

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CARTESSA AESTHETICS, LLC,
Petitioner,

v.

SERENDIA, LLC,
Patent Owner.

IPR2022-00378
Patent 9,320,536 B2

Before SHERIDAN K. SNEDDEN, CARL M. DeFRANCO, and
TINA E. HULSE, *Administrative Patent Judges*.

DeFRANCO, *Administrative Patent Judge*.

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

Serendia, LLC (“Serendia”) is the owner of U.S. Patent No. 9,320,536 B2 (Ex. 1001, “the ’536 patent”).¹ Cartessa Aesthetics, LLC (“Cartessa”)

¹ Serendia identifies SynKloud Technologies, LLC as having the exclusive right to assert the ’536 patent. See Paper 4.

filed a Petition requesting *inter partes* review of claims 1–9 and 11–19 of the ’536 patent.² Paper 1 (“Pet.”). Serendia filed a Preliminary Response. Paper 8 (“Prelim. Resp.”). Because Cartessa’s Petition fails to demonstrate a reasonable likelihood that any of the challenged claims are unpatentable, we deny institution of *inter partes* review. *See* 35 U.S.C. § 314(a) (2018).

I. BACKGROUND

A. Related Matters

Also pending before the Office are petitions filed by Cartessa for *inter partes* review of two related patents, namely, U.S. Patent Nos. 9,775,774 B2 (IPR2022-00376) and 10,869,812 B2 (IPR2022-00377). Paper 7. Those patents, along with the ’536 patent at issue here, are the subject of an infringement action filed August 6, 2021 in *SynKloud Techs., LLC v. Cartessa Aesthetics, LLC*, No. 2:21-cv-04423 (E.D.N.Y.) (“New York action”). *See* Pet. 2; Paper 7. According to the district court’s docket, that action was subsequently stayed pending the outcome of our review of Cartessa’s Petition here and in the related -00376 and -00377 proceedings.

The ’536 patent is also the subject of two other infringement actions: (1) *SynKloud Techs., LLC v. Sung Hwan E&B Co., Ltd.*, No. 6:21-cv-00811 (W.D. Tex.) (“Texas action”), which appears to have been filed the same day as the New York action, and (2) *SynKloud Techs., LLC v. Aesthetics Biomedical, Inc.*, No. 2:22-cv-00015 (D. Ariz.) (“Arizona action”), filed January 4, 2022. *See* Paper 7. We are not apprised of the status of either of those actions.

² Cartessa identifies Sung Hwan E&B Co., Ltd. and Aesthetics Biomedical, Inc. as also being real parties-in-interest. Paper 7.

B. The '536 Patent

The '536 patent is directed to an apparatus and method “used in treating derma[to]logical tissue.” Ex. 1001, 1:25–27. As described and shown in the '536 patent, the “derma[to]logical treatment apparatus” comprises “a user handle 220 coupled to an acupuncture plate 200.” *Id.* at 2:51–55, Figs. 1A, 1B. The acupuncture plate includes “a plurality of acupuncture pins or needles 230.” *Id.* at 2:61–67, Figs. 1B, 1C. In operation, a user employs the apparatus “to create a plurality of micro-wounds or holes in derma[to]logical layers of a mammal’s [] skin or dermis.” *Id.* at 3:21–23. Creating such micro-wounds or holes in the skin “may improve the absorption or application of one or more chemicals applied on or about the micro-wounds or holes” (*id.* at 3:23–26) and “may increase cellular activity and help heal tissue faster and facilitate the delivery, uptake and use in the cell of the cosmetics, medications, or chemicals [] used” (*id.* at 7:51–54).

To assist in creating the micro-wounds or holes in the skin, “electrical signal generation system 300 may be electrically coupled to the acupuncture apparatus 320 via one or more wires 300A and to a mammal 20 to be treated via one or more wires 300B” so as to “generate a variety of signals . . . to vibrate one or more pins 351 electrically coupled to the system 300.” *Id.* at 3:27–45, Figs. 2A–2C. In addition, the dermatological treatment apparatus may include “a disposable needle module 924 . . . to be removed and disposed after one or more treatments or for each patient, client, or user.” *Id.* at 9:26–30, Figs. 9C–9D, 10A–10D.

