THERABODY, INC.

Petitioner

v.

HYPERICE IP SUBCO, LLC

Patent Owner

PGR2024-00053 | U.S. Patent No. 11,857,482
PGR2025-00013 | U.S. Patent No. 11,938,082

Patent Owner’s Demonstrative

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The ’482 Patent Provides Express Support

34. A percussive massager comprising:

a housing;

a piston in the housing having a proximal end and a distal end;

a motor at least partially within the housing and operatively connected to the proximal end of the piston, wherein the motor is configured to cause the piston to reciprocate at a first speed;

a drive mechanism between the motor and the piston that controls a predetermined stroke length of the piston; and

a quick release connector at the distal end of the piston, wherein the quick release connector is configured to secure a first massaging head while the piston reciprocates a predetermined stroke length at the first speed, wherein the first massaging head has a substantially cylindrical pocket to receive the quick release connector.

Quick-connect system **600** includes a piston **602** that has a hollow-end bore **608** for receiving the shaft **621** of a massaging head **620**. Located within the bore **608** of piston **602** is a cylindrical seat **604**. Cylindrical seat **604** retains a magnet **606**. Magnet **606** is illustrated with its north pole located flush with the seat and facing toward the opening in bore **608**. Massaging head **620** includes a shaft **621** having a cylindrical pocket **622** at the distal end. Located within the cylindrical pocket **622** is a magnet **624**. Magnet **624** is positioned so that its south pole is located at the distal end of shaft **621**. Accordingly, when the shaft **621** of massaging head **620** is slid into opening in bore **608**, the magnets **606** and **624** are attracted to one another and magnetically hold massaging head **620** firmly in place.

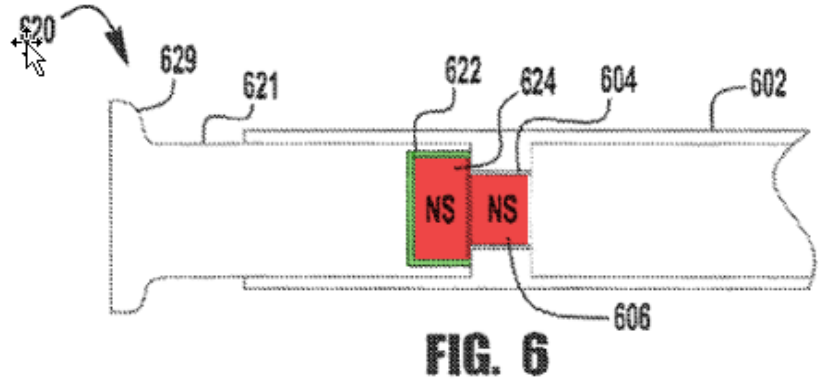

FIG. 6

‘482 POR., pp.26-30
‘482 Sur-Reply, pp. 1-4

The Pocket Need Not, But Does, Receive the Entire Quick Release Connector

"A claim interpretation that excludes a preferred embodiment from the scope of the claim 'is rarely, if ever, correct.'"

Globetrotter Software, Inc. v. Elan Comput. Grp., Inc., 362 F. 3d 1367, 1381 (Fed. Cir. 2004)

is a magnet 624."). As shown in the figures above, this "pocket" in the massaging head does not and cannot receive the quick release connector. Rather, this pocket 622 merely holds the magnet 624. Both the magnet and the pocket are then

Ex. 1002, '482 Pratt Decl., ¶81

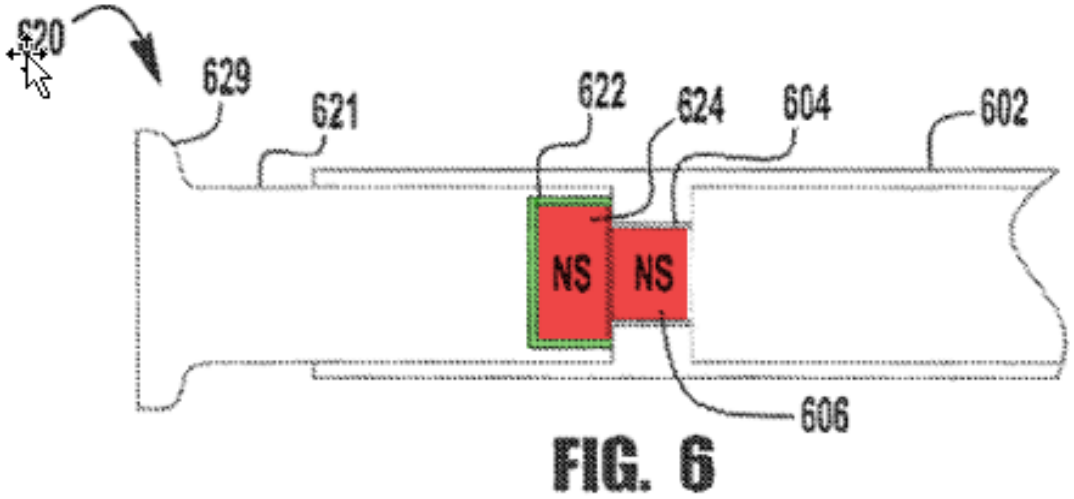

FIG. 6

86. Also, in my opinion, a POSITA would readily understand that the pocket 622 in the massaging head 620 (annotated in green, below) receives[8] at least one-half of the quick release connector (annotated in red, below) consisting of two oppositely arranged magnets 624/606, which disclosure fully supports the claimed embodiment of "wherein the first massaging head has a … pocket to receive the quick release connector." However, a POSITA would also readily understand that the pocket 622 in the massaging head 620 (annotated in green, below) receives the entire quick release connector (annotated in red, below) because the pocket 622 *contains* and *holds* at least the magnet 624 and the magnetic forces *hold* the magnet 606, which is consistent with the recitation of "to receive" in claim 34.

Ex. 2005, '482 Morrill Decl., ¶86

'482 POR, pp.26-30
'482 Sur-Reply, pp. 1-4

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The "Substantially Cylindrical Pocket" Is Supported

34. A percussive massager comprising:
a housing;
a piston in the housing having a proximal end and a distal

secure a first massaging head while the piston reciprocates a predetermined stroke length at the first speed, wherein the first massaging head has a substantially cylindrical pocket to receive the quick release connector.

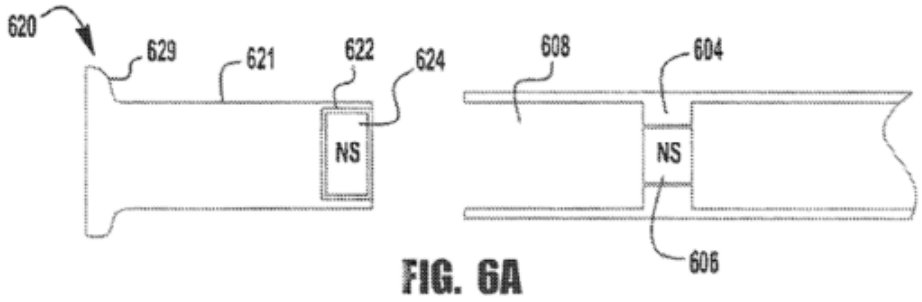

FIG. 6A

- "substantially" allows for minor variations to the cylindrical shape while performing its intended function, "to receive the quick release connector"
- The prosecution history does not demand additional disclosure
- A "cylindrical" shape as disclosed is inherently broad and includes various species
- Petitioner provides *no* applicable case law to support its argument. *Capon v. Eshhar*, 418 F.3d 1349, 1358 (Fed. Cir. 2005) found that "[t]he Board erred in holding that the specifications do not meet the written description requirement."

'482 POR, pp. 32-33
'482 Sur-Reply, pp. 5-6

The "Substantially Cylindrical Bore" Is Supported

1. A percussive massager comprising:
a housing;
a piston having a proximal end and a distal end, the distal end of the piston having a bore;
a motor operatively connected to the proximal end of the
a drive
length of the piston; and
a quick-connect system comprising the distal end of the piston and a first massaging head, wherein the quick-connect system is configured to have a proximal end of the first massaging head inserted into or removed from the bore while the piston reciprocates the predetermined stroke length at the first speed.

13. The percussive massager of claim 1, wherein the bore comprises a substantially cylindrical bore.

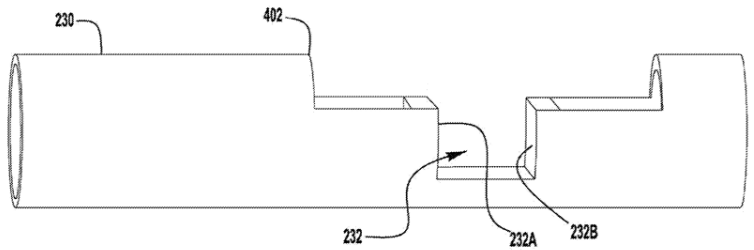

FIG. 4

- The cylindrical shape of the bore is shown in Figures 4 and 6
- "substantially" allows for minor variations to the cylindrical shape while performing its intended function, to have the massaging head inserted into or removed therefrom
- The prosecution history does not demand additional disclosure
- Petitioner provides *no* applicable case law to support its argument. *Capon v. Eshhar*, 418 F.3d 1349, 1358 (Fed. Cir. 2005) found that "[t]he Board erred in holding that the specifications do not meet the written description requirement."

'082 POR, pp. 35-38
'082 Sur-Reply, p. 11

Petitioner Shifted Arguments In Reply

Petition

Focus is on non-perfect cylinder

only as being "cylindrical." *Id.* Nowhere does the specification describe the "cylindrical pocket 622" as being only approximately cylindrical or any other shape.

'482 Pet., p.23; *see* '082 Pet., p.20

Reply

Focus is on prosecution history, no mention of a non-perfect cylinder

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.

'482 Reply., pp.11-12; *see* '082 Reply, p. 11

'482 Sur-Reply, p. 4 n.4
'082 Sur-Reply, p. 3 n.3

Tolerancing Cylindrical Parts is Within the Skill in the Art

Q. That's essentially a tolerance that allows the fastener in this case to still perform its function without being perfectly cylindrical; correct?

A. Correct. There's a tolerance on cylindrical parts, cylindrical fasteners for use in aerospace so that they meet the performance requirements.

Q. th[illegible] because [illegible] manu[illegible]ing fastener[illegible]

[illegible] 1 or 2 tenths.

Q. Is developing that tolerance a standard task for a design engineer?

A. It can be. If a fastener designer -- I presume you mean for a fastener engineer you mean a fastener designer. Someone designing the fastener.

Q. Yes.

A. For multipiece fasteners, which is my area of expertise, it's up to the fastener designer to tolerance things so that they all fit together and perform as required. But generally the overall envelope, the outside part, the part that the customer sees that has to fit his hole in a wing or a fuselage, generally the customer will specify how much tolerance they're willing to accept on a vendor's product.

Ex. 2033, Pratt Trans., 25:3-26:21

In my opinion, a POSITA would understand that a "substantially cylindrical pocket" is simply a pocket that is cylindrical or approximately cylindrical such that minor variations in a cylindrical shape fall within the scope of the claim as long as the pocket still performs its intended function of receiving the quick release connector.

Ex. 2005, '482 Morrill Decl., ¶89
see Ex. 2005, '082 Morrill Decl., ¶96

'482 Sur-Reply, pp. 4-5
'082 Sur-Reply, p. 3

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The Patents Have Sufficient Disclosure

"Precedent illustrates that the determination of what is needed to support generic claims to biological subject matter depends on a variety of factors, such as the existing knowledge in the particular field, the extent and content of the prior art, the maturity of the science or technology, the predictability of the aspect at issue, and other considerations appropriate to the subject matter."

Capon v. Eshhar, 418 F.3d 1349, 1359 (Fed. Cir. 2005) (emphasis added)

"A claim will not be invalidated on section 112 grounds simply because the embodiments of the specification do not contain examples explicitly covering the full scope of the claim language … because the patent specification is written for a person of skill in the art, and such a person comes to the patent with the knowledge of what has come before."

LizardTech, Inc. v. Earth Resource Mapping, Inc., 424 F.3d 1336, 1345 (Fed. Cir. 2005)

"We agree with the Board's finding that the field of this invention is a predictable art, such that a lower level of detail is required to satisfy the written description requirement than for unpredictable arts."

