

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. IPR2024-01233

U.S. Patent No. 9,301,666

PATENT OWNER'S PRELIMINARY RESPONSE

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TABLE OF ABBREVIATIONS

Abbreviation	Term
'666 patent	U.S. Patent No. 9,301,666 (Ex1001)
Challenged Claims	Claims 1–13 of U.S. Patent No. 9,301,666
Fig.	Figure
IPR	<i>inter partes</i> review
Patent Owner	Omachron Intellectual Property Inc.
Petitioners	Dyson Technology Limited and Dyson, Inc.
POSITA	person[s] of ordinary skill in the art
Liddell	GB2399780A
Fester256	US Pat. No. 7,770,256
Fester336	US Pat. No. 7,547,336
Schmidt	DE357279
Lehmann	GB194963
Jung	US Pat. App. Pub. No. 2005/0198770

TABLE OF EXHIBITS

Exhibit	Description
2001	Photo of Dyson DC07 Vacuum Cyclonic Separator

I. INTRODUCTION

Patent Owner Omachron Intellectual Property Inc. provides the following response to the Petition filed by Dyson Technology Limited and Dyson, Inc. requesting *inter partes* review of claims 1–13 of U.S. Patent No. 9,301,666.

Petitioners have the burden of showing that each Challenged Claim is unpatentable by a preponderance of the evidence, and Petitioners cannot meet that burden. 35 U.S.C. § 316(e). Although Petitioners broadly claim that the '666 patent “cobble[s] together a grab-bag of well-known features,” none of Petitioners’ grounds render obvious a hand vacuum cleaner having each of the limitations as required by the Challenged Claims. Petition, 1. Indeed, “most if not all inventions arise from a combination of old elements,” and “every element of a claimed invention may often be found in the prior art.” *In re Kotzab*, 217 F.3d 1365, 1369–70 (Fed. Cir. 2000) (cleaned up). Hindsight bias cannot be “the thread that stitches together prior art patches into something that is the claimed invention” in an obviousness analysis. *Metalcraft of Mayville, Inc. v. The Toro Co.*, 848 F.3d 1358, 1367 (Fed. Cir. 2017). The obviousness inquiry requires more than simply determining whether each element was individually known in the art or whether a POSITA would have understood a combination of prior art references to suggest a particular element. 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 at 1336, 1343 (cleaned up). Petitioners do not provide such rationale.

Petitioners provide cursory and, at times, illogical, discussion of the asserted prior art reference 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.”); *Intelligent Bio-Systems, Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1369 (Fed. Cir. 2016) (“It is of the utmost importance that petitioners in the IPR proceedings adhere to the requirement that the initial petition identify “with particularity” the “evidence that supports the grounds for the challenge to each claim.” 35 U.S.C. § 312(a)(3).”).

For at least the reasons set forth below, Petitioners fail to show that any Challenged Claim is unpatentable, and the Board should deny institution of *inter partes* review.

II. CLAIM CONSTRUCTION

At this stage, Patent Owner does not submit any terms for construction. Patent Owner respectfully submits that the Board can and should deny institution on procedural grounds under 35 U.S.C. §§ 325(d) or 314(a) for the reasons discussed

below, therefore the Board does not need to construe the claims to deny institution. Patent Owner reserves the right to subsequently submit claim terms for construction should the Board institute *inter partes* review.

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 *inter partes* review is instituted.

IV. TECHNICAL BACKGROUND

A. Summary of the '666 Patent

The '666 Patent is directed to an improved hand vacuum cleaner that includes “a dirt bin having an off-centre inlet.” Ex1001, 1:16–20.

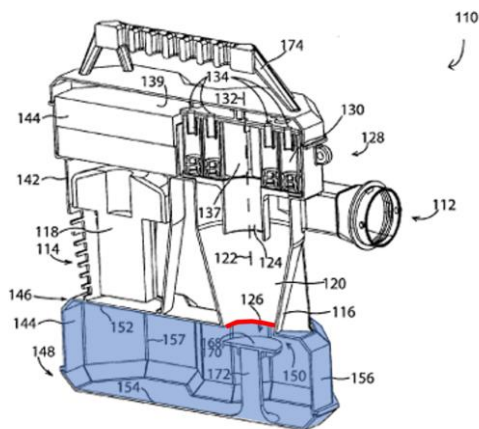


Fig. 2c

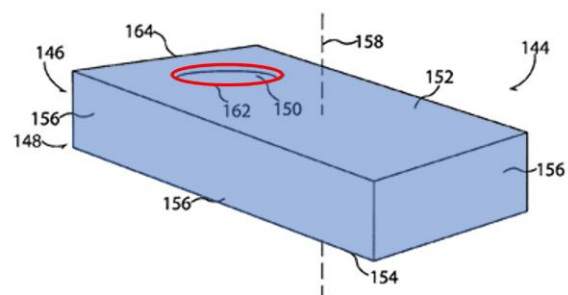


Fig. 3c

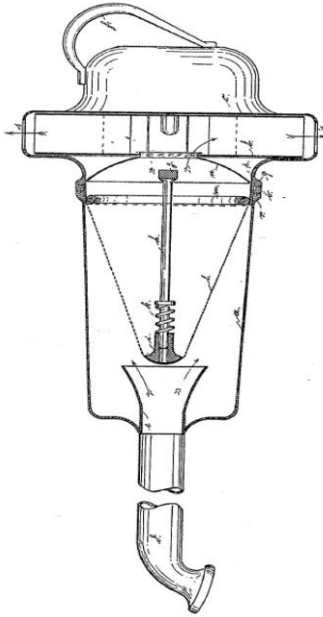
Id., Figs. 2c and 3c (dirt chamber 144 in blue, dirt chamber inlet 150 in red).

