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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte DANIEL E. MORGAN, PAUL V. FENTON, JR., THOMAS N.
FENTON, and VINCENT P. NOVAK

Appeal 2011-006293
Application 11/194,963
Technology Center 3700

Before JEFFREY N. FREDMAN, ERICA A. FRANKLIN, and SHERIDAN
K. SNEDDEN, *Administrative Patent Judges*.

SNEDDEN, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 involving claims to a suture anchor. The Examiner has rejected the claims as anticipated and obvious. We have jurisdiction under 35 U.S.C. § 6(b). We reverse.

STATEMENT OF THE CASE

Claims 1 and 15-21 are on appeal. Claim 1 is representative and reads as follows (emphasis added):

1. A suture anchor for securing soft tissue to bone, comprising:
 - A) a body extending along a longitudinal axis between opposing first and second ends, and having, an external threaded portion extending coaxially with the axis, a bore extending from the second end towards the first end; and
 - B) a continuous suture loop secured within the bore of the body to form an eyelet, wherein *at least a portion of an outer surface of the suture loop is bonded to an inner surface of the bore of the body.*

The following rejections are on appeal:¹

- I. Claim 1 under 35 U.S.C. § 102(e) as being anticipated by Thal (US 6,045,574, issued Apr. 4, 2000 (Ans. 3.)
- II. Claims 1, 15, 16, 20 and 21 under 35 U.S.C. § 103(a) as being unpatentable over the combination of Thal and Lizardi (US 5,782,864, issued Jul. 21, 1998.

The same issue is dispositive for all the rejections.

I.

Issue

The Examiner finds Thal and Lizardi disclose a suture anchor with a suture loop having “at least a portion of an outer surface of the suture loop is bonded to an inner surface of the bore of the body” (Ans. 6-7). In reaching this conclusion, the Examiner finds that the claim term “bonded”

¹ Appeal Brief filed Aug. 30, 2010.

can be interpreted broadly to mean “secured by a consistency of bonds”, bonds defined as: “something that binds, fastens, confines, or holds together”, or “secured by or consisting of bonds” where bonds is defined as “a uniting force or tie; a link” -Dictionary.com; therefore, due to the configuration of the suture loop [disclosed in Thal], it is tied within the retainer 34 to be held in place without slipping out, or bonded within the bore; column 3, lines 30-40) and therefore, *due to the suture being within and “attached” within the interior of the anchor*, it can be considered to be bonded using the broadest reasonable interpretation. The outer surface of the suture loop can be “bonded” to an inner surface by a frictional bond or any other bond that may be intended to hold the suture in place, which does not require surfaces being “tied” together as appellant suggests. *A frictional bond will be present*, as any two adjoining elements will inherently include at least some type of frictional bond, and therefore the elements can be considered to be bonded

(*id.*6) (emphasis added). The Examiner further contends that while the specification describes ultrasonic bonding as an example of bonding, the specification “does not limit the scope of the term ‘bonded’ but instead is merely a disclosure of one embodiment within the scope of this language” (*id.* 7).

Appellants contend that the Examiner’s definition assigned to the term “bonded” is unreasonably broad (App. Br 4) and “is also inconsistent with the present specification” (*id.* at 5). Appellants further contend that “[e]ven if Thal shows a suture loop element 82 tied to an anchoring sleeve 81, it does not show or discuss an *outer surface* of the suture loop element 82 tied to an *inner surface* of the bore of the anchoring sleeve 81. A *surface* cannot be *tied* to a *surface* in this context.” (*Id.* at 5.) Addressing Lizardi, Appellants contend that Lizardi also fails to disclose “at least a portion of *an*

outer surface of the suture loop is *bonded* to an *inner surface* of the bore” (App. Br. 7).

The issue presented is:

Does the evidence of record support the Examiner’s findings that cited prior art discloses a suture loop having at least a portion of an outer surface of the suture loop is bonded to an inner surface of the bore of the body?

Findings of Fact

The following findings of fact (“FF”) are supported by a preponderance of the evidence of record.

FF1. Figure 1 of the Specification is reproduced below.