Hologic, Inc. v. Smith & Nephew, Inc., 884 F.3d 1357, 1361 (Fed. Cir. 2018)

'482 POR, pp. 25-26, 36-37; '082 POR, pp. 31-35
'482 Sur-Reply, p. 7; '082 Sur-Reply, p. 2

Quick Release Connector / Quick-Connect System Describe a Known Class of Connectors

53. At the time the '482 Patent was filed, many different types of connectors not requiring a tool were known, including spring-biased ball detents

("Pip Pins"), magnets, threaded fasteners, bayonet connectors, quarter-turn mechanisms, over-toggle hook mechanisms and hook & loop fasteners.

Ex. 1002, '482 Pratt Decl., ¶53
see Ex. 1002, '082 Pratt Decl.. ¶54

92. In addition, quick connects, which is synonymous with the quick connect system and quick release connector as described and claimed in the '482 Patent, are known by a few different names including quick connect fittings, which are a well-known class of connectors that feature male and female components that can be attached and detached without the use of tools. *See* Ex. 2024, 2025. To this point, Dr. Pratt provides numerous examples of quick connect fittings or connectors in his report. Ex. 1002, paras. 53-64.

Ex. 2005, '482 Morrill Decl., ¶92
see Ex. 2005, '082 Morrill Decl., ¶93

'482 POR, pp. 36-37; *see* '082 POR, p. 34

A POSITA would know which quick release connectors/quick-connect systems work and which do not

The claimed quick release connector also requires securing during reciprocation

Further, the "quick release connector" limitation is further described and limited in the body of independent claim 34. In particular, the claimed "quick release connector" is limited to a particular structure of a piston and a first massaging head having a pocket to receive the quick release connector and is configured to secure the first massaging head while the piston reciprocates.

'482 POR, p. 36; *see* '082 POR, pp. 33-34

According to Dr. Pratt, a POSITA would know which configurations would work and which would not

Taking that position as true, not all of the examples from my declaration will work as claimed—for instance, threaded fasteners and quarter-turn mechanisms will not work. Ex-1002, ¶¶ 53-57.

Ex. 1033, '482 Pratt Decl., ¶40; see Ex. 1033, '082 Pratt Decl., ¶28

'482 Sur-Reply, pp. 12-13
'082 Sur-Reply, p. 2

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The Function of the Pocket / Bore is Recited in the Claims

"Functional language can promote definiteness because it helps bound the scope of the claims by specifying the operations that the [claimed invention] must undertake."

Exmark Mfg. Co. v. Briggs & Stratton Power Prods., 879 F. 3d 1332, 1346 (Fed. Cir. 2018) (cleaned up)

'482 Patent, claim 1

a quick release connector at the distal end of the piston, wherein the quick release connector is configured to secure a first massaging head while the piston reciprocates a predetermined stroke length at the first speed, wherein the first massaging head has a substantially cylindrical pocket to receive the quick release connector.

'082 Patent, claim 13

a quick-connect system comprising the distal end of the piston and a first massaging head, wherein the quick-connect system is configured to have a proximal end of the first massaging head inserted into or removed from the bore while the piston reciprocates the predetermined stroke length at the first speed.

13. The percussive massager of claim 1, wherein the bore comprises a substantially cylindrical bore.

'482 Sur-Reply, pp. 8-9
'082 Sur-Reply, pp. 6-7

Dr. Pratt Confirmed Sufficiency of the Functional Scope of "Substantially" in Petitioner's Patent

6. The attachment system of claim **5** wherein the first and second flat surfaces of the female attachment member are substantially parallel to one another and the first and second opposing flat surfaces of the male attachment member are substantially parallel to one another.

Ex. 2010, cl. 6

It tells me that they need to be close enough in size to prevent rotation, but yet they need to slide together so that the balls that are in the male surface can enter into the recesses in the female part. So it tells me how -- it gives me, as a person of ordinary skill in the art, the tool I need to decide how parallel they need to be.

Q. But the two flat surfaces don't need to be absolutely parallel or perfectly parallel; correct?

A. Well, perfectly parallel would still mean substantially, but they just need to be parallel enough to perform the function that's stated in column 9. They need to interface well with the male flats without -- while not enabling rotation between the two.

Ex. 2033, Pratt Depo., 23:18-24:7

Q. How out of parallel could the first and second flat surfaces of these attach- -- of the female attachment member be while still falling within the scope of Claim 6?

MR. BERG: Objection to form.

THE WITNESS: Yeah. In my experience, with using the term "substantially," it would seem to me and to a person of ordinary skill in the art that if the parallel surfaces -- if those surfaces could no longer perform their function that requires them to be parallel, if they're so far out parallel that they can't do what they're supposed to do, then they're no longer substantially parallel.

Ex. 2034, Pratt Depo., 61:18-25

'482 POR, pp. 39-40; *see* '082 POR, p. 41
'482 Sur-Reply, p. 9; *see* '082 Sur-Reply, p. 7

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  - Pivaroff / Mabuchi
- §103 (PGR2025-00013)
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  - Pivaroff / Clark

The Invention is Directed to a Percussive Massager

- The invention is directed to "a deep muscle-stimulating device"
- The parties agree that Pivaroff—also directed to a "deep muscle stimulating device"—is a percussive massager

This invention relates generally to medical devices, and more particularly, to a deep muscle-stimulating device used to increase muscle metabolism, increase the lactic acid cycle and relieve pain.

Ex. 1001, '482 Patent, 1:22-25

This invention relates generally to medical devices, and, more particularly, to a deep muscle stimulator device to increase muscle metabolism, increase the lactic acid cycle and to relieve pain.

Ex. 1007, Pivaroff, 1:7-10

Like Mabuchi and Harris (*see* Section XIII.B.1), Pivaroff describes a percussive massage device. Ex-1002 ¶148. Specifically, Pivaroff describes a "deep muscle stimulation device, which provides deep muscle tissue with kinetic forms of percussion." Ex-1007, 1:30-34.

Pet., p. 53

'482 POR, pp. 13, 22; *see* '082 POR, pp. 16-17

Applicant Deliberately Selected the Preamble and Relied on It

- In the same Amendment, Applicant:
  - Amended the preamble of existing claims from "apparatus" to "percussive massager";
  - Added new "percussive massager" claims; and
  - Distinguished the invention *as a whole* from Rhoades based on the percussive massager / cosmetic device distinction.

1. (Currently Amended) ~~An apparatus~~ A percussive massager comprising:

a housing;

~~a handle~~

a piston having a proximal end and a distal end, the distal end of the piston having a substantially cylindrical bore;

a motor at least partially within the housing and operatively connected to the proximal end of the piston, wherein the motor is configured to cause the piston to reciprocate at a first speed;

a drive mechanism that controls a predetermined stroke length of the piston; and

a quick-connect system comprising ~~release connector at~~ the distal end of the piston and a first massaging head, wherein the quick-connect system ~~release connector~~ is configured to secure [[connect a]] the first massaging head to the percussive massager by a proximal end of the massaging head being slid into the bore while the piston reciprocates ~~moves~~ the predetermined stroke length at the first speed.

38. (New) A percussive massager comprising:

a housing;

a piston in the housing having a proximal end and a distal end;

a motor at least partially within the housing and operatively connected to the proximal end of the piston, wherein the motor is configured to cause the piston to reciprocate at a first speed;

a drive mechanism between the motor and the piston that controls a predetermined stroke length of the piston; and

a quick release connector at the distal end of the piston, wherein the quick release connector is configured to secure a first massaging head while the piston reciprocates a predetermined stroke length at the first speed, wherein the first massaging head has a substantially cylindrical pocket to receive the quick release connector.

Ex. 1004, pp. 2524, 2528

'482 POR, pp. 19-20; see '082 POR, pp. 23-24
'482 Sur-Reply, pp. 10-12; *see* '082 Sur-Reply, pp. 8-10

Applicant Distinguished the Percussive Massager *As A Whole* From Rhoades' Cosmetic Device

Rhoades is directed to a cosmetic instrument (e.g., a microderm abrasion device) that is not a percussive massager, as recited in the claims. Rhoades' microderm abrasion device has head portions that can mate to various types of treatment attachments for "treating skin and/or body parts by abrasion, cleaning, polishing, lighting, or oxygenation" (Rhoades at Abstract), which are all performed on the surface of the skin, rather than massage treatments. Rhoades further describes that a "motion generator may move the attachments by vibrating, spinning, oscillating, or propagating sonic waves through the head portions" (*Id.*), which are for treating the surface of the skin.

Ex. 1004, p. 2534

'482 POR, pp. 19-20; *see* '082 POR, pp. 23-24
'482 Sur-Reply, pp. 10-12; see '482 Sur-Reply, pp. 8-10

The Preamble Informs the Scope of the Claims

34. A percussive massager comprising:
a housing;
a piston in the housing having a proximal end and a distal end;
a motor at least partially within the housing and operatively connected to the proximal end of the piston, wherein the motor is configured to cause the piston to reciprocate at a first speed;
a drive mechanism between the motor and the piston that controls a predetermined stroke length of the piston; and
a quick release connector at the distal end of the piston, wherein the quick release connector is configured to secure a first massaging head while the piston reciprocates a predetermined stroke length at the first speed, wherein the first massaging head has a substantially cylindrical pocket to receive the quick release connector.

Ex. 1001, '482 Patent, cl. 34

'482 POR, pp. 21-23; *see* '082 POR, pp. 25-27
'482 Sur-Reply, pp. 10-12; *see* '082 Sur-Reply, p. 10-11

Construction of "Percussive Massager"

Petitioner's Proposal:
"a massage device whose piston and massage head reciprocate back and forth."

- Simply repeats limitations from the body (red)

PO's Proposal:
"a device that provides a high-speed, long stroke action to massage deep muscle tissue"

- Further informs the scope of the claim (green) in view of what was invented

34. A percussive massager comprising:
a housing;
a piston in the housing having a proximal end and a distal end;
a motor at least partially within the housing and operatively connected to the proximal end of the piston, wherein the motor is configured to cause the piston to reciprocate at a first speed;
a drive mechanism between the motor and the piston that controls a predetermined stroke length of the piston; and
a quick release connector at the distal end of the piston, wherein the quick release connector is configured to secure a first massaging head while the piston reciprocates a predetermined stroke length at the first speed, wherein the first massaging head has a substantially cylindrical pocket to receive the quick release connector.

Ex. 1001, '482 Patent, cl. 34
see Ex. 1001, '082 Patent, cls. 1, 18

'482 POR, pp. 21-23; *see* '082 POR, pp. 25-27
'482 Sur-Reply, pp. 12-17; *see* '082 Sur-Reply, pp. 10-16

Construction of "Percussive Massager"

"[T]hat the claim is drawn to a 'rotary cutter deck' informs the meaning of the 'torsional stiffness' limitation — the claimed structure must possess sufficient stiffness to withstand the torsional loads imposed by the operation of a rotary cutter."

Deere & Co. v. Bush Hog, LLC, 703 F. 3d 1349, 1358 (Fed. Cir. 2012)

> Third, the "percussive massager" preamble informs the scope of the claims. Claim 34 claims a "percussive massager," which informs the meaning of "to reciprocate *at a first speed*" and "*a predetermined stroke length* of the piston" recited in the body of the claim. In other words, the claimed device must operate at a sufficient "first speed" and with a sufficient "stroke length" to operate as a percussive massager.

'482 Sur-Reply, p. 12; *see* '082 Sur-Reply, p. 10

> These arguments and distinctions are consistent with Harris and Pivaroff and clarify the distinction between surface-level vibrating devices (in particular, cosmetic devices) and percussive massagers designed with sufficient stroke length to reach and massage deep muscle tissues. *Id*.

'482 Sur-Reply, p. 14 ; *see* '082 Sur-Reply, pp. 12-13

'482 Sur-Reply, pp. 12-15; *see* '082 Sur-Reply, pp. 10-16

Vibratory and Percussive Massage Were Known to be Distinct

(12) **United States Patent**
Harris et al.

