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**Datasheet for the decision
of 13 September 2012**

Case Number: T 0840/08 - 3.2.08

Application Number: 00122315.5

Publication Number: 1093765

IPC: A61C 1/08, F21V 21/088,
A61B 1/247

Language of the proceedings: EN

Title of invention:
Lighting device for dental or medical instrument

Patentee:
Nakanishi Inc.

Former Opponent:
W&H Dentalwerk Bürmoos GmbH

Headword:
-

Relevant legal provisions:
EPC Art. 56, 123(2), 84

Keyword:
"Added subject-matter (no)"
"Inventive step (yes)"
"Clarity (yes)"

Decisions cited:
-

Catchword:
-



Case Number: T 0840/08 - 3.2.08

D E C I S I O N
of the Technical Board of Appeal 3.2.08
of 13 September 2012

Appellant: Nakanishi Inc.
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Party as of right: W&H Dentalwerk Bürmoos GmbH
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Representative: Appelt, Christian W.
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Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 8 February 2008
revoking European patent No. 1093765 pursuant
to Article 101(3)(b) EPC.

Composition of the Board:

Chairman: T. Kriner
Members: M. Alvazzi Delfrate
A. Pignatelli

Summary of Facts and Submissions

- I. By decision posted on 8 February 2008 the opposition division revoked the European patent No. 1 093 765.
- II. The opposition division found that the requests then on file were not allowable since they either contravened the requirements of Article 123(2) and Article 84 EPC or comprised subject-matter which lacked an inventive step either in view of
- D1: EP -A- 914 808 alone; or of
- D13: JP -A- 58 168 311 (as well as German and English translations)
- in combination with D1.
- III. In addition to these documents the following document also plays a role in the present decision:
- D10: EP -A- 846 915.
- IV. The appellant (patent proprietor) lodged an appeal against this decision on 4 April 2008, paying the appeal fee on the same day. The statement setting out the grounds for appeal was filed on 18 June 2008.
- V. The former opponent (W&H Dentalwerk Bürmoos GmbH) withdrew its opposition with letter dated 20 April 2010.
- VI. The appellant requests to set aside the decision under appeal and to maintain the patent on the basis of the main request submitted with letter of 5 September 2012

or in the alternative on the basis of one of the auxiliary requests I to V, all filed with letter dated 13 August 2012.

VII. Independent claims 1, 2, 4 and 5 according to the main request read as follows:

"1. A lighting device (P, Q) for use with a dental or medical instrument having a tool (10) in a distal part of said instrument for treatment of a site, said lighting device having a plurality of light emitting diodes (7) arranged at regular intervals, wherein said lighting device (P, Q) comprises an LED holder (5, 50) having an annular groove encasing said plurality of light emitting diodes (7) and capable of being mounted on a distal part of said instrument substantially around said tool (10), wherein said LED holder (5, 50) is filled with a transparent, heat resistant synthetic resin suitable for autoclaving, so that said light emitting diodes (7) are covered with said resin, wherein said plurality of light emitting diodes (7) are arranged substantially annularly around the tool (10), when said LED holder (5, 50) is mounted on said instrument, and wherein said light emitting diodes (7) are supplied with electrical power from a power supply via flexible connecting means when said LED holder (5, 50) is mounted on said instrument."

"2. A lighting device (P', Q') for use with a dental or medical instrument having a tool (10) in a distal part of said instrument for treatment of a site, said lighting device having a plurality of light emitting diodes (7) arranged at regular intervals, wherein said lighting device (P', Q') comprises an LED holder (5',

50') having a horseshoe groove encasing said plurality of light emitting diodes (7) and capable of being mounted on a distal part of said instrument substantially around said tool (10) wherein said LED holder (5', 50') is filled with a transparent, heat resistant synthetic resin suitable for autoclaving, so that said light emitting diodes (7) are covered with said resin, wherein said plurality of light emitting diodes (7) are arranged substantially in a horseshoe shape around the tool (10), when said LED holder (5', 50') is mounted on said instrument, and wherein said light emitting diodes (7) are supplied with electrical power from a power supply via flexible connecting means when said LED holder (5', 50') is mounted on said instrument, and said LED holder (5', 50') has a horseshoe shape for allowing injection of chip air, washing water, or the like through an orifice (12) placed between the ends of said horseshoe LED holder, when said LED holder (5', 50') is mounted on said instrument."

