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Datasheet for the decision of 14 July 2026

Case Number: T 0994/24 - 3.2.08

Application Number: 18804033.1

Publication Number: 3679886

IPC: A61C8/00

Language of the proceedings: EN

Title of invention:
METHOD FOR THE MANUFACTURING OF A DENTAL PROSTHESIS WITH AN ANGLED INTERNAL THROUGH HOLE

Patent Proprietor:
Biotechnology Institute, I MAS D, S.L.

Opponents:
Kulzer GmbH
Nobel Biocare Services AG
Talladium España, S.L.

Relevant legal provisions:
EPC Art. 54(2), 56, 83, 123(2)
RPBA 2020 Art. 12(4), 12(6), 13(2)

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It can be changed at any time and without notic

Keyword:

Novelty - (yes)
Inventive step - (yes)
Sufficiency of disclosure - (yes)
Amendments - allowable (yes)
Late-filed objection - should have been submitted in first-instance proceedings (yes)
Amendment after summons - exceptional circumstances (no)

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Boards of Appeal

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Case Number: T 0994/24 - 3.2.08

D E C I S I O N
of Technical Board of Appeal 3.2.08
of 14 July 2026

Appellant: (Opponent 1)	Kulzer GmbH Leipziger Str. 2 63450 Hanau (DE)
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Appellant: (Opponent 2)	Nobel Biocare Services AG Balz-Zimmermann-Str. 7 8302 Kloten (CH)
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Respondent: (Patent Proprietor)	Biotechnology Institute, I MAS D, S.L. San Antonio 15, 5° 01005 Vitoria (ES)
Representative:	Cueto, Sénida C/ Los Madroños 23 Velilla de San Antonio 28891 Madrid (ES)

Decision under appeal: **Interlocutory decision of the Opposition Division of the European Patent Office posted/ electronically transmitted on 21 May 2024 concerning maintenance of the European Patent No. 3679886 in amended fo rm.**

Composition of the Board:

Chairwoman P. Acton
Members: G. Buchmann
C. Schmidt

Summary of Facts and Submissions

I. With the decision taken on 22 April 2024 the opposition division found that on the basis of the then auxiliary request 1b the European patent No. 3 679 886 met the requirements of the EPC.

II. The opponents 1, 2 and 3 filed an appeal against that decision.

Opponent 3 withdrew its appeal with the letter dated 17 September 2024.

III. Oral proceedings took place before the Board on 14 July 2026.

IV. The appellants (opponents 1 and 2) requested that the decision under appeal be set aside and that the patent be revoked.

V. The respondent (patent proprietor) requested that the appeals be dismissed and that the patent be maintained on the basis of auxiliary request 1b, i.e. the version found allowable by the opposition division (main request), or, in the alternative, on the basis of one the auxiliary requests 1a, 1c, 2a, 2b, 2c, 3a, 3b, 3c, 4a, 4b, 4c, 5a, 5b, 5c, 6a, 6b, 6c, 7a, 7b, 7c, 8a, 8b, 8c, 9a, 9b, 9c, 10a, 10b, 10c, 11a, 11b, 11c, 12, 13, 14, 15, 16, 17, 18a, 18b, 18c, 19a, 19b, 19c, 20a, 20b, 20c, 21a, 21b or 21c, all filed or refiled on 31 January 2025 with the proprietor's reply to the statements setting out the grounds of appeal.

VI. In the present decision, reference is made to the following documents:

D1 WO 2008/024062 A2
D3 WO 2013/004387 A1
D5 WO 2017/125621 A1
D5a EP 3 378 434 A1 (late published European application of D5)
D6 ES 2 585 733 A1
D6a Machine translation of the description of D6
D8 WO2018/108296 A1.

VII. Claim 1 of the current **main request** which is identical to auxiliary request 1b as maintained by the opposition division, reads as follows. The numbering of the features has been added by the Board. The amendment compared to claim 6 as originally filed is underlined.