(54) **HAND HELD PERCUSSIVE MASSAGER WITH ADJUSTABLE NODES**

(75) Inventors: **David Harris**; **Rudy Woodard**, both of Nashua, NH (US)

(73) Assignee: **Brookstone Company, Inc.**, Nashua, NH (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/489,049**

(22) Filed: **Jan. 21, 2000**

Hand-held vibrating massagers are well known in the art. Such massagers include a handle attached to a vibratory massaging head and driven by an electric motor with limited adjustment for intensity of the vibration. Also known in the art are hand-held percussive massagers, typically having a pair of percussion massage nodes. The heads or nodes of the conventional massagers are in a fixed [illegible] the

[illegible] and legs, thereby limiting the point of contact of the massage to a pre-set spacing. Moreover, conventional hand-held massagers typically provide either vibratory or percussive massage, but not both. Thus, the consumer is forced to purchase two devices in order to enjoy both types of massage.

Ex. 1006, 1:14-30

'482 Sur-Reply, pp. 12-13; *see* '082 Sur-Reply, pp. 10-12

Percussive Massagers Feature Vibratory and Percussive Aspects

(12) **United States Patent**
Pivaroff

(54) **DEEP MUSCLE STIMULATOR DEVICE**

(76) Inventor: **Jake W. Pivaroff**, 2711 E. Coast Hwy., Suite 206, Corona Del Mar, CA (US) 92625

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 181 days.

(21) Appl. No.: **09/473,792**

(22) Filed: **Dec. 28, 1999**

Many types of a vibrating massage-type devices are known for use on different portions of a person's body, to help relieve stress, or tightened muscles. However, the known devices either do not vibrate at high enough speeds and/or do not provide sufficient force to reach deep muscle tissues.

Much of muscle pain stems from various conditions, caused by overstressing or over using muscles. These include strain, lactic acid build-up, scar tissue build-up, etc. The known prior art devices do not reach deep enough into the muscle tissues to provide the necessary relief for many persons. Therefore, there exists a need in the art for a deep muscle stimulator, such as the present invention, which uses percussion and mechanical vibrations that reach deep into the muscle tissue, to stimulate proprioceptive functions.

Ex. 1007, 1:18-27

'482 Sur-Reply, p. 13; see '082 Sur-Reply, pp. 11-12

Petitioner's 2022-era "Vibration Therapy Device"

1. (Currently Amended) A vibration therapy device, comprising:

a housing that includes a handle portion and a head portion[[,]];

an electrical source[[,]];

a motor positioned in the housing[[,]];

a switch for activating the motor[[,]];

a push rod assembly operatively connected to the motor, wherein the push rod assembly ~~includes~~ comprises:

a reciprocating shaft having a distal end; and

an attachment member coupled to the distal end of the reciprocating shaft, the attachment member comprising a first magnet,

wherein the reciprocating shaft is configured to reciprocate in response to activation of the motor, such that the attachment member has a linear velocity between 0.06 m/s and 0.5 m/s; and

~~an attachment member that defines the distal end of the push rod assembly, wherein the attachment member is configured to reciprocate in response to activation of the motor at a linear velocity between 0.06 m/s and 0.5 m/s, wherein the attachment member includes a first magnet,~~

a reciprocating attachment removably received on the attachment member, wherein the reciprocating attachment includes a second magnet that is magnetically attracted to the first magnet to secure the reciprocating attachment on the attachment member.

Ex. 2014, p.1028

'482 Sur-Reply, p. 16; *see* '082 Sur-Reply, pp. 14-15

Dr. Pratt Confirms that "Percussive Massagers" Require More Than Reciprocation

A. Yes, I see that.

Q. So would the device described in this Claim 1 on Page 35 of your supplemental declaration meet your requirements for a percussive massager as you've construed that term?

MR. BERG: Objection to form.

THE WITNESS: I think more accurately is that this device would share a feature with that of a percussion massager. It wouldn't necessarily be a percussion massager if it's not providing percussion forces against the skin or the body.

Ex. 2034, Pratt Depo., 34:15-24

'482 Sur-Reply, pp. 16-17; *see* '082 Sur-Reply, pp. 15-16

Dr. Pratt Confirms that "Percussive Massagers" Require More Than Reciprocation

Q. In the '482 patent, you've proposed construing the term "percussive massager" as a massage device whose piston and massage head reciprocates back and forth. Correct?

A. Correct.

Q. And then, in this Claim 1, we have a reciprocating shaft and an attachment member or reciprocating attachment -- two different elements -- attach to the reciprocating shaft.

Do you agree?

A. Yeah. But I think there has to be more than just going back and forth.

Q. What else is required beyond going just back and forth?

A. Well, it needs to -- needs to function as a massager.

Ex. 2034, Pratt Depo., 35:7-17

'482 Sur-Reply, pp. 16-17; *see* '082 Sur-Reply, pp. 15-16

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  - "Substantially Cylindrical Pocket" / "Substantially Cylindrical Bore"
  - "Quick Release Connector" / "Quick-Connect System"
- §112(b)
  - "Substantially Cylindrical"
- **Claim Construction**
  - Preamble
  - **Massaging Head**
- §103 (PGR2024-00053)
  - Mabuchi
  - Mabuchi / Harris / Pivaroff
  - Pivaroff / Mabuchi
- §103 (PGR2025-00013)
  - Mabuchi / Colloca
  - Pivaroff / Clark

“Massaging Head” Must be Read In Light of the Claims

PO’s Construction: “the end piece of the percussive massager that contacts the user’s body to provide percussive massage.”

- Considers the “massaging head” in the context of a “percussive massager,” as claimed
- Even if not limiting, the preamble informs the meaning of terms within the body of the claim
- Not all end pieces provide “percussive massage;” Therabody offers separate percussive therapy and vibration therapy attachments (Ex. 2027)

Petitioner’s Position: no construction necessary; if preamble limiting “the part of the massager that makes contact with the body”

- Omits “percussive” from “percussive massager”
- Relies on selective portions of the preamble

‘482 POR, pp. 23-24; *see* ‘082 POR, pp. 27-28

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PGR2024-00053 / PGR2025-00013

- §112(a)
  - "Pocket to Receive the Quick Release Connector"
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  - Preamble
  - Massaging Head
- **§103 (PGR2024-00053)**
  - **Mabuchi**
  - Mabuchi / Harris / Pivaroff
  - Pivaroff / Mabuchi
- §103 (PGR2025-00013)
  - Mabuchi / Colloca
  - Pivaroff / Clark

’482 Patent, Ground 3 - Element 34[pre]
’082 Patent, Ground 3 – Elements 1/18[pre]
Mabuchi Confirms it is Not a Percussive Massager

2. Description of the Prior Art

It is a wide-spread practice as beauty treatment to repeatedly tap or pat the skin surface with fingertips or palms. Conventionally, various apparatuses have been invented to produce similar face-lifting effects, in which included are an apparatus for applying vibrations to the skin surface and an apparatus for patting part of the body.

The vibrator, however, only presses and/or kneads the skin, causing the skin to stretch. This may result in loosening of the skin or wrinkles in some cases. On the other hand, the conventional patting device which is intended mainly for the massage of the mascular tissues, not for beauty treatment of the skin. In this sense, the conventional patting device belongs to the category of massager.

Ex. 1005, 1:13-29

1. Field of the Invention

This invention relates generally to a beauty treatment device, and more specifically to a beauty treatment device having a space guide that permits an actuator to repeatedly reciprocate and controls the motion of the actuator wherein a patter repeatedly pats a skin surface being treated at a given rate.

Ex. 1005, 1:13-29

‘482 POR, pp.42-45; *see* ‘082 POR, pp. 50-54

Mabuchi is Designed to Avoid Operating as a Percussive Massager

Space Guide 5

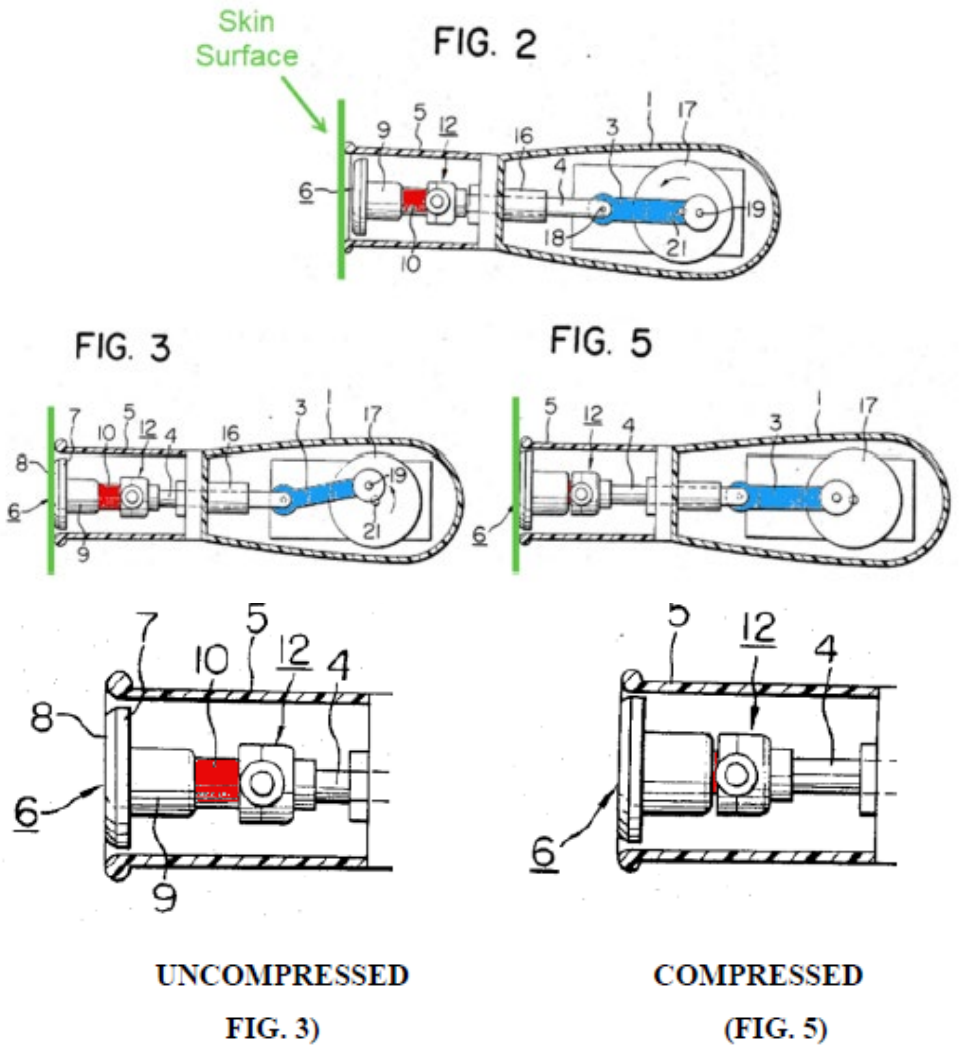
- Maintains constant distance between device and skin surface;
- Ensures the cushion 8 pats the skin and disconnects each stroke;
- Prevents "exert[ing] a pushing force onto the skin surface"

Patter Assembly 6

- Includes a resilient member (*i.e.*, a spring) to absorb any impact force and allows the actuator's stroke to complete without pushing on the skin

