

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

THERABODY, INC.,
Petitioner

v.

HYPERICE IP SUBCO, LLC,
Patent Owner

Case No. PGR2024-00053
Patent No. 11,857,482

**PETITIONER'S REPLY TO PATENT OWNER'S RESPONSE TO
PETITION FOR POST-GRANT REVIEW
OF U.S. PATENT NO. 11,857,482**

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LIST OF EXHIBITS¹

Ex. No.	Description
Ex-1001	U.S. Patent No. 11,857,482 (“the ’482 Patent”)
Ex-1002	Declaration of John D. Pratt, Ph.D., In Support of Petition for Post Grant Review of U.S. Patent No. 11,857,482
Ex-1003	Curriculum Vitae of Dr. John Pratt
Ex-1004	Prosecution History of the ’482 Patent (Application No. 17/681,367)
Ex-1005	U.S. Patent No. 4,513,737 (“Mabuchi”)
Ex-1006	U.S. Patent No. 6,432,072 (“Harris”)
Ex-1007	U.S. Patent No. 6,682,496 (“Pivaroff”)
Ex-1008	U.S. Publication No. 2003/0195443 (“Miller”)
Ex-1009	U.S. Publication No. 2007/0150004 (“Colloca”)
Ex-1010	Taiwanese Patent Number 9,720,7752U (“Wang”)
Ex-1011	Certified English Translation of Taiwanese Patent Number 9,720,7752U (“Wang”)
Ex-1012	U.S. Patent No. 2,550,775 (“Clark”)
Ex-1013	Appendix A1 – Claim Mapping Chart
Ex-1014	Appendix A2 – Claim Mapping Chart
Ex-1015	Declaration of Bradley M. Berg in Support of Petitioner’s Motion for Pro Hac Vice Admission Pursuant to 37 C.F.R. § 42.10(c)
Ex-1016	Declaration of Brett J. Williamson in Support of Petitioner’s Motion for Pro Hac Vice Admission Pursuant to 37 C.F.R. §

¹ Four-digit pin citations that begin with “0” are to the page stamps added by Petitioner in the bottom right corner of the exhibits. All other pin citations are to original page, column, paragraph, and/or line numbers.

Ex. No.	Description
	42.10(c)
Ex-1017	INTENTIONALLY LEFT BLANK
Ex-1018	INTENTIONALLY LEFT BLANK
Ex-1019	INTENTIONALLY LEFT BLANK
Ex-1020	INTENTIONALLY LEFT BLANK
Ex-1021	INTENTIONALLY LEFT BLANK
Ex-1022	Hyperice Press Release, “Hyperice Introduces Hypervolt, a State-of-the-Art Vibration, Massage Device for Muscle Relief” (Feb. 26, 2018)
Ex-1023	Hyperice, “About Hypervolt” (website)
Ex-1024	Transcript of Deposition of Nathan Morrill
Ex-1025	Hyperice’s Amended Responses to Therabody’s Interrogatories (Feb. 26, 2025), Case No. 8:24-cv-00390-JWH-DFMx
Ex-1026	Stedman’s Medical Dictionary (28th ed. 2006)
Ex-1027	Oxford Dictionary of English (Angus Stevenson ed., 3d ed. 2010)
Ex-1028	Mosby’s Medical Dictionary (8th ed. 2009)
Ex-1029	Hyperice’s Disclosure of Asserted Claims and Infringement Contentions (July 5, 2024), Case No. 8:24-cv-00390-JWH-DFMx
Ex-1030	INTENTIONALLY LEFT BLANK
Ex-1031	U.S. Patent No. 8,101,843
Ex-1032	Therabody Press Release, “Therabody Launches First-of-Its-Kind Theraface Pro, Creating New Facial Health Category and Redefining the Way People Care for Their Face”
Ex-1033	Declaration of John D. Pratt, Ph.D., in Support of Petitioner’s Reply
Ex-1034	Hyperice’s Opening Claim Construction Brief (Dkt. No. 53), Case

Ex. No.	Description
	No. 8:24-cv-00098-JWH-DFM

I. INTRODUCTION

The Patent Owner Response (“POR”) fails to distinguish the Challenged Claims from the prior art and does not show that the Challenged Claims are adequately described and definite. Accordingly, the Challenged Claims should be cancelled.

II. ’482 PROSECUTION HISTORY

Patent Owner’s (“PO”) assertion that Petitioner “recycles” prosecution art fails in light of the Board’s § 325(d) analysis and Petitioner’s new combinations addressing the quick release connector. DI 6–11.

III. LEVEL OF ORDINARY SKILL IN THE ART

PO offers an overbroad POSITA definition encompassing any “device[] for human use and interaction.” POR 16. Its expert confirmed the breadth, testifying it would cover a mechanical engineer who had designed brooms, forklifts, roller coasters, and basketballs, until eventually conceding that someone “strictly meeting the definition” would “probably need a little broader experience.” Ex-1024, 31:8–32:9, 34:5–35:1.

The Board should adopt Petitioner’s POSITA definition. Pet. 15. In any event, Dr. Pratt satisfies PO’s definition, as PO’s expert concedes. Ex-1024, 35:25-36:5; Ex-1033, ¶4.

