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**Datasheet for the decision  
of 17 November 2020**

**Case Number:** T 0849/18 - 3.5.03

**Application Number:** 09250303.6

**Publication Number:** 2088804

**IPC:** H04R25/00

**Language of the proceedings:** EN

**Title of invention:**

Antenna used in conjunction with the conductors for an audio transducer

**Patent Proprietor:**

Starkey Laboratories, Inc.

**Opponent:**

Oticon A/S

**Headword:**

Hearing-aid antenna/STARKEY

**Relevant legal provisions:**

EPC Art. 83, 116(1)

RPBA 2020 Art. 12(8)

**Keyword:**

Sufficiency of disclosure - (no)  
Decision in written proceedings: cancellation of  
arranged oral proceedings following the respondent's  
announcement of non-attendance

**Decisions cited:**

T 0003/90, T 2210/16



**Beschwerdekammern**

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Case Number: T 0849/18 - 3.5.03

**D E C I S I O N**  
**of Technical Board of Appeal 3.5.03**  
**of 17 November 2020**

**Appellant:** Oticon A/S  
(Opponent) Kongebakken 9  
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**Representative:** Cohausz & Florack  
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**Respondent:** Starkey Laboratories, Inc.  
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**Decision under appeal:** **Interlocutory decision of the Opposition  
Division of the European Patent Office posted on  
19 January 2018 concerning maintenance of the  
European Patent No. 2088804 in amended form.**

**Composition of the Board:**

**Chair** K. Bengi-Akyürek  
**Members:** K. Peirs  
C. Heath

## **Summary of Facts and Submissions**

- I. This appeal is against the interlocutory decision of the opposition division to maintain the patent in amended form according to the proprietor's "auxiliary request". The grounds for opposition invoked by the opponent include the one pursuant to Article 100(b) EPC.
- II. In the statement of grounds of appeal, the appellant (opponent) requested that the decision under appeal be set aside and that the patent be revoked in its entirety. They argued, *inter alia*, that the opposed patent as amended did not comply with Article 83 EPC.
- III. In response to the statement of grounds of appeal, the respondent (proprietor) requested that the appeal be dismissed. As an auxiliary measure, oral proceedings were requested.
- IV. In a communication under Article 15(1) RPBA 2020, the board in its provisional opinion took the view that the appeal was likely to succeed in view of, *inter alia*, the objections under Article 83 EPC as raised by the appellant.
- V. In reaction to this communication, the respondent announced that they would not be attending the arranged oral proceedings, whereupon the appellant made further submissions and reiterated their request for revocation of the patent.
- VI. Oral proceedings before the board were then cancelled.

VII. **Claim 1** of the opposed patent as maintained by the opposition division reads as follows:

"A hearing aid (100, 400) configured to provide sound to an ear canal (410) of a user, the hearing aid (100, 400) comprising;

a housing (401) adapted to be worn on the ear outside of the ear canal (410), the housing including a microphone (404);

an acoustic receiver (402) adapted to be worn in the ear canal (410) or about the ear;

a cable assembly (403) connecting the housing (401) to the acoustic receiver (402);

hearing assistance electronics (405) enclosed in the housing (401), the hearing assistance electronics (405) including a processor and memory components for storing program instructions for the processor to process audio received by the microphone (404) and transmit processed audio signals to the acoustic receiver (402) using the cable assembly (403) which includes conductors adapted to connect the hearing assistance electronics (405) to the acoustic receiver (402);

an ear canal microphone (407) connected to the hearing assistance electronics (405) and adapted to be worn in the user's ear canal (410);

wireless communications electronics (406, 426, 427) in communication with the hearing assistance electronics (405); and

an antenna comprising one of the conductors (403A) of the cable assembly (403) as a monopole antenna, the antenna being connected to the wireless communications electronics (406, 426, 427) and the acoustic receiver (402)."

## Reasons for the Decision

1. Decision in written proceedings

Where oral proceedings are appointed upon a party's request and that party subsequently expresses its intention not to attend, such statement is generally interpreted as a withdrawal of the request for oral proceedings (see e.g. decision T 3/90, OJ 1992, 737, Reasons, point 1).

As the board does not consider holding oral proceedings to be expedient or necessary (cf. Article 116(1) EPC), oral proceedings were cancelled and a decision handed down in written proceedings (Article 12(8) RPBA 2020).

2. The opposed patent relates to a hearing aid with circuitry for wireless communications, in which one or more of the conductors connected to the hearing aid's receiver or microphone are used as an antenna. According to the patent's description, this allows to place and design the hearing aid more economically (see paragraph [0002]).

