

Internal distribution code:

- (A) [] Publication in OJ
(B) [] To Chairmen and Members
(C) [X] To Chairmen

D E C I S I O N
of 27 June 1996

Case Number: T 0725/95 - 3.2.4

Application Number: 88116731.6

Publication Number: 0311937

IPC: A46B 7/04

Language of the proceedings: EN

Title of invention:
Interdental brush

Patentee:
JOHN O. BUTLER COMPANY

Opponent:
Breitschmid AG

Headword:
-

Relevant legal provisions:
EPC Art. 56

Keyword:
"Inventive step - yes"

Decisions cited:
T 0002/83

Catchword:



Case Number: T 0725/95 - 3.2.4

D E C I S I O N
of the Technical Board of Appeal 3.2.4
of 27 June 1996

Appellant:
(Opponent)

Breitschmid AG
Amlehnstrasse 22
CH-6010 Kriens (CH)

Representative:

Roshardt, Werner Alfred, Dipl.-Phys.
Keller & Partner
Patentanwälte
Marktgasse 31
Postfach
CH-3000 Bern 7 (CH)

Respondent:
(Proprietor of the patent)

JOHN O. BUTLER COPANY
4635 W. Foster Avenue
Chicago, Illinois 60630 (US)

Representative:

Schneck, Herbert, Dipl.-Phys. Dr.
Rau, Schneck & Hübner
Patentanwälte
Königstrasse 2
D-90402 Nürnberg (DE)

Decision under appeal:

Decision of the Opposition Division of the
European Patent Office posted 6 July 1995
rejecting the opposition filed against European
patent No. 0 311 937 pursuant to Article 102(2)
EPC.

Composition of the Board:

Chairman: C. A. J. Andries
Members: M. G. Hatherly
J. P. B. Seitz

Summary of Facts and Submissions

- I. The decision of the opposition division to reject the opposition against European patent No. 0 311 937 was dispatched on 6 July 1995.

On 28 August 1995 the appellants (opponents) filed an appeal against this decision and also paid the appeal fee. The Statement of Grounds of Appeal was received on 8 November 1995.

Oral proceedings took place on 27 June 1996 in the presence of the parties.

- II. Claim 1 of the patent as granted reads as follows:

"An interdental brush having a removable twisted wire brush and a brush handle, the brush having a stem (twisted wire 28) with a plastic encasement (26) molded thereon, said plastic encasement (26) including an enlarged collar (32) between an anchor stem (25) and said brush (30) and a capture part (52) beneath the collar, characterized by the brush handle having a solid end section (20) with a hole (23) for receiving the anchor stem (25), one end of the hole (23) having a countersunk area (24) with contours which are complementary to at least part of the external contours of said plastic collar, and capture means (40) associated with said handle for capturing said plastic encasement (26)."

- III. The appellants referred to the following prior art documents during the appeal proceedings

D1 WO-A-86/02532
D2 DE-U-77 28 103

and submitted a sample brush similar to one of those disclosed by document D1. They argued that the subject-matter of the patent was obvious having regard to document D1 either on its own or with document D2.

The respondents (proprietors of the patent) countered the appellants' arguments by questioning the public availability of the sample brush at the priority date of the present patent and arguing that the modifications envisaged by the appellants were not obvious and moreover would not result in the brush of the invention.

IV. The appellants request that the decision under appeal be set aside and the patent revoked.

The respondents' main request is that the appeal be dismissed (which would mean maintaining the patent as granted).

The respondents alternatively request that the decision be set aside and the patent maintained on the basis of

- (first auxiliary request) claims 1 to 5 filed at the oral proceedings (of which claim 1 is the combination of claims 1 and 2 as granted), or
- (second auxiliary request) claims 1 to 4 filed at the oral proceedings (of which claim 1 is the combination of claims 1 to 3 as granted).

Reasons for the Decision

1. The appeal is admissible.
2. *Interpretation of claim 1 of the main request*
 - 2.1 Lack of clarity is not a ground for opposition under Article 100 EPC. Thus, because claim 1 of the main request is the granted and unamended claim 1, it need not be amended even though it is unclear. Nevertheless, in order to compare it with the prior art, it is necessary to decide how the claim is to be interpreted, referring if necessary to the description and drawings (Article 69 EPC).
 - 2.2 The term "brush" is used in three ways in the claim and specification,
 - firstly for the (twisted wire) stem 28 and bristles (the conventional brush referred to in column 3, line 38 of the description),
 - secondly in the term "removable twisted wire brush" which comprises the conventional brush just referred to and the additional moulded plastic encasement 26 (see column 3, lines 38 and 39 of the description and the first four lines of claim 1) and
 - thirdly in the term "interdental brush" for the assembly of the "removable twisted wire brush" just referred to and the brush handle (see the first two lines of the claim).

