

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SHARKNINJA, INC.,
SHARKNINJA OPERATING LLC,
SHARKNINJA MANAGEMENT LLC, AND
SHARKNINJA SALES COMPANY,
Petitioners,

v.

DYSON TECHNOLOGY LIMITED
Patent Owner.

Case No. IPR2024-00219

U.S. Patent No. 11,589,660

**PATENT OWNER'S REPLY TO PETITIONERS' OPPOSITION
TO PATENT OWNER'S CONTINGENT MOTION TO AMEND**

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PATENT OWNER'S EXHIBIT LIST

Exhibit	Description
2001	https://web.archive.org/web/20160812223637/https://www.merriam-webster.com/dictionary/handheld
2002	https://web.archive.org/web/20160830192326/https://www.dictionary.com/browse/handheld
2003	https://web.archive.org/web/20160728065930/https://www.dictionary.com/browse/appliance
2004	https://web.archive.org/web/20160819123655/https://dictionary.cambridge.org/us/dictionary/english/appliance
2005	https://web.archive.org/web/20160819193036/https://www.merriam-webster.com/dictionary/appliance
2006	https://web.archive.org/web/20160822115546/https://www.merriam-webster.com/dictionary/attachment
2007	https://web.archive.org/web/20160726213831/https://dictionary.cambridge.org/us/dictionary/english/attachment
2008	https://web.archive.org/web/20160803090731/https://www.dictionary.com/browse/attachment
2009	U.S. Patent No. 3,280,439 (“McCarthy”)
2010	Declaration of Brianna Lynn Silverstein in Support of Motion for <i>Pro Hac Vice</i> Admission
2011	Declaration of Joel Delman
2012	Supplemental Declaration of Joel Delman

I. INTRODUCTION

Patent Owner provides the following Reply to the Opposition filed by Petitioners to Patent Owner's Contingent Motion to Amend certain claims of U.S. Patent No. 11,589,660 ("the '660 Patent") contingent on the outcome of this trial as to whether Claims 1-9, 15, 18, 24, and 30-34 (the "Challenged Claims")¹ are unpatentable. In the event the Board finds any original claim unpatentable, Patent Owner respectfully requests that the Board grant this Motion to Amend and issue the substitute claims corresponding to any original claim found unpatentable.

As confirmed by the Board in its Preliminary Guidance (Paper 22), Substitute Claims 40-56 in Patent Owner's Motion to Amend (Paper 15) meet all the requirements of 37 C.F.R. § 42.121. In Petitioners' Opposition to Patent Owner's Motion to Amend (Paper 21 "Opposition"), Petitioners assert that (1) the proposed amendments lack written description support and thus introduce new matter; (2) the proposed substitute claims are invalid as indefinite; and (3) the proposed substitute claims are invalid over prior art. Patent Owner disputes each of these allegations by Petitioners and agrees with the Board that (1) "Figure 5 of the '705 application supports, with a reasonable likelihood, the claimed arrangement

¹ Patent Owner is not proposing a substitute claim for Challenged Claim 23 because Patent Owner's proposed amendments incorporate the limitation of Challenged Claim 23 into the independent claims.

recited in the disputed limitation of an actuator that “interacts with only one of the first and second protrusions”; (2) “Petitioner has not shown a reasonable likelihood that proposed substitute claims 40-56 are indefinite”; and (3) “Petitioner has not sufficiently shown that obviousness grounds 7-12 asserted against proposed substitute claims 40-56 have a reasonable likelihood of success.” Paper 22, pp. 9, 11, and 17.

Grounds 7-12 asserted in the Opposition are summarized below:

Ground	Challenged Claims	Basis for Rejection
7	40-49, 51, and 54-56	Obviousness over Hoblingre (US4,943,182) and Marsh (US2015/0297045) with or without Brook (GB2513561)
8	40-54	Obviousness over Hoblingre and Maclaine (US2015/0265022) and Marsh with or without Brook
9	40-56	Obviousness over Hoblingre and Maclaine, Jeannet (US6,161,244), and Marsh with or without Brook
10	40-49, 51, and 54-56	Obviousness over Mouhot (EP0791758) and Marsh with or without Brook
11	40-54	Obviousness over Mouhot and Maclaine and Marsh with or without Brook
12	40-56	Obviousness over Mouhot and Maclaine, Jeannet, and Marsh with or without Brook

II. SUBSTITUTE CLAIMS HAVE WRITTEN DESCRIPTION SUPPORT

The ’660 Patent issued from U.S. Pat. App. No. 15/689,705 (“the ’705 Application”) (EX-1002 at 327-349, 363-368), which claims priority to Great Britain App. No. 1614825 (“the Priority Application”) (EX-1002 at 287-317). The substitute claims are supported by the originally filed disclosure of the ’705 Application and the Priority Application for the reasons in the Motion to Amend.