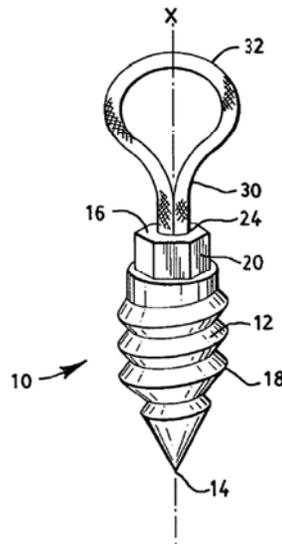
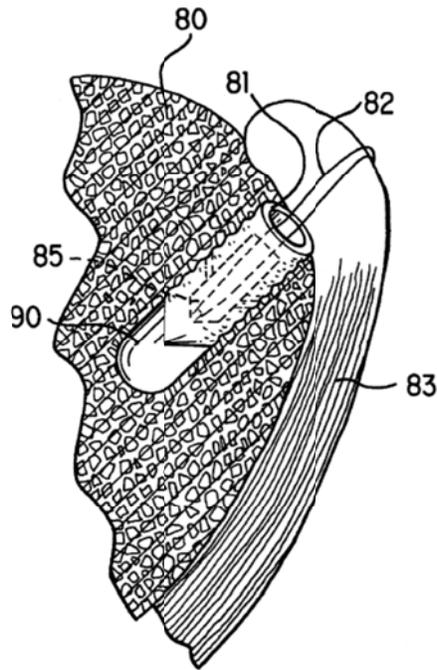


Figure 1 “is a perspective view of a suture anchor according to the present invention” (Specification 3, ¶ 16).

FF2. In the embodiment of Figure 1, “at least a portion of an outer surface of the suture loop 30 is bonded to an inner surface of the bore 24 of the body 12 to secure the suture loop 30 to the body 12” (*id.* 5, ¶ 32).

FF3. “If the suture loop 30 and the body 12 are made of a material amenable to bonding through the application of heat or energy thereto such as, for example, nylon (polyamide), polypropylene, Dacron® (polyester), polyglycolic acid (PGA), polyglyconate, and polydioxanone, the suture loop 30 and the body 12 are preferably ultrasonically bonded” (*id.* 5, ¶ 33).

FF4. Figure 11 of Thal is reproduced below.



“**FIG. 11** depicts a completed repair wherein tissue **83** has been attached to bone mass **80** in a secure fashion. The loop section **82** has been captured by anchor means **85** in its snag **35** recess and drawn into the hole **90** in bone mass **80** thereby providing the attachment.” (Thal 5, ll. 33-37.)

FF5. Figures 2 and 3 of Lizardi are reproduced below.

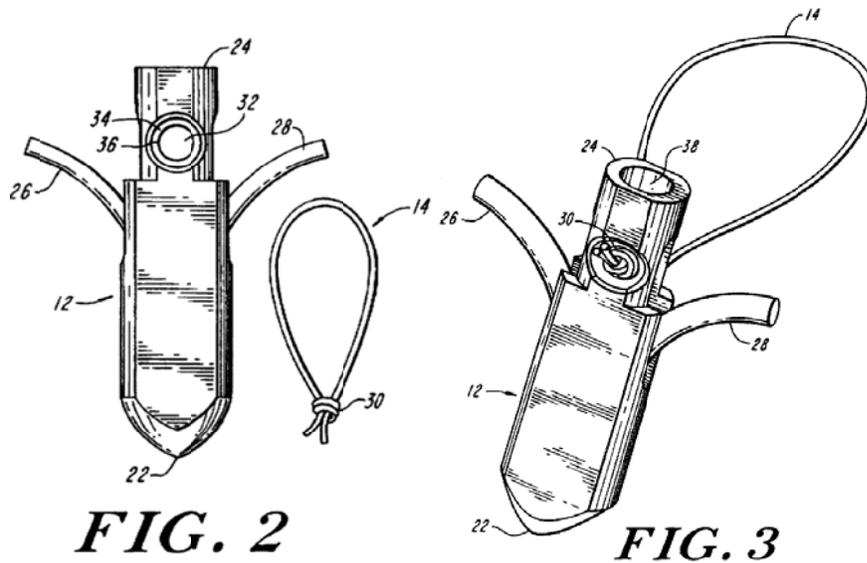


Figure 3 is a view of the first suture loop engaged with the suture anchor (Lizardi col. 2, ll. 53-54.) “In the embodiment shown in **FIG. 2**, the diameter within the hole **32** is varied by providing an annular collar **34** therein. The inner diameter **36** of the annular collar **34** is large enough to allow the unknotted portion of the first suture loop **14** to pass through the inner diameter **36**. The inner diameter **36** is small enough, however, to prevent the knot **30** from passing **60** through the hole **32**. When the unknotted portion of the first suture loop **14** is drawn through the hole **32**, as illustrated in **FIG. 3**, the knot **30** is retained by the annular collar **34** and the first suture loop **14** is thereby attached to the suture anchor **12**.” (*Id.* col. 3, ll. 54-65.)