IV. CLAIM CONSTRUCTION

A. Preamble is Not Limiting

PO now contends for the first time that the preamble (“a percussive massager”) limits the claims. POR 17. That contention should be viewed skeptically, particularly given PO’s failure to identify the preamble as limiting in the district court claim construction. Ex-1034, 3-4.

On the merits, the argument fails. Preambles generally are not limiting unless they recite essential structure/steps or are necessary to give life and meaning to the claim. *Catalina Mktg. Int’l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002). Use-oriented preambles do not limit apparatus claims because patentability turns on claimed structure, not purpose. *Id.*, 808.

Here, *Catalina*’s exacting standard—that intended-use preamble language limits “only if the applicant clearly and unmistakably relied on those uses or benefits to distinguish prior art”—is not met. 289 F.3d at 809. “A percussive massager” merely describes intended use. The challenged claims define a structurally complete device—“a housing ... a piston ... a motor ... a drive mechanism ... [and] a quick release connector”—that is not tethered to any particular use.

PO points to (i) prosecution amendments and (ii) use of “the percussive massager” in other claims. Both are misplaced.

First, the challenged claims—Claim 34 and its dependents—were not amended to add “percussive massager” and Applicant never relied on the preamble to distinguish prior art for these claims. POR 19. Instead, for a *different* set of claims not at issue here (original Claim 1), Applicant amended both the preamble and the body to recite “the percussive massager,” and then argued prior art failed to disclose the claimed quick-connect system *in the body* of the claim. Ex-1004, 2524–2536. Applicants’ argument was about this body limitation, not the preamble.

By contrast, Claim 34 (prosecution Claim 38) and its dependents were added as new claims. Although Claim 34’s preamble recites a “percussive massager,” the body of Claim 34 does not. Ex-1004, 2524–2531. Applicant’s arguments on Claim 34 never mentioned the preamble; they focused exclusively on the “quick release connector,” including its “substantially cylindrical pocket.” *Id.*, 2537–2538. The Examiner allowed the claims based on the quick release connector, not because the prior art failed to disclose a percussive massager. *Id.*, 2593–2594; 2563.

Second, PO’s reliance on other claims that use “the percussive massager” in the body (Claims 1, 13, 18, 46, 51) is backwards. *Catalina* addressed this precise scenario: where a phrase appears only in the preamble of one claim but in both the preamble and body of another, it limits the latter but not the former. 289 F.3d at 810–11. That is the posture here: Claim 1’s body uses “percussive massager”; Claim 34 does not. So Claim 34’s preamble is not limiting.

Third, PO’s antecedent-basis theory relying on Claims 46 and 51 also fails. PO’s lone case, *Pacing Techs., LLC v. Garmin Int’l, Inc.*, is inapposite. In *Pacing*, the Federal Circuit held the preamble limiting because the preamble terms supplied antecedent basis and were “necessary to understand positive limitations in the body of claims.” 778 F.3d 1021, 1024 (Fed. Cir. 2015). By contrast here, “percussive massager” is not recited in, or necessary to understand, any positive limitation in the body of the dependent claims. Claim 46 recites a positive limitation related to “a first selection of the one or more inputs” and Claim 51 recites a positive limitation related to “the first data.” Both use “percussive massager” in the body in a merely ancillary way to refer to the apparatus generally. Further, in *Pacing*, the specification repeatedly described a “repetitive motion pacing system” and tied the invention to a data storage for that system. Ex-1031, 4:53–5:13; 5:59–61; 6:45–56. Here, by contrast, the term “percussive massager” is not disclosed or described in the specification at all.

Finally, because the specification does not disclose “percussive massagers” at all, and there would be no written description or enablement support if the preamble was limiting.

B. Construction of “Percussive Massager”

1. PO’s construction rests on the wrong time period and lacks intrinsic support

Even if limiting, PO’s construction—“a device that provides a high-speed, long stroke action to massage deep muscle tissue”—should be rejected. *Phillips* requires that claim terms carry their ordinary meaning to a POSITA *at the time of the invention*, and the *specification* is the single best guide to determining that meaning. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313–14 (Fed. Cir. 2005). PO violates both principles.²

First, PO’s construction is derived from extrinsic sources that all post-date the ’482 Patent by nearly a decade. Ex-2018 (Feb. 2022); Ex-2019 (Oct. 2023); Ex-2020 (July 2021); Ex-2021 (Sept. 2024); Ex-2028 (post-2022). Neither PO nor its expert cites contemporaneous references from around 2013. Although Mr. Morrill acknowledged that the relevant lens is a POSITA “from that time,” Ex-1024, 42:21–23, and further conceded that dictionaries from 2013 “could help,” he “did not look at a dictionary at that time.” *Id.*, 45:11–24.

² PO’s “plain and ordinary meaning” label does not alter the analysis. *Trs. of Columbia Univ. v. Symantec Corp.*, 811 F.3d 1359, 1363 (Fed. Cir. 2016); *Netword, LLC v. Centraal Corp.*, 242 F.3d 1347, 1352 (Fed. Cir. 2001).

Second, the intrinsic record does not support the “high-speed, long stroke action,” or “deep tissue” limitations PO would put on “percussive massager.” Notably, the specification never uses “percussive” outside the claims, and those claim usages were added after 2023.

