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Datasheet for the decision of 1 June 2023

Case Number: T 2481/18 - 3.4.01

Application Number: 09725199.5

Publication Number: 2265331

IPC: A61N1/375, A61N1/372

Language of the proceedings: EN

Title of invention:
ANTENNA FOR BEHIND-THE-EAR (BTE) DEVICES

Patent Proprietor:
Cochlear Limited

Opponent:
K/S HIMPP

Headword:
Antenna for BTE device / Cochlear Ltd.

Relevant legal provisions:
EPC Art. 123(2), 54(3), 56, 83

Keyword:
Amendments - intermediate generalisation (non-allowable - main request)
Sufficiency of disclosure - auxiliary request (yes)
Novelty - auxiliary request (yes)
Inventive step - non-obvious alternative - auxiliary request (yes)

Decisions cited:
T 0906/97, T 1178/13

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Case Number: T 2481/18 - 3.4.01

D E C I S I O N
of Technical Board of Appeal 3.4.01
of 1 June 2023

Appellant: (Patent Proprietor)	Cochlear Limited 1 University Avenue Macquarie University, NSW 2109 (AU)
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Representative:	Cohausz & Florack Patent- & Rechtsanwälte Partnerschaftsgesellschaft mbB Bleichstraße 14 40211 Düsseldorf (DE)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 27 July 2018 concerning maintenance of the European Patent No. 2265331 in amended form.**

Composition of the Board:

Chairwoman	A. Medeiros Gaspar
Members:	P. Fontenay
	R. Winkelhofer

Summary of Facts and Submissions

I. An opposition was filed against European patent 2 265 331. It relied on the grounds of lack of novelty and lack of inventive step (Article 100(a) EPC), of insufficiency of disclosure (Article 100(b) EPC) and added subject-matter (Article 100(c) EPC).

II. The patent was maintained in amended form.

III. In their decision, the Opposition Division held that even though the subject-matter of claim 6 of the main request extended beyond the content of the application as filed and that, the auxiliary request 1 did not contravene Article 123(2) EPC, the invention it defined was sufficiently disclosed and its claim 1 was new having regard to

E1: EP-A-2 076 065,

which was prior art in the sense of Article 54(3) EPC,

but its claim 6 was not new in view of document

E2: US-A-2004/0138723.

IV. Auxiliary request 1a was filed during the oral proceedings. It differed from auxiliary request 1 in that independent claim 6 and the claims dependent thereon had been deleted.

In the Opposition Division's judgment, apart from being new having regard to E1, claim 1 of auxiliary request 1a was also inventive (Article 56 EPC). In particular, the claimed subject-matter was not obvious in view of any of documents E2,

E9: US-B-6 748 094 or
E11: US-A-2004/0073275,

considered as possible starting points of the problem-solution approach, either when taken in isolation, or when combined with any one of documents

E3: US-A-2004/0151337,
E6: US-A-2004/0201527,
E7: US-B-7°026°999,
E8: US-A-5°995°064.

Auxiliary request 1a was held to meet the requirements of the EPC. The patent was thus maintained in an amended form according to this request.

V. Both the opponent and the patentee appealed the decision of the Opposition Division. The patentee's appeal was however later withdrawn.

VI. The appellant/opponent requests that the impugned decision be set aside and that the patent be revoked.

The opponent is of the opinion that:
(a) Independent claim 1 and dependent claim 6 of the request found allowable by the Opposition Division contravene Article 123(2) EPC.

(b) The invention as defined in claim 1 is not sufficiently disclosed in the patent.
(c) Claim 1 lacks novelty having regard to E1.
(d) Claim 1 lacks an inventive step having regard to any of E2, E9 and E11, when combined with common general knowledge or any of documents E6 to E8 (and E3).
(e) Also the dependent claims lack an inventive step over the combination of the disclosure of any of E2, E9 and E11 with either common general knowledge or some other of the prior art documents submitted with the notice of opposition.

