

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

THERABODY, INC.
Petitioner

v.

DATAFEEL INC.
Patent Owner.

Case No. PGR2025-00026
U.S. Patent No. 12,036,174

**PETITION FOR POST-GRANT REVIEW
OF U.S. PATENT NO. 12,036,174**

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LIST OF EXHIBITS¹

Ex. No.	Description
Ex-1001	U.S. Patent No. 12,036,174 (“the ’174 Patent”)
Ex-1002	Declaration for Morten O. Jensen
Ex-1003	Curriculum Vitae of Morten O. Jensen
Ex-1004	Prosecution History of the ’174 Patent (Application No. 18/526,980)
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Ex-1007	U.S. Patent Application Publication No. 2016/0310353 (“Barasch”)
Ex-1008	Korean Patent No.10-1123926 (“Choi”)
Ex-1009	Certified Translation of Korean Patent No.10-1123926 (“Choi”)
Ex-1010	U.S. Patent No. 7,384,405 (“Rhoades”)
Ex-1011	U.S. Patent Application Publication No. 2015/0305969 (“Giraud”)
Ex-1012	Chunpeng Jiang et al., <i>A Wearable Braille Recognition System Based on High Density Tactile Sensors</i> , 2020 IEEE 33rd Int’l Conf. on Micro Electro Mech. Sys. (MEMS) 28-31 (2020)
Ex-1013	<i>The Cadence Tablet</i> , Tactile Engineering, https://www.tactile-engineering.com/cadence (last visited Jan. 16, 2025)
Ex-1014	Devin Thorpe, <i>These 6 Women Undergrads at MIT Invented a Game-Changer for the Blind</i> , Forbes, https://www.forbes.com/sites/devinthorpe/2016/12/20/these-6-women-

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

Ex. No.	Description
	undergrads-at-mit-invented-a-game-changer-for-the-blind/ (Dec. 20, 2016)
Ex-1015	<i>O-Rejuv Facial Device</i> , O Cosmedics, https://www.ocosmedics.com/o-rejuv-facial-device.html (last visited Jan. 16, 2025)
Ex-1016	<i>ZAQ Facial Rejuvenation Device</i> , ZAQ, https://zaq.com/products/zaq-facial-rejuvenation-7-color-led-device-rf-ems-sonic-vibration-hot-massager (last visited Jan. 16, 2025)
Ex-1017	Sooyeon Choi et al., <i>Efficacy and Safety of a Home-Use Handheld Multi-Energy-Based Device for Skin Rejuvenation: Clinical, Ex Vivo, and Histological Studies</i> , 39 <i>Lasers Med. Sci.</i> 38 (2024)
Ex-1018	<i>Ergonomics and Handheld Medical Devices: Five Vital Elements for Design Success</i> , Medical Design Briefs, https://www.medicaldesignbriefs.com/component/content/article/%2029108-ergonomics-and-handheld-medical-devices-five-vital-elements-for-design-success (lasted visited Jan. 16, 2025)
Ex-1019	<i>Finding a Percussion Massager for Effective Muscle Recovery</i> , Pulse Therapy Hub, https://pulsetherapyhub.com/the-difference-between-a-percussion-massager-and-a-vibration-massager (lasted visited Jan. 16, 2025)
Ex-1020	Claim Correlation Chart
Ex-1021	<i>Percussion Massage v. Vibration Massage</i> , Dr. Graeme, https://www.drgraeme.com/articles/2021/06/percussion-massager-vs-vibration-massage (lasted visited Jan. 16, 2025)
Ex-1022	<i>Vibration vs. Percussion Massagers: Which One is the Best?</i> , The Fitness Tribe, https://thefitnesstribe.com/vibration-vs-percussion-massagers (lasted visited Jan. 16, 2025)
Ex-1023	<i>Vibrational Massagers vs. Percussive Massagers</i> , Fit Body Factory, https://thefitbodyfactory.com/blogs/news/vibrational-massagers-vs-percussive-massagers (lasted visited Jan. 16, 2025)
Ex-1024	U.S. Patent No. 10,940,081 (“Nazarian”)

Ex. No.	Description
Ex-1025	<i>How to Implement In-Sensor Vibration Monitoring with ISM330IS</i> , ST Community, https://community.st.com/t5/mems-and-sensors/how-to-implement-in-sensor-vibration-monitoring-with-ism330is/ta-p/572988 (lasted visited Jan. 16, 2025)
Ex-1026	U.S. Patent Application Publication No. 2020/0276079 (“Cheng”)
Ex-1027	<i>EMS Gua Sha Massager Cooling & Heating for Lymphatic Drainage Massage, Contouring, Oil & Acne Control LED Therapy & Microcurrent</i> , Arte Reverie, https://artereverie.com/products/gua-sha-ems-massager (lasted visited Jan. 16, 2025)
Ex-1028	<i>MG 600 Massage Gun with Hot & Cold Function</i> , Medisana, https://www.medisana.com/en/Wellness/Massage-devices/MG-600-Massage-Gun-with-hot-cold-function.html (lasted visited Jan. 16, 2025)
Ex-1029	<i>What’s the Difference Between TENS and EMS Units</i> , Healthline, https://www.healthline.com/health/tens-vs-ems (lasted visited Jan. 16, 2025)
Ex-1030	<i>Digital EMS & TENS Device, EM49</i> , Beurer, https://www.shop-beurer.com/products/digital-ems-tens-device-em49 (lasted visited Jan. 16, 2025)
Ex-1031	<i>Understanding E-Stim Devices: A Guide to Electrical Muscle Stimulation</i> , Optimal Wellness Center, https://www.owhealth.com/blog/2024/10/15/understanding-e-stim-devices-a-guide-to-electrical-muscle-stimulation (lasted visited Jan. 16, 2025)
Ex-1032	Claim Chart for Theragun Prime Plus

I. INTRODUCTION

Therabody, Inc. (“Petitioner”) requests post grant review (“PGR”) of Claims 1-19 (“challenged claims”) of U.S. Patent No. 12,036,174 (“the ’174 Patent”) (Ex 1001), currently assigned to DataFeel Inc. (“PO”).

II. MANDATORY NOTICES UNDER 37 C.F.R. §42.8

Real Parties-in-Interest: Petitioner identifies the following real parties-in-interest: Therabody, Inc.

Related Matters: PO’s licensee has asserted the ’174 Patent against Petitioner in *Hyper Ice, Inc. v. Therabody, Inc.*, 8:24-cv-02034-JWH-(DFMx) (C.D. Cal.). PO’s licensee has also asserted the ’174 Patent in the following matters that remain pending:

- *Hyper Ice, Inc. v. MerchSource, LLC*, 8:24-cv-02092-JWH-(DFMx) (C.D. Cal.) and
- *Shenzhen Kelaisiman Trading Co., Ltd. v. Hyper Ice, Inc.*, 8:24-cv-01472-JWH-(DFMx) (C.D. Cal).

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III. FEE AUTHORIZATION

Pursuant to 37 C.F.R. §42.15(a) and §42.103(a), the PTO is authorized to charge any and all fees to Deposit Account No. LA500639.

IV. GROUNDS FOR STANDING

Petitioner certifies that the '174 Patent is available for review, and Petitioner is not barred or estopped from requesting review. "A petition for a post-grant review may only be filed not later than the date that is 9 months after the date of the grant of the patent." 35 U.S.C. § 321(c); 37 C.F.R. § 42.202(a). The '174 Patent issued

on July 16, 2024, which is less than nine months prior to the filing date of this Petition. Further, the '174 Patent does not claim priority to an effective filing date before March 16, 2013, or to any patent or application that contains or contained at any time such a claim. *See Tricam Indus., Inc. v. Little Giant Ladder Sys., LLC*, PGR2021-00044, Paper No. 10 at 14 (PTAB Aug. 3, 2021). Therefore, the '174 Patent is eligible for PGR.

V. PRECISE RELIEF REQUESTED

Petitioner requests review and cancellation of Claims 1-19 as unpatentable based on the following grounds, supported by a declaration from Dr. Morten Jensen. Ex-1002; Ex-1003.

Ground	Summary
1	Claims 1-3, 5-6, 8-19 are unpatentable under 35 U.S.C. § 103 as obvious over Korean Unexamined Application Publication No. 10-2001-0008111 (“Lee”) (Ex-1005) in view of U.S. Patent Application Publication No. 2016/0310353 (“Barasch”) (Ex-1007).
2	Claim 4 is unpatentable under 35 U.S.C. § 103 as obvious over Lee in view of Barasch and, further in view of Korean Patent No. 10-1123926 (“Choi”) (Ex-1008).
3	Claim 7 is unpatentable under 35 U.S.C. § 103 as obvious over Lee in view of Barasch and, further in view of U.S. Patent No. 7,384,405 (“Rhoades”) (Ex-1010).
4	Claims 1-7 and 17-18 Are Unpatentable Under 35 U.S.C. § 103 As Obvious Over Giraud in View of Choi
5	Claims 1-19 are unpatentable under 35 U.S.C. § 112 based on lack of written description support.
6	Claims 1-19 are unpatentable under 35 U.S.C. § 112 based on a lack of enablement.

VI. THE CHALLENGED PATENT

The '174 Patent is titled “Communication Devices, Methods, and Systems.” Ex-1001 Cover. As reflected in the title, the patent’s specification and figures describe various communication devices designed to interact with the skin of a user through a plurality of “energy generators” that convert electricity into distinct types of energy. *See also id.* at 1:28-29 (“Aspects of the present disclosure generally relate to communication devices, methods, and systems.”). The types of energy are then transmitted to the skin to communicate data through non-visual means. *Id.*, 1:59-65. The patent explains that “a processing unit” is “configured to communicate with the nerves associated with the skin by receiving input data from a data source and causing the plurality of energy generators to output an energy signal” toward the skin. *Id.*, 1:68-2:4. As described further below, however, the claims of the '174 Patent ignore the critical “communication” aspect of the specification, and instead claim an entirely different field of “treatment devices.” None of the embodiments in the '174 Patent are described as “treatment devices.” Indeed, the only disclosed devices are “communication devices.” *Id.*, 12:51-13:40.

The patent describes several embodiments of the communication device, each with distinct configurations and applications. *Id.*, 1:59-2:4. The embodiments are designed to use energy generators to communicate with various parts of a user’s body in various contexts, such as patient monitoring, a person shooting a gun, and a

person exercising. In each instance the focus of the embodiment relates to **communication** through the skin. *Id.*, 2:5-21. This is true, even when the alleged invention is used in a healthcare setting—it is solely described as outputting data to communicate information about a patient (e.g., the patient’s temperature or heartrate) but is not used as a treatment device. *Id.*, 14:43-46 (“In a healthcare setting, the energy signal may be output towards the skin of a caregiver to communicate symbols associated with a status of a patient.”); 15:14-31, 20:43-56.

The energy generators described in the different embodiments output different types of energy, such as impact, heat, electrical, and pressure energy, to convey information. For example, in the first embodiment, the communication device comprises a body with a distal surface compatible with the skin, a tissue interface with multiple energy generators, an attachment element to maintain the interface against the skin, and a processing unit. *Id.*, 1:59-2:4. The energy generators are arranged in a grid pattern and can output energy signals in a specific direction towards the skin, as shown below. *Id.*, 2:35-47.

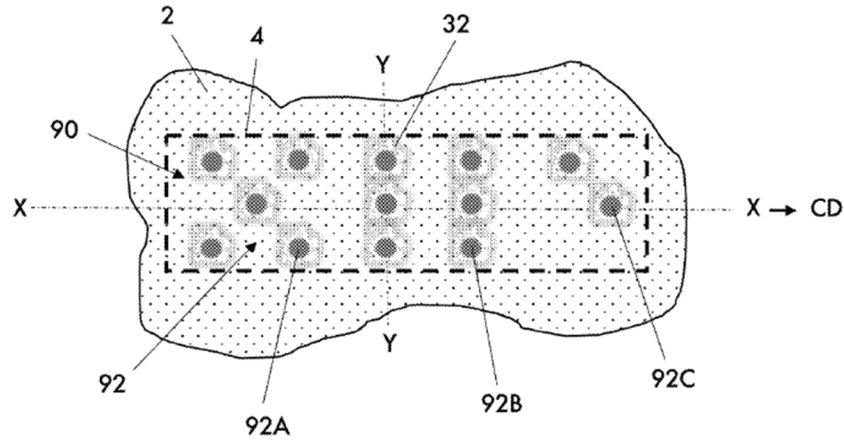


FIG. 1A

Ex-1001 Fig. 1A

The body is flexible and can be wrapped around a limb or other body parts, as shown below. *Id.*, 2:5-21. The attachment elements in these embodiments, such as adhesives, elastic bands, compression garments, and other fastening mechanisms, are designed to maintain the tissue interface against or adjacent to the skin. *Id.*, 2:5-34, 3:45-59. Their purpose is to ensure that the energy signals are effectively transmitted to the skin, providing reliable communication to the user. *Id.*, 2:23-40. Another embodiment describes implantable devices where the tissue interface is positioned under the skin, such as on a bone plate. *Id.*, 4:6-11. The energy signals are transmitted to the underside of the skin, allowing for more direct communication with the nerves associated with the skin. *Id.*, 4:6-11.

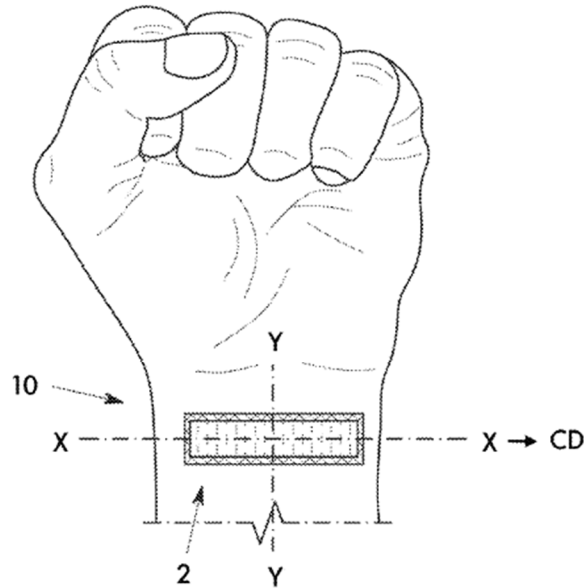


FIG. 1B

Ex-1001 Fig. 1B

The processing unit receives input data from various data sources and controls the energy generators to output energy signals based on the data. *Id.*, 2:62-3:7, 3:28-44. The data sources can include local sensors, remote sensors, patient monitoring devices, and servers. *Id.*, 2:62-3:7, 3:28-44.

The energy generators output different types of energy to communicate information through the skin. *Id.*, 42:12-32. The types of energy disclosed in the '174 Patent include:

- **Impact Energy:** Generated by a mechanical actuator to create a physical movement recognizable by touch receptors in the skin. *Id.*, 17:66-18:17.

- **Heat Energy:** Produced by an electrical resistor that converts electricity into heat, which is then transmitted to the skin. *Id.*, 18:33-47.
- **Electrical Energy:** Created by an electroshock generator that outputs an electrical shock recognizable by electricity-sensitive receptors in the skin. *Id.*, 18:62-19:12.
- **Pressure Energy:** Generated by an electroacoustic transducer that converts electricity into sound waves, which are then transmitted to the skin. *Id.*, 19:25-36.

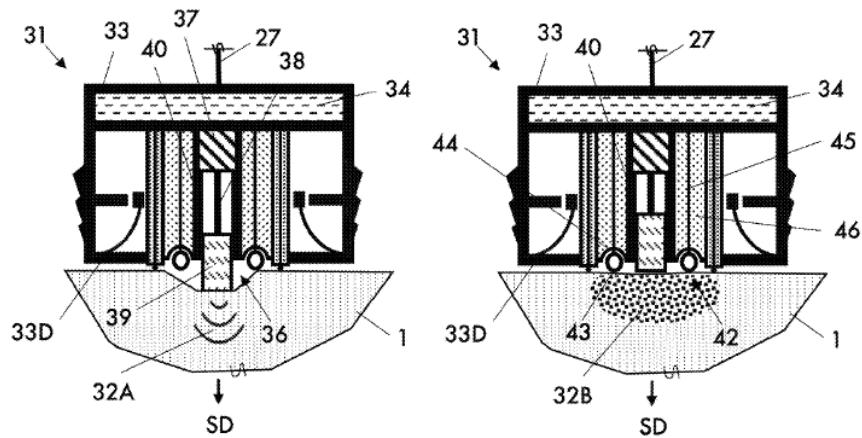


FIG. 4A

FIG. 4B

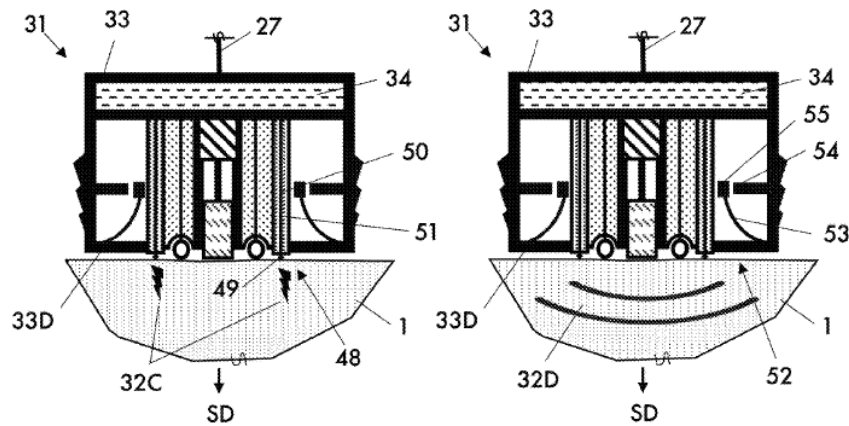


FIG. 4C

FIG. 4D

Ex-1001 Figs. 4A-4D

Each energy generator is independently operable and can be controlled by the processing unit to output energy signals based on input data. *Id.*, 3:8-16. The energy signals can be modified in terms of intensity, duration, and scroll rate to convey different types of information. *Id.*, 2:48-61.

