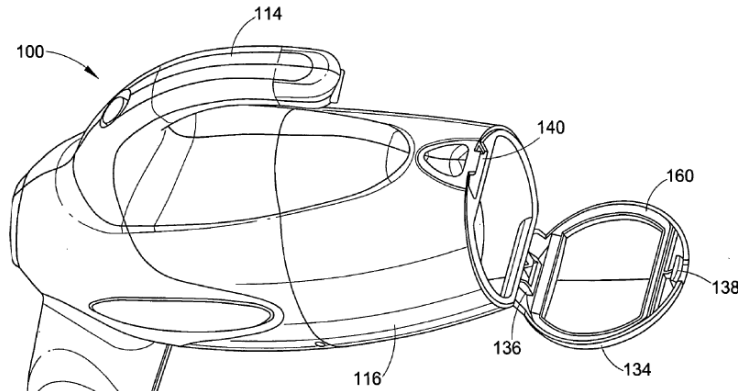


FIG. 7

Id., Fig. 7. Khalil's disclosure of an openable door at the rear of a vacuum cleaner cannot cure the lack of disclosure in Jianan for an "openable door" on a "front wall."

Thus, Petitioners have not shown that the Jianan and Khalil combination discloses or renders obvious an "openable door" on a "front wall" as recited by the Challenged Claims and Ground 5 fails.

3. The Jianan and Khalil combination does not render obvious Challenged Dependent Claims 2–22

Because Jianan in view of Khalil fails to render obvious claim 1 of the '407 Patent, the Jianan and Khalil combination necessarily fails to teach dependent claims 2–22, which depend on claim 1. As such, Petitioner has failed to demonstrate a reasonable likelihood of success on any claim in Ground 5.

VI. CONCLUSION

For the foregoing reasons, Petitioners have not met their burden of showing a reasonable likelihood that at least one of the Challenged Claims is unpatentable, and institution of *inter partes* review should be denied.

DATED: June 21, 2024

Respectfully Submitted,

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CERTIFICATION UNDER 37 C.F.R. § 42.24(d)

Under the provisions of 37 C.F.R. § 42.24(d), the undersigned attorney hereby certifies that this document complies with the type-volume limitations of 37 C.F.R. § 42.24(b). The word count of the foregoing Patent Owner's Preliminary Response is 5,392, according to the word count tool in Microsoft Word.

DATED: June 21, 2024

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CERTIFICATE OF SERVICE

The undersigned certifies service pursuant to 37 C.F.R. § 42.120 of a copy of this Patent Owner's Preliminary Response and supporting materials upon Petitioners by email on June 21, 2024, to the following email addresses of record:

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