3. Claim 1 of the opposed patent as maintained by the opposition division comprises the following limiting features (as labelled by the board):

- (a) A hearing aid configured to provide sound to an ear canal of a user, the hearing aid comprising;
- (b) a housing adapted to be worn on the ear outside of the ear canal, the housing including a microphone;
- (c) an acoustic receiver adapted to be worn in the ear canal or about the ear;
- (d) a cable assembly connecting the housing to the acoustic receiver;

- (e) hearing assistance electronics enclosed in the housing, the hearing assistance electronics including a processor and memory components for storing program instructions for the processor to process audio received by the microphone and transmit processed audio signals to the acoustic receiver using the cable assembly which includes conductors adapted to connect the hearing assistance electronics to the acoustic receiver;
- (f) an ear-canal microphone connected to the hearing assistance electronics and adapted to be worn in the user's ear canal;
- (g) wireless communications electronics in communication with the hearing assistance electronics;
- (h) an antenna comprising one of the conductors of the cable assembly as a monopole antenna, the antenna being connected to the wireless communications electronics and the acoustic receiver.

#### 4. Insufficiency of disclosure (Article 83 EPC)

- 4.1 As to feature (h) of claim 1, the antenna of the hearing aid of claim 1 is implemented by using one of the conductors of the cable assembly of feature (d) as a monopole antenna.
- 4.2 The original application underlying the patent in suit is silent on how to *implement* the ground plane for this monopole antenna.
- 4.3 The opposition division found that the skilled person was aware of the definition of a "monopole antenna" and its implementation because a monopole antenna represented "well-known subject-matter since more than

100 years" (see appealed decision, Reasons, point 5).

- 4.4 The board disagrees. The skilled person who has to be able to carry out the claimed invention within the meaning of Article 83 EPC is the person to whom the patent is directed. In other words, this skilled person is the person who is supposed to implement the claimed solution to the "subjective problem" underlying the patent (see e.g. T 2210/16, Reasons, point 3.5).

In the present case, this person is the person skilled in the field of wireless hearing aids (see e.g. paragraph [0001] of the patent specification). In order to implement the ground plane for this monopole antenna, that skilled person must resort to their common general knowledge. In this regard, the available options to implement an appropriate ground plane are to use *either* the hearing-aid housing *or* existing copper pours already grounding the hearing aid's printed circuit board. It is however doubtful that mere pours would suffice to establish a ground for a monopole antenna. The same holds true for a hearing-aid housing which is typically of small size and at least partially made of plastic.

- 4.5 Moreover, a skilled person versed in wireless devices is, of course, aware of several possible implementations for the ground plane of an antenna, but these implementations cannot be readily carried out in a hearing aid, as is illustrated in the following:

- 4.5.1 Whilst, as set out in point 5 of the decision under appeal, this skilled person would in general know how to implement a monopole antenna, the appellant convincingly argued that it is not trivial to implement an appropriate ground plane for such an antenna. It



typically involves bulky solutions, such as using Earth itself, using several wires or rods radiating in a particular direction (e.g. a multitude of buried copper or phosphor bronze radial wires) or using the metal frame of a vehicle. It is not apparent how these bulky solutions could be implemented in a small device such as a hearing aid.

4.5.2 Less bulky ground planes exist, of course, for antennae in general, such as printed circuit boards (PCBs) having one side covered with copper acting as a ground plane and using the other side to accommodate all the necessary tracks. However, it is not apparent that such PCBs could constitute a monopole antenna. Moreover, it is doubtful whether such PCBs could at all be used in a hearing aid, where a PCB is often of the flex-circuit type, being bendable to allow for an optimal use of the scarce space. At least some of the hearing-aid types considered in the patent in suit (see e.g. paragraphs [0019] and [0034]), which range from a behind-the-ear implementation to completely-in-the-canal-type or even cochlear-implant-type hearing aids, will involve such a flex-circuit-type PCB. Its flexible properties are not compatible with having one side covered entirely by copper.

4.6 In view of the above, the skilled person would be at a loss when implementing feature (h) since they would be faced with an undue burden and with serious doubts on how to put the monopole antenna's ground plane into practice.

4.7 The respondent did not comment on the above line of reasoning in response to the board's communication under Article 15(1) RPBA 2020 (cf. point V above). In the absence of any credible answer to this issue, the

board cannot but conclude that the opposed patent does not disclose the claimed invention in a manner sufficiently clear for it to be carried out by a person skilled in the art. The requirements of Article 83 EPC are therefore not fulfilled.

5. There being no other set of claims on file, the patent must be revoked.

## Order

### For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The patent is revoked.

The Registrar:

The Chair:



B. Brückner

K. Bengi-Akyürek

Decision electronically authenticated