"M1
Method of manufacturing a dental prosthesis (1), intended to be connected directly or indirectly to a dental implant,
M2
wherein said dental prosthesis includes an angled inner through bore (2), characterized in that it comprises carrying out the following steps ~~of~~ in the order listed below:
M3
a) obtaining a main body (3) of a dental prosthesis (1), wherein said main body (3) is provided with a first end (4) intended to be oriented towards a dental implant and a second end (5) opposite to said first end (4);
M4
b) drilling a first hole (7) in said first end (4) in a first direction (8);

M5
c) milling and widening an intermediate area (15) of said first hole (7), thus obtaining a widened area (18);
M6
d) drilling a second hole (26) in said second end (5) in a second direction (27) that forms an angle other than zero with the first direction (8), with said second hole (26) extending to the first hole (7); and
M7
e) laterally milling and widening an inner end (16) of the first hole (7) that protrudes from the second hole (26) to form an elbow (40)."

VIII. The arguments of the parties which are relevant for the present decision, result from the reasons given below.

Reasons for the Decision

1. **Novelty over D8**

1.1 The parties agreed that D8 discloses (see claims 22 and 24):

M1
A Method of manufacturing a dental prosthesis, intended to be connected directly or indirectly to a dental implant,
M2
wherein said dental prosthesis includes an angled inner through bore (4, 4', 4''), whereby the method comprises carrying out the following steps in the order listed

below:
M3
a) obtaining a main body (blank) of a dental prosthesis, wherein said main body is provided with a first end (1a) intended to be oriented towards a dental implant and a second end (1b) opposite to said first end;
M4
b) drilling (page 13, line 16) a first hole (4) in said first end (1a) in a first direction;
M5
c) milling and widening an intermediate area of said first hole (4), thus obtaining a widened area (second bore section 4b, Figure3, page 11, lines 1-12);
M6
d) drilling a second hole (4'') (claim 24) in said second end (1b) in a second direction that forms an angle other than zero (10° to 30°, page 12, line 5) with the first direction, with said second hole (4'') extending to the first hole (4').

1.2 The opponents submitted that Feature M7, which requires

"laterally milling and widening an inner end (16) of the first hole (7) that protrudes from the second hole (26) to form an elbow (40),"

was disclosed by D8 as well.

1.3 The opponents were of the opinion that the method step M6 had to be considered as finished as soon as the drill (forming the second hole 4'') punctured the first hole 4' because at this point in time the second hole already "extended to the first hole". The continuation of drilling constituted a further method step which included removal of material laterally of the first

hole. Even if this removal was performed by a drill, it was a lateral working of the material with respect to the first hole. Therefore, it could be regarded as "milling" as required by Feature M7.

Additionally, at the point in time when the drill punctured the first hole in step M6, portions of the first hole protruded from the second hole.

The opponents identified a region between the recesses 10 and 11 (Figure 4) which was removed in the final phase of drilling the second hole, and which was located laterally with respect to the first hole 4'. The opponents further identified a region opposite to the recesses 10 and 11 which was removed in the final phase of drilling the second hole, and which was located laterally with respect to the first hole 4'.

From this, the opponents concluded that the final phase of drilling the second hole 4'' constituted a method step of laterally milling and widening an inner end of the first hole that protrudes from the second hole to form an elbow (Feature M7).

1.4 The Board does not share the opponents' arguments for the following reasons.

1.4.1 The opponents separate the step of drilling the second hole 4'' of D8 into two steps, the first step ending at the point where the drill which cuts the second hole punctures the first hole. This separation is artificial and arbitrary, and it is not derivable from D8. As a matter of fact, D8 describes the drilling of the second hole 4'' as a single step (claim 24). Any other interpretation would go against the common understanding of a skilled reader of D8. Therefore, the

Board regards the drilling of the complete second hole 4'' up to plane P (Figure 4) as corresponding to the method step M6 of claim 1.