In the Opposition, Petitioners argue that the limitation “actuator interacts with only one of the first and second protrusions” in Substitute Claims 40 and 55 lacks written description support. As set forth in the Motion to Amend, there is support in the ’705 Application at paragraphs [0066] and [0067] comparing description of slots 232 to slot 232a; Figs. 1a-1b; and Fig. 5 disclosing one slot and protrusion at the top of the figure interacting with an actuator while the slot in the center of Fig. 5 does not interact with an actuator. *See* EX1002 at 335, 363, and 366. The Priority Application similarly provides support for the limitation as shown in the Motion to Amend.

The combination of the description in paragraphs [0066] and [0067] and Fig. 5 clearly shows an embodiment in which an attachment mechanism includes two protrusions engaged in two respective slots, only one of which interacts with an actuator. Accordingly, the original specification provides at least one embodiment “wherein the actuator interacts with only one of the first and second protrusions,” which is sufficient to support this claim limitation defining a particular relationship between concrete parts. Further, the original specification consistently refers to slot 232a when discussing a slot interacting with an actuator, not slot 232. For at least the above reasons, Patent Owner has shown adequate written description support for the limitation at issue and Petitioners have failed to meet their burden to prove a lack of written description for Substitute Claims 40-56.

III. SUBSTITUTE CLAIMS ARE DEFINITE

The limitation “wherein the actuator interacts with only one of the first and second protrusions” does not render the claims indefinite. Petitioners argue that the terms “interacts with” and “only one of” are unclear. Although the term “interacts with” may be broad and encompass different levels of interaction, the term provides reasonable certainty in Substitute Claims 40-56 that a relationship between the actuator and one of the protrusions is required such that engagement of the one protrusion with a respective slot causes the actuator to slide from one position to another. Further, the term “only one of” provides further clarity to the limitation at issue by providing that the actuator interacts with only one of the first and second protrusions and thus the other of the first and second protrusions does not interact with the actuator. For at least the above reasons, Petitioners have failed to meet their burden to prove that any of Substitute Claims 40-56 are indefinite.

IV. SUBSTITUTE CLAIMS ARE PATENTABLE OVER GROUNDS 7-12

In each of Grounds 7-12, Petitioners rely solely² on Marsh to teach the limitation “wherein the actuator interacts with only one of the first and second

² Petitioners use Brook only to clarify teachings in Marsh. Petitioners allege that Brook lists a common inventor, shares a common assignee and shares similar figures and plainly describes structures shown in Marsh to be ribs and keyways.

protrusions” which is present in each of claims 40-56. Petitioners rely solely on Marsh for the above limitation because none of Hoblingre, Mouhot, Maclaine, or Jeannet discloses or renders obvious the newly amended limitations. EX2012 ¶10.

Regardless of whether Marsh, with or without Brook, teaches the newly amended limitations, there is no reason to combine Marsh/Marsh+Brook, with either of the respective base references, Hoblingre or Mouhot. *Id.* at 11. Further, neither Maclaine nor Jeannet cures at least this deficiency in the proposed Grounds 7-12 for any of Substitute Claims 40-56. *Id.*

A. GROUNDS 1-3: Petitioners’ evidence is insufficient to support a conclusion that it would have been obvious to combine Hoblingre and Marsh, with or without Brook

A POSITA would not have been motivated to modify Hoblingre’s guiding and locking means to interact with only one of the first and second pins 6, and certainly not based on the teachings in Marsh. EX2012 ¶12. Petitioners allege that it would have been obvious to combine Hoblingre with Marsh/Marsh+Brook because of the structural and functional similarities between the Hoblingre fastener and the connector disclosed in Marsh. Opp., 14. However, the Hoblingre fastener and Marsh connector are different structurally, and only similar at a high level of extraction, namely they both involve slots, protrusions, and spring-loaded actuator.

Opp., 12. Petitioners do not rely on Brook for any additional structural feature or reason to combine Marsh with Hoblingre or Mouhot.

The distinct differences in the function and structure between Hoblingre and Marsh/Marsh+Brook's connection mechanisms render it unlikely a POSITA would modify Hoblingre as proposed by Petitioners. EX2012 ¶13. Marsh's catch 44 moves within channel 42 in a connector part of an attachment. *Id.* at 14. Specifically, catch 44 is biased on an axis perpendicular to the axis of the connector part by "a spring 66 [] disposed between the catch 44 and the bottom of the channel." *See* EX1014, ¶[0035], Fig. 2; EX2012 ¶14. In contrast to Marsh, Hoblingre discloses a ring surrounding the entire circumference of a part to be connected and the spring is aligned on an axis parallel to the part to be connected. *Compare* EX1004, Figs. 1, 2 to EX1014, Fig. 2; EX2012 ¶15.

