

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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DYSON TECHNOLOGY LIMITED AND DYSON, INC.,  
Petitioners,

v.

OMACHRON INTELLECTUAL PROPERTY INC.,  
Patent Owner.

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Case No. IPR2024-00950  
U.S. Patent No. 10,080,472

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**PATENT OWNER'S PRELIMINARY RESPONSE**

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**TABLE OF ABBREVIATIONS**

| <b>Abbreviation</b> | <b>Term</b>                                        |
|---------------------|----------------------------------------------------|
| '472 patent         | U.S. Patent No. 10,080,472 (Ex1001)                |
| Butler              | PCT Publication No. 2007/084543 to Butler et al.   |
| Challenged Claims   | Claims 1–25 of U.S. Patent 10,080,472              |
| Fig.                | Figure                                             |
| IPR                 | <i>inter partes</i> review                         |
| Oh                  | U.K. Patent Application No. 2,400,309 to Oh et al. |
| Organ               | U.K. Patent Application No. 2,372,431 to Organ     |
| Patent Owner        | Omachron Intellectual Property Inc.                |
| Eriksson-Jons       | U.S. Patent No. 2,149,135 to Eriksson-Jons         |
| Martelliere         | French Patent No. 1,094,603 to Martelliere         |
| 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. 10,080,472.

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 the claims “recite well-known configurations and features of vacuum cleaners,” none of Petitioners’ references render obvious the required configuration and arrangement of an openable pre-motor filter housing, required in all of the Challenged Claims. Pet., 1.

Furthermore, 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 did not provide any such rationale. At best, Petitioners rely on hindsight bias to argue that a combination of references 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.

For at least these reasons and those set forth below, Petitioners failed 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 ’472 Patent**

The ’472 patent is directed to a “hand surface cleaning apparatus” that is “operable for an enhanced period of time without a significant reduction i[n] air

flow” that includes “a pre-motor filter with enhanced surface area transverse to the direction of air flow.” Ex1001, 1:46–51.

