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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte MITCHELL LEVINSON and JESSE N. ROSEN

Appeal 2019-003112
Application 11/528,189
Technology Center 3700

Before JAMES P. CALVE, WILLIAM A. CAPP, and
BRANDON J. WARNER, *Administrative Patent Judges*.

CALVE, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant[1] appeals from the decision of the Examiner to reject claims 1, 2, 4, 6, 7, 9–12, 14–18, 20–22, 31–33, and 35–53. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

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[1] "Appellant" refers to "applicant" as defined in 37 C.F.R. § 1.42. Appellant identifies Zeltiq Aesthetics, Inc., a subsidiary of Allergen plc, as the real party in interest. Appeal Br. 2.

CLAIMED SUBJECT MATTER

Claims 1, 12, 35, and 45 are independent. Claim 1 is reproduced below.

> 1. A device for removing heat from subcutaneous lipid-rich cells of a subject having skin, comprising:
>
> a cooling device including a heat exchanging member having a heat transfer surface configured to form a heat conducting interface with the subject's skin such that the cooling device removes heat from the lipid-rich cells to substantially affect lipid-rich cells while non-lipid-rich cells in the epidermis are not substantially affected; and
>
> a substantially flexible sensing device coupled to the cooling device such that the cooling device carries the sensing device, wherein the sensing device covering most of the heat transfer surface, wherein the sensing device includes
>
> a substrate configured to be disposed in the interface between the heat exchanging member and the subject's skin, and
>
> at least one sensor coupled to the substrate and configured to be positioned between the heat transfer surface and the subject's skin to sense a parameter at the interface, wherein the at least one sensor extends across most of a distance between opposing ends of the sensing device.

REJECTIONS[2]

Claims 1, 2, 4, 6, 7, 9–12, 14, 18, 20–22, 31–33, and 35–53 are rejected under 35 U.S.C. § 103(a) as unpatentable over Anderson (US 2005/0251120 A1, pub. Nov. 10, 2005) and Shiono (US 2005/0283144 A1, pub. Dec. 22, 2005).

Claims 1, 2, 4, 6, 7, 9–12, 14–18, 31–33, and 35–53 are rejected under 35 U.S.C. § 103(a) as unpatentable over Anderson and Guilbeau (US 4,935,345, iss. June 19, 1990).

ANALYSIS

Claims 1, 2, 4, 6, 7, 9–12, 14, 18, 20–22, 31–33, and 35–53 Rejected over Anderson and Shiono

Claims 1, 2, 4, 6, 7, 9, 11, 31–33, and 44

Regarding claim 1, the Examiner finds that Anderson teaches a heat exchanging device with cooling/heating unit 110 that circulates cooled fluid to a free-forming heat transfer surface with a flexible substrate (treatment interface 115) and sensor 120 (e.g., a thermocouple, thermistor, or bimetallic thermometer) coupled thereto to cover most of the heat transfer surface and measure temperature, but does not teach a specific sensor structure. Non-Final Act. 2–3, 4–6. The Examiner finds that Shiono teaches a device with a thin film substrate and temperature sensor 111 mounted on a heat exchanger. *Id.* at 5–6. The Examiner determines it would have been obvious to a skilled artisan to use this sensor to provide results more accurately due to faster response times without impeding heat transfer as Shiono teaches. *Id.* at 6.

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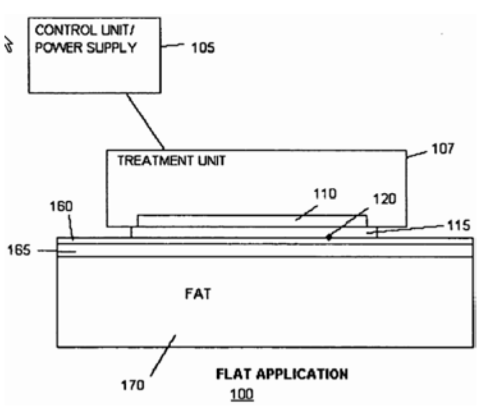
[2] The Examiner withdrew a rejection of claim 48 under 35 U.S.C. § 112, second paragraph and fourth paragraph, and a rejection of claims 5 and 48 under 35 U.S.C. § 103(a) following Appellant's cancellation of those claims. *See* Ans. 3; Amendment under 37 C.F.R. § 41.33(a), filed Apr. 25, 2018.