In some embodiments, communication devices described by the patent can output multiple energy signals simultaneously. *Id.*, 6:33-46. These devices have a body with multiple bands or divided areas, each containing a set of energy generators. *Id.*, 5:45-61. The processing unit controls the energy generators to output different energy signals in each band based on input data from various sources. *Id.*, 2:62-3:7. For example, a device wrapped around the forearm can have multiple bands, each outputting a different energy signal.

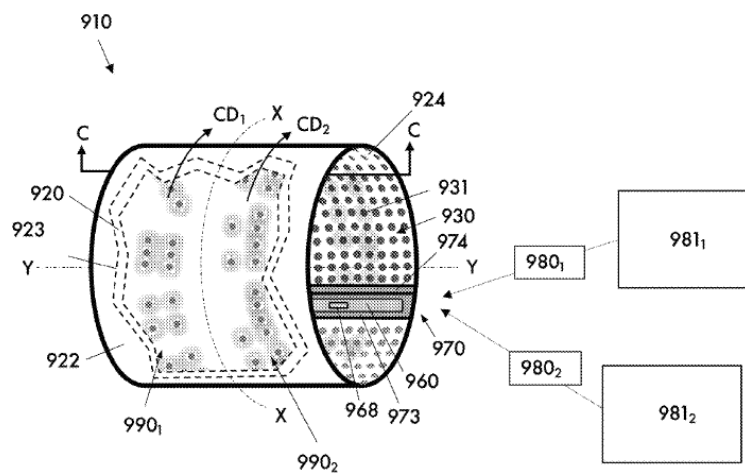


FIG. 8A

Ex-1001 Figs. 8A

Despite the specification only disclosing these and other communication devices, all claims of the '174 Patent are instead directed to "treatment devices." For example, challenged independent Claim 1 of the '174 Patent recites:

1. A treatment device, comprising:
[a] a body provided with a processing unit and a power source; and

- [b] a plurality of energy generator elements being independently operable to convert electricity from the power source into a plurality of different energy types transmittable towards an area of skin of a user, the plurality of energy generator elements being arranged coaxially about an axis,
- [c] wherein the body includes a grip arranged to be grasped by a hand of the user applying a gripping force to maintain the plurality of energy generator elements on or adjacent the area of skin,
- [d] wherein the plurality of energy generator elements includes a first energy generator element and a second energy generator element, and wherein the first energy generator element is an impact generator element having a tissue contact surface that is linearly actuatable along the axis to contact and cause corresponding physical movement of the area of skin.

Id. Challenged dependent Claim 2 recites that the impact generator element includes “a drive mechanism and a piston, wherein the drive mechanism is operably coupled to a controller that directs electricity to the drive mechanism to move the piston and the tissue contact surface along the axis.” Dependent Claims 3-5 recite various aspects of the second energy generator element. Dependent Claim 6 relates to the first and second energy types. And dependent Claim 7 recites that “at least one of the plurality of energy generator elements is contained at least partially within a housing that is removably securable to the body.” *Id.*, 41:1-27. Independent Claims 8, 17, and 20, and their respective dependent claims, also recite various “treatment devices” with similar limitations, as described further below.

Presumably relying on this preamble, Plaintiff in the parallel district court litigation has asserted the '174 Patent against devices that use alleged energy generator elements for treatment rather than for communication. *See* Ex-1032.

VII. PROSECUTION HISTORY OF THE '174 PATENT

The '174 Patent was filed on December 1, 2023, as U.S. Patent App. No. 18/526,980. It claims priority to several related applications and to provisional application Nos. 62/676,949 and 62/575,951, filed on May 26, 2018 and October 23, 2017, respectively. Ex-1001 Cover.

During prosecution, the Examiner did not reject any of the challenged claims based on prior art references. Instead, the Examiner allowed all 30 pending claims presented in the applicant's February 5, 2024, Preliminary Amendment. Ex-1004 865-73, 876-883. In the Notice of Allowance, the examiner cited a single reference US 2016/0129248 to Creasey provided by the applicant and explained briefly why the alleged invention was not disclosed by Creasey. *Id.* 876-883. The examiner provided no explanation regarding the hundreds of other references cited by the applicant in Information Disclosure Sheets, nor did the examiner explain why Creasey was selected from amongst these references. *Id.* After allowance, the applicant requested withdrawal from issue under 37 CFR § 1.313, *id.* at 1475, and amended the claims significantly by adding limitations related to the types of energy generators and in particular related to the inclusion of an impact generator. *Id.* at

1477-1485. The examiner again allowed these claims without any rejections, once again discussing only the Creasey reference. *Id.*

Sections XII and XIII of this Petition present new arguments not considered during prosecution. Nothing precludes considering them in the first instance under 35 U.S.C. §325(d). Claims 1-19 are as obvious over the prior art under 35 U.S.C. § 103 and all challenged claims are invalid as failing to satisfy the written description requirement of 35 U.S.C. § 112(a) and are additionally invalid under 35 U.S.C. § 112(a) as indefinite.

VIII. LEVEL OF ORDINARY SKILL IN THE ART

A person of ordinary skill in the art at the relevant time (“POSITA”) would have had a bachelor’s degree in biomedical engineering, or a related field, and two-to-three years of experience in the research, design, development, or testing of electromechanical treatment devices, with additional education substituting for experience and vice versa. A higher level of education or skill might make up for less experience, and vice versa. Ex-1002 ¶40.

IX. PRIORITY DATE

The ’174 Patent is entitled to a priority date no earlier than October 23, 2017 (the filing of provisional application No. 62/474,951). Based on this priority date, all references relied upon in this Petition are prior art. Furthermore, based on this priority date, the claims are subject to the provisions of the America Invents Act,

including 35 U.S.C. § 102(a) therein.

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 because the prior art applied herein renders the challenged claims obvious under any reasonable construction.²

XI. BRIEF DESCRIPTION OF THE APPLIED PRIOR ART

A. Korean Unexamined Application Publication No. 10-2001-0008111 (“Lee”) (Ex-1005)³

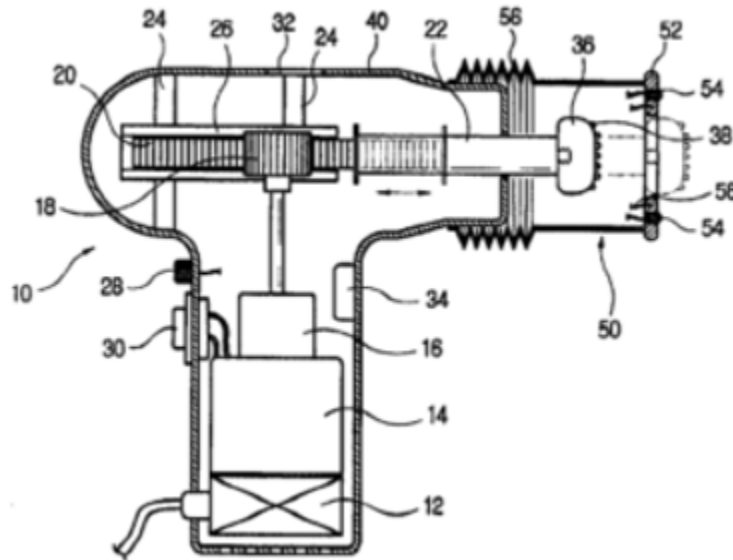
Korean Unexamined Application Publication No. 10-2001-0008111 (“Lee”) was published on February 5, 2001, and was filed on November 8, 2000. Ex-1006 at Cover. Lee therefore qualifies as prior art to the claims of the ’174 Patent at least under AIA 35 U.S.C. § 102(a)(1).

Lee describes a massage device designed to provide effective massage therapy by applying controlled pressure and heat to the human body. Ex-1006 Abstract. Lee’s massaging device, a cross section of which is shown in Figure 1, below, includes a power supply unit (12) that supplies operating power to a motor (14). *Id.*

² Claim construction proceedings have not yet begun in the district court litigation. A *Markman* hearing is scheduled to occur on July 29, 2025. Petitioner may request leave to submit the district court’s claim construction in this proceeding as soon as it becomes available.

³ The certified translation of Lee is provided as Ex-1006. Citations and quotations herein to Lee will refer exclusively to this certified translation.

¶¶8, 12. The motor's rotational force drives a rotating gear (18) that meshes with a linear gear (20), causing it to reciprocate in a linear motion. *Id.* The linear gear is integrally connected to a massage rod (22), which moves in and out of the device's case (40). *Id.*



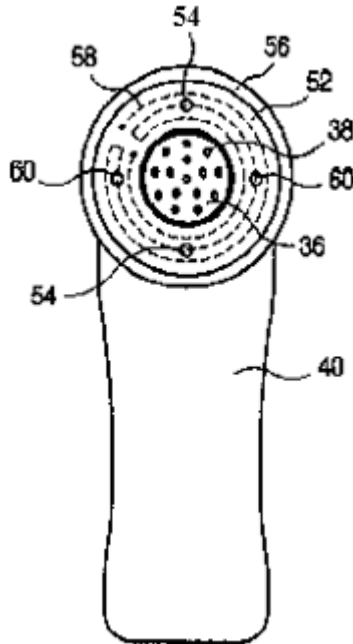
Ex-1006 Fig. 1

A cylindrical protective cover (50) houses the massage rod (22) and a contact member (52) designed to be in planar contact with the human body. *Id.* ¶¶8. The contact member includes an embedded heat wire (58). *Id.* ¶¶8. The heat wire provides heat to the body part being massaged. *Id.* ¶¶18.

Lee's massager also includes a body fat sensor (54) integrated into the contact member (52) to measure the body fat of the area being massaged. *Id.* ¶¶8, 19. The control device (34) processes this data and displays the body fat value on the display

(32), allowing users to track their body fat levels and adjust their massage routines for optimal results. *Id.* ¶¶8, 19.

As shown in Figure 3, below, the contact member is arranged so that the heat wire and various sensors surround the massage ball portion of the contact member.



Ex-1006 Fig. 3

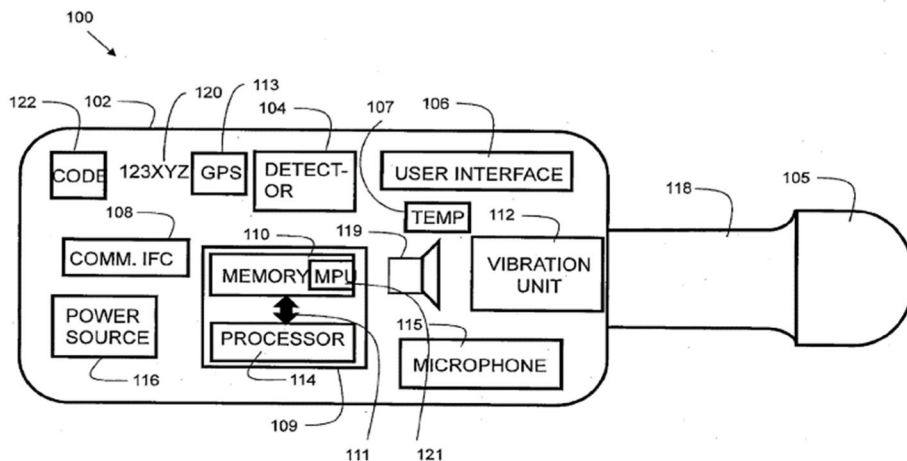
Lee teaches that its massager is designed to provide a more effective massage compared to traditional handheld devices by using a combination of pressure and heat to improve blood circulation and facilitate the decomposition of body fat. *Id.* ¶¶5-8. The display (32) shows body fat measurements, allowing users to monitor their progress and adjust their massage routines accordingly. *Id.* ¶¶8, 19. The control

device (34) ensures that the data from the body fat sensor (54) is accurately processed and displayed, enhancing the overall user experience. *Id.*

**B. U.S. Patent Application Publication No. 2016/0310353
("Barasch") (Ex-1007)**

U.S. Patent Application Publication No. 2016/0310353 ("Barasch") was published on October 27, 2016, and was filed on December 23, 2014. Ex-1007 Cover. Barasch therefore qualifies as prior art to the claims of the '174 Patent at least under AIA 35 U.S.C. § 102(a)(1) and (a)(2).

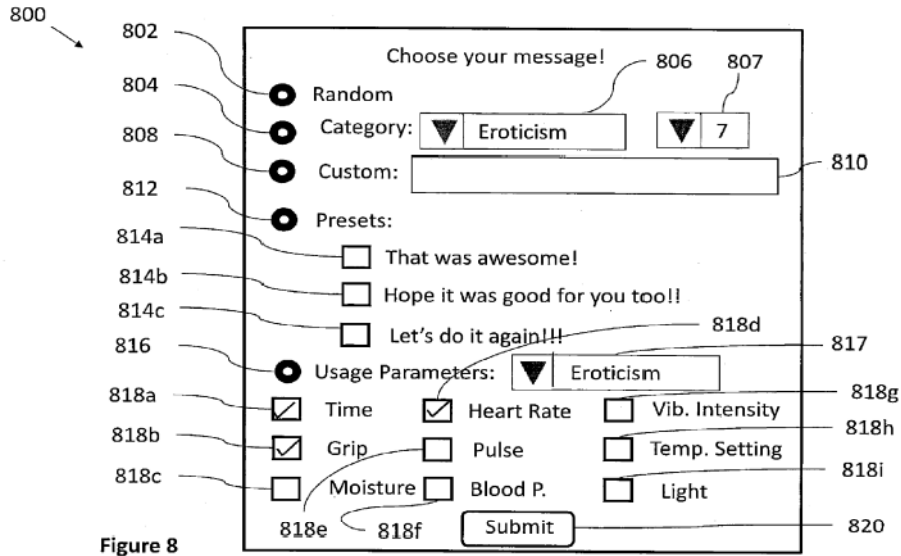
Barasch discloses a massager device that provides feedback messages based on user preferences and events. Ex-1007 ¶29. As shown in Figure 1, Barasch's massager includes a housing, a vibration unit, a power source, a user interface, a communication interface, a computing device, and a massaging shaft with a tip that can move in various patterns, such as oscillation, rotation, or pulsation.



Ex-1007 Fig. 1

The computing device includes a processor, a memory, and a message processing unit. *Id.* ¶48. The message shaft can be heated using a resistive heat process or a thermoelectric cooler to provide temperature variation during use. *Id.* ¶46. The memory stores instructions that enable the computing device to perform various functions, such as receiving user input, analyzing usage data, determining events, and communicating user feedback messages. *Id.* ¶4. The message processing unit can be implemented by the computing device itself, or by a remote device or an application server that communicates with the computing device over a network. *Id.* ¶48. The user interface can include various mechanisms for receiving user input and presenting feedback, such as buttons, switches, screens, speakers, microphones, or touch screens. *Id.* ¶46.

The usage parameter detector can include various mechanisms for monitoring usage data, such as biometric sensors, timers, encoders, or GPS. *Id.* ¶¶40, 56, 82. The usage data can include information such as duration of usage, time of day, biometric readings, user settings, and geographic location. *Id.* ¶¶56, 57, 78. Barasch explains that this data can be used to generate user feedback messages, as shown in Figure 8. *Id.* ¶¶83, 84.



Ex-1007 Fig. 8

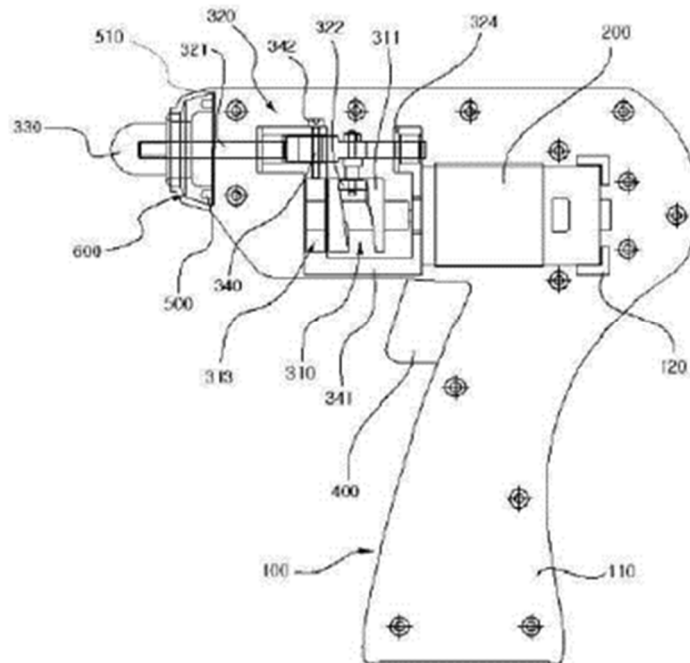
One biometric parameter discussed by Barasch, and shown in Figure 8, is heart rate, which is measured by a heart rate sensor that is typically located on the handle of the massager, where the user's hand or fingers make contact. *Id.* ¶¶56, 85. The heart rate is measured and can be included in the user feedback message which may be displayed on the user interface. *Id.* ¶¶56, 59, Cl. 6.

C. Korean Patent No.10-1123926 (“Choi”) (Ex-1008)⁴

Korean Patent No. 10-1123926 (“Choi”) issued on February 28, 2012, published on April 13, 2012, and was filed on August 24, 2011. Ex-1009 Cover. Choi therefore qualifies as prior art to the claims of the '174 Patent at least under AIA 35 U.S.C. § 102(a)(1) and (a)(2).