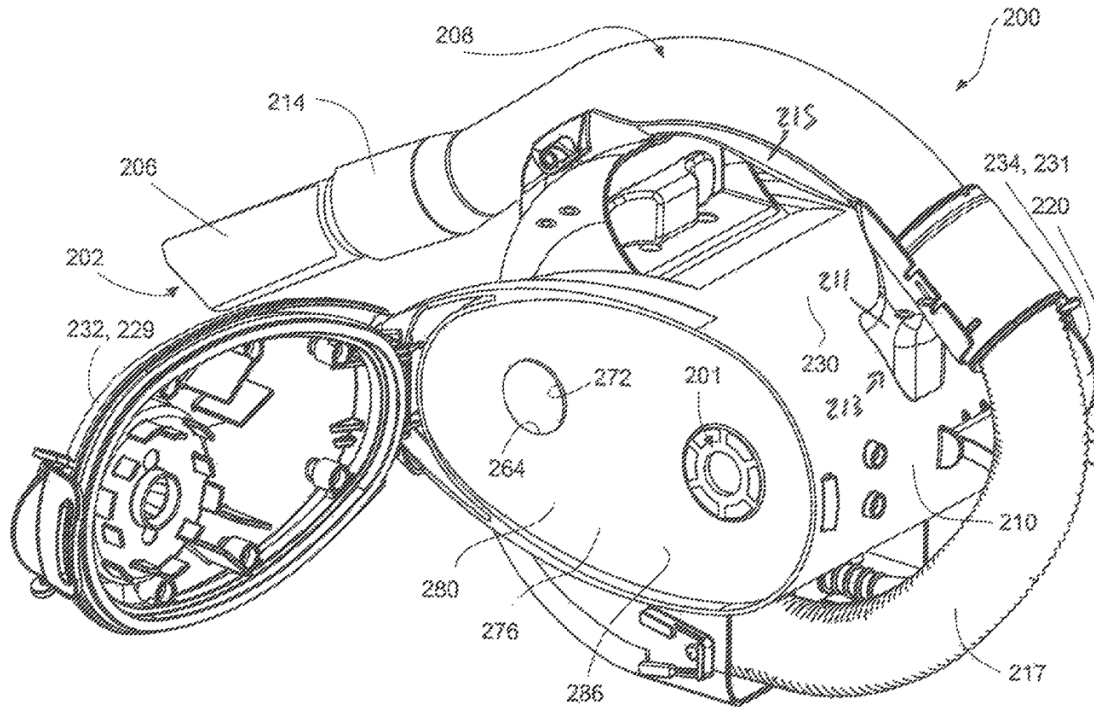


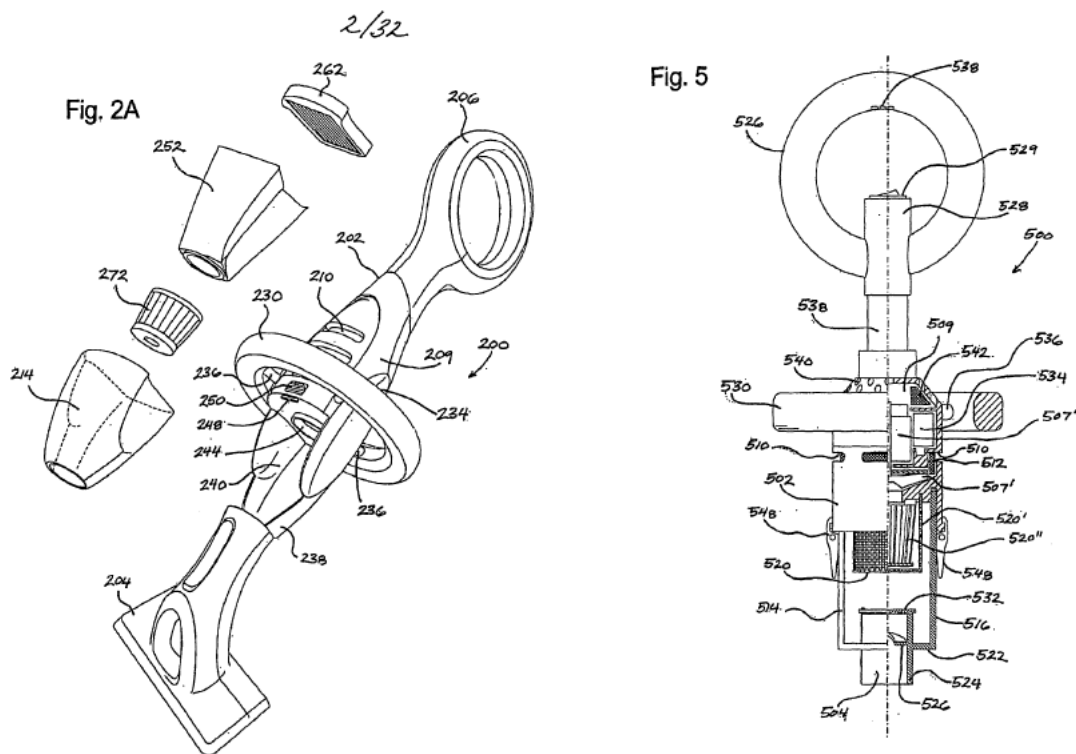
Figure 3B

*Id.*, Fig. 3B. The '472 patent improves on vacuum cleaners in the prior art by positioning the pre-motor filter such that it “overlie[s] part or all of the cyclone chamber” to “[i]ncreas[e] the surface area of the upstream side of the pre-motor filter” and extend the lifetime of both the pre-motor filter and a post-motor filter. *Id.*, 1:65–2:32.

## B. Overview of Asserted References

## 1. Butler

Butler is a 2007 PCT publication that details several distinct embodiments of a specialized “Stair Cleaning Vacuum.” Ex1005, 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, 3:10–16. Two distinct embodiments from Butler—one associated with Figure 2A and the other with Figure 5—are shown below.

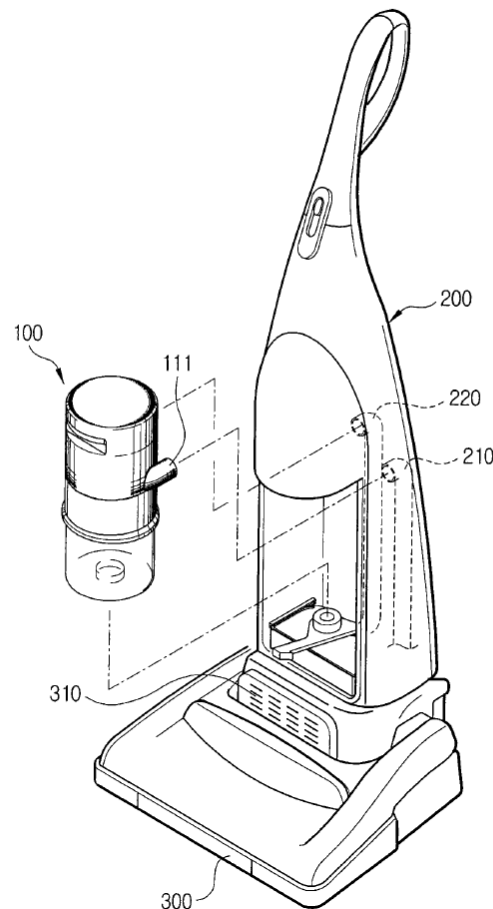


*Id.*, Figs. 2A, 5.

**2. Oh**

Oh is a 2004 UK patent application publication directed “particularly to a cyclone-type dust collecting apparatus for an upright vacuum cleaner.” Ex1006, 1:3–7. Oh discusses an arrangement of components that directs air first through a grill and then a fine filter to “filter and collect fine dust contained in air which is exhausted through a path of a grill . . . preventing a backflow of the fine dust.” *Id.*, 3:1–3.

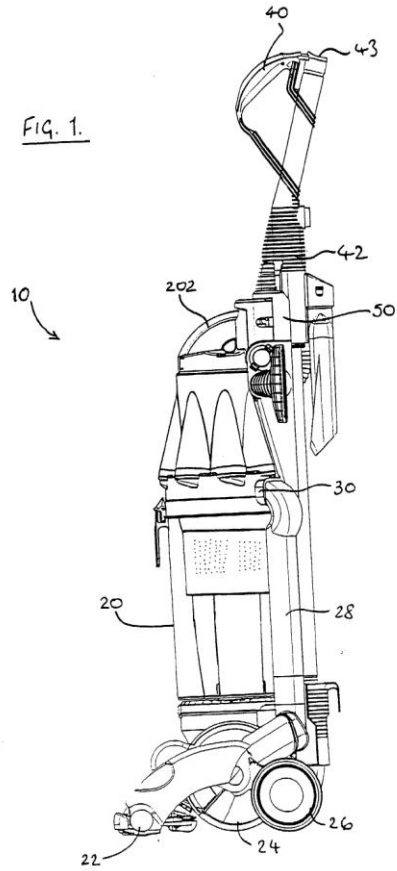
**FIG. 8**



*Id.*, Fig. 8.