However these various uses do not give rise to any real difficulty when reading the claim.

- 2.3 While at first the reader might wonder whether the anchor stem 25 **anchors** something (ie the stem 28) or **is anchored by** something, it is made clear in column 5, lines 6 and 7 of the claim that the latter meaning is intended since the anchor stem 25 is anchored in the hole 23 in the brush handle. The respondents intend the word "anchor" to restrict the meaning of "stem" and to show that the stem fits in the hole in an anchored way so that the brush will not develop a significant amount of wiggling movement, see column 2, lines 12 to 15.
- 2.4 Likewise it is unspecified in claim 1 whether the capture part 52 captures something or is captured by something, only in claim 3 is it made clear that the latter meaning is intended. Nevertheless the order of the component parts along the removable brush is specified, namely the anchor stem 25, the enlarged collar 32, the capture part 52 and bristles. The capture part 52 is thus additional to the anchor stem 25.
- 2.5 The word "solid" describing the end section 20 in column 5, line 6 means that the end section is one piece, unlike for example the two-piece hinged end section 50, 54 shown in Figure 7 of document D1.
- 2.6 The board interprets the wording "capture means (40) associated with said handle for capturing said plastic encasement (26)" as meaning that there can be any possible means associated with the handle at any position for capturing the plastic encasement at any position. However the capture means is something additional to the connection of the handle hole 23 and anchor stem 25, and something additional to the placement of the enlarged collar 32 in the countersunk area 24 of the hole 23. The capture means is not merely a repetition in other wording of the hole-stem

connection and/or the collar-countersunk area connection.

2.7 Finally it follows from a reading of the whole claim that the removable twisted wire brush is inserted into the handle from the side on which the brush bristles will be located.

3. *Closest prior art, problem and solution - claim 1 of the main request*

The board considers that the interdental brush closest to that of the present invention is the assembly of the brush handle shown of Figure 1 of document D1 and the removable brush shown in Figures 3 and 4 of the same document, a combination explicitly disclosed by the sentence bridging pages 4 and 5 of document D1.

The problem arising therefrom is to improve the insertability and hold of the removable brush in the handle.

The necessity to feed the bristles through the handle hole 5 is obviated by the present arrangement. In Figures 1, 3 and 4 of document D1 the removable brush must be angularly oriented such that the cross member 21 enters the groove 4 whereas the collar 32 and countersunk area 24 of the present arrangement permit insertion with any angular orientation. The anchor stem 25 and hole 23 of the present arrangement provide a stabilising effect (see the above section 2.3) even before the capture means is employed compared with the clearance fit of the stem 22 in the hole 5 of document D1 necessitated by the need to pass the bristles through the hole.

The board thus considers that the features of claim 1 of the main request provide a solution to the problem arising from the closest prior art.

4. *Inventive step - claim 1 of the main request - document D1*

4.1 In Figure 6 of document D1 the removable brush 41 (comprising a bristle carrier, bristles and a moulded part 43 with a cross member 44) has a threaded head 45 which is screwed into a threaded hole 42 in a handle 40.

Lines 6 to 14 of the last paragraph of page 9 of document D1 state that the shape-mating connection ("Formschluss"), providing it is not the screw connection of Figure 6, comprises two parts, one of which is formed in one piece with the handle and the other of which is supported at the handle to be displaceable or foldable.

4.2 The appellants argue that the last paragraph of page 9 of document D1 directly teaches a replacement of the screw connection of Figure 6 by a two-part shape-mating connection in which the moulded part with the enlarged collar is sunk into an at least partly corresponding recess 56 in the fixed handle part 54 (see Figure 7), the moulded part being held by a capture means. They consider that this two-part shape-mating connection is the alternative to the screw connection if the disadvantage of screw threads is to be avoided that deposits after long term use render impossible the screwing in of the moulded part, see lines 16 to 20 of the aforesaid paragraph. They maintain that this modification of the embodiment of Figure 6 is directly obvious from document D1 itself, possesses all the features of claim 1 of the main request and solves the problems of easier brush insertion and better holding.

The document D1, in their view, not only encourages the skilled person to search for an improvement to the brush of Figure 6 but leads him to a better brush which falls within the scope of claim 1 of the main request, solves the problem underlying the present invention and gives the same advantages.

4.3 In the view of the board, however, the last paragraph of page 9 of document D1 teaches that if one wants the simpler construction shown in Figure 6 then one must accept its deposit disadvantage. If one does not want to accept this disadvantage then one uses the more complicated two-part handle constructions. The problem arising with the embodiment of Figure 6 of deposits clogging the screw threads is in fact solved by the other embodiments, there is no suggestion of **modifying** the Figure 6 embodiment. The appellants quote the passages of said paragraph in a different order to that in which they in fact appear and so create a chain of argumentation that was not intended by the drafter of document D1.

