

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

---

**Petitioners' Opposition to  
Patent Owner's Motion to Amend Under 37 C.F.R. § 42.121**

**TABLE OF CONTENTS**

|                                                                                                                                                                                                                      | <u>Page</u> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| I. INTRODUCTION .....                                                                                                                                                                                                | 1           |
| II. SUMMARY OF THE PROPOSED AMENDMENTS.....                                                                                                                                                                          | 2           |
| III. THE PROPOSED AMENDMENTS LACK WRITTEN<br>DESCRIPTION SUPPORT AND THUS INTRODUCE NEW<br>MATTER.....                                                                                                               | 3           |
| A. There is no written description support in the ’660 patent for the<br>“actuator interacts with only one of the first and second<br>protrusions” element.....                                                      | 4           |
| B. The figures do not provide written description support even if the<br>figures coincidentally disclose one embodiment where the<br>actuator “interacts with only one of the first and second<br>protrusions” ..... | 5           |
| IV. THE PROPOSED SUBSTITUTE CLAIMS ARE INDEFINITE .....                                                                                                                                                              | 8           |
| V. THE PROPOSED SUBSTITUTE CLAIMS ARE INVALID OVER<br>PRIOR ART.....                                                                                                                                                 | 10          |
| A. New Ground 7: Hoblingre in View of Marsh/Marsh+Brook<br>Renders Obvious Contingent Claims 40-49, 51, 54-56 .....                                                                                                  | 13          |
| 1. Elements 40[b]/55[b]: “the body comprising an<br>attachment mechanism having a first slot, a second slot,<br>and an actuator” .....                                                                               | 15          |
| 2. Elements 40[c]/55[c]: “the attachment comprising a first<br>protrusion configured to engage with the first slot and a<br>second protrusion to engage with the second slot” .....                                  | 16          |
| 3. Elements 40[d]/55[d]: “wherein the actuator interacts with<br>only one of the first and second protrusions and” .....                                                                                             | 16          |
| 4. Claims 41-49, 51, and 54 .....                                                                                                                                                                                    | 17          |

|                                                                 |                                                                                                                                                                                                                       |    |
|-----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| 5.                                                              | Element 55[f]: “further comprising a user operated button which engages with the actuator.” .....                                                                                                                     | 17 |
| 6.                                                              | Claim 56 .....                                                                                                                                                                                                        | 18 |
| B.                                                              | New Grounds 8 and 9: Hoblingre/Maclaine in View of Marsh/Marsh+Brook Renders Obvious Contingent Claims 40-54 and Hoblingre/Maclaine/Jeanet in View of Marsh/Marsh+Brook Renders Obvious Contingent Claims 40-56 ..... | 18 |
| C.                                                              | New Ground 10: Mouhot in view of Marsh/Marsh+Brook Renders Obvious Contingent Claims 40-49, 51, 54-56 .....                                                                                                           | 19 |
| 1.                                                              | Elements 40[b]/55[b]: “the body comprising an attachment mechanism having a first slot, a second slot, and an actuator” .....                                                                                         | 22 |
| 2.                                                              | Elements 40[c]/55[c]: “the attachment comprising a first protrusion configured to engage with the first slot and a second protrusion to engage with the second slot” .....                                            | 22 |
| 3.                                                              | Elements 40[d]/55[d]: “wherein the actuator interacts with only one of the first and second protrusions and” .....                                                                                                    | 22 |
| 4.                                                              | Claims 41-49, 51, and 54 .....                                                                                                                                                                                        | 23 |
| 5.                                                              | Element 55[f]: “further comprising a user operated button which engages with the actuator.” .....                                                                                                                     | 23 |
| 6.                                                              | Claim 56 .....                                                                                                                                                                                                        | 24 |
| D.                                                              | New Grounds 11 and 12: Mouhot/Maclaine in View of Marsh/Marsh+Brook Renders Obvious Contingent Claims 40-54 and Mouhot/Maclaine/Jeanet in View of Marsh/Marsh+Brook Renders Obvious Contingent Claims 40-56.....      | 24 |
| VI.                                                             | CONCLUSION.....                                                                                                                                                                                                       | 25 |
| APPENDIX: CHALLENGED CLAIM LISTING WITH NEW ELEMENTS UNDERLINED |                                                                                                                                                                                                                       |    |

**EXHIBIT LIST**

| <b>Exhibit No.</b> | <b>Description</b>                                                            |
|--------------------|-------------------------------------------------------------------------------|
| 1001               | U.S. Patent No. 11,589,660                                                    |
| 1002               | File History for U.S. Patent No. 11,589,660                                   |
| 1003               | Declaration of Dr. Daniel M. Nosenchuck                                       |
| 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”)                                         |
| 1009               | U.S. Patent No. 5,715,847 (“Rolf”)                                            |
| 1010               | U.S. Patent No. 7,876,373 (“Ochi”)                                            |
| 1011               | Redline of Proposed Corrections to Petition                                   |
| 1012               | October 3, 2024 Deposition Transcript of Mr. Joel Delman                      |
| 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”)                               |

**TABLE OF ABBREVIATIONS AND CONVENTIONS**

| <b>Abbreviation</b> | <b>Meaning</b>                                                                                      |
|---------------------|-----------------------------------------------------------------------------------------------------|
| CMTA                | Patent Owner's Contingent Motion to Amend                                                           |
| '660 patent         | U.S. Patent No. 11,589,660                                                                          |
| Challenged Claims   | Claims 1-9, 15, 18, 24, and 30-34 of U.S. Patent No. 11,589,660                                     |
| IPR                 | <i>inter partes</i> review                                                                          |
| Board               | Patent Trial and Appeal Board                                                                       |
| Ex.                 | Exhibit                                                                                             |
| Fig.                | Figure                                                                                              |
| Patent Owner        | Dyson Technology Limited                                                                            |
| Petitioners         | SharkNinja, Inc., SharkNinja Operating LLC, SharkNinja Management LLC, and SharkNinja Sales Company |
| POSITA              | Person[s] of ordinary skill in the art                                                              |