PO’s reliance on the ’482 Patent’s background’s statement of purpose—“a deep muscle-stimulating device used to increase muscle metabolism, increase the lactic acid cycle and relieve pain” (Ex-1001, 1:22–25)—says nothing about “high-speed, long stroke action.” The only other cited passage states *stroke length may be adjusted* for “larger or smaller muscle groups, or deeper or shallower points.” Ex-1001, 7:20–23. That language undercuts any rigid “long stroke” or “deep tissue” requirement. Even Mr. Morrill agreed that shorter strokes would fall within the claim if they “provide relief on the muscle,” deep or not. Ex-1024, 75:9–76:13.

PO’s expert identified no intrinsic support for “high-speed.” He testified the term came from his “review of the different documents,” but agreed that the cited passages do “not ... say[] anything about speed,” and the patent nowhere uses “high speed.” *Id.*, 48:3–7; 51:9–16. When asked for objective boundaries, he offered only that it could be determined through experimentation and whether a particular speed yielded the therapeutic benefit. *Id.*, 54:8–19, 54:25–56:19; 60:22–25.³

³ Even setting aside indefiniteness of “high speed,” tying “high speed” to

Similarly, with respect to “long stroke action,” Mr. Morrill could not identify any support in the specification for his understanding. *Id.*, 61:2–17, 62:23–63:5. Again, Mr. Morrill resorted to pointing to whether a particular stroke length gave the intended therapeutic benefits. *Id.*, 64:5–24, 71:20–73:15.

Claims should be construed to preserve validity. *Rhine v. Casio, Inc.*, 183 F.3d 1342, 1345 (Fed. Cir. 1999). Construing the preamble “percussive massager” (not in the specification) to impose therapeutic-outcome-based, requirements (also not in the specification) invites indefiniteness and written-description problems, particularly since there is no evidence of a settled meaning in 2013.

2. The ’482 Patent draws no clear dividing vibration/percussion line, and a POSITA in 2013 would not have relied on one

Trying to avoid prior art, PO argues there is a distinction between “percussive” and “vibration” massage. POR 2–3. But this distinction is not found anywhere in the ’482 specification. PO attempts to manufacture it from post-2013 materials. *Id.*; Ex-1033, ¶¶7–15. But PO’s own materials use the terms interchangeably years later. Ex-1022, 0001 (2018 press release describing PO’s Hypervolt as a “vibration device” that “helps relieve muscle pain” and facilitates

therapeutic outcomes is illogical since those outcomes depend on multiple variables, not speed alone. Ex-1024, 56:20–24.

“massage”); Ex-1023, 0005 (PO’s website: “Building on ... vibration technology ... introduced ... percussion massage”). And despite calling its Hypervolt a “vibration device,” PO also asserts that Hypervolt practices the ’482 Patent. Ex-1025, 38; Ex-1033, ¶16. PO cannot, on this record, rely on a vibration/percussion distinction that is absent from the intrinsic evidence and not shown to exist as of 2013.

3. If construed, “percussive massager” means a massage device whose piston and head reciprocate back and forth

“Percussive massager” requires no construction because the preamble is non-limiting. The specification contains no “percussive” terminology; “percussive massager” is merely a possible use of the claimed invention added long after the priority date, and PO identifies no contemporaneous extrinsic meaning. Ex-1033, ¶¶17-20.

Nevertheless, if the Board construes “percussive massager,” the construction should track the patent’s disclosure and 2013-era usage: “a massage device whose piston and massage head reciprocate back and forth.”

The patent describes massaging devices with a “drive mechanism for moving the piston and massage head,” converting rotary motor motion to linear motion, causing the piston and head to move “back and forth in a reciprocating motion.” Ex-1001, 1:34–45; 5:2. Stroke length is adjustable for different muscle groups and depths, and speeds can be preset, *id.*, 7:20–23; 7:45–8:3, and values are determined

as needed “for a particular massaging device,” *id.*, 3:27–29. Moreover, contemporaneous dictionaries likewise define “percussion” as repeated tapping or striking and “massage” as manipulation of soft tissue, with no rigid force, speed, or stroke thresholds. Ex-1026, 0004 ; Ex-1027, 0004; Ex-1028, 0003.

C. “Massaging Head” Requires No Construction and Should Be Given Its Plain and Ordinary Meaning

PO nominally endorses the plain meaning of “massaging head” but in substance seeks to reinsert “percussive massager” as a limitation. Ex-1033, ¶¶21-25. Its proposed construction—“the end piece of the percussive massager that contacts the user’s body to provide percussive massage” (POR 23)—merely repackages its improper percussive limitation. PO’s expert conceded that any “percussive” aspect derives from the preamble rather than the term “massaging head” itself. Ex-1024, 110:1–114:2. As explained in Section IV.A, the ’482 Patent does not disclose percussive massagers and importing an intended use into an apparatus claim is improper. PO again disregards the intrinsic evidence, and relies instead on post-2013 publications. Ex-2020 (2021); Ex-2022 (2022).

By PO’s own expert’s admission, the plain meaning of “massaging head” is broader and, if construed at all, should be “the part of the massager that makes contact with the body.” Ex-1024, 108:9–11; 110:1–114:2.

V. THE CHALLENGED CLAIMS LACK WRITTEN DESCRIPTION

A. Ground 1A

Claim 34 requires a “first massaging head” with a “pocket to receive the quick release connector.” The specification does not describe that configuration, instead disclosing only the inverse arrangement in which the *piston* has a hollow bore to receive the massage head. Pet. 18–20; Ex-1001, 6:57–59; Ex-1033, ¶¶26-28.