As proof of common general knowledge, reference is made in the statement of grounds to new evidence, identified, respectively, as documents

E14: US-A-2 573 438 and
E15: US-A-4 564 955.

VII. The patentee requests, as a main request, that the appeal be dismissed. As an auxiliary request, it is requested to maintain the patent on the basis of one of auxiliary requests 1 to 4 as enclosed to the reply to the appeal. It is further requested that new evidence in the form of documents E14 and E15 not be admitted in the appeal proceedings. The patentee further objected to the admission and consideration of the objection raised under Article 83 EPC.

VIII. In a communication of the Board pursuant to Article 15 RPBA 2020, the parties were informed of the Board's preliminary opinion.

IX. Claim 1 of the patentee's main request reads:

A BTE device for transmitting and/or receiving information via radio frequency, said BTE device comprising:

a body portion including a first antenna element fitted in the body portion of the BTE device; and

an earhook including a second antenna element fitted in the earhook, wherein said first and second antenna elements are electrically coupled together by a capacitive connection so that one antenna element is able to extend the operation of the other antenna element,

wherein the earhook and/or the body portion of the BTE device are fitted with means for allowing mechanical detachment of the earhook from the body portion of the BTE device.

Claim 6 reads:

A BTE device as per any one of claims 1-5, wherein the capacitive connection comprises:
a first dielectric material connected to the first antenna element,
a second dielectric material connected to the second antenna element; and
an air-gap between the earhook and the body of the BTE device.

X. Auxiliary request 1 differs from the main request in that claim 6 has been deleted.

XI. The content of auxiliary requests 2 to 4 is not relevant for the present decision.

Reasons for the Decision

Main request - claim 6 - Added subject-matter

1. Claim 6 was introduced for the first time in a set of claims filed with the entry of the PCT application into the European phase. Original claim 6 only referred to the projecting and receiving portion at the ends of the first and second antenna elements, respectively, and being provided at the surface of a capacitor plate, while original claim 14 referred in general terms to the drawings contained in the application.

2. The patentee referred specifically to the passage of the description on page 4, line 16 to page 8, line 1 of said original application, concerning Figure 1b. This passage of the description elaborate on the capacitive coupling as illustrated in Figures 1b of the application. The patentee reiterates the view, endorsed by the Opposition Division, that they "cannot follow that the particular configuration of capacitor plates or selection of materials is inextricably linked to the provision of the first and second dielectric materials and an air gap between ear hook and body portion, since the description discloses different optional configurations and materials, none of them being essential." It followed that the finding that the intermediate generalisation defined added subject-matter was not persuasive. The features disclosed in

relation with said embodiments and actually missing in claim 6 were defined as merely optional. Hence claim 6 was allowable under Article 123(2) EPC.

3. While the mere reference in the original set of claims to the accompanying drawings is no basis for later amendments to the claims, it is acknowledged that Figures 1b and 1c disclose with some details the capacitive coupling between the first and second antenna elements. Concretely, Figure 1b discloses a schematic view of the earhook together with the associated body section of the BTE device and said capacitive coupling present in between. Figure 1c shows details of said coupling.

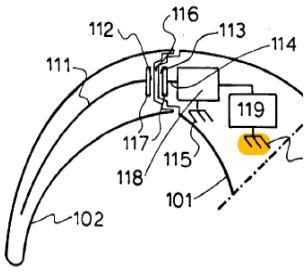

Figure 1b

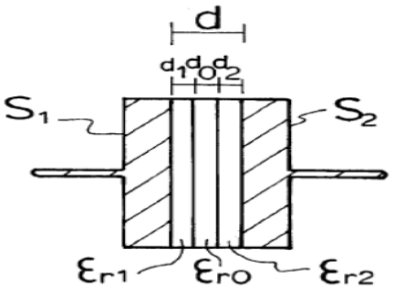

Figure 1c

4. Schematic representations of an invention or of elements of an invention do not normally constitute, on their own, a sufficient basis for later amendments to the claims. This general assessment relies, first, on the findings that such schematic representations are not to be construed in isolation, but have to be construed, on the contrary, in the light of the accompanying description. In effect, the embodiment referred to by reference to drawings will incorporate much more information than can be derived from the drawings alone. Second, such schematic representations may also contain further limitations which are not the

result of deliberate technical considerations but merely reflect the choices made by the draughtsperson without any bearing on the technical content of the application (T 906/97, T 1178/13).