4.4 Moreover, even if the postulated modification to the embodiment of Figure 6 were to be carried out taking into account the embodiment of Figure 7, the result would not be an interdental brush as specified by claim 1 of the main request. Firstly, the main part 44 of Figure 6 and the part 21 of Figure 7 are each called a "Traverse", this translates to "cross member" not to "collar" as required by claim 1 of the main request. Indeed part 21 is shown in Figure 4 to be a cross member not a collar. Secondly, the recess 56 referred to by the appellants is in the fixed handle part in Figure 7 while the hole receiving the stem is in the movable handle part. It seems to constitute an ex-post facto analysis to decide that it would be obvious to modify this arrangement to provide the recess in the fixed part of

the handle as required by claim 1 of the main request (see column 5, lines 7 and 8).

4.5 The appellants further refer to the paragraph bridging pages 8 and 9 of document D1 concerning a Seeger circlip ring gripping a groove in the moulded part 13. In the opinion of the board however, this paragraph is too vague to be able even to derive therefrom an embodiment whose removable brush is inserted from the stem end, let alone to derive an embodiment satisfying all the conditions set out in claim 1 of the main request.

5. *Inventive step - claim 1 of the main request - documents D1 and D2*

5.1 A sample brush assembly submitted during the oral proceedings by the appellants is similar to the combination of the brush handle shown in Figure 1 of document D1 and the removable brush shown in Figures 3 and 4 of the same document. The appellants argue that it would be obvious to the skilled person to insert this removable brush with the head 23 downwards (ie upside down with respect to the orientation shown in Figure 3) into the handle from the side having the groove 4 (ie the top shown in Figure 1). They add that, if the skilled person were faced with this sample brush and the dental cleaning apparatus of document D2, then he would experiment and try to fit the brush 5 shown in Figure 2 of document D2 into the handle shown in Figure 1 of document D1 from the top, once again with the working end of the brush 5 uppermost. It would then be obvious to countersink the hole in the handle and so the skilled person would arrive at the subject-matter of claim 1 of the main request.

5.2 The board cannot accept this argumentation, for the following reasons.

5.2.1 If one assumes that the skilled person had in front of him the actual brushes corresponding to documents D1 and D2 accompanied by other types of brushes (although no evidence has been produced that the brushes - ie the concrete embodiments - of the documents D1 and D2 were available before said priority date), then, in the absence of a teaching in document D1 or D2 to guide him, there would be no reason for him to hit upon the specific combination of a particular one of the working elements 5, 6 of the sample tooth cleaning device according to document D2 with the sample handle 1 according to document D2, while rejecting the greater number of alternative combinations.

5.2.2 If the sample brush assembly according to document D1 had been available before the present priority date then the unskilled user might well have inserted the removable brush the "wrong way up" into the handle. On the other hand the board considers that the skilled person would not have made this error because he would realise the significance of the hole 5 in the handle and would in any case be guided by the teaching of document D1 in the third paragraph of page 4 that the brush, with the bristles leading, is pushed through the hole 5 whereby the cross member 21 slides into the groove 4. He would reject the method suggested by the appellants, realising that the hold of the removable brush in the handle was much inferior and that the cross member 21 would be at risk of shearing from the moulded part 22. Thus he would not have been led to insert the removable brush 5 according to document D2 the "wrong way up" into the handle according to document D1.

5.2.3 The provision of the hole with a countersunk area is taught by neither document D1 nor document D2 and seems to be something that the skilled person could do but

not, in the opinion of the board, something that he would do (see decision T 2/83, OJ EPO 1984, 265).

5.2.4 In summary the board considers that it would not be obvious to take the removable brush and handle of document D1 (assuming them to be available), assemble them wrongly, then modify them using the teaching of or the concrete embodiment of document D2, and then to carry out a further embodiment not envisaged by either document.

6. Thus the board finds that it would not be obvious to use the teachings of the documents D1 and D2, taken singly or in combination, to arrive at a interdental brush as set out in claim 1 of the main request. The subject-matter of this claim is thus patentable as required by Article 52 EPC. The patent may therefore be maintained as granted based on this allowable independent claim 1 and on claims 2 to 6 which are dependent thereon.

7. Consideration of the respondents' auxiliary requests is therefore unnecessary.

Order

For these reasons it is decided that:

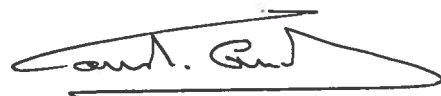
The appeal is dismissed.

The Registrar:



N. Maslin

The Chairman:



C. Andries