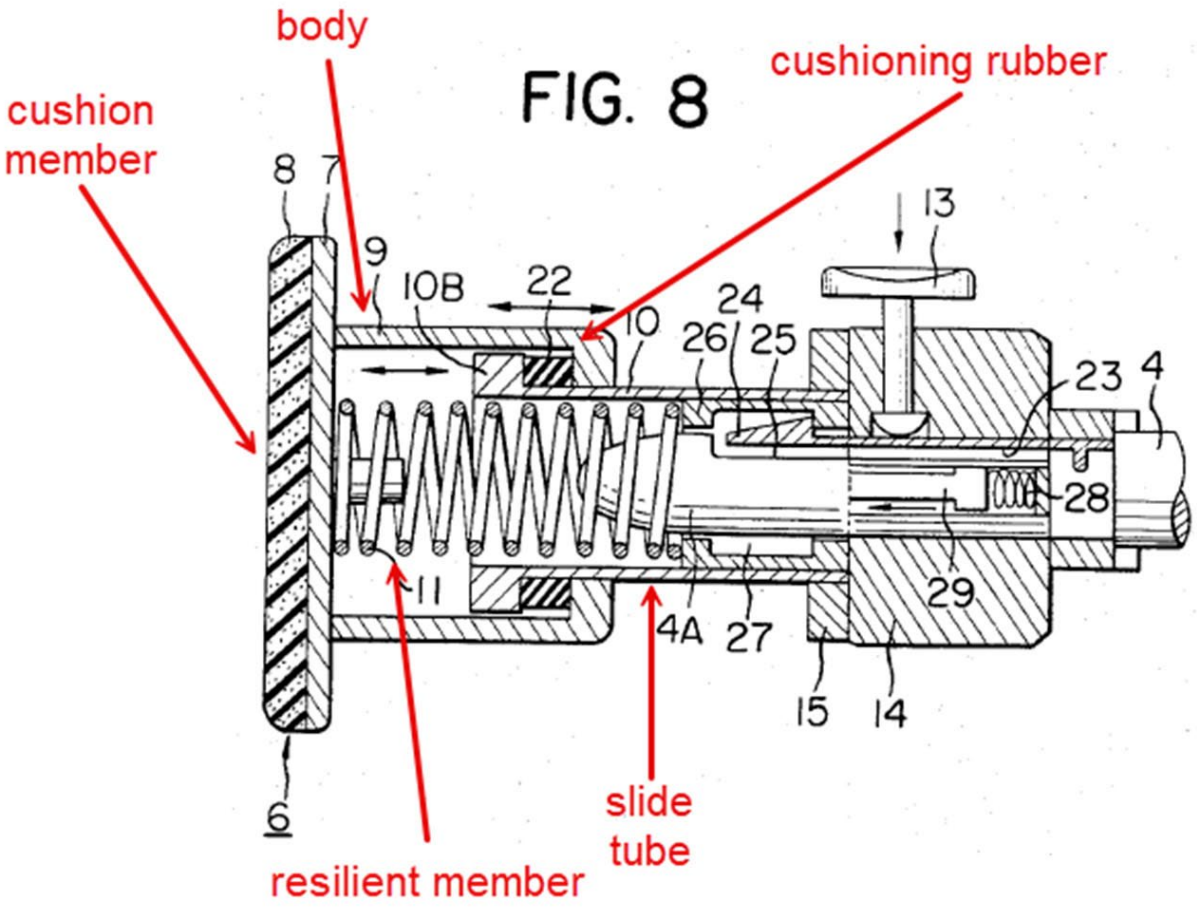
Combined Effect

- No percussive impact;
- Effectively no stroke – no deep muscle massage



'482 POR, pp. 45-50 (citing Ex. 1005, 4:28-58, 5:38-50)
see '082 POR, pp. 54-59

Mabuchi's Patter Assembly



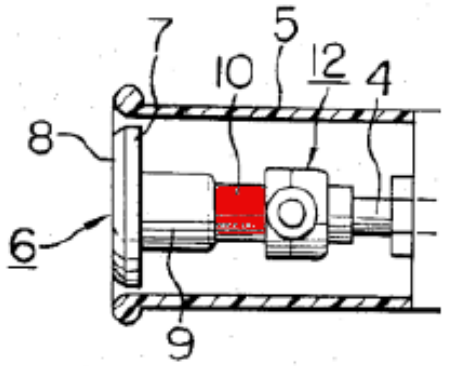


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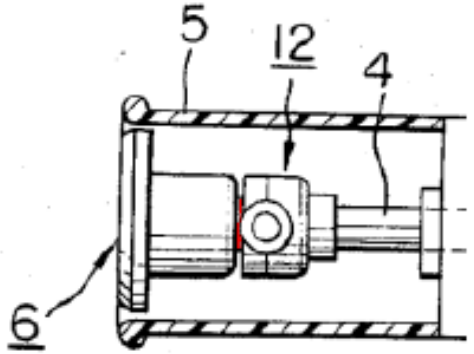
FIG. 3)



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(FIG. 5)

'482 POR, pp. 47-48; *see* '082 POR, pp. 56-57

Applicant Differentiated Rhoades on the Same Basis

Rhoades is directed to a cosmetic instrument (e.g., a microderm abrasion device) that is not a percussive massager, as recited in the claims. Rhoades' microderm abrasion device has head portions that can mate to various types of treatment attachments for "treating skin and/or body parts by abrasion, cleaning, polishing, lighting, or oxygenation" (Rhoades at Abstract), which are all performed on the surface of the skin, rather than massage treatments. Rhoades further describes that a "motion generator may move the attachments by vibrating, spinning, oscillating, or propagating sonic waves through the head portions" (*Id.*), which are for treating the surface of the skin.

Ex. 1004, p. 2534

Rhoades

[0078] It is believed that an area of human skin or a body part may be treated with a treatment attachment attached to device or tool **110** as described above (e.g., such as to cosmetically treat, cold treat, heat treat, light treat, oxygen treat, rejuvenate, dean, polish (e.g., such as to buff), abrade, and exfoliate the skin or a body part), as a moving action of the motion generator and treatment attachment (e.g., such as of applicator attachment **200**, brush attachment **300**, or oxygenating attachment **700** and porous attachment **1000** of FIGS. **8-11** below) helps stimulate skin, muscle, body part, and tissue to revitalize the treated area. It is appreciated that, in

Ex. 2009, Rhoades

Mabuchi

As described above, the beauty treatment device of this invention makes it possible to remove subcutaneous fat, stimulate subcutaneous mascular tissues and prevent the skin from loosening or wrinkling by patting the skin surface with the patter assembly 6. In addition, these

Ex. 1005, Mabuchi, 5:52-56

'482 Sur-Reply, pp. 18-19; *see* '082 Sur-Reply, pp. 16-17

Petitioner Previously Differentiated Mabuchi from Percussive Devices Based on Speed

shaft, the attachment member comprising a first magnet.

II. A person skilled in art would not have been motivated to combine Mabuchi and Fuhr because the device of Fuhr is designed to treat different body areas and does not have an attachment magnetically secured to a reciprocating shaft.

Mabuchi discloses a beauty device that pats the skin with a patter. Mabuchi, 1:31-34. On the other hand, Fuhr discloses a chiropractic instrument for use in chiropractic adjustment of musculoskeletal structures. Fuhr, [0001]. A person skilled in the art would have understood that a device for treating the face requires different specifications than a chiropractic device for adjusting musculoskeletal structures, *see e.g.* Specification, [0041], and therefore would not have looked at Fuhr for linear velocity. Indeed, the velocity disclosed in Fuhr only reads on the upper values of the claimed range (i.e. 0.44 m/s to 0.5 m/s), and the highest velocity is more than twice the claimed range (i.e. 1.22 m/s), indicating that the device of Fuhr is not designed for treating the face. Fuhr, [0076].

Ex. 2014, pp. 1021-22

'482 POR, pp. 50-51; *see* '082 POR, pp. 44-46

No Motivation to Modify Mabuchi to be Percussive Massager

In the invention, the space guide **5** plays a role of maintaining the distance between the device body **1** and the skin surface constant. In the absence of the space guide **5**, the patting intensity of the patter assembly **6** would become unstable due to the variability of the distance with service conditions. In other words, it would become difficult for the patter assembly **6** to pat the skin surface at a constant rate. In some cases, the absence of the space guide **5** would cause both the plate member **7** and the cushion member **8** to be kept in contact with the skin surface at all times to exert a pushing force onto the skin surface, rather than patting the skin.

Ex. 1005, Mabuchi, 5:38-50

No teaching or suggestion to operate Mabuchi's device without the space guide

24 Q. Is it your opinion that the space guide is
25 essential to Mabuchi's beauty treatment device?
1 A. It's described as being essential for
2 patting the skin. So there's no question about that.
3 Without -- it couldn't be a skin patter as described
4 in Mabuchi without the space guide.

Ex. 2033, Pratt Depo., 37:24-38:4

'482 POR, pp. 46-47; *see* '082 POR, p. 47
'482 Sur-Reply, p. 19; *see* '082 Sur-Reply, p. 17

No Motivation to Modify Mabuchi to be Percussive Massager

No teaching or suggestion to modify the resilient member

FIG. 3

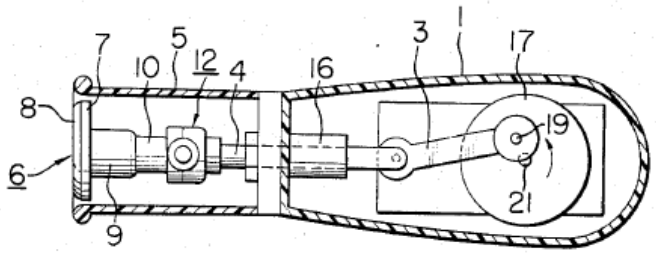
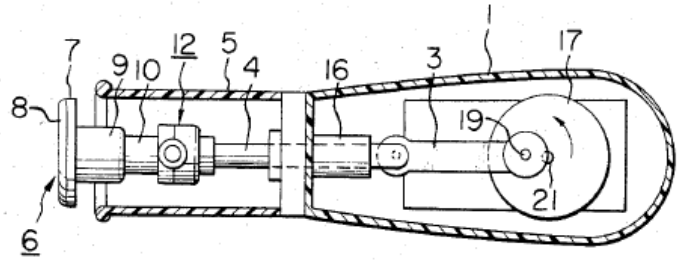


FIG. 4



Newly cited cushion embodiment provides same force-absorbing effect as the spring embodiment. *See* Mabuchi, 4:31-33, 5:10-21

FIG. 6

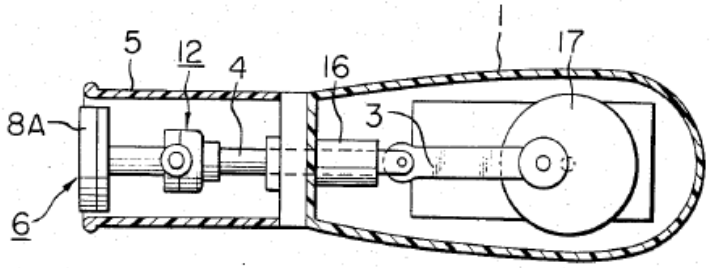
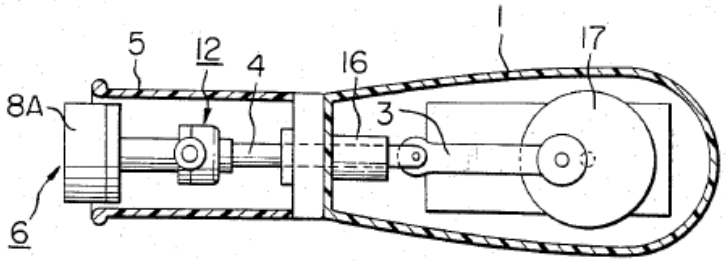


FIG. 7



'482 Reply, p. 16,
'482 Sur-Reply, pp. 19-20

’482 Patent, Grounds 3 & 6 – Element 34[e]
’082 Patent, Ground 3 – Elements 1[e]/18[c]
Petitioner’s Inconsistent Claim Constructions

“[W]hen a petitioner advances different positions before the Board and a district court, that petitioner is *required* to explain why those different positions are warranted.”

Tesla, Inc. v. Intellectual Ventures II LLC, IPR2025-00340, Paper 18, *3 (Informative: Nov. 5, 2025)
(citing *Revvo Techs., Inc. v. Cerebrum Sensor Techs., Inc.*, IPR202500632, Paper 20, *3-5 (Precedential: Nov. 3, 2025))

X. CLAIM CONSTRUCTION

Petitioner interprets the claims according to *Phillips*. 37 C.F.R. §42.100(b). To resolve this Petition, Petitioner does not believe that any term requires construction.[3]

‘482 Pet., p. 15;
see ‘082 Pet., p.3

Therabody’s Proposal
the distal end of the piston includes a structure that ***is specially designed and adapted to quickly and easily secure the first massaging head to the piston*** regardless of rotational alignment while the piston reciprocates a predetermined stroke length at the first speed, ***not merely capable of doing so***

Ex. 2013, p. 10;
see Ex. 1013, p. 15

‘482 Sur-Reply, pp. 20-23; *see* ‘082 Sur-Reply, pp. 23-26

Mabuchi Does Not Satisfy Petitioner's Narrower Construction

- Petitioner never explains how Mabuchi's magnetic connector is "specifically designed and adapted" for connection "regardless of rotational alignment while the piston reciprocates" and "not merely capable of doing so"
- Mabuchi is *silent* as to connection during reciprocation

Q. Do you agree that Mabuchi does not expressly describe the patter assembly being changed while the piston reciprocates -- sorry -- while the actuator reciprocates?

