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**Datasheet for the decision
of 13 March 2014**

Case Number: T 1596/11 - 3.2.08

Application Number: 04761331.0

Publication Number: 1675524

IPC: A61C7/08, A61C7/10

Language of the proceedings: EN

Title of invention:
DENTAL APPLIANCE

Applicant:
Da Cruz, Joseph

Headword:

Relevant legal provisions:
EPC Art. 54(2), 56, 123(2)

Keyword:
Amendments - added subject-matter (no)
Novelty - (yes)
Inventive step - (yes)

Decisions cited:

Catchword:



**Beschwerdekammern
Boards of Appeal
Chambres de recours**

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Case Number: T 1596/11 - 3.2.08

D E C I S I O N
of Technical Board of Appeal 3.2.08
of 13 March 2014

Appellant: Da Cruz, Joseph
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Decision under appeal: **Decision of the Examining Division of the
European Patent Office posted on 1 March 2011
refusing European patent application No.
04761331.0 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman: M. Alvazzi Delfrate
Members: P. Acton
D. T. Keeling

Summary of Facts and Submissions

- I. On 11 May 2011 the appellant (applicant) filed a notice of appeal against the examining division's decision posted on 1 March 2011 refusing the European patent application No. 04 761 331.0 (publication number WO 2005/062396). The appeal fee was paid simultaneously and the statement of grounds was received on 11 July 2011.
- II. With letter of 11 March 2014 the appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of the following documents:

Claims:

1 to 12 as filed with letter dated 11 March 2014

Description:

pages 1 and 14 to 17	as published
pages 3 and 13	as filed with letter dated 7 June 2010
page 13A	as filed with letter dated 12 April 2006
pages 6 and 7	as filed with letter dated 11 July 2011
pages 2 and 8	as filed with letter dated 8 April 2013
pages 4, 5 and 9 to 12	as filed with letter dated 16 October 2013

Drawings:

pages 1/19 to 19/19 as published

III. The independent claim reads as follows:

"A removable dental appliance having a base (12) adapted for locating inside of an arch of teeth of a wearer and an arch wire (14) coupled to the base (12), wherein an outer surface of the base (12) is contoured for contact with inner surfaces of the teeth (Feature A),

wherein the arch wire (14) extends from one side posterior portion (22) of the base (12) to the other side posterior portion (24) of the base (12) for contact with outer surfaces of a set of the wearer's teeth along an outside of the arch (Feature B),

wherein the arch wire (14) is suitable to extend around an outer periphery of the set of teeth such that no interconnection between the arch wire (14) and the base (12) exists intermediate the set of teeth and along the length of the arch wire (Feature C), and

wherein the dental appliance is provided with one or more expansion screws (42, 44, 46) for enlarging the maxilla of the wearer (Feature D)."

The definition of the features (A to D) has been introduced by the Board.

IV. The following documents used in the examination proceedings played a role for the present decision:

D1: DE-C-911 534,

D2: US-A-3 994 068,
D3: DE-C-196 09 828,
D4: US-A-5 376 001 and
D5: US-B-6 334 771.

Following document was considered for the present decision as well:

D6: DE-B-847 324.

V. The arguments submitted by the appellant can be summarised as follows:

Claim 1 corresponded to claim 1 combined with claims 2 and 7 as originally filed. The additional feature according to which the arch wire extends around an outer periphery of the set of teeth such that no interconnection between the arch wire and the base exists intermediate the set of teeth "and along the length of the arch wire", could be derived from the drawings and had been introduced in order to clarify the difference between the invention and D1.

Moreover, the subject-matter of claim 1 was novel with respect to all prior art cited in the decision of the examining division.

The inventive features of the claimed device lead to a more flexible arch wire and hence to a more comfortable device.

Since none of the cited prior art disclosed or suggested such a solution to the problem posed, the subject matter of claim 1 involved an inventive step.

Reasons for the Decision

1. The appeal is admissible.
2. Allowability of the amendments

Claim 1 is derived from claims 1, 2 and 7 as filed. Moreover it specifies that the arch wire extends around an outer periphery of the set of teeth such that no interconnection between the arch wire and the base exists intermediate the set of teeth "and along the length of the arch wire". This feature has been introduced in order to clarify how the wire has to extend and to make the subject-matter novel with respect to D1. This feature is not described literally in the application as filed; however, it can be derived from the whole of the application, from the idea underlying the invention which aims at overcoming the disadvantages linked to the use of clasps (see pages 1 and 2), as well as from the figures, that clearly show an appliance without said connection.

