

Internal distribution code:

- (A) [-] Publication in OJ
- (B) [-] To Chairmen and Members
- (C) [-] To Chairmen
- (D) [X] No distribution

**Datasheet for the decision
of 17 November 2021**

Case Number: T 0979/17 - 3.2.08

Application Number: 07794176.3

Publication Number: 2053986

IPC: A61C8/00, A61C13/00

Language of the proceedings: EN

Title of invention:

DENTAL SUPERSTRUCTURE, AND A METHOD OF MANUFACTURE THEREOF

Patent Proprietor:

Kulzer GmbH

Opponent:

Nobel Biocare Services AG

Relevant legal provisions:

EPC Art. 123(2), 54(2), 56
RPBA 2020 Art. 13(2)

Keyword:

Inventive step - (no)
Amendments - allowable (no)
Amendment after summons

Decisions cited:

T 1480/16, T 0482/19



Beschwerdekammern
Boards of Appeal
Chambres de recours

Boards of Appeal of the
European Patent Office
Richard-Reitzner-Allee 8
85540 Haar
GERMANY
Tel. +49 (0)89 2399-0
Fax +49 (0)89 2399-4465

Case Number: T 0979/17 - 3.2.08

D E C I S I O N
of Technical Board of Appeal 3.2.08
of 17 November 2021

Appellant:
(Patent Proprietor)

Kulzer GmbH
Leipziger Strasse 2
63450 Hanau (DE)

Representative:

Andersson, Björn E.
Ström & Gulliksson AB
P.O. Box 4188
203 13 Malmö (SE)

Respondent:
(Opponent 2)

Nobel Biocare Services AG
Balz-Zimmermann-Str. 7
8302 Kloten (CH)

Representative:

Hoffmann Eitle
Patent- und Rechtsanwälte PartmbB
Arabellastraße 30
81925 München (DE)

Decision under appeal:

**Decision of the Opposition Division of the
European Patent Office posted on 16 March 2017
revoking European patent No. 2053986 pursuant to
Article 101(3) (b) EPC.**

Composition of the Board:

Chairwoman P. Acton
Members: G. Buchmann
C. Schmidt
A. Björklund
Y. Podbielski

Summary of Facts and Submissions

- I. With the decision posted on 16 March 2017 the opposition division revoked the European patent No. EP 2 053 986. The opposition division found that the claims of the then valid main request and auxiliary requests 1-6 contravened Article 123(2) EPC.
- II. The patent proprietor filed an appeal against that decision.
- III. Oral proceedings in the form of a videoconference took place before the Board on 17 November 2021.
- IV. The appellant (patent proprietor) requested that the decision under appeal be set aside, i.e. that the patent be maintained as granted (main request), or that the patent be maintained on the basis of one of the auxiliary requests 2, 1 or 3 to 6, filed with letter dated 22 December 2016, or on the basis of auxiliary request 7', filed during the oral proceedings before the Board.

The respondent (opponent 2) requested that the appeal be dismissed and that auxiliary request 7' not be admitted into the proceedings.

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

01:

Anders Örtorp: "On Titanium frameworks and alternative impression techniques in implant dentistry",
1 January 2005 (2005-01-01), Swedish Dental Journal Supplement 169, 2005; ISBN: 91-628-6169-7

D14:

Catalogue pages "NobelEsthetics™, including Procera®"

VI. The claims which are relevant for the present decision, read as follows:

(a) **Claim 1 of the Main Request**

1.1

A dental superstructure comprising a main body (1)

1.2

and at least one integrated spacer (2),

1.3

wherein said dental superstructure is milled from one single-piece blank, such that

1.3.1

said main body (1) and said at least one spacer (2) are comprised in one piece of material, such that

1.3.2

no interface is present in between said main body (1) and said at least one spacer (2),

1.4

wherein said superstructure is intended to be connected to an osseointegrated dental implant (3),

1.2.1

wherein said at least one spacer (2) is a milled cylinder for cooperation with said dental implant (3),

1.2.2

said at least one spacer (2) comprising a recess (5) extending through the integrated spacer for receiving a screw member to be screwed into the dental implant (3) for connecting the superstructure to said dental implant (3).

(b) **Claim 5 of auxiliary request 2**

Additions with respect to claim 9 as filed are underlined, deletions ~~crossed out~~.