Appellant argues that Anderson's treatment interface 115 can be a free forming membrane, but detector 120 is shown as a dot that does not cover interface 115 as claimed. Appeal Br. 25. Nor is a thermoprobe conductive plate described as flexible. *Id.* Appellant also argues that Anderson teaches a small, thin thermoprobe with a diameter less than 2 mm that cannot extend between opposing ends of the sensing device as claimed. Reply Br. 1–2.

The Examiner has the better position. The Examiner correctly points out that claim 1 does not require the *sensor* to cover most of the area of the heat transfer surface of the claimed cooling device. *See* Ans. 8–9. Instead, claim 1 recites "a substantially flexible *sensing device* coupled to the cooling device . . . the sensing device covering most of the heat transfer surface" and *including* (1) "a substrate" disposed between the heat exchanging member of the cooling device and the subject's skin and (2) at least one sensor coupled to the substrate and "extend[ing] across most of a distance between opposing ends of the sensing device." *Id.*; Appeal Br. 43 (Claims App.).

Regarding the claimed "substantially flexible sensing device coupled to the cooling device . . . [and] covering most of the heat transfer surface," Anderson teaches a cooling device having cooling/heating element 110 and treatment interface 115 covering the heat transfer surface of cooling/heating element 110 as illustrated in Figures 1A and 1C, reproduced below.



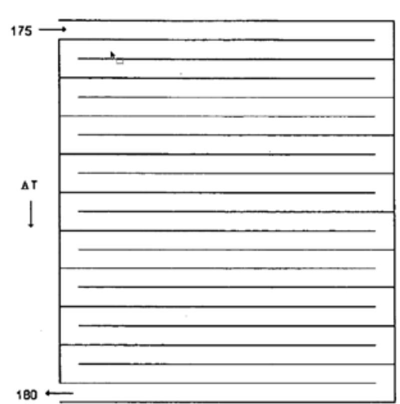


Figure 1A of Anderson (above left) illustrates system 100 for cooling a target area with cooling/heating element 110 and treatment interface 115 that is placed against epidermis 160 to treat dermis 165 and fat cells 170. Anderson ¶¶ 164, 169. Treatment interface 115 includes detector 120 that may be a thermocouple. *Id.* ¶¶ 165, 170. Figure 1C (above right) illustrates a cooling/heating element 110 and its network passages that allow a cooling/heating fluid to flow therethrough from input 175 to output 180. *Id.* ¶ 168.

Figures 1A and 1C show treatment interface 115, which corresponds to the claimed sensing device and substrate, covers the heat transfer surface of cooling/heating element 110. It covers "most of" the heat transfer surface consistent with claim 1 and the Specification describing sensor substrate 144 "corresponding to" heat exchange surface 138, 140. Spec. ¶¶ 27–30, Fig. 2.

Anderson's treatment interface 115 also is a "free-forming membrane (for a complementary interface with an uneven epidermis)" for maximum heat transfer between cooling device 110 and epidermis 160. Anderson ¶ 169. The Examiner correctly finds that such a "free-forming membrane" treatment interface 115 is a flexible sensing device as claimed. It conforms to an uneven epidermis. *See id.*; Non-Final Act. 5; Ans. 8. Appellant does not dispute this finding. *See* Appeal Br. 25–26.

Instead, Appellant argues that Anderson fails to disclose detector 120, which may be a thermoprobe conductive plate, as flexible. Appeal Br. 25. This argument is not commensurate with the scope of claim 1, which does not require the "at least one *sensor*" to be flexible. Claim 1 recites "a substantially flexible *sensing device*" that includes (1) a substrate and (2) at least one sensor. Anderson teaches treatment interface 115, which is the claimed "substrate," is flexible as Appellant recognizes. *Id.* at 25–26.