5. The mere reference in original claim 14 to the accompanying drawings does not constitute a sufficient basis for new claim 6. The same applies to figures 1b and 1c, considered on their own.

6. The question is thus whether Figures 1b and 1c in combination with the corresponding passages of the description constitute such a basis, as was acknowledged by the opposition division.

7. The paragraph of the description on page 4, lines 16-33, is of particular relevance in this respect. It describes the antenna configuration with the capacitive coupling as illustrated in Figure 1b and follows a passage of the description, on page 2, line 1 to page 3, line 5, that describes a BTE device as defined in claim 1 (original claims 1 and 7) and a short description of the BTE device according to Figure 1a. Figure 1b constitutes a schematic view of the earhook and associated section of the BTE body according to the implementation shown in Figure 1a while Figure 1c shows a schematic representation of the capacitive connection of Figure 1b.

8. The paragraph on page 4,line 16, referred to above describes the antenna system of Figure 1b in following terms:

> *Referring now to Figure 1b, the antenna system 110 includes a number of parts:*

- an earhook 102, which is made of an electrical non-conductive material or isolator;
- a first antenna element 111 in the earhook 102, consisting of an electrical conductive part (e.g. wire);
- a first dielectric material 112 (eri), which could be made of the same material as the earhook 102;
- a second dielectric material 113 (Er2), which could be made of the same material as the enclosure of the BTE device 101;
- a second antenna element 114 in the body of the BTE device 101, consisting of an electrical conductive part (e.g. wire);
- a matching unit (optional) 118...

A further passage on page 5, lines 8-11, of the description adds to said description in that it explicitly refers to the further possibility for an air gap 116 (ε_{r0} = 1) to exist between the earhook 102 and the body of the BTE device 101.

9. Abstraction being made of the optional features regarding the matching unit or the (same) material to be used for the dielectric coatings, the passages of the description referring to Figures 1b and 1c provide a formal basis for a capacitive connection comprising a first dielectric material connected to the first antenna element, a second dielectric material connected to the second antenna element, and an air gap between the earhook and the body of the BTE device, as recited in claim 6. This is all the more true considering that the features regarding the receiver and transmitter units, referred to in said passages, belong to separate functional units of the antenna that can be omitted in the definition of the capacitive coupling means, as

observed by the patentee, since they serve different purposes.

10. However, the formal basis identified above is not sufficient for claim 6 to be allowable under Article 123(2) EPC.

11. The schematic representations of Figures 1b and 1c and the corresponding passages of the description discussed above are part of a detailed description of the capacitive coupling that extends from page 4, line 12 to page 8, line 1, of the description. It is thus not limited to a description of the structural elements of said embodiment as reproduced in Figures 1b and 1c, but further incorporates a detailed discussion and description of the effects to be achieved by the disclosed configuration.

12. Concretely, the purpose of the capacitive coupling in the context of this embodiment is not to allow an easier mechanical connection between the earhook and the BTE portion, but to fulfill a reliable electrical coupling as underlined in the passage of the description on page 6, line 11 to page 7, line 23, which reads:

> *To achieve reliable coupling between the first and second antenna elements, it is desirable to obtain a low capacitive reactance (Xc = 0). This is done by:*
> *- decreasing 'd' as much as possible; and*
> *- increasing 'S' and ε_r as much as possible.*
> *From 'Equation 3', it will be understood that it is also advantageous to operate at high frequencies, for example 2.4 GHz.*

The total length of the antenna system is mostly determined by the operation frequency. Accordingly, to obtain good efficiency, it is desirable to place the antenna in resonance, resulting in no imaginary impedance part. Otherwise, the antenna impedance is required to be complex and conjugated to its source impedance.
To compensate for any residual Xc on the antenna, a series inductance XL (reactive inductance), for example, may be added. This can be achieved by a matching circuit or increasing the length of one of the antenna elements.

