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571-272-7822

Paper 8
Date: March 21, 2022

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

LUMENIS BE LTD.,[1]
Petitioner,

v.

BTL HEALTHCARE TECHNOLOGIES A.S.,
Patent Owner.

IPR2021-01279
Patent 10,709,895 B2

Before BARBARA A. PARVIS, ZHENYU YANG, and DAVID COTTA, *Administrative Patent Judges.*

PARVIS, *Administrative Patent Judge*.

DECISION
Denying Institution of *Inter Partes* Review
35 U.S.C. § 314

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[1] Further to Petitioner's request, we have changed the case caption to reflect that Lumenis Be Ltd., is the successor-in-interest of Lumenis Ltd. Paper 4.

I. INTRODUCTION

The predecessor-in-interest of Lumenis Be Ltd. ("Petitioner"), Lumenis Ltd., filed a Petition (Paper 2 ("Pet.")) requesting *inter partes* review of claims 1–13 ("challenged claims") of U.S. Patent No. 10,709,895 B2 (Ex. 1001, "the '895 patent"), along with the supporting Declaration of Marom Bikson, Ph.D. (Ex. 1002). BTL Healthcare Technologies A.S. ("Patent Owner"), filed a Preliminary Response. Paper 7 ("Prelim. Resp.").

The standard for institution is set forth in 35 U.S.C. § 314, which provides that an *inter partes* review may not be instituted unless the information presented in the Petition and the Preliminary Response shows that "there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." 35 U.S.C. § 314 (2019); *see also* 37 C.F.R § 42.4(a) ("The Board institutes the trial on behalf of the Director."). Upon consideration of the parties' contentions and the evidence of record, we conclude that Petitioner has not established a reasonable likelihood of prevailing in demonstrating the unpatentability of any challenged claim of the '895 patent. Accordingly, we do not grant Petitioner's request and do not institute an *inter partes* review.

II. BACKGROUND

A. Real Parties-in-Interest

Petitioner names itself, Lumenis Be Ltd., as the real party-in-interest. Pet. 2; Paper 4, 1. Patent Owner names itself and BTL Industries, Inc. as the real parties-in-interest. Paper 3, 1.

B. Related Matters

As required by 37 C.F.R. § 42.8(b)(2), each party identifies a judicial matter that would affect, or be affected by, a decision in this proceeding. The

parties inform us that the '895 patent was recently, but is no longer, involved in the following district court case: *BTL Industries, Inc. v. Allergen Ltd.*, Case No. 1-20-cv-01046 (D. Del.), which was filed August 5, 2020 and is now settled. Pet. 3, Paper 3, 1. The parties additionally identify the following settled proceeding as a related matter: *Certain Non-Invasive Aesthetic Body Contouring Devices, Components Thereof, and Methods of Using the Same, Inv.* No. 337-TA-1219 (ITC), filed August 5, 2020. Pet. 3; Paper 3, 1–2. Petitioner further identifies the following post-grant review proceedings: *Allergan, Inc. et al v. BTL Medical Technologies SRO et al*, PGR2021-00015 (PTAB, Filed Dec. 14, 2020) (institution denied); and *Allergan, Inc. et al v. BTL Medical Technologies SRO et al*, PGR2021-00016 (PTAB, Filed Dec. 14, 2020) (institution denied). Pet. 3.

The '895 patent is also the subject of IPR2021-01284. Pet. 2–3; Paper 3, 1. Petitioner challenges claims 14–29 of the '895 patent in IPR2021-01284 in a separate petition "[d]ue to word-count constraints and the large number of claims." Pet. 2–3 (citing PTAB Consolidated Trial Practice Guide[2], 59–61; *see also* 84 Fed. Reg. 64,280 (Nov. 21, 2019)).

Petitioner also has contemporaneously filed petitions for review of related patents as follows: (1) petitions for *inter partes* review of U.S. Patent No. 10,478,634 B2 (IPR2021-01273 and IPR2021-01280); (2) petitions for *inter partes* review of U.S. Patent No. 10,709,894 B2 (IPR2021-01278 and IPR2021-01285); (3) petitions for *inter partes* review of U.S. Patent No. 10,632,321 B2 (IPR2021-01275 and IPR2021-01282) (institution was denied in both proceedings); and (4) petitions for *inter partes* review of U.S. Patent No. 10,695,575 B1 (IPR2021-01276 and IPR2021-01283). Paper 3, 1.

[2] Available at http://www.uspto.gov/TrialPracticeGuideConsolidated.

C. The '895 Patent

The'895 Patent relates to devices and methods using the influence of magnetic and induced electric field on biological structure. Ex. 1001, 1:66–2:1. A circuit for providing high power pulses to the stimulating magnetic field generating device is shown in Figure 5b, reproduced below.

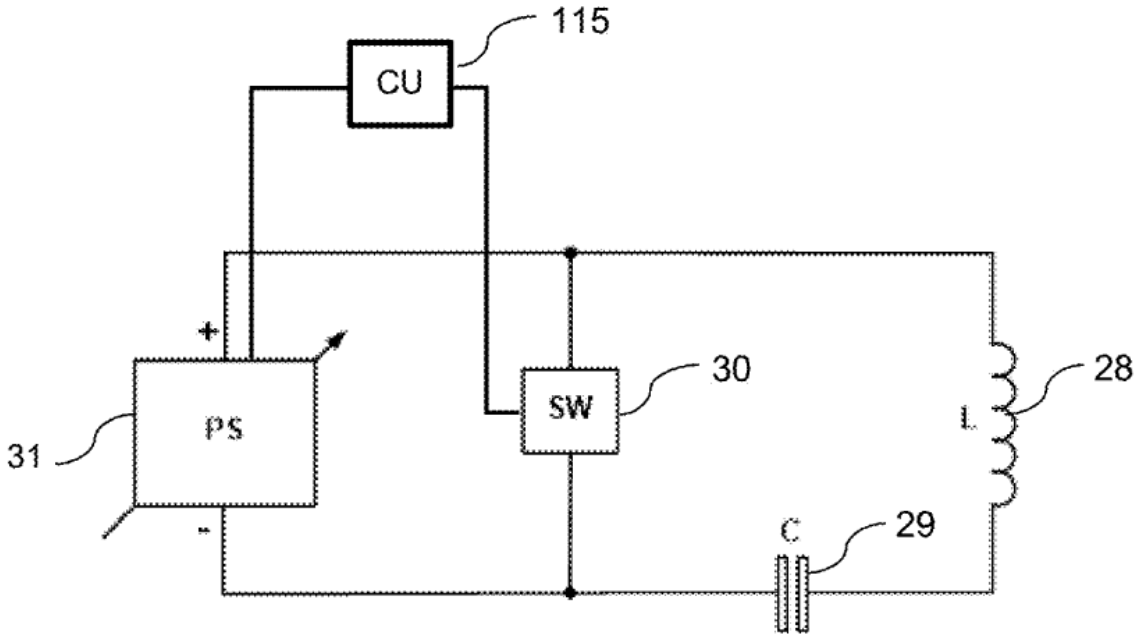


Figure 5b

Figure 5b, above, shows a circuit for providing high power pulses for improved function of a treatment device. *Id.* at 15:58–59.

Figure 5b, above, includes magnetic field generating device 28 and energy storage device 29 connected in series and disposed in parallel to switch 30. *Id.* at 15:59–62. To provide an energy pulse, controlled shorting of energy source 31 takes place through switch 30. *Id.* at 15:63–65. Energy source 31 or switch 30, or alternately both, may be regulated by control unit 115. *Id.* at 16:2–6.

An exemplary embodiment of a magnetic treatment device including two independent magnetic field generating circuits is shown in Figure 12, reproduced below.

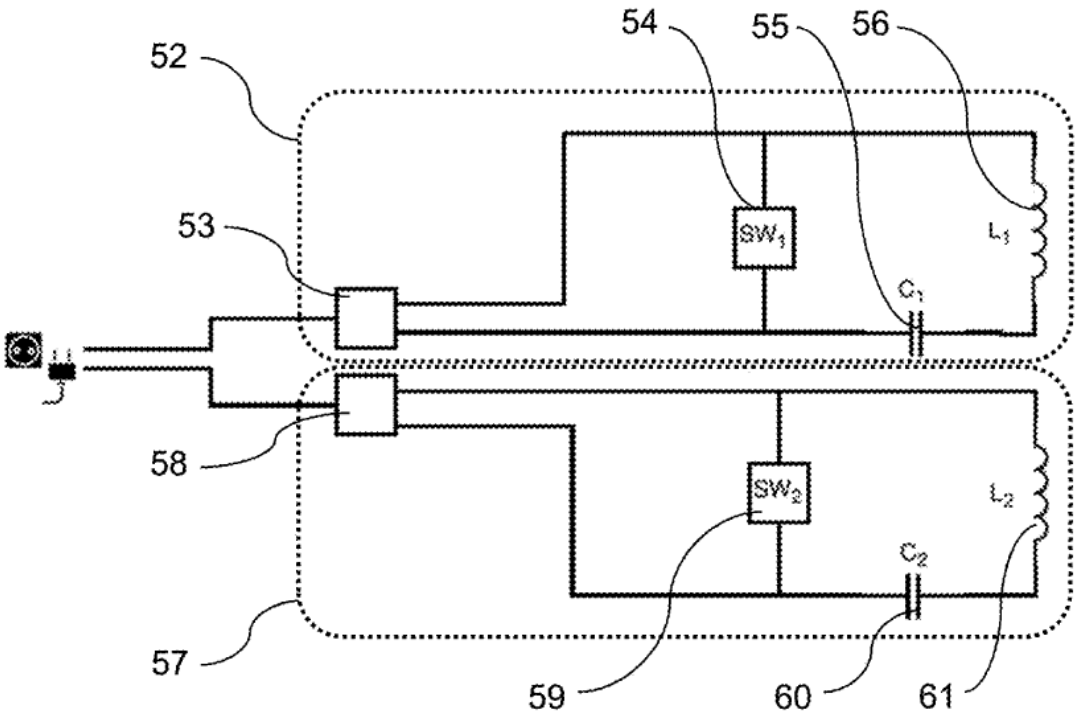


Figure 12

Figure 12, above, shows an embodiment of the magnetic treatment device including two independent magnetic field generating circuits. *Id.* at 19:41–43.