⁴ The certified translation of Choi is provided as Ex-1009. Citations and quotations herein to Lee will refer exclusively to this certified translation.

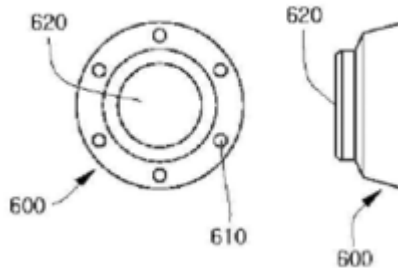
Choi relates to a muscle vibration massage device that is configured as a gun type for convenient use by holding it in the hand. Ex-1009 ¶1. The device comprises a main body with a handle part, a motor for generating vibration, a vibration generating means for converting the rotational force of the motor into horizontal reciprocating motion, a motor control means for controlling the operation of the motor, a gun switch for providing user operation instructions, and an infrared lamp for providing an infrared warming function. *Id.* ¶10. Figure 2 shows the upper part of the main body and the vibration generating means. *Id.* ¶15.



Ex-1009 Fig. 2

Figure 5 shows the structure of the infrared lamp housing, which holds the infrared LED lamp and guides the infrared light to irradiate the skin of the user. *Id.*

¶15.



Ex-1009 Fig. 5

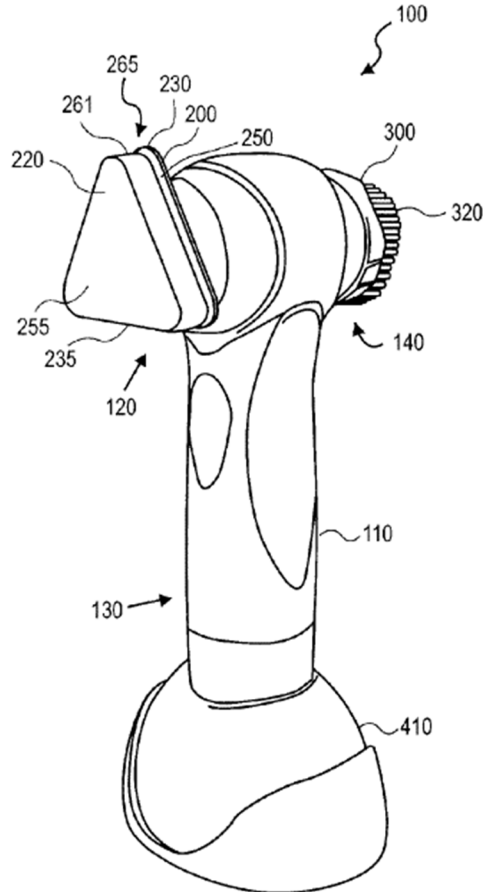
The infrared lamp housing is configured in a circular shape corresponding to the inner surface shape of the main body and is coupled from within the opening of the main body. *Id.* ¶¶45-49. The infrared lamp housing has a plurality of infrared lamp fixing parts spaced at regular intervals along the outer periphery of the circular panel to which the infrared LED lamp is fitted and coupled, and a shaft pass-through hole in the center for passing the slide shaft. *Id.*

The device operates by pulling the gun switch, which activates the motor and causes the vibration rotation part to rotate. *Id.* ¶¶52-53. The rotation of the vibration rotation part causes the vibration slide part to reciprocate horizontally, which in turn causes the vibration stimulation part to vibrate and stimulate the user's muscles. *Id.* ¶¶53-55. The infrared LED lamp also emits infrared light to provide an infrared warming function to the user, and may operate using a separate switch. *Id.* ¶¶49, 51.

D. U.S. Patent No. 7,384,405 (“Rhoades”) (Ex-1010)

U.S. Patent No. 7,384,405 (“Rhoades”) issued on June 10, 2008 and was filed on September 10, 2004. Ex-1010 at Cover. Rhoades therefore qualifies as prior art to the claims of the ’174 Patent at least under AIA 35 U.S.C. § 102(a)(1) and (a)(2).

Rhoades discloses an apparatus and a method for treating human skin and body parts with attachments that can perform functions, through vibration, heating, cooling, and lighting, as shown in Figure 4A.



Ex-1010 Fig. 4A

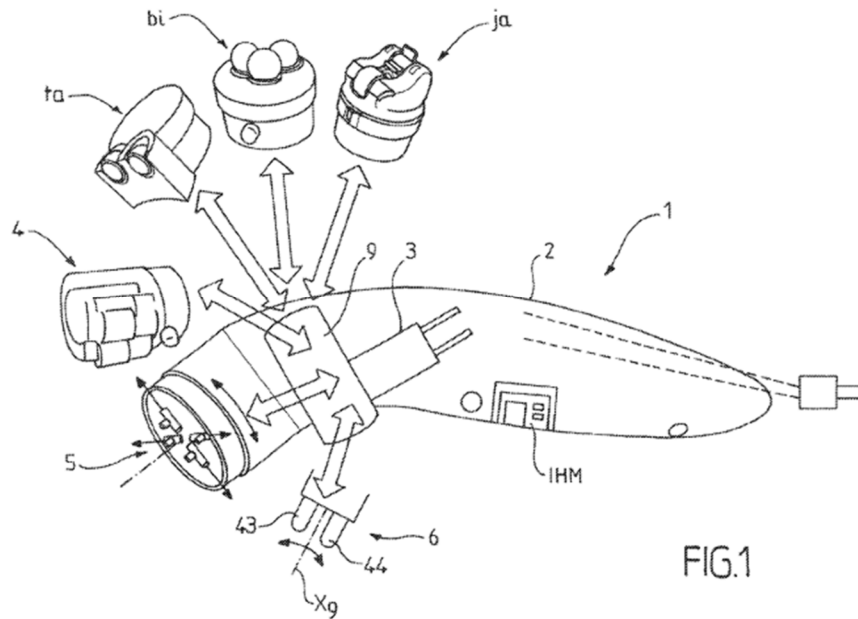
A motion generator moves the head portions by vibrating, spinning, oscillating, or propagating sonic waves through them. *Id.* 7:38-62. The treatment attachments can be snapped, screwed, or adhered to the head portions. *Id.* 11:50-12:7. Rhoades explains that the various treatment attachments may be removably attached or temporarily secured to and removed from the head portion, for example when a user wants to provide a different type of treatment to the skin. *Id.* 15:33-55. For example, Rhoades teaches that heat treatment may be provided with a specific thermal energy providing attachment wherein the heat is generated by a source on or within the thermal energy providing attachment itself. *Id.*, 17:39-18:3. Cooling can similarly be provided by utilizing a cooling attachment. *Id.*, 18:4-18:40.

E. U.S. Patent Application Publication No. 2015/0305969 (“Giraud”) (Ex-1011)

U.S. Patent No. 2015/0305969 (“Giraud”) was published on October 29, 2015 and was filed on October 17, 2013. Ex-1011 at Cover. Giraud therefore qualifies as prior art to the claims of the ’174 Patent at least under AIA 35 U.S.C. § 102(a)(1) and (a)(2).

Giraud discloses a massaging appliance that comprises a body with a driving means, a control means, and a distinguishing means, and various types of massaging heads that can be removably attached to the body and have different massaging elements and functions, as shown in Figure 1, below. Ex-1011 ¶4. The distinguishing means can detect the type of massaging head attached to the body and transmit

information to the control means, which can then adjust the operation of the driving means and other features of the massaging appliance according to the type of massaging head. Ex-1011 ¶¶18-19. The massaging appliance can also include a system for emitting waves, such as light or sound waves, a system for dispensing cosmetic products, and a system for applying transcutaneous iontophoresis treatment. Ex-1011 ¶¶11, 21, 38.



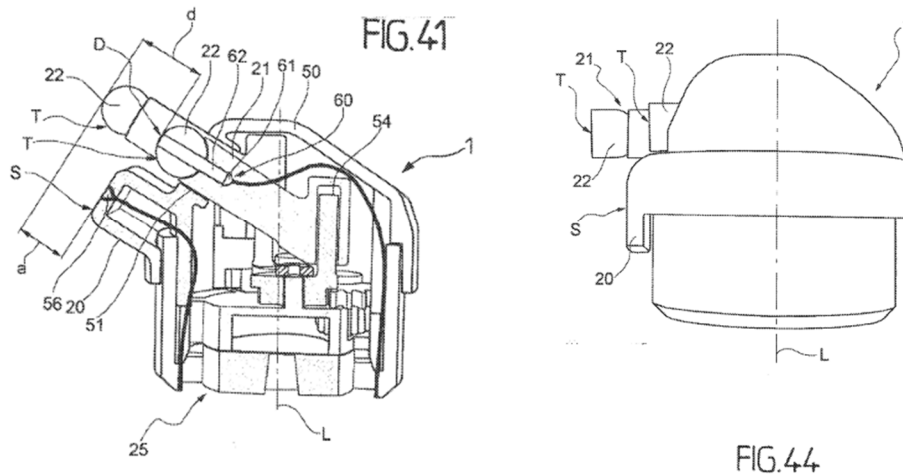
Ex-1011 Fig. 1

The patent application describes several embodiments of the massaging heads and the corresponding massaging techniques and effects. For example, some of the massaging heads have massaging tips or fingers that can move laterally, spin, oscillate, or tap on the skin, performing actions such as pinching, sculpting, firming, or stimulating the skin. Ex-1011 ¶¶8, 27-28, 35. Other massaging heads have

massaging rollers that can spin in the same or opposite directions, performing actions such as folding, kneading, or releasing the skin. Ex-1011 ¶33. Still other embodiments disclose massaging heads that have a pressure element that defines a pressure surface and a work zone, and a work head that protrudes from the pressure surface and spins around an offset axis, performing a deep kneading action. Ex-1011 ¶34. And others have a crown that can spin or oscillate around a perpendicular axis, enhancing the grip and movement of the massaging elements on the skin. *Id.* ¶31.

The patent application also describes various embodiments of the distinguishing means and the control means. The distinguishing means can consist of mechanical, magnetic, or optical sensors that are located on the massaging heads and the body, and that can transmit information to the control means based on the presence or absence of protuberances, notches, contacts, magnets, or light signals on the massaging heads. Ex-1011 ¶123. The control means can consist of an electronic unit that can control the activation, speed, direction, frequency, and coordination of the driving means and the massaging elements, depending on the type of massaging head detected. Ex-1011 ¶10. The control means can also control the emission of waves, such as visible or infrared light waves or ultrasound waves, from the body or the massaging heads, depending on the type of massaging head and the desired skin treatment effect. Ex-1011 ¶206, Cl. 8.

Giraud discloses that its massager includes a means of transmission that allows the movement of the driving means to be transmitted to the massaging elements. In particular, Giraud describes this means of transmission as including a gear system, a sprocket system, a cam system, or a shaft system. Ex-1011 ¶¶88-91, 102, 130. These transmission means allow Giraud to disclose distinct types of movement for the fingers of its massager. For example, Figure 41 shows a massaging head with two massaging fingers that move laterally in a direction perpendicular to the longitudinal axis of the drive unit, while Figure 44 shows a massaging head with two massaging fingers that move laterally in a direction parallel to the longitudinal axis of the drive unit. Ex-1011 ¶¶138-139, 148.



Ex-1011 Figs. 41, 44

Giraud also describes various programs and modes of operation of the massaging appliance, depending on the type of massaging head and the desired skin treatment effect. The programs and modes of operation can be selected and adjusted

by the user via a user interface on the body or can be semi-automatically directed by the control means based on the distinguishing means. Ex-1011 ¶88. The programs and modes of operation can include different phases, durations, intensities, frequencies, and combinations of the massaging elements, such as the wave-emitting means and driving means operating simultaneously. Ex-1011 Cl. 11.

XII. DETAILED EXPLANATION OF THE UNPATENTABILITY GROUNDS UNDER 35 U.S.C. § 103

A. Ground 1: Claims 1-3, 5-6, 8-19 Are Unpatentable Under 35 U.S.C. § 103 As Obvious Over Lee in View of Barasch

1. A POSITA Would Have Been Motivated to Combine Lee's Teachings with Barasch and Would Have Had a Reasonable Expectation of Success

A POSITA would have been motivated to combine Lee and Barasch and would have had a reasonable expectation of success in doing so. Ex-1002 ¶¶124-129.

A POSITA would have recognized that both references are directed to the same field of invention, namely, massage devices that include massaging and heating functionalities. Both also disclose measuring and displaying parameters related to the user's body or the massaged area. A POSITA would have realized that Barasch discloses additional features that would enhance the performance and functionality of Lee, such as a computer (including at least a processor and a message processing unit), a biometric sensor for measuring a user's vital signs, and a cooling mechanism.

For example, a POSITA would have been motivated to add the computer (including the processor and message processing unit) and the user interface of Barasch to the massager of Lee, to enable more user-friendly and efficient control of the massage operation. Ex-1002 ¶126. For example, the computer would enable the user to easily operate the massaging function and the heating function and control the intensity of those functions. A POSITA would understand that Barasch's user interface would provide users with a more modern and functional method of providing inputs and that Barasch's processor would be able to gather and use these and other inputs (such as biometric readings, described below) for example by generating control signals for operating the functionalities of the massager and outputting optical signals to the user. Ex-1007 ¶4. Not only would computer system of Barasch would be a convenient way to allow the user to select various functions and intensities, it would also enable the massager to communicate user feedback messages to a target, such as a remote device or a user interface, based on user preferences and events detected during its use. Ex-1007 ¶¶46-48. The computer would also enable the massager to generate the content of the user feedback messages based on inputs such as biometrics, massager settings, and temporal data. Ex-1007 ¶29. Additionally, the computer would enhance the capabilities of the massager by enabling it to access updates, software, or other services from a network or an application server. Ex-1007 ¶52. Thus, a POSITA would have recognized that

adding Barasch's computer and user interface to the massager of Lee would improve the massager by providing more functionality, flexibility, interactivity, and personalization to the user. Ex-1002 ¶¶ 81, 126.

A POSITA would have also been motivated to add the biometric sensor and in particular the heart rate sensor of Barasch to the massager of Lee, because such a sensor would enable the massager to measure the user's heart rate and other vital signs during the use of the massager, providing the user with valuable feedback and information about their physiological state. Ex-1002 ¶¶ 82, 86, 127. Such a sensor would also allow the massager to use the heart rate as an input for the massaging and heating functions, user feedback messages, and for tracking purposes. Ex-1007 ¶56. For example, the biometric sensor would enable the massager to provide feedback or warnings to the user based on the heart rate, such as to indicate the level of stimulation, relaxation, or health risk. Ex-1007 ¶56. Thus, adding the biometric sensor to the massager of Lee would improve the massager by providing more information, feedback, and safety to the user. Ex-1002 ¶¶ 82, 86, 127.

A POSITA would have further been motivated to add the cooling mechanism of Barasch to the massager of Lee, because the cooling mechanism would enable the massager to provide cooling to the massaged area, in addition to or instead of heating. Ex-1007 ¶46. The cooling mechanism would allow the massager to adjust the temperature of the massaged area according to the user's preference, the usage

parameter, or the content of the user feedback message. *Id.* The cooling mechanism would also enable the massager to provide a contrast or a variation of temperature to the massaged area, which may enhance the stimulation and relaxation effects. Ex-1002 ¶128. Thus, adding the cooling mechanism to the massager of Lee would improve the massager by providing more options, comfort, and enjoyment to the user. Ex-1002 ¶128.

A POSITA would have had a reasonable expectation of success in combining the teachings of Lee and Barasch because they teach compatible systems—namely, massage devices with multiple types of energy generation such as massage and heating. Ex-1002 ¶¶88-104, 129. Furthermore, because Lee and Barasch provide massage devices that operate in similar ways, a POSITA would have understood that their teachings could be combined with little to no change in their respective functions. For example, Lee discloses an automatic percussion massager that includes a motor, a rotating gear, a linear gear, a massage rod, a protective cover, a display, a body fat sensor, a heat wire, and a temperature sensor. Ex-1006 Abstract. Similarly, Barasch discloses a massager that includes a vibration unit, a computer, a user interface, a biometric sensor, and a heating/cooling mechanism. Ex-1007 ¶29. Moreover, a POSITA would have had a reasonable expectation of success in combining the teachings of Lee with the teachings of Barasch because the combination would not require undue experimentation or modification of the

existing components and because the combination would not introduce any incompatibility or contradiction between the references. Ex-1002 ¶¶ 88-104, 129.

2. Independent Claim 1

a. Element 1[pre]: “A treatment device, comprising:”

To the extent the preamble is limiting, Lee-Barasch teaches or suggests Element 1[pre]. Ex-1002 ¶130. For example, Lee discloses that it “relates to an automatic percussion massager” and that the massager “can be used to facilitate fatigue recovery or body fat decomposition by applying pressure to the human body with a certain amount of impact.” Ex-1006 ¶2, 5.

