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D E C I S I O N
of 13 May 2003

Case Number: T 1130/01 - 3.2.2

Application Number: 95118658.4

Publication Number: 0702933

IPC: A61B 17/04

Language of the proceedings: EN

Title of invention:
Manipulating and anchoring tissue

Applicant:
HAYHURST, John O.

Opponent:
-

Headword:
-

Relevant legal provisions:
EPC Art. 56

Keyword:
"Inventive step (yes, after amendments)"

Decisions cited:
-

Catchword:
-



Case Number: T 1130/01 - 3.2.2

D E C I S I O N
of the Technical Board of Appeal 3.2.2
of 13 May 2003

Appellant: HAYHURST, John O.
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Representative: Hoarton, Lloyd Douglas Charles
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Decision under appeal: Decision of the Examining Division of the
European Patent Office posted 15 May 2001
refusing European patent application
No. 95 118 658.4 pursuant to Article 97(1) EPC.

Composition of the Board:

Chairman: W. D. Weiß
Members: D. Valle
R. T. Menapace

Summary of Facts and Submissions

I. The appellant (applicant) filed an appeal against the decision of the examining division to refuse the application for lack of inventive step having regard to the documents:

D1: WO-87/01270, and

D2: US-A-4 235 238.

The search report further cites the following documents:

D3: US-A-3 699 969

D4: US-A-3 527 223

D5: DD-A- 233 303

D6: EP-A- 241 240.

II. On request of the applicant, oral proceedings were held on 13 May 2003. At the end of the oral proceedings the appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of the claims 1 to 5 and an amended description (columns 1 to 9) both as filed during the oral proceedings, and the figures as originally filed.

III. Claim 1 as filed during the oral proceedings on 13 May 2003 reads as follows:

"An apparatus for manipulating and anchoring tissue (60) during arthroscopic surgery comprising: a hollow

needle (14, 54) having a tip (26, 51) and a butt (27); an elongate anchor member (10, 50) insertable into and through tissue (60), the anchor member (10, 50) having slanted ends (20, 22, 64, 65) to facilitate movement of the anchor member through tissue and being positionable within the interior of the hollow needle (14, 54) and expellable from the needle (14, 54); and a flaccid suture (12, 52) having one end attached to the anchor member (10, 50) at a location (24) proximate to the mid-point between the end faces (20, 22, 64, 65) and the other end free (13, 57) for manipulating and anchoring the tissue (60), the free end (13, 57) of the suture (12, 52) extending from the interior of the needle butt (27) when the anchor member (10, 50) is positioned within the needle (14, 54), wherein the hollow needle has a bore within which the anchor member (10, 50) and the end of the suture attached to the anchor member (10, 50) are lodged prior to expulsion from the needle."

- IV. The appellant argued that the last submitted amendments complied with Article 123(2) EPC, being supported by the description and the drawings. The closest prior art was contained in document D1 which related to the same field of the invention. The skilled person in the field of arthroscopic surgery would not eliminate the slot and insert the suture in the needle bore in the apparatus of document D1 without any inventive skill being involved because this would go against the teaching of document D1 for the following reasons. The suture according to document D1 must be resilient in order to be able to turn the anchor member to a position perpendicular to the suture itself after ejection from the needle bore. This implied that the suture could not be flaccid and could not close-fit the

anchor member in the needle bore. Would the skilled person in the field try to eliminate the slot in the apparatus according to document D1, the bore should have been made very broad to accommodate the bulge of the joint between the resilient suture and the anchor member. As a consequence, the anchor member would adopt a slanted position with respect to the longitudinal axis of the bore, pressing against its walls. The jiggering forward motion of the anchor member caused thereby during ejection would impede a smooth delivery. Furthermore, for obvious topological reasons, inserting the suture in the needle bore would not be possible for the embodiments of Figures 16 and 17 which disclosed a multiple anchor head.

Reasons for the Decision

1. The appeal is admissible

2. *Amendments*

Claim 1 has been modified by explicitly stating that the apparatus is specifically designed for arthroscopic surgery, according to the description, see EP-A-702 933, column 1, from line 11. The further feature in claim 1 specifying that the suture is "flaccid" although not explicitly disclosed in the original application, is clearly and unambiguously derivable from the Figures 8 and 9 of the application. Flaccid means not self-supporting. The Figures 8 and 9 of the application clearly demonstrate that the suture clings to the surface of the anchor member even at the location where it is fixed to. The last feature added in claim 1 that the suture is attached to the anchor

member at a position proximate to the mid-point between its endfaces originates from the description as filed, see EP-A-0 702 933, column 2, lines 9 to 11, and column 4, lines 27 to 30.

The amendments to the description are merely the adaptation to the newly filed main claim.

Accordingly the application as amended complies with Article 123(2) EPC.

3. *Novelty*

Document D1 represents the closest state of the art because it belongs to the same technical field of the invention (arthroscopic surgery).

Such document D1, in Figure 3, discloses an apparatus for manipulating and anchoring tissue during arthroscopic surgery comprising a hollow needle (105) having a tip and a butt; an elongate anchor member (15) insertable into and through tissue, the anchor member having slanted ends to facilitate movement of the anchor member through tissue and being positionable within the interior of the hollow needle and expellable from the needle, and a suture (10) having one end attached to the anchor member at a location proximate the mid-point between the end faces and the other end free for manipulating and anchoring the tissue, wherein the hollow needle has a bore within which the anchor member and the end of the suture attached to the anchor member are lodged prior to expulsion from the needle.

Claim 1 contains the additional distinguishing features that the suture is flaccid and that the free end of the suture extends from the interior of the needle butt (27) when the anchor member is positioned within the needle.

In contrast thereto, D1 discloses a slot, starting from the distant end of the needle, which lodges the end of the suture attached to the anchor member. The suture extends along the outside of the needle.

Document D2 does not belong to the field of arthroscopic surgery and it does not disclose an anchor member having slanted ends.

There is no further document of the known state of the art which appear to be detrimental for the novelty of claim 1. Document D3 concerns a method for implanting fibers into the skin - particularly the scalp - by means of a two concentric needles, whereby the fibrous material is threaded within the inner needle. Document D4 concerns a surgical instrument for piercing ears by means of a hollow needle and which delivers a stud with curled ends by means of a hollow needle. Document D5 discloses a fastening element for blood vessels to be delivered by means of a catheter. Document D6 discloses a suture anchor apparatus including a drill and scissoring blades.

Accordingly claim 1 is novel.

4. *Inventive step*

The apparatus according to document D1 suffers the drawback that the suture, extending unrestrained

outside the needle, is difficult to be kept in place and causes additional damage to the tissues during insertion. Furthermore - after ejection of the anchor member - the loose suture is not easy to handle. The aim of the invention is therefore to provide an apparatus relatively compact and easy to use for manipulating cartilage and other fibrous tissues, see description, column 1, lines 37 to 58.

The distinguishing features of claim 1 identified above provide a solution for the above mentioned problems by means of a flaccid suture, the free end of which extends from the interior of the needle butt. The feature that the suture extends from the interior of the needle butt avoids the problems of the "flying" suture and reduces the damage to the tissues during insertion. Furthermore, the anchored tissue can be more easily manipulated. For example, by pulling the suture through the butt, the anchored tissue can be clamped between the anchor member and the ejection tube (16), see Figure 2, allowing the tissue to be pushed rather than pulled, into a desired position, see column 6, from line 44. A flaccid suture finally allows for a suture which can lie close-fitted on the anchor member in the needle hole, thereby reducing at a minimum the diameter of the needle, keeping the anchor member parallel to the longitudinal direction of the needle, and thereby avoiding a jiggering forward motion during ejection.

Document D2, which refers to the different field of endoscopic surgery, in its embodiment according to Figure 11, discloses a coeliac (soft) tissue suturing apparatus the anchoring member of which is not intended to itself penetrate tissue but to be expelled from its

location inside the needle in the free space behind the penetrated tissue where it may easily adopt a transverse anchoring position. Therefore the anchoring member of this known device does not have slanted but blunt ends.

Although this known device discloses the above identified distinguishing features the person skilled in the art would not envisage to modify the device disclosed in document D1 by transferring these features because this would be contrary to the basic teaching of this document. This teaching requires a resilient suture which is rigidly fixed to the anchor member in order to warrant that the anchor member after ejection is forced into a position perpendicular to the suture itself, see page 9 from line 8.

Document D2 is not concerned with the exact positioning of the tissue such as is required in arthroscopic surgery.

The further documents of the state of the art do not give any further hint which can lead to the invention in an obvious way. Accordingly the subject-matter of claim 1 involves an inventive step.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the first instance with the order to grant a patent on the basis of claims 1 to 5 and an amended description (columns 1 to 9) both as filed during the oral proceedings and the figures as originally filed.

The Registrar:

The Chairman:

V. Commare

W. D. Weiß