

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

DYSON TECHNOLOGY LTD. AND DYSON, INC.,
Petitioner,

v.

OMACHRON INTELLECTUAL PROPERTY INC.,
Patent Owner.

IPR2024-00854
Patent 10,478,030 B2

Before ERIC C. JESCHKE, MATTHEW S. MEYERS, and
BRENT M. DOUGAL, *Administrative Patent Judges*.

DOUGAL, *Administrative Patent Judge*.

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

I. INTRODUCTION

A. *Background and Summary*

Petitioner, Dyson Technology Ltd. and Dyson, Inc., requests institution of an *inter partes* review challenging the patentability of claims 1–13 (the “challenged claims”) of U.S. patent 10,478,030 B2 (Ex. 1001, “the ’030 patent”). Paper 2 (“Petition” or “Pet.”). Patent Owner, Omachron Intellectual Property Inc., argues that Petitioner’s request is deficient and should not be granted. Paper 7 (“Preliminary Response” or “Prelim. Resp.”).

Applying the standard set forth in 35 U.S.C. § 314(a), which requires demonstration of a reasonable likelihood that Petitioner would prevail with respect to at least one challenged claim, we institute an *inter partes* review.¹

B. *Real Parties-in-Interest*

In addition to the named parties, Patent Owner also identifies Omachron Alpha Inc., SharkNinja Operating LLC, and SharkNinja Sales Company as real parties-in-interest. Paper 4, 1. Patent Owner also states that SharkNinja Management LLC may be a real party-in-interest. *Id.*

C. *Related Matters*

SharkNinja Operating LLC v. Dyson, Inc., Nos. 1:23-cv-11277 and 1:23-cv-12372 (D. Mass.), are listed as related district court cases. Pet. 100; Paper 4, 1.

D. *The ’030 Patent*

The ’030 patent describes a stick vacuum cleaner with a removable hand vacuum cleaner and a supplemental bin. Ex. 1001, 1:43–47. The supplemental bin “may function as a main dirt collection bin when the hand

¹ Our findings and conclusions at this stage are preliminary, and thus, no final determinations are made.

vacuum cleaner forms part of the stick vacuum cleaner[.]” *Id.* A version of the vacuum can be seen in Figure 4, reproduced below.

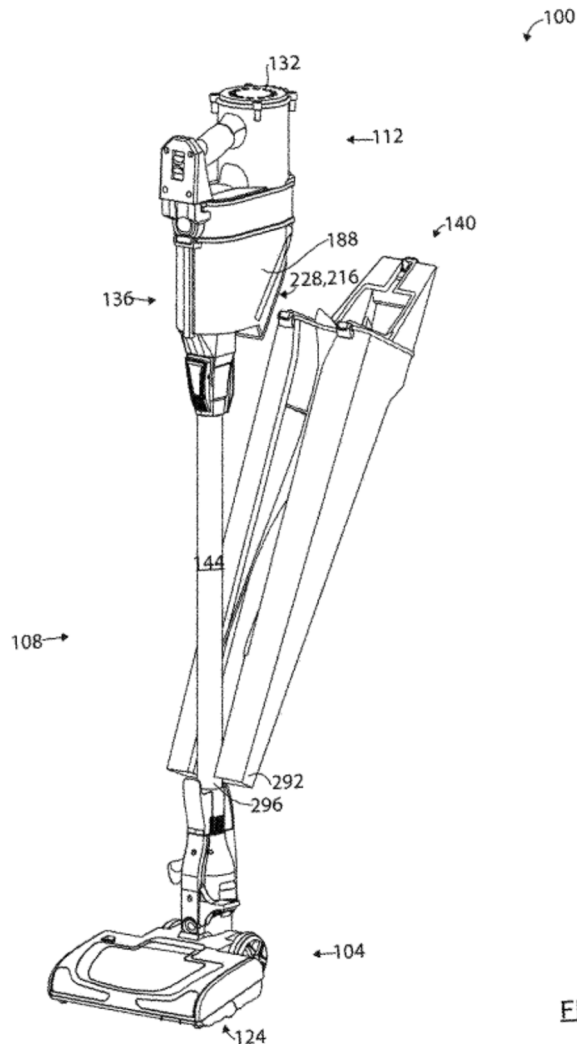


FIG. 4

As can be seen above in Figure 4, “surface cleaning apparatus 100 includes a surface cleaning head 104, an upright section 108, and a hand-carriable vacuum cleaner [i.e., “handvac”] 112.” *Id.* at 9:53–56. Upright section 108 is shown with an auxiliary dirt collection assembly 140, in a partially disconnected position. *Id.* at 10:58–61. Also shown is “up flow duct 144 (also referred to as a wand if removable for use . . .) [, which] may define the airflow 5 path between surface cleaning head 104 and handvac 112.” *Id.* at 11:3–6.

Figure 78, below, shows a version of handvac 112.

