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Datasheet for the decision of 21 January 2025

Case Number: T 0168/24 - 3.4.01

Application Number: 16189856.4

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Title of invention:
MRI-SAFE DISK MAGNET FOR IMPLANTS

Patent Proprietor:
MED-EL Elektromedizinische Geräte GmbH

Opponent:
Advanced Bionics AG

Headword:
MRI-Safe Implantable Disk Magnet /MED-EL

Relevant legal provisions:
EPC Art. 84

Keyword:
Adaptation of the Description - Auxiliary request 2 (allowable)

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Beschwerdekammern

Boards of Appeal

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Case Number: T 0168/24 - 3.4.01

D E C I S I O N
of Technical Board of Appeal 3.4.01
of 21 January 2025

Appellant: (Patent Proprietor)	MED-EL Elektromedizinische Geräte GmbH Fürstenweg 77a 6020 Innsbruck (AT)
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Appellant: (Opponent)	Advanced Bionics AG Laubisruetistrasse 28 8712 Staefa (CH)
Representative:	Schwan Schorer & Partner mbB Patentanwälte Bauerstraße 22 80796 München (DE)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 3 January 2024 concerning maintenance of the European Patent No. 3138605 in amended form.**

Composition of the Board:

Chairman	D. Rogers
Members:	A. Medeiros Gaspar
	P. Fontenay

Summary of Facts and Submissions

I. This Board remitted a previous appeal case relating to European patent EP 3 138 605 (T 732/21), to the Opposition Division, with the order to maintain the patent in amended form, on the basis of a claim request found allowable, and a description to be adapted thereto. The decision that was issued only dealt with the claim request found allowable, as the proprietor had withdrawn all other claim requests at the oral proceedings before the Board.

II. Following remittal, the Opposition Division took the interlocutory decision that the patent could be maintained on the basis of the claim request found allowable in the previous appeal proceedings (T 732/21) and a description amended according to the auxiliary request 3 of the proprietor.

III. Both parties appealed that decision.

IV. The present appeal proceedings are, thus, the second appeal proceedings relating to European patent EP 3 138 605, and are solely concerned with the adaptation of the description.

V. The proprietor's final requests are that the contested decision be set aside and the patent be maintained on the basis of an amended description according to one of

auxiliary requests 2, 2*, 2A*, 3, 3A, 3*, 3A*, 4, 4A, 5, 5A, 6, 6A, 7, 7A or 8, to be considered in this order. All requests, except auxiliary requests 2* and 2A*, were filed, with the same designation, before the Opposition Division. The main request and the auxiliary request 1 were withdrawn after the Board issued its preliminary opinion in a communication under Article 15(1) RPBA. That opinion was negative regarding the main request and auxiliary request 1, but positive regarding auxiliary request 2.

VI. The opponent's final requests are that the contested decision be set aside and the patent revoked.

VII. The sole claim of the request found allowable in the previous appeal proceedings (T 732/21) reads:

> *1. An implant system for a recipient patient, said implant system comprising:*
> *a planar implant coil housing (402) for implanting under the skin of said patient containing a receiver coil for transcutaneous communication of an implant communication signal, and containing a first attachment magnet (401) within the plane of the implant coil housing (402),*
> *a planar external transmitter coil housing (405) for placement on the skin of the patient over said implant coil housing (402), said external transmitter coil housing (405) comprising a second attachment magnet (404) within the plane of the external transmitter coil housing (405);*
> *characterized in that said first attachment magnet (401) is rotatable in said plane of the implant coil housing (402), and the first and second*

attachment magnets (401, 404) have a magnetic dipole parallel to the respective plane of the implant coil housing (402) or external transmitter coil housing (405) for transcutaneous magnetic interaction with each other allowing to form a magnetic attraction connection between them in which the magnetic dipole of said first attachment magnet (401) is parallel to said plane of the implant coil housing (402) and said magnetic dipole of said second attachment magnet(404) is parallel to said plane of said external transmitter coil housing (405), wherein said first attachment magnet (401) has a planar disc shape or a cut away disc shape.

