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**Datasheet for the decision  
of 19 March 2015**

**Case Number:** T 0533/13 - 3.2.08

**Application Number:** 09790633.3

**Publication Number:** 2306947

**IPC:** A61F9/007

**Language of the proceedings:** EN

**Title of invention:**  
OFFSET ULTRASONIC HAND PIECE

**Applicant:**  
Alcon Research, Ltd.

**Headword:**

**Relevant legal provisions:**  
EPC Art. 54

**Keyword:**  
Novelty - (no)

**Decisions cited:**

**Catchword:**



**Beschwerdekammern  
Boards of Appeal  
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Case Number: T 0533/13 - 3.2.08

**D E C I S I O N**  
**of Technical Board of Appeal 3.2.08**  
**of 19 March 2015**

**Appellant:** Alcon Research, Ltd.  
(Applicant) 6201 South Freeway  
Fort Worth, Texas 76134 (US)

**Representative:** Hanna, Peter William Derek  
Hanna Moore & Curley  
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**Decision under appeal:** **Decision of the Examining Division of the  
European Patent Office posted on 2 November 2012  
refusing European patent application No.  
09790633.3 pursuant to Article 97(2) EPC.**

**Composition of the Board:**

**Chairman** T. Kriner  
**Members:** C. Herberhold  
D. T. Keeling

## **Summary of Facts and Submissions**

- I. By its decision posted on 2 November 2012 the Examining Division refused European patent application No. 09790633.3.
  
- II. In the decision the Examining Division held that claim 1 then on file did not fulfil the requirements of Article 123(2) EPC and that its subject-matter was not novel in particular in view of document  
  
D5: JP-A-2003/126109.
  
- III. The appellant (applicant) lodged an appeal against that decision in the prescribed form and within the prescribed time limit.
  
- IV. In accordance with the appellant's request the Board issued a summons for oral proceedings. In a communication pursuant to Article 15(1) RPBA dated 25 July 2014 the Board pointed out that also claim 1 of the request filed with the statement of grounds of appeal appeared to lack novelty over prior art D5.
  
- V. With letter dated 17 February 2015 the appellant filed a new set of claims and requested that oral proceedings be cancelled and the application be remitted to the Examining Division in order to grant a European patent.
  
- VI. With letter dated 27 February 2015, the Board informed the appellant that the application still appeared not to meet the requirements of the Convention, among others with respect to Article 54 EPC, and that oral proceedings in accordance with the appellant's former request were to be held as summoned.

VII. Oral proceedings before the Board of Appeal took place on 19 March 2015. No one appeared for the appellant. In accordance with Rule 115(2) EPC and Article 15(3) RPBA, oral proceedings were held in the appellant's absence.

VIII. Claim 1 as filed on 17 February 2015 reads as follows:

"An ultrasonic hand piece comprising:  
a horn (220) comprising a body portion having a first diameter, and including a reduced diameter portion (225) and a tip interface (215);  
piezoelectric crystals (230) coupled to the horn, said crystals arranged about a first centerline (270); and  
a cutting tip (210) attached to tip interface (215), the cutting tip having a second centerline (260) defined by a central longitudinal axis generally passing through the center of gravity of the tip;  
wherein the first centerline (270) of the piezoelectric crystals is offset from the second centerline (260) of the cutting tip such that side to side or circular oscillatory movement is produced in the cutting tip when the piezoelectric crystals are excited,  
characterized in that  
the horn is adapted to produce the offset by a step formed in the body portion of the horn (220) having the first diameter, in which the second centerline (260) of the cutting tip is generally parallel to the first centerline (270) of the piezoelectric crystals."

IX. The essential arguments of the appellant in the written proceedings can be summarised as follows:

In the application the appellant had described the introduction of a step in the ultrasonic horn of an ultrasonic hand piece in order to induce a side-to-side wobble at the tool tip. The longitudinal axis

centreline of the horn was shifted to one side, but kept parallel in either the large diameter portion or the reduced diameter portion of the horn.

It was admitted that document D5 described with reference to Figures 2 and 4 an offset in the reduced diameter portion of an ultrasonic horn, which could be used to offset the axis of the large and reduced diameter portions, while keeping them parallel. There was however absolutely no disclosure or teaching of an offset in the large diameter portion - reference sign No. 12 in D5 - of the ultrasonic horn, i.e. in the part of the handpiece that was grasped by the surgeon's hand.