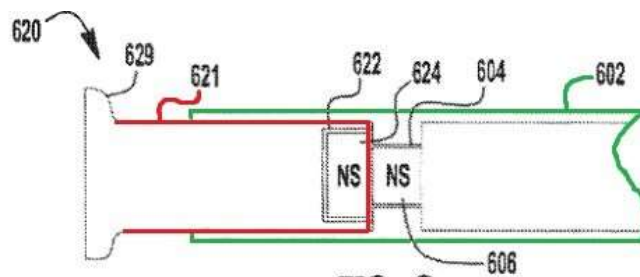


FIG. 6

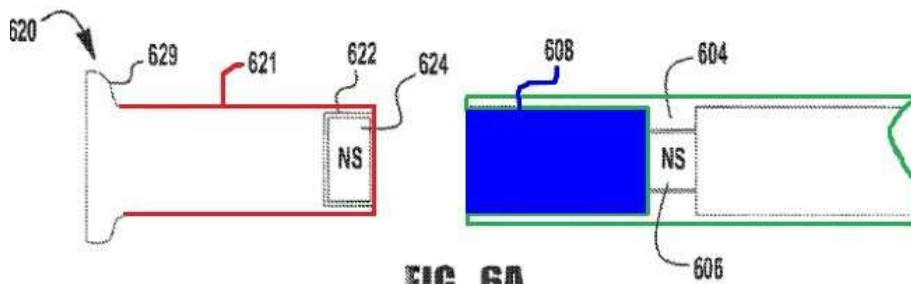


FIG. 6A

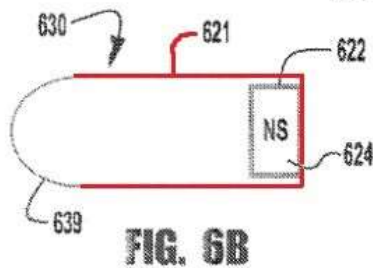


FIG. 6B

PO’s argument depends on recasting “the quick release connector” as *both* magnet 606 on the piston *and* magnet 624 on the attachment shaft, which allows PO to claim that cylindrical pocket 622 receives “the quick release connector.” POR 28.

That reading conflicts with the claim. Claim 34(e) requires the “quick release connector” to be “at the distal end of the piston.” The pocket in the massaging head must “receive *the* quick release connector.” The claim therefore recites a particular connector, located at the piston’s distal end, and does not allow the “receiving” to be fulfilled by some other component, even if that component is another potential quick release connector.

The Board reasoned that “receive” can encompass insertion of only part of the connector—*e.g.*, magnet 624—into the pocket 622. DI 20. But magnet 624 is not “at the distal end of the piston.” It is in the shaft of the *attachment* and thus not the claimed “quick release connector.”

Further, pocket 622 does not “receive” magnet 624 or any part of the quick release connector, as required by Claim 34. In the ’482 specification, “receive” denotes insertion of the head’s shaft into the piston’s bore, not a fixed component. *Id.*, 6:57–59; 7:1; 7:9–14 (using “slid”/“slip into” to describe the action of insertion). A POSITA would understand magnet 624 is permanently fixed in pocket 622, and magnet 606 is permanently retained in seat 604. Ex-1033, ¶¶29-34.

B. Ground 1B

Where precision is material, the specification must reflect it. *Capon v. Eshhar*, 418 F.3d 1349, 1358 (Fed. Cir. 2005). Applicant argued no careful alignment is needed to attach the connector to the piston, conceding the connection must remain

secure without alignment. That premise requires a pocket geometry precise enough to retain the magnet under misalignment and reciprocating loads; a mismatched pocket–magnet interface would not. Ex-1033, ¶¶35-36.

PO’s reliance on Dr. Pratt is misplaced. He did not testify that all cylindrical parts commonly allow shape variance. POR 32. Rather, he said only that there “may be” tolerances on cylindrical parts in developing fasteners. Ex-2033, 24:17–20. The existence of tolerances in some contexts does not show that variance is acceptable here, where any misfit risks detachment during piston reciprocation. Ex-1033, ¶37.

C. Ground 1C

Claim 34’s “quick release connector” lacks written description because the specification does not show possession of the full scope, including asserted “equivalents.” A patentee cannot disclose one embodiment yet claim a broader genus. *LizardTech v. Earth Resource Mapping, Inc.*, 424 F.3d 1336, 1346 (Fed. Cir. 2005). Written description for a genus requires a representative number of species or identifying characteristics. MPEP 2163 II.A.3.a.ii. Here, the specification discloses only one species—magnets. It provides no relevant identifying characteristics defining the broader genus of “quick release connector.”

The Board cited Dr. Pratt’s list of connector types to suggest a POSITA would understand possible quick-release options. However, Claim 34 requires the quick-release connector operate to secure the massage head while the piston reciprocates,

which PO asserts indicates that no alignment is needed. But many of Dr. Pratt's examples require alignment and would not satisfy the claim as PO understands it. Ex-1033, ¶¶38-41. In any case, "a description that merely renders the invention obvious does not satisfy the [written description] requirement." *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1352 (Fed. Cir. 2010). Dr. Pratt's knowledge of other types of quick-release options cannot supply written description.