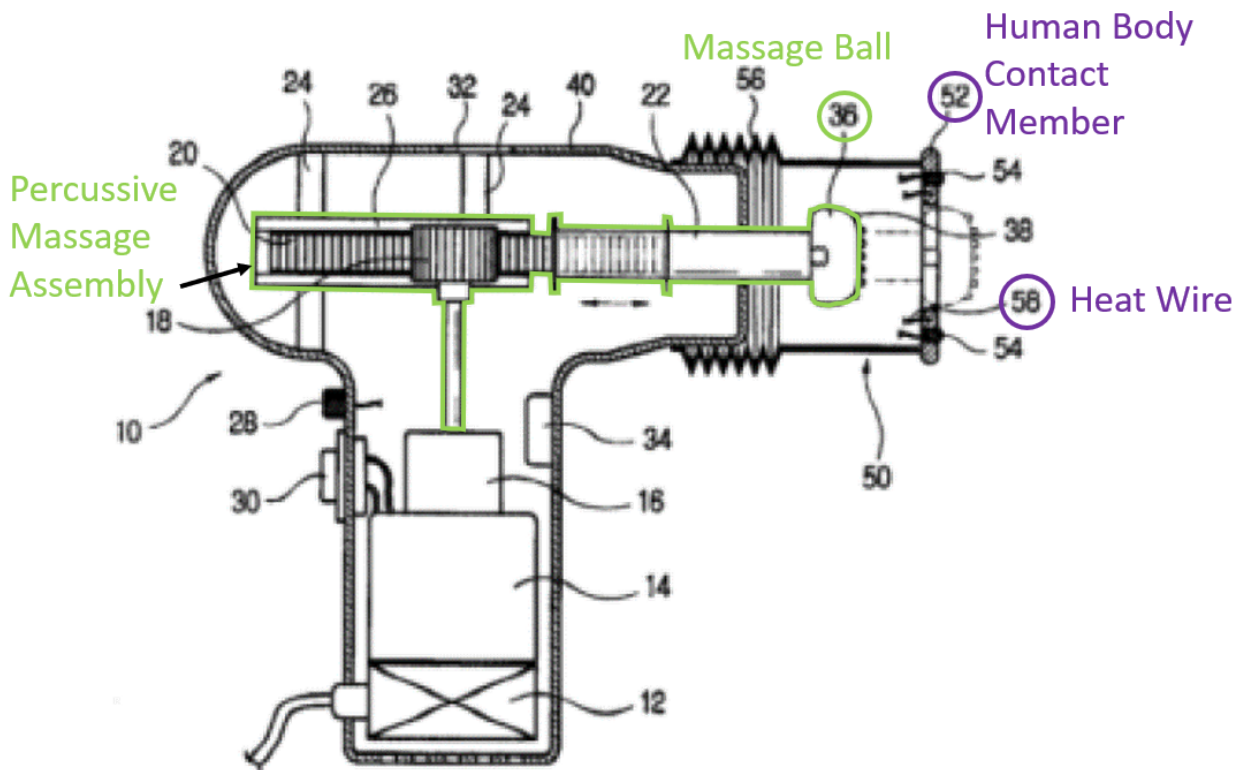
b. Element 1[a]: “a body provided with a processing unit and a power source; and”

Lee-Barasch teaches or suggests Element 1[a]. Ex-1002 ¶¶131-133. For example, Lee discloses the basic structure of a massage gun including that its “invention comprises a body 10 and a protective cover 50,” as shown in Figure 1 below. Ex-1006 ¶10. Moreover, Lee explains that the body “has a case 40 having a ‘T’ shape, and a power supply unit 12 mounted on the lower part of the case.” *Id.* ¶12.

- c. **Element 1[b]: “a plurality of energy generator elements being independently operable to convert electricity from the power source into a plurality of different energy types transmittable towards an area of skin of a user, the plurality of energy generator elements being arranged coaxially about an axis,”**

Lee-Barasch teaches or suggests element 1[b]. Ex-1002 ¶¶134-138. Lee discloses a percussive massage element to massage the skin, which acts as the first energy generator element, and a heat wire to warm the skin, which acts as a second energy generator element. *See* Ex-1006 ¶¶7-8. Both the percussive massage element and the heat wire convert electricity from the power source into different energy types (kinetic energy and heat energy) that are transmittable toward an area of skin of the user. For example, regarding the percussive massage element, Lee discloses that the “rotational force of the motor 14, which operates as the operating power is supplied, is slowed down to a suitable speed by the gearbox 16 and transmitted to the rotating gear 18, and the rotational force of the rotating gear 18 is transmitted to the engaged linear gear 20 to cause the massage rod 22 formed integrally with the linear gear 20 to reciprocate in a linear line.” Ex-1006 ¶12. As this linear reciprocation occurs, a massage ball reciprocates outward to contact the user and transmit energy toward the area of skin of the user contacted by “a human body contact member 52 ... in direct contact with the human body.” Ex-1006 ¶16. Similarly, the human body contact member comprises the second energy generator because it is “configured to enhance the massage effect ... by applying a

predetermined heat to the body part to be massaged by installing a heat wire (58) that emits a predetermined heat by a power supplied by the power supply part (12).” Ex-1006 ¶18. Accordingly, a POSITA would have understood that the second energy type, heat, is transmitted to the skin of the user through the heat wire included in the human body contact member. These two energy generators are illustrated in Figure 1, annotated below.

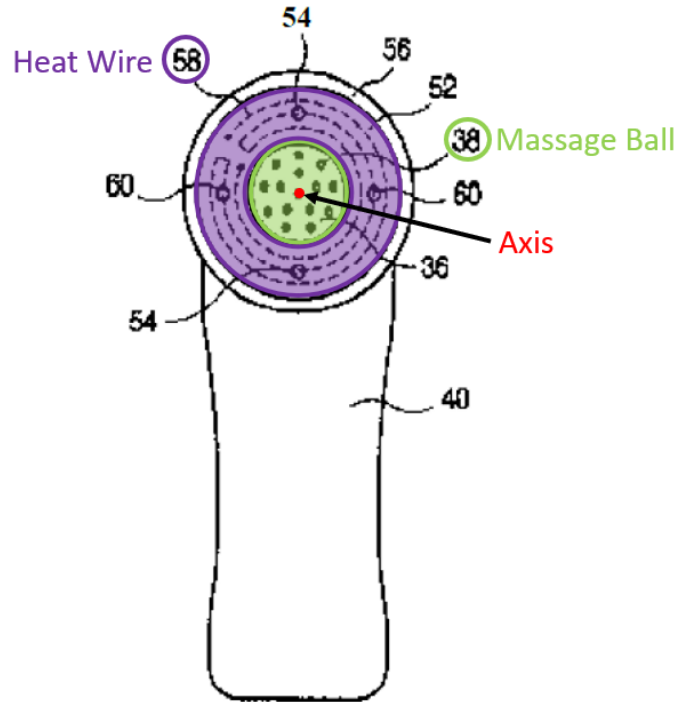


Ex-1006 Fig. 1

Moreover, a POSITA would have understood that the percussive massage and heat wire elements are independently operable because Lee refers to an on/off switch (30) that operates the motor (Lee, Abstract), and a separate temperature control switch (28) that adjusts the temperature of the heat wire (Lee, ¶18). Further, Lee

refers to the heat wire as enhancing the massage effect “by applying a predetermined heat to the body part *to be massaged*.” Ex-1006 ¶18. In other words, a POSITA would have understood that the heat compress is applied first to prepare the area of skin of massage and that the percussive massage is applied afterwards, indicating that both energy generators are independently operable.

Finally, Lee discloses that the massage ball portion of the percussive massage energy generator is arranged to reciprocate through the center of the human body contact portion, where the heat wire is located. Accordingly, as shown in Figure 2, annotated below, a POSITA would have understood that the energy generator elements are arranged coaxially around an axis, where the axis goes through the center of the massage ball (i.e., into the page in the Figure below).



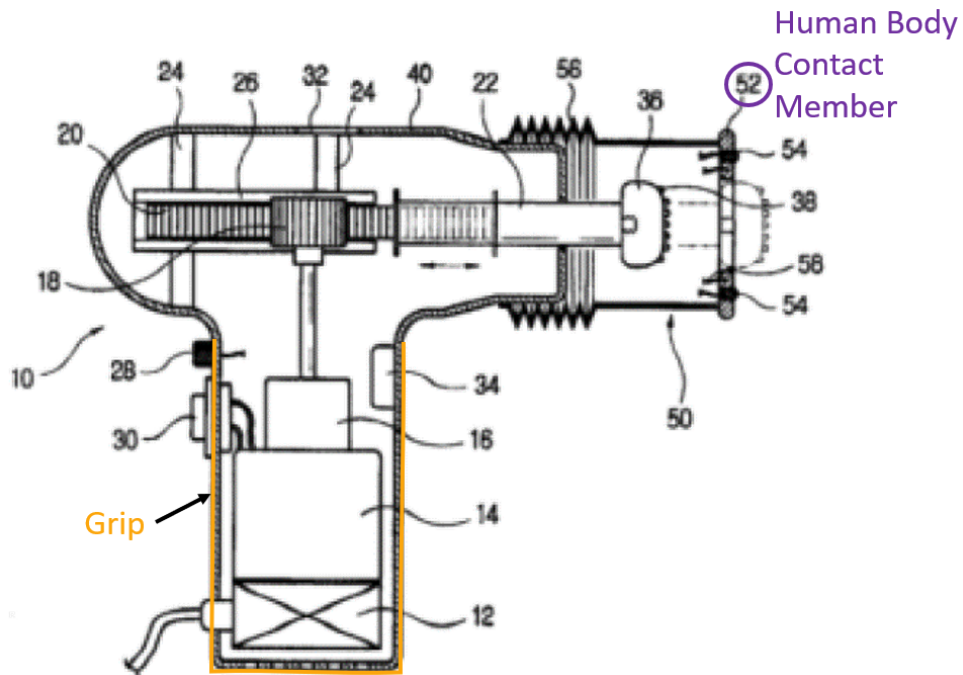
Ex-1006 Fig. 3

Accordingly, Lee-Barasch teaches the plurality of energy generator elements being arranged coaxially about an axis. Ex-1002 ¶¶136-138.

- d. **Element 1[c]: “wherein the body includes a grip arranged to be grasped by a hand of the user applying a gripping force to maintain the plurality of energy generator elements on or adjacent the area of skin,”**

Lee-Barasch teaches or suggests Element 1[c]. Ex-1002 ¶139. Lee discloses a massager that includes a grip that is grasped by the hand of the user to massage an area of skin. For example, Lee discloses that its invention is directed to “an automatic percussion massager that *can be carried* by a user and *held in the hand* for easy massage or acupressure on any part of the body.” Ex-1006 ¶21. Given that Lee describes handheld massagers as “designed to be used by the practitioner to massage

or acupressure the desired area,” a POSITA would understand that the grip of Lee’s massager is grasped by the user in order to maintain the human contact portion against the area of the skin that the user desires to massage, which in turn maintains the heat wire and percussive massage assembly (i.e., plurality of energy generator elements) on or adjacent to the area of skin. Ex-1002 ¶139.



Ex-1006 Fig. 1

- e. **Element 1[d]: “wherein the plurality of energy generator elements includes a first energy generator element and a second energy generator element, and wherein the first energy generator element is an impact generator element having a tissue contact surface that is linearly actuatable along the axis to contact and cause corresponding physical movement of the area of skin.”**

Lee-Barasch teaches or suggests Element 1[d]. Ex-1002 ¶¶140-141. As discussed above with reference to element 1[b], Lee discloses a plurality of energy generators, including a percussive massage element and a heat wire, which constitute the first and second energy generator elements, respectively. Specifically, Lee’s percussive massage element is the claimed impact generator. For example, Lee discloses that the “automatic percussion massager ... appl[ies] pressure to the human body with a certain amount of *impact*.” Ex-1006 ¶5. Lee explains that this impact massage is accomplished by utilizing “a linear gear which meshes with the rotor and reciprocates in a linear line along a guide; a massaging rod integrally formed with the rotor and linear gear to reciprocate in and out of the case.” Ex-1006 ¶8. Lee further discloses that a “massage ball 36 is fixedly or removably attached to the end of the massage rod 22,” such that “the massage ball 36 [] reciprocates in a linear line outwardly of the body 40.” Ex-1006 ¶¶14, 16. From this disclosure, a POSITA would have understood that the impact generator element included a tissue contact surface (i.e., massage ball) that is linearly actuatable along the axis to contact (as it reciprocates into and out of the body of the massager). Ex-1002 ¶140.

Moreover, a POSITA would have understood that as the massage ball contacted the area of skin during operation that corresponding physical movement would occur at the skin. Ex-1002 ¶140.

Accordingly, Claim 1 is obvious over Lee-Barasch.

3. **Claim 2: “The treatment device of claim 1, wherein the impact generator element further includes a drive mechanism and a piston, wherein the drive mechanism is operably coupled to a controller that directs electricity to the drive mechanism to move the piston and the tissue contact surface along the axis.”**

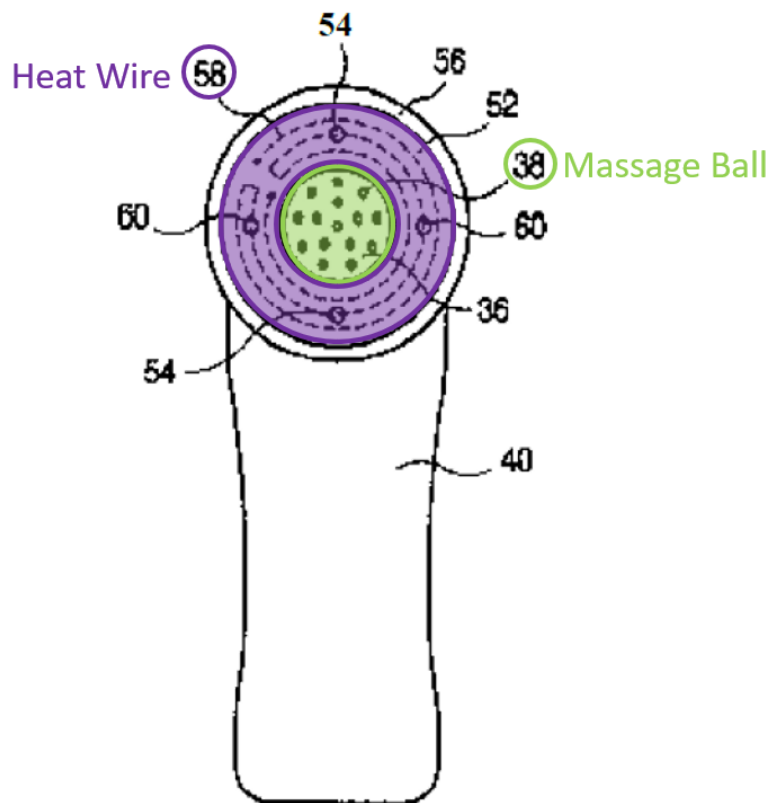
Lee-Barasch renders obvious Claim 2. Ex-1002 ¶¶142-145. Lee discloses a massager with an impact generator as described above with reference to element 1[d]. Further, Lee discloses that the impact generator includes a drive mechanism and a piston. For example, Lee discloses that the “automatic percussion massager ... comprises *a motor*,” which acts as the claimed drive mechanism in conjunction with the rotating gear, gearbox, and linear gear. Ex-1006 ¶8. Lee discloses that these elements act together to convert the rotational force of the motor into linear reciprocation. Ex-1006 ¶¶8, 12; Ex-1002 ¶142. Moreover, Lee discloses that a “massaging rod” is “integrally formed with the rotor and linear gear to reciprocate in and out of the case.” Ex-1006 ¶8. A POSITA would have understood that this reciprocating massage rod is a piston that is moved as the drive mechanism (i.e., motor and gears) convert the operating power into rotational force and then into linear reciprocation. Ex-1002 ¶142.

Although Lee does not disclose how its massager controls the operation of the motor, gears, or massage rod beyond indicating that operating power is supplied to the motor “as the user operates the on/off switch 30 for selecting or deselecting the massage function,” it would have been obvious to combine Lee with Barasch in order to take advantage of Barasch’s teaching that a processor is utilized to control the functionalities of the massager. Ex-1002 ¶143. As described in Section XII.A.1 above, a POSITA would have been motivated to combine Lee and Barasch, and would have been motivated to apply Barasch’s teachings about a processing unit to Lee’s massaging device.

Barasch discloses that its massager comprises “at least one computing device comprising a processor and memory.” Ex-1007 ¶4. Barasch teaches that “[p]rocessor 114 is configured and disposed to access instructions stored in memory 110 and execute them to provide one or more of the various functionalities of massager 100.” Ex-1007 ¶47. A POSITA would have understood that one of the functionalities of Lee’s massager is directing the electricity to the drive mechanism to move the piston. Ex-1002 ¶144. For example, Lee teaches that the operating power is supplied by the power supply unit to the motor 14, and a user operates various massage functions. Ex-1006 cl. 1 (“operation of an on/off switch ... [is] for selecting or de-selecting a massage function”).

4. **Claim 3: “The treatment device of claim 1, wherein the second energy generator element is substantially ring shaped and arranged coaxially about the first energy generator element.”**

Lee-Barasch renders obvious Claim 3. Ex-1002 ¶¶146-147. As discussed with reference to element 1[b], Lee discloses a heat wire that is the second energy generator element and a massage ball that is part of the first energy generator element. *See supra* Section XII.A.2.c. As shown in Figure 3, annotated below, Lee discloses that the heat wire is substantially ring shaped and arranged coaxially about the massage ball portion of the impact generator.



Ex-1006 Fig. 3

5. Claim 5: “The treatment device of claim 1, wherein the second energy generator element includes a heat generator element.”

Lee-Barasch renders obvious Claim 5. Ex-1002 ¶¶148-149. As discussed with reference to element 1[b], Lee discloses a heat wire, which is a heat generator element and constitutes the claimed second energy generator element. *See supra* Section XII.A.2.c.

6. Claim 6: “The treatment device of claim 1, wherein a first one of the plurality of different energy types is an impact force applied against a surface of the area of skin and a second one of the plurality of different energy types is a heat flux directed toward the area of skin.”