### 3. Organ

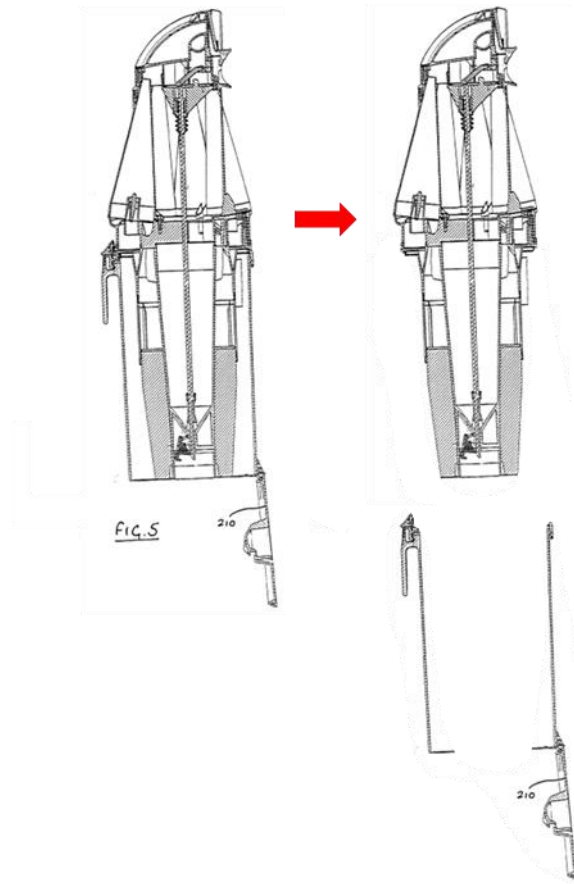
Organ is a 2002 UK patent publication directed to a bagless upright vacuum cleaner with a removable cyclonic chamber. Ex1007, Abstract, 2:26–3:31.



Ex1007, Fig. 1.

The cyclonic chamber “has a door . . . at its base which can be opened to empty the chamber” of dirt, and the “cylindrically-walled cyclonic chamber” can be separated from the rest of the cyclonic separation unit, including the inner wall, fins, and shroud to provide access to the shroud, allow a user remove any debris trapped

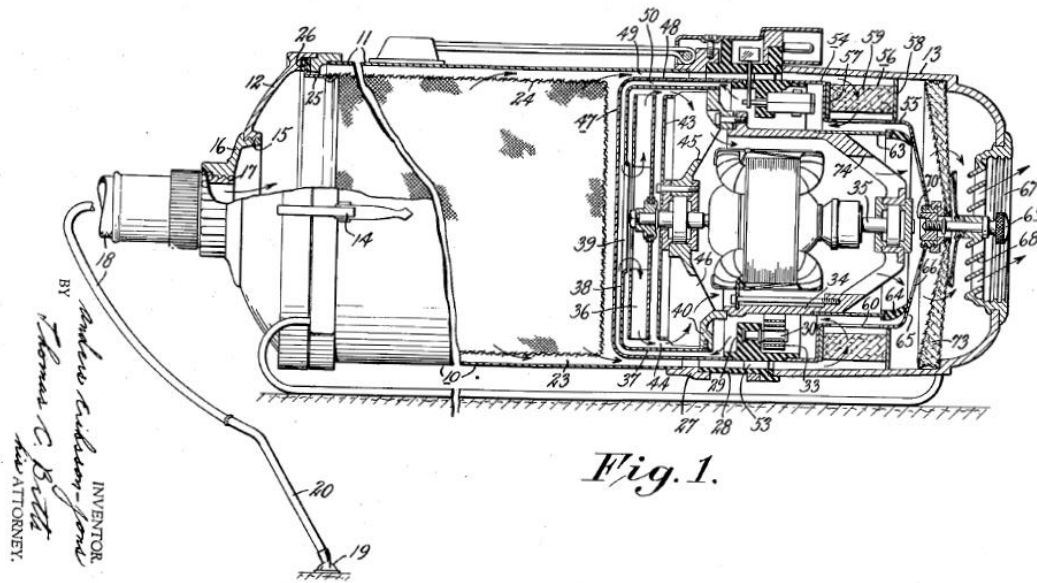
between the chamber and the tube or shroud, or allow a user to thoroughly clean the chamber. Ex1007, Abstract, 2:26–3:31, 12:1–16.



Ex1007, Fig. 5 (annotated).

#### **4. Eriksson-Jons**

Eriksson-Jons is a 1936 U.S. patent directed to a vacuum cleaner that uses a dust bag that “removes all except the very finest particles of dirt from the air stream, while permitting the air and these fine particles to pass through the material of the bag” and an additional filter, upstream of the motor, that removes fine particles. Ex1008, 1:14–17, 2:53–75.



*Id.*, Fig. 1.

## 5. Martelliere

Martelliere is a 1955 FR 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.” Ex1010, 1.

