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Datasheet for the decision of 23 January 2015

Case Number: T 0124/10 - 3.2.02

Application Number: 03017296.9

Publication Number: 1364625

IPC: A61C13/00, A61C8/00

Language of the proceedings: EN

Title of invention:
Manufacturing of a dental implant drill guide

Patent Proprietor:
Technique d'Usinage Sinlab Inc.

Opponent:
SiCaT GmbH & Co. KG

Headword:

Relevant legal provisions:

Keyword:
Admissibility of appeal - (yes)
Novelty - (yes)
Inventive step - (yes)

Decisions cited:
G 0001/12, T 0097/98

Catchword:

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Beschwerdekammern
Boards of Appeal
Chambres de recours

European Patent Office
D-80298 MUNICH
GERMANY
Tel. +49 (0) 89 2399-0
Fax +49 (0) 89 2399-4465

Case Number: T 0124/10 - 3.2.02

D E C I S I O N
of Technical Board of Appeal 3.2.02
of 23 January 2015

Appellant: (Opponent)	SiCaT GmbH & Co. KG Brunnenallee 6 53177 Bonn (DE)
Representative:	Braun-Dullaeus, Karl-Ulrich Braun-Dullaeus Pannen Platz der Ideen 2 40476 Düsseldorf (DE)
Respondent: (Patent Proprietor)	Technique d'Usinage Sinlab Inc. 836 de la Mécatina Lachenaie, Quebec J6W 5H2 (CA)
Representative:	Klunker . Schmitt-Nilson . Hirsch Patentanwälte Destouchesstraße 68 80796 München (DE)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 30 November 2009 rejecting the opposition filed against European patent No. 1364625 pursuant to Article 101(2) EPC.**

Composition of the Board:

Chairman	E. Dufrasne
Members:	P. L. P. Weber
	M. Stern

Summary of Facts and Submissions

I. The appeal of the opponent is directed against the decision of the opposition division posted on 30 November 2009 to reject the opposition.

The notice of appeal was filed on 22 January 2010 and the appeal fee paid on the same day. The statement setting out the grounds of appeal was filed on 26 March 2010.

In the notice of appeal the number of the European patent concerned and the number of the European patent application corresponding were mentioned. The name of the patent proprietor, the date on which the impugned decision of the Opposition Division was taken, were mentioned as well. Furthermore, it is apparent from the file that the patent attorney who signed the notice of appeal was the same as the one representing the sole opponent in the opposition proceedings, and no new authorisation for that attorney was submitted in the file. However, the appeal was filed in the name of SiCat GmbH whereas the name of the opponent party in the opposition proceedings was SiCat GmbH & Co. KG (emphasis added).

II. A communication was sent by the Board on 28 April 2010, informing the appellant that the appeal may be considered inadmissible and pointing to a possible clerical error correctable under Rule 101(2) EPC.

III. The appellant filed a reply on 10 May 2010 in which it stated that a formal mistake had been made and that, as presupposed, the opponent was SiCat GmbH & Co.KG.

IV. Oral proceedings were held on 23 January 2015.

The appellant requested that the decision under appeal be set aside and that the patent be revoked.

The respondent requested that the appeal be held inadmissible or that the appeal be dismissed or that the decision under appeal be set aside and that the patent be maintained on the basis of one of the auxiliary request, filed with letter of 28 July 2008 and the second and third auxiliary requests filed with letter dated 1 October 2010.

V. The documents cited in the decision are the following:

D1: FR-A-2 687 947

D7 = E1: FR-A-2 705 027

E2: "Computer-Assisted Dental Implant Surgery Using Computed Tomography", Thomas Fortin et al, Journal of Image Guided Surgery 1995, pages 53 to 58,

E3: "A stent for presurgical evaluation of implant placement", Fumitaka Takeshita et al, The Journal of prosthetic dentistry, 1997, volume 77, Number 1, pages 36 to 38,

E6: "Computer-Assisted Planing of Oral Implant Surgery", K.Verstreken et al, Medecine Meets Virtual Reality, Conference edition 1996, pages 423 to 434.