By spacing the inlet apart from the central axis, the “part of the dirt chamber distal to the inlet is more isolated from any fluid flow effects at the dirt inlet, thereby enhancing dirt retention in the dirt chamber.” *Id.*, 2:3–12. The off-center placement of the dirt chamber inlet also “allow[s] for the volume of dirt chamber 144 to be increased without substantially increasing the footprint of surface cleaning apparatus.” *Id.*, 6:43–50.

B. Overview of Asserted References

1. Schmidt

Schmidt is a 1992 German patent directed to a “vacuum cleaner with a conical filter tensioned by a spring.” Ex1007, 2. Schmidt’s configuration addresses the problem of dust in a bag “gradually clog[ging] the pores of the filter, reducing the suction power” by fitting the filter “in the form of a cone with the tip axially against the air flow to allow it to flow along the conical surfaces of the filter and thus deflect the dust away from the filter surfaces so that it does not hit the latter in a vertical direction.” *Id.*



Id., Fig. 1.

2. Liddell

Liddell is a 2004 UK patent application publication that describes an upright vacuum incorporating a specific arrangement of cyclones “for noise damping.”

Ex1005, Title.

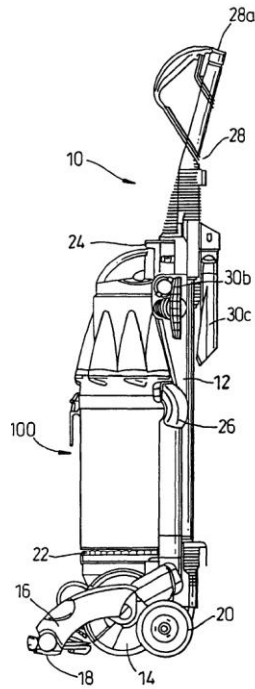
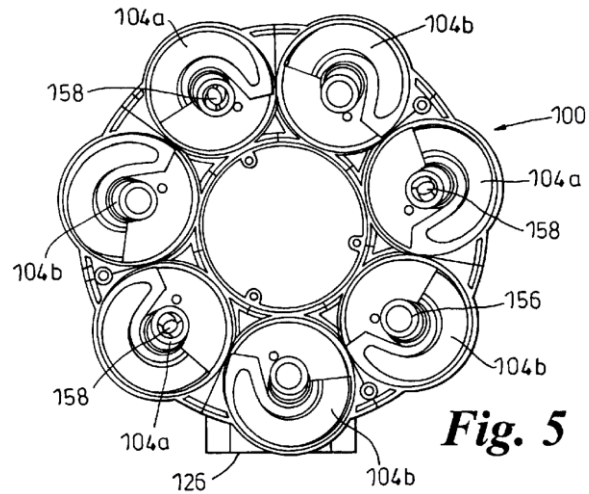


Fig. 1b

Id., Fig. 1b.

Liddell’s specific arrangement of cyclones includes the cyclones being “arranged in parallel with one another” and which includes a set of cyclones “each having a fluid outlet in which a centrebody is provided” to “keep[] the level of noise generated to an acceptable level” and a set of cyclones “each having a fluid outlet in which no centrebody is provided” to “ensure[] that the risk of blockage is reduced.”

Id., 2:6–13.



Id., Fig. 5.

3. Fester256

Fester is a 2010 US patent directed to an upright vacuum cleaner having a “first cyclonic dirt separation and a secondary dirt separation and a bottom dirt-collecting bin beneath the first cyclone separator.” Ex1006, Abstract.

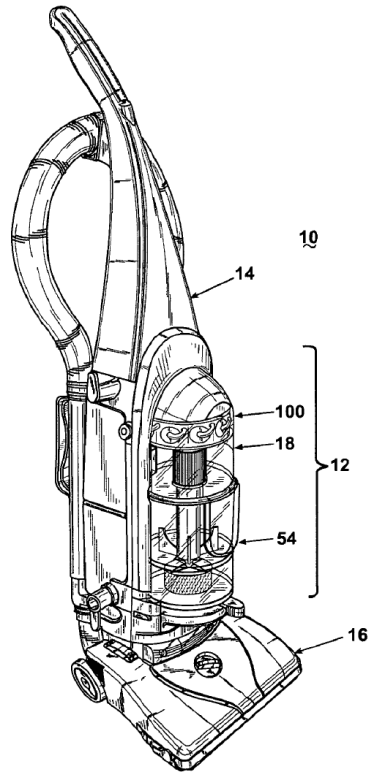
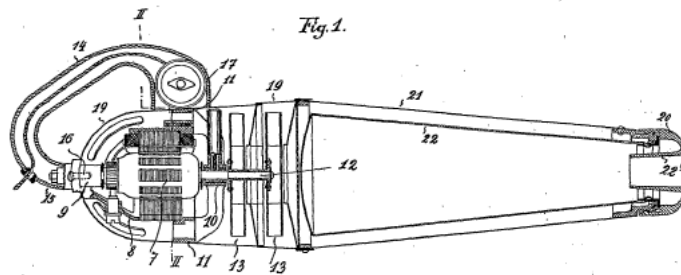


Fig. 1

Id., Fig. 1.