Therefore, claim 1 complies with the requirements of Article 123(2) EPC.

3. Novelty and inventive step
 - 3.1 With respect to D1
 - 3.1.1 D1 discloses in Figure 2:

A removable dental appliance having a base (e) adapted for locating inside of an arch of teeth of a wearer and an arch wire (Drahtbogen) coupled to the base (e), wherein an outer surface of the base (e) is contoured for contact with inner surfaces of the teeth, and

wherein the arch wire extends from one side posterior portion of the base (e) to the other side posterior portion of the base (e) for contact with outer surfaces of a set of the wearer's teeth.

Claim 1 requires that the base and the arch wire are positioned respectively inside and outside of the same arch of teeth (see Feature B in combination with Feature A). Since, as shown in Figure 2, the arch wire according to D1 is in contact with the lower, anterior set of teeth, while the base is positioned within the upper set of teeth, this document does not disclose these features of claim 1.

Only one set of teeth is addressed in claim 1, hence the set of teeth of Feature B and of Feature C must be the same. Therefore, Feature C can only be read as meaning that no interconnection is present between the base and the arch wire intermediate the set of teeth which extends between the side posterior portions of the base.

Since D1 shows a connection between the base and the arch wire by the strap shown at the bottom left in Figure 2, D1 does not disclose Feature C either.

Hence, the subject matter of claim 1 is novel over D1.

- 3.1.2 The device according to D1 is fundamentally different from the one of claim 1. In D1 the base and the arch wire are located on different jaws. On the contrary, they act on the same (upper) jaw in the claimed invention. Since there would be no reason for the skilled person to modify the device according to D1 in such a way that both parts of it act on the same jaw, additionally eliminating the latch combining them, the

subject matter of claim 1 involves an inventive step when starting from the dental appliance according to D1.

3.2 With respect to D2

3.2.1 D2 discloses (see particularly Figures 2 and 4):

A removable dental appliance having a base (13) adapted for locating inside of an arch of teeth of a wearer and an arch wire (10) coupled to the base (13), wherein an outer surface of the base (13) is contoured for contact with inner surfaces of the teeth, wherein the arch wire (10) is suitable to extend around an outer periphery of the set of teeth such that no interconnection between the arch wire (10) and the base (13) exists intermediate the set of teeth and along the length of the arch wire.

However, the arch wire of the device according to D2 does not extend from one side posterior portion of the base to the other side (Feature B), but is fixed to the anterior portion of the base.

Moreover, no expansion screws are foreseen in the device according to D2 (Feature D).

Hence, the subject matter of claim 1 is novel over D2.

3.2.2 Since the device according to D2 is designed for maintaining the position of previously orthodontically treated teeth (see column 1, lines 1 to 8), the skilled person would not have any reason to introduce expansion screws in the base for enlarging the maxilla of the wearer.

Hence, the subject matter of claim 1 involves an inventive step when starting from D2.

3.3 With respect to D3

3.3.1 D3 discloses (see particularly Figure 1):

A removable dental appliance having a base (11) adapted for locating inside of an arch of teeth of a wearer and an arch wire (12') coupled to the base (11), wherein an outer surface of the base (11) is contoured for contact with inner surfaces of the teeth, and wherein the arch wire (12') is suitable to extend around an outer periphery of the set of teeth such that no inter-connection between the arch wire (12') and the base (11) exists intermediate the set of teeth and along the length of the arch wire.

However, the arch wire according to D3 extends from one anterior part of the base to the other and not from one side posterior portion of the base to the other - as required by Feature B. Moreover, D3 fails to disclose expansion screws for enlarging the maxilla of the wearer (Feature D).

Therefore, the subject matter of claim 1 is novel over D3.

3.3.2 Since the device according to D3 is designed for correcting the saggital position of the teeth in the upper and lower jaw through the interaction of an upper jaw device and a lower jaw device and not to expand the maxilla as in the present invention, the skilled person does not have any reason to introduce expansion screws according to Feature D in the device of D3.

Hence, the subject matter of claim 1 involves an inventive step when starting from D3.

3.4 With respect to D4

3.4.1 D4 discloses (see particularly Figure 1):

A removable dental appliance having a base adapted for locating inside of an arch of teeth of a wearer and an arch wire (20) coupled to the base, wherein an outer surface of the base is contoured for contact with inner surfaces of the teeth, and wherein the arch wire (20) is suitable to extend around an outer periphery of the set of teeth such that no interconnection between the arch wire (20) and the base exists intermediate the set of teeth and along the length of the arch wire.