VI. THE CHALLENGED CLAIMS ARE INDEFINITE

A. Ground 2

The claims fail to specify how much deviation from a true cylinder is permissible while ensuring a secure connection between the massaging head and piston. Ex-1033, ¶¶42-43. Without guidance on the pocket's precise shape, a POSITA cannot determine claim scope with reasonable certainty.

PO's own authorities confirm that context and purpose govern definiteness. *Ironburg Inventions Ltd. v. Valve Corp.*, 64 F.4th 1274, 1288 (Fed. Cir. 2023); *Grace Instrument Indus., LLC v. Chandler Instruments Co.*, 57 F.4th 1001, 1009 (Fed. Cir. 2023). Here, the pocket's purpose is to provide a secure attachment during reciprocation, and during prosecution, the Applicant emphasized that no alignment is required to distinguish the prior art. In this context, the claims must inform a POSITA, with reasonable certainty, of the exact shape that achieves a secure attachment.

PO's reliance on Petitioner's U.S. Patent Nos. 10,557,490 and 8,348,566 is misplaced since those patents involve entirely different records. Ex-2033, 18:23–23:3; Ex-1033, ¶¶44-45.

VII. MABUCHI INVALIDATES CLAIMS 34, 35, 58-60 (GROUND 3)⁴

A. 34 [pre]: “A percussive massager”

PO's challenge turns on the preamble being both limiting and construed under PO's results-oriented reading. For the reasons in Section IV, neither premise is correct, and the Board can disregard PO's arguments at pp. 42–52. But even if the preamble were limiting, Mabuchi teaches it under either proposed construction.

1. Mabuchi teaches a percussive massager.

Mabuchi discloses an actuator that “repeatedly reciprocate[s]... to stimulate subcutaneous muscular tissues,” and a patten assembly tailored by “shape or size... according to the portion or purpose of treatment.” Ex-1005, 1:8–9; 9:15–16; 9:20–24. A POSITA would understand that such reciprocation and purpose-specific patters encompass percussive massage. Ex-1024, 120:13–121:6, 126:22–127:3 (agreeing that Mabuchi converts rotational motion into linear reciprocation of an

⁴ PO does not dispute Petitioner's arguments regarding Mabuchi's teaching of elements 34[b]–[d], 35, and 58–60. Petitioner's Reply discusses only the limitations addressed in the POR.

actuator connected to a padder that repeatedly contacts the skin at a given rate); Ex-1033, ¶¶47-49.

PO's assertion that Mabuchi "expressly confirms it is not a percussive massager" (POR 42) ignores this disclosure, and also misreads Mabuchi's beauty-device context.⁵ Mabuchi "relates generally to a beauty treatment device" that "repeatedly pats a skin surface," but explains that conventional "patting" devices—"intended mainly for the massage of the muscular tissues"—"belong[] to the category of massager." Ex-1005, 1:6–12, 2:14–28. Mabuchi's actuator that "repeatedly reciprocate[s]... to stimulate subcutaneous muscular tissues" and "impact[s] the skin surface." *Id.*, 1:8-9, 1:31–41. Thus, a POSITA would recognize Mabuchi as a padder-type massager, with beauty-specific features layered onto a percussive platform. Ex-1024, 124:17–25 (agreeing that "[Mabuchi] is a padder device.").

That Mabuchi is a percussive massager with *additional* beauty-related features is confirmed by Mabuchi's teaching that, without those features, its device

⁵ PO's arguments ring hollow; it has accused Therabody's Theraface Pro—a beauty product—of meeting the "percussive massager" language of the preamble, despite the fact that Theraface Pro has an amplitude of only 3mm. Ex-1029, 89–90; Ex-1032, 0002.

would operate with greater force and stroke length, as required by PO's construction. Ex-1033, ¶¶50-54. For example, Mabuchi discloses that, when the device is operated without the space guide, the head "exert[s] a pushing force onto the skin surface, rather than patting the skin." Ex-1005, 5:48–50. And while Mabuchi also cautions against doing so, disclosure accompanied by caution is still disclosure; even teachings that "teach away" remain probative and must be weighed in substance. *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994); *W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1550 (Fed. Cir. 1983). Dr. Pratt likewise explained that a percussive effect depends on the application surface: compliant anatomy permits the padder to extend beyond the guide, while hard surfaces act as a stop. Ex-2033, 38:14–22; 39:6–13; 43:6–12; 44:16–17. Mabuchi also suggests adjusting the padder assembly's resilient member 11 either by modifying its stiffness or removing it, and a POSITA would understand that doing so would increase impact force. Ex-1033 ¶¶55-56; Ex-1005, 5:10-38; Ex-1024, 127:4–8; 128:12–19; 130:11–16; 131:14–132:7; 136:4–6; 136:15–137:4; 138:18–23. PO's arguments pointing to these features and acknowledging their disclosures concede that Mabuchi's device itself is percussive. POR 46-47.

2. PO misreads Petitioner’s statements from an unrelated prosecution

U.S. Patent No. 11,730,668 (“the ’668 Patent”) concerns a vibration therapy device with interchangeable attachments and different claim requirements; neither the claims nor the cited amendments use “percussive massager,” and Petitioner never stated that Mabuchi is not percussive. Ex-2014, 1028; Ex-1033 ¶¶57-58. Petitioner’s separate point—that Fuhr is not designed for treating the face and thus would not be used to achieve a claimed linear velocity—does not imply that a POSITA would avoid modifying Mabuchi to achieve greater percussive force. Ex-2014, 1022. The Examiner allowed claims after amending an “attachment member” limitation and expressly relied on a flexible sleeve surrounding the reciprocating shaft—features irrelevant to whether Mabuchi teaches a percussive massager. *Id.*, 2421, 2430.