C. The Sole Challenge

Claims Challenged	35 U.S.C. §	Basis
1–9, 11–19	103	Morris ³ and Zhang ⁴

In further support of this challenge, Cartessa submits the declaration of Robert E. Grove, Ph.D. *See* Ex. 1012. Serendia submits a rebuttal declaration from Paul Stauffer. *See* Ex. 2002.

D. The Challenged Claims

Two of the challenged claims are independent—claims 1 and 11. Claim 1 is a method claim, while claim 11 is an apparatus claim. In challenging these claims, Cartessa “starts with claim 11” (Pet. 20), which recites:

11. An apparatus for *treating dermatological tissue*, comprising:

a user holdable device including a proximal end and a releasably couplable deployable needle assembly, the deployable needle assembly mechanically separatably from the proximal end and including a plurality of extendable needles, a plurality of the extendable needles extendable from a deployable needle assembly end surface, one of the proximal end and the deployable needle assembly including at least one electrical conductor and the other including at least one restorably deflectable electrical contact couplable to the one of the proximal end and the deployable needle assembly at least one electrical conductor;

a motor coupled to a plurality of extendable needles that causes the plurality of extendable needles to extend a desired distance from the needle assembly end surface when the motor is energized with a particular signal; and

³ US 2002/0120260 A1, published Aug. 29, 2002 (Ex. 1002, “Morris”).

⁴ US 2006/0036210 A1, published Feb. 16, 2006 (Ex. 1003, “Zhang”).

a signal generator electrically coupled to the plurality of extended needles to energize the plurality of extended needles.

Ex. 1001, 16:11–32 (emphasis added).

II. ANALYSIS

A. Claim Construction

We apply the claim construction standard set forth in *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (en banc). That is, “the words of a claim ‘are generally given their ordinary and customary meaning’ . . . that the term would have to a person of ordinary skill in the art in question at the time of the invention.” *Id.* at 1312–13; *see also* 37 C.F.R. § 42.100(b).

1. “mechanically separably” (claims 1 and 11)

Cartessa asks that we construe the term “mechanically separably,” as recited by independent claims 1 and 11, “to mean ‘mechanically separable.’” Pet. 18. Serendia responds by proposing a construction not only for that particular term, but for the entire limitation in which that term appears, namely, “a user holdable device including a proximal end and a releasably couplable deployable needle assembly, the deployable needle assembly mechanically separably from the proximal end.” Prelim. Resp. 16–21. We do not perceive a need to construe that claim limitation, as the threshold question of institution in this case can be decided regardless of its construction. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (approving Board decision not to construe claim language where the construction is not material to the dispute).

2. “a plurality of extendable needles extendable” (claim 11) and
“draft shaft” (claims 3 and 13)

Cartessa also asks that we construe the terms “a plurality of extendable needles extendable,” as recited in independent claim 11, and “draft shaft,” as recited in dependent claims 3 and 13. Pet. 18–19. Aside from generally stating the law of claim construction, Serendia does not otherwise address these claim terms. *See* Prelim. Resp. 15–21. These terms need not be construed expressly because, as mentioned earlier, we can decide the threshold question of institution without resort to an express construction. *See Nidec*, 868 F.3d at 1017.

3. “treating dermatological tissue” (preamble of claims 1 and 11)

The preamble of claims 1 and 11 recites that the claimed method and apparatus are for “treating dermatological tissue.” Ex. 1001, 15:16, 16:11, respectively. Neither Cartessa nor Serendia addresses the limiting effect of the preamble in any meaningful fashion. For instance, Cartessa simply states that “[i]f the preamble is limiting, Morris discloses an apparatus for treating dermatological tissue.” Pet. 21–22 (citing Ex. 1002 ¶¶ 2, 78). That approach by Cartessa—explaining how the prior art meets the preamble—appears to presume that the preamble is limiting. Serendia takes a similarly conclusory approach, quoting *Catalina Mktg. Int’l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002) that a claim preamble may be construed as limiting “if it recites essential structure or steps, or if it is ‘necessary to give life, meaning, and vitality’ to the claim” (Prelim. Resp. 15) before asserting that the “treating dermatology tissue” limitation of claims 1 and 11 is “absent from Morris and Zhang” (*id.* at 30).