4. Lehmann

Lehmann is a 1922 UK patent for a vacuum cleaner comprising “a casing, an electromotor, a centrifugal fan, and a dust bag” that is intended to be both maneuverable and compact. Ex1006, 1:25–38.



5. Fester336

Fester336 is a 2009 US patent directed to an upright vacuum cleaner with a “first cyclone and a plurality of downstream secondary cyclones,” where the secondary cyclones are arranged “around the first cyclone to provide an unobstructed view of at least a portion of the first cyclone.” Ex1009, 1:15–26, 2:66–3:4.

Id., Fig. 5.

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wherein airtightness between the dust collector and the cleaner body is maintained” and the “dust collector is easily mounted.” *Id.*, [0014].

FIG. 3

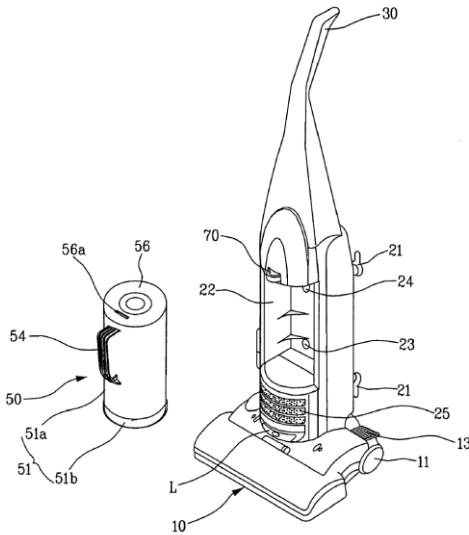
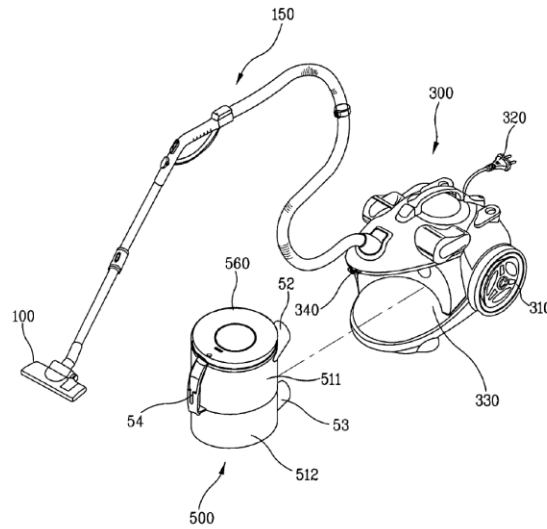


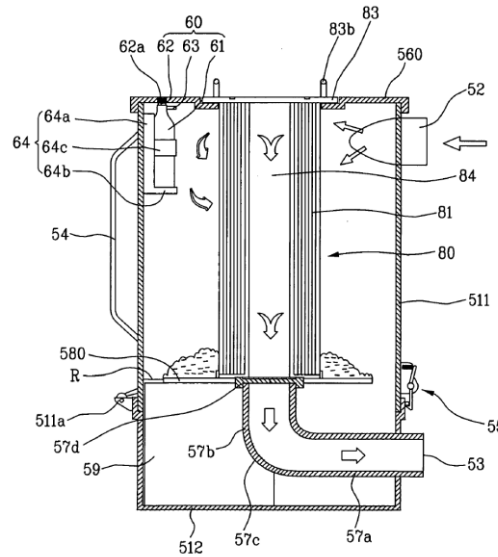
FIG. 12



Id., Figs. 3 and 10.

Jung’s vacuum body receives a removeable dust collecting assembly. *Id.*, [0061]–[0068]. The dust collecting assembly 50 includes an inner flow tube 57 provided for “exhausting the cleaned air cleaned by the cyclone principle and the filtering device to the outside of the dust collecting container.” *Id.* Jung also describes a bottom lid 51b that can be opened by “press[ing] the top end of the hook member 55a” such that the hook member 55a “releases the bottom lid.” *Id.*, [0114]–[0122].

FIG. 10



Id., Fig. 10.