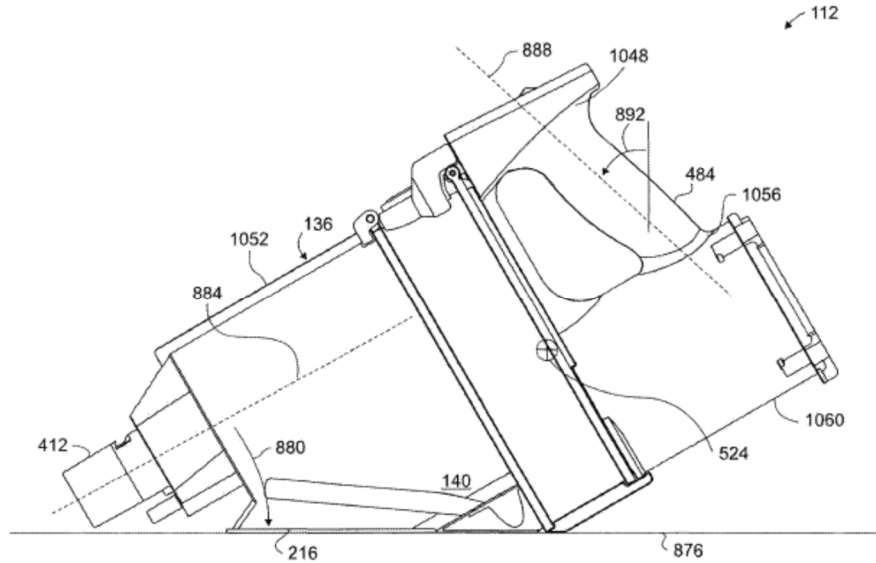


FIG. 78

Handvac 112 is shown with nozzle 412 having nozzle axis 884, handle 484 with handle axis 888, and cyclone bin assembly 136. *Id.* at 32:7–8, 54–56, 63–65. Cyclone bin assembly 136 can include a dirt collection chamber and bottom wall 216. *Id.* at 32:63–66. Inside the housing of the handvac is a motor, positioned around reference number 1060 in Figure 78. *Id.* at 34:23–29, Fig. 96 (showing a cross-sectional view of Fig. 78). The handvac can also include an electrical connector adjacent to nozzle 412 “for providing power to an upstream attachment (e.g., a surface cleaning head).” *Id.* at 34:39–41, Fig. 96.

E. Illustrative Claim(s)

Of the challenged claims, claims 1 and 9 are independent. Claim 1, reproduced below, is illustrative:

1. A surface cleaning apparatus comprising:
 - (a) a surface cleaning head having a front end, a rear end, a dirt air inlet and a cleaning head air outlet;
 - (b) a rigid air flow conduit having a rigid wand inlet end having an air inlet in communicable with the cleaning head air outlet, a

rigid wand outlet end and a longitudinally extending conduit axis, the rigid air flow conduit is moveably mountable to the surface cleaning head between an upright position and an in-use floor cleaning position in which the rigid air flow conduit extends at an angle to the vertical, the rigid wand outlet end having an air outlet and an outlet end electrical connector; and,

(c) a hand vacuum cleaner removably mountable to the rigid wand outlet end, the hand vacuum cleaner having a front end and a rear end, the hand vacuum cleaner comprising:

(i) a main body comprising a handle and a suction motor and fan assembly, the suction motor and fan assembly having a suction motor axis of rotation, the handle having a hand grip portion;

(ii) an air treatment member provided at the front end of the hand vacuum cleaner, the air treatment member having a central longitudinal axis and an air treatment chamber having a front wall;

(iii) a hand vacuum cleaner air inlet centrally positioned with respect to the air treatment chamber front wall and releasably connectable with the air outlet of the rigid wand; and,

(iv) a hand vacuum cleaner electrical connector provided on the front end of the air treatment member adjacent the hand vacuum cleaner air inlet, the hand vacuum cleaner electrical connector is releasably connectable with the outlet end electrical connector,

wherein, when the hand vacuum cleaner is mounted to the rigid wand outlet end, the longitudinally extending conduit axis extends in a same direction as the central longitudinal axis of rotation, and

wherein the hand grip portion has a hand grip portion axis that intersects the suction motor.

Ex. 1001, 47:59–48:31.

F. Evidence

Petitioner's grounds of unpatentability rely on the following evidence:

Name	Patent Document	Exhibit
Butler	WO 2007/084543 A2 (July 26, 2007)	1005
Peter	CH 203,675 (June 16, 1939)	1006/1007 ²
Neroni	US 4,473,923 (Oct. 2, 1984)	1008
Lehmann	GB 194,963 (Mar. 22, 1923)	1010

G. Grounds

Petitioner asserts the following grounds of unpatentability (Pet. 3), supported by the declaration of Robert Giachetti (Ex. 1002):

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1–13	103	Peter, Neroni
2, 5, 10, 12	103	Peter, Neroni, Lehmann
1–13	102	Butler
1–13	103	Butler

II. ANALYSIS

A. Legal Standards

Petitioner bears the burden to demonstrate unpatentability. *Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015). At this preliminary stage, we determine whether the information presented in the Petition shows a reasonable likelihood that Petitioner would prevail in establishing that at least one challenged claim would have been obvious over the prior art. *See* 35 U.S.C. § 314(a).

“A claim is anticipated [under §102] only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. Inc. v. Union Oil Co.*, 814 F.2d

² English language translation.

628, 631 (Fed. Cir. 1987). Moreover, “[b]ecause the hallmark of anticipation is prior invention, the 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). Whether a reference anticipates is assessed from the perspective of an ordinarily skilled artisan. *See Dayco Prods., Inc. v. Total Containment, Inc.*, 329 F.3d 1358, 1368 (Fed. Cir. 2003).