VI. Claim 1 as granted reads as follows:

1. A method of manufacturing a dental implant drill guide, comprising the steps of:

a) imaging a jawbone and tissue structure with a reference to a gum surface (44) to produce a three-dimensional computer graphics model (29);

b) selecting at least one implant drill hole position for at least one dental implant (72) using said model (29), said position being specified in three dimensions, including a hole termination point and orientation, and being referenced to said gum surface reference;

c) entering at least one set of implant drill hole position coordinates into a computer controlled precision manufacturing device (52);

d) providing a drill template body (61) having a first surface adapted to overlie a gum surface (44) of the jawbone in a predetermined position with respect thereto;

e) using said precision manufacturing device (52) to provide a fixed orientation drill guide socket (68) in said template body (61) for each one of said at least one drill hole position entered in step (c) with a corresponding position and orientation.

VII. The arguments of the appellant relevant for the decision are summarised as follows:

Admissibility of the appeal

After having received the communication of the Board indicating that a mistake might have been made concerning the name of the appellant, the appellant had replied promptly and had corrected the obvious mistake to re-establish the true name of the appellant. No

further communication had been sent by the Board so that the appellant could expect that the problem had been dealt with in a satisfactory manner. In addition the true name was also apparent from the file history. It had further to be noted that the representative of the appellant who had filed the notice of appeal did not have any client with the name quoted therein. Moreover, it was self-evident that in given proceedings the appeal had to be filed in the name of the party adversely affected in the first instance proceedings. In the present case there was only one single opponent, so that no doubt was possible as to who was the true appellant.

For this reason the appeal had to be considered admissible.

Novelty

The key features for the examination of lack of novelty were feature a) and as a consequence also feature b) which referred to feature a).

Feature a) expressed merely that any kind of 3D model was produced and stored in a computer after imaging of the jawbone; it could in particular be a collection of 2D slices as in the cited prior art documents. The wording of this feature did not imply anything more precise. Furthermore, the wording of features a) and b) did not imply any specific use of this 3D model during planning either; in particular a simple representation of any kind of slices or picture without any specific use of these views other than for visualisation was also covered by the said wording. This was for instance confirmed by the statement in paragraph [0021] of the

patent that the planning could be done on the basis of 2D slices.

In all the documents D1, E3, D7 and E2, at least such 2D views of a 3D model were used for the planning and/or manufacturing of a dental implant drill guide, so that the ground for opposition of lack of novelty prejudiced the maintenance of the patent as granted.

Inventive step

D1 was considered to be the closest prior art. The only difference between the subject-matter of claim 1 and the method disclosed in D1 was that the claim required in addition that a 3D computer graphic model be visualised at some stage for the comfort of the surgeon planning the operation. As already explained with regard to novelty, a direct link between the 3D computer graphics model and the other steps of the claimed method could not be recognised in the wording of the claim. Such 3D renderings were, however, generally known and anyway suggested by document E6, in order to facilitate the planning of oral implant surgery. The person skilled in the art had no difficulty to integrate the teaching of E6 into the method of D1 for the improved comfort of the surgeon. Even the use of such 3D renderings in a drill guide manufacturing method was obvious from E6 in view of the last part of the document entitled “Conclusion and future work”.

For this reason the ground for opposition of lack of inventive step prejudiced the maintenance of the patent as granted.

VIII. The arguments of the respondent relevant for the decision are summarised as follows:

Admissibility of the appeal

Decision G1/12 gave indications to be followed for judging whether an appellant's name might be corrected or not. In point 22 of the reasoning it was indicated that only deficiencies which do not affect the true identity of the appellant might be corrected. In the present case, the amendment of the suffix GmbH in the appellant's name into Gmbh and Co. KG was equivalent to a change in legal identity. For this reason the appellant's name could not be corrected under Rule 101(2) EPC.
Point 29 of G1/12 further required that evidence of the true intention as to who was the natural or legal person on whose behalf the appeal was intended to be filed had to be produced and evaluated by the board concerned. In the present case no evidence had been filed, in particular no evidence as to why there would be no possibility of confusing the two names, or evidence as to why a mistake had been made. The name of the firm could have changed between the first instance proceedings and the appeal.