The circuit shown in Figure 12 above includes magnetic field generating circuit 52 and magnetic field generating circuit 57. *Id.* at Fig. 12, 19:43–49. Magnetic field generating circuit 52 includes energy source 53, switching device 54, energy storage device 55, and magnetic field generating device 56. *Id.* at 19:43–46. Magnetic field generating circuit 57 includes energy source 58, switching device 59, energy storage device 60, and magnetic field generating device 61. *Id.* at 19:46–49. A control unit

controls providing energy from the energy storage devices to the coils to generate magnetic impulses by the coils. *Id.* at 20:7–10.

D. Illustrative Claims

Petitioner challenges claims 1–13 of the '895 patent. Pet. 1, 6. Claims 1 and 6 are the independent claims. Claims 2–5 depend directly from claim 1. Claims 7–13 depend, directly or indirectly, from claim 6. Independent claim 1, reproduced below, is illustrative of the claimed subject matter. matter.

> 1. [1.pre][3] A method for toning a body region of a patient by applying a treatment using a treatment device which generates a time-varying magnetic field, the method comprising:
>
> [1.a] coupling a first applicator and a second applicator of the treatment device to the body region of the patient by a belt;
>
> [1.b] wherein the body region comprises one of a buttocks or an abdomen,
>
> [1.c] wherein the first applicator has a first magnetic field generating coil disposed in the first applicator and the second applicator has a second magnetic field generating coil disposed in the second applicator,
>
> [1.d] wherein the first magnetic field generating coil has a first inductance and the second magnetic field generating coil has a second inductance, wherein the first inductance is equal to the second inductance, and
>
> [1.e] wherein the first applicator and the second applicator are independently positionable, and independently coupled to the body region of the patient by the belt;
>
> [1.f] charging a first capacitor and a second capacitor of the treatment device;

[3] Petitioner's designations to reference the elements of claim 1 are set forth in brackets. Pet. 15–27. Herein, we refer to the elements of the challenged claims using Petitioner's designations.

[1.g] discharging the first capacitor to the first magnetic field generating coil to generate a first time-varying magnetic field having a magnetic flux density in a range of 0.5 Tesla to 7 Tesla, an impulse duration in a range of 3 μs to 1 ms, and a maximal value of a magnetic flux density derivative in a range of 0.5 kT/s to 400 kT/s;

[1.h] discharging the second capacitor to the second magnetic field generating coil to generate a second time-varying magnetic field having a magnetic flux density in a range of 0.5 Tesla to 7 Tesla, an impulse duration in a range of 3 μs to 1 ms, and a maximal value of a magnetic flux density derivative in a range of 0.5 kT/s to 400 kT/s;

[1.i] generating a plurality of pulses of the first time-varying magnetic field;

[1.j] generating a first pulse of the first time-varying magnetic field such that the first pulse lasts for a time period, wherein the time period lasts from a beginning of a first impulse of the first time-varying magnetic field to a beginning of a next consecutive impulse of the first time-varying magnetic field;

[1.k] generating a second pulse of the second time-varying magnetic field such that the second pulse lasts from a beginning of a first impulse of the second time-varying magnetic field to a beginning of a next consecutive impulse of the second time-varying magnetic field, such that the first impulse of the second time-varying magnetic field is generated during the time period of the first pulse,

[1.l] wherein the plurality of pulses of the first time-varying magnetic field comprises a first plurality of pulses, a second plurality of pulses, and a third plurality of pulses,

[1.m] wherein the first plurality of pulses comprises a first repetition rate in a range of 1 Hz to 100 Hz,

[1.n] wherein the second plurality of pulses comprises a second repetition rate in a range of 10 Hz to 30 Hz, and wherein the first repetition rate differs from the second repetition rate,

[1.o] wherein the third plurality of pulses comprises a third repetition rate, wherein the third repetition rate differs from the first repetition rate and the second repetition rate,

[1.p] wherein the impulses are sinusoidal and biphasic; and

[1.q] applying the first time-varying magnetic field including the first, the second, and the third pluralities of the pulses of the first time-varying magnetic field to a muscle fiber, a neuromuscular plate, or muscle within the body region of the patient such that a muscle contraction within the body region is caused by each of the first, the second, and the third pluralities of the pulses of the first time-varying magnetic field.

Ex. 1001, 108:7–109:13.

E. Evidence

Petitioner relies on the patent document references summarized below.

Name	Patent Document	Exhibit
Simon	US 2015/0165226 A1	1004
Burnett ’870	US 2014/0148870 A1	1005

Petitioner relies on the non-patent literature reference summarized below.

Name	Non-Patent Literature Title	Author(s)	Exhibit
Magstim	*The Guide to Magnetic Stimulation*, The Magstim Company (July 2006).	Chris Hovey BSc, Reza Jalinous, Ph.D.	1006

F. Asserted Grounds

Petitioner asserts that the challenged claims of the ’895 patent are unpatentable based on the following grounds summarized below (Pet. 6):

Claim(s) Challenged	35 U.S.C. §[4]	Reference(s)/Basis
1–13	103	Simon
1–13	103	Burnett '870, Magstim
1–13	103	Simon, Burnett '870

III. ANALYSIS

A. Legal Standards

"In an [*inter partes* review], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable." *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) as "requiring [*inter partes* review] petitions to identify 'with particularity . . . the evidence that supports the grounds for the challenge to each claim'"); *see also* 37 C.F.R. § 42.104(b) (requiring a petition for *inter partes* review to identify how the challenged claim is to be construed and where each element of the claim is found in the prior art patents or printed publications relied upon). That burden never shifts to the patentee. *Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015). Furthermore, Petitioner cannot satisfy its burden of proving obviousness by employing "mere conclusory statements." *In re Magnum Oil Tools Int'l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016).

A patent claim is unpatentable under 35 U.S.C. § 103 if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the

[4] Because the challenged claims of the '895 patent have an apparent effective filing date on or after March 16, 2013, the 35 U.S.C. §§ 102 and 103 provisions of the Leahy-Smith America Invents Act ("AIA"), Pub. L. No. 112-29, §§ 3(b)–3(c), 3(n)(1), 125 Stat. 284, 285–87, 293 (2011) apply and we apply the AIA versions of these statutes. Our application of the AIA law is not an affirmative ruling on the actual effective filing date of this patent.

invention was made to a person having ordinary skill in the art to which said subject matter pertains. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) when in evidence, objective evidence of nonobviousness.[5] *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

B. Level of Ordinary Skill in the Art

Petitioner asserts the following:

> On or before 5/10/2016, a [person of ordinary skill in the art] POSITA would have had a bachelor's degree in biomedical engineering, electrical engineering, physics, or [a] related field, and two or more years of professional experience working with the design, development, and/or use of devices that apply electromagnetic energy to stimulate biological tissue. Additional graduate education could substitute for professional experience, or significant experience in the field could substitute for formal education.

Pet. 9–10 (citing Ex. 1002 ¶¶ 1–36). Patent Owner does not provide a response on this issue. *See generally* Prelim. Resp.

We find Petitioner's proposal that the skilled artisan would have had "two *or more*" years of experience to be too vague as it encompasses skill levels beyond the proposal level without a defined limit. We adopt Petitioner's proposal except we do not adopt the "or more" terminology above. We determine that with our changes Petitioner's proposal is consistent with the level of skill reflected in the '895 patent Specification

[5] Patent Owner does not present objective evidence of nonobviousness.

and the prior art of record. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001).

C. Claim Construction

We construe the challenged claims by applying the standard used in federal courts, in other words, "the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. [§] 282(b)," which is articulated in *Phillips v. AWH Corp*., 415 F.3d 1303 (Fed. Cir. 2005) (en banc). 37 C.F.R. § 42.100(b) (2020). Neither party seeks claim construction other than the plain and ordinary meaning of claim terms. *See* Pet. 10; *see generally* Prelim. Resp.