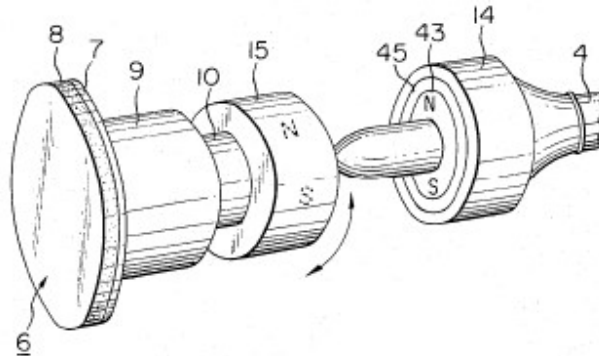
B. 34[e]: “a quick release connector”

PO argues that (1) Mabuchi’s patter assembly cannot be secured while the actuator reciprocates, (2) Mabuchi’s magnetic connector requires alignment, and (3) the patter assembly is not a massaging head. POR, 53–63. None has merit. Ex-1033 ¶¶59-65.

1. Mabuchi discloses easy interchange of the patter assembly

Mabuchi expressly teaches that, in the magnetic embodiment (Figure 19), the patter assembly 6 can be “easily” changed because the actuator and patter assembly “are automatically disconnected merely by turning each other.” Ex-1005, 8:40–43.

The Board noted that “Mabuchi’s use of ‘easily accomplished’ is reasonably understood to satisfy” this limitation, particularly given that Mabuchi does not identify any changes that would be necessary for the device to function. DI 35.



Ex-1005, Fig. 19

Mabuchi further explains that treatment effects are enhanced by changing patten shape/intensity the patten assembly must be interchangeable, and it must be securely connected to prevent disengagement. Ex-1005, 5:56–64; Ex-1024, 144:4–9; 146:9–12; 155:9–15 (agreeing that Mabuchi discloses magnetic connections that allow changing attachments and disconnection by simple rotation). As the Board recognized, PO’s proposed “changes, redesign, or reconstruction,” such as removing space guide 5 (POR 54), are unnecessary. DI 35.

PO concedes the patten assembly extends beyond the space guide “when the user’s skin is not present,” which is when a user would change heads. POR 53–54. PO identifies no disclosure quantifying the extension as “slight,” and nothing

undermines Dr. Pratt’s opinion that a POSITA would view the extension as sufficient for grasping and removal. Ex-1033, ¶63.

PO’s pinch-risk argument concedes that Mabuchi’s patter assembly can be removed during reciprocation. PO’s speculation about the risk of doing so does not negate Mabuchi’s disclosure. A POSITA would be motivated and able to implement an in-operation quick-release in a predictable way. Indeed, managing finger clearance is a routine, predictable design choice (e.g., adding a small guard lip, extending the flange beyond the guide, providing finger tabs, using a soft face, or specifying hand positions). Ex-1033 ¶64. POSITAs routinely mitigate such risks without altering the underlying connection principle. *Id.*

PO’s focus on Figure 4’s “patter connecting mechanisms” (including non-magnetic options) ignores Figure 19’s magnetic embodiment. In Figure 19, the piston’s tapered portion facilitates sliding the patter head into place. Even without direct visibility due to the space guide, Mabuchi teaches that inserting the head into the guide would be sufficient to connect it. Ex-1005, 8:11–43; Ex-1024, 166:7–16 (admitting that the tapered shape of the piston helps with alignment).

2. Mabuchi’s magnetic connectors do not require a particular alignment.

Mabuchi teaches that the magnetic connection ensures a “positive connection... without positioning the actuator 4 and the patter assembly 6.” Ex-

1005, 8:33–39. A POSITA would understand that magnets self-align, consistent with Mabuchi. Ex-1033, ¶66; Ex-1024, 148:19–149:8; 150:8–25 (acknowledging that magnets often self-align). PO’s assertion that “the patter assembly 6 must be positioned” contradicts Mabuchi’s express “without positioning” disclosure. Ex-1005, 8:33–39. References to turning patter assembly 6 relate to detachment; separation could also be achieved by pulling apart. Ex-1033, ¶67.

PO’s criticism of wording in the Petition and Dr. Pratt’s declaration is unfounded. Ex-1033, ¶68. The Petition states the head can be secured without aligning it to the piston. Pet. 39–40. Dr. Pratt’s phrasing—no need to “carefully control the angular orientation or spatial positioning”—conveys the same point. Ex-1002, ¶113. In deposition, Dr. Pratt confirmed that a user “doesn’t have to control the angular orientation.” Ex-2033, 48:10–18; 51:1–12. Dr. Pratt did not “walk[] back his written testimony” (POR 59); all sources consistently state that proximity of magnets yields self-alignment, obviating user-controlled alignment.

PO’s emphasis on a “magnet test” is irrelevant. Dr. Pratt did not rely on any such test in forming his opinions; it occurred after his declaration. Ex-1033 ¶69. In any event, the testing merely reflects what a POSITA (and any child who has played with magnets) would have already known—that magnets self-align, as admitted by PO’s expert during deposition. Ex-1024, 148:19–153:14.