1.4.2 Accordingly, only the recesses 10 and 11 shown in Figure 4 of D8 are portions of the first hole 4' which protrude from the (contour of the) second hole. These portions of the first hole are not milled in D8.

Additionally, the removal of material when drilling the second hole is not made by milling, but by the axial feed of the drill along the axis of the second hole. This cannot be regarded as "laterally milling and widening an inner end of the first hole", even if the first hole was widened by said drilling.

1.4.3 Therefore, D8 does not disclose Feature M7, and the subject-matter of claim 1 is novel over D8.

2. **Novelty over D5/D5a**

2.1 For language reasons, the parties referred to D5a, the content of which corresponds to D5.

2.2 The parties agreed that D5a discloses a
M1
Method of manufacturing a dental prosthesis (20), intended to be connected directly or indirectly to a dental implant (abstract),
M2
wherein said dental prosthesis includes an angled inner through bore, whereby the method comprises carrying out the following steps in the order listed below:
M3
a) obtaining a main body of a dental prosthesis, wherein said main body is provided with a first end

intended to be oriented towards a dental implant and a second end opposite to said first end (Figure 2);
M4
b) drilling a first hole (21) in said first end in a first direction (a) (Figure 2, paragraph [0016]);
M5
c) milling and widening an intermediate area (Figure 4a) of said first hole (21), thus obtaining a widened area (22)(paragraph [0017]);
M6
d) drilling a second hole (23) in said second end in a second direction (b) that forms an angle other than zero with the first direction (paragraph [0018]), with said second hole (23) extending to the first hole (21) (Figure 7).

2.3 Regarding Feature M7, the opponent's arguments were essentially the same as in view of D8.

For the reasons given above, the Board does not agree with these arguments.

2.4 A further distinguishing feature of the claimed invention is that in D5 no parts of the inner end of the first hole protrude from the second hole. This can be seen in Figure 6 which shows the state after forming the second hole.

Opponent 2 argued that the drilling tool shown in Figure 5 could not have created the second hole shown in Figure 6. Therefore, the second hole shown in Figure 6 must have been made by lateral milling. The method of D5 therefore included drilling the second hole using the thin drill shown in Figure 5, and leaving some portions of the first hole protruding from this thin second hole. In a further step, the thin drill must be

used to mill and widen the second hole laterally, also removing the protruding portions of the first hole.

This is, however, not described in D5. The assumption of a further milling step for widening the second hole is therefore pure speculation. Furthermore, it does not make technical sense to drill a small second hole into the prosthesis and subsequently widening the complete hole by milling it laterally. The Board therefore came to the conclusion that the drill shown in Figure 5 is not to scale, and that the drilling step described in D5 directly leads to the state of Figure 6.

2.5 Opponent 2 also argued that Feature M7 did not define in which direction the first hole had to protrude from the second hole. The portion of the first hole which extended below the second hole, therefore also fulfilled the definition of Feature M7.

However, according to Feature M7, it is the inner end of the first hole which protrudes from the second hole. The lower portion of the first hole, which extends below the second hole, is not the inner end of the first hole.

2.6 Therefore, the subject-matter of claim 1 is novel over D5 for the same reasons as over D8. Additionally, D5 does not disclose an inner end of the first hole protruding from the second hole.

3. **Inventive step**

3.1 The opponents raised inventive step objections starting from D5, in combination with either D1, D6 or D3.

3.2 Under the assumption that the subject-matter of claim 1 differs from the method disclosed in D5 in the fact that the inner end of the first hole protrudes from the second hole, and in the step of laterally milling and widening an inner end of the first hole (Feature M7), the opponents were of the opinion that these distinguishing features meant that first a structure was created and then this structure was removed. In concrete terms, the protruding inner end portion of the first hole including unnecessary edges, was first created and then removed. According to the opponents, this had neither a technical effect nor was it advantageous. In contrast, it constituted a worsening of the existing method of D5. This could not be inventive.