Petitioner states "[p]ursuant to §42.104(b)(3), regarding the term 'control unit,' the Board has denied institution on Allergan's PGRs of related patents (sharing substantially the same specification) determining that the term is not indefinite and does not invoke §112(f)." Pet. 10 (citing *Allergan, Inc. et al v. BTL Healthcare Technologies A.S.*, PGR2021-00017, Paper 16 (PTAB, Filed Dec. 14, 2020) ("*Allergan-17*," Paper 16); *Allergan, Inc. et al v. BTL Healthcare Technologies A.S.*, PGR2021-00021, Paper 17 (PTAB, Filed Dec. 14, 2020)).

The decision denying institution in *Allergan-17* states the following:

> Consistent with Patent Owner's contentions, the Specification does not treat the "control unit" as simply a black box recitation of any structure capable of performing the claimed function, but rather treats the term as referring to known structures such as a personal computer, a human machine interface includ[ing] or alternatively, a "PD and/or PID controller." Ex. 1005, 8:57–9:5, 14:34–48, 75:18–20. Consistent with this, Figures 5a and 5b depict control unit 115 as a physical structure positioned between the power supply and switch. Ex. 1005, Figs. 5a, 5b. Because the term "control unit" refers to these known structures it is not a means plus function claim limitation.

> *See Samsung*, 948 F.3d at 1354 (finding that claimed "digital processing unit" was not a means plus function limitation where the term referred to "a class of known structures – central processing units – that could be found in any general-purpose computer").

Allergan-17, Paper 16, 13. Our Decision here is consistent with that prior determination.

D. Obviousness over Simon—Claims 1–13

Petitioner asserts that claims 1–13 would have been obvious over Simon. Pet. 6. We begin with a summary of Simon, then turn to the parties' dispute.

1. Simon

Simon relates to delivery of energy impulses (and/or fields) to bodily tissues for therapeutic purposes. Ex. 1004 ¶ 2. Simon describes toroidal magnetic stimulation devices, as well as non-invasive methods for treating medical conditions using energy that is delivered by such devices. *Id.*

Simon's device is shown in Figure 1, which is reproduced below.

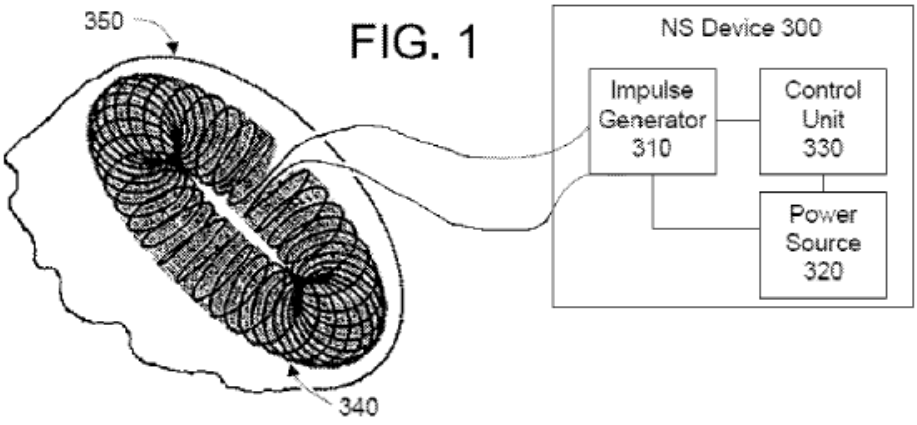


Figure 1, above, is a schematic diagram of nerve stimulating/modulating device 300 for delivering impulses of energy to nerves for the treatment of medical conditions. *Id.* ¶ 54.

As shown in Figure 1, stimulating device 300 includes impulse generator 310, power source 320, and control unit 330, respectively. *Id.* Impulse generator 310 is connected by wires to toroidal-shaped magnetic stimulator coil 340 located within electrically conducting medium 350. *Id.* ¶¶ 54, 56.

Simon illustrates an exemplary electrical voltage/current profile for electrical impulses that are applied to a portion or portions of a nerve in Figure 2, reproduced below.

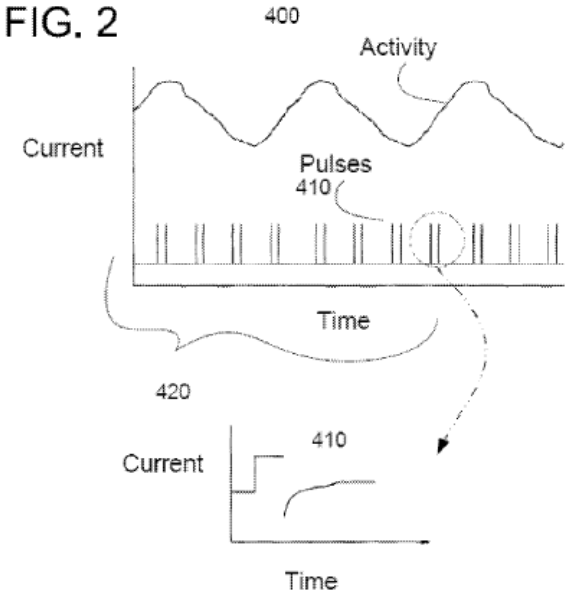
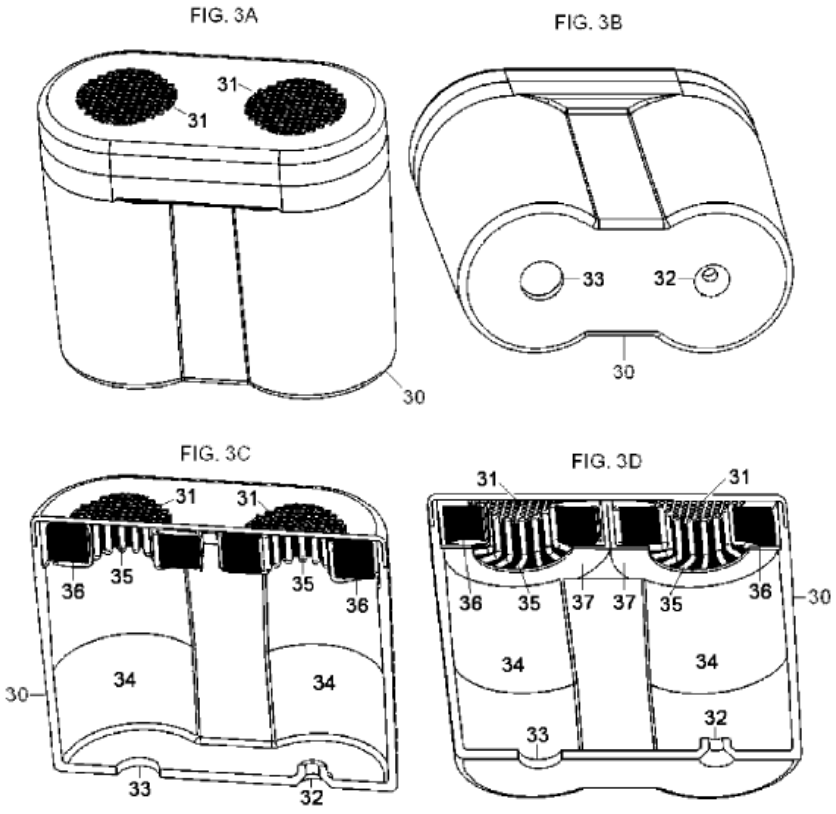


Figure 2, above, illustrates a graph of electrical voltage/current profile 400 with modulating impulse 410 having pulse train 420 shown in the graph with current on the y-axis and time on the x-axis. *Id.* ¶¶ 60, 61.

Simon describes that pulse generator 310 is implemented using power source 320 and control unit 330 having, for instance, a processor, a clock, and a memory. *Id*. Pulse generator 310 produces pulse train 420 to stimulator coils(s) 340 that deliver stimulating, blocking and/or modulating impulse 410 to the nerve. *Id.*

Simon's dual-toroid magnetic stimulator coil is shown in Figures 3A–3D, which are reproduced below.



Figures 3A–3D, above, illustrate dual-toroid magnetic stimulator coil 30 situated within housing 37. *Id.* ¶¶ 45, 93, 98.

Figures 3A–3D, above, illustrate top and bottom views of toroidal magnetic stimulator 30. *Id.* ¶ 93. Stimulator 30 includes two cylindrical-shaped but interconnected conducting medium chambers 34. *Id.* ¶ 95, Figs. 3A–3D. Each chamber 34 includes coils of wires 35 wound around toroidal cores 36. *Id.* at 97.

2. Independent Claim 1

Claim 1 recites the following:

> [1.q] applying the first time-varying magnetic field including the first, the second, and the third pluralities of the pulses of the first time-varying magnetic field to a muscle fiber, a neuromuscular plate, or muscle within the body region of the patient such that a muscle contraction within the body region is caused by each of the first, the second, and the

> third pluralities of the pulses of the first time-varying magnetic field.

Ex. 1001, 109:6–13.

