

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

**SUPPLEMENTAL DECLARATION OF JOEL DELMAN
IN SUPPORT OF PATENT OWNER'S REPLY TO PETITIONERS'
OPPOSITION TO PATENT OWNER'S MOTION TO AMEND**

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I, Joel Delman, declare as follows:

1. My name is Joel Delman. I have been retained by Faegre Drinker Biddle & Reath LLP on behalf of Dyson Technology Limited (“Dyson” or “Patent Owner”) to provide opinions related to U.S. Patent No. 11,589,660 (“the ’660 Patent,” EX1001) and an instituted *inter partes review* (“IPR”) proceeding regarding the ’660 Patent.

2. I understand that Petitioners have filed an Opposition to Patent Owner’s contingent motion to amend challenged claims 1-9, 15, 18, 24, and 30-34 of the ’660 Patent to be replaced by substitute claims 40-56 (“Opposition”). In this Declaration, I have only been asked to offer opinions regarding the new grounds of unpatentability based on obviousness raised in the Opposition with regard to substitute claims 40-56.

3. This Declaration contains statements of my opinions formed to date and the basis and reasons for those opinions. I may offer additional opinions based on further review of materials in this case, including opinions and/or testimony of other expert witnesses. I make this Declaration based upon my own personal knowledge and, if called upon to testify, would testify competently to the matters contained herein.

4. My qualifications and experience to provide the opinions in this Declaration were previously provided in the first declaration I prepared in support of the Petition in this IPR and are incorporated by reference here.

5. My understanding of the legal principles regarding obviousness as outlined in the first Declaration that I prepared in support of the Petition in this IPR have not changed and are incorporated by reference here.

6. I am being compensated at my usual and customary rate of \$400/hr for the preparation of this declaration and all related work thereto, including providing any deposition testimony. I have no financial interest in, or affiliation with, either the Patent Owner or Petitioner in this proceeding, and my compensation is in no way contingent on the results of this or any other proceeding relating to the '660 Patent.

7. I have considered information from various sources in forming my opinions. I have reviewed and considered Patent Owner's Motion to Amend, Petitioners' Opposition to Patent Owner's Motion to Amend and all the documents listed in the chart below, as well as any documents referred to in this Declaration, in forming my opinions.

Exhibit	Description
1001	U.S. Patent No. 11,589,660
1004	U.S. Patent No. 4,943,182 ("Hoblingre")
1005	Certified Translation of European Patent Application No. EP0791758 ("Mouhot")
1006	European Patent Application No. EP0791758 ("Mouhot")

1007	U.S. Patent Application Publication No. 2015/0265022 (“Maclaine”)
1008	U.S. Patent No. 6,161,244 (“Jeannet”)
1013	Supplemental Declaration of Dr. Daniel M. Nosenchuck
1014	U.S. Patent Application Publication No. 2015/0297045 (“Marsh”)
1015	U.K. Patent Application No. GB2513561 (“Brook”)

I. SUMMARY OF THE GROUNDS ASSERTED

8. The Opposition asserts that the Challenged Claims are unpatentable based on six prior art based grounds:

Ground	Challenged Claims	Basis for Rejection
7	40-49, 51, and 54-56	Obviousness over Hoblingre ¹ in view of Marsh ² with or without Brook ³
8	40-54	Obviousness over Hoblingre in view of Maclaine ⁴ and Marsh with or without Brook
9	40-56	Obviousness over Hoblingre in view of Maclaine, Jeannet ⁵ , and Marsh with or without Brook
10	40-49, 51, and 54-56	Obviousness over Mouhot ⁶ in view of Marsh with or without Brook
11	40-54	Obviousness over Mouhot in view of Maclaine and Marsh with or without Brook

¹ U.S. Patent No. 4,943,182.

² U.S. Patent Application Publication No. 2015/0297045.

³ U.K. Patent Application No. GB2513561.

⁴ U.S. Patent Application Publication No. 2015/0265022.

⁵ U.S. Patent No. 6,161,244.

⁶ European Patent Application No. 2015/0265022.

Ground	Challenged Claims	Basis for Rejection
12	40-56	Obviousness over Mouhot in view of Maclaine, Jeannet, and Marsh with or without Brook

II. OPINIONS RELATED TO MOTION TO AMEND

9. I have reviewed Patent Owner’s Substitute Claims 40-56, the Opposition, and the Board’s Preliminary Guidance, and it is my opinion that Substitute Claims 40-56 are patentable over each of Grounds 7-12 listed above.