The opponents miss, however, the fact that providing a first hole which extends so far into the prostheses that it protrudes from the second hole represents a first step of removing material for widening the through bore at the location above the point where the two holes meet. The subsequent step of laterally milling the inner end of the first hole constitutes removal of further material at the same location. Hence, there is no creation of something which is going to be removed afterwards, but there is a first step of removing material (by creating the protruding inner end of the first hole) and a second step of removing material (by laterally milling and widening said inner end).

3.3 Therefore, the above mentioned distinguishing features do have a technical effect, that resides in that the channel used for insertion of a fixing screw is widened at the junction of the two holes, at the inner end of the first hole which protrudes from the second hole.

The problem solved by the method creating this geometry is, to provide a method of making a dental prosthesis in which the insertion and removal of the fixing screw is facilitated without unduly weakening the prosthesis body.

3.4 Combination with D1

3.4.1 D1 discloses a method of manufacturing a dental prosthesis (page 6, line 22 - page 7, line 15), comprising the steps of drilling a first and a second hole at an angle with respect to each other (Figure 2) with said second hole extending to the first hole.

A third hole is drilled, using the first and second holes as a guide, but not the whole way through the prosthesis, so that a screw seat is formed by the arched or spherical tip of the drill bit (page 10, lines 8-15, Figure 3).

Through the third hole a screw for fixing the prosthesis may be passed.

3.4.2 Neither D5 nor D1 disclose a method of making a prosthesis in which before widening of the channel, the inner end of the first hole protrudes from the second hole. Therefore, the combination of these two documents cannot render Feature M7 obvious.

In addition, the Board notes the following:

3.4.3 The opponents argued that the skilled person would take the step of drilling the third bore from D1 and transfer it to the method disclosed in D5, in order to create a bore through which a screw may be passed (page 10, lines 8-14).

However, paragraph [0005] of D5, which refers to D1, teaches that the method of D1 results in a screw seat having a rounded or conical contour. The invention of D5 avoids this drawback by forming the screw seat by milling from below (paragraph [0017]). Therefore, the skilled person starting from D5 is discouraged to take the teaching of D1 into account.

Even if applying the step of drilling the third bore as shown in D1 to the method of D5, the skilled person would arrive at a method which includes a drilling step which destroys the flat screw seat formed previously in the step shown in Figures 4a, b of D5 (corresponding to Feature M5 of claim 1). This does not make sense for a skilled person. The argument of the opponents that the skilled person would then skip the forming of the flat screw seat from below (Figure 4a, paragraph [0017]), cannot be followed because forming a rounded screw seat is against the teaching of D5. Additionally, omitting the step of widening the diameter of the first hole would not lead to the invention of claim 1 because then Feature M5 would be omitted.

The opponents alternatively argued that one would stop the drilling step taken from D1 before the screw seat has been reached by the drill. This is, however, an additional modification of the method of D1 which is not obvious.

The Board also does not agree with the opponents' argument that the working with a spherical drill bit (as in D1) constituted a milling process. If this were the case, any machining carried out with a drill having a non-flat front surface had to be regarded as "milling".

3.4.4 For the above reasons, the subject-matter of claim 1 involves an inventive step when starting from D5 in combination with D1.

3.5 Combination with D6/D6a

3.5.1 Neither D5 nor D6 disclose a method of making a prosthesis in which before widening of the channel, the inner end of the first hole protrudes from the second hole. Therefore, the combination of these two documents cannot render Feature M7 obvious.

In addition, the Board notes the following:

3.5.2 Document D6 starts from the problem that the channel inside a dental prosthesis of the state of the art had to be widened by manual machining in order to allow passage of a fixing screw. This was considered as a time consuming method which included the risk of damaging the prosthesis (D6a, paragraphs [0007]-[0008]).

The solution offered by D6 is to provide a dental prosthesis which has already a widened chamber (3) at the location where the two holes (1.1, 1.2) meet each other at an angle. Such a prosthesis "avoids the need to carry out subsequent machining after obtaining

it" (D6a, paragraph [0018]).