A claim is unpatentable as obvious under 35 U.S.C. § 103 “if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains.” 35 U.S.C. § 103; *see also KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). We resolve the question of obviousness based on underlying factual determinations, including: (1) the scope and content of the prior art; (2) any differences between the prior art and the claims; (3) the level of skill in the art; and (4) when in evidence, objective indicia of nonobviousness. *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

We apply these principles to the Petition’s challenges.

B. Level of Ordinary Skill in the Art

We review the grounds of unpatentability in view of the understanding of a person of ordinary skill in the art at the time of the invention (“POSA”). *Id.* at 13, 17. Petitioner’s declarant asserts that a person of ordinary skill in the art

would have had a bachelor’s degree in mechanical engineering or a similar field and 2-3 years of experience in machine design,

including machines that include fluid dynamics or fluid paths, such as vacuum cleaners. Additional education could offset less experience and vice versa, and a POSA could have also obtained similar knowledge and experience through other means.

Ex. 1002 ¶ 36; *see also* Pet. 9 (making the same assertion without citation to declarant).

Patent Owner does not contest the level of skill. Prelim. Resp. 3. We are persuaded, on the present record, that the proposal of Petitioner's declarant is consistent with the problems and solutions in the '030 patent and prior art of record. We adopt the above definition of the level of skill for the purposes of this Decision.

C. Claim Construction

Inter partes reviews use the same claim construction standard as a civil action under 35 U.S.C. § 282(b), construing the claim in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent. 37 C.F.R. § 42.100(b) (2023).

Neither Petitioner, nor Patent Owner, provides any express claim constructions. *See* Pet. 9–10; Prelim. Resp. 3. We agree that no terms need to be construed. *See Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) (“The Board is required to construe ‘only those terms . . . that are in controversy, and only to the extent necessary to resolve the controversy.’” (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

D. 35 U.S.C. § 103 – Peter, Neroni

Petitioner argues that the combination of Peter and Neroni renders obvious claims 1–13. Pet. 57–90. Patent Owner argues that the Petition does not provide a sufficient reason to combine the references, and that the

combination does not teach all of the claim limitations of the independent claims. Prelim. Resp. 16–20.

We first address the asserted references. We then address the parties’ arguments with respect to the claims, where we determine that Petitioner has demonstrated a reasonable likelihood of success with respect to at least the independent claims.

1. Peter

Peter is directed to a vacuum cleaner having “suction nozzles and suction brushes that can be connected to the vacuum cleaner housing both directly and with the interposition of tubular and articulated parts so that they can be rotated, individually exchanged and combined with one another.” Ex. 1007, 1. Figure 1 of Peter, reproduced below, shows a longitudinal section through Peter’s “vacuum cleaner housing with internal parts without external accessories.” *Id.*

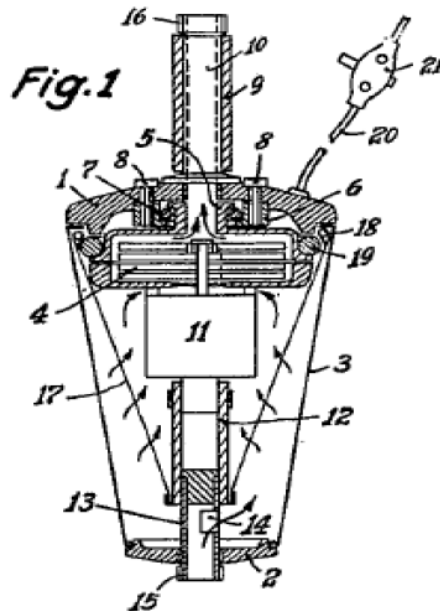


Figure 1 illustrates casing 3 of Peter’s vacuum cleaner with exhaust nozzle 10 that includes rubber grip 9, motor 11, air intake nozzle 13, lateral outlet opening 14, and dust filter 17. *Id.* at 2.

Figure 4 of Peter, reproduced below, shows Peter's "vacuum cleaner ready for use for cleaning areas that are difficult to access." Ex. 1007, 1.

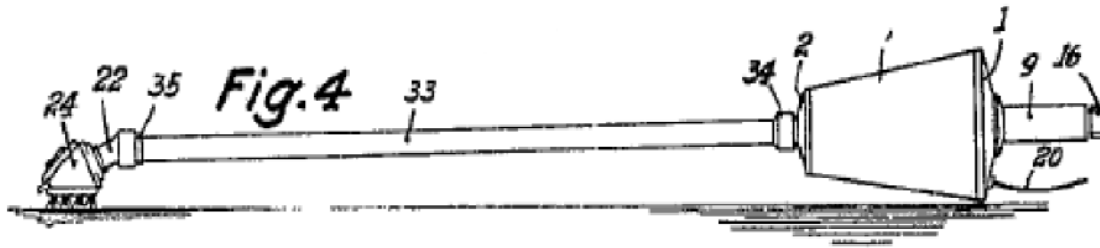


Figure 4 illustrates Peter's vacuum cleaner with extension rod 33 positioned between vacuum cleaner's casing and pipe angle 22, which is connected to suction piece 24. *Id.* at 2.

2. Neroni

Neroni is entitled "Vacuum Cleaning Tool Adapter with Electrical Control Means" and is directed to a vacuum cleaner with a powered cleaning tool. Ex. 1008, code (67), 1:52–59. Figure 1 of Peter, reproduced below, "is a perspective view of the vacuum cleaning system illustrating a typical canister or tank type vacuum cleaner, hose assembly, power cleaning tool adapter, and power cleaning tool, shown in exploded arrangement." *Id.* at 2:57–61.

