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D E C I S I O N
of 18 December 2000

Case Number: T 0303/97 - 3.3.2

Application Number: 89850444.4

Publication Number: 0375647

IPC: A61K 6/06

Language of the proceedings: EN

Title of invention:
Artificial tooth crown

Patentee:
SANDVIK AKTIEBOLAG

Opponent:
Ivoclar AG

Headword:
Tooth crown/IVOCLAR AG

Relevant legal provisions:
EPC Art. 84, 123(2)

Keyword:
"Amendments - not allowable under Articles 84 and 123(2) EPC"

Decisions cited:

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Catchword:

-



Case Number: T 0303/97 - 3.3.2

D E C I S I O N
of the Technical Board of Appeal 3.3.2
of 18 December 2000

Appellant: SANDVIK AKTIEBOLAG
(Proprietor of the patent) SE-811 81 Sandviken (SE)

Representative: Östlund, Alf Olof Anders
Sandvik AB
Patent Department
SE-811 81 Sandviken (SE)

Respondent: Ivoclar AG
(Opponent) Bendererstr. 2
FL-9494 Schaan (LI)

Representative: UEXKÜLL & STOLBERG
Patentanwälte
Beselerstrasse 4
D-22607 Hamburg (DE)

Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 22 January 1997
revoking European patent No. 0 375 647 pursuant
to Article 102(1) EPC.

Composition of the Board:

Chairman: P. A. M. Lançon
Members: U. Oswald
M. B. Günzel

Summary of Facts and Submissions

- I. European patent No. 375 647, based on application No. 89 850 444.4 was granted with 3 claims.

Claim 1 as granted reads as follows:

1. Artificial tooth crown comprising a coping and a veneer, wherein the coping is prefabricated of a biocompatible ceramic material comprising > 50% by weight of Al₂O₃ characterised in that the coping is formed of a sintered material which shrinks during sintering and shows a closed porosity after sintering.

- II. An opposition was filed against the granted patent by the Respondent (Opponent) alleging lack of novelty and lack of inventive activity under Article 100(a) EPC.
- III. With the decision dated 22 January 1997 the Opposition Division revoked the patent under Article 102(1) EPC for lack of novelty with regard to the disclosure of EP-A 0 030 850 (document (1)).
- IV. The Appellant (Proprietor) lodged an appeal against this decision and filed an amended claim 1.
- V. The Respondent (Opponent) objected to the amended claim 1 under Articles 123(2), (3) and 84 EPC.
- VI. In a communication dated 24 March 2000 the Board expressed the opinion that the amended claim 1 did not meet the requirements of Articles 123(2) and (3) and 84 EPC.

In response to this communication with the letter dated

20 June 2000, the Appellant filed an amended set of claims.

VII. With the letter dated 17 November 2000 the Appellant amended again the claims.

VIII. In the communication dated 22 November 2000 the Board noticed that the set of claims filed with the letter dated 17 November 2000 appeared not to fulfil the requirements of Articles 123(2) EPC.

In response to this communication, with the letter dated 27 November 2000, the Appellant amended the set of claims.

IX. Oral proceedings took place on 18 December 2000.

After the discussions concerning the admissibility of the amendments in view of Article 123(2) and(3) EPC and Article 84 EPC the Appellant replaced the claims filed with the letter dated 27 November 2000 by a new version of claims which was also contested under the same articles by the Respondent. Later on in the oral proceedings the Appellant filed in an Annex 2 a further new set of claims as new main request comprising the following claim 1 on which the present decision is based:

1. Artificial tooth crown comprising a coping and a veneer, characterised in that the coping is formed of a sintered material and prefabricated of a biocompatible ceramic material comprising > 85% by weight of Al_2O_3 , shrinking during sintering, and showing closed porosity and a density >98% of the theoretical density after shrinkage of a powder compact during subsequent

sintering to a body of high density and with the desired final geometrical internal shape.

The Respondent considered that also amended claim 1 did not fulfil the requirements of Articles 123(2) and 84 EPC.

- X. The Appellant requested that the decision under appeal be set aside and that the patent be maintained on the basis of the claims of the new main request (Annex 2).

The Respondent requested that the appeal be dismissed.

- XI. After the final requests of the parties the Chairman closed the debate. The Appellant then sought to reintroduce a previously proposed set of claims as auxiliary request. The Chairman stated that the debate had been closed. Reopening of the debate was not requested.

Reasons for the Decision

1. The appeal is admissible.
2. Amended claim 1 on which the present decision is based contains a mixture of product parameters and process features in order to characterise the subject-matter for which protection is sought, namely an artificial tooth crown.

The wording of the present claim is the result of several amendments made in the course of the examination and appeal procedure to claim 1 as originally filed which defined an artificial tooth

crown comprising a coping and a veneer characterised in that the coping is prefabricated of a biocompatible ceramic material with a relative density of >98%, preferably 99.5%.

From the wording of claim 1 of the application as filed it can be derived that, originally, the term "biocompatible ceramic material" was used to define the final coping material obtained after sintering to high density, as this material was characterised in the claim by the high density achieved only after the sintering process.

The wording of claim 1 as granted introduced in the claim an uncertainty with regard to the meaning of expression "biocompatible ceramic material".

According to the wording of that claim two characteristics define the coping. On one side the claim mentions that the coping is "prefabricated of a biocompatible ceramic material", and on the other side that the coping is "formed of a sintered material".