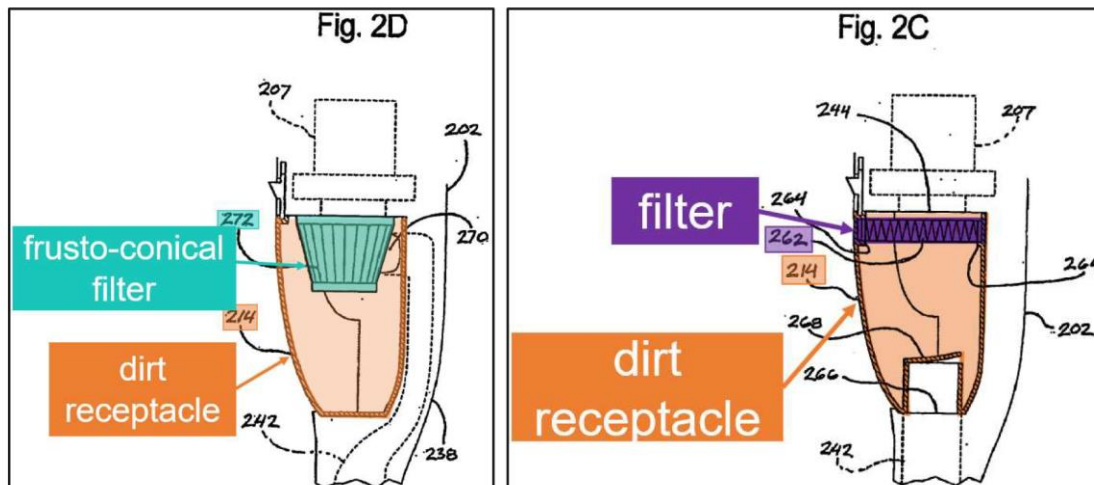
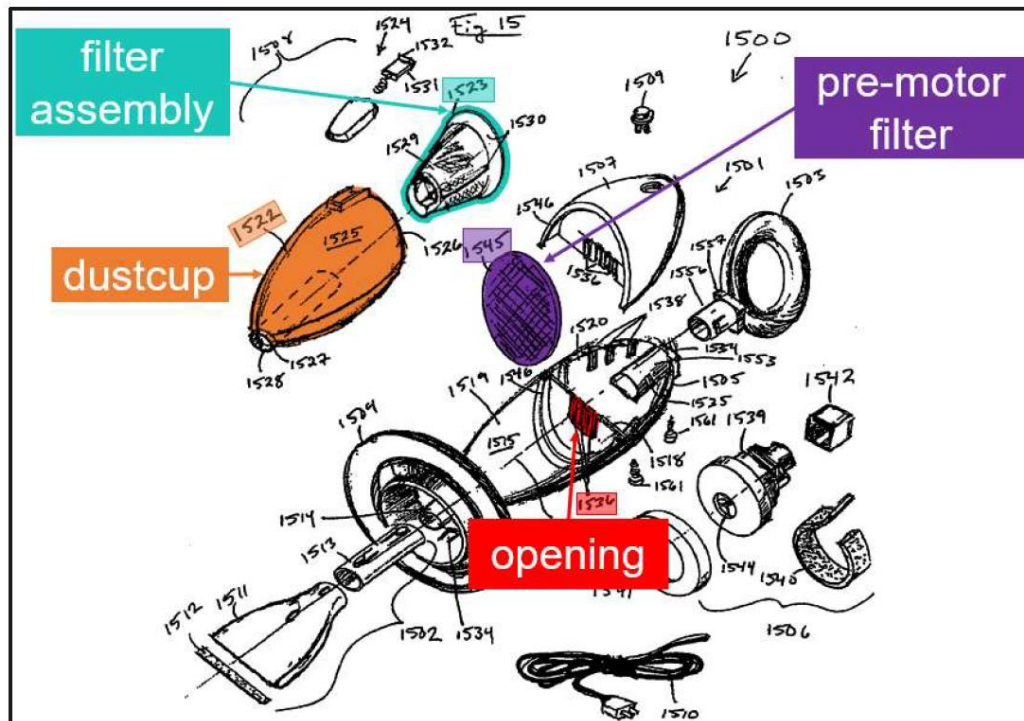
## **V. SPECIFIC GROUNDS OF UNPATENTABILITY**

### **A. Petitioners Failed to Show that Butler Renders Obvious Challenged Claims 1–4, 8–17, and 21–25 (Ground 1)**

#### **1. Butler does not teach or suggest a “pre-motor filter . . . positioned in a pre-motor filter housing having an openable cover” [1d2]/[14d2]**

All asserted claims require that the pre-motor filter is positioned in a pre-motor filter housing having an openable cover. Petitioners failed to meet their burden of showing that Butler teaches this element. Specifically, the Petition failed to identify any disclosure in Butler that teaches “a pre-motor housing,” or that the pre-motor housing has an “openable cover” as recited.

Petitioners merely point to Butler’s discussion of several distinct embodiments that include a “pre-motor filter” or a filter and identify no discussion of a pre-motor filter housing in any of the embodiments, let alone a pre-motor filter housing with an openable cover. Pet., 26–32. For example, Petitioners cite to embodiments including (1) a pre-motor filter (separate and distinct from a “frusto-conical filter assembly 1523”) that “may be located to cover the vent opening 1526,” as shown below in Petitioner’s annotated reproduction of Fig. 15, (2) a frusto-conical filter 272 “located over the fan/motor inlet opening 244,” as shown below in Petitioner’s annotated reproduction of Fig. 2D, and (3) a filter 262 “positioned in the top of the dirt receptacle,” as shown below in Petitioner’s annotated reproduction of Fig. 2C. Ex1005, 17:15–18:14; see Pet., 26–27.



Pet., 27 (citing Ex1006, Figs. 15 (top), 2D (bottom, left), 2C (bottom, right)).