Petitioners provide no explanation for why one of ordinary skill in the art would have found any relevance in the teachings of Marsh with respect to the actuator of Hoblingre based on the differences in their respective functions and structures. EX2012 ¶16. For example, Petitioners fail to address how the mechanism of Marsh being added to the outside of Hoblingre's ring 18 would actuate ring 18 to be pushed against coil spring 24 and thus unlock driving pin 6. *Id.* at 17. Similarly, Petitioners fail to explain how the mechanism of Marsh would be simpler or easier to use than Hoblingre's release mechanism of pushing ring 18 down towards coil spring 24. *Id.*

Petitioners further allege that “a release actuator that interacts with only one of two protrusions rather than both protrusions is a simpler mechanism that is easier to manufacture.” Opp., 14. However, Petitioners fail to explain how Petitioners’ proposed combination of Hoblingre and Marsh/Marsh+Brook would result in “a simpler mechanism that is easier to manufacture” compared to the connection of Hoblingre before modification. EX2012 ¶18.

A POSITA would not have found modifying the guiding and locking means of Hoblingre such that it interacts with only one of first and second pins 6 to be a simpler mechanism that is easier to manufacture. *Id.* at 19. A POSITA would have expected such a modification to complicate guiding and locking first and second pins 6 within socket 8. *Id.* Hoblingre’s ring 18 blocks the entrance 14 to each slot 12 and slot 28 of ring 18 is what guides and locks each of pins 6 within slots 12. *Id.* Thus, for Hoblingre’s guiding and locking means to perform its function of guiding and locking pins 6 to lock shafts 1 and 2 together, Hoblingre’s ring 18 of its guiding and locking means must interact with both pins 6. *Id.*

Marsh discloses benefits of its mechanism compared to other vacuum cleaners. *Id.* at 20. Specifically, in paragraph [0037], Marsh discloses that the catch enables a user to quickly and easily remove an attachment with one hand and this capability enhances the useability of the vacuum cleaner. *Id.* Petitioners fail to explain why useability of a vacuum cleaner would be something a POSITA would

consider for Hoblingre’s bayonet type coupling for joining steering members. *Id.* at 21. Also, Hoblingre already discloses a coupling mechanism that can be “establish[ed] . . . by a single shifting and . . . capable of being disassembled at any moment.” Pet. at 41-42; EX1003 ¶ 124; EX2012 ¶ 22. Thus, a POSITA would have understood that the coupling mechanism of Hoblingre is already easy to remove with one hand, and thus Marsh’s mechanism would not improve this capability over Hoblingre’s actuator. EX2012 ¶ 22.

For at least the above reasons, Petitioners fail to set forth an adequate motivation or rationale for combining Hoblingre with Marsh/Marsh+Brook as Petitioners propose. Further, neither Maclaine nor Jeannet would have provided a POSITA with a reason to combine Hoblingre and Marsh/Marsh+Brook or otherwise cure the deficiencies in that combination. *Id.* at 23. Thus, Substitute Claims 40-56 are patentable over Petitioners’ proposed Grounds 7-12.

B. GROUNDS 4-6: Petitioners’ evidence is insufficient to support a conclusion that it would have been obvious to combine Mouhot and Marsh, with or without Brook

A POSITA would not have been motivated to modify Mouhot’s locking means 4 to interact with only one of the first and second protruding parts 5 and 6, and certainly not based on the teachings in Marsh. EX2012 ¶24. Petitioners allege that it would have been obvious to combine Mouhot with Marsh/Marsh+Brook because of structural and functional similarities between the Mouhot fastener and

the Marsh connector. Opp., 20. However, the Mouhot fastener and Marsh connector are different structurally, and only similar at a high level of extraction, namely that they both involve slots, protrusions, and spring-loaded actuator.

There are distinct differences in the function and structure between Mouhot and Marsh/Marsh+Brook's connection mechanisms that render it unlikely a POSITA would modify Mouhot as proposed by Petitioners and Dr. Nosenchuck. EX2012 ¶ 25. As mentioned above in Section IV.A., Marsh's catch 44 is biased on an axis perpendicular to the axis of the connector part by spring 66 between catch 44 and the bottom of the channel. In contrast to Marsh, Mouhot discloses a ring surrounding the entire circumference of a part to be connected and the spring is aligned on an axis parallel to the respective part to be connected. *Compare* EX1005, Figs. 1-3 to EX1014, Fig. 2; EX2012 ¶ 27.