Claim 1, which defined the horn to be adapted to produce the offset by a step formed in the large diameter body portion of the horn, such as exemplified in Figure 2 of the application, was thus novel.

### **Reasons for the Decision**

1. The appeal is admissible.
2. Novelty

Following the arguments in the appellant's letter dated 17 February 2015, it is uncontested that document D5 discloses the following features:

An ultrasonic hand piece (Figs. 1-4) comprising:  
a horn (including Figure 4, No. 21, see the further discussion below);

piezoelectric crystals (No. 11) coupled to the horn, said crystals arranged about a first centerline (Figure 2, axis "L"); and  
a cutting tip (No. 23), the cutting tip having a second centerline (Figure 2, "a") defined by a central longitudinal axis generally passing through the center of gravity of the tip;  
wherein the first centerline of the piezoelectric crystals is offset from the second centerline of the cutting tip such that side to side or circular oscillatory movement is produced in the cutting tip when the piezoelectric crystals are excited (this is a direct consequence of the axes being offset, see the application page 6, lines 4-9), wherein the second centerline of the cutting tip is generally parallel to the first centerline of the piezoelectric crystals (D5, Figure 3 with  $\alpha = 0$ , which results in a parallel orientation of the two centerlines;  $\alpha = 0$  is explicitly disclosed in D5, paragraph [0028]).

The appellant was of the opinion that D5 did not disclose a step in the body portion of the horn. On the contrary, the large diameter portion of the ultrasonic horn - indexed by reference sign 12 - was straight, whereas it was the reduced diameter portion of the horn - output part 30, connection member 31 and horn 21 - which comprised the step.

However, in the view of the Board, the term "ultrasonic horn" refers to the part(s) of an ultrasonic hand piece which resonate to transmit the acoustic energy from the oscillator to the treatment part, thereby modifying and amplifying it. In the handpiece shown in D5, Figure 4, the oscillations are created by vibrator No. 11 and then transferred via a first cylindrical part (reference sign No. 31), a pin (No. 36), a further

cylindrical part (left part of "horn", No. 21), and a conical part (right conical part of the "horn", No. 21) to the treatment part (No. 23). Thus, these acoustic energy transferring structures, located between the oscillator (No. 11) and the treatment part (No. 23), in combination form the "ultrasonic horn" (see in this respect Figure 3 of D5 which illustrates the transfer of the oscillations). Of these structures both the first cylindrical part (No. 31) and the further cylindrical part (left portion of horn No. 21) have a first diameter, whereas - relative to said first diameter - the conical portion of the horn (No. 21) is of reduced diameter. The pin connection between the two cylindrical portions results in a "step", as can be appreciated in Figures 2 and 4. Furthermore, the conical portion of the horn (No. 21) interfaces at its thinner distal end with the cutting tip, the horn thus including a tip interface, to which the cutting tip is connected. In this context it is noted that the term "attached to" has to be interpreted as "connected to" - otherwise an objection under Article 123(2) would arise.

Consequently, D5 discloses a horn comprising a body portion having a first diameter (the combination of the first cylindrical part, No. 31, and the further cylindrical part) and including a reduced diameter portion (the conical part of horn, No. 21) and a tip interface, wherein a cutting tip (No. 23) is attached to the tip interface and the horn is adapted to produce an offset by a step formed in the body portion of the horn having the first diameter.

The casing No. 12, on the contrary, which according to the appellant formed the body portion of the horn, does not take part in the transfer of acoustic energy. It is

simply a casing accommodating the oscillator and therefore cannot be considered part of the ultrasonic horn. The fact that it is straight has no bearing in the above analysis. Equally, the further casing structures (No. 25, 33) of the output part (generally referred to by No. 30), which shield the vibrating horn and interact with and connect to the operational unit (Figure 1, No. 40), do not play a role in the transfer of acoustic energy and thus cannot be considered part of the ultrasonic horn.

To conclude, document D5 discloses all the features defined in claim 1, the subject-matter of which consequently is not novel.

## **Order**

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

The appeal is dismissed.

The Registrar:

The Chairman:



V. Commare

T. Kriner

Decision electronically authenticated