6

"A method of manufacturing of a dental superstructure

6.1

wherein said superstructure is intended to be connected to an osseointegrated dental implant (3) with a main body (1) and with at least one integrated spacer (2) for cooperation with said dental implant (3),
comprising

6.2

obtaining of stereo-data in respect of a dental situation of a patient, ~~characterised by~~

6.3

specifying information from said stereo-data,

6.3.1

in form of position, dimension, angle, and/or shape of said at least one spacer (2),

6.4

communicating said information and/or stereo-data to a computer,

-

shaping said dental superstructure from coordinate combinations calculated by said computer, whereby the superstructure is shaped by

6.5

milling said dental superstructure from one single-piece blank,

6.5.2

such that said main body (1) and said at least one spacer (2) are comprised in one piece of material,

6.5.2

such that no interface is present in between said main body (1) and said at least one spacer (2),

6.6

wherein said at least one integrated spacer (2)

6.6.1

is a milled cylinder,

6.6.2

and said at least one spacer (2) comprises a recess (5) for receiving a screw member to be screwed into the dental implant (3) for connecting the superstructure to said dental implant (3) and

=

wherein said superstructure is manufactured of zirconium oxide."

(c) **Claim 1 of auxiliary request 7'**

In addition to claim 1 of the main request, claim 1 of auxiliary request 7' comprises the features according to which

- said at least one integrated spacer (2), in use, is providing space between said main body (1) and said dental implant (3), and cooperates with said dental implant (3), and
- the spacer is for connecting the superstructure to said dental implant via a cooperation end (4), and
- said superstructure is manufactured of zirconium oxide.

VII. The arguments of the appellant can be summarised as follows:

Main request - Novelty and Inventive step

Claim 1 of the main request was novel and inventive in view of O1. O1 did not disclose Feature 1.2.2 according to which said at least one spacer comprises a recess extending through the integrated spacer for receiving a screw member to be screwed into the dental implant for connecting the superstructure to said dental implant.

Figure 4 of O1 did not show that the framework was to be retained by screws. For deriving this feature from O1 the respondent had unallowably combined the disclosure of different generations of the Procera[®] framework.

Regarding inventive step, not the fourth generation but the third generation of Procera should be taken as the closest prior art. Starting from the third generation, the subject-matter of claim 1 involved an inventive step.

Auxiliary requests 1-6 - Amendments

Regarding the omissions in claim 5, Feature 6.6.2, it was implicit that "a cylindrical spacer for cooperation with an implant" had an end for cooperation with the implant because a cylinder had two ends. The fact that there was a recess for a screw member connecting the superstructure to an implant, implied that said recess ended on an end of the cylindrical spacer. The fact that the feature "extending through" was missing from the claim did not mean that other recesses were included in the claim.

Therefore, Feature 6.6.2 did not constitute a generalisation of the subject-matter described on page 5, lines 8-14 of the application as filed.

Auxiliary request 7' - Admittance

Auxiliary request 7' should be admitted because it did not constitute an amendment of the case in the sense of Article 13(2) RPBA 2020. No new facts were introduced and no new issues arose in this request. A comparable decision had been taken in T 1480/16.

Auxiliary request 7' - Inventive step

The distinguishing features of claim 1 over O1 were the cooperation end of the cylinders and the use of zirconium oxide for the superstructure.

Zirconium oxide had a colour which matched better with the colour of teeth. The problem to be solved should therefore be regarded as providing a superstructure which has improved aesthetics. None of the cited documents provided a solution to this problem.

VIII. The arguments of the respondent can be summarised as follows:

Main request - Novelty and Inventive step

O1 disclosed all features of claim 1. In particular, Feature 1.2.2 was implicitly disclosed. The passage on page 23 which dealt with the preload, described that the metal frameworks were connected to the implants (fixtures) by screw joints. Further passages on pages 38, 40 and 43 described the fabrication and preload

testing of the fourth generation of Procera[®] implant bridges. The reader would conclude from these passages that the spacers comprised a recess extending there through for receiving a screw member to be screwed into the dental implant (Feature 1.2.2).

Even if the subject-matter of claim 1 differed from the prior art by Feature 1.2.2, it would still be obvious in view of O1 and D14. The problem to be solved was to find a place for the screws mentioned in O1 for attachment of the framework to the implants. Solving this problem by providing a through hole was obvious.