## TABLE OF AUTHORITIES

### CASES

|                                                                                                            |         |
|------------------------------------------------------------------------------------------------------------|---------|
| <i>Ariad Pharm., Inc. v. Eli Lilly &amp; Co.</i> , 598 F.3d 1336 (Fed. Cir. 2010).....                     | 3, 7, 8 |
| <i>Danxiao Info. Tech. Ltd. v. Shenzhen Svakom Tech. Co.</i> , PGR2022-00050 (PTAB<br>Jan. 19, 2024).....  | 8       |
| <i>Hockerson-Halberstadt, Inc. v. Avia Group Int'l</i> , 222 F.3d 951 (Fed. Cir. 2000)....                 | 8       |
| <i>Novartis Pharm. Corp. v. Accord Healthcare, Inc.</i> , 38 F.4th 1013 (Fed. Cir. 2022)                   | 4       |
| <i>Nystrom v. Trex Co.</i> , 424 F.3d 1136 (Fed. Cir. 2005) .....                                          | 8       |
| <i>Regents of the Univ. of California v. Eli Lilly &amp; Co.</i> , 119 F.3d 1559 (Fed. Cir. 1997)<br>..... | 7       |
| <i>Seabed Geosolutions (US) Inc. v. Magseis FF LLC</i> , 8 F.4th 1285 (Fed. Cir. 2021).                    | 4       |
| <i>Verify Smart Corp. v. Askeladden, L.L.C.</i> , 824 F. App'x 1015 (Fed. Cir. 2020) .....                 | 3       |

### STATUTES AND REGULATIONS

|                             |   |
|-----------------------------|---|
| 35 U.S.C. § 112 .....       | 9 |
| 35 U.S.C. § 316(d)(3).....  | 3 |
| 37 C.F.R. § 42.121(b) ..... | 4 |

### OTHER AUTHORITIES

|                         |   |
|-------------------------|---|
| MPEP § 2173.05(i) ..... | 4 |
|-------------------------|---|

## **I. INTRODUCTION**

Patent Owner's contingent motion to substitute new claims 40-56 ("the Contingent Claims") for Challenged Claims 1-9, 15, 18, 24, and 30-34 should be denied because those new claims introduce new matter, lack written description support, are indefinite, and are invalid based on the prior art.

The Challenged Claims of the '660 patent are directed to an appliance (such as a hairdryer) with a body and an attachment. The body extends longitudinally and has an attachment mechanism with a first slot that extends both radially around and axially along the body and an actuator, and the attachment has a first protrusion configured to engage with the first slot. The actuator is slidably moved from a first position toward a second position in a longitudinal direction of the body as the first protrusion engages with the first slot.

As the Petition demonstrates, this configuration was well-known in the prior art, including in Hoblingre, Mouhot, and combinations of Hoblingre or Mouhot with Maclaine and Jeannet (Grounds 1-6). Recognizing that, Patent Owner's Contingent Motion proposes adding features to the Contingent Claims requiring that the body's attachment mechanism include a second slot and the attachment include a second protrusion to engage with the second slot and that the actuator "interacts with only one of the first and second protrusions." But there is no explicit textual support for the negative limitation that "the actuator interacts with **only one** of the first and

second protrusions”: Patent Owner cannot identify any explicit disclosure in the written description and Patent Owner resorts to extrapolating based on the differences between sets of figures. Instead, the original disclosure is silent about this negative limitation, and Patent Owner cannot establish that its proposed amendments satisfy the written description requirement. The proposed amendments also render the claims indefinite because there is no clear guidance on what it means for the actuator to interact with only one of the protrusions.

Further, the substitute claims, with the newly added limitations, are rendered obvious over Hoblingre in view of Marsh alone or with Brook (indicated herein as “Marsh/Marsh+Brook”) (New Ground 7), Mouhot in view of Marsh/Marsh+Brook (New Ground 10), Hoblingre/Maclaine in view of Marsh/Marsh+Brook (New Ground 8), Mouhot/Maclaine in view of Marsh/Marsh+Brook (New Ground 11), Hoblingre/Maclaine/Jeanet in view of Marsh/Marsh+Brook (New Ground 9), and Mouhot/Maclaine/Jeanet in view of Marsh/Marsh+Brook (New Ground 12). The concept of having an actuator that interacts with one of two protrusions is not new.

For these and the other reasons explained below, Patent Owner’s Motion to Amend should be denied.

## **II. SUMMARY OF THE PROPOSED AMENDMENTS**

As summarized by the Patent Owner, the proposed substitute claims add three new limitations to the original claims 1-9, 15, 18, 24, and 30-34: (1) “a second slot,”

(2) “second protrusion to engage with the second slot,” and (3) “wherein the actuator interacts with only one of the first and second protrusions.” CMTA, 4. Thus, the substitute claims attempt to “further restrict[]” the actuator to “an actuator that ‘interacts with only one of the first and second protrusions.’” CMTA, 4.

### **III. THE PROPOSED AMENDMENTS LACK WRITTEN DESCRIPTION SUPPORT AND THUS INTRODUCE NEW MATTER**

There is no written description in the specification of the '660 patent to support the new limitations. Ex1013, ¶¶14-22. Amendments “may not enlarge the scope of the claims of the patent or introduce new matter.” 35 U.S.C. § 316(d)(3). To satisfy this requirement, every proposed claim limitation must have written description support in the original specification. *See Verify Smart Corp. v. Askeladden, L.L.C.*, 824 F. App'x 1015, 1023 (Fed. Cir. 2020) (affirming denial of motion to amend because proposed amendments lacked written description support). The written description requirement under 35 U.S.C. § 112 requires that the patent specification “contain a written description of the invention...in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains...to make and use the same” to ensure “that the inventor actually invented the invention claimed.” *Ariad Pharm., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010).

In its Motion, Patent Owner identifies several excerpts from the '660 patent as allegedly providing support for the amendments. *See* CMTA at 4-11. But none

of these excerpts—nor anything else in the specification or figures of the '660 patent—provides written description support for the proposed amendments and thus the Contingent Claims violate the rule against new matter. 37 C.F.R. § 42.121(b).