A. Yeah. Mabuchi does not describe attachment or removal of the massage head while it reciprocates.

Q. And Mabuchi doesn't describe whether the space guide needs to be removed or not for changing the patter assembly. Correct?

A. He doesn't describe changing the patter assembly during operation, other than to say that it's easy to attach and remove.

Q. But it being easy to attach and remove isn't necessarily related to attaching and removing while the actuator is reciprocating, does it?

A. It could. Mabuchi doesn't address that.

Ex. 2034, Pratt Depo., 69:24-70:14

'482 Sur-Reply, pp. 20-23; *see* '082 Sur-Reply, pp. 25-26

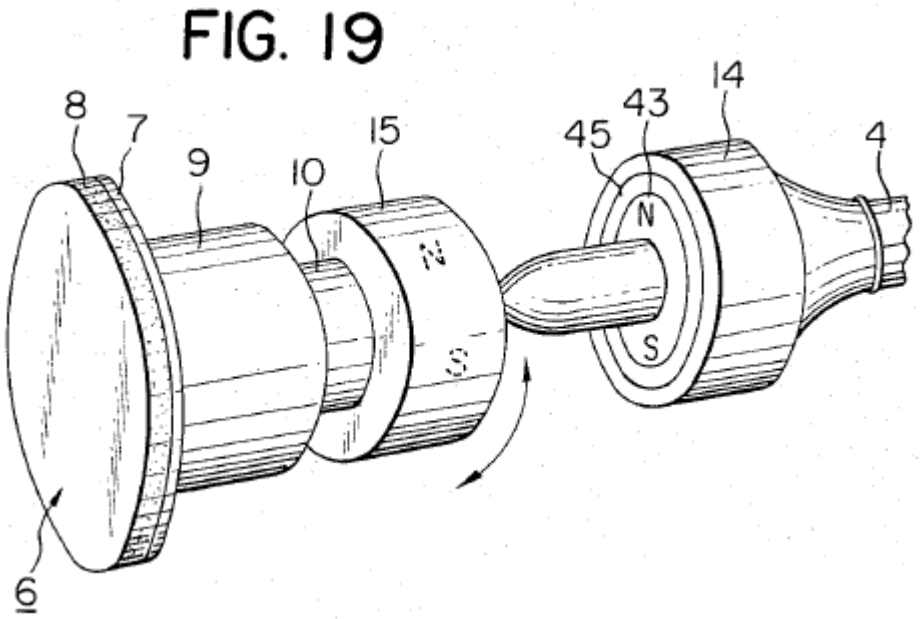
Mabuchi's Magnetic Connection Requires Alignment

Mabuchi's use of "easily accomplished" is reasonably understood to satisfy the recitation in claim 34 for a massage assembly with a "quick release connector."

'482 DI, p. 35; *see* '082 Pet., p. 20 (citing '482 DI, p.35)

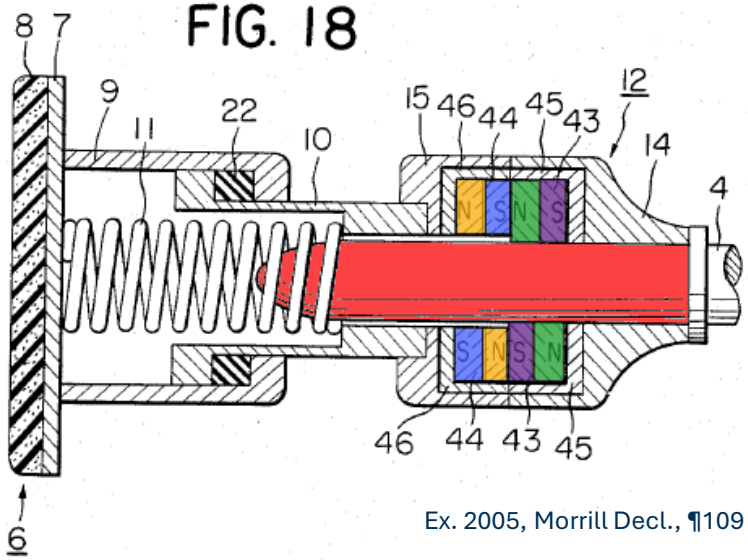
The changing of the patter assembly **6** can be easily accomplished since the actuator **4** and the patter assembly **6** are automatically disconnected merely by turning each other.

Ex. 1005, Mabuchi, 8:40-43



'482 Sur-Reply, p. 24; *see* '082 Sur-Reply, p. 27

Mabuchi's Radially Oriented Polarity Magnets Are Alignment-Specific



Ex. 2005, Morrill Decl., ¶109

The composite magnetic assemblies are comprised of radially oriented alternating polarity magnets—North/South/North/South ("NSNS"). The poles of the magnets on the massaging head, which become attracted and attached to the opposite polarity on the mating magnet on the shaft, are oriented such that rotating the massage head 90-degrees misaligns the oppositely oriented poles to cause separation. Ex-1005, 8:40-43

Ex. 1002, '482 Pratt Decl., ¶61;
see Ex. 1002, '082 Pratt Decl., ¶61

'482 POR, pp. 57-60; *see* '082 POR, pp. 72-77

Dr. Pratt Never "Analyzed" Self-Alignment During Reciprocation

So the example in your declaration of two magnets being brought into close proximity implies two magnets slowly being brought together for self-alignment. Correct?

A. Well, slowly or quickly, but in proximity to one another.

Q. Now, that behavior would change if one of the magnets was quickly reciprocating back and forth. Correct?

A. It could.

Q. Because the time for the self-alignment is -- is limited to when the Actuator 4 is at the furthest-most part of its stroke. Correct?

A. I'm not sure how reciprocation would impact the ability to self-align. I have not -- I have not analyzed that part.

Ex. 2034, Pratt Depo., 73:11-74:1

a quick release connector at the distal end of the piston, wherein the quick release connector is configured to secure a first massaging head while the piston reciprocates a predetermined stroke length at the first speed, wherein the first massaging head has a substantially cylindrical pocket to receive the quick release connector.

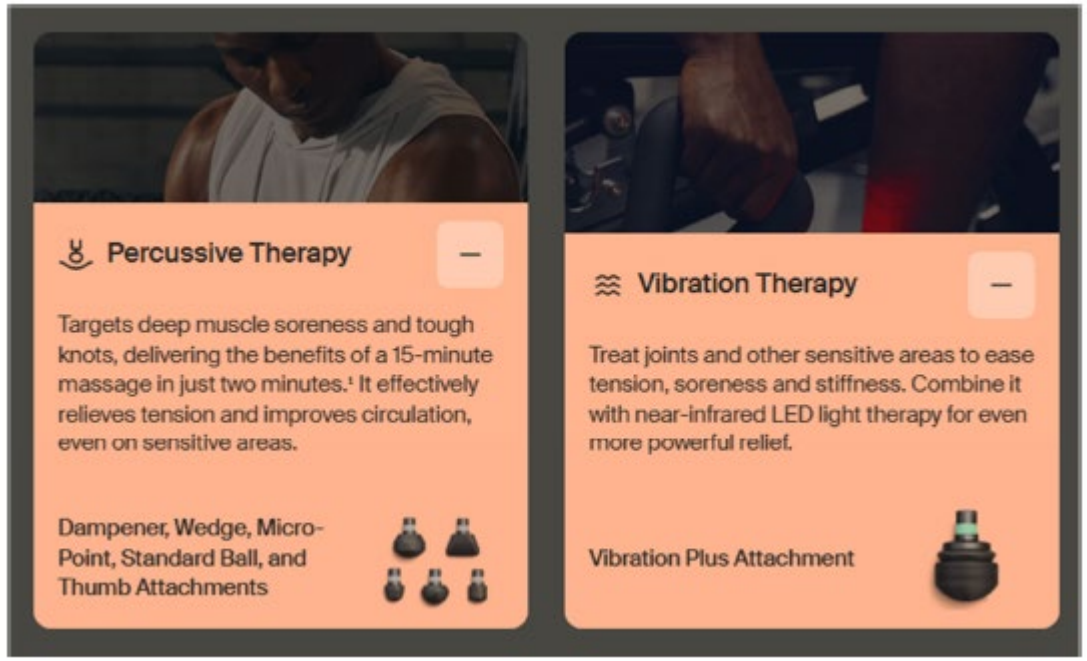
Ex. 1001, '482 Patent, cl. 34

a quick-connect system comprising the distal end of the piston and a first massaging head, wherein the quick-connect system is configured to have a proximal end of the first massaging head inserted into or removed from the bore while the piston reciprocates the predetermined stroke length at the first speed.

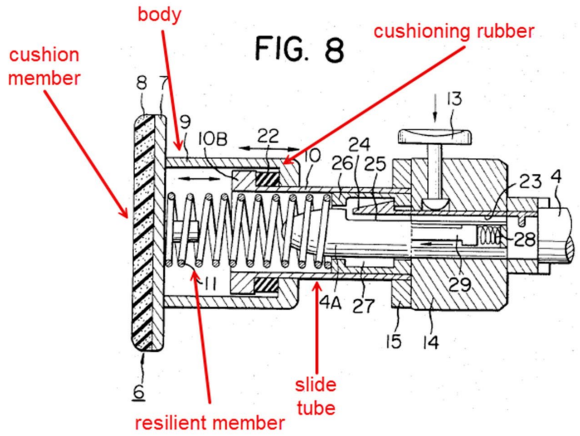
Ex. 1001, '082 Patent, cl. 1;
see Ex. 1001, '082 patent, cl. 18

'482 Sur-Reply, pp. 24-25; see '082 Sur-Reply, pp. 27-29

Mabuchi's Patter Assembly Is Not A "Massaging Head"



Ex. 2023



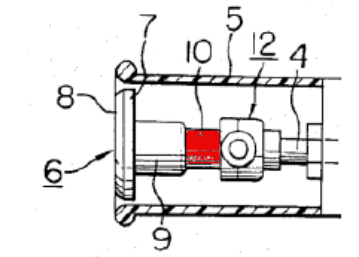


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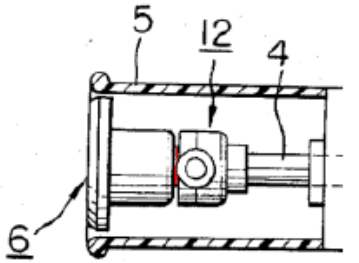
FIG. 3)



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(FIG. 5)

'482 POR, pp. 61-63; *see* '082 POR, pp. 78-79

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- §112(b)
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- **§103 (PGR2024-00053)**
  - Mabuchi
  - **Mabuchi / Harris / Pivaroff**
  - Pivaroff / Mabuchi
- §103 (PGR2025-00013)
  - Mabuchi / Colloca
  - Pivaroff / Clark

’482 Patent, Ground 4 - Claim 38
No Motivation to Combine References to Arrive at the Claimed Invention

“[O]bviousness concerns whether a skilled artisan not only *could have made* but *would have been motivated to make* the combinations or modifications of prior art to arrive at the claimed invention.”

Belden Inc. v. Berk-Tek LLC, 805 F.3d 1064, 1073 (Fed. Cir. 2015) (*emphasis* in original) (emphasis added)

38. The percussive massager of claim **36**, wherein the first speed and the second speed are each greater than or equal to **600** strokes per minute.

- Mabuchi and Harris are *both* silent as to speed

- Petitioner’s unsupported design choice argument lacks any support and fails to address the claim limitation (*i.e.*, “greater than or equal to 600 strokes per min”)

- No evidence supporting Petitioner’s conclusion that a POSITA would have modified Mabuchi’s beauty treatment device to operate at the claimed rates

‘482 POR, pp. 64-68

Petitioner Previously Argued Against Modifying Mabuchi's Speed in View of Different Reciprocating Devices Lacking Magnetic Connectors

II. A person skilled in art would not have been motivated to combine Mabuchi and Fuhr because the device of Fuhr is designed to treat different body areas and does not have an attachment magnetically secured to a reciprocating shaft.