It can be taken from that wording that the final material from which the coping is made is named "sintered material", whereas contrary to the meaning which was derivable from the claim as originally filed, "biocompatible ceramic material" defines more likely the starting material before sintering.

There was consequently in the claim as granted already an uncertainty concerning the exact nature of the materials named and defined in the claim.

According to the wording of present claim, additional

terms namely, "a powder compact" and "a body of high density", are introduced in order to further characterise the materials used in the preparation of the coping. The fact that the present claim now contains four different names qualifying the materials of which or from which the coping is made introduces unclarity regarding the expression "biocompatible ceramic material" in a manner which was not present in claim 1 as granted.

In fact it could be derived from the wording of the present claim that the expression "biocompatible ceramic material" might relate to the final material obtained after shrinkage and sintering of a starting material which is now named "powder compact". However it cannot be excluded that the term "biocompatible ceramic material" is read to refer in fact to the material before sintering as the expressions "sintered material" and "body of high density" are used in the claim to title the final material after sintering. This interpretation could also be regarded as being supported by the fact that the claim mentions that the coping is "prefabricated" of a "biocompatible ceramic material" whereas it is "formed" of a sintered material.

Therefore, although in the Appellant's opinion, the term "biocompatible ceramic material" refers to the starting material before sintering, another plausible interpretation reinforced by the amendments made to the claim in course of the appeal procedure, is that the term only designates the ceramic material after sintering, which in fact was the meaning derivable from the originally filed claim.

Accordingly, the Board can only conclude that it is not clearly derivable from the wording of the present claim which material is named under the expression "biocompatible ceramic material".

As a consequence of this unclarity it is not possible to determine whether the newly introduced amendment in the present claim relating to an alumina content of more than 85% by weight refers to the material before or, after sintering.

It has not been contested during the appeal procedure that the content of Al_2O_3 may change during the sintering process since volatile additives can be added to the starting material in order to improve and facilitate the sintering process. Accordingly, a low content in Al_2O_3 expressed in weight percent of the whole starting material may result in a sintered product with a high content of Al_2O_3 .

The Board notes that the Appellant has argued that volatile additives are not taken into account when calculating the weight percent of Al_2O_3 since the calculation takes only into account the compounds which will be present also in the final product and that as a consequence the Al_2O_3 content in the starting and final product were the same and there were real reason to make a distinction between them.

The Board, however, does not see any basis for this way of calculating the alumina content. In particular, neither the application as originally filed nor the patent in suit, nor the wording of the present claim allow clearly to conclude that the amount of volatile additives has not to be taken into account when

calculating the alumina content.

The mode of calculation of the content of Al_2O_3 is not restricted to the interpretation that the Appellant has given and the Board has to consider therefore that there may be a difference in Al_2O_3 content in the starting material and in the sintered material.

Therefore, the amendments made to the claimed subject-matter according to the Appellant's new main request give rise to objections under Article 84 EPC, because it is unclear for which kind of embodiments of the invention protection is sought.

3. Furthermore, the present claim contains a reference to a content of Al_2O_3 of >85% by "weight" (emphasis added), whereas the originally filed application on page 7, lines 25/26 - the only basis for this figure of the alumina content - leaves open whether the alumina content is calculated on a mole-, volume- or weight-percentage.

However, these three units are all mentioned in the description as originally filed. On page 5, second paragraph, weight percents are used to define the amounts of additives. On page 7, first paragraph the amount of additives is expressed in mole and volume percent. In claim 2 as originally filed the composition of oxides is given in mole %, whereas the example of the application as originally filed shows a composition in weight percent.

The Board cannot share the Appellant's point of view that mole percents were only indicated in connection with additives whereas the composition of the basic

composition was stated as weight percents exclusively. As indicated above, claim 2 as originally filed relates to the composition of the whole ceramic material and expresses the contents in mole percents. On the other side on page 5, second paragraph weight percents are used to define the amounts of additives. There is consequently no clear distinction in the application as originally filed between the units used to characterise the content in additives and those used for the content of Al_2O_3 . In the light of these facts it could be also envisaged that the 85% indicated on page 7, line 26 were in fact 85 mole%.

Accordingly, it is not clearly and unambiguously derivable from the application as originally filed that the figure 85% which is one of the amendments introduced in the present claim should be understood as weight percents and as a consequence the present claim does not fulfil the requirements of Article 123(2) EPC since it contains subject-matter which extends beyond the content of the application as originally filed.

In these circumstances the only conclusion is to dismiss the appeal.

4. At the end of the oral proceedings before the Board the Chairman asked the parties for their final requests and both parties repeated their requests as indicated in point X. of the Facts and Submissions of the present decision. The Chairman then declared the debate closed in accordance with Article 11(4) of the Rules of Procedure of the Boards of Appeal, as applicable from 1 October 2000 (see OJ EPO 2000, 316, Article 2 and Annex III, Article 1). Thereafter, the Appellant sought to reintroduce as an auxiliary request a set of claims

which had been previously proposed and discussed in the oral proceedings, but had then been abandoned by the Appellant. The Appellant did, however, not ask for the reopening of the debate. As the Appellant had until then had ample time and opportunity to file any requests on which he wanted a decision by the Board to be based in the course of the present appeal proceedings and in particular also in the course of the oral proceedings before the Board (see points IV. to IX. of the Facts and Submissions of the present decision), there was no justification for the Board to reopen the debate of its own motion solely to give the Appellant a further opportunity to reintroduce a request which, as to its substance, had already been discussed in the oral proceedings and been found by the Board not to be patentable.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

A. Townend

P. A. M. Lançon