Auxiliary requests 1-6 - Amendments

Claim 5 of auxiliary request 2 comprised Feature 6.6.2 according to which "said at least one spacer (2) comprises a recess (5) for receiving a screw member to be screwed into the dental implant (3) for connecting the superstructure to said dental implant (3)."

This feature constituted an intermediate generalisation compared to the alleged basis in the description on page 5, lines 8-14. The features of the fixation via the cooperation end and of the recess extending through the spacer had been unallowably omitted from the claim.

Auxiliary request 7' - Admittance

Auxiliary request 7' should not be admitted under Article 13(2) RPBA 2020 because it was filed only during the oral proceedings and raised new issues to be discussed. A comparable decision had been taken in T0482/19. No cogent reasons for filing the request had been presented.

Auxiliary request 7' - Inventive step

The subject-matter of claim 1 of auxiliary request 7' differed from the prior art disclosed by O1 in that the superstructure was manufactured of zirconium oxide.

Zirconium oxide was a well known material in the field of dental replacement, having well-known properties. The problem to be solved by the use of zirconium oxide might be regarded as providing an alternative material for the superstructure.

In addition to the general knowledge about zirconium oxide, D14 disclosed superstructures made from this material and having a structure comparable to the superstructure of claim 1. This rendered the subject-matter of claim 1 of auxiliary request 7' obvious.

Reasons for the Decision

1. Main Request - Lack of Inventive Step

- 1.1 Document O1 is a thesis in the field of prosthetic dentistry which compares the performance of implant-supported titanium frameworks with gold-alloy frameworks in the edentulous jaw. CNC-milled titanium frameworks were evaluated e.g. according to fit and preload (abstract, lines 1-11).

Regarding the so-called Procera[®] titanium frameworks, O1 describes four generations, three of which comprise welded parts. The fourth generation is fabricated in one piece by CNC milling (page 15, last but one

paragraph).

- 1.2 In terms of claim 1 of the main request, O1 discloses
 - 1.1 a dental superstructure comprising a main body ("titanium framework", page 15, line 10ff, and Figure 4).
 - 1.2 and at least one integrated spacer (2) (fourth generation),
 - 1.3 wherein said dental superstructure (of the fourth generation) is milled from one single-piece blank (page 15, line 13), such that
 - 1.3.1 said main body (1) and said at least one spacer (2) are comprised in one piece of material (page 15, line 13), such that
 - 1.3.2 no interface is present in between said main body (1) and said at least one spacer (2),
 - 1.4 wherein said superstructure is intended to be connected to an osseointegrated dental implant (3),
 - 1.2.1 wherein said at least one spacer (2) is a milled cylinder for cooperation with said dental implant (3) (page 16, lines 3-4).
- 1.3 The respondent argued that O1 furthermore disclosed Feature 1.2.2 according to which "said at least one spacer (2) compris[es] a recess (5) extending through the integrated spacer for receiving a screw member to be screwed into the dental implant (3) for connecting the superstructure to said dental implant (3)".

The passage on page 23 which treats the preload experiments, described that the metal frameworks were connected to the implants (fixtures) by screw joints. "The main function of a screw joint is to clamp the cylinder and attached framework onto the abutment cylinder or fixtures" (page 23, lines 6-8).

The respondent further cited pages 38, 40 and 43 which described the fabrication and preload testing of the CNC-milled titanium frameworks, i.e. the fourth generation of Procera[®] implant bridges. The cited passages referred to the fabrication according to the laboratory protocol for Procera[®] implant bridges, to the protection of the inside of the cylinders during the veneering process and to the experimental details of the preload measurement.

- 1.4 However, none of the passages cited by the respondent provides a direct and unambiguous disclosure of the feature 1.2.2 according to which said at least one spacer comprises a recess extending through the integrated spacer for receiving a screw member to be screwed into the dental implant for connecting the superstructure to said dental implant.

- 1.5 The appellant argued that for the forth generation of Procera[®] implant bridges, O1 did not disclose a screw fixation of any type and that different fixations, like gluing, were conceivable. The respondent had combined the features of different generations of Procera[®] which formed different embodiments of O1.