Therabody, Inc.

Reply to Office Action of June 16, 2022 - 12 - Application No. 17/705,300

Claim 1 also recites, "wherein the reciprocating shaft is configured to reciprocate in response to activation of the motor, such that the attachment member has a linear velocity between 0.06 m/s and 0.5 m/s." The Office acknowledges that Mabuchi does not disclose a linear velocity between 0.06 m/s and 0.5 m/s, and instead relies on Fuhr for allegedly disclosing this feature. *See* Office Action, 9–10. However, a person skilled in the art would not have been motivated to combine the velocity disclosed in Fuhr with the device of Mabuchi.

Mabuchi discloses a beauty device that pats the skin with a patter. Mabuchi, 1:31-34. On the other hand, Fuhr discloses a chiropractic instrument for use in chiropractic adjustment of musculoskeletal structures. Fuhr, [0001]. A person skilled in the art would have understood that a device for treating the face requires different specifications than a chiropractic device for adjusting musculoskeletal structures, *see e.g.* Specification, [0041], and therefore would not have looked at Fuhr for linear velocity. Indeed, the velocity disclosed in Fuhr only reads on the upper values of the claimed range (i.e. 0.44 m/s to 0.5 m/s), and the highest velocity is more than twice the claimed range (i.e. 1.22 m/s), indicating that the device of Fuhr is not designed for treating the face. Fuhr, [0076].

1

Additionally, the present disclosure explains that the linear velocity is also optimized to ensure the magnetic securement of the attachment member during reciprocating movement. Specification, [0047]. Fuhr does not disclose an attachment member magnetically secured to a reciprocating shaft, and therefore a person skilled in the art would not have looked to Fuhr when designing the linear velocity of Mabuchi, which is a magnetically connected device.

2

Ex. 2014, pp. 1021-22

'482 POR, pp. 68-71
'482 Sur-Reply, pp. 26-27

’482 Patent, Ground 5 - Claim 38
Pivaroff’s reasoning for its reciprocation rate is contrary to Mabuchi’s purpose

Mabuchi

1. Field of the Invention

This invention relates generally to a beauty treatment device, and more specifically to a beauty treatment device having a space guide that permits an actuator to repeatedly reciprocate and controls the motion of the actuator wherein a patter repeatedly pats a skin surface being treated at a given rate.

2. Description of the Prior Art

It is a wide-spread practice as beauty treatment to repeatedly tap or pat the skin surface with fingertips or palms. Conventionally, various apparatuses have been invented to produce similar face-lifting effects, in which included are an apparatus for applying vibrations to the skin surface and an apparatus for patting part of the body.

The vibrator, however, only presses and/or kneads the skin, causing the skin to stretch. This may result in loosening of the skin or wrinkles in some cases. On the other hand, the conventional patting device which is intended mainly for the massage of the mascular tissues, not for beauty treatment of the skin. In this sense, the conventional patting device belongs to the category of massager.

Ex. 1005, 1:5-28

Pivaroff

will be operated. Preferably, the electric motor operates at a speed of between about 2000 to 3600 RPM, so as to rotate the shaft **26** and coupling system **28** at that speed. This rotational speed is transferred to a reciprocating motion, as shown by arrow **56** in FIG. **3**, whereby the head **44** is quickly reciprocated back and forth to provide sufficient percussion and mechanical vibrations against a portion of a patient to which it is applied by a user, to provide the deep muscle tissue within the patient’s body with kinetic forms of percussion and concussion vibration. This stimulates the proprioceptive functions and provides relief in increasing strength for a person suffering from chronic pain and restricted movement to under conditioned and/or damaged muscle tissue. Furthermore, the selected mixture of granular

Ex. 1007, 3:45-58

‘482 POR, pp. 72

Petitioner Relies on Hindsight Reconstruction

"To draw on hindsight knowledge of the patented invention, when the prior art does not contain or suggest that knowledge, is to use the invention as a template for its own reconstruction — an illogical and inappropriate process by which to determine patentability."

Sensonics, Inc. v. Aerosonic Corp., 81 F. 3d 1566, 1570 (Fed. Cir. 1996)

> A POSITA seeking higher speeds in Mabuchi would look to Pivaroff's speed teachings to meet the claimed limitation. Ex-1033, ¶76.

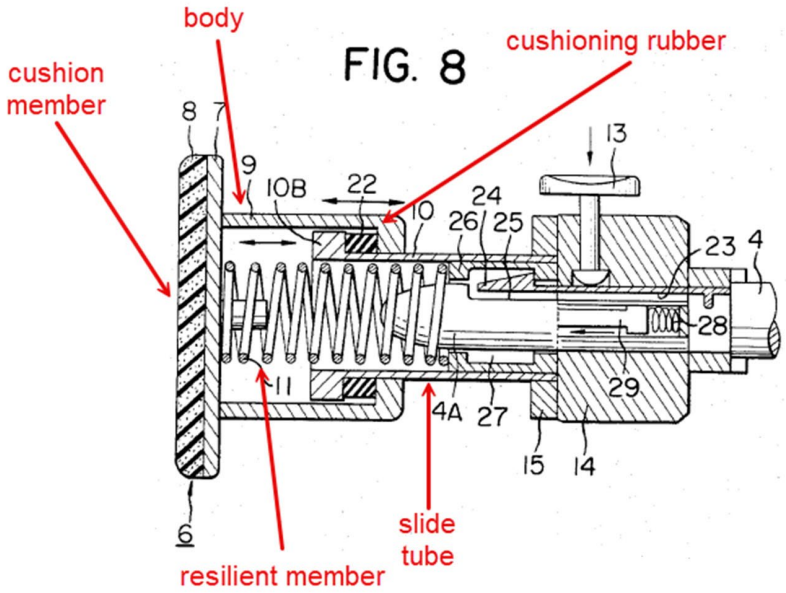
'482 Reply, p. 24

Petitioner fails to explain why a POSITA would "seek[] higher speeds" in Mabuchi

'482 POR, p. 72
'482 Sur-Reply, p.27

Mabuchi's Patter Assembly Could Not Reciprocate at 2000+ RPMs

Petition Embodiment

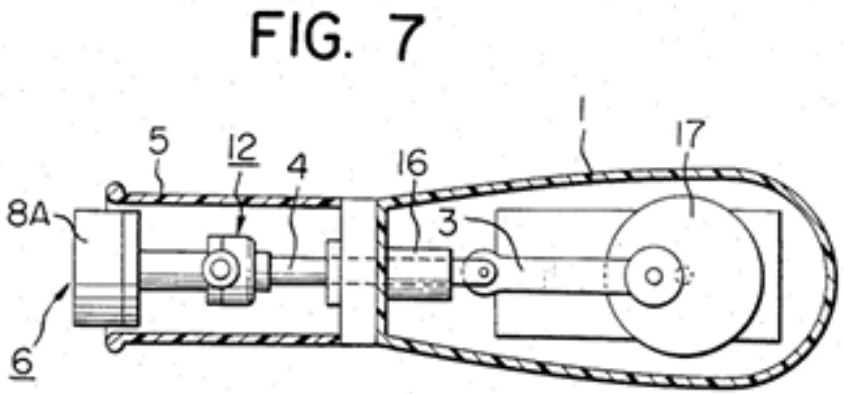


- Spring 11 would float
- Modifications to increase spring strength would fail to maintain operability as a patter to "pat" a user

See Ex. 2005, '482 Morrill Decl., ¶¶123-25

'482 POR, pp. 72-74
'482 Sur-Reply, pp. 20, 27-28

Reply Embodiment



- Not cited in Petition
- Only cushion member 8A protrudes from end of space guide 5
- Contradicts Petitioner's argument address Element 34[e] that "a user would change heads" when "the patter assembly extends beyond the space guide" ('482 Reply, p. 18)

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PGR2024-00053 / PGR2025-00013

- §112(a)
  - "Pocket to Receive the Quick Release Connector"
  - "Substantially Cylindrical Pocket" / "Substantially Cylindrical Bore"
  - "Quick Release Connector" / "Quick-Connect System"
- §112(b)
  - "Substantially Cylindrical"
- Claim Construction
  - Preamble
  - Massaging Head
- **§103 (PGR2024-00053)**
  - Mabuchi
  - Mabuchi / Harris / Pivaroff
  - **Pivaroff / Mabuchi**
- §103 (PGR2025-00013)
  - Mabuchi / Colloca
  - Pivaroff / Clark

’482 Patent, Ground 6 - Element 34[c]

34. A percussive massager comprising:
a housing;
a piston in the housing having a proximal end and a distal end;
a motor at least partially within the housing and operatively connected to the proximal end of the piston, wherein the motor is configured to cause the piston to reciprocate at a first speed;
a drive mechanism between the motor and the piston that controls a predetermined stroke length of the piston; and
a quick release connector at the distal end of the piston, wherein the quick release connector is configured to secure a first massaging head while the piston reciprocates a predetermined stroke length at the first speed, wherein the first massaging head has a substantially cylindrical pocket to receive the quick release connector.

Ex. 1001, ’482 Patent, cl. 34

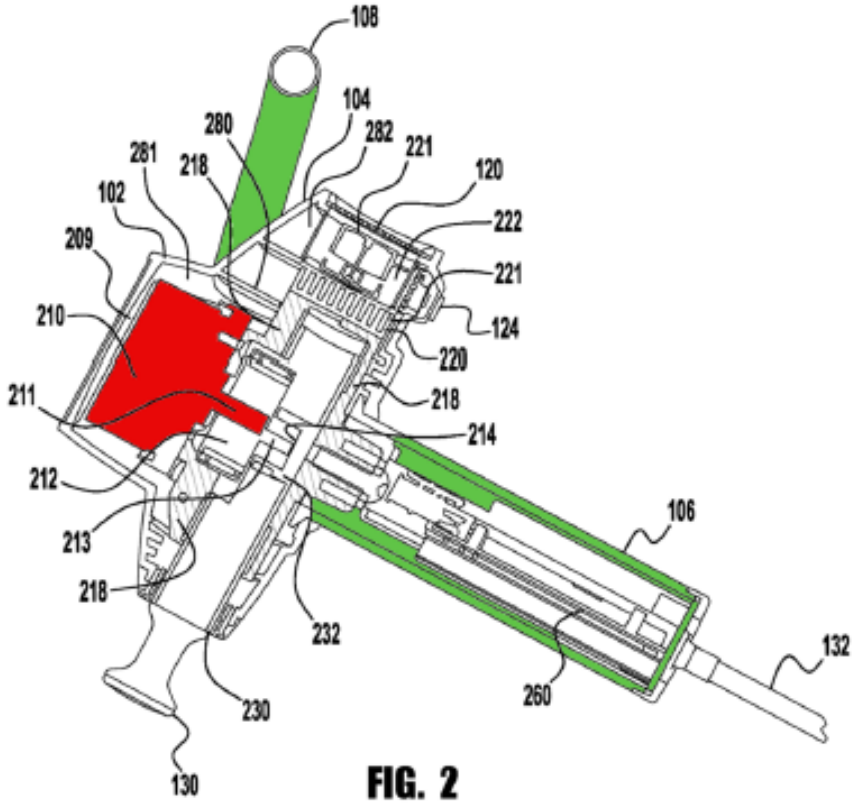


FIG. 2

Ex. 2005, ‘482 Morrill Decl., ¶130

‘482 POR, pp. 77-79

Pivaroff's Motor is Entirely in the Handle, Not in the Housing

As shown in the drawings, the deep muscle stimulation device **10** of the present invention includes a body **12** comprised of an elongated, substantially hollow handle **14**, a top element or housing **16**, and a hollow head **44**.

The elongated handle **14** is preferably made of metal, such as stainless steel or titanium, and includes an on/off switch **18** and an electric cable connection port **20**, preferably formed flush with a bottom surface **22** of the handle **14**. An electrical motor **24** is mounted within the elongated, hollow handle **14**, and includes a central rotary arbor or shaft **26**, driven by the motor.