**A. There is no written description support in the '660 patent for the “actuator interacts with only one of the first and second protrusions” element**

The '660 patent is completely silent with respect to whether it contemplates an actuator that “interacts with only one of the first and second protrusions.” The Federal Circuit has held that “[s]ilence is generally not disclosure,” because if it were, “every later-added negative limitation would be supported so long as the patent makes no mention of it.” *Novartis Pharm. Corp. v. Accord Healthcare, Inc.*, 38 F.4th 1013, 1017 (Fed. Cir. 2022) (citing *Seabed Geosolutions (US) Inc. v. Magseis FF LLC*, 8 F.4th 1285, 1288 (Fed. Cir. 2021); MPEP § 2173.05(i)). Thus, for negative claim limitations, there is “adequate written description when...the specification describes a reason to exclude the relevant element.” *Id.* at 1016–17 (cleaned up). At a minimum, there “must be something in the specification that conveys to a skilled artisan that the inventor intended the exclusion, such as a discussion of disadvantages or alternatives.” *Id.* There is no such indication here.

Patent Owner cites only to paragraphs 66 and 67 of the application from which the '660 patent issued in support of its amendment requiring the “actuator interacts

with only one of the first and second protrusions,” asking the reader to “compar[e] the description of slots 232 with slot 232a.” CMTA, 6 (citing Ex1002, 335). But those paragraphs simply discuss “slots 232” and “a slot 232a.” Ex1002, 335. The paragraphs do not discuss an actuator that “interacts with only one of the first and second protrusions,” or even an “interaction” with a protrusion. This citation makes no mention of what the slots 232 and the slots 232a are relative to each other, whether the slots 232 and the slots 232a are found together or are mutually exclusive in any given embodiment, whether a slot 232 does not or cannot include an actuator, how the different descriptions of the slots 232 and the slots 232a relate to whether an actuator interacts with only one of a first and a second protrusion, or any details that may indicate to a POSITA that the inventor contemplated an actuator that “interacts with only one of the first and second protrusions.” Ex1013, ¶¶15-21. To the contrary, the specification states that “[t]he protrusions 30, once *they* are pushed passed the third region 154 of the first part 52 of the actuator 50 are automatically pushed towards the recess 240.” Ex1001, 8:3–7.

**B. The figures do not provide written description support even if the figures coincidentally disclose one embodiment where the actuator “interacts with only one of the first and second protrusions”**

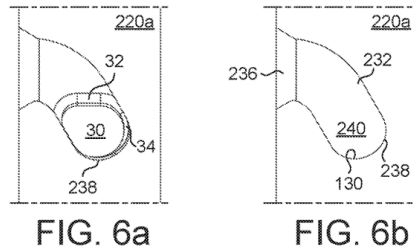
Because the specification does not corroborate its position on the issue of whether the actuator “interacts with only one of the first and second protrusions,”

Patent Owner relies on inference from the cited figures for support. Patent Owner identifies “Figs. 1a-1b” and “Figs. 5-6b,” with the caption

(Fig. 5 disclosing one slot and protrusion at the top interacting with an actuator while the slot in the center of Fig. 5 that is enlarged in Figs. 6a and 6b does not interact with an actuator and failing to disclose an aperture for the actuator to slide into slot 232, as opposed to Figs. 1a and 1b that include an aperture for the actuator to slide into slot 232a)

CMTA, 10. But none of that appears in the specification or the figures themselves. Ex1013, ¶¶20-22. The entirety of Patent Owner’s alleged support is attorney argument based on an inference it asks the Board to make on its behalf. Indeed, the specification contradicts the figures and Patent Owner’s contentions, stating that “[t]he protrusions 30, once they are pushed passed the third region 154 of the first part 52 of the actuator 50 are automatically pushed towards the recess 240.” Ex1001, 8:3–7. This recess 240 is consistently and only described as being “defined by a wall 130 of the slot 232a.” *Id.*, 6:61-67, 7:9-12, 7:25-33, 7:42-50, 8:3-7. But recess 240 is plainly depicted in Figs. 6a and 6b, which Patent Owner asserts depicts slot 232 and “fail[s] to disclose an aperture for the actuator to slide into.” CMTA, 6. In fact, Figs. 6a and 6b, together with the specification’s statement that “[t]he protrusions 30, once they are pushed passed the third region 154 of the first part 52 of the actuator 50 are automatically pushed towards the recess 240,” suggest not only that the actuator 50 interacts with each of the protrusions 30 but also that the

distinction Patent Owner is trying to draw between slots 232 and slots 232 a is one not contemplated by the inventor. Ex1013, ¶¶20-22.



Ex1001, Figs. 6a-6b.

Furthermore, a mere inference does not constitute written description support. The Federal Circuit has emphasized that “[a] description that merely renders the invention obvious does not satisfy the [written description] requirement.” *Ariad Pharm.*, 598 F.3d at 1352. Further, “a sufficient description of a genus . . . requires the disclosure of either a representative number of species falling within the scope of the genus or structural features common to the members of the genus so that one of skill in the art can ‘visualize or recognize’ the members of the genus.” *Id.* at 1350 (quoting *Regents of the Univ. of California v. Eli Lilly & Co.*, 119 F.3d 1559, 1568-69 (Fed. Cir. 1997)). But even if the figures cited by Patent Owner coincidentally show an embodiment in Fig. 5 where “one slot and protrusion at the top interact[s] with an actuator while the slot in the center of Fig. 5 . . . does not interact with an actuator,” as it contends, the figures are insufficient written support. *CMTA*, 10 (citing Figs. 5-6b). The Board has consistently considered a singular, coincidental embodiment to be insufficient written support. *See Danxiao Info. Tech. Ltd. v.*

*Shenzhen Svakom Tech. Co.*, PGR2022-00050, Paper 36 at 27 (PTAB Jan. 19, 2024) (accidental disclosure that happens to be “consistent” with the claim limitation “is insufficient to demonstrate possession.”).

The specification does not disclose “a representative number of species falling within the scope” nor does it teach “structural features common to the members of the genus” so that a POSITA can “visualize or recognize” the embodiments with one protrusion that interacts with an actuator while another protrusion does not interact with the actuator. *Ariad Pharm.*, 598 F.3d at 1351. And in any case, the cited figures show different cross sections, angles, and views of embodiments of the attachment mechanism. Ex1001, 3:46–4:2. Furthermore, figures should not be solely relied upon for precise details unless corroborated by the specification and claim language. *Hockerson-Halberstadt, Inc. v. Avia Group Int'l*, 222 F.3d 951, 956 (Fed. Cir. 2000); *Nystrom v. Trex Co.*, 424 F.3d 1136, 1149 (Fed. Cir. 2005).

The '660 patent thus lacks written description for the proposed substitute claims' additional limitations.