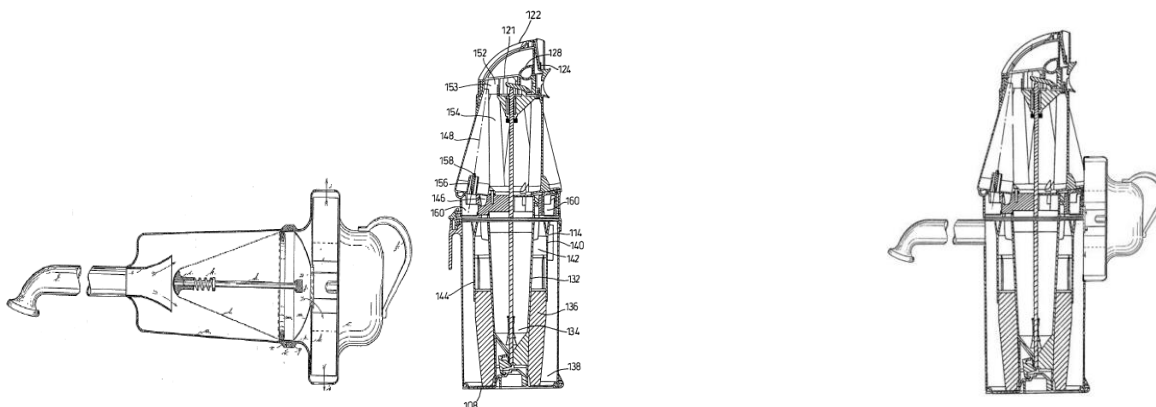
V. SPECIFIC GROUNDS OF UNPATENTABILITY

A. Petitioners Failed to Show that Schmidt in Combination with Liddell and Fester²⁵⁶ Render Obvious Challenged Claims 1–13 (Ground 1)

1. Petitioners failed to show that a POSITA would have been motivated to combine Schmidt with Liddell

Petitioners argue that a “POSA would have been motivated to substitute Schmidt’s filter with Liddell’s cyclonic separator,” Pet. 23, “because it would have been simple to substitute known filtration mechanisms from a cloth filter to a cyclonic filter to obtain a predictable result,” *id.* at 24. Petitioners argue that this “simple substitution of these separator systems would have produced the predictable result of a handheld vacuum using cyclonic separation,” and propose a bodily

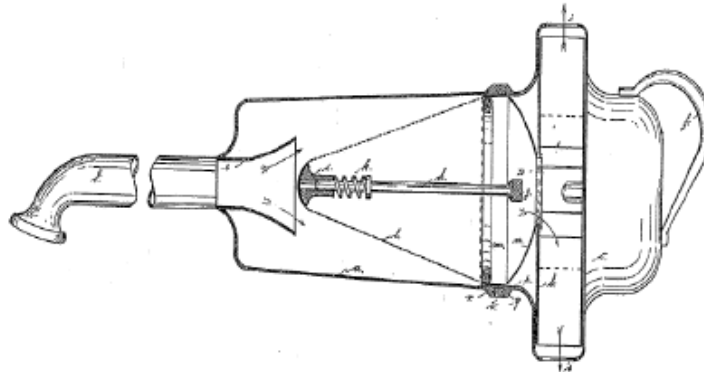
incorporation of Liddell's two-stage cyclonic separator directly into Schmidt's vacuum cleaner implementing a conical filter. *Id.*



Compare Ex1007, 3 and Ex1005, Fig. 3b with Pet. 24.

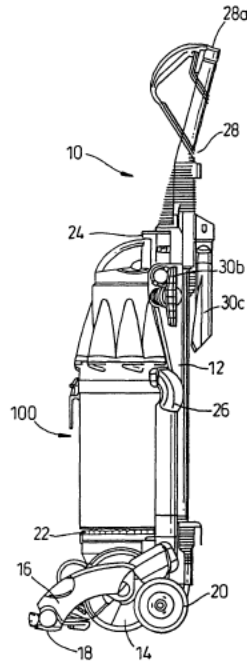
This argument is driven by nothing more than impermissible hindsight. See *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 421 (2007) (“A factfinder should be aware, of course, of the distortion caused by hindsight bias and must be cautious of arguments reliant upon ex post reasoning.”). A petitioner must show “whether there was an apparent reason to combine the known elements in the fashion claimed by the patents at issue.” *Id.* at 420 (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)). Petitioners failed to do so here. Petitioners provide only conclusory statements about the alleged motivation for and advantages of modifying Schmidt based on Liddell's disclosure without providing any explanation or support for such conclusory statements. But Schmidt and Liddell are directed to solving vastly different problems with their respective vacuum cleaners, and their solutions are incompatible.

Schmidt describes a vacuum cleaner that solves the problem of dust “gradually clog[ging] the pores of the filter, reducing the suction power.” Ex1007, 2. Schmidt describes and, indeed, claims that his invention is a vacuum cleaner having a “conical filter tensioned by a spring” and a tensioning rod that positions the filter cloth “with its tip centrally towards the mouth of the suction pipe (e) projecting into the collection chamber as a funnel, so that the air flows along the conical surfaces of the filter” to “deflect the dust away from the filter surfaces.” *Id.*



Id., 3. The entire purpose of the Schmidt reference is to solve a known problem with cloth filters in vacuum cleaners. And Schmidt makes no mention of cyclonic separation.