Ex. 1007, Pivaroff, 2:30-40

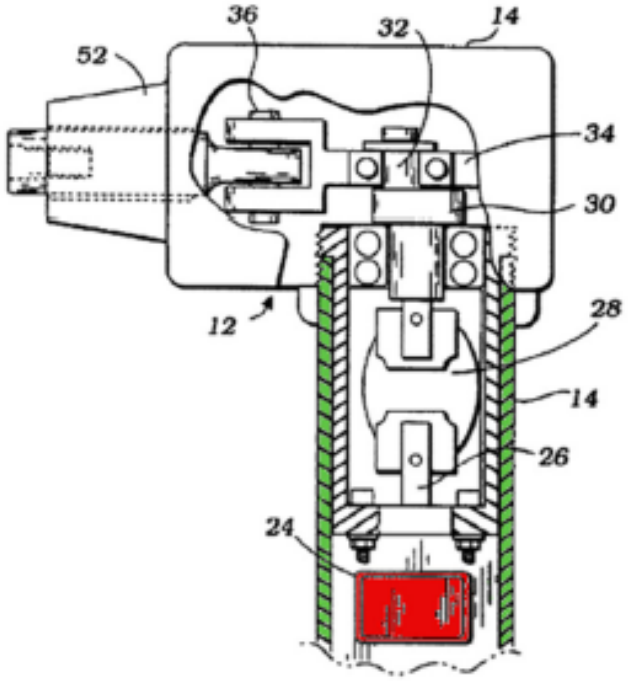


Fig. 6

Ex. 2005, '482 Morrill Decl., ¶130

'482 POR, pp. 77-79
'482 Sur-Reply, pp. 29-30

’482 Patent, Ground 6 - Element 34[e] Overview

- Petitioner relies on wholesale incorporation of Mabuchi’s magnetic connection configuration into Pivaroff; thus, these arguments suffer the same deficiencies as Ground 3, Element 34[e], including:
  - Inconsistent claim construction positions;
  - Failure to apply Mabuchi to narrower construction; and
  - Lack of evidentiary support for “self-alignment” during reciprocation
- Pivaroff combined with Mabuchi suffers additional deficiencies

‘482 Pet., pp. 62-63; ‘482 Reply, pp. 30
‘482 POR, pp. 88-89; ‘482 Sur-Reply, p. 30

No Motivation to Combine

Pivaroff teaches a single, specific combination of materials within the head 44

In particular, it has been found that improved and extraordinary results are obtained by using a mixture of 10 grains of diamond, 25 grains of ruby, 200 grains of copper and 100 grains of carbon for a total of 335 grains of material. Although no explanation can be given for these surprising and unexpected results, it appears that somehow the movement of the mixed grains of material within the interior hollow chamber made from titanium, during reciprocally motion thereof, is transferred to a patient's body in an affected deep muscle area to produce improved and superior deep muscle relief.

Ex. 1007, Pivaroff, 3:20-30

'482 POR, pp. 80-81; '482 Sur-Reply, p. 31

No Motivation to Combine

If Pivaroff suggests any modification, it teaches opening the head 44 via a threaded connection between the body 46 and the cap 38 to modify the contents

Mabuchi teaches the *same* threaded connection to change the cushion member 8

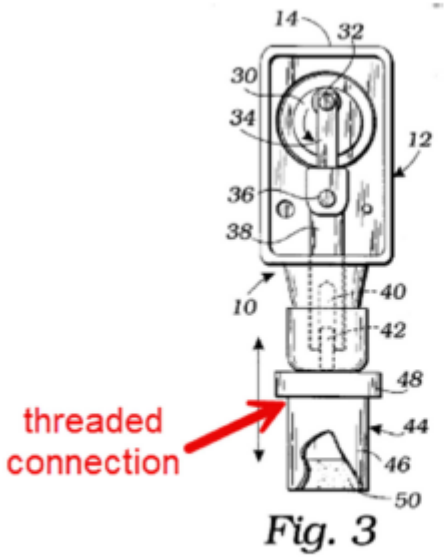
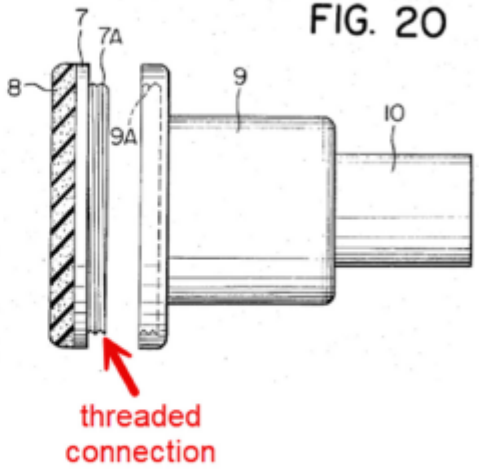


Fig. 3

Pivaroff, FIG. 3



Mabuchi, FIG. 20

'482 POR, pp. 82-83; '482 Sur-Reply, p. 31

No Reasonable Expectation of Success Petitioner Acknowledged Limitations with Magnetic Connectors in 2022

(19) **United States**

(12) **Patent Application Publication**

Wersland et al.

(54) **VIBRATING THERAPY SYSTEM AND DEVICE**

(71) Applicant: **Therabody, Inc.**, Los Angeles, CA (US)

(72) Inventors: **Jason Wersland**, Los Angeles, CA (US); **Benjamin Nazarian**, Los Angeles, CA (US); **Jaime Sanchez Solana**, Los Angeles, CA (US); **Eduardo Merino**, Los Angeles, CA (US); **Bill Webb**, San Francisco, CA (US); **Alex Zhu**, Xiamen City (CN); **Richard Tang**, Shenzhen (CN)

(21) Appl. No.: **17/705,300**

(22) Filed: **Mar. 26, 2022**

[0047] In a preferred embodiment, the massage attachment is secured to the vibration therapy device via magnets. Preferably, a magnet is included in the massage attachment and a complementary magnet is included in the attachment member. It will be appreciated that the low amplitude of about 3.0 mm allows the magnetic connection between the magnet in the attachment member on the end of the push rod assembly to remain secured in place during reciprocation and use of the device. With a higher amplitude (or linear velocity), the massage attachment may disconnect during use. The amplitude combined with the frequencies or speeds discussed herein allows for magnetic securement of the attachment member. Therefore, it will be appreciated by those of ordinary skill in the art that the about 3.0 mm amplitude coupled with the frequencies of 1750 ppm, 2100 ppm and 2400 ppm provides beneficial results when used on the face, as described herein, and allows the magnetically connected attachment member to be secured to the end of the push rod assembly.

Ex. 2022

'482 POR, pp. 83-87
'482 Sur-Reply, pp. 32-34

Petitioner Relied on These Limitations with respect to Mabuchi in Prosecuting Its Application

II. A person skilled in art would not have been motivated to combine Mabuchi and Fuhr because the device of Fuhr is designed to treat different body areas and does not have an attachment magnetically secured to a reciprocating shaft.

Additionally, the present disclosure explains that the linear velocity is also optimized to ensure the magnetic securement of the attachment member during reciprocating movement. Specification, [0047]. Fuhr does not disclose an attachment member magnetically secured to a reciprocating shaft, and therefore a person skilled in the art would not have looked to Fuhr when designing the linear velocity of Mabuchi, which is a magnetically connected device.

Ex. 2014, p. 1021-22

'482 POR, pp. 83-87
'482 Sur-Reply, pp. 32-34

Pivaroff's high-speed, long-stroke design is contrary to Petitioner's 2022-era Disclosure

Pivaroff

2. Description of Related Art

Many types of a vibrating massage-type devices are known for use on different portions of a person's body, to help relieve stress, or tightened muscles. However, the known devices either do not vibrate at high enough speeds and/or do not provide sufficient force to reach deep muscle tissues.

Ex. 1007, 1:11-17

Minimum Speed: 2000 RPM
Maximum Speed: 3600 RPM

Minimum Stroke: 1/8 inch (3.175 mm)
Maximum Stroke: 1/2 inch (12.7mm)

Petitioner's Disclosure

[0047] In a preferred embodiment, the massage attachment is secured to the vibration therapy device via magnets. Preferably, a magnet is included in the massage attachment and a complementary magnet is included in the attachment member. It will be appreciated that the low amplitude of about 3.0 mm allows the magnetic connection between the magnet in the attachment member on the end of the push rod assembly to remain secured in place during reciprocation and use of the device. With a higher amplitude (or linear velocity), the massage attachment may disconnect during use. The amplitude combined with the frequencies or speeds discussed herein allows for magnetic securement of the attachment member. Therefore, it will be appreciated by

Ex. 2022

Preferred Speed: 2400 RPM
Maximum Speed: 3000 RPM

Preferred Stroke: 3 mm
Maximum Stroke: 5 mm

'482 POR, pp. 83-87
'482 Sur-Reply, pp. 32-34

A POSITA would not expect Pivaroff's high-speed, long-stroke, *high-inertia* head design to be suitable for a magnetic connection

Patent Owner's Expert's Analysis

135. Pivaroff's high-speed design and, the force that it places on the connection mechanism between the head 44 and the rod 38, is compounded by its particularly heavy head 44 and even further by the inclusion of loosely packed granules within the hollow head 44, both factors that substantially increase the force exerted on the connection between the head 44 and the rod 38. According to Pivaroff, "the movement of the mixed grains … within the interior hollow chamber … during reciprocally [sic] motion thereof, is transferred to a patient's body." Ex. 1007, 3:24-30. This reciprocal movement of the loosely pack granules within the hollow head 44 would generate momentum (or inertia) in (and in addition to) the head 44, placing additional loads on the rod 38.

Ex. 2005, '482 Morrill Decl.

Petitioner's Expert's "Analysis"

Q. You haven't conducted any analysis of the movement of the loose material within the head 44 Pivaroff; correct?

A. Correct.

Ex. 2033, 71:3-6

'482 POR, pp. 83-87
'482 Sur-Reply, p. 34

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  - "Substantially Cylindrical Pocket" / "Substantially Cylindrical Bore"
  - "Quick Release Connector" / "Quick-Connect System"
- §112(b)
  - "Substantially Cylindrical"
- Claim Construction
  - Preamble
  - Massaging Head
- §103 (PGR2024-00053)
  - Mabuchi
  - Mabuchi / Harris / Pivaroff
  - Pivaroff / Mabuchi
- **§103 (PGR2025-00013)**
  - **Mabuchi / Colloca**
  - Pivaroff / Clark

’082 Patent, Ground 3 – Correspondence to Previous Arguments

1. **A percussive massager** comprising:
   a housing;
   a piston having a proximal end and a distal end,
the distal end of the piston having a bore;
   a motor operatively connected to the proximal end of the piston, wherein the motor is configured to cause the piston to reciprocate at a first speed;
   a drive mechanism that controls a predetermined stroke length of the piston; and
   a quick-connect system comprising the distal end of the piston and a first massaging head, **wherein the quick-connect system is configured to have a proximal end of the first massaging head inserted into or removed from the bore while the piston reciprocates the predetermined stroke length at the first speed**.