Appellant is correct that Anderson's detector 120 may be a thermally-conductive *plate*. Anderson ¶ 109. Anderson teaches that this thermoprobe plate provides temperature gradients between *different positions* in the plate to monitor the heat flow at different positions to determine the appropriate amount of cooling to apply to different areas. *Id.* ¶ 116. The plate provides a current temperature profile and gradient of the entire cooling device and/or treatment surface. *See id.* ¶¶ 100–116. A skilled artisan would recognize that such a thermoprobe plate is flexible and covers the heat transfer area to measure heat transfer across the treatment area as the Examiner finds. Non-Final Act. 5; Ans. 7–8; *see In re Berg*, 320 F.3d 1310, 1315 (Fed. Cir. 2003) ("As persons of scientific competence in the fields in which they work, examiners and administrative patent judges . . . are responsible for making findings, informed by their scientific knowledge, as to the meaning of prior art references to persons of ordinary skill in the art and the motivation those references would provide to such persons."). Even if claim 1 were to require a flexible "sensor," Anderson teaches such a sensor. Moreover, a flexible sensor would have been obvious in view of Anderson's desire to measure temperatures and heat transfer accurately across an entire uneven area.

Appellant's argument that Anderson fails to disclose a thermoprobe conductive plate that is flexible or covers most of the heat transfer surface does not address these findings or reasoning of the Examiner (*see* Appeal Br. 25; Reply Br. 2) and thus is not persuasive. *See* 37 C.F.R. § 41.37(c)(1)(iv) (the Appeal Brief "shall explain why the examiner erred as to each ground of rejection contested by appellant."); *In re Jung*, 637 F.3d 1356, 1365 (Fed. Cir. 2011). Citing embodiments of Anderson not relied on by the Examiner is not persuasive of error in the findings of the Examiner. Ans. 7–8, 11–13.

Anderson also teaches that flexible treatment interface 115 includes detector 120 as a thermoprobe plate *fixed detachably or permanently* to the surface of the cooling device to cover multiple positions across the device. Anderson ¶¶ 104–110, 116. A skilled artisan would recognize thermoprobe *plate* is flexible when it forms part of flexible interface 115. The flexible plate and interface 115 form a flexible sensing device *coupled* to the cooling device as claimed. *Id.* ¶ 106 (adhesives); *see* Spec. ¶¶ 29, 30 (substrate 144 coupled to interface 138 by adhesive, clips 152, screws, pins); Reply Br. 2.

Appellant's argument that the Examiner lacks motivation to modify Anderson's flexible treatment interface 115 with a flexible sensor, as taught by Shiono, because Anderson already has a flexible sensing device (Appeal Br. 25–26) proves too much. The Examiner cites Shiono to teach a flexible sensor exemplary structure used in a sensing device in an application similar to Anderson's to illustrate that such sensors can extend "across most of a distance between opposing ends of the sensing device" as recited in claim 1. Non-Final Act. 5–6; *see* Ans. 13.

Shiono teaches to configure a simple, inexpensive, flexible, thin film temperature sensor 111 that extends between opposing ends of irradiating window 17 to measure the temperature of tissue over a wider area as it is being heat treated more accurately without impeding the irradiating and heat treatment process. *See* Shiono ¶¶ 171, 179–86, 194–97. These teachings of the advantages of such a sensor 111 configured in the manner that Shiono teaches for obtaining accurate, prompt temperature measurements would provide similar benefits to Anderson's heating/cooling device, which also is configured to transfer heat to a treatment site/area. Figure 22 of Shiono is reproduced below to illustrate this configuration.

