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Aktenzeichen / Case Number / N<sup>o</sup> du recours : T 201/87  
Anmeldenummer / Filing No / N<sup>o</sup> de la demande : 80 200 575.1  
Veröffentlichungs-Nr. / Publication No / N<sup>o</sup> de la publication : 0 042 018

Bezeichnung der Erfindung: Method of joining parts with semi-tubular rivets  
Title of invention:  
Titre de l'invention :

Klassifikation / Classification / Classement : F16B 19/08

**ENTSCHEIDUNG / DECISION**  
vom / of / du 25 July 1989

Anmelder / Applicant / Demandeur :

Patentinhaber / Proprietor of the patent /  
Titulaire du brevet :

The Boeing Company

Einsprechender / Opponent / Opposant :

Messerschmitt-Bölkow-Blohm GmbH

Stichwort / Headword / Référence : Rivets/Boeing

EPÜ / EPC / CBE Article 56 EPC

Schlagwort / Keyword / Mot clé :

"Inventive step (yes)"  
"Onus of proof in opposition proceedings"

Leitsatz / Headnote / Sommaire

Europäisches  
Patentamt

Beschwerdekammern

European Patent  
Office

Boards of Appeal

Office européen  
des brevets

Chambres de recours



Case Number : T 201/87 - 3.2.1

**D E C I S I O N**  
of the Technical Board of Appeal 3.2.1  
of 25 July 1989

**Appellant :** Messerschmitt-Bölkow-Blohm GmbH,  
(Opponent) Postfach 107845  
2800 Bremen 1 (DE)

**Representative :**

**Respondent :** The Boeing Company  
(Proprietor of the patent) P.O. Box 3707  
Seattle Washington 98124 (US)

**Representative :** 't Jong, Bastiaan Jacobus  
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Sweelinckplein 1  
NL-2517 GK Den Haag (NL)

**Decision under appeal :** Decision of the Opposition Division of the European  
Patent Office dated 28 April 1987 rejecting  
the opposition filed against European patent  
No. 0 042 018 pursuant to Article 102(2) EPC.

**Composition of the Board :**

**Chairman :** F. Gumbel  
**Members :** C.T. Wilson  
J.-C. Saisset

## Summary of Facts and Submissions

- I. European patent No. 42 018 was granted on 10 April 1985 with four claims on the basis of European patent application 80 200 575.1. Claim 1 is worded as follows:

"A method of joining parts (24, 26) at least one of which is a fiber reinforced plastic laminate comprising the steps of drilling a hole (28) through the parts to be joined, countersinking the parts on at least one side (30, 32) selecting a semi-tubular rivet (10) having a head (12) and having an inside wall (18) on the tubular open end portion that tapers outwardly, inserting the rivet with a nut to a clearance fit in the hole in the parts, insuring that the open end (16) of the tubular rivet is on the countersink side, placing a die (34) on the open end, and squeezing the rivet at a pressure sufficient to set the rivet by forming the open end of the rivet against the countersink, characterized by selecting a die (34) being tapered at an angle greater than the angle of the countersink."

- II. The patent was opposed in due time and form on 8 January 1986. The Opponent requested revocation of the patent on the grounds that its subject-matter is not patentable within the terms of Articles 52-57 EPC.

The Opponent cited the following documents:

- (1) Verbindungstechnik, Heft 8, 1979, pages 21 and 22,
- (2) Aviation Week and Space Technology, 18 February 1980, page 46,
- (3) DE-B-1 943 811.

- III. The Opposition Division rejected the opposition in a decision dated 28 April 1987. According to the decision the main claim was novel since none of the cited documents had disclosed all the features of the method. The nearest prior art according to (1) teaches all the features of the precharacterising part of Claim 1, but none of the documents teaches to select the die such that it tapers at an angle greater than the angle of the countersink. The assertion of the Opponent that the taper of the die must necessarily be at an angle greater than the angle of the countersink, is not confirmed by any of the cited documents.
- IV. The Appellant (Opponent) filed an appeal against this decision on 11 June 1987 with the payment of the appropriate fee, and submitted a Statement of Grounds on 20 August 1987. The Appellant reasserted that the characterising feature of the method of Claim 1 follows automatically from the choice of the rivet, without offering any documentary proof that it was in fact known to expand the tubular end of a rivet in this way.
- V. The Respondent (Patentee) in a reply filed on 19 November 1987 agreed with the Opposition Division and denied that the assertion of the Appellant was correct.
- VI. The Appellant requests that the decision under appeal be set aside and the patent be revoked. The Respondent requests that the appeal be dismissed and the patent be maintained.

#### Reasons for the Decision

1. The appeal is admissible.

2. The patent relates to a method of joining parts according to the precharacterising part of Claim 1. Such a process is known from document (1), which represents the nearest state of the art.

The subject-matter of Claim 1 differs therefrom by the characterising feature thereof, namely by selecting a die being tapered at an angle greater than the angle of the countersink. In document (1) reference is made merely to the beating or squeezing of the semi-tubular rivet.

The Appellant has asserted that the die must be tapered at an angle greater than the angle of the countersink if a tubular rivet is to be effective. The Respondent denies this, as did the Opposition Division in the contested decision, pointing out that the assertion is not confirmed by the (revealed) state of the art. It is established practice in the Boards of Appeal, (see previous decisions T 219/83, OJ EPO 7, 1986, 211-226 and T 215/87, not published), that if the parties to opposition proceedings make contrary assertions which they cannot substantiate and the European Patent Office is unable to establish the facts of its own motion, the patent proprietor is given the benefit of the doubt. As in the above published case, in the present case the Board is not in the position to establish the facts, but is more inclined to take the Respondent's view, since if it really did follow automatically that the taper of the die must be larger than the angle of the countersink, this fact would certainly have been reflected in the technical literature capable of being substantiated. The Appellant has, however, produced no such literature.

Moreover, it appears to the Board that even with a pressing die having the same taper as the countersink it

would be possible to arrive at a nestling seat of the tubular end of the rivet against the surface of the countersink provided sufficient pressure is exerted to cause the material of the rivet to flow. In addition, the Appellant did not refute the Respondent's argument, according to which in the art of riveting it is generally not intended to carefully nestle the deformed part of the rivet against the surface of the object to be fastened.

3. Neither document (1) nor either of the other cited documents reveal or suggest that the die must be of a larger taper angle than that of the countersink. Document (2) was cited only against Claim 4, and document (3) only as background art, not against any particular claim. The person skilled in the art therefore receives no suggestion from the cited prior art to proceed in accordance with the characterising feature of Claim 1.

The subject-matter of Claim 1, therefore, is not only novel but also contains an inventive step within the meaning of Article 56 EPC, and the claim is allowable.

4. Since the above arguments are based only on grounds given in the contested decision, to which the Appellant had the opportunity to express himself in his Statement of Grounds, no preparatory communication was deemed to be expedient.

Order

For these reasons, it is decided that:

The appeal is dismissed.

The Registrar:

*S. Fabiani*

S. Fabiani

The Chairman:

*F. Gumbel*

F. Gumbel

*S.P.*  
*S. Fabiani*