Petitioner asserts the following:

> **Simon teaches applying the first time-varying magnetic field including the first, the second, and the third pluralities of the pulses of the first time-varying magnetic field to a muscle fiber, a neuromuscular plate, or muscle within the body region of the patient such that a muscle contraction within the body region is caused by each of the first, the second, and the third pluralities of the pulses of the first time-varying magnetic field.**
> *See* [1.pre]-[1.a]—**Simon** discloses placing applicators on target region, *e.g.*, abdomen. The resulting consecutive "electrical impulses" stimulate muscles/tissues. Simon, *Abstract*, [0012], [0053], [0060]-[0061], Fig. 2.
> **Simon** discloses that a magnetic field induces electric current within tissues/muscles. Simon, [0053], [0083], [0105].
> **Simon** teaches—as was well-known—that muscles "contract" while stimulated by each plurality of pulses. Simon, [0158] ("signal causes the smooth muscle…to contract"), [0194], [0195]. It was known that using biphasic pulsed current to stimulate muscles causing "serial bouts" of muscle "contractions" would allow muscle strengthening and enhancement—getting "larger and stronger," thereby toning them. *See*, *e.g.*, Belanger, 223–234, 234. Accordingly, **Simon** teaches applying consecutive pulses (which includes first/second/third pluralities of pulses) of a magnetic field to muscle fibers causing multiple contractions. Bikson, ¶¶175–178, 39–67, 83–90.

Pet. 26–27.

Patent Owner disputes Petitioner's contentions arguing that Simon's device does not apply a magnetic field within the patient's body, as required by claim 1. Prelim. Resp. 12, 24–25. Patent Owner argues in Simon's device the magnetic field "*remains essentially within the toroid*" and "*is not intended to generate a magnetic field within bodily tissue*." *See*, *e.g.*, *id.* at

12 (citing Ex. 1004 ¶¶ 37, 122). Patent Owner also argues that Simon "produces 'its effect through a *different mechansim* than conventional magnetic stimulation,'" specifically "by generating and applying an electric field or current at the surface of the patient's skin." *Id.* at 13–14 (citing Ex. 1004 ¶¶ 27, 37, 122).

Element 1.q requires "applying the first time-varying magnetic field . . . to a muscle fiber, a neuromuscular plate, or muscle within the body region of the patient." Ex. 1001, 109:6–13. In other words, the magnetic field is applied within bodily tissue. Also, element 1.q requires that the application of the first time-varying magnetic field is "such that a muscle contraction within the body region is caused by each of the first, the second, and the third pluralities of the pulses of the first time-varying magnetic field." *Id.* In other words, the magnetic field produces the effect.

Consistent with Patent Owner's arguments, Simon describes that its device is an improvement over conventional magnetic stimulators that operate differently. Simon describes conventional magnetic stimulators as having disadvantages. Ex. 1004 ¶ 19 (describing conventional magnetic stimulators as "generally complex and expensive"), ¶ 20 (describing that conventional magnetic stimulators "overheat when used over an extended period of time"), ¶ 21 (describing that conventional magnetic stimulators cause "unpleasantness or pain"). Simon describes that its stimulation devices overcome problems with conventional magnetic stimulators. *See*, *e.g.*, *id.* ¶ 37 (describing that Simon's stimulators have "virtually no unpleasant peripheral nerve stimulation" and "produce virtually no heating").

Petitioner relies on Simon's device for most recitations in claim 1. More specifically, Simon's device is illustrated in, for example, Figures 1, 3, and 5 and is described with respect to Figure 2 and the textual description

corresponding to Figures 1, 3, and 5. Ex. 1004 ¶ 54; *see also id.* ¶¶ 54, 60, 61 (describing that electrical voltage/current profile 400 in Figure 2 is achieved "using pulse generator 310,"[6] which as shown in Figure 1 is included in nerve stimulating/modulating device 300.), ¶¶ 92, 93 (describing that the embodiment of "magnetic stimulator coil 340 in FIG. 1" shown in Figures 3A–3D "reduces the volume of conducting material that must surround a toroidal coil, by using two toroids, side-by-side, and passing electrical current through the two toroidal coils in opposite directions."), ¶ 47 (describing that Figure 5 "illustrates the housing and cap of the dual-toroid magnetic stimulator coils of FIGS. 3A–3D."). The Petition identifies Simon's nerve stimulating/modulating device described with respect to Figures 1–3 and 5 as supporting evidence for most recitations in claim 1. *See*, *e.g.*, Pet. 16–18 (relying on Simon's Figures 3A–3D and Figure 5 for element 1.c), 19–20 (relying on Simon's Figure 1 and stimulating/modulating device 300 for element 1.f), 22–24 (relying on Simon's Figure 2 for teaching elements 1.i and 1.j), 24–25 (relying on Figures 3A–3D and Figure 5 for element 1.k), 25 (referring back to elements 1.i and 1.j for elements 1.l, 1.m, 1.n, and 1.o)).

Similarly for element 1.q, Petitioner relies on Simon's stimulating device and related teachings. *See*, *e.g.*, Pet. 26–27 (citing Ex. 1004, code (57), ¶¶ 53, 60–61, 158, 194, 195, Fig. 2). For instance, Petitioner relies on Simon's teaching of its device achieving an electrical voltage/current profile used for stimulating selected nerves, which is shown in Figure 2 and is produced by the stimulator shown in Figure 1. *See* Ex. 1004 ¶¶ 60–61, Fig.

[6] Simon interchangeably refers to the generator that generates signals for the magnetic coils as impulse generator 310 and pulse generator 310. *Id.* ¶¶ 57, 60.

2. As another example, Petitioner relies on Simon's Figure 1 and Simon's teaching of programming "control unit 330 of FIG. 1 to control the impulse generator 310 of FIG. 1 in such a way as to temporally modulate stimulation by the magnetic stimulator coil 340 in FIG. 1, in order to enhance a physiological response that occurs preferentially during a particular phase of respiration." Ex. 1004 ¶ 195; Pet. 27. As a further example, Petitioner relies on other treatment examples for element 1.q (Pet. 27 (citing Ex. 1004 ¶¶ 158, 194)), which also involve the use of Simon's stimulator. *See* Ex. 1004 ¶ 105 ("Examples in the remaining disclosure will be directed to use of the disclosed toroidal magnetic stimulation device for treatment of specific medical conditions.").

Petitioner acknowledges that in Simon's devices "consecutive 'electrical impulses' stimulate muscles/tissues" and does not assert that the magnetic field produces the effect. Pet. 26–27 (citing, *e.g.*, Ex. 1004, code (57), ¶¶ 12, 53, 60–61, Fig. 2). Petitioner asserts that the "magnetic field induces electric current within tissues/muscles," but Petitioner does not indicate any use for the magnetic field other than inducing electric current. *Id.* at 26 (citing Ex. 1004 ¶¶ 53, 83, 105). Simon's disclosures that Petitioner relies upon are consistent with Patent Owner's arguments that the magnetic field is not applied within bodily tissue and does not stimulate muscles/tissues. *See*, *e.g.*, Ex. 1004, code (57) (describing that "the coil induces an electric current and/or an electric field within the patient, thereby stimulating tissue and/or one or more nerve fibers within the patient"), ¶ 53 (describing "inducing applied electrical impulses that interact with the signals of one or more nerves, or muscles, to achieve a therapeutic result"), ¶ 83 (describing "generat[ing] (induc[ing]) electric fields in tissue").

Indeed, Simon's disclosures of its stimulating device throughout are consistent with Patent Owner's arguments. *See*, *e.g.*, Prelim. Resp. 12–14. For instance, Simon describes that the magnetic field in its devices "remains essentially within the toroid" and "it is in fact the electric fields and/or currents that are induced outside the stimulator that produce an effect in the patient, not the magnetic field." Ex. 1004 ¶ 37. Although Simon describes that "[t]he magnetic field of [Simon's] disclosed device may be produced by a coil other than a toroid," Simon describes that in alternative coil designs "the magnetic field outside the coil falls rapidly as a function of distance from the coil." *Id.* ¶ 82. According to Simon, one such an alternative would include "magnetic shielding" that is "interposed between the patient and coil of the device in such a way that the magnetic field that is produced by the device does not effectively penetrate the patient's tissue." *Id.* Simon states clearly "[a]s described above, the magnetic stimulation device disclosed herein *is not intended to generate a magnetic field within bodily tissue, so it would produce its effect through a different mechanism than conventional magnetic stimulation*." *Id.* ¶ 122 (emphasis added). In other words, Simon's disclosures are directly contrary to Petitioner's assertion (Pet. 26–27) in that Simon teaches the magnetic field is *not* applied within bodily tissue and the magnetic field does *not* produce the effect. Simon does not teach element 1.q.

Petitioner also cites as supporting evidence Alain-Yvan Belanger, *Therapeutic Electrophysical Agents*, 3d Edition, Wolters Kluwer (2015) (Ex. 1011, "Belanger"). Pet. 27 (citing Ex. 1011, 223–234). Petitioner asserts "[i]t was known that using biphasic pulsed current to stimulate muscles causing 'serial bouts' of muscle 'contractions' would allow muscle strengthening and enhancement—getting 'larger and stronger,' thereby

toning them." *Id.* That current stimulates muscles does not remedy the aforementioned deficiency.