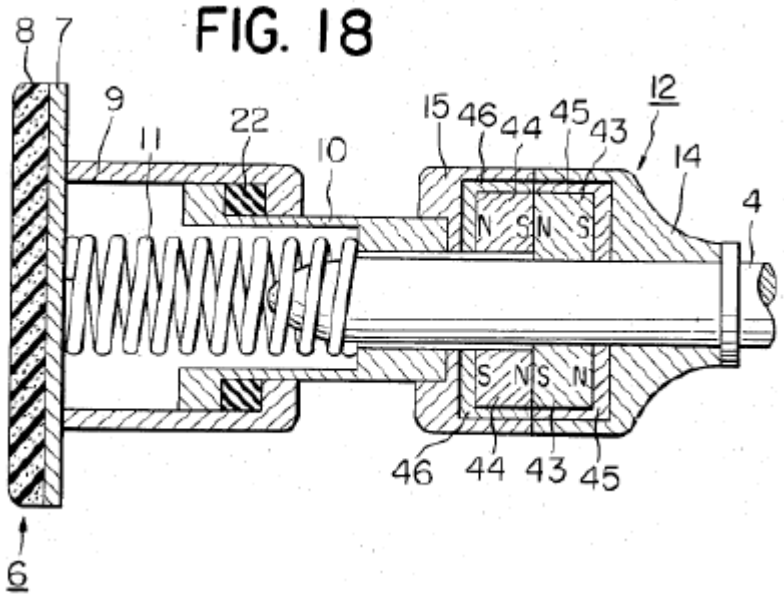
Previously Discussed

Discussed Hereinafter

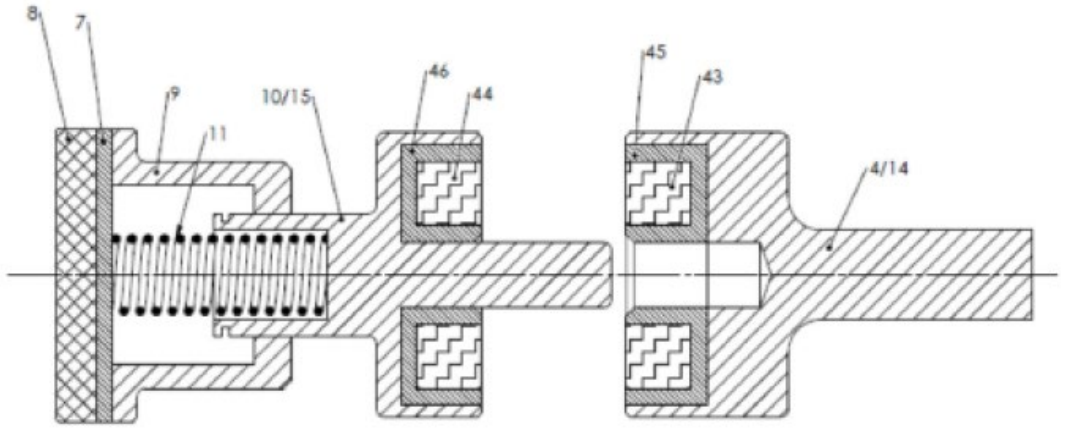
Previously Discussed

- Additional arguments related to Colloca

’082 Patent, Ground 3 – Elements 1[b] / 18[a]
Petitioner’s modification would introduce instability



- Actuator 4 extends into slide tube 10 and spring 11
- Actuator 4 supports the slide tube 10 and the spring 11 while patter body 9 reciprocates around the tube 10



Mabuchi FIG. 18 modified in view of Colloca

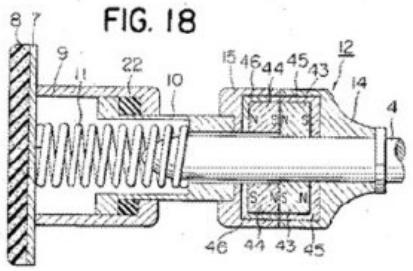
- Actuator 4 reversed
- Slide tube 10 and spring 11 unsupported
- Leads to vibration and wear

(*see* Ex. 2005, ‘082 Morrill Decl., ¶111)

‘082 POR, pp. 60-64
‘082 Sur-Reply, pp. 18-22

Petitioner previously argued against the same modification

comprising a first magnet.

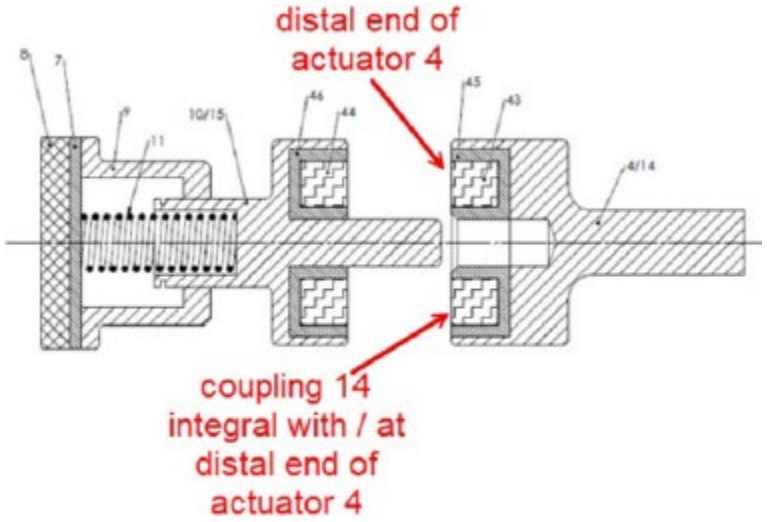


Mabuchi, FIG. 18.

In the rejection of claim 5, the Office relies on coupling 14 for allegedly corresponding to the claimed reciprocating shaft. *See* Office Action, 13. However, Mabuchi does not teach or suggest that coupling 14 is a reciprocating shaft configured to reciprocate in response to activation of a motor.

Moreover, it is not obvious to modify Mabuchi to move coupling 14 to the distal end of actuator 4. Mabuchi discloses that actuator 4 engages with resilient member 11 to cause the reciprocating motion of patter assembly 6. *See* Mabuchi, 2:53-3:12. If coupled 14 is at the distal end of actuator 4, the distal end of actuator 4 would not extend into patter assembly 6 and would not engage with resilient member 11, making pattern assembly 6 inoperable for its intended purposes. Accordingly, a person skilled in the art would not have been motivated to move coupling 14 to the distal end of actuator 4.

Ex. 2014, p. 1021



'082 POR, pp. 64-66
'082 Sur-Reply, pp. 20-22

’082 Patent, Ground 3 – Elements 1[e] / 18[c]
Neither Mabuchi nor Colloca teach changing attachment during use

Mabuchi is silent as to changing the patter assembly during reciprocation

Q. Do you agree that Mabuchi does not expressly describe the patter assembly being changed while the piston reciprocates -- sorry -- while the actuator reciprocates?

A. Yeah. Mabuchi does not describe attachment or removal of the massage head while it reciprocates.

Ex. 2034, 69:24-7:4

Colloca includes a safety interlock to prevent activation away from a body

[0008] Another disadvantage is that they do not have an interlock so that the device cannot be triggered unless the appropriate preload is attained.

[0054] In the preferred embodiment showing in FIG. 7, the chiropractic adjusting instrument **10** also includes a triggering system for triggering the pulse system **200**. In this preferred embodiment, the trigger system includes a switch **310** activated by the preload switch plunger **150**. The switch acts as an interlock or safety device such that pulse system **200** can not be activated unless the switch **310** activated. The switch **310** can be any type of optical, electrical, mechanical or magnetic switch and may be configured in many ways such that it is coupled to the electromechanical drive mechanism to prevent firing unless activated. In the preferred

Ex. 1009

‘082 POR, pp. 15-16, 67, 77-78
‘082 Sur-Reply, pp. 29-30

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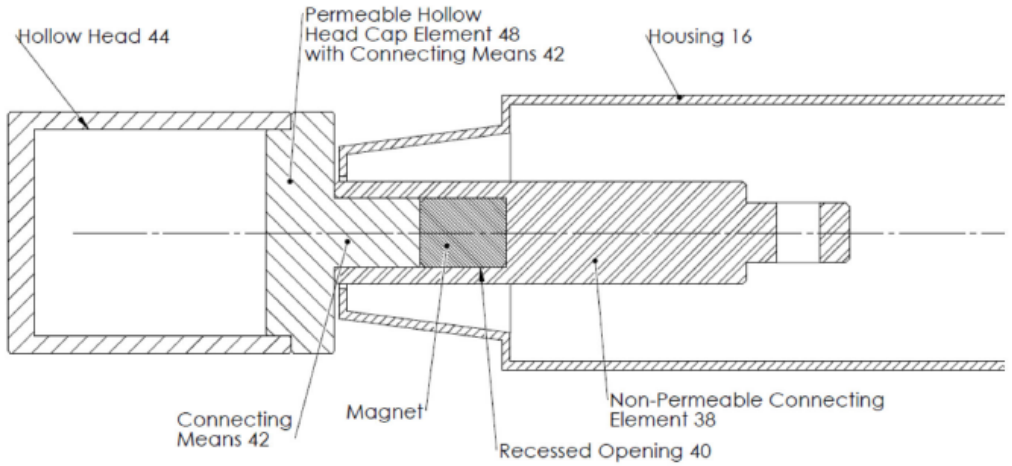
- §103 (PGR2024-00053)
  - Mabuchi
  - Mabuchi / Harris / Pivaroff
  - Pivaroff / Mabuchi
- **§103 (PGR2025-00013)**
  - Mabuchi / Colloca
  - **Pivaroff / Clark**

’082 Patent, Ground 5 – Elements 1[e] / 18[c]
No Reasonable Expectation of Success

The hollow head **44** includes a hollow body **46** and a cap element **48** held thereon, as by means of threads formed there between. The hollow body **46** and cap **48** are preferably formed from titanium, or other suitable metal.

Ex. 1007, Pivaroff, 2:55-58



Pivaroff Fig. 5 modified in view of Clark (Ex-1002 ¶184)

Titanium is a prevalent metal due to its strength, lightweight, and resistance to corrosion. While it has many desirable properties, one question that often arises is whether or not titanium is magnetic. The short answer is no, titanium is not magnetic. This is because titanium has a crystalline structure with no unpaired electrons, which are required for a material to exhibit magnetic properties. This means that titanium does not interact with magnetic fields and is considered to be a diamagnetic material.

Ex. 2032, p.1

‘082 POR, pp. 92-93
‘082 Sur-Reply, pp. 30-31

No Motivation to Combine and No Reasonable Expectation of Success

- Pivaroff discloses using a single, preferred mixture and amount of granules within the head and does not suggest ever removing the head
  (discussed in connection with PGR2024-00053, Ground 6 (Pivaroff in view of Mabuchi))

- Petitioner's 2022-era disclosure undermines its modification of Pivaroff in view of Clark
  (discussed in connection with PGR2024-00053, Ground 6)

- No expectation of success using a connection designed for retaining a screw during low-speed, rotational movement with Pivaroff's high-speed, long-stroke, high-inertia design
  ('082 POR, pp. 87, 89-90)

'082 POR, pp. 85-90
'082 Sur-Reply, pp. 31-32

Clark is non-analogous to the ’082 Patent

“Two separate tests define the scope of analogous prior art: (1) whether the art is from the same field of endeavor, regardless of the problem addressed and, (2) if the reference is not within the field of the inventor's endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved.”

In re Klein, 647 F.3d 1343, 1348 (Fed. Cir. 2011)

1

We see no assertion by Petitioner or Dr. Pratt that the screw driver of Clark was in the same field of endeavor as the deep muscle stimulation device of Pivaroff. *See* Pet.; Ex. 1002.

2

And Petitioner and Dr. Pratt fail to demonstrate that Clark is pertinent to any specific problem identified in the ’082 patent. *See* Pet.; Ex. 1002. On this record, we therefore agree that the evidence does not support a finding that Clark is analogous art to the ’082 patent.

‘082 DI, p. 39

‘082 POR, pp. 81-85
‘082 Sur-Reply, pp. 32-33

Clark is non-analogous to the ’082 Patent

Petitioner’s Reply

Here, the ’082 Patent concerns problems related to a quick-connect system configured to permit insertion/removal of the head’s proximal end while the piston reciprocates. Ex-1001, 6:47-7:19. The engineering problems implicated are (i) secure retention under dynamic loading, (ii) alignment and guidance into a receiver, and (iii) fast, tool-free interchange. Ex-1033, ¶74. Clark addresses these problems by using a magnetized female receiver to retain different workpiece holders. Ex-1014, 1:1-25, 1:66-70, 4:1-3; Ex-1033, ¶74.

‘082 Reply, p.26

Dr. Pratt’s Testimony

Q. So in the context of the '082 patent, the dynamic -- the secure retention under dynamic loading is in the context of reciprocating back and forth. Correct?
A. Yes.
Q. But in Clark, there is no reciprocating back-and-forth motion. Correct?
A. That's correct.
Q. Clark, instead, deals with rotational movement. Does it not?
A. That's correct.

Ex. 2034, 75:18-76:2

No connection between the ’082 Patent’s focus on secure retention during *reciprocal* motion and Clark’s focus on holding during *rotational* motion

‘082 POR, pp. 81-85
‘082 Sur-Reply, pp. 32-33