13. Thus, the capacitive coupling means have also to be designed with regard to the operating frequency and need to meet very specific requirements in terms of impedance. Concretely, the capacitive coupling means are such that they present a limited or, ideally, no imaginary part of the impedance.

14. Contrary to the patentee's and opposition division's view, the wording in claim 6 leaves out essential features regarding the purpose of the capacitive coupling means of the BTE device relied upon. The omission in claim 6 of the features regarding the intended effect, or of the structural elements required for the intended effect to be achieved as disclosed in the passage of the description reproduced above, leads to a generalisation of the claimed subject-matter that is thus deprived of a basis in the disclosure as filed, contrary to Article 123(2) EPC. The capacitive coupling of claim 6 extends namely to any capacitive coupling independently of its electrical role in the claimed arrangement contrary to the very teaching of the embodiment relied upon.

15. The introduction in a claim of a certain combination of structural limitations disclosed in relation to an embodiment may still lead to an intermediate generalisation that is not allowable under Article 123(2) EPC if the recited combination of features does not include all the elements required for achieving the technical effect disclosed as achieved by said combination or if the effect is not mentioned in the claim.

16. The main request is therefore not allowable (Article 123(2) EPC).

Auxiliary request 1

17. Auxiliary request 1 differs from the main request in that claim 6 has been deleted.

Auxiliary request 1 - added subject-matter

18. Claim 1 of auxiliary request 1 is based on a combination of claims 1 and 7 as originally filed, where the features of original claim 1 were reformulated. In the opponent's view, said reformulation is not equivalent to the original wording and thus the claim does not define exactly the same and identical subject-matter.

19. The opponent based their objection on the finding that the terms "fitted in" in original claim 1 cover both the embodiment of the first/second antenna element being partially fitted in or entirely fitted in the body portion/earhook, as suggested in the description (page 6, lines 6-10 of the application as filed). It

followed that the terms "fitted in" in original claim 1 did not permit to establish that the first/second antenna element was "included" in the body portion/ earhook as now recited in claim 1.

20. The ambiguity relied upon by the opponent is not the consequence of the amended wording but was already present in original claim 1. As such, it cannot therefore illustrate any extension of the claimed subject-matter. There is no added matter resulting from the use of the term "including" which appears to encompass the two branches of the alternatives, as it derives from the original wording of claim 1 or the passages of the description describing the BTE device.

21. According to the opponent, many more structural and functional features than those claimed were actually required for achieving a workable implementation of the disclosed embodiment. The omission, for instance, of the features regarding the receiver or transmitter functionalities or regarding the structural construction of the capacitive connection lead to an inadmissible intermediate generalisation of the claimed subject-matter.

22. Independently of the fact that the introduction of selected features of a specific embodiment while omitting features which are not structurally or functionally connected to said selected features is in general allowable under Article 123(2) EPC, the argument is not persuasive in itself, since, as recognised by the opponent themselves, a basis for the claimed device may also be derived from original claims 1 and 7 in combination.

23. The subject-matter of claim 1 derives therefore directly and unambiguously from the original disclosure (Article123(2) EPC).

Auxiliary request 1 - Sufficiency of disclosure

24. Regarding the lack of a sufficient disclosure brought forward by the opponent, the patentee's argument that this objection shouldn't be considered is not convincing. The same objection was brought forward with the notice of opposition and was decided upon by the Opposition Division. Irrespective of the fact that present request is, formally speaking, one that is distinct from the granted claims or the request decided upon by the Opposition Division, the feature argued not to be sufficiently disclosed is the same.

25. Claim 1 of auxiliary request 1 defines the first and second antenna elements as electrically coupled so that one antenna element is able to extend the operation of the other antenna element.