Petitioner also cites to Dr. Bikson's testimony as supporting evidence. Pet. 27 (citing Ex. 1002 ¶¶ 175–178, 39–67, 83–90). Paragraphs 175 through 178 of Dr. Bikson's testimony are substantially the same as the contentions in the Petition and are deficient for the same reasons given above. *Compare* Ex. 1002 ¶¶ 175–178, *with* Pet. 26–27. Paragraphs 39 through 67 and 83 through 90 of Dr. Bikson's testimony are in a section titled "TECHNICAL BACKGROUND AND STATE OF THE ART" and provide Dr. Bikson's opinion relating to stimulation including parameters and components of a conventional magnetic stimulation device and generating pulses and varying the repetition rate of a magnetic field. Ex. 1002 ¶¶ 39–67, 83–90. Paragraphs 39 through 67 and 83 through 90 of Dr. Bikson's testimony do not pertain to or mention Simon (*id.*), which is the art relied on by Petitioner. *See*, *e.g.*, Pet. 6, 26–27. Dr. Bikson's testimony does not remedy the deficiencies in the Petition.

After consideration of the contentions and the evidence of record, we determine that Petitioner has not shown sufficiently that Simon teaches each recitation of claim 1. Accordingly, we conclude that Petitioner has not demonstrated a reasonable likelihood that it would prevail in showing that claim 1 is unpatentable under 35 U.S.C. § 103 as obvious over Simon.

3. Independent Claim 6

Element 6.p in independent claim 6 recites "wherein when the first time-varying magnetic field and the second time-varying magnetic field are applied to muscle fiber, neuromuscular plates, or muscles in the body region a muscle contraction occurs." Ex. 1001, 110:52–55. Element 6.p is the same as element 1.q except for the stylistic difference that element 1.q recites

"applying" the magnetic fields and element 6.p recites "wherein" the magnetic fields "are applied." *Compare id.* at 109:6–13, *with id.* at 110:52–55.

For element 6.p, the Petition simply references element 1.q. *See* Pet. 32 ("*See* [1.q]. Bikson ¶¶ 213–214, 39–67."). Dr. Bikson's Declaration testimony that is cited includes a sentence stating that element 6.p is met and another sentence referring to element 1.q. Ex. 1002 ¶¶ 213–214. Paragraphs 39 through 67 of Dr. Bikson's Declaration testimony are cited in connection with both elements 6.p and element 1.q. *Compare* Pet. 32, *with id.* at 26–27. Dr. Bikson's Declaration testimony is discussed above. *See supra* § III.D.2. Petitioner's contentions and evidence for element 6.p are deficient for the same reasons given for element 1.q. *Id.* We, therefore, determine Petitioner has not shown sufficiently that Simon teaches element 6.p.

Accordingly, we conclude that Petitioner has not demonstrated a reasonable likelihood that it would prevail in showing that claim 6 is unpatentable under 35 U.S.C. § 103 as obvious over Simon.

4. Dependent Claims 2–5 and 7–13

Each of claims 2–5 depends directly from claim 1. Each of claims 7–-13 depends, directly or indirectly, from claim 6. Petitioner's arguments and evidence for dependent claims 2–5 and 7–13 do not remedy the deficiencies discussed with respect to claim 6. Pet. 32–40.

Accordingly, we conclude that Petitioner has not demonstrated a reasonable likelihood that it would prevail in showing that claims 2–5 and 7–13 are unpatentable under 35 U.S.C. § 103 as obvious over Simon.

E. Obviousness over Burnett '870 and Magstim—Claims 1–13

Petitioner asserts that claims 1–13 would have been obvious over Burnett '870 and Magstim. Pet. 6. We begin with summaries of Burnett '870 and Magstim, and then turn to the parties' dispute.

1. Burnett '870

Burnett '870 describes a system for electromagnetic induction therapy that generates a magnetic field focused on a target nerve, muscle, or other body tissue. Ex. 1005 ¶ 21. An embodiment of Burnett '870's system is shown in Figure 34 reproduced below.

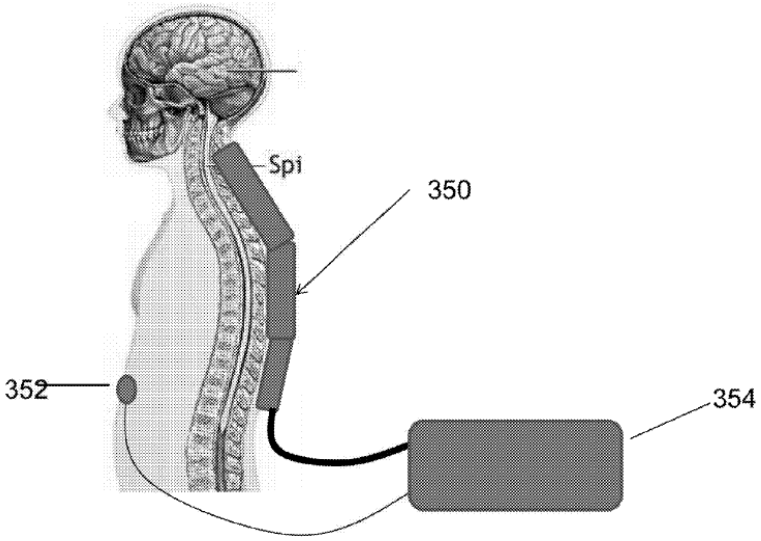


Figure 34 illustrates a schematic view of a system including multiple back applicators placed on a human back, a sensor, and a logic controller. *Id.* ¶ 56.

Figure 34, above, illustrates a profile view of the upper half of a human body with one or more back applicators 350 and sensor 352. *Id.* ¶ 209. Back applicators 350 and sensor 352 are connected by wires to logic controller 354. *See id.*

Referring to Figure 34, Burnett '870 discloses that applicators 350 may include multiple coils that are fired sequentially. *Id.* ¶ 209. Burnett '870

discloses another variation of back applicator 360 with several coils that are pulsed intermittently. *Id.* ¶ 210. The applicator may be held on a patient by an ergonomic position element, e.g., a belt. *Id.* Additionally, coil power line 365 for supplying power or current from logic controller 364 may include "fluid cooling, e.g., air or liquid cooling." *Id.*

Burnett '870 discloses a variation of the system, shown in Figure 9B, in which coils 106 are disposed within an abdominal garment. *Id.* ¶ 114.

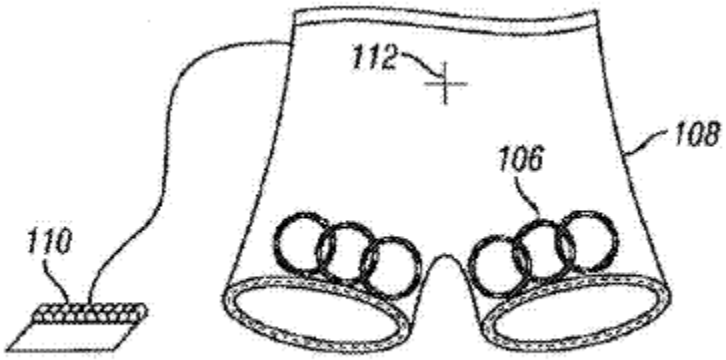


FIG. 9B

Figure 9B, above, illustrates shorts 108, including two separate sets of 3 interlocking rings labelled coils 106 that connected to a logic controller (not shown) by connector 110. *Id.* ¶ 114, Fig. 9B.

Burnett '870's shorts 108 includes one or more sensors (not shown) that provide feedback to the logic controller. *Id.* ¶ 113. Marking 112 may be added to one side of shorts 108 to indicate wrap orientation. *Id.* ¶ 114.

2. Magstim

Magstim describes techniques of magnetic stimulation for clinical applications. Ex. 1006, 1.[7] Magstim illustrates its magnetic stimulator in Figure 2, reproduced below.

[7] Magstim includes two sets of page numbers, specifically, original page numbers and page numbers added by Petitioner. We refer to the original page numbers in Magstim.

