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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 1095/92 - 3.2.4

D E C I S I O N
of 8 December 1993
correcting an error in the decision
of the Technical Board of Appeal 3.2.4
of 27 October 1993

Appellant: (Opponent)
Opti Patent-, Forschungs- und Fabrikations- AG
CH-8750 Riedern-Allmeind (CH)

Representative:
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Respondent: (Proprietor of the patent)
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Decision under appeal: **Interlocutory decision of the Opposition Division of the European Patent Office dispatched on 9 November 1992 concerning maintenance of European patent No. 0 237 068 in amended form.**

Composition of the Board:

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

In application of Rule 89 EPC the decision of 27 October 1993 is hereby ordered to be corrected as follows:

Point IX of the decision concerning the description reads as follows:

Description:

Column 1 filed on 22 October 1992 with the insert on sheet A filed on the same date; and

Columns 2 and 3 of the patent as granted.

The Registrar: The Chairman:

N. Maslin C. Andries

2456.B

BESCHWERDEKAMMERN DES EUROPÄISCHEN PATENTAMTS

BOARDS OF APPEAL OF THE EUROPEAN PATENT OFFICE

CHAMBRES DE RECOURS DE L'OFFICE EUROPEEN DES BREVETS

A		B		C	X

File No.: T 1095/92 - 3.2.4

Application No.: 87 103 595.2

Publication No.: 0 237 068

Classification: Ä44B 19/36

Title of invention: Slide fastener with thermoplastic end stops

D E C I S I O N
of 27 October 1993

Applicant: -

Proprietor of the patent: Yoshida Kogyo K.K.

Opponent: Opti Patent-, Forschungs- und Fabrikations- AG

Headword: -

EPC: Art. 56

Keyword: "Inventive step (yes)"

Headnote
Catchwords

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Summary of Facts and Submissions

I. European patent No. 0 237 068 was granted on 9 January 1991 on the basis of European patent application No. 87 103 595.2 filed on 12 March 1987.

II. A notice of opposition on grounds of lack of inventive step was filed against the patent based, *inter alia*, on the following documents:

(D1) DE-A-2 752 703; and

(D2) DE-A-2 309 624

III. In the interlocutory decision dispatched on 9 November 1992 the Opposition Division found that the patent with amended documents submitted during oral proceedings on 22 October 1992 met the requirements of the EPC.

IV. The Appellant (Opponent) filed an appeal against this decision on 12 December 1992 and paid the appeal fee on the same day. The Statement of Grounds of Appeal was filed on 25 February 1993.

V. Oral proceedings took place on 27 October 1993.

During these oral proceedings the Respondent (Proprietor) submitted an amended Claim 1.

Claim 1 reads as follows:

"A slide fastener (10) comprising: a pair of slide fastener stringers each having a stringer tape (11) and a continuous row of coupling elements (13) mounted with sewing threads (15) on and along an inner longitudinal edge (14) of each stringer tape, a slider (16) slidably

mounted on the two rows of coupling elements (13) to take them into and out of interdigitating engagement with each other to close and open the slide fastener (10); and an end stop (18, 20) of thermoplastic synthetic resin including upper and lower wings (18a, 18b), each disposed on an opposite face of one of said stringer tapes (11) and enveloping at least one end of said row of coupling elements, said end stop (18, 20) being attached to at least one of said stringer tapes by fusion enveloping thereby one end of said row of coupling elements (13) including said sewing threads (15), characterised in that said stringer tape (11) has a porous structure, and in that said wings have respective end portions (18a', 18b') extending through pores (11b) in said stringer tape (11) and fused together."

VI. The Appellant argued in writing and during the oral proceedings essentially as follows:

Document D1 discloses the features of the precharacterising portion of Claim 1 and moreover that the stringer tapes are woven and therefore porous.

Document D2 - from which the features of the characterising portion of Claim 1 are known - teaches an additional measure when the skilled person wishes to achieve an even better anchoring between the end piece and the stringer tape with a sewn-on coupling element row. If the measures known from the documents D1 and D2 are applied together, their advantages are additive with a foreseeable result and no surprising combination effect.

A further incentive to use the end piece anchoring known from document D2 also with stringer tapes with sewn-on coupling element rows is given in the prior art discussion on page 5 of document D2 itself.