#### **IV. THE PROPOSED SUBSTITUTE CLAIMS ARE INDEFINITE**

The Contingent Claims are also indefinite under 35 U.S.C. § 112 due to the use of the phrase “actuator interacts with only one of the first and second protrusions”—a phrase that is not used in the '660 patent as discussed above. First, the use of the phrase “interacts with” is unclear in this context and the specification

provides no help to understand it. While the term “interacts” is used a few times in the '660 patent specification, no definition is given and no clear boundaries are set for that term. Ex1001, Abstract (“the actuator includes a surface which may interact with the protrusion”), 1:48-50 (“the actuator comprises a surface which may interact with the protrusion”), 5:4-6 (“the actuator 50 has . . . a second part 54 which a user interacts with”); Ex1013, ¶¶23-25. For example, does “interact with” require physical contact or is it sufficient for the actuator to cause the protrusion to be released such that to meet the proposed language, the actuator would release only one of two protrusions?

It is also unclear what the term “only one of” means in this proposed additional language. *Id.*, ¶26. The claim requires only two protrusions, but an accused product may have more than two (with only two being identified components of the claim). In that situation, it is not clear what the actuator can interact with. For example, does that mean that the actuator interacts with one and only one protrusion or does it mean that it interacts with only one of the two protrusions identified? For example, if the attachment had three protrusions, would the claim cover a system in which the actuator interacts with only one of the three? Would the claim cover a system in which the actuator interacts with the first and third protrusions but not the second (or the second and third protrusions but not the first)? It is not clear and there again

is no guidance from the specification to answer any of these questions, or at least, not that the Patent Owner has identified.

Therefore, the lack of clarifying disclosure from the specification renders the proposed substitute claims indefinite. *Id.*, ¶¶23-27.

## **V. THE PROPOSED SUBSTITUTE CLAIMS ARE INVALID OVER PRIOR ART**

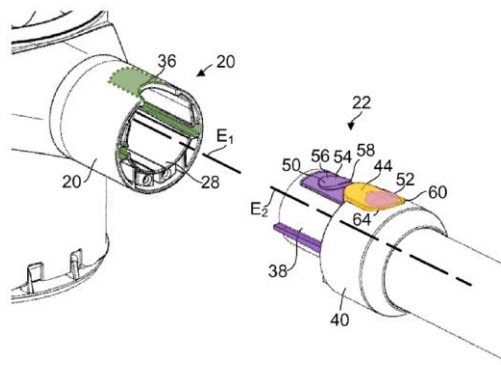
Patent Owner's amendments in the Contingent Claims do not introduce any inventive concepts. The amendments are directed to the concept of an actuator that is limited to interacting with one of many points of contact. This was not new as the term "interacting" is best understood. Ex1013, ¶¶28-29.

For example, U.S. Pat. App. Pub. No. 2015/0297045 ("Marsh") (Ex1014)<sup>1</sup> discloses a handheld appliance (such as a vacuum cleaner) with a body (handheld vacuum cleaner 4) and an attachment (cleaning implement 6, including wand 8 and cleaner head 10). Ex1013, ¶30. Marsh further has a "connector for connecting [a] cleaning implement to a vacuum cleaner." Ex1014, Abstract, [0022] ("vacuum cleaning apparatus 2 comprising a handheld vacuum cleaner 4 and a cleaning implement 6 comprising a tubular wand 8 and a cleaner head 10"). *Id.*, Fig. 1.

---

<sup>1</sup> Marsh claims priority from a U.S. Application filed April 15, 2015 (U.S. Pat. App. No. 14/687,533) and from a GB Application filed April 16, 2014 (GB 1406874.6), and was published on October 22, 2015. Marsh therefore is prior art at least under § 102 (a)(1) and (a)(2).

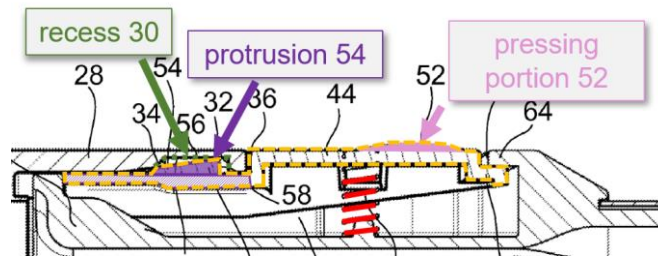
As illustrated below, Marsh's attachment mechanism for connecting the cleaning tool to the vacuum cleaner body includes an actuator (catch 44, annotated in orange), three slots (recess 30 and two keyways, annotated in green), and three protrusions (latching portion 50 having a protrusion 54 and two ribs, annotated in purple) that engage with the three slots. Ex1013, ¶¶30-37. Marsh's actuator (catch 44, annotated in yellow) includes a user-operable button (pressing portion 52, annotated in pink) that interacts with one of the three protrusions (latching mechanism 50 having a protrusion 54). *Id.*



Ex1014, Fig. 5 (annotated). Marsh's connector 20 includes two keyways (annotated in green) that receive two ribs (annotated in purple) on connector 22. Ex1013, ¶¶30-37.

Although Marsh does not label its keyways and ribs with reference numbers, a POSITA reviewing the figures would have recognized the ribs and the keyways as explicitly disclosed components that engage with each other to ensure that the wand aligns with the vacuum cleaner correctly and securely. Ex1013, ¶¶31-37 (citing

Ex1015, 7:30-8:2). That is particularly true in light of U.K. Pat. App. No. GB2513561 (“Brook”) (Ex1015), which is prior art, lists a common inventor, shares a common assignee and shares figures that are very similar and plainly describes the structures shown in Marsh to be ribs and keyways and explains why they are used to provide stability to the attachment when inserted into the tool. *Id.* Marsh’s connection mechanism also includes a recess 30 (annotated in green dashed lines) that receives protrusion 54 of latching element 50 (annotated in purple). Ex1014, [0027], [0033]; Ex1013, ¶35.



Ex1014, Fig. 2 (excerpted, annotated).