VIII. Auxiliary request 2 of the present proceedings modifies paragraphs [0007], [0010], [0022] and [0025] of the description of the patent, as follows (with additions indicated underlined and deletions struck through):

[0007] The present invention is directed to an implant system for a recipient patient according to claim 1. ~~Preferable embodiments are defined in the dependent claims~~. Aspects, embodiments and examples disclosed herein which do not fall within the scope of the appended claims do not form part of the invention, and are merely provided for illustrative purposes. A planar coil housing contains a signal coil for transcutaneous communication of an implant communication signal. A first attachment magnet is located within the plane of the coil housing and rotatable therein (~~e.g.,~~ a planar disk shape or cut away disk shape), and has a magnetic dipole parallel to the plane of the coil housing for

transcutaneous magnetic interaction with a corresponding second attachment magnet.

[0010] The first attachment magnet may be adapted to rotate within the coil housing in response to an external magnetic field, and there may be a lubrication coating covering at least a portion of the first attachment magnet and reducing friction between the first attachment magnet and the coil housing to promote the rotation of the first attachment magnet. At least one of the attachment magnets may have a planar disc shape, a rectangular beam shape, a cylindrical beam shape, or a cut away disc shape. Or at least one of the attachment magnets may comprise a pair of complementary cylindrical attachment magnets, which optionally may further include a magnetic flux guide connecting the pair of complementary cylindrical attachment magnets. It is to be noted that the invention as claimed herein is limited to cases where the first attachment magnet has a planar disc shape or cut away disc shape and where the second attachment magnet has a magnetic dipole parallel to the plane of the external coil housing.

[0022] It is worth noting that while the embodiments described above are disk shaped (cylindrical), but that is not necessarily required. Rather, any shape could be implemented so long as the magnetization is parallel to the coil housing and the skin, noting that the first attachment magnet as claimed is limited to cases where the first attachment magnet has a planar disc shape or cut away disc shape. For example, Figure 10 shows an embodiment similar to the one in Fig. 8 which includes use of a horseshoe shaped attachment

magnet 1001. In addition, in the embodiments described above, the attachment magnets have a magnetization axis that perpendicular to the rotational axis of the disk~~, but in other embodiments, the attachment magnets may more generally have a magnetization axis that is not parallel to the rotational axis~~.

[0025] Optimizing the external attachment magnet arrangement minimizes the total mass and controls the spatial distribution of the magnetic field, which in turn can influence the electronic circuitry related to the external coil—e.g., reduced influence of the external attachment magnets on the inductive signal transmission properties. In addition, properly optimized design of the external attachment magnet can offer improved magnetic field distance characteristics, e.g., allowing a shallower field. Some embodiments may have similar implant attachment magnet arrangements, noting that the first attachment magnet as claimed is limited to cases where the first attachment magnet has a planar disc shape or cut away disc shape.

It does not modify any other paragraph of the description of the Patent.

Paragraph [0015] of auxiliary request 2 reads:

[0015] Figure 4A shows an elevated perspective view and Figure 4B shows a side cross-sectional view of a cochlear implant 400 having a planar coil housing 402 that contains a signal coil for transcutaneous communication of an implant communication signal. A first attachment magnet 401

is located within the plane of the coil housing 402 and rotatable therein (e.g., a planar disk shape) has a magnetization direction with a magnetic dipole parallel to the plane of the coil housing 402. An external transmitter coil housing 405 with a corresponding second attachment magnet 404 with a similar magnetic dipole direction parallel to the plane of its coil housing 405 so that when placed on the skin of the recipient patient, their respective magnetic fields cause the two attachment magnets 401 and 404 to self-orient as described above to form a magnetic attraction connection between them. In specific embodiments, the coil housing 402 may be made have a titanium case with the attachment magnet 401 located outside the titanium case, for example, embedded in a silicone coil assembly. Alternatively, the coil housing 402 may be a ceramic case where the attachment magnet 401 is hermetically encapsulated within the ceramic housing.

IX. The other requests are not relevant for this decision.

Reasons for the Decision

The Invention as claimed and described in the patent

1. The invention relates to implant systems (for example, cochlear implantable hearing devices), having implantable and external parts capable of communicating with one another and comprising respective attachment

magnets to enable the external part to be held in place over the implantable part. It is concerned with improving compatibility of such devices with MRI imaging (patent, paragraphs [0001] to [0004]).