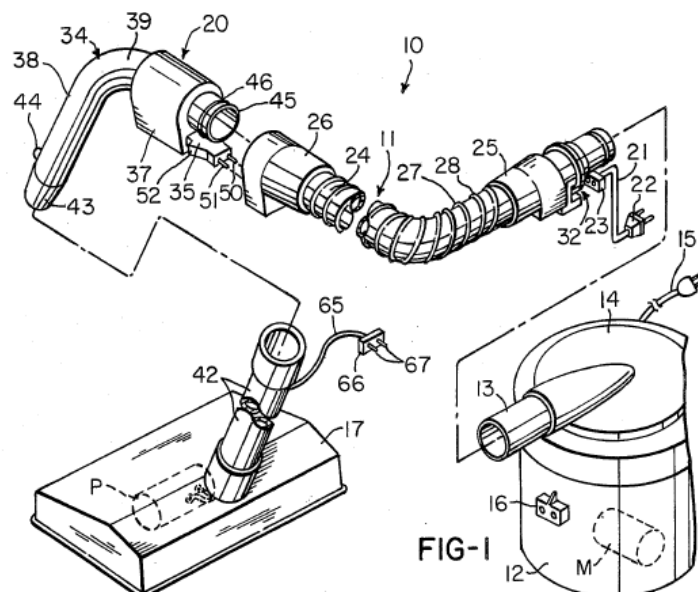


Figure 1 illustrates Neroni's vacuum cleaning system 10 with tank 12, motor M, vacuum tube 13, and female power receptacle 16. *Id.* at 3:22–24, 3:34–36. Neroni discloses that

receptacle 16 is used to supply electrical power through the hose assembly 11 into the adapter 20, and then to motor P of the power cleaning tool 17 which is also operatively connected to the vacuum system itself through the adapter and the hose assembly, through tube 13 and into the vacuum cleaner 12.

Id. at 3:36–42.

3. *Claims 1 and 9*

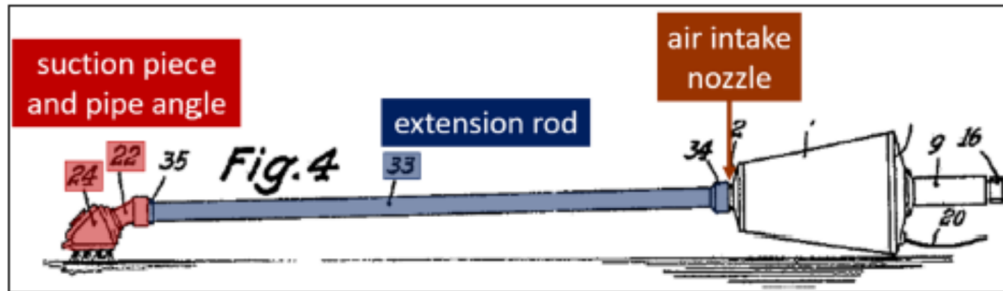
Both parties address independent claims 1 and 9 together. Pet. 57–81; Prelim. Resp. 16–20. Thus, we address claim 1 as representative.

Generally, the Petition relies on Peter for the majority of the claimed limitations, and on the combination of Peter and Neroni for teaching the electrical connections. We address the undisputed limitations first. This is followed by an analysis of the disputed limitations, including the reasons to combine.

a. Claim 1 – Undisputed Limitations

Petitioner argues that Peter teaches most of the limitations of claim 1. Pet. 57–81. This is not disputed by Patent Owner. *See* Prelim. Resp. 16–20.

Petitioner's marked-up version of Peter Figure 4 (Pet. 63) below, illustrates Petitioner's position on how Peter teaches the main components of the claimed surface cleaning apparatus, namely (a) a surface cleaning head, (b) a rigid air flow conduit, and (c) a hand vacuum cleaner.



Modified Figure 4 illustrates Peter’s vacuum cleaner with extension rod 33 (in blue) positioned between the vacuum cleaner’s casing and air intake nozzle (in brown) on the right, and pipe angle 22 / suction piece 24 (in red) on the left. Pet. 63. Petitioner argues that Peter’s vacuum cleaner with (a) pipe angle 22 / suction piece 24, (b) extension rod 33, and (c) vacuum body (i.e., casing and internal components) with rubber grip 9, respectively reads on the claimed “surface cleaning apparatus,” with “(a) a surface cleaning head, (b) a rigid air flow conduit, and (c) a hand vacuum cleaner.” *Id.* at 61–64, 69 (citing *e.g.*, Ex. 1007, Title, 2–3, Figs. 3–4; Ex. 1002 ¶¶ 218–221, 227–228, 243).