Catch 44 (annotated in yellow dashed lines) is biased by a spring 66 (annotated in red) that holds catch 44 in a first position “in which the latching element 50 is locat[ed] in the recess 30.” Ex1014, [0035]; Ex1013, ¶36. This arrangement allows latch element 50 to be “held in engagement with the recess 30 securely, while being relatively easy to release.” Ex1014, [0038]. A user can then press on pressing portion 52 to push catch 44 against spring 66 “into a second configuration” in which latching portion 50 is disengaged from recess 30 and the user can “disconnect the wand 8 from the vacuum cleaner 4.” *Id.*, [0037]. Catch 44

does not interact in any way with the ribs. Marsh describes this configuration—three slots, three protrusions, and an actuator that interacts with only one of the three protrusions—as “greatly enhanc[ing] the useability of vacuum cleaner 4 because cleaning implements can be removed and replaced quickly and easily.” *Id.*

The following analysis, which is supported by the expert testimony of Dr. Nosenchuck, demonstrates that the proposed substitute claims would be invalid based on at least new Grounds 7-12. Ex1013, ¶¶1-71.

**A. New Ground 7: Hoblingre in View of Marsh/Marsh+Brook Renders Obvious Contingent Claims 40-49, 51, 54-56**

Hoblingre anticipates claims 1-9, 15, 23-24, and 32. *See* Pet. Sections II.B, IV.A; Ex1003, ¶¶44-56, 59-122; Ex1013, ¶39. Patent Owner’s proposed substitute independent claims 40 and 55 introduce amendments in elements 40[b], 40[c], 55[b], and 55[c] compared to the original claim 1’s elements 1[b] and 1[c] and original claim 33’s elements 33[b] and 33[c] and introduces an entirely new limitation in elements 40[c] and 55[d].

Because Hoblingre anticipates claim 1, Hoblingre discloses all elements of claim 40 from claim 1. That leaves only the newly added language in elements 40[b], 40[c], and 40[d]. Patent Owner concedes that Hoblingre discloses a “second slot” and “a second protrusion to engage with the second slot” as recited in elements 40[b] and 40[d], and that the only limitation that Hoblingre allegedly does not disclose is element 40[c]: “wherein the actuator interacts with only one of the first

and second protrusions.” CMTA, 12-14. But this limitation was not new and is disclosed by Hoblingre in view of Marsh/Marsh+Brook. Ex1013, ¶¶39-52.

A POSITA would have been motivated to combine Hoblingre and Marsh/Marsh+Brook to achieve claim 40. *Id.*, ¶¶41-44. Specifically, a POSITA would have found it obvious to modify Hoblingre’s fastener to include an actuator that interacts with only one of two protrusions according to Marsh/Marsh+Brook’s teachings. *Id.*

Marsh explains that its connector provides a secure connection that is “relatively easy to release” with one hand, “greatly enhanc[ing] the usability of the” appliance of which the connector is a part. Ex1014, [0037]. A person of ordinary skill would have been motivated to modify Hoblingre’s fastener by the structural and functional similarities—the slot and protrusion engagement and the spring-loaded actuator—between the Hoblingre fastener and the connector disclosed in Marsh. As explained by Dr. Nosenchuck, a release actuator that interacts with only one of two protrusions rather than both protrusions is a simpler mechanism that is easier to manufacture. Ex1013, ¶¶41-44. This simplification is a common technique used with connectors, particularly where other protrusion/slot pairs can be engaged to ensure alignment of the connection and provide additional security without interaction with the actuator. A POSITA would have been motivated to modify Hoblingre to implement an actuator that interacts with only one of two protrusions

such as by using an arrangement of protrusions and keyways that engage with each other and a latching element that engages/disengages with a specific slot and interacts with an actuator attached to a user-operable button as taught by Marsh/Marsh+Brook or by simply modifying Hoblingre's actuator to interact with only one of its two protrusions based on Marsh/Marsh+Brook's teachings. *Id.*

Moreover, a POSITA would have had a reasonable expectation of success in modifying Hoblingre's appliance as proposed. As explained by Dr. Nosenchuck, given the functional and structural similarities between Hoblingre's and Marsh/Marsh+Brook's connection mechanisms, a POSITA would only need to modify Hoblingre's actuator to achieve the simpler device desired, and it would not implicate any other structures or functions. *Id.* Therefore, a POSITA would have been motivated to modify Hoblingre's appliance to implement an actuator that only interacts with one of two protrusions as taught by Marsh/Marsh+Brook.

**1. Elements 40[b]/55[b]: “the body comprising an attachment mechanism having a first slot, a second slot, and an actuator”**

Hoblingre discloses a first slot, a second slot, and an actuator. Pet. 17-19; Ex1003, ¶¶44-56, 59-122. Patent Owner does not dispute this. CMTA, 12-14. Marsh/Marsh+Brook also discloses a first slot (recess 30), a second slot (one of the keyways), and an actuator (catch 44 and spring 66). Ex1013, ¶45; Ex1014, [0027], [0033]-[0038], Fig. 2; Ex1015, [0030], Fig. 4a; see Section V.

**2. Elements 40[c]/55[c]: “the attachment comprising a first protrusion configured to engage with the first slot and a second protrusion to engage with the second slot”**

Hoblingre discloses the attachment comprising a first protrusion configured to engage with the first slot and a second protrusion to engage with the second slot. Pet. 19-21; Ex1003, ¶¶44-56, 59-122. Patent Owner does not dispute this. CMTA, 12-14. Marsh/Marsh+Brook also discloses a first protrusion (protrusion 54 of latching portion 52) configured to engage with the first slot (recess 30) and a second protrusion (one of the ribs) to engage with the second slot (one of the keyways). Ex1013, ¶46; Ex1014, [0027], [0033]-[0038], Figs. 2, 5; Ex1015, [0030], Fig. 4a; see Section V.

**3. Elements 40[d]/55[d]: “wherein the actuator interacts with only one of the first and second protrusions and”**

Marsh's catch 44 (together with spring 66, the actuator) comprises latching element 50 having protrusion 54 (the first protrusion). Ex1014, [0032], [0033]-[0035]. When a user “press[es] down on the pressing portion 52” of catch 44, catch 44 pushes against spring 66 into a channel and “disengages latching element 50 from the recess 30.” *Id.*, [0037]. Catch 44 and spring 66 do not interact with either of the ribs. Marsh alone or in view of Brook therefore teaches, to a POSITA, an actuator that interacts with only one of the first and second protrusions, at least to the same extent as the '660 patent. And as discussed above, it would have been obvious to modify Hoblingre's actuator to include an actuator that interacts with only one of

the first and second protrusions based on Marsh's (and Brook's) teachings of latching portion 52 and recess 30. Ex1013, ¶47; see Section V. Thus, Hoblingre/Marsh or Hoblingre/Marsh/Brook renders obvious contingent claim 40.