Petitioners provide no explanation for why one of ordinary skill in the art would have found any relevance in the teachings of Marsh with respect to the actuator of Mouhot based on the differences in their respective functions and structures. EX2012 ¶28. For example, Petitioners fail to address how the mechanism of Marsh being added to locking means 4 would actuate locking means 4 to unlock protruding parts 5, 6. *Id.* at 29. Similarly, Petitioners fail to explain how a button to release a catch would be simpler or easier to use than Mouhot's release mechanism of either merely pulling shank 3 and socket 2 apart by

overcoming the force applied by wedge-shaped means 13, 14 against protruding parts 5, 6 or urging ring 11 towards coil spring 12. *Id.*

Petitioners further allege that “a release actuator that interacts with only one of two protrusions rather than both protrusions is a simpler mechanism that is easier to manufacture.” Opp., 14. However, Petitioners provide fail to explain how Petitioners’ proposed combination of Hoblingre and Marsh/Marsh+Brook would result in “a simpler mechanism that is easier to manufacture” compared to the connection of Hoblingre before modification. EX2012 ¶30.

A POSITA would not have found modifying the locking means of Mouhot such that it interacts with only one of the lateral protruding parts 5, 6 to be a simpler mechanism that is easier to manufacture. *Id.* at 31. In fact, a POSITA would have expected such a modification to complicate guiding and locking first and second protruding parts 5, 6. *Id.* Modifying Mouhot’s locking means 4 to interact with only one of lateral protruding parts 5, 6 would require one of wedge-shaped means 13, 14 to be removed. *Id.* Otherwise, each wedge-shaped means 13, 14 must interact with a lateral protruding part 5, 6 in order for lateral protruding part 5, 6 to enter slot 7, 8 because each wedge-shaped means 13, 14 blocks entrance to slot 7, 8 until lateral protruding parts 5, 6 move the wedge-shaped means axially towards coil spring 12. *Id.* Modifying Mouhot’s ring 11 to remove one of wedge-shaped means 13, 14 would render ring 11 supported on only one

portion of socket 2 rather than both laterally opposite portions of socket 2. *Id.*

Where Mouhot's ring 11 is supported on only one portion of socket 2, engagement of only one of lateral protruding parts 5, 6 against only one wedge-shaped means 13 would create a force against only that portion of ring 11 that would not be equalized by a similar force against a wedge-shaped means on laterally opposite to wedge-shaped means 13. *Id.* A POSITA would have recognized that in such an embodiment the force against only wedge-shaped means 13 would result in tilting of ring 11 with respect to socket 2 that would hamper axial sliding of ring 11 towards coil spring 12 because inner surface of ring 11 would be angled towards and likely rub against the outer surface of socket 2. *Id.*

As mentioned above in section IV.A, Marsh discloses that the catch enables a user to quickly and easily remove an attachment with one hand and this capability enhances the useability of the vacuum cleaner. *Id.* Petitioners fail to explain why useability of a vacuum cleaner would be considered by a POSITA for Mouhot's bayonet type coupling for joining steering members. *Id.* at 33. Also, Mouhot already discloses a release mechanism that is already easy to remove with one hand, and thus Marsh's mechanism would not improve this capability over Mouhot's mechanism. *Id.* at 34.

For at least the above reasons, Petitioners fail to set forth an adequate motivation or rationale for combining Mouhot with Marsh/Marsh+Brook as

Petitioners propose. Further, neither Maclaine nor Jeannet would have provided a POSITA with a reason to combine Mouhot and Marsh/Marsh+Brook or otherwise cure the deficiencies in that combination. *Id.* at 35. Thus, Substitute Claims 40-56 are patentable over Petitioners' proposed Grounds 7-12.

V. CONCLUSION

Patent Owner satisfied the requirements of 37 C.F.R. § 42.121, and thus, a respective substitute claim should be entered into the record in this matter contingent upon a finding of unpatentability of a respective Challenged Claim.

Respectfully submitted,

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Date: January 9, 2025

CERTIFICATE OF SERVICE

The undersigned hereby certifies that the foregoing **PATENT OWNER'S
REPLY TO PETITIONERS' OPPOSITION TO PATENT OWNER'S
CONTINGENT MOTION TO AMEND** was served upon Petitioners by email
on January 9, 2025:

GDC-SharkNinjaIPRD@gibsondunn.com

Date: January 9, 2025

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