FIG. 22

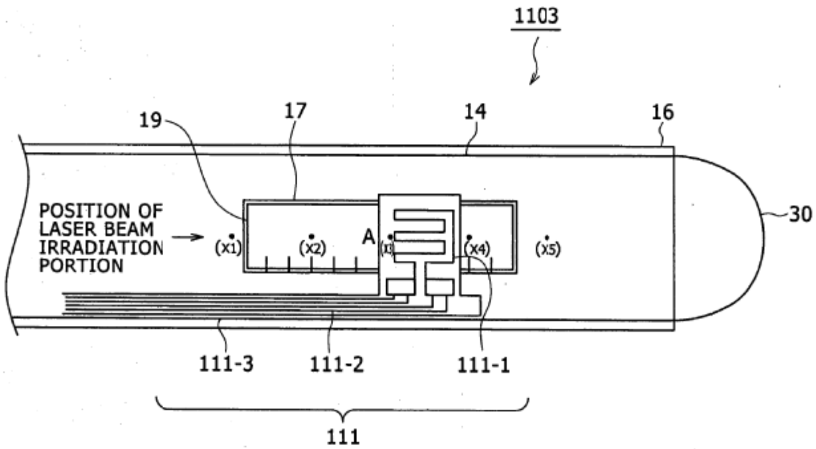


Figure 22 of Shiono above illustrates temperature measuring element 111-1 extending across window 17 of sensing device "from a position near the upper end of the laser beam irradiating window 17 to a position near the lower end of the laser beam irradiating window 17." Shiono ¶ 195; Ans. 10 (finding that this teaching evidences a sensor extending across most of the distance between the upper and lower ends of the treatment window). This configuration provides sufficient coverage of the area that is heat treated to provide an accurate temperature measurement/gradient without interfering with the heat treating process. *See* Shiono ¶ 186; *see* Non-Final Act. 5–6.

These teachings of Shiono provide a rational underpinning to support the Examiner's modification of Anderson with these teachings of Shiono for similar benefits. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007) (using a known technique in similar devices for similar benefits is obvious unless its application is beyond the level of ordinary skill in the art); *see also DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.*, 464 F.3d 1356, 1368 (Fed. Cir. 2006) (holding an implicit motivation to combine exists when an "improvement" makes a product stronger, cheaper, faster, lighter, smaller, more durable, or more efficient).

In addition, the Examiner reasons that Shiono's teachings would improve Anderson similarly to provide results more accurately and with a faster response time, as Shiono teaches. Non-Final Act. 6; Shiono ¶¶ 197, 203. Appellant's arguments do not address this reasoning and thus fail to apprise us of Examiner error in this regard as well. Because the Examiner's reasons are supported by rational underpinnings, there is no hindsight as Appellant alleges. *See* Reply Br. 1; *In re Cree, Inc.*, 818 F.3d 694, 702 n.3 (Fed. Cir. 2016) (holding appellant's hindsight argument was addressed by showing that a proper motivation to combine the references in fact existed).

The Examiner also reasons correctly that it would have been obvious to form Anderson's flexible conductive plate thermoprobe to cover the entire heat transfer surface of the cooling element, as Anderson teaches in some embodiments, to provide uniform heat transfer properties across the cooling device versus having the thermoprobe cover only part of the heat transfer surface to provide non-uniform heat transfer properties. Ans. 9; Non-Final Act. 6. Forming a thermoprobe plate coterminous with a cooling device provides more accurate readings of all heat flow and better control of the cooling device as Anderson teaches. Anderson ¶¶ 102–110, 116, 121–24.

Shiono also extends sensor 111 across heat transfer window 17, as claimed, to measure the temperature of the entire area that is treated without impeding the heat transfer function. Shiono ¶¶ 195 (sensor extends between upper and lower ends of window); 186 (sensor blocks only 0.15% of laser beam). These teachings improve Anderson similarly. *See KSR*, 550 U.S. at 418 ("Often, it will be necessary for a court to look to interrelated teachings of multiple patents . . . to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.").

Appellant's argument that Shiono only covers a small area of 9 mm^2 misses the point because the size of the coverage area provided by Shiono's flexible thermoprobe covers the entire treatment area where heat is applied. Therefore, Shiono, like Anderson, teaches to configure a temperature sensor to be at least as large as the heat transfer area of the cooling/heating device so temperatures and heat transfer can be sensed across the entire treatment area. *See* Shiono ¶ 186 (area of temperature measuring region is greater than the width of the laser beam or greater than diameter of the laser beam spot). Furthermore, any portion of the laser beam blocked by the sensor 111–1 "is very small" so "the irradiation of the living tissue with the laser beam is not substantially inhibited." *Id.*; *see* Anderson ¶ 108 (good thermal conductivity of thermocouple minimizes inhibition of cooling); Appeal Br. 29.

