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Datasheet for the decision of 17 May 2011

Case Number: T 0324/09 - 3.2.08

Application Number: 01109757.3

Publication Number: 1116891

IPC: F16B 37/06

Language of the proceedings: EN

Title of invention:
Press nut

Patent Proprietor:
PROFIL Verbindungstechnik GmbH & Co. KG

Opponent:
CIMA Compagnia Italiana Molle, Acciaio S.p.A.
Nedschroef Plettenberg GmbH

Headword:
-

Relevant legal provisions:
EPC Art. 54(2)(3)

Relevant legal provisions (EPC 1973):
EPC Art. 87, 56

Keyword:
"Validity of priority - yes"
"Novelty - yes"
"Inventive step - yes"

Decisions cited:
-

Catchword:
-

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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 0324/09 - 3.2.08

D E C I S I O N
of the Technical Board of Appeal 3.2.08
of 17 May 2011

Appellant I: (Opponent I)
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Decision under appeal:
Interlocutory decision of the Opposition Division of the European Patent Office posted 1 December 2008 concerning maintenance of the European patent No. 1116891 in amended form.

Composition of the Board:

Chairman: T. Kriner
Members: P. Acton
U. Tronser

Summary of Facts and Submissions

I. The appealed interlocutory decision finding that, taking into account the amendments made during the opposition proceedings, European patent No. 1 116 891 met the requirements of the European Patent Convention, was posted on 1 December 2008.

Appellant I (opponent I) and appellant II (patent proprietor) both filed a notice of appeal received at the EPO on 31 January 2009 and 10 February 2009, respectively. The appeal fees were paid on 29 January 2009 and 10 February 2009 and the statements of grounds were received on 14 April 2009 (13 April being Easter Monday) and 11 April 2009, respectively.

II. Oral proceedings took place before the board of appeal on 17 May 2011.

Appellant I requested that the decision under appeal be set aside and European patent No. 1 116 891 be revoked.

Appellant II requested that the decision under appeal be set aside and the opposition be rejected or that the patent be maintained on the basis of one of the auxiliary requests 1 to 9 submitted with letter dated 11 April 2009 or auxiliary request 10 submitted with letter dated 15 April 2011.

III. Independent claim 1 as granted reads:

"A fastener (20) comprising a riveting barrel portion (22), a flange portion (24) which extends radially from the barrel portion generally perpendicular thereto and

a fastener portion (26) generally opposite the barrel portion (22), wherein said flange portion includes an outer panel bearing surface (38), characterised in that an annular groove (40) is provided adjacent to and surrounding the barrel portion (22) radially inside the outer annular panel bearing surface (38); in that a plurality of spaced radial ribs (42) bridge said groove (40); and in that said fastener potion (26) comprises a threaded or smooth bore coaxially aligned with said barrel portion (22)."

IV. The following documents are relevant for the present decision:

D1: EP-B-0 678 679
D7: US-A-4 713 872
D8: US-A-5 251 370
D12: US-A-3 213 914
D27: US Patent Application Serial No. 343 724
D28: DE-A-44 10 475
Exhibit 5: Merkblatt DVS/EFB 3440-1, Funktionselemente Überblick, Juli 2006.

V. Appellant I's arguments can be summarised essentially as follows:

(a) Validity of the claimed priority

The patent in suit did not claim the priority of D27 correctly.

D28 (which is the priority document of D27) disclosed a fastener comprising all features of claim 1 as granted and particularly a riveting barrel portion 16 (see

Figures 14 and 16). As supported by Exhibit 5 a riveting element was an element fixed to a plate by deformation either of the rivet or of the plate ("Die Formschlüssigkeit ist entweder durch Umformen des Nietabschnittes allein, und/oder durch Umformen der Lochwandumgebung mit dem Nietabschnitt in Kombination erreicht."). Since plate 52 was deformed when coming into contact with shaft 16 (see Figures 18 and 19), the latter represented a riveting portion.

Moreover, independently of the definition of Exhibit 5, shaft 16 was suitable to be deformed in order to be connected to a plate and hence represented a riveting barrel portion. The wording in column 10, lines 8 to 16, did not contradict this interpretation, since it should not be understood as meaning that shaft 16 was not deformed at all, but only that it was not deformed as a consequence of the deformation of the plate.

Since D28 disclosed all features of claim 1 as granted, the alleged priority document D27 did not represent the first filed application of the invention and could not be used for claiming a priority right.