The Petition also argues that Peter teaches the claimed relationships between these components and the various features of these components including air inlets/outlets, rigidity, handle, suction motor, fan assembly, and air treatment member. *Id.* at 62–81. The Petition also argues that Peter teaches the claimed relationships between these components and their sub-features. *Id.*

Based on the current record, we determine that Petitioner has demonstrated a reasonable likelihood of showing the Peter teaches the below claim limitations of claim 1:

1. A surface cleaning apparatus comprising:
 - (a) a surface cleaning head having a front end, a rear end, a dirt air inlet and a cleaning head air outlet;

(b) a rigid air flow conduit having a rigid wand inlet end having an air inlet in communicable with the cleaning head air outlet, a rigid wand outlet end and a longitudinally extending conduit axis, the rigid air flow conduit is moveably mountable to the surface cleaning head between an upright position and an in-use floor cleaning position in which the rigid air flow conduit extends at an angle to the vertical, the rigid wand outlet end having an air outlet . . . ; and,

(c) a hand vacuum cleaner removably mountable to the rigid wand outlet end, the hand vacuum cleaner having a front end and a rear end, the hand vacuum cleaner comprising:

(i) a main body comprising a handle and a suction motor and fan assembly, the suction motor and fan assembly having a suction motor axis of rotation, the handle having a hand grip portion;

(ii) an air treatment member provided at the front end of the hand vacuum cleaner, the air treatment member having a central longitudinal axis and an air treatment chamber having a front wall;

(iii) a hand vacuum cleaner air inlet centrally positioned with respect to the air treatment chamber front wall and releasably connectable with the air outlet of the rigid wand; and,

(iv) . . . ,

wherein, when the hand vacuum cleaner is mounted to the rigid wand outlet end, the longitudinally extending conduit axis extends in a same direction as the central longitudinal axis of rotation, and

wherein the hand grip portion has a hand grip portion axis that intersects the suction motor.

Ex. 1001, 47:59–48:31.

b. Claim 1 – Disputed Limitations

Claim 1 also requires:

the rigid wand outlet end having . . . an outlet end electrical connector; and,

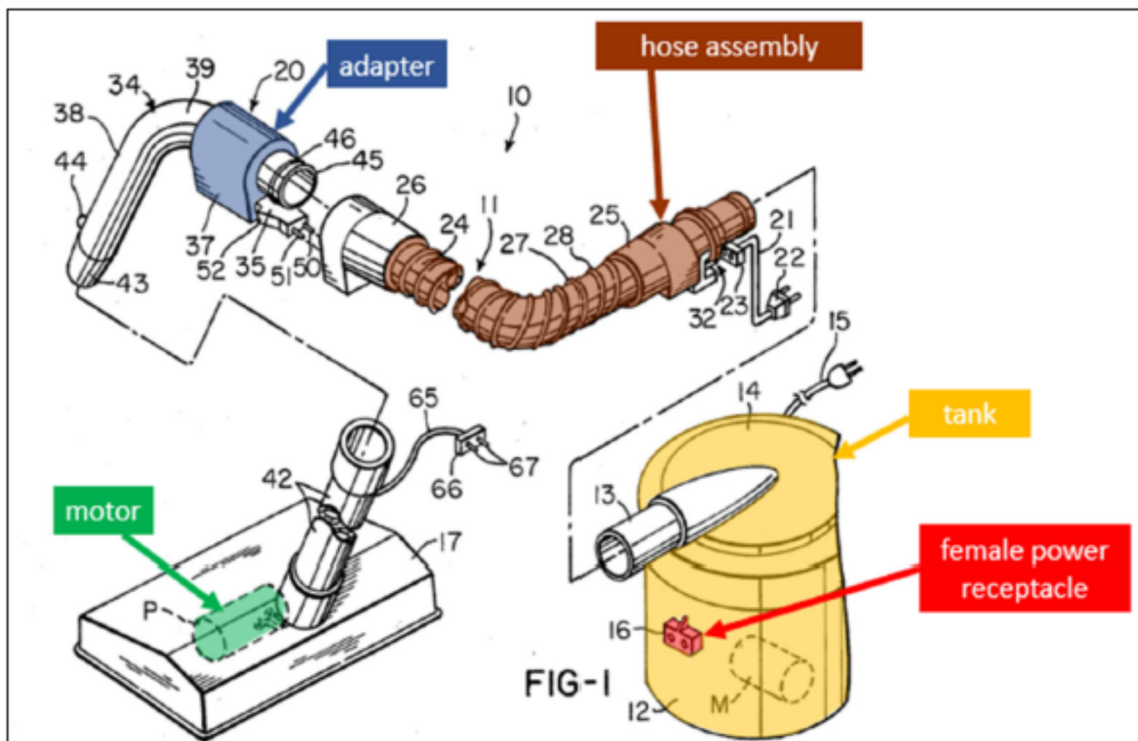
...

(iv) a hand vacuum cleaner electrical connector provided on the front end of the air treatment member adjacent the hand vacuum cleaner air inlet, the hand vacuum cleaner electrical connector is releasably connectable with the outlet end electrical connector.

Ex. 1001, 48:2–25.

Petitioner argues that these limitations are taught by the combination of Peter and Neroni. Pet. 57–61, 67–68, 76–79. Petitioner points to Neroni as teaching “a vacuum cleaner with an electrically-powered tool.” *Id.* at 59.

The Petition includes the marked-up version of Neroni, Figure 1 below.



Neroni describes Figure 1 as being “a perspective view of the vacuum cleaning system illustrating a typical canister or tank type vacuum cleaner, hose assembly, power cleaning tool adapter, and power cleaning tool, shown in exploded arrangement.” Ex. 1008, 2:57–61. Petitioner has added color and text to the figure to highlight the female power receptable, tank, hose assembly, adapter, and motor. Petitioner further describes this figure as showing that “Neroni has a ‘**female power receptacle 16**’ on the outside surface of a **tank 12**. ‘**[R]eceptacle 16** is used to supply electrical power through the **hose assembly 11** into the **adapter 20**, and then to **motor P** of the power cleaning tool 17.’” Pet. 59 (citing Ex. 1008, 3:34–36; quoting Ex. 1008, 3:36–39).