For the reasons above the appeal had to be dismissed as inadmissible.

Novelty

The meaning of the wording "3D computer graphic model" used in claim 1 was clear from the description of the patent, in particular paragraph [0010], Figures 4 and 5 and the corresponding paragraphs of the description. It was also clear from the statement of the aim and of the

advantages of the invention. It was to be noted that the slices cited in paragraph [0021] and mentioned by the appellant are precisely quoted as slices of the 3D computer model. It followed that such a 3D computer graphics model on which the oral surgeon could determine the intended implant positions and thereafter have a corresponding drill guide template manufactured was not disclosed in any of the documents cited by the appellant, which all taught to work with 2D CT slices.

For this reason the subject-matter of claim 1 was novel.

Inventive step

Starting from D1, the differences were that no 3D computer graphics model was created, as required by feature a), and that the oral surgeon did not determine the intended positions of the implants working on such a 3D computer graphics model, as required by feature b).

The problem to be solved was mentioned in paragraph [0008] of the description, namely to obtain faster results than with conventional methods.

E6 could not suggest such a method, because: the planning of the implant positions was on 2D images only, it was about planning only, the prosthetic tooth (and not the drill guide as in D1) were worn by the patient for the scanning operation, the soft tissue was not shown, and the application in a drill guide manufacturing method was not addressed.

For this reason the ground for opposition of the lack of inventive step did not prejudice the maintenance of

the patent as granted, so that the appeal had to be dismissed.

Reasons for the Decision

1. Admissibility of the appeal

The admissibility of the appeal was questioned by the respondent because, according to the notice of appeal, the appeal was filed in the name of SiCat GmbH, whereas the opponent in the opposition proceedings was named as SiCat GmbH & Co. KG (emphasis added).

In G1/12 dealing with the question of the correction of the appellant's name, the Enlarged Board of Appeal endorsed the existing case law (T97/98) allowing a board of appeal to send a communication under Rule 101(2) EPC for a possible correction of the appellant's name when it appeared from the file that the name of the natural or legal person having filed the appeal was not the same as that of the natural or legal person being adversely affected by the decision under appeal (in particular points 22, 29 of the reasons of G1/12).

According to point 28 of the reasons "*From the rationale of T 97/98 it follows that, in the event of a deficiency as to the appellant's identity, the board must establish the true intention of the appellant on the basis of the information in the appeal or otherwise on file, i.e. ascertain who must be deemed in all likelihood to have filed the appeal and, consequently, replace the name indicated in the appeal with that of another natural or legal person.*".

It follows from the paragraph above that the board must establish the true intention and that this can be done

on the basis of the information on file. As mentioned in point I above, the notice of appeal indicated the number of the European patent concerned, the name of the patent proprietor, the date on which the decision under appeal was taken and the name of the appellant. When compared with the name of the opponent in the opposition proceedings, the former was, however, incomplete in that it read SiCat GmbH instead of SiCat GmbH & Co. KG.

In its letter of 10 May 2010 the representative stated that a formal mistake had been made concerning the appellant's name. Furthermore, during the oral proceedings, this same attorney, who represented the sole opponent in the opposition proceedings and signed the notice of appeal, stated that he had no client by the name of SiCat GmbH. This is corroborated by the fact that no authorisation in the name of the latter firm was filed at the beginning of the appeal proceedings.

Under such conditions the Board considers that, in view of the file history, the notice of appeal itself shows that, apart from the absence of the suffix Co. KG, all elements allowing the identification of the opponent as party to the proceedings are identical in the notice of appeal, the impugned decision and the first instance proceedings. Therefore, the Board accepts that, in all likelihood, a formal mistake was made and the true appellant must be considered to be SiCat GmbH & Co. KG.

The respondent considered that, as a GmbH was a legally different person from a GmbH & Co. KG, the name was not correctable under Rule 101(2) EPC. Moreover, no evidence had been filed by the appellant in this respect.