Lee-Barasch renders obvious Claim 6. Ex-1002 ¶¶150-151. As discussed with reference to elements 1[b] and 1[d], Lee discloses percussive massage elements, including a massage ball that functions as the first energy generator element and a heat wire that acts as the second energy generator element. *See supra* Sections XII.A.2.c and XII.A.2.e. A POSITA would have recognized that the energy type delivered by the percussive massage elements of Lee’s massager is an impact force applied against a surface of the skin. Ex-1002 ¶150. For example, Lee discloses that its “percussion massager” operates “by applying pressure to the human body with a certain amount of *impact*.” Ex-1006 ¶5. Similarly, a POSITA would have understood that a heat wire directs a heat flux toward the area of skin. Ex-1002 ¶150. For example, Lee discloses that the heat wire enables “the massaged area to be

steamed to a predetermined temperature” and that the “heat wire (58) emits a predetermined heat by a power supplied by the power supply part.” Ex-1006 ¶¶7, 18. A POSITA would understand that a heat wire generates heat through resistance, physically heating the wire and then radiating heat in a heat flux towards the area of skin. Ex-1002 ¶150.

7. Independent Claim 8

a. Element 8[pre]: “A treatment device, comprising:”

To the extent the preamble is limiting, Lee-Barasch teaches or suggests Element 8[pre] for the reasons described with respect to Element 1[pre]. *Supra* Section XII.A.2.a; Ex-1002 ¶152; Ex-1020.

b. Element 8[a]: “a body provided with a sensor, a power source, and a processing unit configured to receive input data and generate a control signal based on the input data, the body further including a skin contacting surface maintainable against skin of a user by a force applied by a hand of the user when gripping the body; and”

Lee-Barasch teaches or suggests Element 8[a]. Ex-1002 ¶¶153-155. For the reasons described with respect to element 1[a], Lee discloses a body provided with a power source and a processing unit. *Supra* Section XII.A.2.b; Ex-1002 ¶153; Ex-1020. Similarly, for the reasons described with reference to element 1[c], Lee also discloses that the body further includes a skin contacting surface (e.g., a grip) that is maintainable against the skin of a user by a force applied by a hand of the user when gripping the body. *Supra* Section XII.A.2.d; Ex-1002 ¶153; Ex-1020.

Further, Lee-Barasch also discloses that the body is provided with a sensor. Ex-1002 ¶154. For example, Barasch discloses that “massager 300 includes at least one detector 308 for monitoring one or more usage parameters.” Ex-1007 ¶56. Barasch goes on to explain that the “[d]etector may include, for example, a sensor,” including “at least one of a heart rate sensor, a blood pressure sensor, a body temperature sensor, [and] a pulse sensor,” among others. Ex-1007 ¶56. As described above in Section XII.A.1, a POSITA would have been motivated to combine Lee and Barasch and would have found it obvious to utilize Barasch’s teachings related to biometric sensors in the context of Lee’s massaging device, which also discloses other types of sensors, such as temperature sensors and body fat sensors. Ex-1006 ¶8, Ex-1002 ¶¶88-104, 124-129, 154.

Additionally, Lee-Barasch discloses “a processing unit configured to receive input data and generate a control signal based on the input data.” Ex-1002 ¶155. For example, Barasch discloses that “[u]ser interface 106 comprises a mechanism for massager 100 to receive input from a user (and in some embodiments, to present feedback to the user.” Ex-1007 ¶46. Barasch explains that the input may be a selection of the power setting or various massage settings within the device. *Id.* Barasch goes on to explain that the massager includes an on-board “computer 109 including a processor 114,” which is “configured to access instructions stored in memory 110 and execute them to provide one or more of the various functionalities

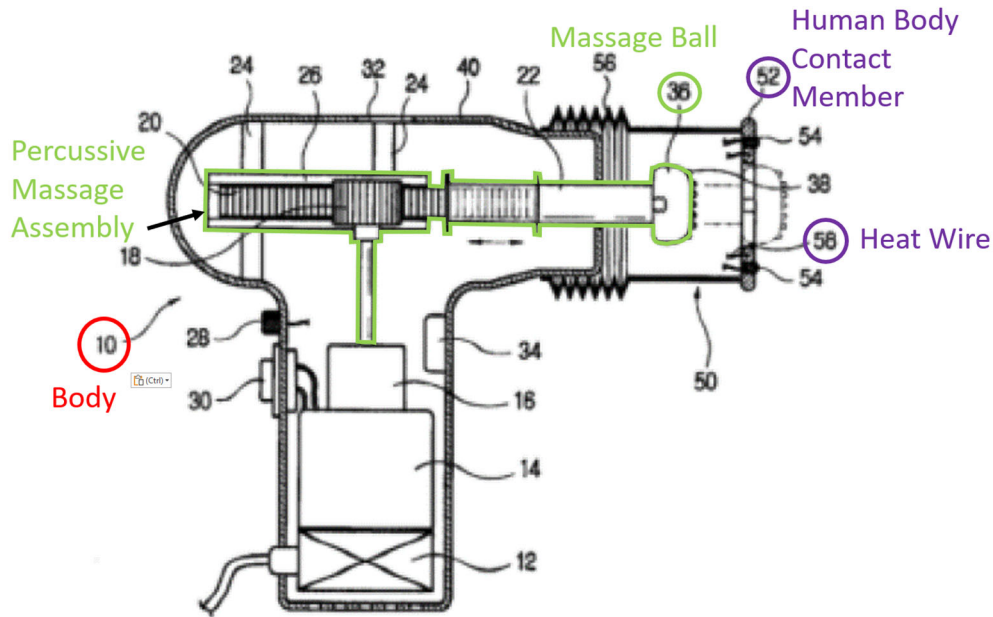
of massager 100.” Ex-1007 ¶47. From this disclosure, a POSTIA would have understood, or it would have at least been obvious, that the user’s input is received by the computer 109, which acts as a processing unit. Ex-1002 ¶155. Moreover, Barasch teaches that the user interface may be an LED or LCD display or “any other suitable display mechanism” and that it may be used to present information to the user and allow the selection of settings. Ex-1007 ¶46. To present this information to a user, including to update the user interface to reflect the user input (e.g., the selection of a particular mode), it would have been obvious to a POSITA to utilize a control signal based on the user input data. Ex-1002 ¶155. Indeed, using such a control signal would have been one of a limited number of options for reflecting the user input on the display. Ex-1002 ¶155.

- c. **Element 8[b]: “a first energy generator element and a second energy generator element coupled to the body, the first and second energy generator elements being independently operable to convert electricity from the power source into a first energy type and a second energy type, respectively, and direct the first and second energy types toward an area of skin, the first energy generator element including an impact generator element having a tissue contact surface that is linearly actuatable along an axis to contact and cause corresponding physical movement of the area of skin,”**

Lee-Barasch teaches or suggests Element 8[b]. Ex-1002 ¶¶156-157. For the reasons described with respect to element 1[b], Lee discloses “the first and second energy generator elements being independently operable to convert electricity from

the power source into a first energy type and a second energy type, respectively, and direct the first and second energy types toward an area of skin.” *Supra* Section XII.A.2.c; Ex-1002 ¶156; Ex-1020. Similarly, for the reasons described with reference to element 1[d], Lee also discloses that “the first energy generator element includ[es] an impact generator element having a tissue contact surface that is linearly actuatable along an axis to contact and cause corresponding physical movement of the area of skin.” *Supra* Section XII.A.2.e; Ex-1002 ¶156; Ex-1020.

To the extent the disclosures in elements 1[b] and 1[d] do not disclose “a first energy generator element and a second energy generator element coupled to the body,” Lee also discloses that the first and second energy generator elements are coupled to the body. For example, Lee discloses that “The protective cover 50 is for protecting the massage ball 36 that reciprocates in a linear line outwardly of the body 40, and *comprises a human body contact member 52* that is restrained by the body 40 on one side, and a human body contact member 56 that is formed on the other side in direct contact with the human body.” Ex-1006 ¶16. Moreover, the human body contact member also comprises a “heat wire (58),” which is the second energy generator element. Figure 1, annotated below illustrates that both energy generators are coupled to the body.



Ex-1006 Fig. 1

- d. **Element 8[c]: “wherein the sensor is configured to detect additional input data based on a vital sign of the user and transmit the input data for display”**

Lee-Barasch teaches or suggests Element 8[c]. Ex-1002 ¶¶158-163. For example, Barasch discloses that “massager 300 includes at least one detector 308 for monitoring one or more usage parameters.” Ex-1007 ¶56. Barasch goes on to explain that the “[d]etector may include, for example, a sensor,” including “at least one of a heart rate sensor, a blood pressure sensor, a body temperature sensor, [and] a pulse sensor,” among others. *Id.* Thus, a POSITA would have understood that the detector in Barasch is a sensor that detects input based on a vital sign of the user, such as the user’s heart rate. Ex-1002 ¶158. As described above in Section XII.A.1, a POSITA would have been motivated to combine Lee and Barasch and would have found it

obvious to utilize Barasch's teachings related to biometric sensors in the context of Lee's massaging device.

In addition, Barasch discloses transmitting the vital sign input for display. For example, Barasch discloses generating a "user data message," (also called a "user feedback message") which is a "message/data structure containing information about the user and/or usage of the massager." Ex-1007 ¶¶35, 82. "The usage data may include ... *biometric readings, such as heart rate or pulse.*" Ex-1007 ¶35.

Barasch explains that these biometric parameters are additional input data:

"During use of massager 300, the user's hand or fingers may make contact with biometric sensor 306, such that one or more such physiological parameters can be measured. Physiological parameters, which may be measured, include, but are not limited to heart rate, pulse, blood pressure, body temperature, skin conductivity, moisture, grip pressure, usage pressure, and any other suitable parameters. For example, the biometric sensor 306 may include a strain gauge (which serves as a grip pressure sensor). The biometric sensor 306 may include electrodes for contact with the user's skin to measure the heart rate, blood pressure, body temperature (thermometer), and/or pulse."

Ex-1007 ¶56.

Figure 10c provides an example flow chart of how the user's heart rate may be included in the message to the user:

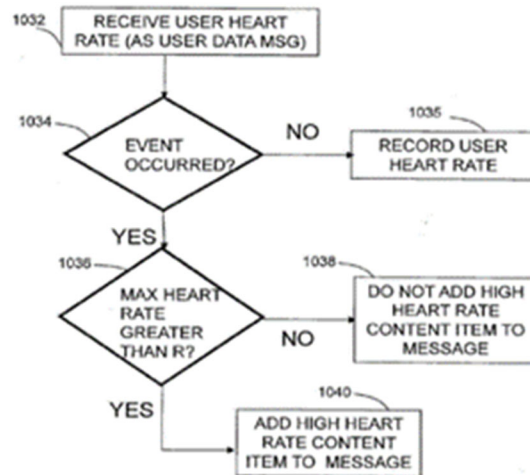


Figure 10C

Ex-1007 Fig. 10C

Moreover, Barasch makes it clear, and a POSITA would have understood, that the “user feedback message” may be provided to the user directly on the display of the massager. Ex-1002 ¶162. For example, Barasch discloses that the “user interface 1500 [is] for displaying content of a user feedback message” and can be “displayed on any suitable interface” including the “massager user interface screen.” Ex-1007 ¶100. *See also* Ex-1007 ¶46 (“User interface 106 comprises a mechanism for massager 100 to receive input from a user (and in some embodiments, to present feedback to the user).”).

Accordingly, Lee-Barasch renders obvious Claim 8.

8. Claim 9: “The treatment device of claim 8, wherein the additional input data corresponds to a heart rate of the user.”

Lee-Barasch renders obvious Claim 9. Ex-1002 ¶¶164-165. As described above with reference to element 8[c], one of the biometric parameters that may be detected by the detector as an additional input may be a user’s heart rate. *Supra* Section XII.A.7.d; Ex-1002 ¶164; Ex-1007 ¶¶35, 56, 82.

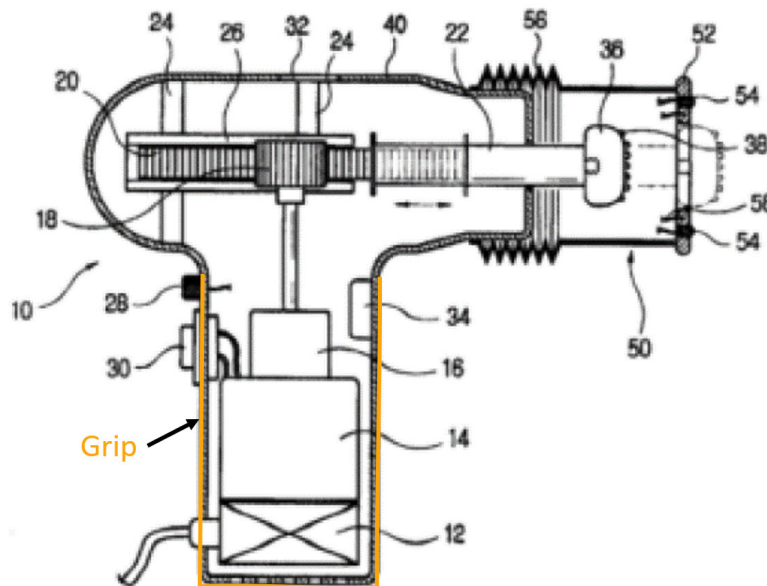
9. Claim 10: “The treatment device of claim 8, further comprising a controller configured to modify intensity of the first energy type and the second energy type.”

Lee-Barasch renders obvious Claim 10. Ex-1002 ¶¶166-167. Barasch discloses that a user may select the massage intensity through the user interface: “[T]he input may be ... selection of vibration settings (e.g., high, medium, or low intensity, or a particular pattern, etc.) and/or selection of other settings such as, for example, a temperature of a heating/cooling mechanism within the massager 100, etc.” Ex-1007 ¶46. *See also* Ex-1007 ¶55 (“Controls 304 may include vibration settings. Additional, controls 304 may include temperature settings...”). Barasch then explains that the massager functionalities (which a POSITA would understand include the massager and heating/cooling functionalities) are controlled by a processor (i.e., “controller”) in computer 109: “Processor 114 is configured and disposed to access instructions stored in memory 110 and execute them to provide one or more of the various functionalities of massager 100.” Ex-1007 ¶47. Note that

although Barasch refers to the massage function as “vibration,” a POSITA would understand that as applied to Lee, Barasch’s processor would control the intensity of the percussive massage functionality. Ex-1002 ¶166.

10. Claim 11: “The treatment device of claim 8, wherein a portion of the body configured to be gripped by the hand of the user is configured to emulate a grip of a gun.”

Lee-Barasch renders obvious Claim 11. Ex-1002 ¶¶168-169. Specifically, as shown in Lee’s Figure 1, below, a POSITA would understand that Lee’s massager is configured such that the portion of the body configured to be gripped by the hand of the user is configured to emulate a grip of a gun because it is shaped similarly to a gun with a “T-shape.” Ex-1002 ¶168; Ex-1006 ¶12 (“The body 10 has a case 40 having a “T” shape.”).



Ex-1006 Fig. 1

- 11. Claim 12: “The treatment device of claim 8, wherein the impact generator element further includes a drive mechanism and a piston, wherein the drive mechanism is operably coupled to a controller to direct electricity to the drive mechanism and move the piston and the tissue contacting surface along the axis.”**

Lee-Barasch renders obvious Claim 12 for the reasons described with respect to Claim 2. *Supra* Section XII.A.3; Ex-1002 ¶170; Ex-1020.

- 12. Claim 13: “The treatment device of claim 12, wherein the second energy generator element is a heat generator element configured to output the second energy type including a heat flux toward the area of skin.”**

Lee-Barasch renders obvious Claim 13. Ex-1002 ¶¶172-173. For the reasons described with respect to Claim 5, Lee discloses “the second energy generator element is a heat generator element.” *Supra* Section XII.A.5; Ex-1002 ¶172; Ex-1020. Similarly, for the reasons described with reference to Claim 6, Lee also discloses that “the second energy generator element is ... configured to output the second energy type including a heat flux toward the area of skin.” *Supra* Section XII.A.6; Ex-1002 ¶172; Ex-1020.

- 13. Claim 14: “The treatment device of claim 13, wherein the heat generator element is arranged coaxially about the axis and at least a portion of the heat generator element extends about at least portion of the piston.”**

Lee-Barasch renders obvious Claim 14. Ex-1002 ¶¶174-175. For the reasons described with respect to element 1[b], Lee discloses “the heat generator element is arranged coaxially about the axis.” *Supra* Section XII.A.2.c; Ex-1002 ¶174; Ex-

1020. Similarly, for the reasons described with reference to Claim 3, Lee also discloses that “at least a portion of the heat generator element extends about at least portion of the piston.” *Supra* Section XII.A.4; Ex-1002 ¶174; Ex-1020. To the extent Claim 14’s requirement that the “heat energy generator element extends about at least a portion of the piston” is not disclosed as discussed above, Lee discloses that the piston portion of the first energy generator extends through the heat wire, which is arranged coaxially around the axis traversed by the piston. For example, Lee discloses “a massaging rod integrally formed with the rotor and linear gear to reciprocate in and out of the case.” Ex-1006 ¶8. Moreover, a POSITA would have recognized that the piston is in the same axis as the massage ball 36 reference in Claim 3. Ex-1002 ¶174.

14. Claim 15: “The treatment device of claim 13, further comprising a third energy generator element independently operable of the first and second energy generator elements to output a third energy type toward the area of skin.”

Lee-Barasch renders obvious Claim 15. Ex-1002 ¶176-177. For example, in addition to disclosing massaging and heating, Barasch also discloses a third energy generator element that provides cooling. Barasch explains that “The heating/cooling mechanism 107 may be configured and disposed to provide heat and/or cooling to the external shaft 118” and that “cooling “be accomplished using a thermoelectric component, such as a thermoelectric cooler (Peltier cooler) disposed within shaft 118.” As described above in Section XII.A.1, a POSITA would have been motivated

to combine Lee with Barasch to take advantage of this cooling mechanism and it would have been obvious to do so. Ex-1002 ¶176. Moreover, cooling mechanisms, such as Peltier coolers were well-known at the time, and it would have been well within the skillset of a POSITA to add such a cooling mechanism to Lee's massager and doing so would not have required any undue experimentation. Ex-1002 ¶176.