For teaching the claimed “outlet end electrical connector” on the “rigid wand outlet end,” Petitioner points to Neroni’s teaching of an electrical plug-type “assembly 22” with male fitting 22 on one end and female fitting 23 on the other, which female fitting connects to electrical connector 32 on hose assembly 11. *Id.* at 68 (citing Ex. 1008, 3:34–49; 4:7–10, Fig. 1; Ex. 1002 ¶ 240). Petitioner argues that “[a] POSA would have been motivated to incorporate Neroni’s ‘electrical connector 32’ teachings, including ‘female fitting 23’ and ‘male fitting 22,’ into Peter’s rigid extension rod 33 to power its floor tool.” *Id.* at 68.

For the “hand vacuum cleaner electrical connector,” Petitioner points to Neroni’s teaching of “‘**female power receptacle 16** disposed on the outside surface of its **tank 12**,’ adjacent ‘**vacuum tube 13**.’” *Id.* at 76–77 (citing Ex. 1008, 1:22–24, 3:34–49; Ex. 1002 ¶ 270). Petitioner argues that “[a] POSA would have been motivated to implement Neroni’s ‘power receptacle 16’ on the front end of Peter’s air treatment member adjacent the hand vacuum cleaner air inlet.” *Id.* at 78 (citing Ex. 1002 ¶ 273).

Petitioner argues that “[a] POSA would have understood the well-known benefits of a powered floor tool and would have been motivated to incorporate Neroni’s electrical system into Peter to achieve these benefits.” *Id.* at 60 (citing Ex. 1002 ¶ 216). In particular, Petitioner argues that “[a] POSA would have been motivated to use a powered cleaning tool with Peter (either by modifying Peter’s suction ‘accessory’ (‘suction piece 24’ and ‘pipe angle 22’), or by using a separate powered cleaning tool) and to incorporate Neroni’s teachings of a power cleaning tool adaptor.” *Id.* (citing Ex. 1002 ¶ 215).

Petitioner further argues “that powered cleaning tools were common” and that it was known “that powered cleaning tools improve cleaning certain surfaces by agitating them” and that this modification “would further Peter’s stated purpose of ‘effortlessly’ cleaning ‘upholstered furniture,’ ‘floors, carpets, and the like.’” *Id.* (citing Ex. 1008, 1:17–49; Ex. 1007, 1–2; Ex. 1002 ¶ 215); *see also id.* (discussing Ex. 1009 ¶¶ 5, 6, 20, 22 as further evidence of the known benefits of powered cleaning tools).

Patent Owner does not address the specific teachings of Peter or Neroni as relied on in the Petition for these claim limitations. *See* Prelim. Resp. 16–20.

Patent Owner does argue that the Petition fails to provide “a motivation to combine the references.” *Id.* at 16 (citing *KSR Int’l*, 550 U.S. at 420 (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006))). Patent Owner explains that “Peter and Neroni are directed to different types of vacuum cleaners, each solving different problems with their respective vacuum cleaners.” *Id.* at 17. Patent Owner further argues that Peter does not discuss using powered tools. *Id.* at 19–20. In light of these differences, Patent Owner argues:

Each of Petitioners' alleged rationales for combining Peter and Neroni are merely conclusory statements with no explanation for why the combination is a simple substitution, why the advantages of the electrical connector on the tank of a canister vacuum as taught by Neroni apply to the stick vacuum of Peter, or why the substitutions would improve the vacuum of Peter.

Id. at 18; *see also id.* at 19–20. Patent Owner further argues that the Declaration of Dr. Giachetti, relied on for support, “merely make[s] conclusory statements . . . without providing any explanation.” *Id.* (citing Ex. 1002).

On the current record, we find that the Petition provides sufficient rationale to modify Peter in view of Neroni. *See* Pet. 57–61 (citing Ex. 1002 ¶¶ 208–217). For example, Petitioner contends that one of ordinary skill in the art would have been motivated to incorporate Neroni's teachings of a power cleaning tool adaptor into Peter's cleaning tool in order to “improve cleaning . . . by agitating the surface being cleaned.” Pet. 60 (citing Ex. 1007, 1–2; Ex. 1002 ¶ 215). Petitioner explains that Neroni establishes that “powered cleaning tools were common” in the prior art (*id.* (citing Ex. 1008, 1:17–49; Ex. 1002 ¶ 215)), and, relying on the declaration testimony of Dr. Giachetti, argues that one of ordinary skill in the art would have “understood the well-known benefits of a powered floor tool and would've been motivated to incorporate Neroni's electrical system into Peter to achieve these benefits” (*id.* (citing Ex. 1002 ¶ 216)).

Patent Owner argues that one of ordinary skill in the art would not have been motivated to combine the vacuums taught by Peter and Neroni because they “are directed to different types of vacuum cleaners” and “each [is concerned with] solving different problems with their respective vacuum cleaners.” Prelim. Resp. 17. However, other than pointing out that the

vacuum cleaners in Peter and Neroni are different, Patent Owner itself provides conclusory statements, and fails to adequately explain what these differences are, or why they would deter one of ordinary skill in the art from combining the two references with a reasonable expectation of success. Patent Owner does not argue, and we see no reason to believe, that incorporating Neroni's teachings of a power cleaning tool adaptor into Peter's cleaning tool is not within the ability of one of ordinary skill in the art. *See KSR Int'l Co.*, 550 at 421 ("A person of ordinary skill is also a person of ordinary creativity, not an automaton.").