The Board does not share this opinion. In its decision G1/12, the Enlarged Board of Appeal explicitly referred to the file history as a possible source of evidence for establishing the true intention of the appellant. In addition, in the present case, as the difference between the true intention and the name mentioned in the notice of appeal was merely the absence of the words "Co. KG" at the end of the name, this makes the probability of a formal or typographical mistake having been made more likely than if, for instance, the appeal had been filed in the name of a completely differently named legal person. Also for this reason, the Board considers that in the present case the mistake is readily apparent from the file history. Finally, the Board notes that the respondent did not establish that a company with the name SiCat GmbH existed as a different legal person.

Therefore, the appeal is admissible.

2. Novelty

2.1 The invention aims at providing a quicker and more reliable manufacturing method of a dental implant drill guide for drilling holes into a jawbone in which at least one implant was meant to be implanted. This is obtained by giving the surgeon the possibility to plan the positions of the implants on a 3D computer graphics model of the patient's jawbone and tissue structure surrounding it before transferring the obtained data directly to a CNC machine tool drilling the desired holes into a model or template. That this 3D computer graphics model is not a simple collection of 2D slices and is created after scanning is apparent for instance from paragraph [0010] of the patent in suit: "*A medical*

image of the jawbone and tissue structure is obtained by using X-ray imaging, MRI or possibly nuclear imaging techniques to produce a three-dimensional computer graphics model..." (emphasis added).

The use of this 3D computer graphics model in the method is further apparent for instance from paragraph [0011], in which it is stated that "*the primary advantage of the invention is that the oral surgeon may select the optimum position for dental implants using the three dimensional computer graphics model of the jawbone and tissue structure.*" Also in relation to Figure 4 (col.5, lines 2 to 6) it is mentioned that "*Figure 4 is a perspective view of a three dimensional computer model of a patient's lower jawbone…*" and in col.6, lines 18 to 20 that "*as shown in Figure 4, the result of the radiographic scanning is to obtain a three dimensional computer graphics model 29 of the patient's lower jaw*". Furthermore, the diagrammatic representation of the steps of the manufacturing method shown in Figure 5 confirms that after the radiographic 3D imaging a 3D computer model is generated. This figure also confirms that it is on the basis of or using this 3D computer model that the selection of the implant drill hole positions is made.

2.2 In the opinion of the Board, it follows from the above that, given that in claim 1 feature a) reads "*imaging a jawbone and tissue structure with a reference to a gum surface (44) to produce a three-dimensional computer graphics model (29)*" and feature b) "*selecting at least one implant drill hole position for at least one dental implant (72) using said model (29)*", in the context of the patent as a whole, this can only mean that a 3D computer graphics model is created on which the oral surgeon can work, e.g. can select the desired positions

of the implants. Any different interpretation would be in contradiction with the patent as a whole and is therefore to be disregarded. In particular, the interpretation made by the appellant that the 3D model should be understood as only being somehow available to the surgeon, e.g. for a visual check, cannot be followed.

2.3 From the above interpretation, it follows that D1 does not disclose the creation of any such 3D computer graphics model. In D1 (page 1, lines 25 to 31) it is specifically mentioned that what is visualised on a screen is the jawbone (together with the template) in a succession of parallel sections, and that the possible drilling zones are selected on the basis of these sections (and taking into consideration the "forbidden zones"). This is repeated again on page 3, lines 24 to 29 (visualisation in successive parallel sections).

The same applies to the other documents D7, E3 and E2 cited by the opponent as taking away novelty. In D7 this is in particular understandable from page 4, lines 5 to 7 (positioning of the template in the mouth of the patient and provision of pictures of the sections of the jaw together with the template). In E3, even though 2D pictures are also said to be used, from the short explanations in the document it is not clear how the positions of the stainless steel tubes materialising the axis of the implants are determined by the surgeon. In E2 the positioning is done in two two dimensional images (page 54, column 1 "*Our software renders two 2-dimensional images of the three dimensional CT image dataset containing the pin inserted into the splint.*", page 54, column 2 "*A modification of the axis in one image results in a recalculation of the other image passing by the new axis. This process is repeated until*

the clinician finds the optimum implant position at the intersection of these two planes.".