"4. A dental or medical instrument having a tool (10) in a distal part of said instrument for treatment of a site, and a lighting device (P,Q) having a plurality of light emitting diodes (7), arranged at regular intervals, wherein said lighting device (P, Q) comprises an LED holder (5, 50) having an annular groove encasing said plurality of light emitting diodes (7) and provided in said distal part of said instrument substantially around said tool (10), wherein said LED holder (5, 50) is filled with a transparent, heat resistant synthetic resin suitable for autoclaving, so that said light emitting diodes (7) are covered with said resin, wherein said plurality of light emitting

diodes (7) are arranged substantially annularly around the tool (10) and wherein said light emitting diodes (7) are supplied with electrical power from a power supply via flexible connecting means."

"5. A dental or medical instrument having a tool (10) in a distal part of said instrument for treatment of a site, and a lighting device (P', Q') having a plurality of light emitting diodes (7) arranged at regular intervals, wherein said lighting device (P', Q') comprises an LED holder (5', 50') having a horseshoe groove encasing said plurality of light emitting diodes (7) and provided in said distal part of said instrument substantially around said tool (10), wherein said LED holder (5', 50') is filled with a transparent, heat resistant synthetic resin suitable for autoclaving, so that said light emitting diodes (7) are covered with said resin, wherein said plurality of light emitting diodes (7) are arranged substantially in a horseshoe shape around the tool (10), and wherein said light emitting diodes (7) are supplied with electrical power from a power supply via flexible connecting means when said LED holder (5', 50') is mounted on said instrument, and said LED holder (5', 50') substantially has a horseshoe shape for allowing injection of chip air, washing water, or the like through an orifice (12) placed between the ends of said horseshoe LED holder, when said LED holder (5', 50') is mounted on said instrument."

Reasons for the Decision

1. The appeal is admissible.
2. Main request - Article 123(2) EPC
 - 2.1 Claim 1 of the main request is based on claim 1 of the application as originally filed with the deletion of the feature according to which
 - a) the plurality of light emitting diodes are arranged so as to illuminate said site substantially without casting a shadow on the site in treatment when the LED holder is mounted on the instrument;
 - and the addition of the features according to which
 - b) the light emitting diodes are arranged at regular intervals;
 - c) the LED holder has an annular groove and the light emitting diodes are arranged substantially annularly around the tool when the LED holder is mounted on the instrument;
 - d) the LED holder is filled with a transparent, heat resistant synthetic resin suitable for autoclaving, so that said light emitting diodes are covered with said resin; and
 - e) the light emitting diodes are supplied with electrical power from a power supply via flexible connecting means when the LED holder is mounted on the instrument.

Feature a), relating to a result to be achieved by the claimed device, has been replaced by device features c) which provide this result in an embodiment of the claimed invention, as disclosed in paragraph [0015] of the A-publication.

Feature b) is disclosed in claim 3 and features d) and e) are found in the description of the application as originally filed (see paragraphs [0039] and [0038] of the A-publication).

2.2 Claim 2 of the main request is based on claim 1 of the application as originally filed wherein, again, feature a) has been deleted and features b), d) and e) have been added. Moreover, the features according to which

f) the LED holder has a horseshoe groove, the plurality of light emitting diodes are arranged substantially in a horseshoe shape around the tool and the LED holder substantially has a horseshoe shape for allowing injection of chip air, washing water, or the like through an orifice placed between the ends of said horseshoe LED holder, when the LED holder is mounted on the instrument

have been added.

Also in this case feature a) has been replaced by device features which provide the desired result in an embodiment of the claimed invention, namely features f) as disclosed in paragraphs [0020] and [0021] of the A-publication.

2.3 Claims 4 and 5 are based on claim 6 as originally filed, amended in a way corresponding respectively to claim 1 and 2.