In contrast, Liddell is directed to a bagless upright vacuum implementing cyclonic separation. Ex1005, Figs. 1a, 1b. Liddell describes a two-stage cyclonic design that reduces the risk of cyclone blockage while “also ensuring that the level of noise generated at the vortex finder is minimized.” *Id.*, 2:1–3.



Id., Fig. 1b. Additionally, Petitioners appear to suggest bodily incorporating Liddell’s cyclonic separator without addressing the changes that need to be made to miniaturize the mechanism to be implemented in Schmidt’s compact form factor. Liddell’s two-stage cyclonic separator, designed for an upright vacuum, would be significantly larger than a simple non-cyclonic, filter separator as implemented in Schmidt. For example, a photo of the two-stage cyclone of Dyson’s DC07 vacuum—a contemporary vacuum mentioned in Liddell itself—next to a sheet of letter-sized paper demonstrates the scale of such a cyclonic separator.



Ex2001.

Even if cyclonic separators were well-known, Petitioners do not explain how a POSITA would have been both motivated and able to adapt such a large cyclonic separator to be used in a handheld vacuum like Schmidt's. Miniaturization of a mechanism such as a cyclonic separator requires consideration and balance of a number of factors, including heat management, maintaining adequate power density in a smaller space, manufacturing smaller components—including maintaining precise tolerances, differences in sensitivity to load and disturbances, motor design—including proper insulation and winding design, and material properties, to name only a few. Maintaining a sufficiently high air velocity at the inlet nozzle to provide good cleaning efficiency without using a much-heavier motor is a particularly challenging task. This requires limiting the back pressure as air travels

through the vacuum, including through the cyclones. Ensuring that the cyclones provide good separation efficiency, which typically requires that the height of the cyclone (in the direction of the cyclone axis of rotation) is several times the height of the cyclone air inlet, is another significant design challenge. Petitioners ignore these considerations and state that a POSITA would have simply incorporated Liddell's two-stage cyclonic separator into Schmidt's primitive, portable vacuum.

Petitioners neither acknowledge nor attempt to reconcile these conflicting disclosures. Indeed, each of Petitioners' alleged rationales are merely conclusory statements with no explanation for whether a POSITA would have a reasonable expectation of success, why the advantages of the entirely different and far more complex separation mechanism of Liddell apply to Schmidt's vacuum, described nearly a century prior.

Moreover, each of Petitioners' alleged rationales for combining Schmidt and Liddell are merely conclusory statements with no explanation for why the combination is a simple substitution, not a rationale for why a POSITA would employ the particular cyclonic separation arrangement of Liddell, which includes two cyclonic stages and dirt collection areas within the cyclone chamber, to replace Schmidt's entire invention—the claimed arrangement of the cloth filter, tensioning rod, and spring. For example, Petitioners do not explain or even acknowledge the

modifications that would be needed to transform Schmidt's cloth filter vacuum into a vacuum with a two-stage cyclonic arrangement.

Although Petitioners cite figures and disclosure from various publications that allegedly support their contention that a POSITA would have been motivated to wholesale remove Schmidt's separation mechanism and replace it with a two-stage cyclonic separator exactly as arranged and depicted in Schmidt, they fail to address the simple fact that Schmidt and Liddell are ***fundamentally different*** in incompatible ways. Pet. 24–30. The obviousness inquiry does not merely ask whether a skilled artisan could combine the references, but instead asks whether “they would have been motivated to do so.” *InTouch Techs., Inc. v. VGO Commc'ns, Inc.*, 751 F.3d 1327, 1352 (Fed. Cir. 2014). “Fundamental differences between the references are central to this motivation to combine inquiry” *Adidas AG v. Nike*, 963 F.3d 1355, 1359–60 (Fed. Cir. 2020). A combination that would render a reference unsuitable for its intended purpose cannot provide a motivation to combine. MPEP 2143.01. The proposed combination renders Schmidt useless—the invention is the arrangement of the conical filter.

Petitioners' citation to paragraphs 86–100 of Mr. Giachetti's declaration does not cure these deficiencies. These paragraphs merely repeat the Petition's unsupported and conclusory statements without providing any explanation. For example, neither Petitioners nor Mr. Giachetti address why a POSITA, if motivated

to modify Schmidt, would have looked to Liddell, which describes an entirely different separation system, an entirely different dirt collection system, and an entirely different form factor. Nor does the Petition or the expert declaration explain why a POSITA would modify Schmidt at all—what deficiency does Schmidt teach or suggest that would motivate the POSITA to modify it? They do not say and that is because there is no such motivation.

Petitioners provide conclusory statements that the modifications they propose to Schmidt are “obvious to try”—e.g., adding cyclonic separation (in two stages, no less) as the claims require—and that there are advantages to modifying Schmidt in such ways. Petitioners, however, use the claim language itself as a motivation to modify Schmidt. It is established law that “where the prior art gave either no indication of which parameters were critical or no direction as to which of many possible choices is likely to be successful,” it is erroneous to equate “obvious to try” with obviousness—which is exactly what Petitioners did here. *In re Kubin*, 531 F.3d 1351, 1359 (Fed. Cir. 2009) (citing *In re O'Farrell*, 853 F.2d 894, 903 (Fed. Cir. 1988)). Because Schmidt does not identify any details regarding how to implement cyclonic separation, let alone two-stage cyclonic separation, and Petitioners do not establish that any such details are well-enough known in the art, Petitioners resort to filling in these holes in Schmidt with improper hindsight.