**4. Claims 41-49, 51, and 54**

Contingent claims 41-49, 51, and 54 (dependent from claim 40) correspond to original claims 2-9, 15, 24, and 32. Hoblingre in view of Marsh/Marsh+Brook discloses the elements recited in contingent claims 41-49, 51, and 54 because Hoblingre discloses those elements from corresponding claims 2-9, 15, 24 and 32. See Pet., Sections II, IV.A; Ex1003, ¶¶44-56, 59-122; Ex1013, ¶48.

**5. Element 55[f]: “further comprising a user operated button which engages with the actuator.”**

Element 55[f] corresponds to element 33[e], which is the only difference claim 33 adds to claim 1. Because Hoblingre anticipates claim 1, Hoblingre discloses all elements of claim 33, except for element 33[e]. See Pet. Sections II.B, IV.A; Ex1003, ¶¶44-56, 59-122. The Hoblingre/Marsh/Marsh+Brook combination renders this additional element from element 55[f], obvious. Ex1013, ¶49. A user can interact with pressing portion 52 to push catch 44 against spring 66 “into a second configuration” to disengage latching portion 50 from the recess 30. Ex1014, [0037], Fig. 5. It would have been obvious to modify Hoblingre's actuator to include a button based on Marsh's teachings of pressing portion 52 of catch 44. See Section

V. Thus, the Hoblingre/Marsh/Marsh+Brook combination renders claim 55 obvious. Ex1013, ¶¶49-51.

**6. Claim 56**

Actuation of Marsh's button (pressing portion 54 of latching portion 50) moves catch 44 from a first position in which latching element 50 is "held in engagement" with recess 30 to a second position in which latching element 50 is disengaged from recess 30 and an attachment can be disconnected from the appliance. A POSITA would have understood that a button that engages with the actuator, as taught by Marsh, would similarly move Hoblingre's actuator from a first position (with the pins 6 trapped between the edges of the slots 12 and 28) to a second position (with coil spring 24 compressed, allowing pins 6 to be removed from between the slots 12 and 28) if the teachings of a button was combined with Hoblingre's fastener. For the reasons explained above, a POSITA would have been motivated to combine Hoblingre and Marsh and would have had a reasonable expectation of success in making the combination. Thus, the Hoblingre/Marsh/Marsh+Brook combination renders claim 56, corresponding to original claim 34, obvious. Ex1013, ¶52.

**B. New Grounds 8 and 9: Hoblingre/Maclaine in View of Marsh/Marsh+Brook Renders Obvious Contingent Claims 40-54 and Hoblingre/Maclaine/Jeannet in View of Marsh/Marsh+Brook Renders Obvious Contingent Claims 40-56**

The analysis of Ground 7 is incorporated here by reference in its entirety.

The combination of Hoblingre in view of Maclaine additionally renders obvious claims 1-9, 15, 18, 23-24, and 30-32. *See* Pet. Sections II.B, IV.B; Ex1003, ¶¶44-56, 123-138. Thus, the combination of Hoblingre in view of Maclaine and Marsh/Marsh+Brook renders obvious claims 40-54 because Marsh/Marsh+Brook teaches the additional elements added in the Contingent Claims when combined with Hoblingre and Maclaine. Ex1013, ¶¶53-54.

The combination of Hoblingre in view of Maclaine and Jeannet additionally renders obvious claims 33 and 34. *See* Pet. Sections II.B, IV.C; Ex1003, ¶¶44-56, 139-160. Thus, the combination of Hoblingre in view of Maclaine, Jeannet, and Marsh/Marsh+Brook renders obvious claims 40-56 because Marsh/Marsh+Brook teaches the additional elements added in the Contingent Claims when combined with Hoblingre, Maclaine and Jeannet. Ex1013, ¶¶53, 55.

**C. New Ground 10: Mouhot in view of Marsh/Marsh+Brook Renders Obvious Contingent Claims 40-49, 51, 54-56**

Mouhot anticipates claims 1-9, 15, 23-24, and 32. *See* Pet. Sections II.B, IV.D; ¶¶44-56, 161-219. Because Mouhot anticipates claim 1, Mouhot discloses all elements of claim 40 that are in common with claim 1. That leaves only the changes in elements 40[b], 40[c], and 40[d]. For those elements, Patent Owner concedes that Mouhot discloses a “second slot” and “a second protrusion to engage with the second slot” as recited in elements 40[b] and 40[d], and that the only limitation that Mouhot allegedly does not disclose is element 40[c]: “wherein the actuator interacts with

only one of the first and second protrusions.” CMTA, 16-19. But Mouhot discloses the concept of having one side of its structure different than the other side and thus, a POSITA would have understood that one side could have the actuator that interacts with the protrusion while the other side does not interact with the protrusion on that side. Ex1005, 2. Further, the concept of having an actuator on a body that interacts with only one protrusion from an attachment was not new. Ex1013, ¶56.

A POSITA would have been motivated to combine Mouhot and Marsh/Marsh+Brook to achieve claim 40. Specifically, a POSITA would have found it obvious to modify Mouhot’s fastener to include an actuator that interacts with only one of two protrusions according to Marsh/Marsh+Brook’s disclosure. *Id.*, ¶¶56-59.