Claim 2

The Examiner finds that Anderson's thermocouple has good thermal conductivity to minimize inhibition of the cooling process and thus teaches a sensing device configured to sense a parameter at the interface "without substantially impeding heat transfer between the heat exchanging member and the subject's skin" as recited in claim 2. Ans. 11, 14. Arguing that neither reference teaches this feature (Appeal Br. 30) does not apprise us of Examiner error. *See* Ans. 14; 37 C.F.R. § 41.37(c)(1)(iv) ("A statement which merely points out what a claim recites will not be considered an argument for separate patentability of the claim."). Appellant admits that Anderson avoids inhibiting thermal performance at the energy transfer interfaces. Appeal Br. 29; Anderson ¶ 169 (interface 115, which includes detector 120, provides maximum heat transfer). Shiono teaches this feature for a sensor that covers an entire heat transfer area. Shiono ¶ 186.

Therefore, both references teach flexible sensing devices that cover the heat transfer surface and include sensors that extend across most of a distance between opposing ends of the sensing device without substantially impeding heat transfer as claimed. Anderson ¶ 108; Shiono ¶ 186. These teachings provide a rational underpinning for the Examiner's proposal to combine their teachings to render obvious the subject matter of claim 2.

Claims 32 and 33

Appellant's arguments that dependent claims 32 and 33 "recite particular locations of those sensors" and "[n]either Anderson nor Shiono disclose temperature sensors as at the recited locations" fail to present argument for the separate patentability of those claims. *See* Appeal Br. 30; 37 C.F.R. § 41.37(c)(1)(iv) ("A statement which merely points out what a claim recites will not be considered an argument for separate patentability of the claim."); *In re Lovin*, 652 F.3d 1349, 1357 (Fed. Cir. 2011) (holding that the Board reasonably interpreted 37 C.F.R. § 41.37(c)(1)(vii) (predecessor to § 41.37(c)(1)(iv)) to require "more substantive arguments in an appeal brief than a mere recitation of the claim elements and a naked assertion that the corresponding elements were not found in the prior art.").

For all the foregoing reasons, we sustain the rejection of claims 1, 2, 31, and 32 and claims 4, 6, 7, 9, 11, 31–33, and 44, which are not argued separately by Appellant. *See* Appeal Br. 24–30.

Claims 12, 14, and 20–22

Independent claim 12 recites a system comprising a cooling device and a sensing device coupled thereto and comprising a substantially flexible substrate and a substantially flexible sensor disposed on the substrate without substantially impeding heat transfer. Appeal Br. 45 (Claims App.).

The Examiner relies on the teachings of Anderson and Shiono to render obvious the similar features recited in independent claim 12 for the same reasons as claim 1. *See* Non-Final Act. 4–7; Ans. 15. Appellant admits that the subject matter of claim 12 is generally analogous to that of claim 1 and requires a substantially flexible substrate and sensor configured to measure temperature without substantially impeding heat transfer. *See* Appeal Br. 31. Appellant also argues that Anderson teaches a thermoprobe sensor with a small width to avoid inhibiting the cooling process, and the Examiner relies on improper hindsight to modify Anderson's large surface area applicator to include a large temperature sensor when Figure 1A of Anderson illustrates detector 120 as "so small." *Id.* at 31–32.