It is beyond dispute that Cartessa, as petitioner, bears the burden of stating “[h]ow the challenged claim is to be construed.” 37 C.F.R. § 42.104(b)(3). Nowhere do we discern, however, that Cartessa addresses the limiting effect of the preamble. Instead, Cartessa simply treats the preamble as an essential element of the claims in explaining that the prior art satisfies the preamble language of “[a]n apparatus for treating dermatological tissue.” *See* Pet. 21–22 (claim 11), 58 (claim 1). And despite Serendia’s clear position that the preamble is limiting (*see* Prelim. Resp. 15, 24–30), Cartessa did not seek leave to file a reply on the issue of the preamble’s limiting effect (*see* 37 C.F.R. § 42.24(c)). Absent further discussion from Cartessa, we treat Cartessa’s silence on this critical issue as a concession that the preamble of claims 1 and 11 is limiting. But even without that apparent concession, the record nonetheless supports that the preamble is limiting.

Whether to treat a preamble as a limitation is resolved “only on review of the entire[] . . . patent to gain an understanding of what the inventors actually invented and intended to encompass by the claim.” *Catalina*, 289 F.3d at 808. “A claim’s preamble may limit the claim when the claim drafter uses the preamble to define the subject matter of the claim.” *August Tech. Corp. v. Camtek, Ltd.*, 655 F.3d 1278, 1284 (Fed. Cir. 2011). For instance, where the specification underscores the importance of the structure or steps recited in the preamble, the preamble may operate as a claim limitation. *Catalina*, 289 F.3d at 808. Further, “clear reliance on the preamble during prosecution to distinguish the claimed invention from the prior art transforms the preamble into a claim limitation because such

reliance indicates use of the preamble to define, in part, the claimed invention.” *Id.* at 808–09.

Here, the preamble of claims 1 and 11 recites essential elements of the claimed invention because it defines an important and distinguishing feature of the claimed “needle assembly,” namely, that it is used to treat “dermatological tissue.” Otherwise, without the preamble, the claims would be of unlimited scope, giving rise to countless user holdable devices having a needle-like assembly on their distal end surface. But the Specification makes clear that “the present invention” relates to a needle assembly used “to treat derma[to]logical tissue.” Ex. 1001, 1:31–32 (“It may be desirable to treat dermatological tissue; the present invention provides such treatment.”). And all the embodiments described in the ’536 patent “relate generally to treating dermatological tissue, including systems, and methods used in treating dermatological tissue.” *Id.* at 1:25–27. Similarly, every figure of the ’536 patent is described as depicting “a derma[to]logical treatment apparatus,” “a derma[to]logical treatment architecture,” or “a derma[to]logical treatment system.” *Id.* at 1:36–2:47.

Those statements in the Specification underscore the pertinence of “dermatological tissue” to the claimed invention. *See Proveris Scientific Corp. v. Innovasystems, Inc.*, 739 F. 3d 1367, 1373 (Fed. Cir. 2014) (“[T]he preamble [provides] the only reference in any independent claim to the inventive concept . . . [and] [t]his fact alone is likely sufficient to support a conclusion that the preamble is limiting.”). Indeed, where the specification refers to “the present invention” in terms only found in the preamble of the claim (rather than also in its body), which is the case here, it has been held that the preamble acts as a limitation on claim scope. *See Deere & Co. v.*

Bush Hog, LLC, 703 F.3d 1349, 1358 (Fed. Cir. 2012) (holding that the preamble phrase “rotary cutter deck” was a limitation where the specification referred to “the present invention” as “a rotary cutter deck”); *Poly-Am., LP v. GSE Lining Tech., Inc.*, 383 F.3d 1303, 1310 (Fed. Cir. 2004) (construing preamble as limiting where it disclosed a “fundamental characteristic of the claimed invention”) (internal quotation marks and citation omitted).

The prosecution history of the ’536 patent also lends insight into the relevance of the preamble’s recitation of “treating dermatological tissue.” For instance, the Examiner initially rejected claims 1 and 11 based on prior art references specific to “treating derma[to]logical tissue” and “derma[to]logical treatment system[s].” See Ex. 1007 at 278–79 (discussing teachings of Crocker,⁵ Mulholland,⁶ and Kim⁷). Those prior art references teach: a device in which “the needle first contacts the skin in order to penetrate the skin and deliver [a drug] substance thereto” (Ex. 3001, 2:1–3), a device that “performs a punctile resurfacing procedure using an oscillating, reciprocating high speed, nonthermal, needle-based device for inducing mechanical trauma to an area of the skin to be treated” (Ex. 3002, 4:39–43), and a device “utilizing micro needles . . . [for] penetrating a portion or all of epidermis of the skin” (Ex. 3003 ¶ 2). That the Examiner focused on prior art devices specific to skin treatment before allowing claims 1 and 11 further highlights the importance of the preamble to the scope of the claims.