Accordingly, on the current record, we determine that Petitioner has provided sufficient arguments and evidence to support its assertion that one of ordinary skill in the art would have been motivated to combine Peter and Neroni. *See In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) ("[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.").

Based on the current record, we further determine that Petitioner has demonstrated a reasonable likelihood of showing that the combination of Peter and Neroni teaches the electrical connector limitations listed above.

c. Claim 1 – Conclusion

For the reasons discussed above, and based on the current record, we determine that Petitioner has demonstrated a reasonable likelihood of showing that the combination of Peter and Neroni teaches or suggests claims 1 and 9.

4. Claims 2–8, 10–13

Claims 2–8 depend from claim 1, and claims 10–13 depend from claim 9. Petitioner argues that the combination of Peter and Neroni renders

obvious claims 2–8 and 10–13. Pet. 81–90. Patent Owner does not substantively address Petitioner’s arguments concerning the limitations added by the dependent claims. *See* Prelim. Resp. 20.

Having determined that Petitioner has demonstrated a reasonable likelihood of showing that the independent claims are unpatentable, we decline to address the dependent claims at this time.

E. 35 U.S.C. § 103 – Peter, Neroni, Lehmann

Petitioner argues that the combination of Peter, Neroni, and Lehmann renders obvious claims 2, 5, 10, and 12.³ Pet. 3, 91–96. Patent Owner argues that Petitioner has not demonstrated a reasonable likelihood of success showing that these claims are unpatentable. Prelim. Resp. 21–23.

Having determined that Petitioner has demonstrated a reasonable likelihood of showing that the independent claims are unpatentable, we decline to address the full extent of the dependent claims at this time.

At the same time, we do address Patent Owner’s argument that the Petition has provided insufficient reason to combine. *Id.*

Broadly speaking, the Petition relies on Lehmann for teaching a particular handle configuration for claims 2 and 10, and for Lehmann for teaching a particular relationship of a handle, electromotor, and dust bag for claims 5 and 12. Pet. 91–96. The Petition argues that it would have been

³ The listing of the grounds and the actual claims addressed are limited to claims 2, 5, 10, and 12. Pet. 3, 91–96. At the same time, the Petition includes the statement that “Peter In Combination With Neroni and Lehmann Renders Claims 1-13 Obvious.” *Id.* at 91. For the claims not addressed in this section, we understand this statement to be referring back to the prior ground of Peter and Neroni. Thus, Patent Owner is correct that multiple claims are not addressed with respect to Lehmann as they are not part of this separate ground. Prelim. Resp. 20–21.

obvious for a POSA to modify Peter in view of these teachings of Lehmann.
Id.

Patent Owner first faults the Petition for not specifically addressing Neroni. Prelim. Resp. 21. However, the Petition does not rely on Neroni for any aspect of the claims related to the claim limitations at issue here. Thus, we do not see how the teachings of Neroni, as relied on in the Petition, are relevant or how they would impact the analysis.

Patent Owner next argues that “[e]ach of Petitioners’ alleged rationales [and declaration support] are conclusory statements with no explanation for why the combination is a simple substitution, why the advantages of an ‘arched’ handle as taught by Lehmann would apply to the vacuum of Peter, or why the substitutions would improve the vacuum of Peter.” *Id.* at 21–22. Patent Owner argues that the Petition “simply claims” the teachings would be combinable. *Id.* at 21. However, Patent Owner does not actually address the provided reasons to combine.

For example, the Petition states that Lehmann teaches that its handle provides “increased user comfort and vacuum maneuverability” and that a POSA “would recognize” these “advantages over Peter’s straight ‘exhaust nozzle 10’ with a ‘rubber grip 9.’” Pet. 92 (citing Ex. 1010, 2:25–29; Ex. 1002 ¶ 322); *see also id.* at 95 (discussing ergonomic benefits) (citing Ex. 1010, 1:63–91; Ex. 1002 ¶ 333). These are not mere “conclusory statements with no explanation” of why the benefits would apply to Peter.

Patent Owner also argues that Lehmann teaches that the arched handle also provides additional benefits, which are not discussed in the Petition. Prelim. Resp. 22. At this stage, and without further evidence and/or explanation, it is not clear how these additional benefits would impact the proposed combination.

F. 35 U.S.C. § 102 – Butler

Petitioner argues that Butler anticipates claims 1–13. Pet. 10–53. Patent Owner argues that Petitioner has not demonstrated a reasonable likelihood of success showing that the independent claims are unpatentable. Prelim. Resp. 8–12.

We first note that the exact basis of the anticipation ground is unclear. The ground relies upon multiple different embodiments within Butler, but does not discuss the relationship between these different embodiments. For example, the Petition states that Butler teaches “a variety of surface cleaning heads” and then points to at least three different embodiments. Pet. 11–17 (discussing Ex. 1005, Figs. 1, 2A, 2C, 12A, 13, 24, 26) *see also* Ex. 1005, 4–6 (identifying the different embodiments shown across the Figures). Then, when discussing the claimed the rigid wand outlet end, the Petition only discusses one of the previously discussed embodiments. *Id.* at 26 (discussing Ex. 1005, Fig. 24). When discussing the claimed hand vacuum cleaner, the Petition discusses some, but not all, of the prior embodiments (*id.* at 28–29 (discussing Ex. 1005, Figs. 1, 2A, 24)) and then moves to discussing still further embodiments (*id.* at 31–34 (discussing Ex. 1005, Figs. 3–6, 9A, 10)).

