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**Datasheet for the decision  
of 22 March 2007**

**Case Number:** T 0450/05 - 3.2.04

**Application Number:** 96110679.6

**Publication Number:** 0752223

**IPC:** A47B 57/22

**Language of the proceedings:** EN

**Title of invention:**

Coupling device for light-duty metal set of shelves

**Patentee:**

ANEMOS S.p.A.

**Opponent:**

META-Regalbau GmbH & Co. KG

**Headword:**

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**Relevant legal provisions:**

EPC Art. 100(a)

**Keyword:**

"Implicit feature in a prior art document (no)"

"Novelty (yes)"

"Inventive step (yes)"

**Decisions cited:**

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**Catchword:**

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Case Number: T 0450/05 - 3.2.04

**D E C I S I O N**  
of the Technical Board of Appeal 3.2.04  
of 22 March 2007

**Appellant:**  
(Opponent)

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**Representative:**

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**Respondent:**  
(Patent Proprietor)

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**Representative:**

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**Decision under appeal:**

Decision of the Opposition Division of the  
European Patent Office posted 18 February 2005  
rejecting the opposition filed against European  
patent No. 0752223 pursuant to Article 102(2)  
EPC.

**Composition of the Board:**

**Chairman:** M. Ceyte  
**Members:** C. Scheibling  
C. Heath

## Summary of Facts and Submissions

I. By its decision dated 18 February 2005 the Opposition Division rejected the opposition. On 11 April 2005, the Appellant (opponent) filed an appeal and simultaneously paid the appeal fee. The statement setting out the grounds of appeal was received on 20 May 2005.

II. The patent was opposed on the grounds of Article 100(a) (54 and 56) EPC.

III. The following documents played a role in the present proceedings:

D16: DE-U-1 987 307

D13: catalogue "Meta Lagertechnik" 1987/88

IV. Claim 1 as granted reads as follows:

"1. A coupling device (11, 200) for light-duty metal sets of shelves (10) provided with uprights (12, 201) with which the shelves (13, 202) are associated directly, comprising a male component (14, 203) that is formed directly on, or fixed to, a shelf or an upright and is constituted by a bracket (15, 204) in which at least one portion is joined to and cut and deformed directly from the element from which it protrudes and has an inclined arrangement forming an angle ( $\alpha, \alpha$ ") with respect to said element from which it protrudes, said bracket having a transverse dimension that tapers linearly along an angle ( $\beta, \beta$ ") with respect to the vertical insertion direction of a corresponding and complementarily shaped female component (22, 205) formed as a tapered vertically extending through hole

directly on the complementary component of the set of shelves."

V. Oral proceedings before the Board took place on 22 March 2007.

The Appellant (opponent) requested that the decision under appeal be set aside and that the patent be revoked.

He mainly argued as follows:

Although D16 refers to a device for coupling cross members with uprights, it is implicit that these cross members are provided with sheet like support surfaces to constitute shelves. All other features of claim 1 are shown in Figures 1 and 2 of D16 and, thus, the subject-matter of claim 1 lacks novelty with respect of D16. However, even if it were not implicit that the cross members are provided with support surfaces to form shelves, it is common knowledge, as shown in D13, especially pages 11 and 12, to associate sets of shelves directly with uprights, so that this distinguishing feature alone would not render the claimed subject-matter inventive.

The Respondent (patentee) countered the Appellant's arguments and mainly argued as follows:

D16 does not show a bracket having an inclined arrangement forming an angle  $\alpha$  with respect to the element from which it protrudes and a transverse dimension that tapers linearly along an angle  $\beta$ . D16 does not disclose a corresponding and complementarily shaped female component which is formed as a through

hole. Therefore, the subject-matter of claim 1 as granted is novel over this prior art. D13 does not disclose these distinguishing features either, so that a combination of the features of D16 and D13 would not result in a device as claimed in claim 1 of the patent in suit.

The Respondent requested that the appeal be dismissed.

### **Reasons for the Decision**

1. The appeal is admissible.
2. *Novelty:*
  - 2.1 Novelty has been challenged with respect to D16.
  - 2.2 It has not been disputed that D16 (page 1, first paragraph; claims 3 and 4; Figures 1 and 2) discloses a coupling device for light-duty metal sets of cross members (1) provided with uprights (3) with which the cross members (1) are associated directly; the coupling device comprises a male component (8) constituted by a bracket (8) in which at least one portion is joined to and cut and deformed directly from the element from which it protrudes; the bracket has a transverse dimension with respect to the vertical insertion direction of a corresponding female component (5) formed as a vertically extending hole directly on the upright.
  - 2.3 D16 does not clearly and unambiguously disclose the following features of claim 1:

- metal sets of shelves are provided that are directly associated with uprights,
- the bracket has an inclined arrangement forming an angle  $\alpha$  with respect to the plane of the element from which it protrudes, and
- a transverse dimension that tapers linearly along an angle  $\beta$  with respect to the vertical insertion direction
- the female component has a corresponding and complementary shape and is vertically tapered.