Finally, document E6 also discloses the use of a collection of axial slices, in particular at the bottom of page 424: "*A spiral CT is used to collect a series of axial slices of maxilla or mandibula.*", or on page 426, central paragraph: "*experience showed that only the slices around an implant site are used simultaneously,...*". In addition, E6 does not disclose any method for manufacturing a dental implant drill guide.

2.4 Hence, the subject-matter of claim 1 is novel, so that the ground for opposition of lack of novelty does not prejudice the maintenance of the patent as granted.

3. Inventive step

3.1 Closest prior art

Although in its written submissions the appellant considered that E6 could also be the closest prior art, this line of argumentation was not pursued during the oral proceedings, so that both parties and the Board consider that D1 represents the closest prior art.

This document discloses a method of manufacturing a dental implant drill guide. In that method, however, no 3D computer graphics model is generated (step a)) and consequently the position of the implant axis is not determined on the basis of such a 3D computer graphics model (step b)) either.

In D1, a set of 2D X-ray images is made of the jawbone together with the template meant to be used as drill

guide (page 5, lines 20 to 24), and these 2D X-ray images are used for the planning of the implant holes, as can be read, for instance, on page 3, lines 24 to 29 and page 5, lines 20 to 34. The tissue structure surrounding the jawbone or internal to the jawbone is not displayed on these 2D X-ray images, as can be understood from the fact that other information about so-called "forbidden zones" is superimposed onto the 2D X-ray images, in order not to foresee any implantation in such zones, including nerves, vessels and so on (page 6, lines 26 to 33, claim 2 of D1).

3.2 The use of a 3D computer graphics model including tissue structure to plan the implant holes will facilitate the task for the surgeon, since it will be possible to easily avoid the so-called "forbidden zones" and to view immediately the result of the selections much better visualised in a realistic 3D computer graphics model of the patient's jawbone structure.

3.3 Hence, the objective problem can be seen as one of improving the state of the art method so as to facilitate the planning for the surgeon and obtain faster results.

3.4 The appellant considered that document E6 suggested the use of a 3D computer graphics model, and thus rendered the subject-matter of claim 1 obvious for the person skilled in the art.

The Board does not share this opinion. While it is undisputed that E6 is about computer assisted planning of oral implant surgery, the effective planning of the optimal position and orientation of the implant axis is done in 2D views and this document is only concerned

with the planning phase. This is for instance understandable from page 426, central paragraph: "*In most cases, the implants are initially defined on and parallel with these views, and their position is readjusted afterwards based on the other views. Experience showed that only the slices around an implant site are used simultaneously, ...*", which can only mean that the surgeon works on several different 2D views more or less simultaneously to define where the implants have to be placed. This is further understandable from Figure 4 and the corresponding comment on top of page 427: "*In most cases these implants are first defined on the orthogonal reslices (see figure 4) and afterwards adjusted as needed.*"

Moreover, in the central paragraph of page 427, the following is stated: "*A 3D surface rendered model of bone structures and radio-opaque template can be extracted from the voxel data. Several resolutions can be chosen to optimize either speed or detail. Such a model is shown in Figure 5. The gap between maxilla and template is in reality filled with soft tissue (the gingiva), that is sifted out during surface extraction.*" It should be noted here that the template meant is not the template of any potential drill guide but the prosthesis template, as can be read in the sentence bridging page 424 and 425:"*During the CT the patient wears his removable denture or a specially made template with optimal tooth position and morphology. This is painted with a radio-opaque contrast medium, so that the contours are clearly visible on the CT-scans.*"

In the opinion of the Board, the passages above mean nothing else than that a 3D surface rendered model can be created to be shown to the surgeon, but there is no indication in E6 that the surgeon can work on it. It is

made to show him the result of the planning. To better visualise the final planning appears to be the sole aim of the device described in E6. This is for instance clear from page 430, third paragraph: "*The design requirements thus lead to a number of critical factors that determine success or failure of oral implant surgery. To meet all these criteria simultaneously, a continuous visualization of all the parameters is necessary. Our system is specifically tailored for this purpose.*"