These arguments were addressed in our review of the rejection of claim 1 discussed above and are equally unpersuasive here for the rejection of claim 12 for the same reasons. Anderson teaches that detector 120 can comprise a thermoprobe formed as a thermally-conductive *plate* that is part of a free-form (i.e., flexible) substrate 115 to measure temperature at plural locations on interface 115 to provide broad area coverage as claimed. *See* Anderson ¶¶ 108–116, 169. These teachings support the Examiner's finding that Anderson teaches and suggests using larger, flexible sensor plates that conform to uneven treatment surfaces when used with a free-form substrate 115 to measure temperatures at multiple points across the entire heat transfer area of cooling/heating device unit 110 to facilitate the heat transfer process. As discussed above, Anderson and Shiono both teach sensors that cover the entire heat transfer area without inhibiting the heat transfer process.

Thus, we sustain the rejection of claim 12 and claims 14 and 20–22, which are not argued separately by Appellant. *See* Appeal Br. 24–32.

<u>Claims 35 and 37–43</u>

Independent claim 35 recites a cooling system with similar features as those recited in claim 1 plus a sensing device with a first temperature sensor positioned on a first surface of the sensing device and a second temperature sensor positioned on the second surface of the sensing device. Appeal Br. 47 (Claims App.). The Examiner finds that Anderson uses sensors to sense the temperature of the (1) skin and/or (2) cooling device, and reasons that this configuration would require sensors to be located on first and second surfaces of the device. Ans. 14–15. In this regard, Anderson teaches that a thermoprobe can be attached to the cooling device and/or to the treatment surface as Appellant recognizes. Anderson ¶¶ 102–110; Reply Br. 3.

Anderson also teaches that thermoprobes can be placed in a variety of locations such as direct contact with a measurement site/location, i.e., on the side of interface 115 facing/contacting a treatment site. Anderson ¶ 102. Further, a thermoprobe can be placed in communication with the surface of a cooling device but not in thermal contact with a treatment surface. *Id.* ¶ 104. A thermoprobe can be attached to a surface of a cooling device and placed in communication with the skin surface thus teaching or suggesting placement on *opposite sides* of interface 115 as claimed. *See id.* ¶¶ 105, 108, 170–71.

In view of the foregoing teachings of Anderson, we are not persuaded that placing sensors on opposite sides of Anderson's free-forming membrane is in direct opposition to the teachings of Anderson as Appellant argues. *See* Appeal Br. 32–33. As the Examiner points out, Anderson teaches many embodiments including sensors at the treatment surface, separated from the treatment surface, and on both sides of the sensing device as recited in claim 35 to monitor treatment. Ans. 21; Anderson ¶¶ 102–16, 146–47, 169–71.

These teachings of Anderson to place thermocouple temperature sensors in contact with the cooling device and/or the treatment area and at various other places would motive a skilled artisan to place temperature sensors on opposite sides of the sensing device to sense a temperature of the cooling/heating unit 110 as well as a temperature of the treated surface to determine the heat transfer profiles as Anderson teaches is desirable. *See* Anderson ¶¶ 89–116. Placing thermoprobe sensors on opposite sides of a sensing device would improve the accuracy of measurements of heat transfer and temperature gradient, which provides an implicit motivation to modify Anderson to the extent Anderson does not teach this feature expressly. *See* *DyStar*, 464 F.3d at 1368; Ans. 20; Non-Final Act. 5.

For the foregoing reasons, we sustain the rejection of claim 35 and its dependent claims 37–43, which are not argued separately. *See* Appeal Br. 33.

Claims 45–47 and 49–53

Independent claim 45 recites a system comprising a cooling device and "a mechanical fastener coupled to the cooling device and configured to wrap around the subject such that the heat exchanging member is in thermal contact with the subject's skin to remove heat from the subcutaneous lipid-rich cells . . . and a sensing device coupled to the cooling device." Appeal Br. 49 (Claims App.). We agree with the Examiner that Anderson teaches a "mechanical fastener coupled to the cooling device" in Figures 5A and 5B and related written description. Ans. 23. A flexible substance (garment) can wrap around the treatment site as claimed and also is coupled to the cooling device (cooling/heating element 110) as illustrated in Figures 5A and 5B, which are reproduced below.