2. Petitioners failed to show that a POSITA would have been motivated to combine Schmidt, Liddell, and Fester256

Not only do Petitioners propose entirely eviscerating Schmidt's invention by incorporating Liddell's two-stage cyclonic separation, Petitioners also propose modifying Liddell's separation mechanism to further implement Fester256's "alternative configuration of the plurality of second cyclones in the second cyclonic cleaning stage and airflow routing from the secondary cyclones." Pet. 30. These arguments, too, are motivated entirely by hindsight.

Petitioners provide conclusory statements about simple substitution and alleged advantages of modifying the Schmidt/Liddell combination based on Fester256's disclosure without providing any explanation for such conclusory statements. 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 alternative second-stage cyclone arrangement or airflow routing in Fester256 apply to Schmidt/Liddell, or why the substitutions would improve the combination.

Petitioners claim that a POSITA would have "recognized that Fester256's second cyclonic cleaning stage would reduce the height of the device," and that such a change would have been "a simple substitution of one known element for another to obtain a predictable result." Pet. 31–32. Even assuming that a POSITA would have known about horizontally oriented second-stage cyclones and that, generally,

such a configuration would have resulted in a device with reduced height, Petitioners fail to identify why a POSITA reviewing Schmidt and/or Liddell would have been motivated to achieve such a result. Petitioners also claim that a POSITA would have “recognized that the substitution of Fester256’s second cleaning stage and subsequent airflow routing for Liddell’s would have achieved the predictable result of filtering the air and efficiently routing the airflow to the suction motor.” *Id.* Schmidt and Liddell already describe functional vacuum cleaners that filter the air. Petitioners fail to explain why a POSITA would have been motivated to look to Fester256’s second cleaning stage and airflow routing to achieve something that both Schmidt and Liddell already describe or how Fester256’s implementation provides advantages over their already-modified Schmidt/Liddell vacuum.

To support these alleged rationales for combining Fester256’s cyclonic separation mechanism and airflow routing with Schmidt/Liddell, Petitioners cite paragraphs 101–118 of Mr. Giachetti’s declaration. However, these paragraphs also merely make conclusory statements about simple substitution and alleged advantages without providing any explanation for such conclusory statements.

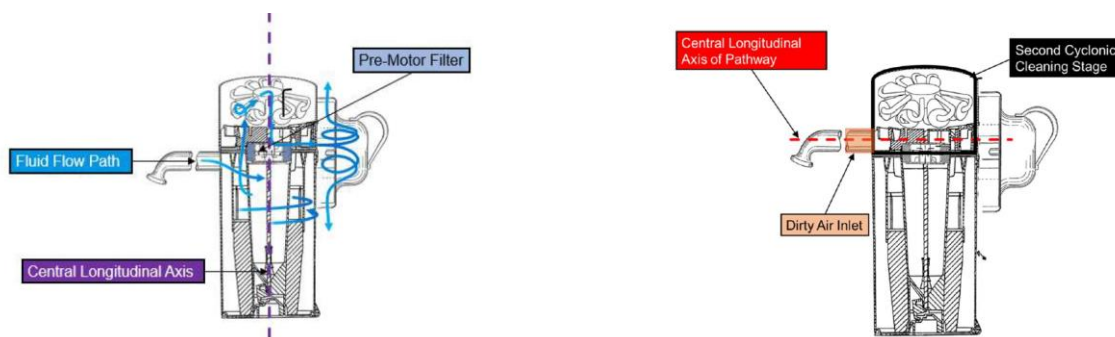
In sum, Petitioners propose, but failed to explain how or why, a POSITA would have been motivated to remove Schmidt’s cloth filter and replace it with Liddell’s two-stage cyclonic separator; replace Liddell’s second stage cyclones with Fester256’s second stage cyclones and re-route the airflow within the

Schmidt/Liddell vacuum; and add in a filter—after removing Schmidt’s original filter—as taught by Fester256. Petitioners provide no explanation for why a POSITA, even if motivated to make such substitutions, would have been motivated to implement or arrange the components in the particular configuration that they propose.

Thus, Petitioners have not met their burden of showing that the Challenged Claims were obvious in view of Schmidt in combination with Liddell and Fester256 under Ground 1.

3. Petitioners’ arguments are internally inconsistent

Petitioners assert that, somehow, the central axis of the “dirty air inlet” (below in red) it identified in its Schmidt/Liddell/Fester256 combination is a central longitudinal axis. Pet. 68–70. The problem with that argument is that the central axis of the dirty air inlet Petitioners identified is a lateral axis—it extends *perpendicularly* to the central longitudinal axis (below in purple) it previously identified with respect to independent claim 1. Pet. 49–56.

