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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte TORBJÖRN MATHISEN

Appeal 2018-003850
Application 13/756,802
Technology Center 3700

Before STEFAN STAICOVICI, MICHELLE R. OSINSKI, and
LEE L. STEPINA, *Administrative Patent Judges*.

STEPINA, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the Examiner's decision to reject claims 1 and 5–16. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

¹ We use the word Appellant to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as Novus Scientific AB. Appeal Br. 1.

CLAIMED SUBJECT MATTER

The claims are directed to a three-dimensional resorbable polymeric medical implant including a first porous surface component. Spec. 1.

Claim 1, reproduced below, is illustrative of the claimed subject matter.

1. A three-dimensional resorbable medical implant, comprising:
 - a first thin knitted porous component, and
 - a first resorbable load-bearing and volume-creating component, which is connected to the first thin knitted porous component; wherein the resorbable load-bearing and volume-creating component comprises an organized structure,
 - wherein a height of the resorbable load-bearing and volume-creating component is more than three times larger than a thickness of the thin knitted porous component,
 - wherein the organized structure comprises at least one of
 - (1) a corrugated structure having corrugations, the corrugations having a height more than three times larger than the thickness of the thin knitted porous component,
 - or
 - (2) a waffled structure, the waffled structure having a height more than three times larger than the thickness of the thin knitted porous component,
 - wherein the resorbable load-bearing and volume-creating component is a resorbable two-dimensional structure folded or shaped into a three-dimensional structure such that the height of the resorbable load-bearing and volume-creating component is at least four times larger than a maximum thickness of the resorbable two-dimensional structure to create at least one corrugated or waffled structure.

Appeal Br. 19 (Claims App.).

REFERENCES

The prior art relied upon by the Examiner is:

Name	Reference	Date
Ledergerber	US 4,955,907	Sept. 11, 1990
Light	US 5,514,181	May 7, 1996
DeLucia	US 2002/0182396 A1	Dec. 5, 2002
Boey	US 2012/0010636 A1	Jan. 12, 2012

REJECTIONS

I. Claims 1, 5, 8, 10, and 12–16 are rejected under 35 U.S.C. § 103(a) as unpatentable over Light and DeLucia.

II. Claims 6 and 7 are rejected under 35 U.S.C. § 103(a) as unpatentable over Light, DeLucia, and Boey.

III. Claims 9 and 11 are rejected under 35 U.S.C. § 103(a) as unpatentable over Light, DeLucia, and Ledergerber.

OPINION

Rejection I— Light and DeLucia

The Examiner finds that Light discloses many of the elements recited in claim 1, including a resorbable load-bearing and volume-creating component folded or shaped into a three-dimensional structure with a height at least four times larger than a maximum thickness of the resorbable load-bearing and volume-creating component before being folded or shaped, i.e., in its state as a two-dimensional structure. Final Act. 3–4 (citing Light 3:19–21, 3:31–32; Figs. 1–2). However, the Examiner finds Light fails to disclose that the load-bearing and volume-creating component has an organized structure that is a corrugated structure having corrugations or a waffled

structure. *Id.* at 4. To address this deficiency, the Examiner turns to DeLucia, finding this reference discloses “a load-bearing and volume-creating component **30**, or organized structure, being a corrugated structure having corrugations or a waffled structure.” *Id.* (citing DeLucia ¶ 35; Figs. 1–2). The Examiner reasons that it would have been obvious to a person of ordinary skill in the art to modify the load-bearing and volume-creating component of Light to have a corrugated structure, as taught by DeLucia, “to provide a high modulus and high resiliency structure to maintain the load-bearing and volume creating component structure during use with the body.” *Id.* at 5 (citing DeLucia ¶ 35).

Appellant argues neither of Light and DeLucia discloses “both the thickness of a two-dimensional starting material and a height of a three-dimensional structure.” Appeal Br. 14. Based on this alleged deficiency, Appellant contends that both Light and DeLucia fail to disclose a “resorbable two-dimensional structure folded or shaped into a three-dimensional structure such that the height of the resorbable load-bearing and volume-creating component is at least four times larger than a maximum thickness of the resorbable two-dimensional structure.” *Id.* (emphasis omitted).

In the Examiner’s Answer, the Examiner takes the position that Appellant’s argument is an attack on Light and DeLucia individually rather than the proposed combination of the teachings of Light and DeLucia. *See* Ans. 4–5. The Examiner states, “the combined device would include a resorbable (bioabsorbable) first load-bearing and volume-creating component (see Light; col. 6, lines 28–29) that is a two-dimensional structure shaped into a three-dimensional structure (see Figure 2 of DeLucia;

substructure **30** is formed into a corrugated structure).” *Id.* at 4. The Examiner explains,

Light in view of Delucia, and the combined device would include a corrugated structure having a height at its maximum of about 2.0 cm (see Delucia; paragraph [0038]), which is at least four times larger than a maximum thickness of 2.5 mm of the analogous resorbable two-dimensional structure of Light (see Light; col. 4, lines 31-32), which reads on the claim limitation.