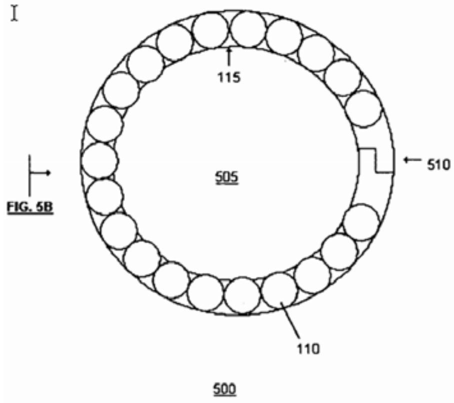


FIG. 5A

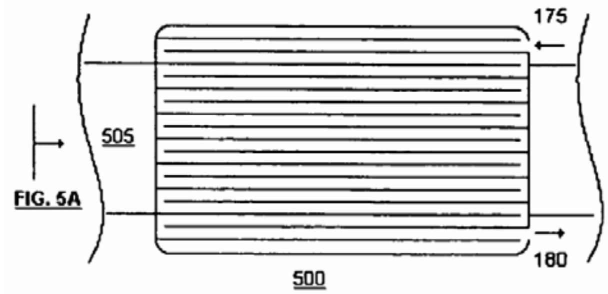


FIG. 5B

Figure 5A of Anderson above illustrates treatment system 500 formed as a band or cylinder around target tissue mass 505. The band is coupled to cooling/heating element 110 that is formed by an internal vessel or network of passages such as tubes and the like to transfer heat to target tissue 505 via treatment interface 115 via input 175 and output 180 as shown in Figure 5B. Anderson ¶¶ 153–55, 183. Fastening mechanism 510 such as hook and loop fasteners fastens and wrap the system around tissue mass 505. *Id.* ¶ 183; *see* Spec. ¶¶ 37, 38, Fig. 3. The heat transfer member (treatment interface 115) contacts a subject's skin such as an arm, leg, or waist contrary to Appellant's arguments. Anderson ¶ 183; Appeal Br. 34. Claim 45 does not require a particular type of coupling, and we are not permitted to read any unclaimed features from the Specification into claim 45 or limit claim 45 to particular embodiments in the Specification when the claim language is broader than those embodiments. Claim 45 requires "a mechanical fastener coupled to the cooling device," and Anderson teaches and illustrates such a coupling as discussed above.

For the foregoing reasons, we sustain the rejection of claim 45 and of its dependent claims 46, 47 and 49–53, which are not argued separately. *See* Appeal Br. 35.

Claims 1, 2, 4, 6, 7, 9–12, 14–18, 31–33, and 35–53
Rejected over Anderson and Guilbeau

Claims 1, 2, 4, 6, 7, 9–11, 31–33, and 44

Regarding claim 1, the Examiner relies on Anderson to teach a device for removing heat as claimed based on the same findings as in the previous rejection of claim 1. Non-Final Act. 7. The Examiner relies on Guilbeau to teach the structure of the claimed sensor that extends across most of a distance between opposing ends of the sensing device as claimed. *Id.* at 7–8.

Appellant argues that Anderson teaches a spot sensor 120 that is much smaller than a cooling surface of cooling/heating element 110, and Guilbeau teaches much smaller sensors than Anderson so the sensors are not suitable to extend across the ends of the Anderson device. Appeal Br. 36. Appellant also argues that neither reference teaches measuring temperatures across a large treatment area using a temperature sensor that covers most of a heat transfer surface as claimed. *Id.* at 36–37.

We agree with the Examiner that Guilbeau illustrates its sensor in Figure 5 as extending most of the distance from the top and bottom and the two sides of substrate 50. Ans. 27–28. Guilbeau configures the sensing device and sensor to extend across most of the distance between opposing ends of the sensing device as claimed. Guilbeau, Figs. 1–5. Thus, Guilbeau provides motivation to configure a temperature sensor across most of an area that is subject to treatment. This teaching supports Anderson's teachings (discussed above) to use multiple thermocouple sensors at multiple positions along the sensing device to develop a temperature profile across the entire sensing device and treated area as claimed. These teachings also provide a rational underpinning for the Examiner's proposed combination.