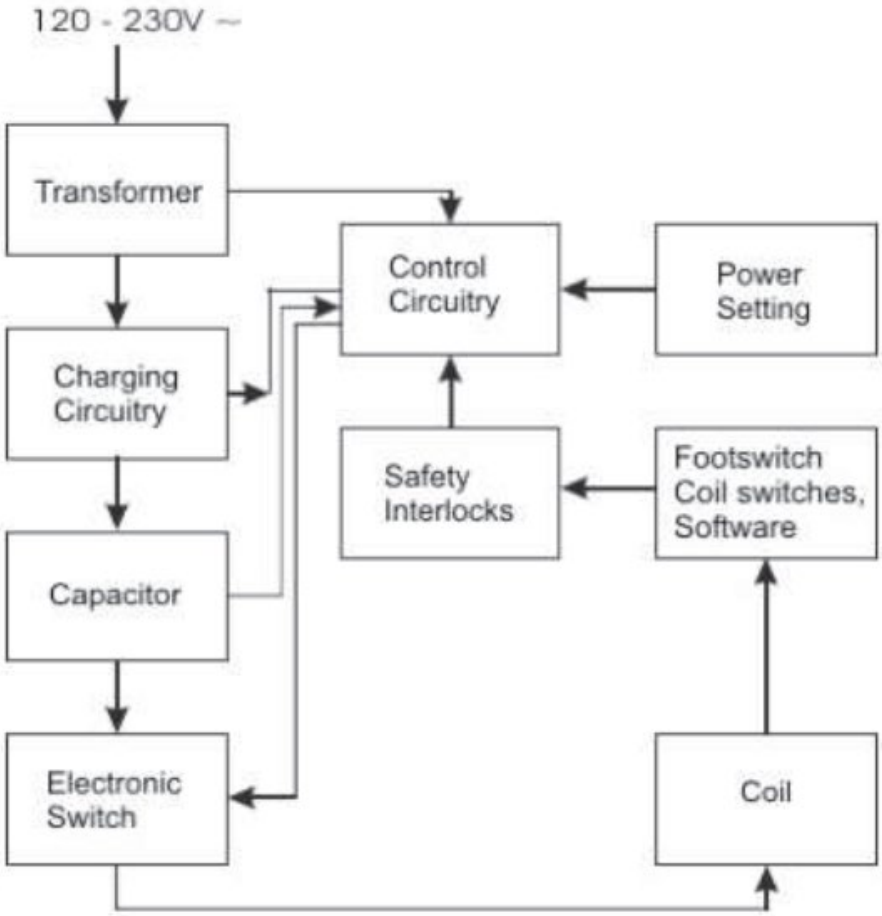


Figure 2, above, illustrates a block diagram of the Magstim Model 200[8] monophasic stimulator including a transformer, charging circuitry, a capacitor, an electronic switch, and a coil. *See id.* at 4.

Magstim discloses that the transformer charges the capacitor under the control of a microprocessor. *Id.* The capacitor is connected to the coil via an electronic switch when the user wishes to apply the stimulus. *Id.*

Magstim's coil is illustrated in Figure 3, reproduced below.

[8] Magstim describes its Magstim Model 200 or Magstim 200 as a stimulator that was launched in 1986. *Id.* at 3.

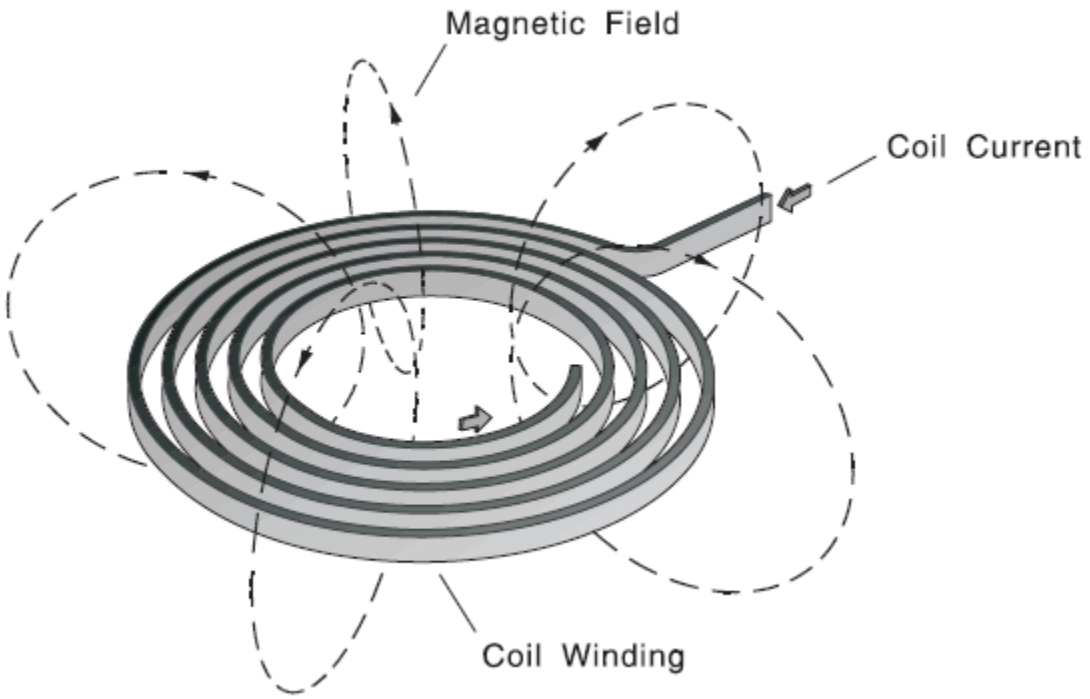


Figure 3, above, illustrates a circular coil winding showing the lines of force generated when current flows through the winding. *Id.* at 5.

Magstim discloses that the Magstim 200 is supplied with a single circular coil or a double coil shaped as a butterfly or figure of eight. *Id.* at 5, 9. Double coils use two windings, normally placed side by side. *Id.*

3. Independent claim 1

a) Element 1.f: "charging a first capacitor and a second capacitor of the treatment device"

Petitioner provides a mapping for element 1.f in its claim chart. Pet. 54–55. Patent Owner disputes Petitioner's mapping asserting that the combination of Burnett '870 and Magstim lacks two capacitors. Prelim. Resp. 18–20, 48–53.

For completeness, we review each of the assertions in Petitioner's mapping of element 1.f in sequence. Petitioner starts by pointing to two patents described in the background section of Burnett '870. Pet. 54 (citing

Ex. 1005 ¶¶ 13, 14). One of those patents describes "a magnetic stimulation device which consists of a stimulation coil, *a* high-voltage *capacitor*, and a controllable network part." Ex. 1005 ¶ 14 (emphases added). The other patent describes a coil, a body applicator, and "[*a*] reserve *capacitor*." *Id.* ¶ 13 (emphasis added). Consistent with Patent Owner's assertions, both patents cited by Petitioner from the background section of Burnett '870 describe a stimulator with a single capacitor.

Next Petitioner asserts that Burnett '870's "provisional application[9] discloses using a LoFIT system described in Burnett-'185[10] in its invention." Pet. 54 (citing Ex. 1023 ¶¶ 1, 2, 20). Consistent with Petitioner's contentions, the '720 provisional describes the Low Frequency Induction Therapy ("LoFIT") system. Ex. 1023 ¶¶ 1–2 (describing treatment "with the use of Low Frequency Induction Therapy (LoFIT)"), 20 ("The LoFIT™ System is currently protected by 3 patents pending and one issued patent: U.S. Pat. No. 6,701,185 entitled 'Method and apparatus for electromagnetic stimulation of nerve, muscle, and body tissues.'"). The '720 provisional references U.S. Patent No, 6,701,185 B2 ("Burnett '185," Ex. 1024). The portions of the '720 provisional relied on do not describe details of the LoFIT system.

Petitioner next asserts "Burnett-'185 discloses incorporating a capacitor in the circuitry of the device, allowing it to be charged, and using a switch to discharge it to the coil." Pet. 54 (citing Ex. 1024, 6:66–7:2, 7:27–8:26). Burnett '185 describes that "[t]he internal circuitry of the logic

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[9] Petitioner references provisional application No. 60/848,720 ("the '720 provisional," Ex. 1023).
[10] Petitioner references U.S. Patent No, 6,701,185 B2 ("Burnett '185," Ex. 1024).

controller 20 comprises or alternatively consists of a transformer, *a capacitor*, an inducting coil, a diode, and a switch." Ex. 1024, 6:66–7:1 (emphasis added). Burnett '185 further describes "[*a*] *capacitor* and a stimulating coil (not shown) are provided in parallel." *Id.* at 7:27–28 (emphases added). Throughout the portions of Burnett '185 relied on by Petitioner, Burnett '185's disclosure is limited to a single capacitor. *Id.* at 7:27–8:26 (describing embodiments having describes "a capacitor" or referring to "the capacitor"). In contrast, Burnett '185 describes alternative embodiments with multiple coils. *See id.* at 7:53–54 (describing "[o]ne or more coils or arrays of coils").

In one embodiment, Burnett '185 describes having a single capacitor and an array of coils 32, which are activated sequentially or simultaneously. Ex. 1024, 7:60–67. Burnett '185 describes that the sequential activation is accomplished by a switching mechanism. *Id.* Burnett '185, more specifically, describes the following:

> In the other position, the switch prevents the capacitor from discharging to ground and allows the capacitor to be charged. Each coil 32 attached to the logic controller 20 may have its own internal switching mechanism to allow firing of the coil 32 in sequence or to allow the firing of multiple coils simultaneously.

Ex. 1024, 7:62–67. Regardless of the number of coils, consistent with Patent Owner's assertions (Prelim. Resp. 18–20, 48–53), Burnett '185's disclosure is limited to a single capacitor. *Id.* at 6:66–7:2, 7:27–8:26.