26. The opponent put forward that it would not have been evident from the patent specification for the skilled person to determine:

(i) which operation of the one antenna element is meant,
(ii) what is meant by the extension of such (undefined) operation, and
(iii) how such (undefined) extension is to be realized.

27. The functionality referred to in claim 1 regarding the extension of the operation of one antenna element by means of the other antenna element is not clearly

defined. In the context of the claimed subject-matter, the recited feature relates to the ability of one antenna element to fulfil, in combination with the other antenna element, the primary purpose expected from an antenna, that is, to reliably transmit and receive electromagnetic signals. This encompasses interpretations according to which the first antenna element and second antenna element, in combination, operate at a predetermined frequency, or of antennas in which the second antenna element affects the resonating frequency of the whole antenna, thus extending the functionality of the first antenna element to a new resonating band. In the latter case, the claimed feature would then relate to the manufacturing process of such an antenna and would be meaningless insofar as the BTE device itself, is concerned. Applied to the final product, it would then still have the former meaning envisaged above, of an antenna constituted of two elements that is resonating at a certain frequency.

28. It results from the above understanding of the claimed subject-matter that no knowledge going beyond what may be expected from the skilled person in the field of antennas is required in order to carry out the claimed subject-matter. Common knowledge in the field of electromagnetism would allow the skilled person to determine the dimensions and geometry of the various elements constituting the antenna in order for them to resonate, in combination, at a predetermined frequency and thus to transmit and receive signals at such frequency. This appears all the more true considering that the relative length of the two antenna portions is without bearing on the resonating frequency, as long as the combined length is appropriate. The specification relates, more specifically, to a $\lambda/4$ resonating antenna.

29. The opponent's objections rely primarily on a technically non-sensible interpretation of the claimed subject-matter rather than on real problems regarding the implementation of the claimed device.

30. In particular, the view that the claim's wording would imply, because of the selected terms "the one antenna element is able to extend the operation of the other antenna element", the ability for the claimed arrangement to actively generate a shift of operation of the other antenna element is artificial. It is namely at odds with the general teaching of the patent specification that does not envisage any active modification in the operation of the antenna, that is, of its resonating characteristics once it has been manufactured.

31. No real obstacle can be seen in carrying out the claimed invention with the purpose of realising a structure resonating at a predetermined frequency.

32. Therefore the invention is disclosed in a manner sufficiently clear and complete to be carried out by a person skilled in the art (Article 83 EPC).

Auxiliary request 1 - novelty

33. Document E1 is prior art document under Article 54(3) EPC. It is relevant for novelty.

34. The opponent argues, by reference to 1, 3b and 5b in E1, among other, that this document discloses a hearing device according to claim 1 of the auxiliary request 1.

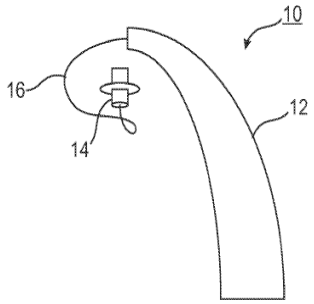

Figure 1 in E1

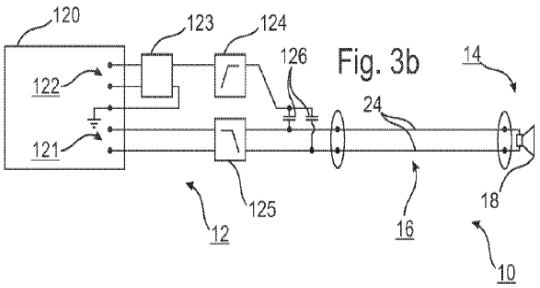

Figure 3b in E1

35. According to the opponent, RITE-type hearing devices such as the one depicted in Figure 1 in E1 are a subcategory of BTE devices and, hence, fall within the scope of claim 1. Additionally, the coupling element 16 connecting the first and second portions 12 and 14 of the device depicted was argued to constitute an earhook in the sense of the claim since it reproduced the shape of a hook and contributed to maintaining the second portion in place behind the ear of the user. And finally, the ellipses used in Figures 3A and 3B to symbolize the electrical connections between portions 12 and 14 implied the presence of corresponding mechanical attachment means between both portions, since it was commonly known that the portion inside the ear was always separable or exchangeable, so as to allow for the device to be best adapted to the user's ear size.