2. Implant systems according to the claim found allowable comprise a disk-shaped or cut away disc shaped first attachment magnet, located within a planar implantable coil housing. Said first attachment magnet is rotatable in the plane of the implantable housing, and has a magnetic dipole parallel to it.

3. This means that, when a person wearing the implant undergoes an MRI, the magnetic dipole of the implanted magnet rotates to approach alignment with the static field of the MR scanner. The implant magnet is then less susceptible to demagnetization and the implantable part less susceptible to displacement due to the torque exerted on the magnet, than implantable parts comprising disk magnets with axial magnetization (patent, paragraph [0030]).

4. Moreover, in contrast to implantable magnets of a spherical design, a slim implantable magnet avoids the need to drill a recess in the bone during implantation (patent, paragraph [0027],[0028]).

5. The implant systems according to the claim found allowable also comprise a planar external transmitter coil housing comprising a second attachment magnet located therein and having a magnetic dipole parallel to the plane of that housing.

6. The first and second attachment magnets are for transcutaneous magnetic interaction with each other allowing to form a magnetic attraction connection

between them, in which the magnetic dipoles of the first and second attachment magnets are parallel to the planes of the respective housings.

7. Compared to conventional disk attachment magnets with axial magnetization, attractive forces apply at the two poles of each of the attachment magnets of the invention, creating a stronger connection, with shallower force-over-distance profile, than conventional magnets with axial magnetization (patent, paragraph [0029]).

Adaptation of the description - auxiliary request 2

8. The description according to auxiliary request 2 modifies paragraphs [0007], [0010], [0022] and [0025] of the patent, as indicated above.

9. The opponent considers that these amendments are not sufficient to adapt the description to the claim found allowable, because they do not solve all the inconsistencies between the description and the claim.

10. The main point of dispute relates to the question of whether or not the implant systems of figures 11 to 13 of the patent fall within the scope of the claim.

11. The opponent is of the opinion that they do not and, thus, that references to them as "embodiments" of the invention cannot be left unamended.

12. Additionally, the opponent is of the opinion that the use of the expression "may be" in the first sentence of paragraph [0010] is inconsistent with the claim, and that the expression "e.g. a planar disk shape" in

paragraph [0015] opens the door to possibilities other than the only two options defined in the claim for the shape of the first attachment magnet.

On the systems of figures 11 to 13 of the patent

13. The answer to the question of whether or not the systems of figures 11 to 13 fall within the scope of the claim found allowable depends on how the definition, in the claim, that *the second attachment magnet has a magnetic dipole parallel to the plane of the planar external transmitter coil housing, for transcutaneous magnetic interaction* with the first attachment magnet allowing *to form a magnetic attraction connection between them*, is interpreted.

14. The proprietor argues that the claim found allowable and, in particular, the feature set out above, had already been interpreted during the previous appeal proceedings. Concretely, in those previous proceedings, the feature set out above was found to solve the issues under Article 123(2) EPC, that had been identified with regard to higher ranking requests, later withdrawn. That conclusion necessarily implied a finding that the feature was disclosed as essential to the invention and that is was present in all the specific embodiments disclosed in the patent. A re-interpretation of this feature, in the current proceedings, was neither appropriate nor justifiable. Consequently, the question of whether or not the embodiments of figures 11 to 13 were covered by the claim found allowable had to be answered in the affirmative.

15. The opponent argues, to the contrary, that, when arriving at its conclusion with regard to the claim

found allowable, the Board did not have to form an opinion on how the feature under dispute was to be interpreted. In the previous proceedings, the Board came to the conclusion that paragraphs of the original disclosure relating to the embodiment of figure 4, supported the amendments introduced into the claim found allowable. Figure 4 depicted an embodiment with a cylindrical second attachment magnet with its axis extending perpendicularly to the plane of the housing and its magnetic dipole parallel to said plane. Hence, the Board did not have to consider whether or not "embodiments" with second attachment magnets of other shapes also had a magnetic dipole as defined in the claim. It was, thus, only in the current proceedings that a detailed interpretation of that feature was required, for the purpose of assessing whether or not the embodiments of figures 11 to 13 were covered by the claim. In the opponent's opinion that question had to be answered in the negative, since the the systems of figures 11 to 13 neither comprised a single attachment magnet, nor did they have, or were they disclosed as having, a magnetic dipole parallel to the plane of the planar external coil housing as defined in the claim.