Furthermore, in the subsequent part of page 430 and page 431 dealing with the advantages of the system presented in E6 when compared with a manual or pure 2D system, a long list of advantages is presented, but none of them is concerned with the manufacturing of a drill guide. On the contrary, the advantage mentioned on page 431 that "*the planning can be saved and thus used for later comparison of planning and surgery...*" quite evidently expresses that this planning has no direct influence on any machine or tools used during surgery.
This aim of improved visualisation is further confirmed in the last paragraphs of page 433 under the title "*Conclusion and Future Work*", in which it is stated that "*Research is now done on the best way to visualise the planning during the operation. A way to register patient, scans and planning will be developed. A Head Mounted Display can then provide a wireframe overlay of the implants upon the field of view.*" In other words, the idea appears to be that in future the planning should be shown to the surgeon during the operation so that he can better see what the result of the operation should be.

A connection with a machine of any kind is therefore not envisaged in E6; in particular it is not contemplated to use the results of the planning in any method of manufacturing a dental implant drill guide.

Consequently, even if he looked at E6 in order to find a solution to the objective problem, the person skilled in the art would not therefore come to the subject-matter of claim 1 without an inventive step, for the following reasons:

E6 suggests to work on 2D images or sections and only afterwards, once the positions of the implants have been selected, possibly create a 3D representation of the result, whereas claim 1 requires in step b) that the selection of the positions of the implants is done using the 3D computer graphics model created in step a).

In E6, nothing suggests that the data created when selecting the positions of the implants is usable in any machine tool or equivalent in order to manufacture a drill guide. In fact, nothing is said in E6 on a possible use of a drill guide during oral surgery, let alone that position data could be used in a method for manufacturing such a drill guide. In the opinion of the Board, it appears also not to be realistic to consider that such position data as obtained in E6 would be directly usable in any drill guide manufacturing machine, in particular in the machine used in D1, because the functional capabilities of a machine are often much lower than those of a computer. This is at least indirectly confirmed by other documents cited by the appellant, for instance E2 and D7, which deal extensively with the question of transforming data

obtained from scanning into data usable for manufacturing.

Moreover, as explained above in E6, the scans made before the surgeon begins planning or selecting the implant positions are made with the patient wearing a specially made template with optimal tooth position. In other words, the positions of the definitive prosthetic tooth are immediately scanned at the beginning of the planning process, together with the patient's jawbone. In D1, the patient is meant to wear the as yet unfinished drill guide. Thus, the two teachings do not seem to be compatible. As a matter of fact, either the process of D1 has to be adapted in the light of the teaching of E6 so that the prosthetic tooth or teeth is/are present in the patient's mouth when the scans are made, although in that case there is no teaching in D1 as to how and when the as yet unfinished drill guide should be introduced into the process, or the as yet unfinished drill guide is kept in the patient's mouth as taught by D1, but then there is no teaching in E6 as to how the planning of the implant positions should be made and visualised when the as yet unfinished drill guide is present on the scans.

Finally, D1 teaches to superimpose "forbidden zones" on the images so as to avoid these zones when selecting and planning the implant positions. Taking into consideration the tissue structure during planning is also what is required by claim 1, since its wording requires that the 3D computer graphics model should show the jawbone and tissue structure. E6, however, teaches precisely the contrary, since it teaches not to show the soft tissues (page 433: "*The soft tissues were not added because they should impede the view of the bone just as they do during real surgery*."). It does

not explain how the planning should or could be done if soft tissues were to be represented.

For all the reasons above, the person skilled in the art would have to become inventive to adapt the teaching of E6 in the method of manufacturing a dental implant drill guide according to D1 and to come to the method as claimed in claim 1.

3.5 Hence, the subject-matter of claim 1 is inventive, so that the ground for opposition of lack of inventive step does not prejudice the maintenance of the patent as granted.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

D. Hampe E. Dufrasne

Decision electronically authenticated