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**D E C I S I O N**  
of 17 March 1998

**Case Number:** T 0297/97 - 3.2.3

**International  
Application Number:** PCT/AU89/00380

**International  
Publication Number:** WO 91/03653

**IPC:** F16B 15/00

**Language of the proceedings:** EN

**Title of invention:**  
Timber connectors

**Applicant:**  
Timber Connections Pty. Ltd.

**Opponent:**  
-

**Headword:**  
-

**Relevant legal provisions:**  
EPC Art. 56, 84  
EPC R. 29

**Keyword:**  
"Inventive step - no"

**Decisions cited:**  
-

**Catchword:**

-



Case Number: T 0297/97 - 3.2.3

**D E C I S I O N**  
**of the Technical Board of Appeal 3.2.3**  
**of 17 March 1998**

**Appellant:**

Timber Connections Pty. Ltd.  
4th Floor, 145 Eagle Street  
Brisbane  
Queensland 4000 (AU)

**Representative:**

Patentanwälte Wenzel & Kalkoff  
Postfach 73 04 66  
22124 Hamburg (DE)

**Decision under appeal:**

Decision of the Examining Division 2.3.03.107 of  
the European Patent Office posted 18 October 1996  
refusing European patent application  
No. 89 910 050.7 pursuant to Article 97(1) EPC.

**Composition of the Board:**

**Chairman:** C. T. Wilson  
**Members:** F. Brösamle  
M. Aúz Castro



## Summary of Facts and Submissions

I. The appellant (applicant) lodged an appeal on 18 December 1996 - paying the appeal fee on the same day - against the decision of the examining division of 18 October 1996 to refuse European application No. 89 910 050.7. The statement of grounds of appeal was received on 27 February 1997.

II. The examining division expressed the view that claim 1 underlying the decision was not based on an inventive step in the light of

(D1) AU-B-572 503

(D2) GB-A-1 269 903 and

(D4) FR-A-1 016 865.

III. Together with the statement of grounds of appeal the appellant filed new claims 1 to 5 and new description pages 2, 2a and requested that the impugned decision be set aside and that a patent be granted on the basis of these claims.

IV. Claim 1 reads as follows:

"1. A one piece spiked connector suitable for connecting together adjoining timber members which extend at right angles to one another, including a cranked stem (11),

primary and secondary spikes (17, 18) respectively connected to distal ends of said cranked stem (11) and each extending away from said stem (11) to provide respective free ends spaced from said cranked stem (11),

said primary spike (17) lying substantially in a common plane with said cranked stem (11),

said secondary spike (18) extending away from said common plane,

said primary spike (17), when penetrating a side face (15) of one timber member (9), being adapted to be retained pivotally in the timber member (9), whereby said connector may pivot about said primary spike (17) to its connecting attitude, permitting said secondary spike (18) to penetrate the adjacent side face (16) of the other timber member (8), characterised in that

said secondary spike (18) forms an included acute angle with the adjacent portion (13) of said stem (11) and is of such a length that its free end terminates outside the arc scribed by the connected end of said secondary spike (18) when pivoting about said primary spike (17),

said primary spike (17) forms an acute angle with said adjacent portion (12) of said stem (11), and said stem (11) is arranged such that said portion (12) of said stem adjacent said primary spike (17)

may deflect resiliently with respect to said spike (17) when the latter is driven home substantially perpendicularly into the side face (15) of said one timber member (9)."

- V. In the communication pursuant to Article 11(2) RPBA dated 26 May 1997 the board raised objections under Article 84 and Rule 29(1)(a) EPC with respect to claim 1 and drew appellant's attention to the combination of (D1), (D2) and (D4) with respect to the issue of inventive step of the subject-matter of claim 1. No comments on the above communication of the board were filed by the appellant.
- VI. In the oral proceedings of 17 March 1998 appellant's representative did not appear. The Chairman declared the oral proceedings open and stated that the appellant was duly summoned; in accordance with Rule 71(2) EPC the proceedings were continued without him.
- VII. From appellant's statement of grounds of appeal the following arguments can essentially be derived:
- (D1) is contradictory in itself, see page 3, second and sixth paragraph;
  - a skilled person would therefore be unable to extract any meaningful teaching from (D1) with respect to the angles between the spikes and the stem;
  - the insufficient hold on the lower or anchoring timber member by the first attachment spike and

partly the incorrect orientation of the second spike contribute to the known connector's low resistance to pull out, (see sheets 1 to 4 filed with the statement of grounds of appeal);

- the above problem encountered in (D1) is solved by the features set out in claim 1, namely by acute angles between both spikes and the stem which in itself is resilient and has a length such that its free end terminates outside the arc scribed by the connected end of the said secondary spike when pivoting about said primary spike; the effect of these features will be a tendency to pull the timber components together;
  
- even a combination of (D1) and (D2) would not render the subject-matter of claim 1 obvious since it would not be clear that the retention of the connector in the timber members is improved by the acute angles between the spikes and the stem, by the specific length chosen for the stem and by the resilience provided for in the stem.