36. The opponent's arguments are not persuasive.

37. Contrary to the opponent, the reference in claim 1 to a BTE (behind the ear) device, which typically include the receiver in a behind the ear body portion, excludes RITE (receiver in the ear) devices. BTE and RITE hearing devices relate to two different categories of devices which do not overlap.

38. E1 refers to hearing devices of both the BTE (behind the ear) type and RITE (receiver in the ear) type (cf. paragraph [0011]) as alternatives and the embodiments relied upon by the opponent unambiguously relate to RITE devices and, hence, do not anticipate a BTE device as recited in claim 1. The fact that claim 1 does not explicitly require that the entire structure be behind the ear does not affect the finding that BTE devices and RITE devices define different categories of hearing aids.

39. Further, the wire 16 in E1 does not qualify as an earhook in the sense of the invention. In the context of a BTE device, the term earhook has a recognised meaning. It corresponds to a portion of the hearing aid whose primary purpose is to maintain the hearing aid in position. In this respect, a connecting wire that electrically connects the unit inside the body portion to the transducer inside the ear does not qualify as an earhook as commonly understood for BTE devices.

40. Moreover, the electrical connections represented by black dots inside ellipses in Figures 3a and 3b do not, in the absence of any further indication, directly and unambiguously disclose the illustrated connection as comprising mechanical detachment means as recited in claim 1.

41. Therefore the subject-matter of claim 1 is new over E1.

Auxiliary request 1 - inventive step

Vis-à-vis E9

42. Document E9 discloses a connector system for BTE hearing devices (Figure 1B). The connector system comprises a coaxial connector 16 on the body portion of a BTE device (said body portion being incidentally defined as BTE device in E9) and an auxiliary connector on an earhook 12 that screws onto the coaxial connector, thus mounting the earhook to the body portion of the BTE device. The connection of the auxiliary connector to the coaxial connector provides both a mechanical attachment fixture as well as an electrical connection for a variety of auxiliary devices (column 4, lines 16-19).

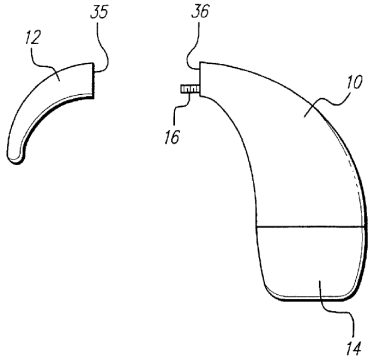

Figure 1B in E9

43. E9 stems from the same technical field as the invention and shares a multiplicity of common structure elements with the claimed invention. It thus constitutes a valid starting item of prior art when deciding on the inventive merits of the claimed invention.

44. The objection of lack of inventive step relies on the argument that the coaxial coupler 16 present in the body portion of the BTE device constituted a first antenna element in the sense of the claim. The resonating frequency of the antenna was defined by the electrical length of the resonating structure. Concretely, the antenna resonated at a frequency that was defined by the combination of both the coil antenna element 18 present in one of the embodiments of the

earhook (cf. Figure 2A, column 5 lines 6 to 12), the wire connection between said coil and the coaxial coupler and the characteristics of the coaxial coupler itself. In this respect, the coaxial coupler behaved similarly to the first antenna element of the invention in that it *extended* the operation of the other antenna element as recited in claim 1.

45. Contrary to the patentee's view, the fact that the communication in the device of E9 relies primarily on the presence of said telecoil 18 in the earhook and that there is no mention in E9 that the wire extending from the telecoil to the coaxial coupler with the coupler itself contributes to the inductive coupling with said telecoil does not affect the above finding that said connections are electrically coupled to the telecoil and contribute, by their sole presence, to the definition of the resonating frequency.