Again, as with Shiono, Guilbeau's "smaller" area is not the issue. The area sensed by Guilbeau's sensor is coterminous with, or at least of the same size as, the relevant area. *See* Guilbeau, 3:7–5:46. Guilbeau, like Anderson, senses across an area using a thin film thermopile sensor formed on an entire substrate and configured to extend at least most of the distance between the opposing ends of the sensing device/substrate as claimed. Anderson and Guilbeau both teach to configure sensors that span most if not all of the heat transfer/treatment area. *See id.* at 4:29–55, 6:26–38, 8:45–68; Ans. 26–28.

The Examiner is not proposing to replace Anderson's thermocouple sensors with Guilbeau's thermopile sensors or modify Anderson's sensors to this configuration as Appellant alleges. Appeal Br. 38; Ans. 29. Guilbeau is relied on to teach the practice of configuring a temperature sensor to extend most of the length of the sensing device to sense the temperature across the entire treated area and provide *uniform* properties. Non-Final Act. 7–8.

For the foregoing reasons, we sustain the rejection of claim 1 and of claims 2, 4, 6, 7, 9–11, 31–33, and 44, which are not argued separately. *See* Appeal Br. 38.

<u>Claims 12, 14, and 20–22</u>

Appellant argues that a skilled artisan would not modify Anderson to arrive at a sensing device comprising a substantially flexible substrate and a substantially flexible sensor as recited in claim 12 for the reasons discussed above for the previous rejection of claim 12, and Guilbeau does not cure this deficiency of Anderson. Appeal Br. 39. As discussed above, Anderson does teach a substantially flexible substrate and sensor. Thus, we sustain the rejection of claim 12 and claims 14 and 20–22, which are not argued separately. *See id.*

Claims 35–43

Appellant argues that a skilled artisan would not be motivated to modify Anderson to arrive at a sensing device with a first and second temperature sensor on opposite sides of the sensing device and spaced apart in a direction substantially perpendicular to the heat transfer surface as recited in claim 35. Appeal Br. 39. As discussed above, Anderson teaches and suggests this feature as thermoprobes on opposite sides of interface 115 and at different depths in the sensing device with thermoprobes at different distances from the heat transfer surface and tissue contact surface and thus spaced apart as claimed. Non-Final Act. 2–3; Ans. 11; Anderson ¶¶ 102–16.

Appellant's argument that the Examiner fails to identify a teaching in Anderson of this feature (Appeal Br. 40) does not apprise us or error in the Examiner's findings that Anderson and Guilbeau teach this feature and the other limitations of claim 35 discussed herein and for the previous rejection of claim 35 based on Anderson and Shiono. *See* Ans. 20, 27–29.

Thus, we sustain the rejection of claim 35 and claims 36–43, which are not argued separately. *See* Appeal Br. 40.

Claims 45–47 and 49–53

Appellant argues that Anderson does not disclose the features recited in claim 45 and a skilled artisan would not be motivated to modify Anderson because Anderson fails to teach a garment or bandage coupled to a cooling device as claimed. Appeal Br. 40–41. As discussed above in the previous rejection of claim 45, Anderson teaches and suggests a garment coupled to a cooling device and the other features recited in claim 45. Anderson ¶¶ 153–55, 183, Fig. 5A. Thus, we sustain the rejection of claim 45 and claims 46, 47, and 49–53, which are not argued separately. *See* Appeal Br. 40–41.

CONCLUSION

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1, 2, 4, 6, 7, 9–12, 14, 18, 20–22, 31–33, 35–53	103(a)	Anderson, Shiono	1, 2, 4, 6, 7, 9–12, 14, 18, 20–22, 31–33, 35–53	
1, 2, 4, 6, 7, 9–12, 14–18, 31–33, 35–53	103(a)	Anderson, Guilbeau	1, 2, 4, 6, 7, 9–12, 14–18, 31–33, 35–53	
Overall Outcome			1, 2, 4, 6, 7, 9–12, 14–18, 20–22, 31–33, 35–53	

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED