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**Datasheet for the decision  
of 4 May 2018**

**Case Number:** T 1004/13 - 3.2.02  
**Application Number:** 06792229.4  
**Publication Number:** 1937160  
**IPC:** A61B17/16, A61B17/17, A61B17/00  
**Language of the proceedings:** EN

**Title of invention:**

A SURGICAL DRILL, A SET OF SURGICAL DRILLS AND A SYSTEM FOR  
CUTTING BONE

**Patent Proprietor:**

Hoogland, Jaap Johannes

**Opponent:**

Joimax GmbH

**Headword:**

**Relevant legal provisions:**

EPC Art. 100(b), 100(a), 56

**Keyword:**

Sufficiency of disclosure (yes)  
Inventive step (yes)

**Decisions cited:**

**Catchword:**



**Beschwerdekammern**  
**Boards of Appeal**  
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Case Number: T 1004/13 - 3.2.02

**D E C I S I O N**  
**of Technical Board of Appeal 3.2.02**  
**of 4 May 2018**

**Appellant:**

(Opponent)

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**Representative:**

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**Respondent:**

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**Representative:**

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**Decision under appeal:**

**Decision of the Opposition Division of the  
European Patent Office posted on 8 February 2013  
rejecting the opposition filed against European  
patent No. 1937160 pursuant to Article 101(2)  
EPC**

**Composition of the Board:**

**Chairman**

E. Dufrasne

**Members:**

M. Stern

D. Ceccarelli

## **Summary of Facts and Submissions**

I. The appellant (opponent) appealed against the decision of the Opposition Division rejecting the opposition against European patent No. 1 937 160.

II. In its decision the Opposition Division held that the grounds for opposition raised under Article 100(a) and (b) EPC did not prejudice the maintenance of the patent. In particular, it held that the subject-matter of claim 1 of the granted patent was not obvious having regard to the following documents:

D1: US-A-5 931 841  
D2: US-A-5 573 537  
D3: DE-A-29 06 054  
D4: DE-U-203 00 988.

III. Oral proceedings took place on 4 May 2018.

The appellant (opponent) requested that the decision under appeal be set aside and that the patent be revoked.

The respondent (patent proprietor) requested that the appeal be dismissed.

IV. Claim 1 of the patent as granted reads as follows:

"1. A surgical drill (1, 1') for removing bone (65, 67) to access the spinal canal (62), the surgical drill including a drill member (10) comprising a cutting section (11, 11', 11'') for cutting bone, said cutting section being situated at a distal end of the drill member, wherein the drill member comprises a non-cutting protection tip (12) for protecting nerves,

tissue and/or dura from being cut, the non-cutting protection tip being situated distally of the cutting section, characterized in that the drill member comprises a guide channel (13) extending in the axial direction of the drill member such that a guide wire (4') can be inserted into the guide channel through the drill member and in that the cutting section has a cutting end face adjacent to the non-cutting protection tip such that the longitudinal axis of the drill member is oriented perpendicular to the cutting end face."

- V. The arguments of the appellant (opponent) that are relevant for the present decision may be summarised as follows:

*Sufficiency of disclosure*

The patent did not disclose any details regarding the claimed cutting end face oriented perpendicular to the longitudinal axis of the drill member. Although the skilled person could conceive of many ways of devising the cutting end face, features which were not disclosed in the original application could not be used to argue sufficiency of disclosure. The latter had to be evaluated using the same criteria as novelty. The Opposition Division was therefore wrong in arguing that the skilled person knew how to provide the cutting end face with a cutting function by arranging thereon grooves with cutting edges, teeth, etc.

*Inventive step*

The conclusions reached by the Opposition Division when starting from D2 were not well-founded. In the embodiment shown in Figure 16 of D2, the reamer member

had an end face (348) with cutting edges; hence it was a cutting end face as defined in claim 1 of the patent. The subject-matter of claim 1 differed from this embodiment only in that the longitudinal axis of the drill member was oriented perpendicular to the cutting end face. This orientation differed only slightly from the angled orientation of the cutting end face disclosed in the embodiments of D2. It would therefore have been within the constructive competence of the person skilled in the art of devising tools for spinal surgery to provide the cutting end face in D2 with a perpendicular orientation too, all the more so since the patent did not explain what benefit a perpendicular orientation of the cutting end face would bring. Corresponding constructions moreover were known from documents D1, D3 and D4.

- VI. The arguments of the respondent (patent proprietor) that are relevant for the present decision are essentially those on which the reasons set out below are based.

### **Reasons for the Decision**

1. The appeal is admissible.
2. *Background*

The patent relates to a surgical drill for removing bone for accessing the spinal canal including a drill member comprising, in essence, a cutting section and a distal non-cutting protection tip.

3. *Sufficiency of disclosure*

3.1 The appellant rightly observes that the patent does not disclose any details regarding the claimed cutting end face of the cutting section oriented perpendicular to the longitudinal axis of the drill member. Paragraph [0021] of the patent only briefly mentions this feature.

The Board however concurs with the Opposition Division in its view that the person skilled in the art of surgical drill manufacture would need no further information in the patent in order to provide the end face with cutting capabilities. In fact, it would be readily apparent to the skilled person to provide the perpendicular end face with a cutting function by arranging thereon, for example, grooves with cutting edges or cutting teeth.

3.2 The appellant actually indicated at oral proceedings that the skilled person could conceive of many ways of devising the cutting end face; but it considered that features which were not disclosed in the original application could not be used to argue sufficiency of disclosure.

The Board does not accept the latter argument, however. According to established case law, the standard of disclosure in the original application required for amendments under Article 123(2) EPC, namely that of being directly and unambiguously derivable, is inappropriate when assessing sufficiency of disclosure under Article 83 EPC. Rather, the criterion for assessing the latter requirement is that the skilled person must be enabled to reproduce the invention on the basis of the original application using common

general knowledge without any inventive effort and undue burden. It was not disputed that this criterion was fulfilled in the present case.

Moreover, the appellant's own argument that the skilled person could conceive of many ways of devising the cutting end face unwittingly supports the other party's position, i.e. that the disclosure is in fact sufficient.

3.3 Hence, the ground for opposition under Article 100(b) EPC does not prejudice the maintenance of the patent.

4. *Inventive step*

4.1 The closest prior art is considered to be represented by document D2, particularly the embodiment of Figures 1 to 9 in its disclosed combination with the tip of Figure 16. D2 discloses an instrument for reaming bone in vertebrae, comprising a cutting section for cutting bone (side-cutting reamer member 32) and a tip (probe member 28) situated distally of the cutting section (column 5, lines 33 to 11). As shown in Figures 5 and 7, and disclosed in column 5, lines 46 to 62, the cutting section (side-cutting reamer member 32) includes helical cutting elements 46, separated by channels 48, wherein each cutting element 46 terminates distally in a chamfered face 52 (column 5, lines 61 to 65; Figures 8 and 10) which is explicitly disclosed as having a "forward cutting edge" 54 (column 6, lines 2 to 3; column 2, lines 58 to 62). Therefore, although each cutting element 46 is part of a side-cutting reamer member 32, its distal chamfered face 52 is forward-cutting and is thus a "cutting end face" as defined in claim 1 of the patent. The cutting end face (52) is oriented at an angle between 15° and 45°



with respect to an imaginary radial plane p perpendicular to the longitudinal axis A of the drill member (column 5, line 65 to column 6, line 1).

The tip (probe member 28) is disclosed as having either a blade portion 34 or, alternatively, a cylindrical or conical shape (column 5, lines 12 to 20) as disclosed for the embodiment shown in Figure 16 (column 7, lines 18 to 21). In the latter alternative, the tip is "non-cutting" and, as such, is considered to be "protective" as defined in claim 1 of the patent.

4.2 The surgical drill according to claim 1 of the patent differs from the embodiment of Figures 1 to 9 in combination with the tip of Figure 16 of D2 in that:

- (i) the cutting end face is perpendicular to the longitudinal axis, and
- (ii) the drill member comprises a guide channel for insertion of a guide wire.

4.3 As indicated above, the instrument disclosed in D2 is primarily a *side-cutting* reamer, albeit with the capability of forward cutting due to the forward cutting edge 54 on the cutting end face 52 (column 6, lines 2 to 3). With the cutting end face in Figures 1 to 9 being disclosed as oriented at an angle between 15° and 45° with regard to a plane perpendicular to the longitudinal axis, nothing in D2 prompts the skilled person to replace the disclosed angle range with an angle of 0°, corresponding to a cutting end face oriented perpendicular to the longitudinal axis as defined in claim 1.

The claimed perpendicular orientation of the end face allows the application of a drilling force exclusively

in longitudinal direction. As the respondent has convincingly explained, the avoidance of exerting lateral forces during drilling is an important effect when laterally placed sensitive tissue in the spinal canal needs to be protected. Obviously, no such concern is of relevance when using the reamer of D2, since this instrument is predominantly side-cutting.

Thus, based on the knowledge of D2 alone, the skilled person would not have readily arrived at the surgical drill of claim 1.

- 4.4 Furthermore, the appellant did not explain what motivation the skilled person would have had to adapt the instrument of D2 with features from document D1, D3 or D4 and how this would have readily resulted in a drill according to claim 1.

Document D1 discloses a broacher-reamer with a distal cutting portion (60) (Figures 6 and 7) tapered towards a smooth distal tip (58) (column 3, lines 50-52). However, adjacent to this tip there is no cutting end face perpendicular to the longitudinal axis.

In the drill of D3, the cutting end face 17d is conical (Figure 3; page 9, last paragraph), rather than being oriented perpendicular to the longitudinal axis.

D4 discloses a two-stage drill member 14 without any details as to any possible cutting end face (page 4, last paragraph).

Thus, the skilled person would not have arrived at the surgical drill of claim 1 from a combination of D2 with any of these documents either.

4.5 The Board therefore concludes that, starting from the embodiment of Figures 1 to 9 in combination with the tip of Figure 16 of D2, the subject-matter of claim 1 is not obvious. The same conclusion applies a fortiori when starting from the further-removed alternative embodiment of Figure 16 of D2 taken by itself, in which the end face of the cutting section (346) is not even disclosed as having a forward-cutting function (column 7, lines 16 to 26).

4.6 Since the subject-matter of claim 1 is not obvious having regard to the cited prior art, thereby complying with the requirements of Article 56 EPC, the grounds for opposition of Article 100(a) EPC do not prejudice the maintenance of the patent.

## Order

### **For these reasons it is decided that:**

The appeal is dismissed.

The Registrar:

The Chairman:



D. Hampe

E. Dufrasne

Decision electronically authenticated