(b) Novelty

Element 10 shown in Figures 14 and 16 of D1 comprised a shaft portion 16 which was suitable to be deformed and hence represented a riveting barrel portion.

Since D1 additionally disclosed all further features of claim 1, its subject matter was not novel with respect to D1.

(c) Inventive step

D12 was considered to represent the closest pre-published prior art and disclosed all features of claim 1 apart from a riveting barrel portion. D7 and D8 both disclosed fasteners with a riveting barrel portion (see self-piercing riveting annular barrel portion 28 of D7 and tubular or annular barrel portion 254 of D8).

It would be obvious for the skilled person to combine the fastener of D12 with the riveting barrel portion of D7 or D8 which inevitably resulted in the subject matter of claim 1. Hence, the subject matter of claim 1 did not involve an inventive step.

VI. Appellant II's arguments can be essentially summarised as follows:

(a) Validity of the claimed priority

D28 did not disclose all features of claim 1. In particular, it did not disclose a fastener with a riveting barrel portion. Since the shaft portion 16 of element 10 according to Figure 14 and 16 was not intended to be deformed (see column 10, lines 8 to 16) it could not be considered to represent a riveting portion.

Even taking into consideration the definition of Exhibit 5, D28 did not disclose a riveting portion. Exhibit 5 defined a riveting portion as an element deformed in order to fix it to a second element. This deformation could take place either exclusively in the shaft portion or both in the shaft portion and in the

plate ("in Kombination"). However, the definition of Exhibit 5 did not comprise the option that the plate could be deformed on its own, while the riveting portion was not deformed.

Since D28 did not disclose all features of claim 1 of the patent in suit, D27 was indeed the first application of the invention underlying the patent in suit and its priority was validly claimed.

(b) Novelty

As set out under point (a) above, shaft 16 shown in Figures 14 and 16 of D1, which disclosed the same fastener as D28, did not represent a riveting barrel portion, since it was neither intended nor suitable for being bent in order to create a tight fit with a second element.

Therefore, D1 did not disclose all features of claim 1 and its subject matter was novel.

(c) Inventive step

D12 disclosed a fastener comprising a pressform element while both D7 and D8 disclosed fasteners with riveting portions. Since these two types of fasteners were based on completely different working principles, there was no reason why the skilled person would combine the features of one with the teaching of the other.

Therefore, the subject matter of claim 1 also involved an inventive step.

Reasons for the Decision

1. The appeal is admissible.

2. The subject-matter of the invention

The claimed invention relates to a fastener of the self-piercing type. These types of fasteners comprise: "riveting elements" and "pressform elements" as defined in Exhibit 5 which is a datasheet of the "DVS-Deutscher Verband für Schweißen und verwandte Verfahren".

This document defines a "riveting element" as an element with a portion which is deformed after having been inserted into the object with which it has to be connected by form fit ("Einnietbare Funktionselemente sind gekennzeichnet durch einen Abschnitt, der nach dem Einbringen in das Werkstück umgeformt und mit diesem formschlüssig verbunden ist"). This definition clearly states that a riveting element is characterised by a deformation of a portion of the riveting element itself.

Following this definition it is specified that the form fit can be achieved either by deformation of only a portion of the riveting element or by deformation of both the riveting element and the object with which it has to be connected ("Die Formschlüssigkeit ist entweder durch Umformen des Nietabschnittes allein und/oder durch Umformen der Lochwandumgebung mit dem Nietabschnitt in Kombination erreicht").

The interpretation of appellant I according to which the second part of the definition has to be interpreted in the sense that either the riveting element or the object with which it has to be connected can be deformed, is not correct. The two parts of the definition cited above have to be read in combination. Since the first part specifies the deformation of a portion of the riveting element, the second cannot be construed as giving the alternative of deforming either the riveting element or the other object.

Exhibit 5 goes on to define "pressform elements" as elements which are not deformed when inserted into the element with which they have to be connected ("werden beim Einbringen in das Bauteil nicht umgeformt"). It is the other element which is deformed by pressing it into contact with the pressform element ("Umgeformt wird der Bauteilwerkstoff dessen Lochwandumgebung an die oben genannte Abschnittsbereiche der Funktionselemente angepresst wird.").

It is evident from the definitions of "riveting element" and "pressform element" that these two elements conceptually represent two fundamentally different ways of connecting a fastener with another object. In one case the fastener is deformed (alone or in combination with the other object), in the other the fastener is not deformed.