3. Mabuchi's patter assembly is a massaging head.

Sections IV.A and IV.C *supra* explain that PO's argument hinges on whether the preamble is limiting, which it is not.

Mabuchi's patter assembly 6 discloses Claim 34's "massaging head." What specific force level this massaging head is designed to deliver is irrelevant. Even if force mattered, as discussed in Section VII.A.1, a POSITA would not read spring 11 as producing zero force; depending on positioning on the skin or surface, the patter assembly would apply greater or lesser force. Ex-1033, ¶70. PO's citation to Therabody's website to distinguish attachments for percussive versus vibration therapy is unpersuasive for the reasons in Section VI, including that it improperly imports a use restriction. POR 63; Ex-1033, ¶71.

VIII. MABUCHI IN VIEW OF HARRIS INVALIDATES CLAIMS 36-38, 40, 41, AND 43-46 (GROUND 4)⁶

A. Claim 38: "...wherein the first speed and the second speed..."

There was no waiver as to Claim 38. POR 64. The Petition properly incorporated its Claim 37 analysis (≤ 3600 strokes/min) because overlapping speed ranges meet both claims. Pet. 49–50.

⁶ PO does not substantively refute Petitioner's Grounds for dependent Claims 36-37, 40, 41, and 43–46.

PO's assertion that Mabuchi or Harris do not disclose these particular speeds misses the point. Harris teaches user-selectable motor speeds via a control panel with a "speed setting control button," enabling multiple speeds. Ex-1006, 2:49–57. A POSITA seeking improved massager functionality would apply Harris's speed control to Mabuchi to allow users to select particular motor speeds, including ≥ 600 strokes/min for percussive therapy. Ex-1033, ¶¶72-73. Obviousness does not require literal disclosure of every claimed parameter where there is motivation to modify prior art. *Ormco Corp. v. Align Tech., Inc.*, 463 F.3d 1299, 1307 (Fed. Cir. 2006).

PO's argument that a POSITA would not have been motivated to modify Mabuchi's beauty treatment device as taught by Harris (POR 67) simply rehashes a legal argument already considered by the Board and does not raise any technical arguments as to either the benefits of the combination or a POSITA's expectation of success. DI 39. Further, as explained in Section VII.A.1, Mabuchi is not limited to a beauty treatment device—a premise underlying PO's motivation to combine arguments. Petitioner further incorporates its responses regarding the '668 Patent in Section VII.A.2.

IX. MABUCHI IN VIEW OF HARRIS AND PIVAROFF INVALIDATES CLAIMS 37 AND 38 (GROUND 5)⁷

A. Claim 38: “...wherein the first speed and the second speed...”

PO does not dispute that Pivaroff discloses motor speeds “greater than or equal to 600 strokes per minute.” Instead, PO asserts a POSITA would not modify Mabuchi “to pat a user’s face” at such speeds. POR 72. PO’s argument relies on a false premise—that Mabuchi “is designed to mimic a person tapping or patting their skin.” *Id.*, 71–72. The entire support for that premise comes from Mabuchi’s description of the prior art: “It is wide-spread practice as beauty treatment to repeatedly tap or pat the skin surface with fingertips or palms.” Ex-1005, 1:14–16. But Mabuchi never sets forth a goal to mimic the speed of such patting or tapping, instead merely stating that it an object to provide a device “which repeatedly pats the skin... at a given rate.” *Id.*, 1:31–34. A POSITA would have recognized the benefit of Mabuchi’s machine is to not be limited to conventional, human-applied patting, which can be done more rapidly and precisely by a treatment device. Ex-1033, ¶75. Indeed, PO’s expert acknowledge that percussive massage devices are also designed to impact a user’s skin much more rapidly than a human giving percussive massage. Ex-1024, 163:19–165:1.

⁷ PO does not substantively address Petitioner’s showing on dependent Claim 37.

Mabuchi, Harris, and Pivaroff teach compatible motor/drive systems powering massage devices for similar purposes. Pet. 54. A POSITA seeking higher speeds in Mabuchi would look to Pivaroff's speed teachings to meet the claimed limitation. Ex-1033, ¶76. The Board previously recognized that "Dr. Pratt persuasively explain[ed] why Pivaroff is compatible with and complements Harris and Mabuchi." DI 41.

Apart from PO's misplaced assumption that Mabuchi should be limited to slower speeds, its only argument against combining these references is that such speeds would be incompatible with Mabuchi's design containing a spring as the resilient member 11 since at those speeds the "spring would very likely surge or float." POR 73. PO's argument is unpersuasive for two reasons. Ex-1033, ¶¶77-79. First, as PO acknowledges, a POSITA would understand how to size Mabuchi's spring to avoid this undesirable floating. POR 74. PO's argument that this would undermine the "intended use" of Mabuchi is pure speculation. Indeed, PO acknowledges that vibration massage is "low amplitude, low impact, a high-speed massage." POR 3. A POSITA would recognize that those frequencies can be used on various body parts, including the face, so merely operating at a high frequency would not depart from Mabuchi's intended use. Second, and perhaps more important, Mabuchi discloses embodiments with *no spring* where the cushioning is provided entirely by the cushioned massage head. Ex-1005, 5:10–21. A POSITA

employing this embodiment would entirely avoid any problems related to the spring at higher frequencies.