⁵ US 6,890,319 B1, issued May 10, 2005 (Ex. 3001).

⁶ US 7,618,429 B2, issued Nov. 17, 2009 (Ex. 3002).

⁷ US 2009/0312691 A1, published Dec. 17, 2009 (Ex. 3003).

It is apparent from the Specification and prosecution history of the '536 patent that the preamble of claims 1 and 11 defines the subject matter of the claimed invention. In other words, the preamble is not merely limited to stating the intended use of the claimed invention, but rather provides an essential element—the treatment of “dermatological tissue”—as highlighted by the Specification and prosecution history. Thus, in our view, the preamble serves as a limitation that gives “life, meaning, and vitality to the claim[s]” as a whole. *Catalina*, 289 F.3d at 808.

B. Level of Ordinary Skill in the Art

Cartessa’s declarant, Dr. Grove, testifies that one skilled in the art during the relevant time frame “would typically have had (1) seven to ten years of experience with development and/or use of treatment systems for delivery of electromagnetic radiation energy to skin or other tissues, and (2) a related graduate engineering degree or M.D.” and “may have worked as part of a multidisciplinary team and drawn upon not only his or her own skills, but also taken advantage of certain specialized skills of others on the team when solving a technical problem.” Ex. 1012 ¶ 27. Serendia does not contest Dr. Grove’s articulation of the level of skill in the art. *See generally* Prelim. Resp. Nor do we see any reason to question it. Thus, for purposes of this decision, we analyze the asserted prior art with that level of skill in mind.

C. Independent Claim 11 (and its dependents)

As does Cartessa (*see* Pet. 20), we begin with claim 11, assessing whether the Petition supports a reasonable likelihood that the claimed “apparatus” is unpatentable as obvious over the asserted combination of Morris and Zhang. Cartessa maps the limitations of apparatus claim 11 to

various teachings of Morris and Zhang (*see id.* at 21–45) and contends that one skilled in the art would have combined those teachings because one skilled in the art “would have recognized the benefits of Zhang’s ‘simple, modular and disposable’ design” because the modification “would not require changes to Morris’s functionality or operability” (*id.* at 33–34). Although Cartessa’s reason for combining the teachings of Morris and Zhang may find support in the record, we find that Cartessa fails to show that the asserted combination discloses or otherwise suggests an apparatus for “treating dermatological tissue,” as required by the preamble of claim 11, which, as discussed above, serves as a limitation on the claim’s scope.

For meeting the preamble limitation, Cartessa points to disclosures in Morris that concern *ablation of tumor tissue*, not treatment of dermatological tissue. Pet. 21–22 (citing Ex. 1002 ¶¶ 2, 78). In doing so, Cartessa acknowledges that “dermatological tissue” as recited in claim 11 “is skin.” *Id.* at 21. But nowhere do we discern that the cited disclosures in Morris relate to the treatment of dermatological tissue, i.e., skin, as claimed. Rather, Morris is directed to an entirely different application, namely, the ablation of tumors.

In that regard, Morris focuses exclusively on “the minimally invasive treatment *and ablation of tissue masses such as tumors*” using “independently deployable electrodes configured to controllably *ablate a tumor* proximate or beneath a tissue surface.” Ex. 1002 ¶ 2 (emphases added); *see also id.* ¶ 192 (“It will be appreciated that the applicants have provided a novel and useful apparatus and method for the treatment of tumors using surgical or minimally invasive methods.”). Indeed, throughout Morris, the discussion centers on the apparatus’s ability to ablate unhealthy

tumor masses in target organs such as the liver and prostate while minimizing unwanted heating of surrounding healthy tissue. *See id.* ¶¶ 4–6, 78–79, 91, 122, 126–127, 155, 161, 178, 192. Likewise, all the features of Morris’s apparatus, such as the configuration of the electrodes, depth of the deployed electrodes, and frequency and duty cycle of RF power supplied to the deployed electrodes, speak to treatment of the tumor mass by “ablation.” *See id.* ¶¶ 7, 81, 91–92, 113, 124–127, 129, 144–147, 155, 170, 179–180, 191. Morris’s clear and unequivocal focus on using the disclosed apparatus for the treatment and ablation of harmful tumor cells in a target organ, in our view, negates the use of such an apparatus for the treatment and healing of epidermal cells of the skin.