However, already the abstract of O1 mentions that the CNC-milled titanium frameworks , i.e. those of the fourth generation, were evaluated in view of preload. The passage on page 23 of O1 describes the preload

measurements using screw fixation, for all samples used in O1 including the CNC-milled frameworks. Furthermore, page 43 describes the preload measurements explicitly for the CNC-milled frameworks. In the presence of a preload, other ways of connecting the two parts like gluing are excluded. Therefore, it is clear that the commonly known screw fixation is to be used also for the framework of the fourth generation described in O1.

- 1.6 Accordingly the subject-matter of claim 1 of the main request differs from the prior art disclosed in O1 by Feature 1.2.2 and is novel.
- 1.7 The problem to be solved is regarded as where to place the screws mentioned in O1 for attachment of the framework to the implants.
- 1.8 It is well known in the field of prosthetic dentistry that in the frameworks of the type investigated in O1, the cylinders which contact the implant have a through hole for receiving the fixation screw. This is shown e.g. on the top of page 36 of D14 where screws are placed through an implant bridge into the corresponding implants.

Also the screws mentioned e.g. on page 23 of O1 are used for clamping the cylinder on the implant. For a skilled person it is obvious that the most simple solution to fulfil the purpose of placing the screws for attachment of the framework is a through hole extending through the cylinder, i.e. the spacer of the framework.

- 1.9 Therefore, the subject-matter of claim 1 of the main request lacks an inventive step over O1 in view of the common general knowledge which is illustrated for

example in D14.

- 1.10 The appellant argued that the third generation of the titanium frameworks was the correct starting point for the inventive step assessment. Such assessment resulted in the subject-matter of claim 1 being inventive.

The one-piece frameworks of the fourth generation have, however, more features in common with the claimed subject-matter and they also fulfil the same purpose. Hence, the fourth generation may be used for the inventive step assessment.

2. **Auxiliary Requests 1-6 - Unallowable Amendments**

- 2.1 Claim 5 of auxiliary request 2 comprises Feature 6.6.2 according to which "said at least one spacer (2) comprises a recess (5) for receiving a screw member to be screwed into the dental implant (3) for connecting the superstructure to said dental implant (3)."

Feature 6.6.2 was allegedly based on page 5, lines 8-14 of the description as filed.

- 2.2 The respondent raised an objection under Article 123(2) EPC because the omission of the feature according to which the spacers included "a recess extending through the integrated spacer" in which the screw was inserted led to an unallowable intermediate generalisation.

- 2.3 The passage on page 5, lines 8-14, describes how the fixation of the spacers to the implants is working. The fixation is obtained via a cooperation end wherein a recess extends through the integrated spacer in which a screw is inserted and screwed into the implant.

This arrangement of the description has been reduced to the claimed feature according to which "said at least one spacer (2) comprises a recess (5) for receiving a screw member to be screwed into the dental implant (3)".

2.4 The term "recess" is normally not used to describe a through hole for a screw. To the contrary, a recess normally implies a shallow cutout, a notch or an indentation. Only together with the explanation that the recess "extends through the integrated spacers" does it become clear that the recess is meant to be a through hole. In claim 5, however, the term "recess" is used without further explanation so that the reader must understand it as having its common meaning. This does, however, not correspond to the through hole described in the application.

2.5 The appellant argued that it was implicit that "a cylindrical spacer for cooperation with an implant" had an end for this cooperation. The fact that there was a recess for a screw member connecting the superstructure to an implant implied that said recess extended through the cylinder and ended on an end of the spacer. The fact that the feature "extending through" was missing did not mean that other recesses were included in the claim.

2.6 Feature 6.6.2 alone does, however, neither specify that the recess ends on an end of the cylindrical spacer, nor that the recess must extend through the spacer.

Therefore the claim covers all forms of recesses according the common meaning of the term, and it goes beyond the technical content of the original

application, thus violating Article 123(2) EPC.

2.7 The above discussed Feature 6.6.2 is also present in the method claim of each of auxiliary requests 1 and 3-6. These requests do not include any amendment which would have an influence on the assessment of this feature in view Article 123(2) EPC. Therefore, none of these requests fulfils the requirements of Article 123(2) EPC.

3. **Admittance of Auxiliary Request 7'**

Auxiliary request 7' was filed during the oral proceedings before the Board. The request contains the product claims of auxiliary request 2 as filed with letter dated 22 December 2017 and relied on in the statement setting out the grounds of appeal. The method claims have been deleted in order to avoid the objections under Article 123(2) EPC discussed above.

The appellant argued that the request should be admitted for the same reasons as given in T 1480/16.