X. PIVAROFF IN VIEW OF MABUCHI INVALIDATES CLAIMS 34, 35, 37, 38, 58-60 (GROUND 6)⁸

A. A POSITA Would Have Been Motivated to Combine Pivaroff And Mabuchi

The Board correctly recognized that “an ordinary artisan would have had reason to combine Pivaroff and Mabuchi.” DI 43. PO advances no arguments that undermine that conclusion. Its first argument, that Mabuchi is not directed to a percussive massager and that its features are not applicable to percussive massagers like Pivaroff (POR 74) assumes the intended use, rather than similar operation, is the critical determination related to motivation to combine.⁹ As explained in the Petition, and recognized by the Board, a POSITA would have recognized the similar reciprocating mechanism of Pivaroff would have been improved by the magnetic head connection described by Mabuchi. Pet. 56; DI 43; Ex-1033, ¶80. PO’s second argument, that Pivaroff is concerned with a non-replaceable head, ignores Pivaroff’s

⁸ PO substantively disputes only limitations 34[c] and 34[e]. Petitioner therefore focuses on these elements.

⁹ Petitioner incorporates the discussion in Section VII.A for why Mabuchi discloses a percussive massager.

disclosure of 11-different preferred heads, each of which would be time consuming to properly fill with the appropriate granules. Ex-1007, 2:55–3:30; Ex-1024, 171:7–173:19. A POSITA would have recognized that to obtain the advantages of the different disclosed heads, it would have been advantageous to be able to quickly remove and replace one with another. Ex-1033 ¶81. PO’s own expert recognized that while Pivaroff discusses a threaded connection for the head, other types of linkages would also be encompassed by Pivaroff’s teachings. Ex-1024, 175:14–177:23. Finally, PO’s argument that Petitioner’s previous prosecution of the unrelated ’668 Patent undermines the motivation is incorrect for the same reasons discussed in Section VII.A.

B. Claim 34[c]: “a motor at least partially within the housing...”

PO’s contention that motor 24 is not “within the housing” ignores Pivaroff’s disclosures and how a POSITA would read them. A POSITA would understand “housing” to encompass the device’s exterior, including handle 14. Ex-1002 ¶168; Ex-1033, ¶¶82-84. Indeed, PO’s expert explained: “Housings typically are the outer component that contains the movable parts within it or parts of the machine itself.” Ex-1024, 115:24–116:2; 117:25–118:7. That Pivaroff describes the top portion as a “top hollow housing 16” in no way implies that the handle is *not* a housing—particularly when it is an “outer component that contains the movable parts” of the motor within it. Ex-1007, 2:30–33, 3:33–35; Ex-1024, 115:25–116:2. Thus, motor

24 in handle 14 is at least partially within the housing. Ex-1024, 167:24–168:3, 168:15–169:7 (admitting that the handle houses the motor and that a POSITA would have understood the handle to be part of the claimed housing).

C. Claim 34[e]: “a quick release connector...”

As discussed above in Section X.A, a POSITA would have recognized that Pivaroff discloses multiple heads and would have been motivated to exchange those heads quickly, as disclosed by Mabuchi, to obtain different benefits from different heads. PO’s assertion that granular material in head 44 would prevent changing heads is also misplaced: Pivaroff does not teach that a single combination of granular fillings are critical, just that a particular arrangement provides good results in a particular use case. Ex-1007, 2:55–3:30. And Pivaroff explicitly teaches *11 different* granular combination as “produc[ing] improved and superior results.” *Id.*, 3:24–30; Ex-1033, ¶¶85-88.

PO’s prosecution-history argument related to Petitioner’s patent on vibration therapy device likewise fails. POR 85. A POSITA would have understood that stronger magnets could be used to accommodate any speeds disclosed by Pivaroff. Ex-1033, ¶89. Moreover, Pivaroff’s range includes speeds below 3000 RPM; that a POSITA would understand could be employed in percussive devices. *Id.*

Finally, as explained in Section VII.B.2, PO's assertion that Mabuchi's magnetic connection requires a specific angular orientation lacks merit. A POSITA would understand that magnets self-align. Ex-1033, ¶90.

XI. PIVAROFF IN VIEW OF MABUCHI AND HARRIS INVALIDATES CLAIMS 36-38, 40, 41, 43-46 (GROUND 7)

PO does not provide any additional arguments for this combination. POR 89. Petitioner incorporates its arguments above and in the Petition. Ex-1033, ¶91.

XII. CONCLUSION

Petitioner respectfully requests that the Board enter a Final Written Decision invalidating the challenged claims.

Respectfully Submitted,

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CERTIFICATE OF WORD COUNT

Pursuant to 37 C.F.R. § 42.24(d), Petitioner certifies that this reply includes 5,579 words, as measured by Microsoft Word, exclusive of the table of contents, mandatory notices under § 42.8, certificates of service, word count, and exhibits.

CERTIFICATE OF SERVICE

I hereby certify that on December 5, 2025, I caused a true and correct copy of the foregoing PETITIONER’S REPLY TO PATENT OWNER’S RESPONSE TO PETITION FOR POST-GRANT REVIEW OF U.S. PATENT NO. 11,857,482 to be served electronically on counsel for Patent Owner at the following addresses:

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