15. Claim 16: “The treatment device of claim 15, further comprising a controller configured to modify an intensity of the first, second, and third energy types.”

Lee-Barasch renders obvious Claim 16. Ex-1002 ¶¶178-179. For the reasons described with respect Claim 10, Barasch discloses “a controller configured to modify an intensity of the first [and] second ... energy types” (e.g., massage intensity and heating). *Supra* Section XII.A.9; Ex-1002 ¶178; Ex-1020. Similarly, Barasch discloses that the user may input selection of “other settings such as, for example, a temperature of a heating/*cooling mechanism* within the massager 100.” Ex-1007 ¶46. And, like the other energy types, the cooling mechanism would be controlled by processor 114, which “is configured and disposed to access instructions stored in memory 110 and execute them to provide one or more of the various functionalities of massager 100,” which a POSITA would have understood would include the cooling functionality. Ex-1007 ¶47; Ex-1002 ¶178.

16. Independent Claim 17

a. Element 17[pre]: “A treatment device, comprising:”

To the extent the preamble is limiting, Lee-Barasch teaches or suggests Element 17[pre] for the reasons described with respect to Element 1[pre]. *Supra* Section XII.A.2.a; Ex-1002 ¶180; Ex-1020.

b. Element 17[a]: “a body provided with a power source and a processing unit configured to receive input data and generate a control signal based on the input data, the body including a skin contacting surface maintainable against skin of a user by a force applied by a hand of the user when gripping the body; and”

Lee-Barasch teaches or suggests Element 17[a]. Ex-1002 ¶181. For the reasons described with respect to element 1[a], Lee discloses a body provided with a power source and a processing unit. *Supra* Section XII.A.2.b; Ex-1002 ¶181; Ex-1020. Similarly, for the reasons described with reference to element 1[c], Lee also discloses that the body further includes a skin contacting surface (e.g., a grip) that is maintainable against the skin of a user by a force applied by a hand of the user when gripping the body. *Supra* Section XII.A.2.d; Ex-1002 ¶181; Ex-1020. Moreover, for the reasons described with reference to element 8[a], Barasch discloses “a processing unit configured to receive input data and generate a control signal based on the input data.” *Supra* Section XII.A.7.b; Ex-1002 ¶181; Ex-1020

- c. **Element 17[b]: “a first energy generator element and a second energy generator element coupled to the body, the first and second energy generator elements being independently operable to convert electricity from the power source into a first energy type and a second energy type, respectively, and direct the first and second energy types toward an area of skin, the first energy generator element including an impact generator element having a tissue contact surface that is linearly actuatable along an axis to contact and cause corresponding physical movement of the area of skin;”**

Lee-Barasch teaches or suggests Element 17[b]. Ex-1002 ¶182-183. For the reasons described with respect to element 1[b], Lee discloses “the first and second energy generator elements being independently operable to convert electricity from the power source into a first energy type and a second energy type, respectively, and direct the first and second energy types toward an area of skin.” *Supra* Section XII.A.2.c; Ex-1002 ¶182; Ex-1020. Similarly, for the reasons described with reference to element 1[d], Lee also discloses that “the first energy generator element includ[es] an impact generator element having a tissue contact surface that is linearly actuatable along an axis to contact and cause corresponding physical movement of the area of skin.” *Supra* Section XII.A.2.e; Ex-1002 ¶182; Ex-1020.

To the extent the disclosures in elements 1[b] and 1[d] do not disclose “a first energy generator element and a second energy generator element coupled to the body,” Lee also discloses that the first and second energy generator elements are

coupled to the body for the reasons described with reference to element 8[b]. *Supra* Section XII.A.7.c; Ex-1002 ¶183; Ex-1020.

d. Element 17[c]: “wherein the processing unit is operable to output an optical signal on a display that is observable by eyes of the user, the output corresponding to the control signal.”

Lee-Barasch teaches or suggests Element 17[c]. Ex-1002 ¶¶184-186. For example, Barasch discloses that “[u]ser interface 106 comprises a mechanism for massager 100 to receive input from a user (and in some embodiments, to present feedback to the user).” Ex-1007 ¶46. Barasch teaches that the user interface may be an LED or LCD display or “any other suitable display mechanism” and that it may be used to present information to the user and allow the selection of settings. *Id.* Thus, a POSITA would have understood that the user interface includes a display that outputs an optical signal that is observable by the eyes of the user.

This optical signal would correspond to the control signal generated upon the user’s input, such as a selection of the power setting or various massage settings within the device. Ex-1007 ¶46. Barasch explains that the massager includes an on-board “computer 109 including a processor 114,” which is “configured to access instructions stored in memory 110 and execute them to provide one or more of the various functionalities of massager 100.” Ex-1007 ¶47. From this disclosure, a POSTIA would have understood, or it would have at least been obvious, that the user’s input is received by the computer 109 and, to present this information to a

user, including in order to update the user interface to reflect the user input (e.g., the selection of a particular mode), it would have been obvious to a POSITA to utilize a control signal based on the user input data. Ex-1002 ¶185. Indeed, using such a control signal would have been one of a limited number of options for reflecting the user input on the display. Ex-1002 ¶185.

Accordingly, Lee-Barasch renders obvious Claim 17.

17. Claim 18: “The treatment device of claim 17, wherein a portion of the body configured to be gripped by the hand of the user is configured to emulate a grip of a gun.”

Lee-Barasch renders obvious Claim 18. Ex-1002 ¶¶187-188. For the reasons described with respect to Claim 11. *Supra* Section XII.A.10; Ex-1002 ¶187; Ex-1020.

18. Claim 19: “The treatment device of claim 17, further comprising a sensor to detect additional input data based on a vital sign of the user, the additional input data corresponding to a heart rate of the user.”

Lee-Barasch renders obvious Claim 19. Ex-1002 ¶¶189-190. For the reasons described with respect to Claim 9. *Supra* Section XII.A.8; Ex-1002 ¶189; Ex-1020.

B. Ground 2: Claim 4 is unpatentable under 35 U.S.C. § 103 as obvious over Lee in view of Barasch and, further in view of Choi

1. A POSITA Would Have Been Motivated to Combine Choi’s Teachings with the Combination of Lee and Barasch and Would Have Had a Reasonable Expectation of Success

A POSITA would have been motivated to combine the teachings of Choi with the Lee-Barasch massager. Ex-1002, ¶¶192-195. Lee discloses a patent application

for an automatic percussion massager, which comprises a motor, a rotating gear, a linear gear, a massage rod, and a cylindrical protective cover. Ex-1006 Abstract. The protective cover includes a contact member that has a heat wire embedded therein, a body fat sensor, and a temperature sensor. Ex-1006 ¶¶16-18. The contact member can provide heat and measure body fat and temperature of the massaged area. *Id.* Barasch similarly discloses a massager device that includes a massaging head with integrated heating and cooling functionality, a user interface, a communication interface, and a computer. Ex-1007 ¶¶4-6, 46. The computer can receive user input, analyze usage data, determine an event, and communicate a user feedback message to a target. Ex-1007 ¶¶4, 46-48. The user feedback message can include content based on various user preferences and usage parameters, such as biometric, temporal, and massager settings data. Ex-1007 ¶29.

Likewise, Choi discloses a massage device, which comprises a main body with a gun-shaped handle, a motor, a massager, a motor control means, and an infrared lamp to provide heat directed toward the skin. Ex-1009 ¶¶10, 20. The infrared lamp comprises an infrared LED lamp and an infrared lamp housing. Ex-1009 ¶¶20, 45-49. The infrared lamp housing is configured to fix the infrared LED lamp and to guide the infrared light generated by the infrared LED lamp to irradiate the skin of the user. Ex-1009 ¶¶20, 46. The infrared lamp can provide an infrared

heating function by operating under the control of the motor control means upon switching of a switch used to provide user operation instructions. Ex-1009 ¶¶17, 51.

A POSITA would have been motivated to combine the teachings of Lee and Barasch with those of Choi because Choi teaches an advantageous way of providing heat using an infrared LED lamp, rather than a heat wire as in Lee. A POSITA would have understood that an infrared LED lamp would have several benefits over a heat wire, such as lower power consumption, longer lifespan, more uniform heating, less risk of overheating or burning, and easier integration with the massager. Ex-1002 ¶¶192-195. In order to maximize the benefit of utilizing an LED light, a POSITA would have been motivated to use the housing as described by Choi to guide the energy of the LED to the skin, as this would enhance the efficiency and effectiveness of the heating function and prevent the loss or dispersion of infrared light. Ex-1002 ¶194; Ex-1009 ¶¶20, 46.

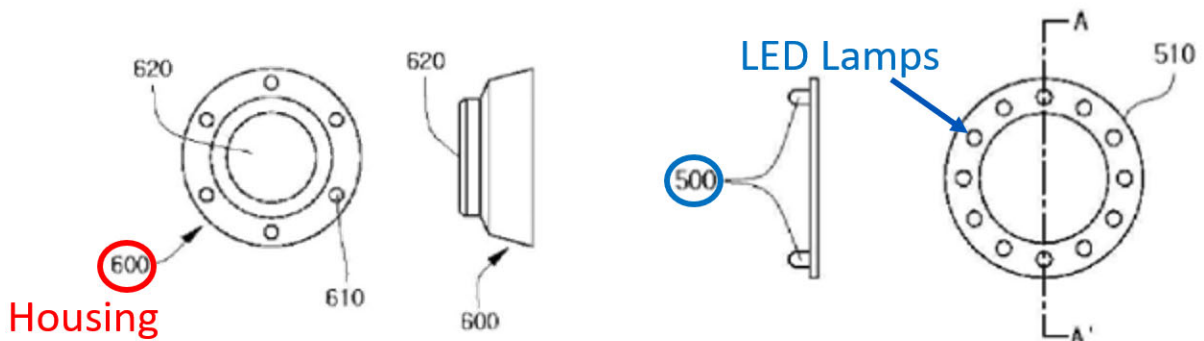
A POSITA would have expected that such a combination would improve the Lee-Barasch combination by providing a more dependable, durable, and user-friendly heating function that would complement the existing functionality of that massager. Ex-1002 ¶195. Given the similarities between Choi, Lee, and Barasch—all three relate to massage devices that can provide massage and heat to the user's body for relaxation, pain relief, or stimulation—a POSITA would have expected the combination to be successful. Moreover, replacing the heat wire in Lee with the

infrared LED lamp and housing in Choi would not require undue experimentation or modification, as both components are well-known and compatible with the massager structure and operation. Ex-1002 ¶¶88-111, 192-195.

2. **Claim 4: “The treatment device of claim 1, wherein the second energy generator element includes a reflecting groove circumferentially arranged about the axis, the reflecting groove defining a concave shape arranged to reflect energy generated from the second energy generator element towards the area of skin.”**

Lee-Barasch and further combined with Choi renders obvious Claim 4. Ex-1002 ¶¶196-198. For example, like Lee, Choi discloses a heating element, which acts as a second energy generator element. Ex-1008 ¶49 (“The infrared LED lamp 500 is a means for generating infrared light to provide an infrared heating function.”) Choi further explains that an “infrared housing, 600” is “configured in a circular shape” and is used to “guide the infrared light generated by the infrared LED lamp 500 to irradiate the skin of the user.” Ex-1008 ¶20. *See also*, Ex-1008 ¶46 (“The infrared lamp housing 600 holds the infrared LED lamp 500 and is a means for directing infrared light generated by the infrared LED lamp 500 to irradiate the skin of a user”). Figure 5, annotated below, illustrates the circular shape of the housing. Moreover, Choi explains that the housing “is tubular in shape, comprising at least one or more infrared lamp fixing parts ... spaced along a circular outer periphery to which the infrared LED lamp is fitted.” Ex-1008 ¶48. Thus, a POSITA would have understood that the housing is circumferentially arranged around the central axis and

is a concave shape that fits the LED lamp. Ex-1002 ¶197. Although Choi does not disclose what the housing is made of, given Choi's explanation of the housing's purpose—to guide the LED light toward the skin, a POSITA would have been motivated to utilize a reflective surface as a convenient and easy to implement type of material effective a directing infrared light. Ex-1002 ¶¶192-195, 197. In any case, utilizing a reflective material would have been obvious to try as one of a limited number of options and a POSITA would have had a strong expectation of success given the widespread use of reflective surfaces to guide light from LED light sources. Ex-1002 ¶197.



Ex-1008 Figs. 5, 6

C. Ground 3: Claim 7 is unpatentable under 35 U.S.C. § 103 as obvious over Lee in view of Barasch and, further in view of Rhoades

1. A POSITA Would Have Been Motivated to Combine Lee's and Barasch's Teachings with Rhoades and Would Have Had a Reasonable Expectation of Success

A POSITA would have been motivated to combine the teachings of Rhoades with the Lee-Barasch massager. Ex-1002, ¶¶200-203. All three references focus on enhancing the functionality and versatility of massage devices for skin and body treatment. Lee emphasizes the integration of various massage techniques and user feedback mechanisms (Ex-1006 3:15-25), Barasch highlights the use of biometric data and user preferences to customize massage experiences (Ex-1007 ¶4), and Rhoades describes the use of interchangeable heads for different treatments such as heating, massaging, exfoliation, cleaning, and oxygenation (Ex-1010 2:10-20). Specifically, a POSITA would have been motivated to modify the massager device of Lee and Barasch to include the features of Rhoades, such as the use of interchangeable heads and integrated heating units. *See, e.g.*, Ex-1010 15:33-55, 17:54-56.

A POSITA would have been motivated to incorporate the features of Rhoades into the Lee-Barasch massager device because a POSITA would have recognized that the use of removable and swappable heads on the massager would provide greater versatility, convenience, and customization for the user, as well as reduce the

cost and complexity of the device. Ex-1002 ¶201. Lee itself suggests the use of removable and swappable heads, as Lee discloses that massage ball 36 is removably attached to the end of the massage rod 22. Lee, ¶14. Moreover, a POSITA would have also appreciated that the use of removable and swappable heads would allow the user to easily change the treatment attachments without requiring additional tools or devices, as well as to clean and replace the attachments as needed.

In conjunction with incorporating Rhode's teaching related to swappable heads, a POSITA would have also been motivated to modify the Lee-Barasch massager to have the heating unit disposed within a treatment attachment itself, as taught by Rhoades. Ex-1010 17:54-56. A POSITA would have understood that having the heating unit within the treatment attachment would provide more direct and efficient heat transfer to the skin and body parts, as well as more precise and adjustable temperature control. Ex-1002 ¶202. A POSITA would have also recognized that having the heating unit within the treatment attachment would simplify the design and operation of the massager device, as well as reduce the size and weight of the device. Ex-1010 ¶202.

A POSITA would have expected the combination of Lee, Barasch, and Rhoades to be successful as the references are in the same or analogous fields of invention, namely, massage devices for skin and body treatment. *See, e.g.*, Ex-1006 Abstract, ¶¶5-8; Ex-1007 ¶¶2, 4-6; Ex-1010 1:7-8, 2:18-27; Ex-1002, ¶¶88-104,

112-116. The combination of Lee, Barasch, and Rhoades would have improved the Lee-Barasch massager by providing more features and functionalities, more versatility and convenience, more efficiency and precision, and more simplicity and compactness. Ex-1002 ¶203.

2. Claim 7: “The treatment device of claim 1, wherein at least one of the plurality of energy generator elements is contained at least partially within a housing that is removably securable to the body.”

Lee-Barasch and further combined with Rhoades renders obvious Claim 7. Ex-1002 ¶¶204-205. For example, Rhoades, discloses that “a treatment attachment may be replaced by switching the treatment attachment with a similar or different type of treatment attachment.” *See, e.g.*, Ex-1010 15:33-55. Rhoades additionally discloses that the heating element (i.e., the second energy generator element) is at least partially contained within the removable head: “a heating unit may also be disposed ... within a treatment attachment.” Ex-1010 17:54-56. Thus, a POSITA would have understood that the removeable head constitutes the claimed housing that is removably securable to the body and that, because the heating element is disclosed as being disposed within the attachment, that at least one of the energy generator elements is contained within the housing, as required by Claim 7.

**D. Ground 4: Claims 1-7 and 17-18 Are Unpatentable Under 35
U.S.C. § 103 As Obvious Over Giraud in View of Choi**

**1. A POSITA Would Have Been Motivated to Combine
Giraud's Teachings with Choi and Would Have Had a
Reasonable Expectation of Success**

A POSITA would have been motivated to combine Giraud and Choi and would have had a reasonable expectation of success in doing so. Ex-1002 ¶¶207-212. A POSITA would have recognized that both references are directed to the same field of invention, namely, massage devices that include massage and heating functionalities. *See, e.g.*, Ex-1011 ¶¶1, 21; Ex-1009 ¶¶10-12. A POSITA would have realized that Choi discloses additional features that would enhance the performance and functionality of Giraud, such as the design of the heating element taught by Choi, including the housing for the LED lamp and a gun-shaped grip for the massager.

For example, a POSITA would have been motivated to use an LED lamp for providing infrared heat arranged in a circular shape to enhance the skin treatment functions of Giraud's massaging appliance. Ex-1009 ¶¶45-48. This is further supported by Giraud itself, which discloses light diodes capable of heating and arranged in a circular configuration. Ex-1011 ¶¶ 108 and 206 and FIG. 11. As Choi teaches, infrared heat can improve blood flow, relax contracted muscle tissue, aid in the rehabilitation of damaged muscle tissue, provide pain relief, decompose fat, reduce blood pressure, and stimulate the production of skin elements. Ex-1009 ¶3. A POSITA would have recognized that these benefits would complement the

massage effects of Giraud's massaging heads. Ex-1011 ¶¶4-5, 165; Ex-1002 ¶208.