16. Indeed, although interpretation of the feature under dispute played a relevant role during the previous appeal proceedings, in the context of an added-matter discussion, as argued by the proprietor, this ended up not playing a role in the reasoning of the written decision. This is because the requests for which the interpretation played such a role were withdrawn.

17. There is, therefore, in these appeal proceedings, the need for the Board to be more explicit in this regard, and to specify the interpretation of this feature, to the extent necessary for this decision, which concerns

the question of whether all or just some of the specific embodiments described in the patent are encompassed by the claim found allowable.

18. The opponent's suggestion, that, when interpreting this feature, the Board did not have to consider the entire teaching of the patent is, however, incorrect.

19. In the previous proceedings, the Board had to assess whether or not some features, among which the feature set out above, had been disclosed as essential to the invention. This required consideration of the teaching conveyed by the disclosure, considered in its entirety, including all its specific embodiments. Indeed, a finding that an embodiment of the invention did not comprise the feature at stake, or that some passage of the patent disclosed that feature as optional, would have supported the view that this feature was not essential to the invention.

20. The feature, that the second attachment magnet has a magnetic dipole parallel to the plane of the planar external transmitter coil housing, had thus to be interpreted, taking into consideration how the skilled person would understand, in the context of the entire teaching of the patent, and in view of its common general knowledge, the term *magnetic dipole*. It furthermore had to be considered whether or not that feature had been disclosed as essential to the invention. That encompassed considering whether or not it could be directly and unambiguously derived that the feature was absent from at least one the specific embodiments disclosed in the patent, or at least that that possibility had been directly and unambiguously mentioned in the patent.

21. Having taken all that into consideration, the Board came to the conclusion that, as further explained below, a magnetic dipole was simply defined by a pair of magnetic poles of opposed polarities. The Board furthermore concluded that the feature, that the second attachment magnet had a magnetic dipole parallel to the plane of the planar external transmitter coil housing, was indeed an essential aspect of the invention. This was consistent with the additional finding, that there was no direct and unambiguous disclosure of an embodiment with a second attachment magnet without a magnetic dipole parallel to the plane of the planar external coil housing, nor was there any other reference to such a possibility in the patent.

22. In the following, those conclusions, arrived at in the previous appeal proceedings, are, to the extent relevant to the present appeal proceedings, further detailed. Reference is made to the paragraph numbering of the patent (not to that of the application as filed, that comprises the same passages under a different paragraph numbering), as the present decision concerns the adaptation of the description of the patent to the claim found allowable (not the issue of added-matter).

23. The invention is described as relating to implantable systems comprising a first attachment magnet with i.a. *a magnetic dipole parallel to the plane of the implantable coil housing* and *a corresponding second attachment magnet* (patent, paragraph [0007]).

24. Paragraph [0013] of the patent refers to a disk-shaped (cylindrical) attachment magnet with the *north-south magnetic dipole realized in the axial direction as is conventional* and to the embodiments of the invention as *changing the direction of magnetization (...) so that*

the north-south magnetic dipole is oriented across the diameter of the attachment magnet parallel (i.e. "in") the plane of the coil housing.

25. The subsequent paragraph [0014] clarifies that *with such an arrangement, it is important that both the internal implant receiver attachment magnet and the external transmitter attachment magnet be magnetized with the same orientation in the plane of the coil housing (i.e. parallel to the skin).*

26. Paragraph [0015] completes this teaching by stating that the first attachment magnet has *a magnetization direction with a magnetic dipole parallel to the plane of the coil housing* and *a corresponding second attachment magnet with a similar magnetic dipole direction parallel to the plane of its coil housing so that, when placed on the skin of the recipient patient, the two attachment magnets (...) form a magnetic attraction connection between them.*

27. The opponent argues, in the current proceedings, that paragraph [0015] refers to figure 4, depicting an embodiment that, like those of figures 5 to 9, comprises a second attachment magnet of a cylindrical shape.