2.4 The Appellant argued that it is implicit for a skilled person that the storage installation of D16 is provided with shelves, since the depicted cross members are part of these shelves.

However, D16 solely refers to cross members and not to shelves. In some storage installations the load may be supported directly upon horizontal cross members or beams, whereas in other installations shelves are supported from opposite horizontal cross members. Therefore, the storage installation disclosed in D16 is not to be regarded as implicitly equipped with shelves, because not all storage installations of the kind disclosed in D16 are provided with shelves.

2.5 In D16, page 4, last line to page 5, line 1; page 5, lines 4 and 5; and claims 3 and 4, the female component is said to be symmetric with respect to both the longitudinal axis (L) and the transversal axis (Q) and the male bracket is said to be symmetric with respect to the axis (L').

2.6 The male component depicted in Figure 1 of D16 is in form of a bracket consisting of two generally outwardly

extending leg portions 8a and 8c, interconnected by a bridge portion 8b. In Figure 1 the bridge portion 8b of the bracket extends parallel to the plate from which it protrudes. Thus, the active portion 8b of the bracket is not inclined to form an angle  $\alpha$  with respect to the plate in question. The Appellant submitted that the leg portions 8a and 8c are also inclined. However the sole function of these leg portions is to outwardly connect the bracket with the corresponding cross member end; they do not co-operate with the female component upon insertion of the male component into the female component. Should there be the slightest doubt about the meaning of this inclined arrangement, then consultation of Figure 2 and of paragraph [0034] of the patent specification would lead to the proper interpretation. In the Board's view claim 1 clearly confers protection to a configuration where the bridge or central portion of the bracket is inclined to form an angle  $\alpha$  with respect to the element from which it protrudes.

2.7 Furthermore, D16 does not contain any clear and unambiguous disclosure of any kind of vertical tapering of either the male component (Figure 1) or the female component (Figure 2). It is noted that one side of the male component is rectilinear and extends parallel to the longitudinal axis of the upright

2.8 Since the female component in D16 is formed to receive two male components side by side, it does not exhibit a shape that is complementary to the male component.

2.9 The Respondent argued that in D16 the female component is not a through hole because it is not possible to

insert the male component into the female component from either side. However, in absence of any explicit definition of the term "through hole" in the description of the patent in suit, this term can only be given the meaning and scope it normally has in the relevant art, that is a hole extending completely through the substrate from one side to the other side. Therefore, the slot 6a in Figure 2 of D16 can be regarded as a through hole.

2.10 Thus, the coupling device according to claim 1 differs from that disclosed in D16 in that:

- metal sets of shelves are provided that are directly associated with uprights,
- the bracket has an inclined arrangement forming an angle  $\alpha$  with respect to said element from which it protrudes,
- the bracket has a transverse dimension that tapers linearly along an angle  $\beta$  with respect to the vertical insertion direction,
- the female component has a corresponding and complementary shape and is vertically tapered.

2.11 Consequently, novelty of the subject-matter of claim 1 as granted is given with respect to D16.

3. *Inventive step:*

3.1 The Appellant argued that the sole difference between the subject-matter of claim 1 and the coupling device according to D16 is that the claimed coupling device is used for securing shelves and not cross members to uprights.



- 3.2 He submitted that the problem to be solved is to provide a coupling device for securing shelves to uprights which necessitates less parts, and that a skilled person would immediately recognise that the shelves could be made integral with the cross members as shown in D13 instead of being formed in two pieces as suggested by D16.
- 3.3 However, in order to determine whether this problem is also the objective problem solved by the present invention with respect to the closest prior art (D16), it has to be determined which problem is effectively solved by the distinguishing features indicated in section 2.10 above.
- 3.4 The above mentioned distinguishing features of claim 1 as granted of the male component having an inclined configuration forming an angle  $\alpha$  and a transverse dimension that tapers linearly along an angle  $\beta$  and of the corresponding and complementary shaped female component being formed as a tapered vertically extending hole function advantageously to provide a particularly effective double wedging self-locking action between the shelves and the uprights (see in particular paragraphs [0047] to [0049] of the patent specification). Thus, starting from this closest prior art the objective problem to be solved by the present invention may be seen in providing a simpler and more secure coupling device.
- 3.5 In D13 or in the other available prior art documents there is no disclosure or suggestion of the above distinguishing features, that is of the male component

having an inclined configuration forming an angle  $\alpha$  and a transverse dimension that tapers linearly along an angle  $\beta$  and of the corresponding and complementary shaped female component which is vertically tapered. In the absence of any disclosure or suggestion in this respect, these prior art documents would be of no assistance to the skilled person seeking to solve the problem at hand. In the Board's judgment, in view of the significant technical advantages achieved by the solution claimed in claim 1 that is the double wedging self-locking action between the shelves and the uprights, this solution cannot be considered as self-evident or falling within the normal competence of the skilled person.

3.6 Therefore, in the Board's judgment the subject-matter of claim 1 also involves an inventive step (Article 56 EPC).

## **Order**

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

The appeal is dismissed.

The registrar:

The Chairman:

G. Magouliotis

M. Ceyte