46. It follows that both the telecoil 18 in the earhook and the coaxial coupling (as well as the wires connecting both parts) contribute in defining the characteristics of the antenna. The coaxial coupling thus comprises a first antenna element that extends the operation of the second element (telecoil 18) in the earhook as recited in claim 1.

47. The claimed BTE device differs thus from the BTE device of E9 solely in that:
- the first and second antenna elements are electrically coupled together by a capacitive connection so that one antenna element is able to extend the operation of the other antenna element.

48. A capacitive coupling is more reliable than a galvanic coupling in an aggressive environment where, for

example, sweat may lead to corrosion of the contact surfaces. In E9, the resulting deterioration of the galvanic coupling may further affect the performance of the antenna.

49. The objective problem solved by the claimed invention may hence be defined as that of
- achieving an electrical connection between earhook and body portion, which is both more efficient and reliable than a galvanic connection (cf. paragraph [0006] of the published patent specification).

50. The use of capacitive couplings in relation with antennas is well known. For this reason, further consideration of any of E6, E7, E8 or E3, submitted for illustrating the use of such couplings in prior art antenna devices is not considered necessary. For the same reason, the question of the admissibility of documents E14 and E15 is without bearing on the decision to be taken and needs not be addressed.

51. The Board has no doubts that the skilled person was well aware of the advantages and drawbacks resulting from a capacitive coupling over a galvanic one and would, hence, have considered replacing one by the other.

52. The skilled person was however also well aware that the replacement of the coaxial coupling of E9 by a capacitive coupling would have introduced an imaginary component to the impedance. This would have modified the behaviour of the antenna, and would have required further adaptations to compensate for that effect. In this respect, the mere replacement of the coaxial coupling of E9 by a bayonet-type coupling would be a more straightforward solution.

53. In any case, the replacement of the coaxial coupling of E9 by a capacitive arrangement would not lead to the claimed subject-matter in that it would imply that the first antenna element embodied by the coaxial coupling element in the body portion of the BTE would no more be present in the resulting configuration.

54. All in all, the opponent failed to demonstrate that the skilled person would first indeed have opted for replacing the galvanic coaxial coupling of E9 by a capacitive coupling the existence of other alternatives and, second, that the replacement of the galvanic coupling by a capacitive coupling would have led to a BTE device as recited in claim 1.

Vis-à-vis E11

55. Document E11 may also constitute a realistic item of prior art on the basis of which obviousness can be assessed. It relates to hearing aids and discloses in a preferred embodiment a cochlear implant system having an external sound processor with an integrated replenishable power source (paragraph [0002]).

56. The external sound processor is encased in the body portion 50 of a BTE device, also comprising in an embodiment a earhook 36c including a telecoil 39 (cf. figures 3 and 4, paragraphs [0042] and [0043]).