The arch wire according to D4, however, does not extend from a side posterior portion of the base to the other as required by Feature B but is attached to an intermediate lateral portion of the base. Moreover, D4 foresees a tension bridge for enlarging the maxilla of the wearer instead of the expansion screws of Feature D.

Hence, the subject matter of claim 1 is novel over D4.

3.4.2 The arch wire of the dental device according to D4 is connected to the base plate via side loops (30) and a pair of clasps seated over the mid-region teeth. In order to get to the subject matter of claim 1, the skilled person would have to prolong the arch wire to the back of the base plate and then to replace the clasps with a different fixing means. He would also have to replace the side loops (30) with other means suitable for adjusting the arch form. Since none of the

documents on file suggests such a substantial modification of the dental device according to D4, the subject matter of claim 1 involves an inventive step when starting from D4 as well.

3.5 With respect to D5

3.5.1 D5 discloses (see particularly Figure 5):

A removable dental appliance having a base (61, 62, 71) adapted for locating inside of an arch of teeth of a wearer and an arch wire (3, 31) coupled to the base, wherein an outer surface of the base is contoured for contact with inner surfaces of the teeth, wherein the arch wire (3, 31) is suitable to extend around an outer periphery of the set of teeth such that no inter-connection between the arch wire (3, 31) and the base exists intermediate the set of teeth and along the length of the arch wire, and wherein the dental appliance is provided with one or more expansion screws (64, 74) for enlarging the maxilla of the wearer.

However, it fails to disclose Feature B since the wire (3, 31) does not extend from one side posterior portion of the base to the other side posterior portion of the base but rather from the posterior to the anterior portion of the base on the same side.

Hence the subject matter of claim 1 is novel over D5.

3.5.2 When starting from the device according to D5, the skilled person would not have any reason to extend the arch wire in such a way that it surrounds the front teeth as well. Therefore, the subject matter of claim 1 involves an inventive step when starting from D5 as well.

3.6 D1 explicitly refers to D6, both in the claims and in the first paragraph of page 2. Therefore, the Board considered this document relevant for the assessment of novelty and inventive step and took it into consideration for the present decision.

3.6.1 D6 discloses:

A removable dental appliance having a base (e) adapted for locating inside of an arch of teeth of a wearer and an arch wire (Labialbogen c) coupled to the base (e), wherein an outer surface of the base (e) is contoured for contact with inner surfaces of the teeth, wherein in use the arch wire (c) extends around an outer periphery of the set of teeth such that no inter-connection between the arch wire (c) and the base (e) exists intermediate the set of teeth and along the length of the arch wire.

Since the arch wire (c) in the device according to D6 extends from one side anterior portion of the base to the other (see particularly Figure 3), this document does not disclose Feature B. Moreover, the base is made of two separate parts and is not provided with expansion screws for enlarging the maxilla of the wearer (Feature D).

Hence the subject matter of claim 1 is novel with respect to D6.

3.6.2 The provision of Feature B solves the problems of avoiding the difficulty of installation of the device due to the presence of clasps and of allowing some movement of the teeth in order to avoid the necessity of extractions (see page 1, 1st paragraph).

The skilled person could imagine solving the first problem by making the arch wire (c) more elastic by letting it extend from a further posterior portion of the base plate. However, in order to do so he would have to eliminate the loop (Schleife d) and change the position of the arch wire acting on the lower set of teeth (a, b and f) in order to accommodate the connection of the extended upper arch wire in the back of the two bases. Since these modifications are subject to several constructional constraints and would necessitate a major modification of the structure of the device according to D6, it would not be obvious for the skilled person to prolong the arch wire of D6 to the back of the posterior side portion of the base in order to solve the problems posed.

Therefore, the subject matter of claim 1 involves an inventive when starting from D6 as well.

3.7 Hence, the subject matter of claim 1 according to the main request is novel with respect to all prior art on file and is inventive over any combination thereof.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the first instance with the order to grant a patent on the basis of the following documents:

Claims:

1 to 12 as filed with letter dated 11 March 2014

Description:

pages 1 and 14 to 17 as published
pages 3 and 13 as filed with letter dated
7 June 2010
page 13A as filed with letter dated
12 April 2006
pages 6 and 7 as filed with letter dated
11 July 2011
pages 2 and 8 as filed with letter dated
8 April 2013
pages 4, 5 and 9 to 12 as filed with letter dated
16 October 2013

Drawings:

pages 1/19 to 19/19 as published

The Registrar:

The Chairman:



V. Commare

M. Alvazzi Delfrate

Decision electronically authenticated