Moreover, a POSITA would have appreciated that arranging the LED lamp in a circular shape, as taught by Choi, would allow for a uniform and efficient irradiation of the skin over a large area, as well as a simple and compact integration of the LED lamp with the massaging head. Ex-1009 ¶20. Moreover, a POSITA would have been motivated to use the housing for the LED lamp that guides the light toward the skin to improve the performance and durability of the LED lamp. Ex-1009 ¶¶45-48; Ex-1002 ¶210. As Choi teaches, the housing is configured in a shape corresponding to the inner surface of the main body and coupled from within the opening of the main body, so that the front part is exposed to the outside and fixedly holds the LED lamp. Ex-1009 ¶20. A POSITA would have understood that this configuration would protect the LED lamp from mechanical damage, prevent light loss due to reflection or scattering. Ex-1002 ¶210. A POSITA would have also recognized that this configuration would be compatible with Giraud's massaging appliance, as Giraud also discloses a main body with an opening for attaching the massaging head and a transmission mechanism with a shaft for activating the massaging elements. Ex-1002 ¶210.

A POSITA would have also been motivated to shape the grip of the massager like a gun, as taught by Choi to improve the ergonomics and convenience of Giraud's massaging appliance. Ex-1002 ¶211. As Choi teaches, the gun-shaped handle allows

the user to easily hold and operate the massager by placing the finger on a gun switch that provides user operation instructions to the motor control means. Ex-1009 ¶¶10, 17, 41-43. A POSITA would have appreciated that this design would provide a comfortable and intuitive way to control the massaging appliance, as well as a better maneuverability and stability of the massaging head over the skin. Ex-1002 ¶211. A POSITA would have also recognized that this design would be compatible with Giraud's massaging appliance, as Giraud also discloses a body with a handle, a motor control means, and a user interface. Ex-1002 ¶211.

A POSITA would have expected the combination of Giraud and Choi to be successful, as both references relate to the field of skin treatment appliances, and particularly facial skin. Ex-1002, ¶¶105-111, 117-122. Both references disclose massaging devices that can perform various massage techniques and include heating functions. Both references also disclose similar components and structures, such as a body with a handle, a motor, a transmission mechanism, a massaging head, and a user interface. A POSITA would have been able to apply the teachings of Choi to Giraud using routine skill and knowledge in the art, without encountering any technical difficulties or unexpected results. Ex-1002 ¶212.

2. Independent Claim 1

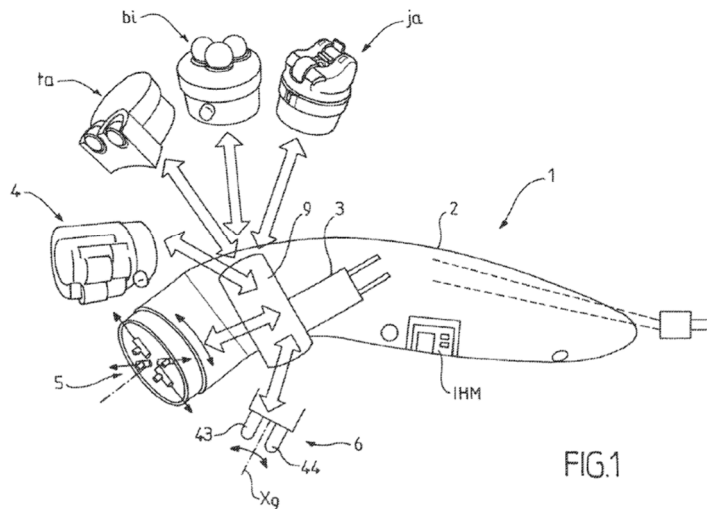
a. Element 1[pre]: “A treatment device, comprising:”

To the extent the preamble is limiting, Giraud-Choi teaches or suggests

Element 1[pre]. Ex-1002 ¶¶213. For example, Giraud’s “invention pertains to the field of skin treatment appliances” and describes treatment through massage, light, heat, and other means. Ex-1011 ¶¶1, 7, 12.

b. Element 1[a]: “a body provided with a processing unit and a power source; and”

Giraud-Choi teaches or suggests Element 1[a]. Ex-1002 ¶¶214-215. For example, Giraud illustrates in Figure 1, reproduced below, that its “massaging appliance (1) has *a body* (2) inside of which there is a motor (3) electrically powered by a connection either to an *external source of electricity* ... or to an *internal source of electricity.*” Ex-1011 ¶88.



Ex-1011 Fig. 1

Moreover, Giraud discloses a control unit(10) that controls the electric motor (6) and other functionality of the device. For example, Giraud discloses “[t]he

electric motor (6) is operated by a control unit (10) powered by a battery pack (B) positioned inside the body (3).” Ex-1011 ¶122; *see also id.* ¶¶154-55 (describing additional aspects of the control unit and how it controls the massaging appliance). Based on the functionality of the device, a POSITA would have understood that the control unit (10) of Giraud includes a processor. Ex-1002 ¶215.

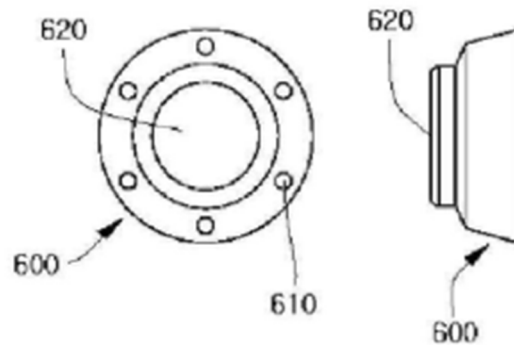
- c. Element 1[b]: “a plurality of energy generator elements being independently operable to convert electricity from the power source into a plurality of different energy types transmittable towards an area of skin of a user, the plurality of energy generator elements being arranged coaxially about an axis,”**

Giraud-Choi teaches or suggests element 1[b]. Ex-1002 ¶¶216-219. Giraud discloses a massager with multiple treatment functionalities, including embodiments that provide a percussive (or tapping) massage, which acts as the first energy generator element, and a LED that also provides infrared radiation to heat the area to be massaged, acting as the second energy generator element. For example, Giraud explains that “the massaging head (1) is designed to exert a mechanical action on the skin of the user’s face via massaging elements (M) propelled by an electric motor. Ex-1011 ¶119. *See also, id.* ¶133 (“massaging fingers (21) then begin to move in oscillation, which imitates the act of massage that would be performed using two fingers such as the index and middle fingers alternately tapping the skin of the face.”). Giraud teaches that the operation of the massage fingers converts electricity from the power source to operate by coordinating with a maneuvering means and

the driving means “so as to transmit and transform the rotation movement of the electric motor (6) into an alternating movement of the massaging fingers.” Ex-1011 ¶129.

Similarly, Giraud discloses that its “wave-emitting means may contain electroluminescent diodes,” including “infrared diodes that can produce heat to achieve an ‘instant radiance’ effect” and can be part of the massaging head. Ex-1011 ¶15. Giraud explains that this heating portion of the treatment can be performed in preparation for the massage portion. Ex-1011 ¶206 (“the session may consist of a series of different massages before or after the application of warm, intense light.”). Thus, a POSITA would have understood that each energy generator operates independently. Ex-1002 ¶217.

Although Giraud does not disclose the arrangement of plurality of energy generator elements being arranged coaxially about an axis, a POSITA would have been motivated to combine Giraud with Choi for the reasons described above in Section XII.D.1. Choi explains that the LED lamp is held within an infrared lamp housing and that the housing is “configured in a circular shape” and includes “a shaft pass-through hole 620 in the center for passing the slide shaft 321.” This circular arrangement is shown in Figure 5, below:

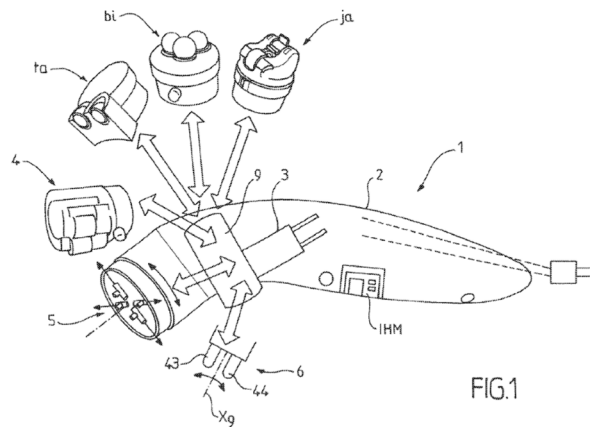


Ex-1009 Fig. 5

As applied to Giraud, a POSITA would have understood that the LED diodes would be arranged around the outside of the massage head and that the massaging fingers would oscillate through the pass-through hold, resulting in both energy generators taken together being arranged coaxially around an axis. Ex-1002 ¶219.

- d. Element 1[c]: “wherein the body includes a grip arranged to be grasped by a hand of the user applying a gripping force to maintain the plurality of energy generator elements on or adjacent the area of skin,”**

Giraud-Choi teaches or suggests Element 1[c]. Ex-1002 ¶¶220-221. Giraud discloses a massager that is intended to be held in the hand of a user to against their facial skin to allow the various massaging heads to come into contact with their skin. Ex-1011 ¶¶1, 15-17. Figure 1 illustrates the handheld nature of Giraud’s massager.



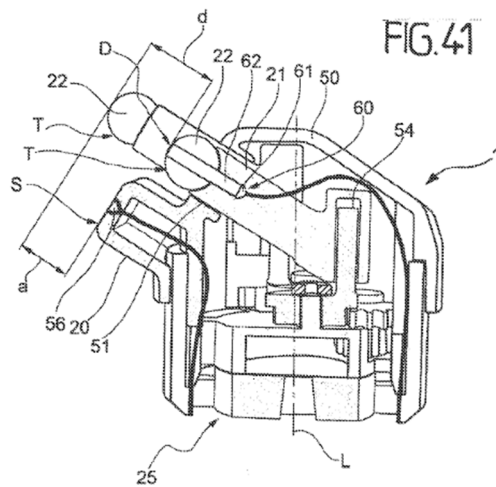
Ex-1011 Fig. 1

To the extent Giraud does not disclose this element, it would have been obvious to use the body shape and grip taught by Choi for the reasons described above in Section XII.D.1. Choi teaches that “muscle vibration massage device that is configured as a gun type for convenient use by holding it in the hand.” Ex-1009 ¶1. Moreover, Choi explains that by holding the grip, a user is able to “contact[] vibration slide part 320 to the muscles of the user.” Ex-1009 ¶19.

- e. **Element 1[d]: “wherein the plurality of energy generator elements includes a first energy generator element and a second energy generator element, and wherein the first energy generator element is an impact generator element having a tissue contact surface that is linearly actuatable along the axis to contact and cause corresponding physical movement of the area of skin.”**

Giraud-Choi teaches or suggests Element 1[d]. Ex-1002 ¶¶222-224. As discussed above with reference to element 1[b], Giraud teaches a plurality of energy generators, including a massage element and an LED heating lamp, which constitute

the first and second energy generator elements, respectively. Giraud teaches that its massage element may be an impact generator. For example, Giraud discloses an embodiment in which “each massaging finger (21) is constructed in the shape of a sort of rectilinear piston” and where the rotation of the motor “is transformed into a lateral movement of the corresponding massaging finger” by a maneuvering means, as shown in Figure 41, below. Ex-1011 ¶139.



Ex-1011 Fig. 1

From this disclosure, a POSITA would have understood that the impact generator element included a tissue contact surface (i.e., massage fingers) that is linearly actuatable along the axis to contact (as it reciprocates into and out of the body of the massager). Ex-1002 ¶223. Moreover, a POSITA would have understood that as the massage fingers contacted the area of skin during operation that corresponding physical movement would occur at the skin. Ex-1002 ¶223.

Accordingly, Giraud-Choi renders obvious Claim 1.

3. **Claim 2: “The treatment device of claim 1, wherein the impact generator element further includes a drive mechanism and a piston, wherein the drive mechanism is operably coupled to a controller that directs electricity to the drive mechanism to move the piston and the tissue contact surface along the axis.”**

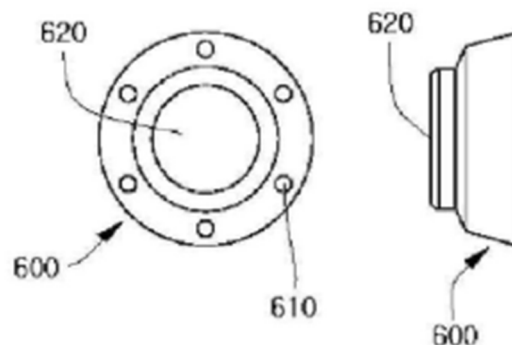
Giraud-Choi renders obvious Claim 2. Ex-1002 ¶225-227. Giraud discloses a massager with an impact generator as described above with reference to element 1[d]. Further, Giraud discloses that the impact generator includes a drive mechanism and a piston. For example, Giraud discloses that the massager is “on a drive unit” and that “the massaging head (1) is designed to exert a mechanical action on the skin of the user’s face via massaging elements (M) propelled by an electric motor. Ex-1011 ¶119. Moreover, Giraud discloses that “each massaging finger (21) is constructed in the shape of a sort of rectilinear piston that extends at least partially to the exterior of a hollow body...[and] guided laterally by a bore (51) placed in the hollow body (50).” Ex-1011 ¶139. A POSITA would have understood that this piston is moved as the drive mechanism (i.e., motor and gears) convert the operating power into rotational force and then into linear reciprocation. Ex-1011 ¶139; Ex-1002 ¶225.

Moreover, Giraud teaches that the motor “is operated by a control unit (10),” which is “connected to a manual control interface (11) that is accessible from the exterior of the body.” Ex-1011 ¶122. The portion of the control unit that directs

electricity to the motor is the claimed controller. Ex-1002 ¶¶226.

4. **Claim 3: “The treatment device of claim 1, wherein the second energy generator element is substantially ring shaped and arranged coaxially about the first energy generator element.”**

Giraud-Choi renders obvious Claim 3. Ex-1002 ¶¶228-231. Like Giraud, Choi discloses an infrared LED for providing an infrared heat function. Ex-1009 ¶20; Ex-1002, ¶¶105-111, 117-122. Choi explains that its LED lamp is held within an infrared lamp housing and that the housing is “configured in a circular shape” and includes “a shaft pass-through hole 620 in the center for passing the slide shaft 321.” This circular arrangement is shown in Figure 5, below:



Ex-1009 Fig. 5

As applied to Giraud, a POSITA would have understood that the LED diodes would be arranged around the outside of the massage head and that the massaging fingers would oscillate through the pass-through hole, resulting in the LEDs (second energy generator elements) being arranged coaxially around the

massaging element (first energy generator element). Ex-1002 ¶229. Moreover, Giraud teaches that “light diodes (106) will be positioned, for example, on the outer edge (107) of the appliance ... outside the trajectories of the massaging elements.” Ex-1011 ¶108 and Fig. 26. A POSITA would have been motivated to apply this teaching from Choi to Giraud for the reasons described in Section XII.D.1.

5. **Claim 4: “The treatment device of claim 1, wherein the second energy generator element includes a reflecting groove circumferentially arranged about the axis, the reflecting groove defining a concave shape arranged to reflect energy generated from the second energy generator element towards the area of skin.”**

Giraud-Choi renders obvious Claim 4 for the same reasons explained in Ground 2, which also relies on Choi for this claim.

6. **Claim 5: “The treatment device of claim 1, wherein the second energy generator element includes a heat generator element.”**

Giraud-Choi renders obvious Claim 5. Ex-1002 ¶¶234-235. As discussed with reference to element 1[b], Giraud and Lee both disclose infrared LED diodes for heating an area of and constitutes is the claimed second energy generator element. *See supra* Section XII.D.2.c.

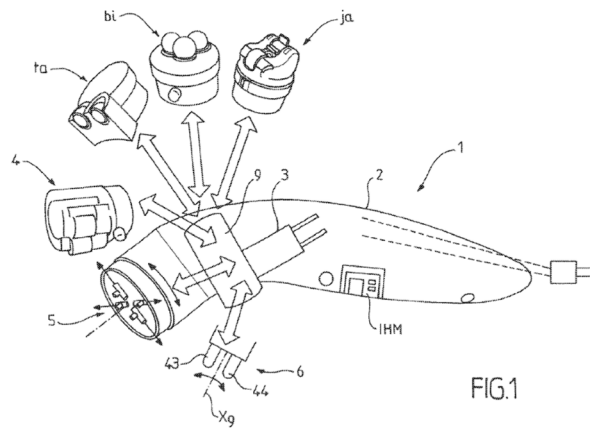
7. **Claim 6: “The treatment device of claim 1, wherein a first one of the plurality of different energy types is an impact force applied against a surface of the area of skin and a second one of the plurality of different energy types is a heat flux directed toward the area of skin.”**

Giraud-Choi renders obvious Claim 6. Ex-1002 ¶¶236-237. As discussed with

reference to elements 1[b] and 1[d], Giraud discloses percussive massage elements, including massage fingers that function as the first energy generator element and a heating element that acts as the second energy generator element. *See supra* Sections XII.D.2.c and XII.D.2.e. Giraud discloses that the heating element can be any type of heating element: “The heat can be produced by infrared LEDs, by LED radiators or by one or more flat heating elements (ILO channel), by resistance with mechanical conduction elements.” A POSITA would have recognized that the energy type delivered by the percussive massage fingers of Giraud’s massager is an impact force applied against a surface of the skin. Ex-1002 ¶236. Similarly, a POSITA would have understood that a flat heating element operating by resistance with mechanical conduction elements would have generated a heat flux directed toward the area of the skin. Ex-1002 ¶236.