The respondent requested not to admit auxiliary request 7' under Article 13(2) RPBA 2020 and referred to T 482/19.

In the case underlying decision T 1480/16, an amended set of claims was filed during the oral proceedings in which the product claims were kept as filed previously with the reply to the appeal, and the method claims were deleted. It is noted that in that case, applying Article 13(1) RPBA 2020 (see points 2.2 and 2.3 of the decision), the Board held that the deletion of the method claims did not form an amendment of the party's case compared to the previously filed auxiliary

request. The reasons were that no new facts were presented by filing the auxiliary request during the oral proceedings and no new discussion of the remaining product claims was necessary.

Also in the present case, the product claims had already been treated during the written proceedings so that no new discussion about claim 1 of auxiliary request 7' was made necessary. The deletion of the method claims did not confront the respondent and the Board with any new fact. To the contrary, with the deletion the appellant abandoned a part of the patent.

In the present case, Article 13(2) RPBA 2020 applies. This article regulates the admittance of amendments to a party's appeal case. Since auxiliary request 7' does not constitute an amendment of the appellant's appeal case, it cannot be refused under Article 13(2) RPBA.

In the case underlying decision T 482/19, cited by the respondent, a method claim was kept whereas the product claims were deleted. In contrast to the present case, the method claim had never been discussed during the appeal procedure, it had not even been decided upon by the opposition division. Furthermore, the method claim required the discussion of new issues which had never been dealt with during the appeal proceedings. Therefore, the case underlying decision T 482/19 is not comparable to the present case.

The respondent argued that the issues of novelty, inventive step and added features had not yet been discussed in view of claim 1 of auxiliary request 7'. Therefore, this request introduced new aspects into the proceedings.

However, the fact that these issues had not been discussed with regard to claim 1 was merely caused by the order in which the different requirements of the EPC were treated during the oral proceedings. The claim was in the proceedings since the filing of the grounds of appeal and it was open for discussion since then.

For the above reasons, auxiliary request 7' has been admitted by the Board.

4. **Auxiliary Request 7' - Lack of Inventive Step**

4.1 Claim 1 of auxiliary request 7' differs from claim 1 of the main request in the addition of the features according to which

- said at least one integrated spacer (2), in use, is providing space between said main body (1) and said dental implant (3), and cooperates with said dental implant (3), and
- the spacer is for connecting the superstructure to said dental implant via a cooperation end (4), and
- said superstructure is manufactured of zirconium oxide.

4.2 The features according to which the spacer provides a space and cooperates with the dental implant via a cooperation end, are already known from O1. One of the main issues treated by O1 is the fit of the interface between the spacers of the framework and the implants. Since the spacers (cylinders) are clamped via their end faces onto the implants via the screws (page 23 and the figures) the cylinders (i.e. the spacers) must cooperate with the implants via a cooperation end.

Therefore, the subject-matter of claim 1 of auxiliary request 7' differs from O1 only in that the

superstructure is manufactured of zirconium oxide.

- 4.3 Zirconium oxide is a well known material in the field of dental replacement. Also the properties of this material are well known. The patent, on the other hand, does not mention any particular technical effect to be present when using zirconium oxide instead of titanium. They are both present in a long list of potential materials to be used for the manufacture of the superstructure according to the invention (see [0026]). Therefore, the problem to be solved by the use of zirconium oxide may be regarded as providing an alternative material for the superstructure.
- 4.4 As mentioned, zirconium oxide is well known in the field. Additionally, D14 discloses superstructures made from this material and having a structure comparable to the superstructure of claim 1: Page 61 shows a Procera[®] abutment made from zirconium oxide which is to be connected to a dental implant. Therefore, the use of zirconium oxide does not involve an inventive activity.
- 4.5 The appellant argued that zirconium oxide had a colour which matched better with the colour of teeth. The problem to be solved should therefore be regarded as providing a superstructure which has improved aesthetics. This property of zirconium oxide is, however, well known in the art. It is furthermore explicitly mentioned in D14, page 60, line 2. Therefore, even if accepting the problem formulated by the appellant, the solution would be obvious in view of D14.

Therefore, the subject-matter of claim 1 of auxiliary request 7' lacks an inventive step when applying the

teaching of D14 to the implants according to O1.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairwoman:



C. Moser

P. Acton

Decision electronically authenticated