VII. The Respondent argued in writing and during the oral proceedings essentially that because of the fundamentally different manner of fastening the coupling elements on the stringer tapes i.e. by threads in document D1 or exclusively by welding with porous stringer tapes in document D2, the skilled person would not receive an indication from document D2 by which he could develop the teaching of document D1 to come to the inventive solution. Since the inventive idea of document D2 is to avoid fastening threads it makes no sense to transfer the solution (welding with porous stringer tapes) to slide fasteners with coupling elements sewn to the stringer tapes.

VIII. The Appellant requests that the decision under appeal be set aside and that the patent be revoked.

IX. The Respondent requests that the appeal be dismissed and that the patent be maintained as follows:

Claims:

Claim 1 filed during the oral proceedings on 27 October 1993; and

Claims 2 and 3 of the patent as granted

Description:

Column 1 filed on 22 November 1992 with the insert on sheet A filed on the same date; and

Columns 2 and 3 of the patent as granted

Drawings:

Sheets 1 to 3 of the patent as granted.

Reasons for the Decision

1. The appeal is admissible.

2. *Amendments*

The Board is satisfied that there are no objections under Article 123 EPC to the present version of the patent documents. The change made in Claim 1 filed during the oral proceedings, concerning the end stop enveloping one end of the coupling element row including the sewing threads, is based on the originally filed page 6, lines 10 to 22 of the description (column 2, lines 51 to 64 of the patent as granted).

3. *Prior art*

3.1 Document D1 discusses the problem that sewing seams joining coupling elements to stringer tapes can bend sharply around the edges of some end stops and tear or break. As a solution, document D1 proposes an L-shaped end stop 24 welded to the end coupling elements of a row. The transverse limb 27 of the L-shape extends over the sewing seam to fix it to the end coupling elements or the stringer tape, see page 5, lines 18 to 26. The lengthwise limb 26 of the L-shape prevents the sewing seam being bent sharply around the edge of the transverse limb to prevent damage to the seam.

3.2 Document D2 commences by discussing the inadequacies of slide fasteners whose coupling elements are sewn to the stringer tapes, e.g. in lines 21 to 24 of page 1 that the sewing threads are abraded causing the coupling elements to part from the stringer tapes. Document D2 then criticises the known ways of attaching coupling elements to stringer tapes without using threads. The discussion of the prior art finishes by considering end and stop pieces.

After the prior art discussion, document D2 then proposes to solve the problems of the prior art by various ways of stitchless attachment of the coupling elements to the stringer tapes, in particular by welding. The coupling elements are either single units (Fig. 3) or in continuous rows (Fig. 18). End pieces (numbered 7 on Fig. 3) are attached in the same way as single coupling elements by welding through the stringer tapes (see page 6, lines 31 to 35), the stringer tapes being porous (see page 7, line 24). According to Claim 7 the legs of these end pieces enter the stringer tape and the ends of the legs are welded together.

3.3 The second paragraph of section c of page 5 of document D2 discusses the prior art method of fusing end pieces and stops directly onto sewn-on plastics coupling elements and states that, although a surface fusion of the end pieces to the stringer tapes can occur, essentially only the plastics coupling element rows are connected, these rows being connected by sewing threads with the stringer tapes. The paragraph continues that the object of the end pieces is to connect the stringer tapes directly and firmly with one another.

3.3.1 The Appellant argues that this document D2 should be seen as a text book on slide fasteners and that, although the title and claims of document D2 concern

thread-free slide fasteners, this section c on page 5 is a teaching which goes further concerning fastening of end and stop pieces, independent of whether the coupling elements are sewn on or not. When considering this criticism the skilled person would thus also use the improved end piece anchoring teaching of document D2 with stringer tapes with sewn-on coupling element rows.

3.3.2 While document D2 indeed discusses various types of prior art slide fasteners, this is done with a specific purpose in mind - to discuss their disadvantages and to then present a solution (the invention of document D2) which is intended to overcome these disadvantages. The discussion of the prior art in document D2 would therefore be read by the person skilled in the art with this in mind.

3.3.3 The second paragraph of section c of page 5 of document D2 concerns connecting the stringer tapes to each other, apparently by an end piece which bridges the two stringer tapes and is connected to the coupling elements of each stringer tape. The document judges this connection of the stringer tapes one to the other to be unsatisfactory.