10. In my opinion, none of Hoblingre, Mouhot, Maclaine, or Jeannet discloses or renders obvious the newly amended limitations “the body comprising an attachment mechanism having a first slot, a second slot, and an actuator, the attachment comprising a first protrusion configured to engage with the first slot and a second protrusion to engage with the second slot, wherein the actuator interacts with only one of the first and second protrusions.”

11. Also, in my opinion, regardless of whether Marsh, with or without Brook, teaches the newly amended limitations discussed in the paragraph above, there is no reason to combine Marsh, or Marsh and Brook, with either of the respective base references, Hoblingre or Mouhot. Further, neither Maclaine nor Jeannet cures at least this deficiency in the proposed Grounds 7-12 for any of Substitute Claims 40-56.

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

12. 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.

13. There are distinct differences in the function and structure between Hoblingre and Marsh/Marsh+Brook's connection mechanisms that render it unlikely a POSITA would modify Hoblingre as proposed by Petitioners and Dr. Nosenchuck.

14. Marsh's catch 44 moves within channel 42 in a connector part of an attachment. 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.

15. 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.

16. Neither Petitioners nor Dr. Nosenchuck provide any 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.

17. For example, neither Petitioners nor Dr. Nosenchuck 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 unlocking driving pin 6. Similarly, neither Petitioners nor Dr. Nosenchuck provide any explanation for 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.

18. Further, neither Petitioners nor Dr. Nosenchuck provide any explanation for how Petitioners' proposed combination of Hoblingre and Marsh/Marsh+Brook would result in "a simpler mechanism that is easier to manufacture" as alleged in the Opposition.

19. 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. A POSITA would have expected such a modification to complicate guiding and locking first and second pins 6 within socket 8. 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. Thus, for Hoblingre's guiding and locking means to perform its function of guiding and locking pins 6 in order to lock shafts 1 and 2 together, Hoblingre's ring 18 of its guiding and locking means must interact with both pins 6.

20. Marsh discloses benefits of its mechanism compared to other vacuum cleaners. 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.

21. Petitioners and Dr. Nosenchuck 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. As one with experience in the design of vacuum cleaners and their associated accessories, I understand that the attachments of a vacuum are expected to be frequently removed to swap with other attachments, while I would not expect the steering member of Hoblingre to be removed / attached with even remotely similar regularity, or for the purpose of swapping with alternate steering components.

22. 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. 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.

23. Further, in my opinion, 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.

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

24. 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.

25. 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.

26. Marsh's catch 44 moves within channel 42 in a connector part of an attachment. 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.

27. 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.

28. Neither Petitioners nor Dr. Nosenchuck provide any 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.

29. For example, neither Petitioners nor Dr. Nosenchuck address how the mechanism of Marsh being added to locking means 4 would actuate locking means 4 to unlock protruding parts 5, 6. Similarly, neither Petitioners nor Dr. Nosenchuck provide any explanation for 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. Thus, none of the rationales provided by Petitioners to add the mechanism of Marsh to the coupling of Mouhot appear relevant to Mouhot and instead would have at most been expected to complicate the coupling.

30. Further, neither Petitioners nor Dr. Nosenchuck provide any explanation for how Petitioners' proposed combination of Mouhot and Marsh/Marsh+Brook would result in "a simpler mechanism that is easier to manufacture" as alleged in the Opposition.

31. 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. In fact, a POSITA would have expected such a modification to complicate guiding and locking first and second protruding parts 5, 6. 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. 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. 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. 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. 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.

32. Marsh discloses benefits of its mechanism compared to other vacuum cleaners. 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.

33. Petitioners and Dr. Nosenchuck fail to explain why useability of a vacuum cleaner would be something a POSITA would consider for Mouhot's bayonet type coupling for joining steering members. As one with experience in the design of vacuum cleaners and their associated accessories, I understand that the attachments of a vacuum are expected to be frequently removed to swap with other attachments, while I would not expect the steering member of Mouhot to be removed / attached with even remotely similar regularity, or for the purpose of swapping with alternate steering components.

34. Also, Mouhot already discloses a 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. A POSITA would have understood that either release mechanism is already easy to remove with one hand, and thus Marsh's mechanism would not improve this capability over Mouhot's mechanism.

35. Further, in my opinion, 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.

I, Joel Delman, declare that all statements made herein of my knowledge are true, and all statements made on information and believe are believed to be true, and that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment under Section 1001 of Title 18 of the United States Code.

Executed on January 8, 2025.

By:

A handwritten signature in blue ink, consisting of a stylized 'J' and 'D' followed by a long horizontal line.

Joel Delman
4938-3441-2301, v. 1