8. Claim 7: “The treatment device of claim 1, wherein at least one of the plurality of energy generator elements is contained at least partially within a housing that is removably securable to the body.”

Giraud-Choi renders obvious Claim 7. Ex-1002 ¶¶238-240. For example, Giraud discloses that its massaging appliance “consists of a massaging head (1), designed to be removeable” Ex-1011 ¶119. Figure 1 below illustrates various heads that can be attached to the massaging appliance.



Ex-1011 Fig. 1

Giraud additionally discloses that “means (60) of diffusing light in the direction of the face” (i.e., the second energy generator element) is “located in a massaging finger (21) and includes a light source (61) such as an electroluminescent diode.” Ex-1011 ¶143; *see also id.* ¶15 (explaining that the “electroluminescent diodes “may contain infrared diodes that can produce heat to achieve an ‘instant radiance’ effect”). Thus, a POSITA would have understood that the removeable head constitutes the claimed housing that is removably securable to the body and that, because the heating element is disclosed as being disposed within the attachment, that at least one of the energy generator elements is contained within the housing, as required by Claim 7.

9. Independent Claim 17

a. Element 17[pre]: “A treatment device, comprising:”

To the extent the preamble is limiting, Giraud-Choi teaches or suggests

Element 17[pre] for the reasons described with respect to Element 1[pre]. *Supra* Section XII.D.2.a; Ex-1002 ¶241; Ex-1020.

- b. Element 17[a]: “a body provided with a power source and a processing unit configured to receive input data and generate a control signal based on the input data, the body including a skin contacting surface maintainable against skin of a user by a force applied by a hand of the user when gripping the body; and”**

Giraud-Choi teaches or suggests Element 17[a]. Ex-1002 ¶242. For the reasons described with respect to element 1[a], Giraud discloses a body provided with a power source and a processing unit. *Supra* Section XII.D.2.b; Ex-1002 ¶242; Ex-1020. Similarly, for the reasons described with reference to element 1[c], Giraud and Choi also disclose that the body further includes a skin contacting surface (e.g., a grip) that is maintainable against the skin of a user by a force applied by a hand of the user when gripping the body. *Supra* Section XII.D.2.d; Ex-1002 ¶242; Ex-1020. Moreover, Giraud discloses a control unit (10) that acts as “a processing unit configured to receive input data and generate a control signal based on the input data.” Ex-1011 ¶155. For example, Giraud explains that user input to start/stop the massager or select a particular program are received and processed by the control unit: “The control unit (10) is also connected to a manual control interface (14) accessible from the exterior of the body. The manual control interface (14) can, for example, include a start/stop switch and/or a means of manually selecting the operating programs.” Giraud, ¶154. The control unit also controls the operation of

the massaging appliance “depending on the massaging heat (1).” Ex-1011 ¶155.A POSITA would have understood that to operate the massaging appliance based on these inputs, the control unit would generate a control signal that would instruct the various energy generator elements as to how to operate. Ex-1002 ¶242.

- c. **Element 17[b]: “a first energy generator element and a second energy generator element coupled to the body, the first and second energy generator elements being independently operable to convert electricity from the power source into a first energy type and a second energy type, respectively, and direct the first and second energy types toward an area of skin, the first energy generator element including an impact generator element having a tissue contact surface that is linearly actuatable along an axis to contact and cause corresponding physical movement of the area of skin;”**

Giraud-Choi teaches or suggests Element 17[b]. Ex-1002 ¶243. For the reasons described with respect to element 1[b], Giraud discloses “the first and second energy generator elements being independently operable to convert electricity from the power source into a first energy type and a second energy type, respectively, and direct the first and second energy types toward an area of skin.” *Supra* Section XII.D.2.c; Ex-1002 ¶243; Ex-1020. Similarly, for the reasons described with reference to element 1[d], Giraud also discloses that “the first energy generator element includ[es] an impact generator element having a tissue contact surface that is linearly actuatable along an axis to contact and cause corresponding physical movement of the area of skin.” *Supra* Section XII.D.2.e; Ex-1002 ¶243;

Ex-1020. To the extent the disclosures in elements 1[b] and 1[d] do not disclose “a first energy generator element and a second energy generator element coupled to the body,” Giraud also discloses that the first and second energy generator elements are coupled to the body because both the massaging fingers and the infrared LED diodes are located on the removeable attachments. For example, Giraud discloses that both the electroluminescent diodes and the massaging finger are both found on a massaging head. Ex-1011 ¶143.

d. Element 17[c]: “wherein the processing unit is operable to output an optical signal on a display that is observable by eyes of the user, the output corresponding to the control signal.”

Giraud-Choi teaches or suggests Element 17[c]. Ex-1002 ¶244. For example, Giraud discloses a user interface to display metrics related to treatment information such as treatment duration, treatment phase, and the name of the massage head being used:

The massaging appliance also has on its body, a user interface (UI) with a screen to display at least one of the following kinds of data: treatment duration (total, elapsed, remaining), treatment phase and the name of the head distinguished. The UI may also have control buttons (on the screen or mechanical on the casing) so the user can set and select one of the offered programs, to adjust the treatment as the user wishes (within the limits defined by the automatic distinguishing feature)

Ex-1011 ¶88. Because the controller recognizes and adjusts the massaging based on the head, as described with reference to element 17[a], a POSITA would understand

that it communicates with the user interface to display the particular massage head, treatment phase, and treatment duration that corresponds to the control signal so that those could be reflected on the user interface. Ex-1011 ¶154-155. For example, Giraud teaches that “[t]he control unit (10) is thus adapted to control the operation of the massaging appliance (A) depending on the massaging head (1) as distinguished after the identification means.” Ex-1011, ¶123. And the control unit (10) outputs the identified message head to the UI. Ex-1011, ¶40. Based on this functionality of the control unit (10), and because the device includes a UI for a user to select among different programs, a POSITA would have understood that control unit (10) includes a processor as claimed in this element. Ex-1011 ¶42; Ex-1002 ¶244. Moreover, Giraud discloses the control unit controlling the “manual control interface (14),” which a POSITA would have understood could be part of the user interface described above, particularly in view of the fact that Figure 1 shows only a single interface. See Ex-1011 ¶154, Fig. 1; Ex-1002 ¶244.

Accordingly, Giraud-Choi renders obvious Claim 17.

10. Claim 18: “The treatment device of claim 17, wherein a portion of the body configured to be gripped by the hand of the user is configured to emulate a grip of a gun.”

Giraud-Choi renders obvious Claim 18. Ex-1002 ¶246. Choi discloses that “muscle vibration massage device that is configured as a gun type for convenient use by holding it in the hand.” Ex-1009 ¶1. It would have been obvious to use the

body shape and grip taught by Choi for the reasons described above in Section XII.D.1.

XIII. DETAILED EXPLANATION OF THE UNPATENTABILITY GROUNDS UNDER 35 U.S.C. § 112

A. Ground 5: Claims 1-19 Are Unpatentable Under 35 U.S.C. § 112 Based on Lack of Written Description Support

The challenged claims are unpatentable under 35 U.S.C. § 112(a) because they lack written description support. All the challenged claims recite a “treatment device” that includes “energy generator elements.” Ex-1001 Cls. 1, 8, 17. Further, the claims are being asserted in litigation by PO’s licensee to cover treatment devices with alleged “energy generator elements” that are said to provide treatment functionality only and no communication functionality. However, the specification does not disclose any embodiment, example, or description of using energy generator elements in a treatment device for only providing treatment functionality. Ex-1002 ¶¶46-58, 247-250. Instead, it exclusively discloses using them for a communication device providing communication functionality. *Id.*

A claim is invalid for lack of written support description under § 112(a) if the patent's disclosure does not “reasonably convey[] to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date.” *Ariad Pharm., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc). “[I]t is the specification itself that must demonstrate possession.” *Id.* at 1352. A

specification that merely renders the invention obvious does not satisfy the written description requirement. *Id.* The determination “requires an objective inquiry into the four corners of the specification from the perspective of a person of ordinary skill in the art.” *Id.* at 1351.

Here, the specification fails to demonstrate possession of the claimed invention of a ***treatment device*** with energy generator elements that only provide treatment functionality and no communication functionality. Ex-1002 ¶¶46-58, 247-250.⁵ The specification discloses only communication devices—these devices use energy generator elements to communicate information, such as biometric data, location data, or commands, to the user’s skin. Ex-1001 1:59-2:61. The specification does not disclose any treatment device that uses energy generator elements to output energy for treatment of a condition, such as a disease, a disorder, or an injury. *Id.* Indeed, the specification nowhere suggests what types of treatments energy generator elements could perform, what types of energy could be output, what types of conditions could be treated, or what advantages or benefits could be achieved. *Id.* The specification does not disclose any criteria or methods for selecting or controlling, the output energy for treatment purposes. *Id.*

⁵ The preambles indicate that the energy generator elements provide treatments, not communications. *Id.* Even assuming the preambles are not limiting, they still provide context for the interpretation of the claims and the understanding of the invention. Ex-1002 ¶.

The only two instances where the specification mentions “treatment” are not in the context of a treatment device, but rather in the context of a communication device that *communicates* information related to treatment. Ex-1002 ¶¶248-249.

First, the specification discloses communicating information about the patient throughout the duration of a prolonged treatment. Specifically, the specification describes a “communication device,” illustrated in Figures 1B, 2A, 2B, and 2C. Ex-1001, 12:58-63. In this embodiment, “attachment element 70” maintains the “position of tissue interface 30 against or adjacent skin 2” such as by using an adhesive, elastic, or fastening element.” *Id.* 21:56-62. Accordingly, the specification’s use of “treatment” is in the context of a communication device that may cause irritation by being in contact with the skin over a prolonged period:

One or both adhesives also may be configured for semi-permanent contact with skin 2, such as *during the entirety of a multi-month or multi-year treatment period*. For example, at least the second adhesive material may include medicinal coatings and/or compositions that promote prolonged or semi-permanent contact with skin 2 *by time-releasing treatments configured to prevent or minimize contact-based injuries*.

Ex-1001 22:15-22. Here, the first instance of “treatment” is actual care being provided to the patient, who is being monitored by the alleged invention. The second instance—“time release[d] treatments”—have nothing to do with energy generators; they are simply medicinal coatings to prevent injuries to the individual wearing the


communication device that may result from having the communication device attached to their skin over an extended period of time. Ex-1002 ¶248.

The only other instance of “treatment” in the specification suggests that a communication device could output communication signals toward a bone: “Alternatively, all or portion of the energies 32 may be output toward the bone-facing surface of element 770 *to communicate signals* and/or apply treatments to the bone.” Ex-1001 30:3-5. There is no disclosure of any medicinal or therapeutic treatment, as opposed to applying the communication signals from the energy generators to the bone. *See, e.g.*, 29:46-65, 30:29-33; 30:39-42. This disclosure is not sufficient to provide written description support showing that the applicant was possessed the claim invention because a “mere wish or plan” to obtain the claimed invention is not sufficient. *Regents of the Univ. of Cal.*, 119 F.3d at 1566. *See also Novozymes A/S v. DuPont Nutrition Biosciences APS*, 723 F.3d 1336, 1349 (Fed. Cir. 2013) (holding that written description was not satisfied despite the application providing “formal textual support” for limitations but failing to describe the “actual functioning” of the limitations at issue taken together.). Accordingly, a POSITA would not have recognized that the inventor was in possession of a way to use energy generators as a treatment device or method, as opposed to the communication devices and methods discussed throughout the ’174 Patent. Ex-1002 ¶¶249-250.


Rather, they disclose or suggest that the communication device transmits information that may be useful for treatment by another device or method. *Id.*

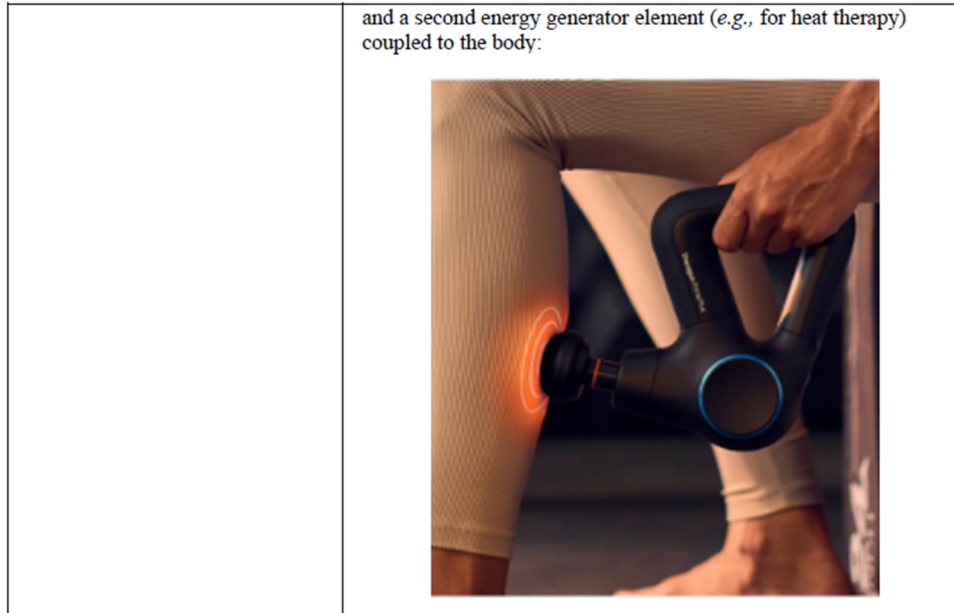
Despite the complete dearth of written description support for utilizing energy generators in a treatment device, the Plaintiff in the district court litigation, presumably relying on the preamble “[a] treatment device” is attempting to interpret the claim language so broadly that it reads on devices that use percussive massage and heating elements (which it alleges are the claimed “energy generator elements”) solely for therapeutic purposes *without any* communication aspect. *See* Ex-1032. For example, Plaintiff identifies the Theragun Prime Plus massage gun as being a treatment device:

Claim Chart – U.S. Patent No. 12,036,174 – Theragun Prime Plus

U.S. Patent No. 12,036,174	Theragun Prime Plus
17. A treatment device, comprising:	<p>The accused product is a treatment device:</p>  <p>Theragun Prime Plus</p> <p>Powerful massage combined with heat for enhanced warm-up and recovery</p>

Ex-1032, 1. The contentions identify a percussive massage element as the “first energy generator element” and a heat therapy element as the “second energy generator element,” as shown below:

<p>a first energy generator element and a second energy generator element coupled to the body,</p>	<p>The accused product has a first energy generator element (e.g., for percussive therapy):</p>  <p>Key Features ×</p> <p>Heated percussive massage Delivers consistent, science-backed levels of heat to help loosen stiff muscles and accelerate recovery.</p>
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Ex-1032, 5-6. In order for such a reading to be supported by written description, a POSITA would expect the specification to disclose at least one embodiment, example, or description of a treatment device that uses energy generator elements to output energy for treating a condition, not just a communication device that uses energy generator elements to transmit information. *Id.* The absence of such disclosure in the specification would not reasonably convey to a POSITA that the inventor had possession of the claimed invention of a treatment device with energy generator elements. *Id.* Therefore, the challenged claims are unpatentable under § 112(a) for lack of written description support. Ex-1002 ¶250.

B. Ground 6: Claims 1-19 Are Unpatentable Under 35 U.S.C. § 112 Based on Lack of Enablement

In order to satisfy the enablement requirement of 35 U.S.C. § 112(a), a patent's specification must describe its invention so as to "enable any person skilled

in the art to which it pertains, or with which it is most nearly connected, to make and use the same.” *In re Wands*, 858 F.2d 731, 737 (Fed. Cir. 1988). To meet this requirement, the specification must provide sufficient guidance and direction to enable a person of ordinary skill in the art (POSITA) to practice the full scope of the claimed invention without undue experimentation. *Id.* at 736-37.

Here, the specification does not provide sufficient guidance and direction on how to utilize energy generator elements as part of a treatment device. Indeed, the only portion of the specification that alludes to treatment related to energy generators simply states in a single sentence: “Alternatively, all or portion of the energies 32 may be output toward the bone-facing surface of element 770 to communicate signals *and/or apply treatments to the bone.*” Ex-1001 30:3-5. The specification does not disclose any details or examples of how such outputting of energies for treatments to the bone would be achieved, what types of energies would be suitable for bone treatment, what types of input data and control signals would be used, what types of bone conditions or diseases would be targeted, or what types of attachment elements would be compatible with such outputting of energies. The specification does not provide any working examples, experimental data, or comparative analysis to support the feasibility and operability of such outputting of energies. Nor does the specification cite any prior art references or teachings that would enable a POSITA to fill in the gaps and omissions in the disclosure. Thus, the specification does not

provide any objective criteria or parameters to guide a POSITA in practicing the full scope of the claimed treatment device without undue experimentation.

XIV. THE BOARD SHOULD NOT DENY INSTITUTION UNDER *FINTIV*

Should PO argue against institution under *Fintiv*, Petitioner may serve a prior art stipulation and/or respectfully request leave for a Preliminary Reply to respond.

XV. CONCLUSION

Petitioner requests institution of PGR for Claims 1-19 of the '174 Patent based on the grounds in this Petition.

Respectfully Submitted,

/s/ Marc J. Pensabene

CERTIFICATE OF WORD COUNT

Pursuant to 37 C.F.R. § 42.24(d), Petitioner certifies that this petition includes 17,762 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 (37 C.F.R. § 42.6(e)(1))

The undersigned hereby certifies that the above document was served on January 17, 2025, by filing this document through the Patent Trial and Appeal Board P-TACTS System, as well as delivering a copy via express mail upon the attorney of record for the patent at the following address:

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U.S. Patent No. 12,036,174
Petition for Post-Grant Review

Dated: January 17, 2025

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