Petitioner next asserts that a person having ordinary skill in the art:

> would have been motivated and found it obvious to incorporate capacitors in Burnett-'870 device based on its reference to the LoFIT system, and its guidance to store energy for the coils, and a POSITA would have understood to charge the capacitors such that they would be discharged to the coils as was known in the art.

Pet. 55 (citing pages 3–4 and Figure 2 of Magstim (Ex. 1006) as supporting evidence). Petitioner's annotated Figure 2 of Magstim is reproduced below.

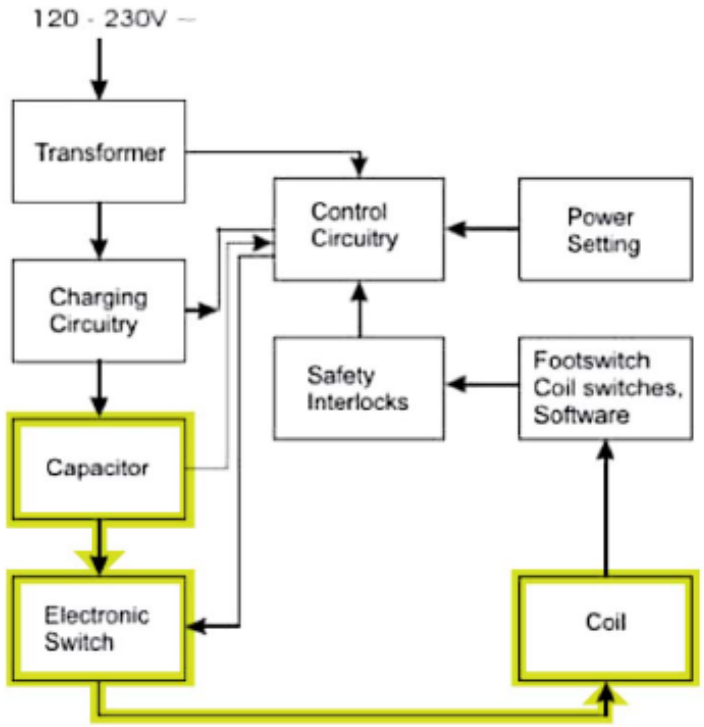


Figure 2: Block diagram of the Magstim 200² monophasic stimulator

Figure 2, above, illustrates a block diagram of the Magstim Model 200 monophasic stimulator (Ex. 1006, 4, Fig. 2), which includes Petitioner's yellow annotation highlighting the capacitor, the electronic switch, and the coil, as well as the flow from the capacitor to the coil via the electronic switch. (Pet. 55).

Magstim describes that the transformer of the Magstim charges the capacitor under the control of a microprocessor. Ex. 1006, 4. Magstim further describes that the capacitor is connected to the coil via the electronic switch that delivers energy to the coil when the user wishes to apply the stimulus. *Id.* Magstim discloses that the Magstim 200 is supplied with a single circular coil or a double coil shaped as a butterfly or figure of eight. *Id.* at 5, 9.

Below is a picture of the Magstim with a double coil.



Figure 13 of Magstim, above, is a photograph of a Magstim 200 magnetic stimulator with a double coil. *Id.* at 9.

Consistent with Patent Owner's arguments (Prelim. Resp. 48–53), Magstim describes the Magstim 200 as having a single capacitor. Ex. 1006, 4, Fig. 2. The Magstim 200 may operate with a double coil. *Id.* at 5, 9.

Petitioner's mapping in its claim chart concludes with a list of citations, i.e., "*See* VIII.B.3. Bikson, ¶¶302–311, 76–77," (Pet. 55), which refer to a section of the Petition entitled "**Motivation to Combine**" (*id.* at 46 (§ VIII.B.3)) and Dr. Bikson's Declaration, respectively.

We turn to the "**Motivation to Combine**" discussion in the Petition that is cited at the end of Petitioner's mapping. Pet. 46. Petitioner asserts the following:

> Because **Burnett- '870** discloses using activating two coils "differentially," and in view of known teachings to use a capacitor for storing energy for a coil, a POSITA would have recognized **Burnett- '870** as teaching separate energy storage per coil that would allow for independent control of separate coils to provide programmable discharge patterns of pulse channels. It would have been an obvious, "typical," implementation to double the capacitor and switch for a two-coiled design such that each coil has its own circuitry. A POSITA would have been motivated and found it obvious to apply **Magstim's** teaching in implementing **Burnett-'870**'s

> stimulation device to charge and discharge the capacitors using switches such that energy would be stored in the capacitors and that the discharge of the capacitors would be controlled to provide power to the coils to generate the time-varying magnetic fields. Bikson, ¶¶274–276.

Pet. 46–47. Dr. Bikson's declaration includes similar testimony. Ex. 1002 ¶ 276.

Petitioner is correct that Burnett '870 describes activating coils "differentially." In particular, Burnett '870 describes "[w]hen multiple coils 26 are present, coils 26 may be activated simultaneously or differentially to generate the desired magnetic field." Ex. 1005 ¶ 87. Burnett '870, more specifically, describes activating coils differentially as a "firing sequence." *Id.* However, the evidence of record does not support that the disclosure of "differential" activation of coils requires separate energy storage per coil. In this regard, we note that Burnett '870's description of the differential and sequential activation of coils 26 is similar to the description of activating multiple coils sequentially set forth in Burnett '185. *Compare* Ex. 1005 ¶ 87 ("When multiple coils 26 are present, coils 26 may be activated simultaneously or differentially to generate the desired magnetic field."), *with* Ex. 1024, 7:64–67 ("Each coil 32 attached to the logic controller 20 may have its own internal switching mechanism to allow firing of the coil 32 in sequence or to allow the firing of multiple coils simultaneously"). As discussed above, Burnett '185 describes its stimulator as having a single capacitor.

Burnett '870's use of multiple coils activated by a single capacitor is also similar to Magstim. Burnett '870's coils 26 are within coil wrap 20. Ex. 1005 ¶ 79. Burnett '870's coil wrap 20 is shown in Figure 1, reproduced below.

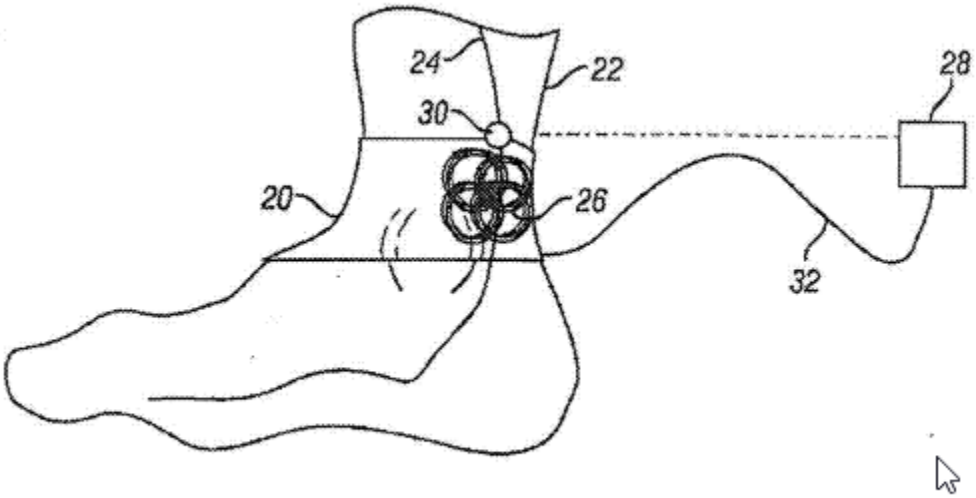


FIG. 1

Figure 1 of Burnett '870, above, illustrates coil wrap 20 disposed over ankle 22, which includes one or more conductive coils 26. *Id.* ¶¶ 77, 79.

Burnett '870 describes that coils 26 "may be a single coil shaped in a simple helical pattern or as a figure eight coil, [or] a four leaf clover coil." *Id.* ¶ 79. Burnett '870's description of multiple coils 26 as including, for example, a "figure eight coil" (*id.*) is similar to the description in Magstim of its double coil being a "figure of eight coil" (Ex. 1006, 5). Magstim's double coil "is supplied standard" with the Magstim 200. *Id.* at 5–6. The Magstim 200 has a single capacitor. *Id.* at 4, Fig. 2. Thus, the mere existence of multiple coils does not require multiple capacitors.

Interpreting "differential" activation of coils as not requiring multiple capacitors is consistent with the disclosure of Burnett '870. Burnett '870 describes that "[t]he electric current that produces the magnetic field by flowing through coils 26 is supplied by programmable logic controller 28, which is connected to coils 26, for example, with a power cord 32." Ex. 1005 ¶ 81. Burnett '870's description of its coil wrap 20 does not indicate that coil wrap 20 includes a capacitor. *See*, *e.g.*, *id.* ¶¶ 77, 79, 81, 87.

Petitioner acknowledges that "**Burnett- '870** leaves the powering of [its] coils to [the] POSITA." Pet. 46.