28. The Board agrees. But the disclosure of paragraph [0015] is of a more general nature. In fact, paragraph [0015] makes no reference whatsoever to the shape of the second attachment magnet. It is only paragraph [0022], linking the description of the embodiments of figures 4 to 9, to that of the embodiments of figures 10 to 13, that explains that the shape of the second attachment magnets of figures 4 to 9 was cylindrical,

but that that shape was not a requirement, *so long as the magnetization is parallel to the coil housing*.

29. That the disclosure of paragraph [0015] is of a general nature is also rendered apparent by the use of the reference numbers of figure 4, in the paragraphs describing the other specific embodiments.

30. It results from the above mentioned passages that, in the context of the disclosure of the invention, the patent specifies a magnetic dipole, and a direction of magnetization, as defined by a pair of magnetic poles of opposite polarity.

31. It furthermore results, from the above mentioned passages, as well as from the rest of the patent specification, that it is essential to the invention that both the first and the second attachment magnets comprise magnetic dipoles parallel to the plane of the respective coil housings.

32. Indeed, such magnetic dipoles can be identified in each of the specific embodiments depicted in the figures 4 to 16 of the patent. Each figure displays the S and N polarities of the attachment magnets employed in the different embodiments, and, in each figure, the second attachment magnet comprises, parallel to the plane of the planar external transmitter housing (405), a pair of north and south magnetic poles at the interface oriented towards the skin.

33. These are the magnetic poles that, on the second attachment magnet, are foreseen for transcutaneous interaction with the corresponding magnetic poles of first attachment magnet, so as to form the magnetic attraction connection, as defined in the claim.

34. Also paragraph [0029] of the patent, referring once more to all the embodiments of the invention, refers explicitly to these poles as the ones responsible for the attraction connection.

35. It was for these reasons, that, during the previous appeal proceedings, the Board considered that the feature set out under item 13 above was present in all the specific embodiments described and disclosed as essential to the invention. Consequently, its removal from the claim was then considered to contravene Article 123(2) EPC.

36. It is a direct consequence of this former ruling, that all the specific embodiments disclosed, and thus also those of Figures 11 to 13, fall within the scope of the claim found allowable.

37. The Opposition Division considered that the embodiment of figures 11 and 12 did not fall under the scope of the claim that was found allowable, in essence, because the claim referred to a second attachment magnet having a magnetic dipole, in the singular form, and, hence required that a single magnetic dipole be formed by a single magnet. As figures 11 and 12 depicted the planar external transmitter coil housing as comprising a pair of complementary cylindrical attachment magnets (1101 and 1102), each having a direction of magnetization, or magnetic dipole, perpendicular to the plane of the planar housing, this embodiment was considered not to fall under the scope of claim 1. The embodiment of figure 13 was, however, considered to fall under the scope of the claim, because the element (1301) linking the poles of two complementary cylindrical attachment magnets, opposite to the skin, functioned as a magnetic

flux guide, which then rendered that construct a magnet similar to the one of the embodiment of figure 10 and hence a "single magnet", having a single dipole, in the sense of the claim.

38. The Board disagrees. The claim neither requires that the second attachment magnet has a single magnetic dipole, nor that it be composed of a "single magnet".

39. To the contrary, paragraph [0010] of the patent mentions the possibility that *one of the attachment magnets may comprise a pair of complementary cylindrical attachment magnets*, and claim 4 of the patent even explicitly defines the second attachment magnet as *comprising a pair of complementary magnets.*

40. For the same reason, the opponent's argument that the embodiment of figure 13 should also be excluded, because its second attachment magnet also did not consist of a single magnet is not persuasive.