As shown in Petitioners' own annotations, Butler teaches, at most, that a filter can be placed over a "fan/motor inlet opening" or "in the top of [a] dirt receptacle." Ex1005, 17:15–18:14. But, as explained in more detail below, the "dirt receptacle"

in Butler is not “a pre-motor filter housing having an openable cover.” Indeed, Petitioners cite to nothing in Butler’s disclosure regarding a pre-motor filter housing nor any support for their assertion that Butler teaches such a housing.

Petitioners argue that a “POSA would have understood Butler’s ‘dirt receptacle 214’/‘dustcup 1522’ are interchangeable pre-motor filter housings because they house Butler’s pre-motor filters.” Pet., 28. But Petitioners have not even established that either of Butler’s dirt receptacle 214 or dustcup 1522 houses the respective filters. Petitioners, implicitly acknowledging this lack of disclosure, argue that “it would have been obvious to extend ‘dustcup 1522’ to house ‘pre-motor filter 1545’” without any support or explanation of how extending dustcup 1522 would house the filter 1545.

Furthermore, Petitioners improperly identify Butler’s dustcup 1522/dirt receptacle 214 as being both the claimed “cyclone chamber” and the claimed “pre-motor filter housing.” Pet., 19, 28. At times, Petitioners even identify Butler’s dirt receptacle 214 as the “cyclone bin assembly.” Pet., 51. The “cyclone bin assembly,” “cyclone chamber,” and “pre-motor filter housing” are distinct components. Petitioners cannot ignore that those components are distinct and simply point to Butler’s dustcup 1522/dirt receptacle 214 as satisfying all three claim elements with no explanation of how or why that same physical structure satisfies each of those components.

The specification of the '472 patent treats each of the cyclone bin assembly, the cyclone chamber, and the pre-motor filter housing as distinct from the other. See, e.g., Ex1005, 6:19–32 (“air exits the cyclone chamber 250 through the cyclone air outlet 264, and enters the chamber 241 . . . pre-motor filter 276 is preferably housed in the chamber 241”), 8:4–26 (“cyclone bin assembly 1110 includes a cyclone chamber 1118 and a dirt collection chamber 1120.”) (emphases added). This Board has declined to find that a single component satisfies multiple claim elements when those claim elements are separate and distinct, and should decline to do so here because the recited “cyclone chamber” and the “pre-motor filter housing” are distinct elements with distinct functions. For example, in *Hopkins Manufacturing Corp. v. Cequent Performance Products, Inc.*, this Board found that a single signal with two components did not satisfy the required two separate signals in the challenged claim. IPR2015-00613, Paper 9 (August 7, 2015). The Board in *Hopkins* distinguished the facts from those in *Powell v. Home Depot U.S.A.*, 663 F.3d 1221, 1231–32 (Fed. Cir. 2011), explaining that, in *Powell*, the specification of the patent at issue did “not suggest that the claim terms require separate structures,” whereas in *Hopkins*, as in the present case, the challenged claims did require that the two claimed signals are “separate and distinct.” *Hopkins*, IPR2015-00613, Paper 9 (quoting *Powell*, 663 F.3d at 1231–32); see also *Bd. of Regents of the Univ. of Tex.*

*Sys. v. BENQ Am. Corp.*, 533 F.3d 1362, 1371 (Fed. Cir. 2008) (“Different claim terms are presumed to have different meanings.”).

Finally, Petitioners assert that Butler “teaches that the pre-motor filter housing [has] an openable cover,” quoting disclosure from Butler that “dirt receptacle 214 may be covered by an access panel or door.” Pet., 29 (quoting Ex1005, 18:26–30). Nowhere, however, does Butler suggest where such an access panel or door would be located, attached, or generally implemented. Petitioners simply stated that a “POSA would have understood Butler’s openable cover . . . allows access to the interior of the dirt receptacle and to the pre-motor filter for cleaning, removal, or unclogging.” Pet., 30. Petitioners asserted that Butler “not[es] the need to service filters” and cites superficial disclosure limited to a single sentence: “Thus, suitable electronics may be wired to a differential pressure sensor to alert the user of the absence of the post-motor filter 112 or other filters in the device, or the need to service such filters.” Pet., 30 (citing Ex1005, 8:15–17). Nothing in this single sentence of Butler’s disclosure teaches or suggests a pre-motor filter, a pre-motor filter housing, or a pre-motor filter housing having an openable cover. Petitioners nevertheless argue that a POSITA “would have found it obvious to implement an openable cover on Butler’s ‘dustcup 1522,’ given Butler’s teachings of interchangeability and to allow a user to access the interior of Butler’s ‘dustcup 1522’ for cleaning (*e.g.*, to dislodge fibrous material), filter-servicing, or to retrieve

an object” and that it “would have been obvious to modify Butler to include a housing having an openable cover specifically for Butler’s pre-motor filter.” Pet., 30–32.

But Petitioners’ arguments are driven by impermissible hindsight. See *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 421 (2007) (“A factfinder should be aware, of course, of the distortion caused by hindsight bias and must be cautious of arguments reliant upon ex post reasoning.”). Petitioners provide only conclusory statements about the modifications they propose being “obvious to try” and the alleged advantages or motivations to modifying Butler in such ways. Petitioners use the claim language itself as a motivation to modify Butler—not any motivation from other references in the art or from the common sense of a POSITA, or even any other motivation consistent with *KSR*’s instruction to look to the “need or problem known in the field of endeavor at the time of invention and addressed by the patent.” *Id.* at 420. Petitioners fall into the trap of, at best, identifying problems in Butler that require solving, but they come up short in identifying a motivation to solve such problems in the ways required by the Challenged Claims. “[K]nowledge of a problem and motivation to solve it are entirely different from motivation to combine particular references” or to modify a particular reference in view of the knowledge of a POSITA. *Innogenetics, N.V. v. Abbott Labs.*, 512 F.3d 1363, 1373 (Fed. Cir. 2008). “Often, every element of a claimed invention can be found in the prior art,”

*In re Kotzab*, 217 F.3d 1365, and Petitioners' arguments here are tainted by hindsight.