3.5.3 The opponents argued that the skilled person was taught by D6 to provide the chamber (3) also in the prosthesis of D5. Paragraph [0015] addressed the problem posed, saying that the chamber allowed the passage of any conventional screw while optimizing the loss of material which would lead to structural weakening of the prosthesis. Therefore, the skilled person would seek to provide the prosthesis of D5 with a chamber according to D6.

Even if D6 explicitly disclosed only the finished/final structure of the prosthesis, the implementation of a method of creating this structure was obvious for a skilled person. It was furthermore obvious to carry out the step of widening at the end of the manufacturing process.

3.5.4 While it is true that D6 teaches the skilled person to provide a chamber in a dental prosthesis, D6 is silent about the method of manufacturing the prosthesis. D6 even teaches against forming the chamber by milling.

Paragraph [0007] describes it as a problem, if the chamber is formed by milling, because of the risk of damaging the prosthesis. Also paragraph [0018] teaches to avoid milling after obtaining the prosthesis.

3.5.5 The opponents argued that D6 did not teach away from forming the chamber (3) by milling. Paragraph [0007] only referred to manual machining having the said drawbacks. Paragraph [0018] referred to avoiding the machining of each individual prosthesis. Furthermore, since paragraph [0018] referred to "subsequent" machining, there must have been a previous machining,

i.e. making the prosthesis by machining. Finally, when starting from D5 which described the making of the prosthesis by machining, it was no option to change the manufacturing method to a different technique, e.g. like 3D printing.

3.5.6 Nevertheless, the Board understands D6 (paragraphs [0007] and [0018]) in a way that it generally discourages the skilled person from milling the chamber (3) as a last step of manufacturing. Therefore, D6 would not guide the skilled person to adding the milling step as defined in Feature M7 to the manufacturing method disclosed in D5.

3.5.7 Therefore, the Board has come to the conclusion that applying the teaching of D6 to the method disclosed in D5 does not render the subject-matter of claim 1 obvious.

3.6 Combination with D3

3.6.1 Opponent 2 did not raise an objection against the present main request based on this combination.

3.6.2 Opponent 1 argued in the statement of grounds of appeal that the skilled person would consult D3 when faced with the given problem. The skilled person would find a solution in D3.

However, Opponent 1 has not identified which solution would be taken from D3 and for what reasons. Also the Board could not find any indication that D3 would suggest or teach Feature M7.

3.6.3 Therefore, the Board has come to the conclusion that combining D3 with D5, does not render the subject-

matter of claim 1 obvious.

4. **Amendments**

4.1 Translation of claim 6

Claim 1 of the main request is based on claim 6 of the original Spanish application. During the translation, the wording "fresar y ensanchar lateralmente" (milling and widening laterally) in original claim 6 was changed into "laterally milling and widening".

Opponent 1 argued that there was no original basis for "laterally milling" because only "laterally widening" was disclosed.

The Board agrees with the opposition division which came to the conclusion that "milling and widening" is a single process step and the term "laterally" referred to both milling and widening (in both languages).

Additionally, a lateral widening without laterally milling is not disclosed, so that the skilled reader understands the wording in this way.

Therefore, claim 1 does not extend beyond the application as originally filed.

4.2 Description

Opponent 1 argued that in paragraph [0022] of the patent, the term "laterally" (in the same context) had been omitted completely. Therefore, the description violated Article 123(2) EPC.

In its letter of 31 January 2025, the patent proprietor

submitted on page 3, bottom that: "making now specific reference to paragraph [0022] of the patent, note that the relevant expression reads “this step of milling and widening the intermediate area…”. By beginning the first sentence of paragraph [0022] with “this step”, explicit reference is made to the step disclosed in the previous paragraph, i.e. paragraph [0021] of the patent, where the term “laterally” is duly present."