## **Reasons for the Decision**

1. The appeal is admissible.
  
2. *Amendments*

Claim 1 is not open to an objection under Article 123(2) EPC since only dependent claims as

originally filed were incorporated into the independent claim, (see remark 1 of appellant's statement of grounds of appeal).

3. *Form of claim 1*

3.1 As already set out in the board's above communication claim 1 is open to objections under Article 84 EPC - "said" in combination with the adjacent portion (12) of claim 1 should read "an" since mentioned in the characterizing clause for the first time - and Rule 29(1)(a) EPC since from the nearest prior art document (D1) the **resilience** of the portion "12" of the stem "11" is known, (see Figure 2 and reference signs "12, 13, 29"), and since the length of the secondary spike is such that its free end terminates outside the arc scribed by its connected end when pivoting about the primary spike, (see page 5, lines 16 to 21 of (D1)).

3.2 Claim 1 is as a result of the above considerations not allowable for reasons of Article 84 and Rule 29(1)(a) EPC.

4. *Novelty*

Novelty was not disputed in the impugned decision or in the board's communication pursuant to Article 11(2) RPBA in the appeal proceedings. Detailed arguments are therefore not necessary in combination with the issue of novelty.

5. *Inventive step*

Even if claim 1 were amended to meet the above formal requirements it would not define inventive subject-matter. The following has to be observed in this respect.

- 5.1 The board agrees with the appellant that (D1) in some aspects is contradictory in itself, (see page 3, lines 3/4 and lines 19 to 23 as well as claim 3), and that a skilled reader could not derive an unambiguous teaching from (D1) as to the relevant angles.
- 5.2 What is therefore not known from (D1) in comparison with claim 1 is that the primary and secondary spike form an acute angle with respect to the adjacent portion of the stem. The benefit of doubt with respect to the disclosure of (D1) is therefore given to the appellant.
- 5.3 With the subject-matter of claim 1 the object of providing improved timber connectors which will be reliable and efficient in use is solved since the appellant has found that (D1) suffers from a poor pull-out resistance due to its undefined angles between the spikes and their connecting stem in-between.
- 5.4 The appellant claims an improvement of the timber connectors with respect to the pull-out resistance of the connector and with respect to the force pulling neighbouring timber components together.
- 5.5 The crucial features producing, however, these effects are well-known to a skilled person, namely from (D2)

and (D4).

From (D2), (see column 1, lines 19 to 27, claim 1 and Figure 1), it is clearly known to provide for acute angles between the spikes "2, 3" and the stem "1". When applying such a connector to adjoining timber members a prestressing effect in respect of the timber members is **automatically** achieved by the deflection of the secondary spike when driven into its timber member. This is also true in combination with the spiked connector according to Figures 7 and 11 of (D4) having a U-form. It is, however, composed of two spikes "A, B" orientated **angularly** (acute angle) with respect to the central part "C", (see also column 3 fourth paragraph ("A et B ... angulairement ...")). This connector also therefore produces a **tensioning effect** in the timber members.

- 5.6 Under these circumstances claim 1 has only added features to the nearest prior art document (D1) which were **readily available to a skilled person** confronted with the object of making the known timber connectors reliable and efficient in use i.e. of improving their pull-out resistance and their ability to force neighbouring timber components together. Since (D2) and (D4) relate to the technical field of timber connectors and solve the above object with the same technical features as claim 1, namely the provision of acute angles of the primary and secondary spike with respect to the adjacent portion of the interconnecting stem, it is clear for any skilled person that these features produce the claimed advantages over the nearest prior art, namely increased pull-out resistance and a

tendency to pull neighbouring timber components together.

5.7 Summarizing, it does not demand an inventive step to combine (D1) either with (D2) or (D4) to directly obtain the subject-matter of claim 1, Article 56 EPC.

5.8 Claim 1 - even if reworded to be formally in order - is therefore not allowable.

6. Appellant's counterarguments are not convincing to the board:

- if the appellant had reacted to meet the formal objections of the board with respect to claim 1 and, if he had in particular delimited the claim over the disclosure of (D1) he would have become aware that the only different feature of claim 1 over (D1) is the acute angle between the spikes and the stem, this feature and its advantageous effects being known from closely related documents in the same technical field;
- since documents (D2) and (D4) already comprise the object of the claimed invention and disclose the technical feature solving this object and since they produce the advantageous effects of this technical feature, they can easily be combined with the nearest prior art document (D1) without the exercise of an inventive step within the meaning of Article 56 EPC because a skilled person regularly would consider documents in the same technical field in which the objectively remaining

technical problem is addressed;

- appellant's sheets 1 to 4 filed with the statement of grounds of appeal have to be seen as background information only since they relate to specific angles between the spikes and the stem whereas claim 1 is not restricted to **specific** but only to **acute** angles between the spikes and the stem.

**Order**

**For these reasons it is decided that:**

The appeal is dismissed.

The Registrar:

The Chairman:

N. Maslin

C. T. Wilson