That ablation of harmful tumor cells in a target organ does not equate to healing of epidermal cells of the skin is further supported by Morris’s disclosure that the electrodes are deployed “into a tumor or tissue mass so as . . . to precisely treat the tumor while avoiding adjacent critical anatomical structures such as vasculature (e.g. hepatic veins) and nerve plexi.” *Id.* ¶ 79; *see also id.* ¶ 78 (“deploy electrodes into the tumor while avoiding and minimizing injury to adjacent critical anatomical structures that are adjacent and underneath the target tumor mass”). To that end, the electrodes are positioned “to heat, necrose, or ablate any selected target tissue volume” and “to create a variety of different geometric ablation volumes or cell necrosis zones.” *Id.* ¶¶ 114, 145. Notably, Morris further explains:

The heating causes tissue temperature to rise sufficiently *to cause cell injury and death* particularly for temperatures in excess of 50-55° C. Increased amounts of power will result[] in higher temperature and greater magnitude of cell death it is desirable to be able to deliver a range of RF power levels depending upon a

variety of parameters includ[ing] but not limited to tumor size, tissue type, tumor location and amount of tumor vascularization.

Id. ¶ 124 (emphasis added). Indeed, given the increased power levels used by Morris’s apparatus in performing tumor ablation, Morris provides precautionary measures “to prevent any appreciable heating of the patient’s skin.” *Id.* ¶ 154.

Having reviewed Morris’s disclosure as a whole, we highly doubt one skilled in the art would consider the claimed apparatus, where acupuncture needles are used for the treatment of skin, to be an obvious variant of Morris’s apparatus, where ablation electrodes are used to cause “cell injury and death.” *Compare* Ex. 1001, 2:61–3:2, 3:8–12, 3:21–48, Figs. 1B, 2A, *with* Ex. 1002 ¶¶ 124, 129, 145, Figs. 1, 22, 31. More likely than not, Morris’s disclosure supports a clear distinction between tumor ablation and skin treatment such that one skilled in the art would not consider Morris’s ablation apparatus to be suitable for skin treatment. *See, e.g.*, Ex. 2002 ¶¶ 15, 92–93, 96–98.

Nor does Cartessa’s addition of Zhang compensate for the deficiencies of Morris in the asserted combination. That is because Cartessa relies on Zhang for teaching something other than the “dermatological tissue” limitation of claim 11. *See* Pet. 20, 28–29, 31–36 (relying on Zhang only for teaching the “releasably couplable” and “mechanically separatably” limitations of the claimed needle module). Nor does the testimony of Cartessa’s declarant relieve our concerns with Cartessa’s showing, as the testimony merely parrots, essentially verbatim, the arguments in the Petition. *Compare* Ex. 1012 ¶¶ 77–81, *with* Pet. 20–22, respectively.

In the end, because the asserted combination of Morris and Zhang lacks the “treating dermatological tissue” limitation of claim 11, we determine that Cartessa’s Petition fails to support a reasonable likelihood that claim 11 is unpatentable as obvious over Morris and Zhang. And because Cartessa’s challenge of dependent claims 12–19 suffers the same deficiency, we likewise determine that Cartessa falls short in demonstrating a reasonable likelihood that those dependent claims are unpatentable as obvious over Morris and Zhang.

D. Independent Claim 1 (and its dependents)

Like apparatus claim 11, method claim 1 recites limitations directed to treating “dermatological tissue.” Ex. 1001, 15:16–19. Cartessa’s challenge of claim 1, as well as dependent claims 2–9, relies on the same challenge and arguments as asserted against claims 11–19. *See* Pet. 58–63 (asserting that “[i]ndependent claim 1 is similar to claim 11” and “[t]hus, for brevity, Petitioner refers back to the analysis of claim 11 for the overlapping limitations”). For the same reasons discussed above with respect to claims 11–19, we determine that Cartessa fails to demonstrate a reasonable likelihood that claims 1–9 are unpatentable as obvious over Morris and Zhang.

III. CONCLUSION

For the above reasons, we decline to institute *inter partes* review of any of the challenged claims of the ’536 patent.

IV. ORDER

Accordingly, it is:

ORDERED that the Petition is *denied*.

IPR2022-00378
Patent 9,320,536 B2

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