The Board concurs with this statement and further notes that the last paragraph on page 7 of the original Spanish application has been translated literally in English resulting in paragraph [0020] of the A-publication, and that paragraph [0022] of the patent, which had been addressed by Opponent 1, is identical to paragraph [0020] of the A-publication.

Therefore, the content of the description does not extend beyond the application as originally filed.

4.3 Order of the method steps

The opponents raised an objection under Article 123(2) EPC regarding the specific order of the steps in claim 1 (see the amendment indicated in claim 1 above).

Starting from claim 6 as originally filed, on which claim 1 of the main request is based, the basis for specifying the order of the method steps was - according to opponent 1 - paragraph [0013] of the application. Compared to paragraph [0013] some features were omitted in claim 1, so that the present claim 1 constituted an unallowable intermediate generalisation of the original disclosure.

The Board notes that claim 6 as originally filed

discloses the method steps in alphabetical order, named a), b), c), d), e). This is a concrete example of the order of the method steps, exactly as claimed in the main request. The skilled reader directly and unambiguously recognises that this given order of the steps is the order in which the steps are intended to be carried out.

Even if one concurred with the opponents that claim 6 as originally filed comprised methods in which the steps are carried out in a different order, the alphabetical listing of the steps (as in claim 6) would still represent a prominent and concrete example of the order of the steps.

Therefore, the specification of the order of the method steps in claim 1 does not contravene Article 123(2) EPC.

5. Clarity

In the statement setting out the grounds of appeal, opponent 1 for the first time raised a clarity objection against claim 1 of the main request. Since this objection was not raised during the opposition proceedings, it represents an amendment of opponent 1's case in the sense of Article 12(4) RPBA.

The current main request had been filed on 22 November 2022, five months before the oral proceedings in opposition. Hence, opponent 1 could and should have raised the clarity objection during the opposition phase. Additionally, opponent 1 did not present any reasons why the objection was raised at this late stage only.

Therefore, the Board decided not to admit the objection into the appeal proceedings (Article 12(6) RPBA).

6. **Sufficiency of disclosure**

6.1 Claim 1 requires "drilling a first hole in said first end" and "drilling a second hole in said second end".

Opponent 1 argued that the patent only described drilling the second hole in a curved surface at the side of the body. However, according to opponent 1, the "drilling a second hole in said second end" must be performed in a surface opposite to the surface of the first end. How this could be performed was not disclosed in a manner sufficiently clear and complete to be carried out by the person skilled in the art.

However, the claim does not mention any surface, neither for the first end nor for the second end. The Board understands the claim wording according to which the second end is "opposite to the first end" as "not oriented towards the dental implant but oriented away from the dental implant" (in contrast to the first end). In this interpretation, the second end is the portion of the body which is oriented away from the dental implant.

The Board cannot see any difficulty for a skilled person to drill a hole in this portion of the dental implant.

Therefore, Article 83 EPC is not violated.

6.2 During the oral proceedings in appeal, opponent 1 raised a further objection under Article 83 EPC for the first time.

The admittance of such an objection is ruled by Article 13(2) RPBA.

Opponent 1 argued that the steps described in claim 1 of the main request did not disclose when one step ends and when the next step starts. Therefore, the invention was not disclosed in a manner sufficiently clear and complete to be carried out by a skilled person.

According to opponent 1, this objection was a reaction to the Board's interpretation of claim 1 of the main request, in particular the interpretation of how the order of the method steps is to be understood.

Since the order of the method steps has already been discussed earlier during both the opposition and the appeal proceedings, it could not have come as a surprise to opponent 1 that the Board has interpreted the order of the steps in the manner it is claimed.

Therefore, there are no exceptional circumstances, which have been justified with cogent reasons by opponent 1, which would allow the newly raised objection to be taken into account by the Board.

Therefore, this objection was not admitted into the proceedings.

Order

For these reasons it is decided that:

The appeals are dismissed.

The Registrar: The Chairwoman:

C. Moser P. Acton

Decision electronically authenticated