41. What the claim requires is that the second attachment magnet *has a magnetic dipole parallel to the plane of the external transmitter coil housing for transcutaneous magnetic interaction* with the first attachment magnet *to form a magnetic attraction connection between them.* The magnetic dipole that is relevant, for the purpose of that magnetic attraction connection, is the magnetic dipole formed by the poles of opposite polarity that, on the second attachment magnet, are foreseen for placement in close proximity to the skin. The claim language is otherwise silent as to the actual shape, construction or configuration of dipoles (whether single or multiple) of the second attachment magnet.

42. The fact that the magnetic dipole in the sense of the claim is, in the case of e.g. the embodiment of figures 11 and 12, defined by poles of opposite polarities on different physical magnets is without consequence to the magnetic attraction connection established between the magnetic dipole defined by those poles, parallel to the skin, and the magnetic dipole of the first attachment magnet.

43. In this context, it is also worth noting that, for all the specific embodiments disclosed in the patent, the magnetic field lines, of the magnetic field created by the second attachment magnet, are, in the relevant region, i.e. in the region foreseen for the interaction with the first attachment magnet, similar to those of a magnetic dipole.

44. At last, the claim also does not define the second attachment magnet as comprising a magnetic dipole moment, let alone refer to any torque. It merely defines a magnetic dipole. It is then not relevant that the external transmitter coil housing of some of the embodiments of the second attachment magnet might experience a torque under the influence of certain external magnetic fields, while others might not.

45. The patent is only concerned with avoiding displacements of the planar implantable housing due to a torque experienced by the implanted first attachment magnet during an MRI examination, as the implanted part of the system is intended not to be removed. The external part, in contrast, is always removed before any such examination.

46. Therefore, the objection of the opponent, that auxiliary request 2 was not allowable, because it did

not clarify that the systems of figures 11 to 13 did not form part of the invention, is not persuasive.

On paragraphs [0010] and [0015] of the patent

47. The opponent is of the opinion that the use of the expression "may be" in the first sentence of paragraph [0010] introduces an inconsistency with the claim found allowable, which requires the first attachment magnet to be rotatable in the plane of the planar implantable housing.

48. Additionally, according to the opponent, the "e.g. a planar disk shape" in paragraph [0015] opens the door to possibilities other than the only two alternatives defined in the claim for the shape of the first attachment magnet. Hence, an amendment similar to that introduced in paragraph [0025] of the description should have been introduced also in this paragraph.

49. The Board disagrees with the opponent on both points.

50. The skilled person would understand the "may be" employed in the first sentence of paragraph [0010] as referring to the different possible orientations of the external magnetic field mentioned, not to the possibility that first attachment magnet might not be rotatable within the plane of the implantable coil housing. In fact, a first attachment magnet having a dipole magnet parallel to the plane of the planar implantable housing and adapted to rotate in that plane, as defined in the claim found allowable, is not adapted to rotate in response to an external magnetic field oriented perpendicularly to its magnetic dipole.

Hence, no inconsistency exists between this sentence of paragraph [0010] and the claim found allowable.

51. As to the "e.g. a planar disk shape" in paragraph [0015], it refers to one of the two possible shapes defined in the claim for the first attachment magnet.

52. Paragraph [0015] furthermore refers to figure 4, depicting a disc shaped first attachment magnet, as also explicitly disclosed in paragraph [0022].

53. It was in paragraph [0022] that inconsistencies with the claim found allowable were present. These are solved by the amendments introduced into paragraph [0022] of the present request.

54. Also paragraph [0025] of the description, contained general statements, not linked to any of the specific embodiments, suggesting that, not only the second attachment magnet, but also the first attachment could have shapes other than the two alternative shapes defined in the claim. Also these inconsistencies are solved by the amendments introduced into paragraph [0025] of the present request.

55. Therefore, the opponent's, objections to paragraphs [0010] and [0015] of auxiliary request 2 are not persuasive.

Conclusion

56. In conclusion, none of the objections invoked by the Opponent against auxiliary request 2 of the proprietor is persuasive. The description as amended according to auxiliary request 2 is thus consistent with the claim.

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 maintain the patent in amended form upon the basis of the claim found allowable in decision T 732/21 and a description amended according to auxiliary request 2 filed on 6 October 2023 and the figures as granted.**

The Registrar: The Chairman:

D. Meyfarth D. Rogers

Decision electronically authenticated