To support these alleged rationales for modifying Butler, Petitioners cite the Declaration of Mr. Giachetti (Ex1002). However, these paragraphs also merely make conclusory statements about simple modifications that were obvious to try and alleged advantages without providing any explanation for such conclusory statements.

Thus, Petitioners have not met their burden of showing that any of the Challenged Independent Claims are rendered obvious by Butler under Ground 1.

**2. Butler does not teach that the “pre-motor filter housing is openable without moving the handle with respect to the cyclone chamber” [1h3]/[14h3]**

Petitioners failed to identify any disclosure in Butler that teaches that the pre-motor filter housing is openable without moving the handle with respect to the cyclone chamber, as recited. As explained above, Petitioners have not cited any disclosure in Butler that teaches or suggests a pre-motor filter housing or that such a housing is openable. Furthermore, Petitioners have not cited any evidence to support or provided any explanation of why a person of ordinary skill in the art would have modified Butler in exactly the way that they propose by placing an “access panel or door” such that “Butler’s pre-motor filter housing is openable without moving the handle with respect to the cyclone chamber.” Pet., 49–50.

Petitioners state that Butler's pre-motor filter housing is openable without moving the handle with respect to the cyclone chamber "at least because Butler's handle is at a position of the suction motor, not the pre-motor filter," but fail to establish that Butler even teaches or suggests an openable pre-motor filter housing, let alone that the housing is openable without moving the handle with respect to the cyclone chamber. For example, even if Butler's dustcup was interpreted as both of the pre-motor filter housing and the cyclone chamber, and even if there was an access panel or door covering the dustcup, as Petitioners assert, there is no disclosure or discussion in Butler that suggests that the access panel or door is placed such that it can be opened without moving the dustcup with respect to the handle.

**3. Butler does not teach that the "pre-motor filter housing cover is openable while the cyclone bin assembly is in fluid flow communication with the suction motor" [1h4]/[14h4]**

Petitioners have additionally failed to identify any disclosure in Butler that teaches that the pre-motor filter housing cover is openable while the cyclone bin assembly is in fluid flow communication with the suction motor, as recited. As explained above, Petitioners have not cited any disclosure in Butler that teaches or suggests a pre-motor filter housing, that such a housing is openable, or that the housing would be openable without moving the handle with respect to the cyclone chamber.

Petitioners have also failed to cite any evidence to support or explain why a person of ordinary skill in the art would have modified Butler such that its alleged pre-motor filter housing is openable while the cyclone bin assembly is in fluid flow communication with the suction motor. Pet., 51–52.

Petitioners state that Butler's "access panel or door" "is opened without blocking an airway, removing the cyclone bin assembly, or removing the suction motor," but fail to establish that Butler even teaches or suggests an openable pre-motor filter housing, let alone that the housing is openable while the cyclone bin assembly is in fluid flow communication with the suction motor. For example, even if Butler's dustcup was interpreted as both the pre-motor filter housing and the cyclone chamber, and even if there was an access panel or door covering the dustcup, as Petitioners assert, there is no disclosure or discussion in Butler that suggests that the access panel or door is placed so that it can be opened without the dustcup (the cyclone chamber/cyclone bin assembly) being removed, and therefore no longer being in fluid flow communication with the suction motor.

**4. Butler does not render obvious Challenged Dependent Claims 2–4, 8–13, 16, 17, and 21–25**

Because Butler fails to render obvious independent claims 1 and 14 of the '472 patent, Butler necessarily fails to render obvious dependent claims 2–4, 8–13, 16, 17, and 21–25, which depend on independent claims 1 and 14. As such,

Petitioners have failed to demonstrate a reasonable likelihood of success on any claim in Ground 1.

**B. Petitioners Failed to Show that Butler in Combination With Oh Renders Obvious Challenged Claims 1, 2, 5, 7, 9–15, 17, 18, 20, and 22–25 (Ground 2)**

**1. Petitioners have not shown that a POSITA would have been motivated to combine Butler and Oh**

Implicitly acknowledging holes in its obviousness arguments based on Butler, Petitioners turn to the doctrine of obviousness to patch those holes with Oh. Petitioners provide only conclusory statements that a “POSA would have been motivated to modify Butler’s pre-motor filter to incorporate Oh’s pre-motor filter teachings” and would have “had a reasonable expectation of success” without providing any explanation for those statements. *See, e.g., Pet.*, 78–80.

Petitioners’ argument here is driven by impermissible hindsight. *See KSR*, 550 U.S. at 421. As explained above, Butler lacks several fundamental elements of the ’472 patent—including any teaching or suggestion of a pre-motor filter housing, that such a housing is openable, or that the housing is openable without moving the handle with respect to the cyclone chamber and while the cyclone bin assembly is in fluid flow communication with the suction motor. So, Petitioners argued that it would have been obvious to modify Butler in significant ways to “implement Oh’s pre-motor filter teachings” and that a POSITA would have modified Butler in

exactly the way that the '472 patent recites. These conclusory arguments fall far short of meeting Petitioners' burden.

Petitioners make broad statements about simple substitution and alleged advantages of modifying Butler based on Oh's disclosure without providing any explanation or supporting evidence for such statements. Petitioners' unsupported arguments on motivations to combine Butler and Oh should be given no weight.