2.4 Accordingly, the requirements of Article 123(2) EPC are complied with.

3. Article 84 EPC

The amendments above do not result in a lack of clarity. As to the feature which was objected to by the opposition division (see point III.3. of the decision under appeal), it is no longer present in the claims.

4. Claim 1 of the main request - Inventive step

4.1 The patent in suit relates to a dental hand instrument that can be autoclaved and illuminates the treatment site by a plurality of LEDs (see claim 1 and paragraph [0007]).

D1 relates to the same field (see paragraph [0014]). By contrast, D13 does not deal with the problem of autoclaving and relates to an instrument wherein the illumination of the treatment site is not realised by LEDs but by light bulbs. Hence, D1 is the most relevant prior art.

4.2 D1 discloses a lighting device for use with a dental or medical instrument having a tool (10) in a distal part of said instrument for treatment of a site, said lighting device having a plurality of light emitting diodes (11) arranged at regular intervals substantially annularly around the tool when the LED holder is

mounted on the instrument (see Figure 3). The lighting device comprises an LED holder (cover 14, see Figure 4 and paragraph [0029]) capable of being mounted on a distal part of said instrument substantially around said tool to illuminate said site. The light emitting diodes are supplied with electrical power from a power supply via flexible connecting means when said LED holder is mounted on said instrument (see Figure 1).

- 4.3 Starting from this prior art, the object underlying the device according to claim 1 can be seen in providing a device with good resistance to repeated autoclaving.

This object is achieved by choosing an LED holder having an annular groove which is filled with a transparent, heat resistant synthetic resin suitable for autoclaving, so that said light emitting diodes are covered with said resin.

By contrast, in the device shown in Figure 4 of D1, the LEDs are positioned within a housing and coupled directly with optical fibres or light guides (see paragraph [0029]). Optical fibres or light guides are usually made of quartz, in which case they are prone to cracks which cause serious attenuation of the light. As an alternative, they can be made with a polymer core such as PMMA, in which case they cannot withstand autoclaving (see the patent in suit, paragraph [0003] and D10, column 5, lines 46- 53).

- 4.4 The prior art does not render it obvious to achieve the object above in accordance with claim 1.

As explained above, optical fibers or light guides are usually not made of a material in accordance with claim 1. Moreover, in the device shown D1 they have to transmit the light from the LEDs to the treatment site. Hence, it was not obvious to choose an LED holder with an annular groove filled with the material of the optical fibers or light guides, as this would impair said light transmission. Therefore, D1 itself does not hint to the claimed device.

As to D13, it neither deals with resistance to autoclaving nor discloses the use of a resin in accordance with claim 1.

Therefore, the subject-matter of claim 1 involves an inventive step.

5. Claim 2 of the main request - Inventive step

5.1 D1 is the most relevant prior art for claim 2 too.

Starting from this prior art, the object underlying the device according to claim 1 can be seen in providing a device with good resistance to repeated autoclaving and allowing the injection of chip air, washing water or the like.

This object is achieved by the use of an LED holder with a horseshoe shape groove wherein the emitting diodes are arranged substantially in a horseshoe shape around the tool and which is filled with a transparent, heat resistant synthetic resin suitable for autoclaving, so that said light emitting diodes are covered with said resin.

As explained above, it was at least not obvious to fill the LED holder with a transparent, heat resistant synthetic resin suitable for autoclaving, so that said light emitting diodes are covered with said resin.

Accordingly, the subject-matter of claim 2 involves an inventive step.

6. Claims 4 and 5 of the main request - Inventive step

The subject-matter of claims 4 and 5, which respectively comprise all the features of claims 1 and 2, involves an inventive step for the reasons given in respect of claims 1 and 2.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the department of first instance with the order to maintain the patent on the basis of
 - claims 1 to 6 filed with letter dated 5 September 2012,
 - description, columns 1 to 2 as filed with letter dated 5 September 2012 and columns 3 to 6 as granted,
 - Figures 1 to 8 as granted.

The Registrar:

The Chairman:

V. Commare

T. Kriner