Principles of Law

Anticipation requires that every element and limitation of the claimed invention must be found in a single prior art reference, arranged as in the claim. *Brown v. 3M*, 265 F.3d 1349, 1351 (Fed. Cir. 2001).

The Board “determines the scope of claims in patent applications not solely on the basis of the claim language, but upon giving claims their broadest reasonable construction ‘in light of the specification as it would be interpreted by one of ordinary skill in the art.’” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (Fed. Cir. 2005) (quoting *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004). “Importantly, the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification.” *Id.* at 1313. *See also, Hockerson-Halberstadt, Inc. v. Converse Inc.*, 183 F.3d 1369, 1374 (Fed. Cir. 1999) (“[p]roper claim construction ... demands interpretation of the entire claim in context, not a single element in isolation.”); *ACTV, Inc. v. Walt Disney Co.*, 346 F.3d 1082, 1088 (Fed. Cir. 2003) (“While certain terms may be at the center of the claim construction debate, the context of the surrounding words of the claim also must be considered....”).

Analysis

Independent claim 1 defines a suture anchor having “a continuous suture loop secured within the bore of the body to form an eyelet, wherein at least a portion of an *outer surface of the suture loop is bonded to an inner surface of the bore of the body*” (App. Br. 9) (emphasis added). The Examiner contends that Thal discloses a suture anchor having this element

“due to the suture being within and ‘attached’ within the interior of the anchor,” or because a “frictional bond will be present” (Ans. 6). We disagree.

The evidence of record, however, fails to support the Examiner’s interpretation when the claim is read as a whole and in light of the Specification. The use of the term “bonded” within the requirement that the *outer surface* of the suture loop be *bonded* to an *inner surface* of the bore of the body conveys to a person of ordinary skill in the art that the claimed elements are intimately bonded at the surfaces, which occurs, for example, through the application of heat or energy (FF3). That is, the term “bonded” when read in light of the Specification requires a physical joining of the materials of the suture loop and the body, not simply retention by tying the components together. This interpretation is supported by the Specification (*see e.g.*, FF1 – FF3). In contrast, the Examiner fails to cite to an embodiment or usage of the term “bonded” in the Specification that is consistent with her interpretation.

Having determined the scope of Appellants’ claims, we find that neither Thal or Lizardi describe a suture loop having at least a portion of an outer surface of the suture loop is bonded to an inner surface of the bore of the body. Rather, the suture loop of Thal snags the anchor (FF4), and Lizardi feeds the unknotted end of the suture loop through a hole in the annular collar thereby preventing it from pulling through (FF5). We find that the Examiner has not adequately shown that a skilled worker would recognize these disclosures as expressly or inherently describing a suture loop bonded to the bore of the anchor within the context of claim 1.

Conclusion of Law

The evidence of record does not support the Examiner's findings that the cited prior art discloses a suture loop having at least a portion of an outer surface of the suture loop is bonded to an inner surface of the bore of the body.

II.

Issue

In addition to the rejections summarized above, the Office action appealed from included the following rejections:

- I. Claims 1-6 are rejected under 35 U.S.C. 102(e) as being anticipated by Thal.
- II. Claims 1-9, 12, 15, 16, and 20-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Lizardi and Thal.
- III. Claims 17-19 under 35 U.S.C. § 103(a) as being unpatentable over the combination of Lizardi, Thal and Grafton et al. (US 5,964,783, issued Oct. 12, 1999).
- IV. Claims 10, 11, 13, and 14 under 35 U.S.C. § 103(a) as being unpatentable over the combination of Lizardi, Thal and Goble et al. (US 5,702,397, issued Dec. 30, 1997).

The Examiner stated in the Answer that “[e]very ground of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory actions) is being maintained by the examiner except for the grounds of rejection (if any) listed under the subheading ‘WITHDRAWN

REJECTIONS” (Answer 3-4). The Answer does not include a section with the subheading “WITHDRAWN REJECTIONS.”

Each of the above rejections rely upon the underlying anticipation rejection of claim 1 over Thal or the obviousness rejection of claims 1, 15, 16, 20 and 21 over the combination of Thal and Lizardi. Having reversed these rejections above, we also reverse each of the rejections listed above, including the obviousness rejections further including Goble and Grafton, since Goble and Grafton do not cure the deficiencies of Thal and Lizardi.

SUMMARY

We reverse all rejections on appeal.

REVERSED

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