Id. at 4–5. Thus, in the Answer, the Examiner explains that the rejection relies on the thickness of the *material* disclosed in Light and the thickness of the *pleating or corrugations* disclosed in DeLucia to meet the requirement that that “shaped” thickness of the three-dimensional component would be four times the size of the component before shaping (hereinafter, the “four times larger” limitation).

Appellant contends DeLucia is silent regarding the thickness of the material that is formed into a pleated or corrugated shape, and, therefore, “[i]t is improper to rely on Light for disclosing a thickness of the starting material (i.e., the two-dimensional material), and to rely on DeLucia for disclosing the height of final structure (i.e., the substructure 30).”² Reply Br. 8.

First, we agree with Appellant that, contrary to the Examiner’s finding articulated on page 4 of the Final Office Action, Light does not disclose the “four times larger” limitation. Rather, the portions of Light cited by the Examiner in support of finding that Light teaches this structure merely

² The pleat or corrugation height is the same as the height of the three-dimensional structure of the component that is pleated or corrugated. *See* DeLucia, Fig. 1.

disclose the thickness of *two distinct layers* (the foraminous layer and the sponge layer), not a thickness of a layer both before and after it is pleated or corrugated. *See* Light 3:19–21, 4:31–32. Thus, Examiner’s finding on this point is not supported by a preponderance of the evidence.

Second, although we agree with the Examiner’s reasoning for making the proposed combination of the teachings of *materials and corrugations*, in general, in Light and DeLucia (*see* Final Act. 4; DeLucia ¶ 35), the Examiner’s explanation of why a person of ordinary skill in the art would have found it obvious to incorporate, in the implant of Light, corrugations as taught by DeLucia does not address why a person of ordinary skill in the art would have implemented the corrugations in Light’s implant in a way that would satisfy the “four times larger” requirement in claim 1. In other words, to meet the “four times larger” requirement in claim 1, the Examiner’s proposed combination of teachings relies on *dimensions* taught in each of the references without addressing why a person of ordinary skill in the art would have incorporated such dimensions in the modified medical implant of Light. *See* Ans. 4–5. Thus, the Examiner’s explanation of the proposed combination in the Answer falls short of adequately addressing all the elements of claim 1. In summary, (i) the Examiner’s finding in the Final Office Action that Light *discloses* the “four times larger” limitation appears insufficiently supported by evidence, and (ii) the Examiner’s position in the Answer that the proposed combination of the teachings of Light and DeLucia would provide this limitation lacks any reasoning as to why a person of ordinary skill in the art would have chosen a material having the specific thickness disclosed in Light and the specific pleat or corrugation height disclosed in DeLucia. Accordingly, we cannot sustain the

Examiner’s rejection of claim 1, and claims 5, 8, 10, and 12 depending therefrom, as unpatentable over Light and DeLucia.

Method claim 14 requires production of a structure including the “four times larger” limitation discussed above regarding claim 1. The Examiner relies on substantially the same findings and reasoning to reject claim 14 as discussed above regarding the rejection of claim 1. *See* Final Act. 3–5. Accordingly, for the same reasons discussed above with respect to the rejection of claim 1, we do not sustain the rejection of claim 14, and claims 15 and 16 depending therefrom, as unpatentable over Light and DeLucia.

Rejections II and III—Light, DeLucia, and (Boey or Ledergerber)

Rejections II and III address only claims that depend from claim 1. The Examiner does not rely on either of Boey or Ledergerber in any way that would remedy the deficiency discussed above regarding Rejection I with respect to the requirements of claim 1. *See* Final Act. 6–7. Accordingly, we do not sustain the rejection of dependent claims 6 and 7 as unpatentable over Light, DeLucia, and Boey or the rejection of dependent claims 9 and 10 as unpatentable over Light, DeLucia, and Ledergerber.

CONCLUSION

The Examiner’s rejections are reversed.

More specifically,

In summary:

Claims Rejected	35 U.S.C. §	Basis	Affirmed	Reversed
1, 5, 8, 10, 12–16	103(a)	Light, DeLucia		1, 5, 8, 10, 12–16
6, 7	103(a)	Light, DeLucia, Boey		6, 7

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Claims Rejected	35 U.S.C. §	Basis	Affirmed	Reversed
9, 11	103(a)	Light, DeLucia, Ledergerber		9, 11
Overall Outcome				1, 5–16

REVERSED