Even if Petitioners' rationales to combine Butler and Oh are substantively considered, Petitioners did not meet their burden of showing a motivation to combine the references. To the contrary, as explained below, there are several reasons—ignored by Petitioners—that a POSITA would not have been motivated to combine the teachings of Butler and Oh.

For example, Petitioners claim that “a POSA would have been motivated to house Butler's pre-motor filter in a slidably removable housing, such as Oh's “detachably disposed, drawer-style filter case 143,” Pet., 78, that “[a] POSA would have been motivated to orient the airflow through Butler's pre-motor filter to flow from its upper portion towards its lower portion,” Pet., 80–81, and that “a POSA would also have been motivated to replace Butler's bottom-to-top pre-motor filter with Oh's top-to-bottom pre-motor filter and filter housing,” Pet., 82.

Petitioners manufacture disclosure in Butler, asserting that a “POSA would have been motivated by Butler's express teachings that it is beneficial to ‘service’

the pre-motor filter, Ex1005, 7:27[–]28, 8:15–17.” Pet., 81. Neither of the cited portions of Butler discuss servicing the pre-motor filter. The first citation discusses that the “shroud 108 may be removable or openable to service the **post-motor filter** 112,” Ex1005, 7:27–28 (emphasis added), and the second citation, as discussed above with respect to element [1d2]/[14d2], contemplates using “a differential pressure sensor to alert the user of the absence of the **post-motor filter** 112 or other filters in the device, or the need to service such filters,” *id.*, 8:15–17 (emphasis added).

Additionally, Petitioners argue that a POSITA would have been motivated to make modifications to Butler to (1) add a pre-motor filter housing drawer, (2) entirely reorient the airflow within Butler’s vacuum, and (3) entirely replace Butler’s pre-motor filter because such substitutions were “simple” and would have been “obvious to try.” Pet., 78–82. Petitioners have provided no discussion of how such significant modifications, including a complete redesign of the airflow within Butler’s vacuum; wholesale replacement of Butler’s pre-motor filter; or an entirely new addition of a pre-motor filter housing drawer (which would affect how Butler’s dustcup/dirt receptacle seals) would have been made, or why a POSITA would have undertaken such drastic measures without any teaching or suggestion from Butler that such measures were needed. A petitioner must show “whether there was an apparent reason to combine the known elements in the fashion claimed by the patents

at issue.” *KSR Int’l*, 550 U.S. at 420 (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)). Petitioners failed to do so here.

Furthermore, Butler and Oh are directed to different types of vacuum cleaners, each solving different problems with their respective vacuum cleaners. Butler (below, top) is directed to a stair cleaning vacuum. Ex1005, Fig. 2A. Butler provides a vacuum cleaner specifically adapted for cleaning “raised” surfaces, and “particularly stair treads and risers.” *Id.*, 1:5–24, 3:10–16. Oh (below, bottom right), by contrast, is directed to a “upright vacuum cleaner.” Ex1006, 1:3–7. Oh directs air first through a grill and then a fine filter to “filter and collect fine dust contained in air which is exhausted through a path of a grill” and “prevent[] a backflow of the fine dust.” *Id.*, 3:1–3. Oh distinguishes this airflow path and arrangement of the grill and filter from those of a conventional vacuum (below, bottom left), and explains the significant redesign it contemplates in order to provide the improved “cyclone-type dust collecting apparatus” it claims. Ex1006, 2:26–30, 3:1–4:4.

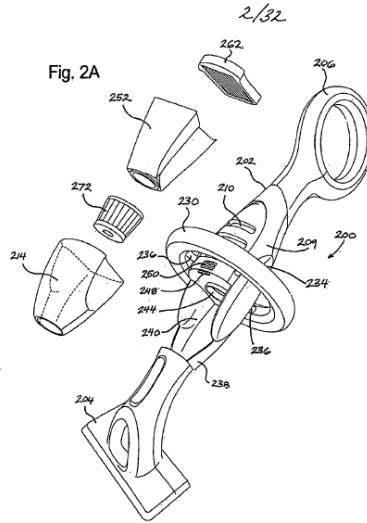


FIG. 1

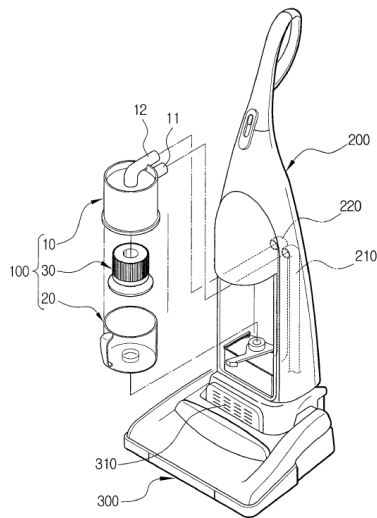
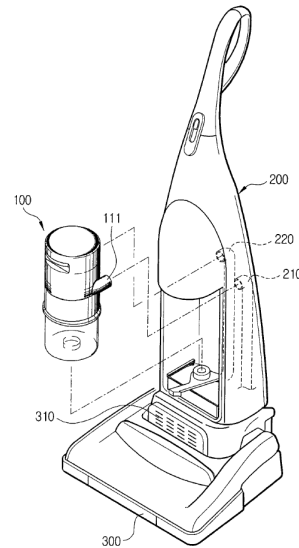


FIG. 8



Ex1005, Fig. 2A (top); Ex1006, Fig. 1 (bottom, left), Fig. 8 (bottom, right).