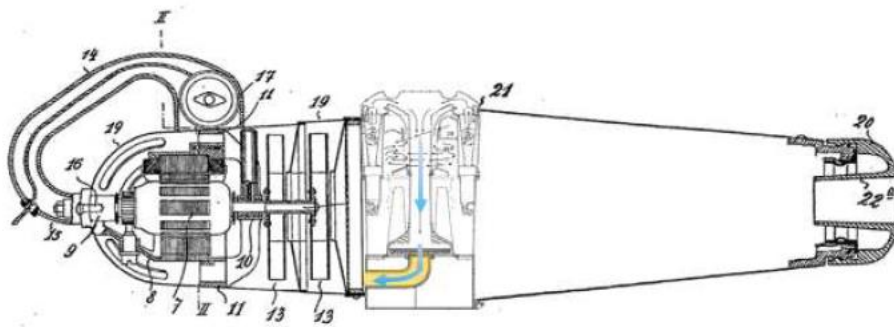


Compare Pet. 58 (“longitudinal” axis in purple) with Pet. 70 (“longitudinal” axis in red).

Petitioners do not explain or even acknowledge this blatant inconsistency. Petitioners cannot take one position with respect to independent claim 1 and turn around and take an entirely inconsistent position with respect to dependent claim 5.

B. Petitioners Failed to Show that Lehmann in Combination with Fester336 and Jung Renders Obvious Challenged Claims 1–13 (Ground 2)

As with Ground 1, Petitioners propose in Ground 2 a haphazard combination of incompatible references without explaining how or why a POSITA would have been motivated to implement such changes or addressing fundamental differences between the references. See Pet. 89 (below).



1. Petitioners failed to show that a POSITA would have been motivated to combine Lehmann with Fester336

Petitioners assert that a POSITA “would have been motivated to replace Lehman’s dust bag filter with Fester336’s cyclonic filters because of cyclonic filtration’s benefits.” Pet. 89, 91. Petitioners cite to their analysis of Ground 1 and

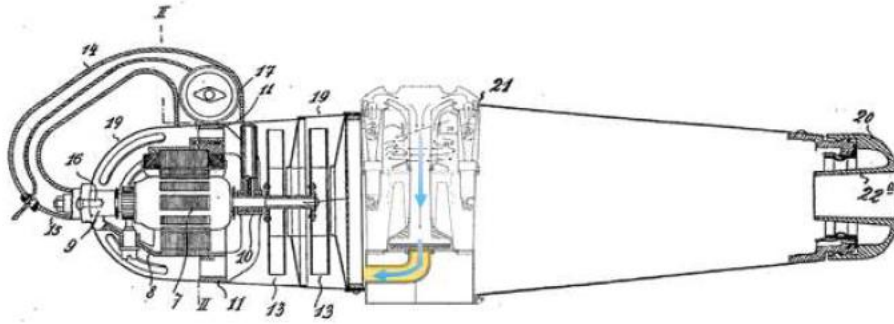
state that a POSITA would have been motivated to combine Lehmann with Fester336 for the same reasons that a POSITA would have been motivated to combine Schmidt with Liddell. Pet. 91. Petitioners' arguments for Ground 2 fail for the same reasons that their arguments for Ground 1 fail.

Furthermore, Lehmann is over a century old and does not contemplate cyclonic separation. Petitioners have not identified any reason as to why a POSITA at the time of invention would look to select Lehmann's old and outdated embodiment as a starting point for modification. Lehmann seeks to improve maneuverability, compactness, weight distribution, and efficiency. Ex1006, 1:25–36. These objectives are incompatible with Petitioners' proposed combination of Lehmann and Fester336. For example, introducing two-stage cyclonic separation (in place of the separation bag of Lehmann) would increase weight and negatively impact weight distribution, compactness, and maneuverability. Additionally, Petitioners appear to suggest bodily incorporating Fester336's cyclonic separator without addressing the changes that need to be made to miniaturize the mechanism to be implemented in Lehmann's compact form factor. Fester336's two-stage cyclonic separator, designed for an upright vacuum, would be significantly larger than a simple non-cyclonic, filter separator as implemented in Lehmann. Even if cyclonic separators were well-known, Petitioners do not explain how a POSITA would have been both motivated and able to adapt such a large cyclonic separator to

be used in a handheld vacuum like Lehmann's. Miniaturization of a mechanism such as a cyclonic separator requires consideration and balance of a number of factors, including heat management, maintaining adequate power density in a smaller space, manufacturing smaller components—including maintaining precise tolerances, differences in sensitivity to load and disturbances, motor design—including proper insulation and winding design, and material properties, to name only a few. Maintaining a sufficiently high air velocity at the inlet nozzle to provide good cleaning efficiency without using a much-heavier motor is a particularly challenging task. This requires limiting the back pressure as air travels through the vacuum, including through the cyclones. Ensuring that the cyclones provide good separation efficiency, which typically requires that the height of the cyclone (in the direction of the cyclone axis of rotation) is several times the height of the cyclone air inlet, is another significant design challenge. Petitioners ignore these considerations and state that a POSITA would have simply incorporated Fester336's two-stage cyclonic separator into Lehmann's primitive, portable vacuum.