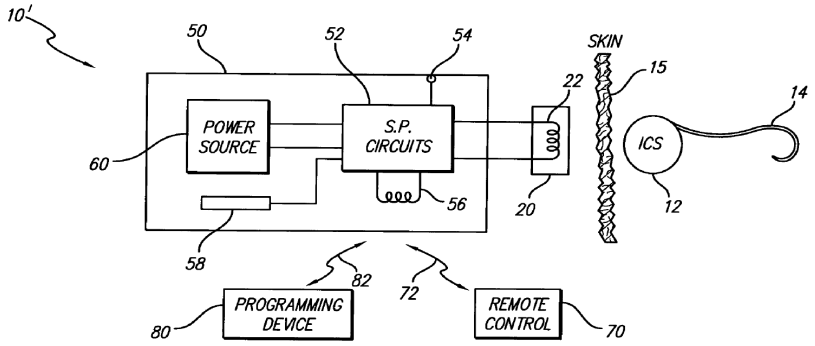

Figure 3 in E11

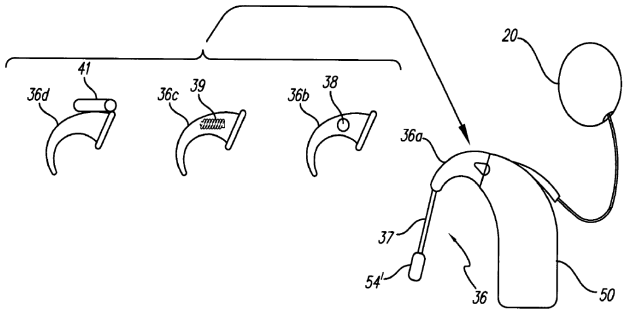

Figure 4 in E11

57. However, the view according to which the first antenna element 56 fitted in the body portion extended the operation of the second antenna element 39 fitted in the earhook or vice-versa, is not correct. Both antenna elements 56 and 39 constitute, in the context of E11, independent antennas which fulfil different purposes and are not expected to be combined. Control coil 56 defines primarily a recharging coil used for replenishing power source 60 while also allowing control signals to be received from an external source (cf. paragraphs [0041], [0042]). Coil 39, in contrast, appears to belong to a further channel of communication not associated in any way to the receiving channel incorporating coil 56.

58. The argument according to which the operation of the telecoil 39 is extended by the presence of charging coil 56, because otherwise the communication could be stopped due to the lack of sufficient power, is artificial. As assessed above, the notion of extending the operation of the other antenna element is to be construed with regard to the radiating properties of the antenna and in particular to its resonating frequency and not to accessory properties of the device.

59. Also the argument that it would have been obvious, starting from Figure 4 which discloses the sound processor and a plurality of detachable earhooks, to replace the coupling disclosed therein by a capacitive coupling, is not convincing, for the same reasons as those developed above with regard to document E9 (paragraphs 49 to 52 above).

60. In a nutshell, the opponent failed to demonstrate that the skilled person would have replaced the galvanic coupling of the device of E11 by a capacitive coupling.

vis-à-vis E2

61. Document E2 refers to hearing devices of the ITE or BTE types. In a preferred embodiment the BTE device comprises a body portion including two electrodes operating as a dipole antenna (paragraphs [0052, [0068], figures 7, 15).

62. In the opponent's view, claim 1 of the main request differs from document E2 solely in that it defines that the electrical coupling between the antenna elements is established by a capacitive connection.

63. The opponent's analysis of E2 is not persuasive.

64. First, neither the figures nor the text passages disclose directly and unambiguously the existence of means for allowing mechanical detachment of the coupling tube, argued by the opponent to be in the earhook, from the body portion of the BTE device. The fact that there might be good reasons to make both parts detachable does not affect the finding that E2 does not appear to disclose this feature.

65. More fundamentally, the very notion of dipole antenna does not imply that the two poles be connected to a common base/ground point. On the contrary, the concept of a dipole antenna implies that the two poles be connected to the two opposite ports of a feeding voltage source. It thus differs substantially both in structure and the feeding approach from a monopole antenna. The explicit reference in paragraph [0017] in the patent specification to a dipole structure defines an alternative to the embodiment of Figure 1b that is excluded by the very wording of the claim.

66. The objective problem of providing an alternative connection between the antenna elements is not realistic under the circumstances. It is, in particular, stressed that the connection between the two poles of the antenna dipole in E2 is not limited to a galvanic connection, but encompasses the feeding circuit. There is accordingly no technical sense in replacing said circuit by a passive element such as a capacitive coupling.

67. For these very reasons, E2 does not appear to constitute a valid starting prior art when adjudicating on the inventive merits of the claimed subject-matter.

68. The subject-matter of claim 1 of the first auxiliary request is therefore inventive in the sense of Article 56 EPC.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the Opposition Division with the order to maintain the patent on the basis of auxiliary request 1 as submitted with the reply to the appeal, and the description and drawings to be adapted, if necessary.

The Registrar: The Chair:

D. Meyfarth A. Medeiros Gaspar

Decision electronically authenticated