Each of Petitioners' alleged rationales for combining Butler and Oh are merely conclusory statements with no explanation for why the combination is a simple substitution, why the advantages of the detachable filter drawer in Oh's upright vacuum apply to Butler's stair cleaning vacuum, or why the substitutions would improve the vacuum of Butler.

To support their proposed rationales for modifying Butler, Petitioners cite Mr. Giachetti's declaration. However, these paragraphs also make conclusory statements about simple modifications requiring applying known techniques to similar devices and alleged advantages without providing any explanation for such statements. *E.g.*, Ex1002, ¶¶228–43. Petitioners have not presented a clear argument showing that a POSITA would have been motivated to combine the art to result in Petitioners' proposed combination. *See Netflix, Inc. v. DivX, LLC*, 84 F.4th 1371 (Fed. Cir. 2023); *see also Intelligent Bio-Systems, Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1369 (Fed. Cir. 2016).

Therefore, Petitioners have not met their burden of showing that any of the Challenged Claims are rendered obvious by Butler in view of Oh under Ground 2.

**2. The Butler and Oh combination does not render obvious Challenged Dependent Claims 2, 5, 7, 9–13, 15, 17, 18, 20, and 22–25**

Because Butler in view of Oh fails to render obvious independent claims 1 and 14 of the '472 patent, the Butler and Oh combination necessarily fails to render obvious dependent claims 2, 5, 7, 9–13, 15, 17, 18, 20, and 22–25, which depend on independent claims 1 and 14, respectively. As such, Petitioners have failed to demonstrate a reasonable likelihood of success on any claim in Ground 2.

**C. Petitioners Failed to Show that the Butler, Oh, and Organ Combination Renders Obvious Challenged Claims 6 and 19 (Ground 3)**

As explained above, Butler in view of Oh fails to render obvious independent claims 1 and 14 of the '472 patent. Petitioners do not rely on Organ to cure any of the defects with respect to claims 1 and 14. Thus, the Butler, Oh, and Organ combination fails to render obvious dependent claims 6 and 19, which depend on independent claims 1 and 14, respectively. As such, Petitioners have failed to demonstrate a reasonable likelihood of success on any claim in Ground 3.

**D. Petitioners Failed to Show that the Eriksson-Jons and Martelliere Combination Renders Obvious Challenged Claims 1–25 (Ground 4)**

**1. Petitioners have not shown that a POSITA would have been motivated to combine Eriksson-Jons and Martelliere**

Petitioners provide conclusory statements about simple substitution and alleged advantages of modifying Eriksson-Jons to incorporate Martelliere's disclosure without providing any explanation for such statements. For example, Petitioners simply claim that a "POSA reading Eriksson-Jons—including its teaching that a 'dust bag 24 or other dust separating member' may be used as an air-filtration unit . . . would have been motivated to incorporate Martelliere's teachings of the 'the "Whirlwind" principle' . . . and its 'interchangeable sieve filter b' as one such 'other dust separating member.'" Pet., 98–118. Each of Petitioners' alleged rationales are unsupported statements with no explanation for why the combination

is a simple substitution or why the advantages of cyclonic separation as taught by Martelliere would apply to the vacuum of Eriksson-Jons.

To support these alleged rationales, Petitioners cite Mr. Giachetti's declaration. However, these paragraphs also merely make conclusory statements about simple substitution and alleged advantages without providing any explanation for those statements. Ex1002, ¶¶ 317–23.

**2. The Eriksson-Jons and Martelliere combination does not teach or suggest a “a projection of the first handle portion extends through the suction motor” [1h2]/[14h2]**

All asserted claims require that a projection of the first handle portion extends through the suction motor. Petitioners failed to meet their burden of showing that the Eriksson-Jons and Martelliere combination teaches this element. Specifically, the Petition failed to identify any disclosure in Eriksson-Jons (or rely on Martelliere for this element) that teaches that “a projection of the first handle portion extends through the suction motor.”

Petitioners spend several pages reproducing photos of vacuum models “similar to Eriksson-Jons with flexible handles,” Pet., 113–15, and also of vacuum models “similar to Eriksson-Jons with rigid arched handles,” Pet., 115–17, and asserts that implementing such handles “would have been obvious . . . to increase useability [sic], mobility, and user comfort,” and “would have involved a simple substitution.” Pet., 116, 114–15.

Petitioners' arguments are motivated by hindsight and use the claim language itself as a motivation to modify Butler—not any motivation from other references in the art or from the common sense of a POSITA, or even any other motivation consistent with *KSR*'s instruction to look to the “need or problem known in the field of endeavor at the time of invention and addressed by the patent.” *See KSR*, 550 U.S. at 420–21. Petitioners provide only conclusory statements about the modifications they propose being “obvious to try” and the alleged advantages or motivations to modifying Eriksson-Jons in such ways.

Petitioners cite Mr. Giachetti's declaration in support of these alleged rationales for modifying Eriksson-Jons, but these paragraphs also merely make conclusory statements about simple modifications that were obvious to try and alleged advantages without providing any explanation for such statements. Ex1002, ¶¶369–75.

Thus, Petitioners have not met their burden of showing that any of the Challenged Independent Claims are rendered obvious by the Eriksson-Jons and Martelliere combination under Ground 4.

As such, Petitioners have failed to demonstrate a reasonable likelihood of success on any claim in Ground 4.

## **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: August 30, 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 4,781, according to the word count tool in Microsoft Word.

DATED: August 30, 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 August 30, 2024, to the following email addresses of record:

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