Since claim 1 as granted refers to a fastener comprising a riveting barrel portion which according to all embodiments of the patent in suit is deformed (see Figures 9, 11 and 14), the invention clearly belongs to

the category of "riveting elements" and not that of "pressform elements".

3. Priority

The patent in suit claims the priority of D27 which itself claims the priority of D28. Appellant I argues that, since D28 disclosed all features of claim 1 as granted, D27 was not the first filed application referring to the present invention and that the priority was not validly claimed.

D28 discloses in Figures 14 and 16 a fastener comprising shaft 16 which is connected to plate 52 by the deformation of the plate into grooves 20 of the fastener. There is no disclosure in D28 of any purposive deformation of the shaft in order to connect it with the plate. Moreover, the bulk shape and the thickness of shaft 16 do not suggest any deformation upon insertion into plate 52 either. Therefore, the fastener described in D28 clearly belongs to the pressform element type.

Contrary to the submissions of appellant I, the passage in column 10, lines 8 to 16, cannot be understood in such a way that the shaft is intended to be deformed, let alone in order to connect the fastener to the plate. This passage merely describes a means to avoid an unintentional minor deformation of shaft (16), due to the deformation of the plate, which results in a restriction of the cross-section of the bore (82).

The argumentation of appellant I according to which shaft 16 was suitable to be deformed and hence

represented a riveting element cannot be followed either. The question to be answered is not only whether shaft 16 is suitable to be used as a riveting portion, but whether - more importantly - it was designed and intended to be deformed and hence used as a riveting part in D28. Since, as stated above, shaft 16 was explicitly not intended to be deformed, it does not represent a riveting portion.

Since D28 does not disclose all features of claim 1 of the patent in suit, D27 represents the first filing of the invention according to the patent in suit. Hence its priority is validly claimed.

4. Novelty

D1 was filed on 23 March 1995 and therefore after the priority date of the patent in suit (22 November 1994). However, since D1 claims the priority of D28 which was filed on 25 March 1994, D1 is prior art within the meaning of Article 54(3) EPC for those parts which can validly claim the priority of D28. Since Figures 21 A to H of D1 and the corresponding parts of the description are not disclosed in D28, they do not enjoy the priority of D28 and the relevant date for them is the filing date of D1. Hence they do not represent prior art either within the meaning of Article 54(2) EPC or that of Article 54(3) EPC.

D1 discloses, in Figures 14 and 16 and in the corresponding passages of the description, the same fastener as disclosed in D28.

Since, as stated under point 3 above, the fastener according to Figures 14 and 16 of D28 does not comprise a riveting barrel portion, D1 does not disclose all features of claim 1 as granted.

Therefore, the subject matter of claim 1 is novel.

5. Inventive step

Appellant I considers the fastener according to D12 to represent the closest prior art. This document discloses:

A fastener (40) comprising a barrel portion (the piercing and attaching post 56), a flange portion (the portion with the side surface 72) which extends radially from the barrel portion generally perpendicular thereto and a fastener portion (the portion surrounded by the surfaces 76 and 78) generally opposite the barrel portion (56), wherein said flange portion includes an outer annular panel bearing surface (58), whereby an annular groove (54) is provided adjacent to and surrounding said barrel portion (56) radially inside said outer annular panel bearing surface (58); a plurality of spaced apart radial ribs (projections 70) bridge said groove (54); and said fastener potion comprises a threaded bore coaxially aligned with said barrel portion (56).

The fastener according to D12 is not deformed when inserted into the plate and the connection to the plate takes place due to a deformation of plate 42. Therefore, taking into consideration the definitions of Exhibit 5 (see point 2 above), D12 discloses a fastener

of the pressform type and does not disclose a "riveting barrel portion".

D7 and D8 both refer to fasteners with a riveting portion (see self-piercing riveting annular barrel portion 28 in D7 and tubular or annular barrel portion 254 in D8). Therefore, they represent riveting elements (see definition of Exhibit 5) and belong to a completely different type of fastener than the one disclosed in D12.

Appellant I does not specify any technical problem to be solved by the combination of these two different types of fasteners and no such problem is evident from the documents either.

Therefore, since the fasteners according to D12 and D7/D8 work according to completely different principles, the skilled person has no reason to replace elements of a pressform element by elements of a riveting element.

It is correct that in principle the skilled person could replace the press-in shaft of D12 by the riveting element of D7/D8. However, there is no hint in any of these documents why he should do so, especially since no technical problem is solved by this modification.

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

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The opposition is rejected.

The Registrar: The Chairman:

V. Commare T. Kriner