In the opinion of the Board, this defect is not intended to be removed by a better connection of the end piece to the stringer tapes. Claim 1 of document D2 specifies a U- or V-shaped single coupling element so that this would be expected by the person skilled in the art to be the invention of document D2 in its broadest sense, end pieces being specified in Claim 12 to have a similar construction. However a U- or V-shaped end piece has the wrong shape for bridging two stringer tapes and so could not connect the tapes better.

The Board considers that the writer of document D2 in the second paragraph on page 5 of document D2 once again intended to teach that better results could be obtained by attaching the coupling elements to the stringer tapes in some other way than by stitching.

Moreover the cited paragraph seems to teach the skilled person that it is unsatisfactory to attach the end piece to the coupling element. Indeed Figure 3 of document D2 shows the end piece 7 (which is to be attached in the same way as a single coupling element) located separately from the coupling elements.

Thus the Board finds that for two reasons the second paragraph on page 5 of document D2 leads away from the use of an end piece enveloping the coupling elements which are sewn to the stringer tape.

4. *Novelty*

Novelty of the subject-matter of Claim 1 is not disputed.

5. *Closest prior art, problem, solution*

5.1 The closest prior art is the slide fastener known from document D1 and which has the features of the precharacterising portion of Claim 1. This document does not explicitly disclose that the stringer tapes are woven and therefore porous.

5.2 The Board sees the problem arising from the slide fastener known from document D1 as being to improve the strength of the connection of the end stops.

5.3 The Board is satisfied that the connection strength of the end stops can be improved by the features of the slide fastener set out in Claim 1 and in particular by the features appearing in the characterising portion. The stringer tapes are porous and the wings of the respective end stop have respective end portions extending through the pores in the respective stringer tape and fused together.

6. *Inventive step*

6.1 While it is true that each feature of Claim 1 can be found *per se* in one or both of the documents D1 and D2, the question to be answered is whether it would have been obvious to the person skilled in the art to combine the respective features of the two documents.

6.2 The Board cannot see a clear teaching in document D2 to lead the person skilled in the art to modify the slide fastener known from document D1 in such a way as to arrive at a slide fastener satisfying the requirements of Claim 1 under consideration.

Although both documents concern slide fasteners, document D1 deals not with the problem of attaching end pieces securely but with achieving long-lasting stitching of the coupling elements to the stringer tapes. Document D2 is directed to securely attaching coupling elements and end stops to stringer tapes without using stitches.

Since document D2 leads away from stitching the coupling elements to the stringer tapes and since stitching is an essential part of the disclosure of document D1, the person skilled in the art is led away from combining the two documents, more particularly because the person

skilled in the art wanting to improve the fixing of the end stop would consider the stitchless arrangement weaker than the stitched arrangement of document D1.

6.3 Even if the skilled person starting from document D1 were on the contrary to use document D2, he might either:

mount the end stop separately from the coupling elements and stitches so that the end stop could not cut the stitches which is the disadvantage with which document D1 concerns itself, **or**

do away with the stitches altogether, as proposed by document D2, so that there would not be any stitches to be cut by the end stops.

Neither of these ways would lead to the invention set out in Claim 1 under consideration.

6.4 In the Board's opinion, to argue that the skilled person would use from document D2 only the concept of welding the ends of the end stops through the stringer tapes and omit the document's other features has to be considered as the result of an *ex post facto* analysis.

The Board therefore considers that, even if the skilled person were to combine the teachings of documents D1 and D2 together, unless he had prior knowledge of the present invention he would not make the necessary selection from the array of contradicting features to arrive at a slide fastener satisfying the present Claim 1. Moreover the question of whether the invention offers any surprising effect or advantage beyond the implausible combination of the prior art teachings need not be decided.

7. The subject-matter of the present Claim 1 thus involves an inventive step in the meaning of Article 56 EPC. The patent may therefore be maintained amended based on this independent claim, dependent Claims 2 and 3 which concern preferred embodiments of the slide fastener according to Claim 1, the amended description and the drawings.

8. A communication under Rule 58(4) EPC is unnecessary in the present case (see decision T 219/83, OJ EPO 1986, 211) since the oral proceedings gave the parties adequate opportunity to comment therein on the present set of amended patent documents i.e. on the proposal to maintain the European patent in amended form.

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 that the further procedure, i.e. the maintenance of the patent as amended, be based on the text of the patent as set out in section IX above.

The Registrar: The Chairman:

N. Maslin C. Andries