Furthermore, the airflow routing in the combination as Petitioners propose would create additional back pressure, reducing the velocity of airflow and therefore reducing cleaning efficiency. As shown below in Petitioner's own proposed combination, the volume available for air flow in the cyclone stages is very small—

particularly because Petitioners propose simply miniaturizing Fester336's cyclonic separator to fit Lehmann's portable vacuum body.



“[K]nowledge of a problem and motivation to solve it are entirely different from motivation to combine particular references.” *Innogenetics, N.V. v. Abbott Lab’ys.*, 512 F.3d 1363, 1373 (Fed. Cir. 2008). And even if a POSITA knew that substituting a dust bag system with a cyclonic separator could improve filtration, they would not necessarily jump to implementing a two-stage cyclonic configuration exactly as described in Fester336.

2. Petitioners failed to show that a POSITA would have been motivated to combine Lehmann, Fester336, and Jung

Petitioners also claim that a POSITA would have been motivated to incorporate Jung’s inner flow tube 57 into the Lehmann/Fester336 vacuum “to direct the downward flow of air from Fester336’s cyclonic separator rearwardly to Lehmann’s motor and maintain Lehmann’s fluid flow path,” and would have had a reasonable expectation of success “because Jung uses inner flow tube 57 in the same manner as the combination—to direct air flowing down a central duct rearwardly to

the vacuum body.” Pet. 91–92. This reasoning is circular. Petitioners are essentially arguing that a POSITA would have been motivated to modify the Lehmann/Fester336 vacuum according to Jung’s disclosure because it would accomplish the result that Petitioners want. This is classic hindsight that is impermissible.

Petitioners claim to have identified a problem in Lehmann/Fester336 (alleged need for directing airflow in a certain way). First, that problem is self-created. Without the significant modifications that Petitioners propose to Lehmann’s vacuum, there would be no need for its airflow to be redirected. Second, neither Lehmann nor Fester336 identifies this airflow direction as an issue—the references are completely indifferent with respect to that alleged issue. And third, even assuming that this non-problem in Lehmann/Fester requires solving, Petitioners still failed to identify a motivation to solve such a problem in the way required by the Challenged Claims.

Finally, the combination, as Petitioners propose, fundamentally changes the inner flow tube 57 of Jung such that it is unsuitable for its intended purpose. Jung’s structure allows for “airtightness between the dust collector and the cleaner body.” Ex1008, [0014]. Jung’s vacuum body 20 includes a dust collecting assembly receiving recess 22 that is “sunken on the front surface of the cleaner body to be correspondent to an exterior of the dust collecting assembly 50” and a clean air inlet

23. *Id.*, [0061]–[0068]. The dust collecting assembly 50 has an inner flow tube 57 provided for “exhausting the cleaned air cleaned by the cyclone principle and the filtering device to the outside of the dust collecting container” that connects to the outlet 53 of the dust collecting assembly 50. *Id.*, [0097]–[0104]. The outlet 53 connects to the clean air inlet 23, and thus “when the dust collecting assembly 50 is fit in the dust collecting assembly receiving recess 22 of the cleaner body, the clean air inlet 23 and the outlet of the dust collecting assembly 53 are more tightly coupled by pushing force of the user.” *Id.*, [0075]. Additionally, “because the air is sucked from the clean air inlet 23 by the operation of the air sucking device, the dust collecting assembly 50 is tightly adhered to the rear side of the dust collecting assembly receiving recess 22 by air suction force, thereby coupling the clean air inlet 23 with the outlet of the dust collecting assembly 53 without any gap therebetween.” *Id.* Jung explains that this particular configuration “maintain[s] airtightness between the dust collecting assembly and the cleaner body...by providing the clean air inlet 23 of the cleaner body on the inner wall of the dust collecting assembly receiving recess 22 such that the clean air inlet 23 of the cleaner body opposes to a direction of mounting the dust collecting assembly 50.” *Id.* The sole motivational purpose behind the configuration of Jung’s inner flow tube 57, outlet 53, and inlet 23, is to maintain the airtightness between the vacuum cleaner body and the dust collecting assembly. This effect is achieved based on the configuration of Jung’s components

and the form factor of Jung’s vacuum cleaner—none of which Petitioner has shown exists in the Lehmann/Fester336 combination as they propose. *InTouch*, 751 F.3d at 1352; *see also Adidas AG v. Nike*, 963 F.3d at 1359–60; MPEP 2143.01.

Petitioners’ citation to paragraphs 253–58 of Mr. Giachetti’s declaration does not cure these deficiencies. These paragraphs merely repeat the Petition’s unsupported and conclusory statements without providing any explanation. For example, neither Petitioners nor Mr. Giachetti address why a POSITA, if motivated to modify Lehmann/Fester336, would have looked to Jung.

Thus, Petitioners have not met their burden of showing that the Challenged Claims were obvious in view of Lehmann in combination with Fester336 and Jung under Ground 2.

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.

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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 4,533, according to the word count tool in Microsoft Word.

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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 November 20, 2024:

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