Marsh explains that its connector provides a secure connection that is “relatively easy to release” with one hand, “greatly enhanc[ing] the usability of the” appliance of which the connector is a part. Ex1014, [0037]. A person of ordinary skill would have been motivated to modify Mouhot’s fastener by the structural and functional similarities—the slot and protrusion engagement and the spring-loaded actuator—between the Mouhot fastener and the connector disclosed in Marsh/Marsh+Brook. Ex1013, ¶¶56-59. As explained by Dr. Nosenchuck, a release actuator that interacts with only one of two protrusions rather than both protrusions is a simpler mechanism that is easier to manufacture. This simplification is a

common technique used with connectors, particularly where other protrusion/slot pairs can be engaged to ensure alignment of the connection and provide additional security without interaction with the actuator. *Id.* Indeed, Mouhot discloses an embodiment in which “at least one of the sides of the socket delimiting the slot comprises a stop means that delimit at least one locking position”: In other words, Mouhot explicitly contemplates an embodiment of its fastener in which only one side is used to implement the locking/retention of the two halves of the fastener. Ex1005, 2. A POSITA would therefore have been motivated to modify Mouhot to implement an actuator that interacts with only one of two protrusions such as by using an arrangement of protrusions and keyways that engage with each other and a latching element that engages/disengages with a specific slot and interacts with an actuator attached to a user-operable button as taught by Marsh/Marsh+Brook or by simply modifying Mouhot’s actuator to interact with only one of its two protrusions based on Marsh/Marsh+Brook’s teachings. *Id.*

Moreover, a POSITA would have had a reasonable expectation of success in modifying Mouhot’s appliance as proposed. As explained by Dr. Nosenchuck, given the functional and structural similarities between Mouhot’s and Marsh/Marsh+Brook’s connection mechanisms, a POSITA would only need to modify Mouhot’s actuator to achieve the simpler device desired, and it would not implicate any other structures or functions. *Id.* Therefore, a POSTIA would have

been motivated to modify Mouhot's appliance to implement an actuator that only interacts with one of two protrusions as taught by Marsh/Marsh+Brook.

**1. Elements 40[b]/55[b]: “the body comprising an attachment mechanism having a first slot, a second slot, and an actuator”**

Mouhot discloses a first slot, a second slot, and an actuator. Pet. 62-68.; Ex1003, ¶¶44-56, 161-219. Patent Owner does not dispute this. CMTA, 16-19. As discussed above, Marsh also discloses a first slot, a second slot, and an actuator. Ex1013, ¶60; Ex1014, [0027], [0033]-[0038], Fig. 2; Ex1015, [0030], Fig. 4a; *see* Section V.

**2. Elements 40[c]/55[c]: “the attachment comprising a first protrusion configured to engage with the first slot and a second protrusion to engage with the second slot”**

Mouhot discloses the attachment comprising a first protrusion configured to engage with the first slot and a second protrusion to engage with the second slot. Pet. 62-68; Ex1003, ¶¶44-56, 161-219. Patent Owner does not dispute this. CMTA, 16-19. Marsh/Marsh+Brook also discloses a first protrusion configured to engage with the first slot and a second protrusion to engage with the second slot (one of the keyways). Ex1013, ¶61; Ex1014, [0027], [0033]-[0038], Figs. 2, 5; *see* Section V.

**3. Elements 40[d]/55[d]: “wherein the actuator interacts with only one of the first and second protrusions and”**

Marsh/Marsh+Brook teaches, to a POSITA, an actuator interacts with only one of the first and second protrusions. *See* Section V.A. It would have been

obvious to modify Mouhot's actuator to include an actuator that interacts with only one of the first and second protrusions based on Marsh/Marsh+Brook's teachings of latching portion 52 and recess 30. See Section V.C. Thus, Mouhot/Marsh/Marsh+Brook renders obvious contingent claim 40. Ex1013, ¶62.

**4. Claims 41-49, 51, and 54**

Contingent claims 41-49, 51, and 54 (dependent on claim 40) correspond to original claims 2-9, 15, 24, and 32. Mouhot in view of Marsh/Marsh+Brook discloses the elements recited in contingent claims 41-49, 51, and 54 because Mouhot discloses those elements from corresponding claims 2-9, 15, 24 and 32. See Pet., Sections II, IV.D; Ex1003, ¶¶44-56, 161-219; Ex1013, ¶63.

**5. Element 55[f]: "further comprising a user operated button which engages with the actuator."**

Original claim 33 recited all of the elements of original claim 1 and one additional element 33[e]. Because Mouhot anticipates claim 1, Mouhot discloses all elements of claim 33, except for element 33[e]. See Pet. Sections II.B, IV.D; Ex1003, ¶¶44-56, 161-219. The Mouhot/Marsh/Marsh+Brook combination renders this additional element, corresponding to element 55[f], obvious.

As discussed above, a user can interact with pressing portion 52 (annotated in pink) to push catch 44 against spring 66 "into a second configuration" to disengage latching portion 50 from the recess 30. Ex1014 [0037], Fig. 5. And as discussed above, it would have been obvious to modify Mouhot's actuator to include a button

based on Marsh's teachings of pressing portion 52 of catch 44. See Section V.C. Thus, the Mouhot/Marsh/Marsh+Brook combination renders claim 55 (corresponding to original claim 33) obvious. Ex1013, ¶¶64-66.

**6. Claim 56**

Actuation of Marsh's button (pressing portion 54 of latching portion 50) moves catch 44 from a first position in which latching element 50 is "held in engagement" with recess 30 to a second position in which latching element 50 is disengaged from recess 30 and an attachment can be disconnected from the appliance. A POSITA would have understood that a button that engages with the actuator, as taught by Marsh, would similarly move Mouhot's actuator from a first position (with the pins 6 trapped between the edges of the slots 12 and 28) to a second position (with coil spring 24 compressed, allowing pins 6 to be removed from between the slots 12 and 28) if the teachings of a button was combined with Mouhot's fastener. Ex1013, ¶67. For the reasons explained above, a POSITA would have been motivated to combine Mouhot and Marsh and would have had a reasonable expectation of success in making the combination. Thus, the Mouhot/Marsh/Marsh+Brook combination renders claim 56, corresponding to original claim 34, obvious.

**D. New Grounds 11 and 12: Mouhot/Maclaine in View of Marsh/Marsh+Brook Renders Obvious Contingent Claims 40-54**

**and Mouhot/Maclaine/Jeanet in View of Marsh/Marsh+Brook  
Renders Obvious Contingent Claims 40-56**

The analysis of Ground 10 is incorporated here by reference in its entirety.

And, the combination of Mouhot in view of Maclaine additionally renders obvious claims 1-9, 15, 18, 23-24, and 30-32. *See* Pet. Sections II.B, IV.E; Ex1003, ¶¶44-56, 220-235. Thus, the combination of Mouhot in view of Maclaine and Marsh/Marsh+Brook renders obvious claims 40-54 because Marsh/Marsh+Brook teaches the additional elements added in the Contingent Claims when combined with Mouhot and Maclaine. Ex1013, ¶¶68-69.