Throughout this analysis, the Petition does not discuss how the different embodiments of Butler are related. *See, e.g., id.* at 11–34. It is unclear how this discussion of the different embodiments is to be interpreted and whether the Petition is relying on a single embodiment for all features of the claims. The Petition does later assert, without explanation, that “Butler teaches a single vacuum system, with all elements arranged as in the challenged claims, and therefore anticipates.” *Id.* at 53. However, rather than setting forth a clear ground of anticipation, the Petition appears to set forth a ground that mixes and matches parts of different embodiments within Butler.

“Because the hallmark of anticipation is prior invention, the 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.*, 545 F.3d at 1369.

When a Petition sets forth an anticipation position reliant on multiple different embodiments, the burden is on Petitioner to clearly identify how the Petition sets forth an adequate anticipation ground. *See* 37 C.F.R. § 42.22 (a)(2). This burden has not been satisfied.

As another example, when discussing the electrical connector limitations, the Petition relies on teachings related to two different embodiments. *See* Pet. 26–27, 38–40. The Petition points to the embodiment of Butler Figure 24 to teach a rigid wand between the hand vacuum and the cleaning head. Pet. 17–21. The Petition then points to the discussion of Butler Figure 5, where Butler “teaches a motorized powerhead with electrical leads.” *Id.* at 26 (citing Ex. 1005, 22:5–13). The Petition argues that Butler teaches the electrical connector limitations based on the combination of parts of the teachings of these two different embodiments. *Id.*

Discussing Figure 5, Butler teaches that a “powerhead having a rotating agitator” can “be attached to the entry tube” of the hand vacuum. Ex. 1005, 22:5–9. Butler then states that “if a powered attachment is provided, suitable power leads can be provided to connect the powered attachment to the electric circuit. These leads may pass around or through the dirt receptacle, or may be integrated into the dirt receptacle body.” *Id.* at 22:9–13.

Though Butler discusses a powered attachment connected to the vacuum body, none of the identified sections of Butler discuss a rigid wand

between a powered attachment and the vacuum body. The Petition does not identify any teaching of Butler where the rigid wand includes electrical connectors or is connected to a powerhead. *See* Prelim. Resp. 8. The Petition also does not discuss how the embodiments of Butler Figures 5 and 24 are related, if at all. At this stage, we determine that this is insufficient to show anticipation.

G. 35 U.S.C. § 103 – Butler

Petitioner argues that Butler renders obvious claims 1–13. Pet. 53–56. Patent Owner argues that Petitioner has not demonstrated a reasonable likelihood of success showing that the independent claims are unpatentable. Prelim. Resp. 12–15.

Concerning the obviousness ground, the Petition states that Butler teaches that “the present invention includes embodiments in which the features described herein are used individually or in various other inventive combinations,” and that it would be obvious to combine its various components. Pet. 53–54 (quoting Ex. 1005, 43:29–44:3); *see also* Ex. 1002 ¶¶ 190–191. Patent Owner does not address Petitioner’s reasoning in this regard. *See* Prelim. Resp. 12–15. As we have already determined to institute, it is unnecessary to determine whether these general statements are sufficient at this stage.

For the electrical connector limitations, the Petition argues that one of ordinary skill in the art would have

would have been motivated to place an electrical connector on Butler’s entry tube 524, at a location on the front end of the cyclone separator provided at a location adjacent the hand vacuum cleaner air inlet, and aligned with and connected to a rigid air flow conduit electrical connector when the hand vacuum cleaner is mounted to the rigid air flow conduit, which would have a corresponding rigid air flow conduit electrical connector.

Pet. 55 (citing Ex. 1005, 22:5–13; Ex. 1002 ¶¶ 203–204).

We agree with Patent Owner, that on the preliminary evidentiary record presently before us, “Petitioners cite to no objective evidence (other than parroting Mr. Giachetti’s conclusory declaration) in support of their assertion that not only would using a connector to power the attachments be obvious to a POS[A], but so too would placing the connector exactly where the claims require the connector to be.” Prelim. Resp. 14 (citing Pet. 55–56). Petitioner reliance on the declaration testimony of Dr. Giachetti does not support Petitioner’s argument because it similarly provides no explanation other than repeating the Petition. *See* Ex. 1002 ¶¶ 203–205 (citing Ex. 1005, 22:5–13, Fig. 5). We encourage the parties to further develop these arguments and their positions at trial with the caveat that new arguments or theories on unpatentability and related new evidence are not allowed in a Reply, but rather, a Petitioner’s case must be set forth with particularity in its Petition.

III. CONCLUSION

As we have determined there is a reasonable likelihood that Petitioner would prevail with respect to at least one claim, we institute trial.

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that *inter partes* review as to claims 1–13 of U.S. patent 10,478,030 B2 is instituted; and

FURTHER ORDERED that, pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial; the trial will commence on the entry date of this decision.

IPR2024-00854
Patent 10,478,030 B2

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