Upon consideration of Burnett '870, including Burnett '870's description of "activating two coils 'differentially'" and the disclosures of Magstim relied on by Petitioner, we are not persuaded that they support using two capacitors or energy storage devices. Instead, the disclosures of Burnett '870, Burnett '185, and Magstim are consistent with Patent Owner's assertions that the Petition demonstrates a teaching of only a single capacitor.

We turn to Petitioner's assertion that "[i]t would have been an obvious, 'typical,' implementation to double the capacitor and switch for a two-coiled design such that each coil has its own circuitry." Pet. 46–47 (citing Ex. 1002 ¶¶ 274–276). Petitioner relies on Dr. Bikson's declaration testimony as the supporting evidence. *Id.*

Petitioner argues, and Dr. Bikson testifies, that "it would have been an obvious, 'typical,' implementation to double the capacitor and switch for a two-coiled design such that each coil has its own circuitry." Pet. 46–47; Ex. 1002 ¶ 276. This statement is not followed by a citation to support what Petitioner and Dr. Bikson consider to be a "typical" implementation. *Id.* However, immediately preceding this statement, the Petition cites Magstim (page 4 and Figure 2) as an example of the "circuitry of a 'typical simulator' to control charging and discharging of a capacitor" and of "a capacitor and switch for a typical stimulation coil." Pet. 46. And immediately following the "typical" statement, Petitioner references applying Magstim's teaching in Burnett '870's device. As such, we infer that Petitioner relies on Magstim as illustrating a typical implementation. This is problematic for Petitioner

because the cited portions of Magstim do not include two capacitors. *See* Ex. 1006, 4, Fig 2.

We turn to the remaining citation in the claim chart in the Petition, which is to Dr. Bikson's Declaration testimony regarding U.S. Pat. No. 5,718,662 (Ex. 1033, "Jalinous"). Pet. 55 (citing Ex. 1002 ¶¶ 76–77). Dr. Bikson testifies that Jalinous discloses that its magnetic stimulator "comprises two sets of capacitors 3 each having a respective, independently controllable discharge control, connected in parallel to provide one common output for each set of capacitors. The two outputs may be used to drive different coils." Ex. 1002 ¶ 77 (citing Ex. 1033, 2:7–11). Jalinous describes that its apparatus shown in Figure 1 "comprises two sets of capacitors 3," which "may [ ] be used to drive different coils or may [ ] be coupled in parallel to drive a single stimulating coil." Ex. 1033, 2:7–14.

Importantly, Petitioner and Dr. Bikson rely not on incorporating the teachings of Jalinous in Burnett '870's device, but on incorporating Magstim. Pet. 47 (explaining that the person having ordinary skill in the art would have found it obvious "to apply **Magstim's** teaching in implementing **Burnett- '870**'s stimulation device to charge and discharge the capacitors using switches such that energy would be stored in the capacitors . . . to provide power to the coils to generate time-varying magnetic fields"); Ex. 1002 ¶ 276 ("The application of Magstim's teaching to Burnett- '870 would allow energy to be stored in the capacitors, for control of the discharge of the capacitors to provide power to the coils, to thereby generate the time-varying magnetic fields."). Although the Petition does include a citation to Dr. Bikson's testimony on Jalinous, it appears, without explanation, in a string citation, and does not change the fact that Petitioner and Dr. Bikson rely on incorporating Magstim's teachings on capacitors in Burnett '850's device.

See, e.g., Pet. 46–47. Absent further explanation, Petitioner's citation is insufficient to explain how Jalinous supports Petitioner's position.

Dr. Bikson also testifies "it would have been an obvious design choice to keep the same capacitor-to-coil 1:1 ratio in implementing the two-coiled embodiment of [the] Burnett '870 device." Ex. 1002 ¶ 276. A mere design choice, which does not need to be shown explicitly in the prior art, is generally a minor and obvious choice that solves no stated problem. *Cf. In re Kuhle*, 526 F.2d 553, 555 (CCPA 1975) ("Use of such a means of electrical connection in lieu of those used in the references solves no stated problem and would be an obvious matter of design choice within the skill [in] the art." (citations omitted)). Furthermore, a finding of obviousness based on design choice is precluded where the difference between the claimed feature and prior art results in a functional difference. *In re Gal*, 980 F.2d 717, 719 (Fed. Cir. 1992).

Here, the current record supports that adding a capacitor to the two-coiled embodiment of Burnett '870 is not minor and would result in a functional difference. *See e.g.,* Ex. 1001, 19:41–49, 19:64–20:3 (teaching that an embodiment with multiple energy storage devices offers the benefit of "providing the magnetic treatment at the same time without necessity of alternating the magnetic field generating devices during treatment"); 20:4–6 (teaching that an embodiment with multiple energy storage devices offers the benefit of generating magnetic fields with different parameters); 19:50–53 (disclosing that the "magnetic field generating circuit may include a plurality of energy storage devices providing energy to a magnetic field generating device in order to enable higher energy pulse"). Dr. Bikson's testimony that "it would have been an obvious design choice to keep the same capacitor-to-coil 1:1 ratio in implementing the two-coiled embodiment

of [the] Burnett '870 device" (Ex. 1002 ¶ 276) is conclusory and does not take into account whether such a change would result in a functional difference. In addition, Dr. Bikson cites Magstim as supporting a 1:1 capacitor-to-coil ratio, but does not address that Magstim discloses a single capacitor-to-multiple coil ratios, including, for example, a 1:2 capacitor-to-coil ratio. *See, e.g.,* Ex. 1006, 9 ("Single Pulse Systems may be used for cortical or peripheral stimulation with either single circular or double figure of eight coils."). Accordingly, we are not persuaded that the Petition establishes that the prior art supports maintaining a 1:1 capacitor-to-coil ratio or that doubling the capacitor would be an obvious design choice.

As discussed above, Burnett '870 refers to Burnett '185, and both Burnett '185 and Magstim describe stimulators having multiple coils and a single capacitor. Ex. 1024, 7:27–8:26; Ex. 1006, 4, Fig. 2. For the reasons given above, we determine Petitioner has not shown sufficiently that the combination of Burnett '870 and Magstim teaches element 1.f, i.e., "charging a first capacitor and a second capacitor of the treatment device."

b) Conclusion—Obviousness of Claim 1 over Burnett '870 and Magstim

After consideration of the contentions and the evidence of record, we determine that Petitioner has not shown sufficiently that the combination of Burnett '870 and Magstim teaches each recitation of claim 1. Accordingly, we conclude that Petitioner has not demonstrated a reasonable likelihood that it would prevail in showing that claim 1 is unpatentable under 35 U.S.C. § 103 as obvious over the combination of Burnett '870 and Magstim.

4. Independent Claim 6

Independent claim 6 recites "a first capacitor configured to be discharged to the first magnetic field generating coil" and "a second

capacitor configured to be discharged to the second magnetic field generating coil." For these recitations in claim 6, Petitioner refers to its arguments and evidence for claim 1 without supplementation. Pet. 64. Petitioner's arguments and evidence for claim 6 do not remedy the deficiencies discussed with respect to claim 1.

Accordingly, we conclude that Petitioner has not demonstrated a reasonable likelihood that it would prevail in showing that claim 6 is unpatentable under 35 U.S.C. § 103 as obvious over Burnett '870 and Magstim.

5. Dependent Claims 2–5 and 7–13

Each of claims 2–5 depends directly from claim 1. Each of claims 7–13 depends, directly or indirectly, from claim 6. Petitioner's arguments and evidence for dependent claims 2–5 and 7–13 do not remedy the deficiencies discussed with respect to claim 1. Pet. 67–73.

Accordingly, we conclude that Petitioner has not demonstrated a reasonable likelihood that it would prevail in showing that claims 2–5 and claims 7–13 are unpatentable under 35 U.S.C. § 103 as obvious over the combination of Burnett '870 and Magstim.

F. Obviousness over Simon and Burnett '870—Claims 1–13

As an alternative to obviousness of claims 1–13 over Simon alone, Petitioner asserts that claims 1–13 would have been obvious over Simon and Burnett '870. Pet. 77–81. Petitioner, however, does not supplement its contentions regarding elements 1.q and 6.p. *Id.*

Accordingly, we conclude that Petitioner has not demonstrated a reasonable likelihood that it would prevail in showing that claims 1–13 would have been obvious over Simon and Burnett '870.

IV. DISCRETIONARY DENIAL

Patent Owner asserts we should exercise our discretion under 35 U.S.C. § 325(d) to deny *inter partes* review because the Petition presents the same or substantially the same prior art and arguments previously presented to the Office. Prelim. Resp. 64–71. We need not address Patent Owner's contentions concerning discretionary denial under § 325(d) because Petitioner has not established a reasonable likelihood of prevailing in demonstrating the unpatentability of any challenged claim of the '895 patent.

V. CONCLUSION

We have reviewed the Petition and Preliminary Response, and have considered all of the evidence and arguments presented by Petitioner and Patent Owner. For the foregoing reasons, we conclude that the information presented in the Petition does not establish a reasonable likelihood that Petitioner would prevail in showing that the challenged claims of the '895 patent are unpatentable.

VI. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that the Petition is denied, and no trial is instituted.

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