The combination of Mouhot in view of Maclaine and Jeanet additionally renders obvious claims 33 and 34. *See* Pet. Sections II.B, IV.F; Ex1003, ¶¶44-56, 236-257. Thus, the combination of Mouhot in view of Maclaine, Jeanet, and Marsh renders obvious claims 40-56 because Marsh/Marsh+Brook teaches the additional elements added in the Contingent Claims when combined with Mouhot, Maclaine and Jeanet. Ex1013, ¶¶68, 70.

**VI. CONCLUSION**

The proposed amendments are impermissible because they are invalid on multiple bases. Petitioners therefore request that the Motion to Amend be denied. Ex1013, ¶¶1-71.

*Petitioners' Opposition to Patent Owner's  
Motion to Amend in IPR2024-00219*

DATED: November 21, 2024

Respectfully Submitted,

/Brian M. Buroker/

Brian M. Buroker (Reg. No. 39,125)  
GIBSON, DUNN & CRUTCHER LLP  
1700 M St NW  
Washington, D.C. 20036  
Phone: (202) 955-8500  
Fax: (202) 467-0539  
Email: bburoker@gibsondunn.com

*Attorney for Petitioners*

**CERTIFICATE OF SERVICE**

The undersigned certifies service pursuant to 37 C.F.R. § 42.120 of a copy of this Petitioners' Opposition to Patent Owner's Motion to Amend, and copies of Petitioners' Exhibits 1012-1015, by email on November 21, 2024, to the following email addresses of record:

[christopher.bruejjes@faegredrinker.com](mailto:christopher.bruejjes@faegredrinker.com)

[john.smith@faegredrinker.com](mailto:john.smith@faegredrinker.com)

[brianna.silverstein@faegredrinker.com](mailto:brianna.silverstein@faegredrinker.com)

DATED: November 21, 2024

By: /Brian M. Buroker/

Brian M. Buroker (Reg. No. 39,125)  
GIBSON, DUNN & CRUTCHER LLP  
1700 M St NW  
Washington, D.C. 20036  
Phone: (202) 955-8500  
Fax: (202) 467-0539  
Email: [bburoker@gibsondunn.com](mailto:bburoker@gibsondunn.com)

*Attorney for Petitioners*

**APPENDIX: CHALLENGED CLAIM LISTING  
WITH NEW ELEMENTS UNDERLINED**

| <b>No.</b> | <b>Limitation</b>                                                                                                                                                                                                              |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 40[pre]    | A handheld appliance                                                                                                                                                                                                           |
| 40[a]      | having a body and an attachment,                                                                                                                                                                                               |
| 40[b]      | the body comprising an attachment mechanism having a first slot, <u>a second slot</u> , and an actuator,                                                                                                                       |
| 40[c]      | the attachment comprising a first protrusion configured to engage with the first slot <u>and a second protrusion to engage with the second slot</u> ,                                                                          |
| 40[d]      | wherein the actuator <u>interacts with only one of the first and second protrusions and</u>                                                                                                                                    |
| 40[e]      | has a first position and a second position and the actuator is slidably moved from the first position towards the second position in a longitudinal direction of the body as the first protrusion engages with the first slot; |
| 40[f]      | wherein the body extends along a longitudinal axis and the first slot extends both radially around and axially along the body.                                                                                                 |
| 41         | The appliance of claim <u>40</u> [[1]], wherein in the first position, the actuator at least partially obscures the first slot.                                                                                                |
| 42         | The appliance of claim <u>40</u> [[1]], wherein the actuator comprises a surface which interacts with the first protrusion when the first protrusion engages with the first slot.                                              |
| 43         | The appliance of claim <u>42</u> [[3]], wherein the surface is configured to at least partially define the first slot at or near the second position.                                                                          |
| 44         | The appliance of claim <u>42</u> [[3]], wherein the first protrusion comprises a first face for engagement with the actuator.                                                                                                  |
| 45         | The appliance of claim <u>44</u> [[5]], wherein the first face engages with the surface of the actuator.                                                                                                                       |
| 46         | The appliance of claim <u>40</u> [[1]], wherein when the first protrusion is at a predetermined position within the first slot, the actuator returns towards the first position.                                               |

| No.     | Limitation                                                                                                                                                                       |
|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 47      | The appliance of claim <u>40</u> [[1]], wherein when the first protrusion is at a predetermined position within the first slot, the actuator returns towards the first position. |
| 48      | The appliance of claim <u>40</u> [[1]], wherein the actuator is biased into the first position.                                                                                  |
| 49      | The appliance of claim <u>40</u> [[1]], wherein the body has a first end and a second end and the attachment mechanism is adjacent the second end.                               |
| 50      | The appliance of claim <u>40</u> [[1]], wherein the attachment comprises a collar extending around the attachment and the first protrusion extends from the collar.              |
| 51      | The appliance of claim <u>40</u> [[23]], wherein the second protrusion and second slot are radially spaced from the first protrusion and the first slot.                         |
| 52      | The appliance of claim <u>40</u> [[1]], wherein the appliance is a hair care appliance.                                                                                          |
| 53      | The appliance of claim <u>52</u> [[30]], wherein the hair care appliance is a hot styling appliance.                                                                             |
| 54      | The appliance of claim <u>40</u> [[1]], wherein the first slot causes the attachment to pivot relative to the body as the first protrusion engages with the first slot.          |
| 55[pre] | A handheld appliance                                                                                                                                                             |
| 55[a]   | having a body and an attachment,                                                                                                                                                 |
| 55[b]   | the body comprising an attachment mechanism having a first slot, a <u>second slot</u> , and an actuator,                                                                         |
| 55[c]   | the attachment comprising a first protrusion configured to engage with the first slot <u>and a second protrusion to engage with the second slot</u> ,                            |
| 55[d]   | wherein the actuator <u>interacts with only one of the first and second protrusions and</u>                                                                                      |

| No.   | Limitation                                                                                                                                                                                                                     |
|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 55[e] | has a first position and a second position and the actuator is slidably moved from the first position towards the second position in a longitudinal direction of the body as the first protrusion engages with the first slot; |
| 55[f] | further comprising a user operated button which engages with the actuator.                                                                                                                                                     |
| 56    | The appliance of claim <u>55</u> [[33]], wherein actuation of the button moves the actuator from the first position to the second position to facilitate removal of an attachment from the body.                               |