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Datasheet for the decision of 12 November 2007

Case Number: T 0599/04 - 3.2.03

Application Number: 97930362.5

Publication Number: 0910705

IPC: E01F 9/011

Language of the proceedings: EN

Title of invention:
Post, mainly for road equipment

Patentee:
Vejdirektoratet, et al

Opponent:
-

Headword:
-

Relevant legal provisions:
EPC Art. 54, 56

Keyword:
"Novelty and inventive step - yes (after amendment)"

Decisions cited:
-

Catchword:
-

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Case Number: T 0599/04 - 3.2.03

D E C I S I O N
of the Technical Board of Appeal 3.2.03
of 12 November 2007

Appellant: Vejdirektoratet
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Decision under appeal: **Decision of the Examining Division of the European Patent Office posted refusing European application No. 97930362.5 pursuant to Article 97(1) EPC.**

Composition of the Board:

Chairman: U. Krause
Members: E. Frank
J. P. B. Seitz

Summary of Facts and Submissions

I. The appeal lies from the decision of the Examining Division dated 23 December 2003, to refuse European patent application No. 97 930 362.5 filed as international application PCT/DK97/00308 and published under the international publication number WO 98/01626. The Examining Division held that the subject-matter of claim 1, filed with letter of 18 September 2003, lacked novelty.

II. The Appellant (Applicant) filed the notice of Appeal on 18 February 2004, paying the appeal fee on the same day. The statement of grounds of appeal was submitted on 20 April 2004.

III. With communication dated 6 February 2007 the provisional opinion of the Board on added subject-matter, novelty and inventive step was set out.

IV. With letter of 14 May 2007, received on 16 May 2007, the Appellant requested that the decision under appeal be set aside and that a patent on the basis of newly filed claims 1 to 3, newly filed description pages 1 to 9, and drawings 1/5 to 5/5 as published be granted. With letter of 26 October 2007 the Appellant filed a new clarified description page 5, to substitute previous description page 5.

The wording of the independent claim 1 of the sole request is as follows:

> "Post, mainly for road equipment, including signs and traffic light equipment, and having a tubular

profile with a constant, uniform transverse section in the longitudinal direction of the post, wherein in the transverse section the profile is divided into a number of alternate bearing sections and yielding sections, the yielding sections comprising a number of yield grooves, characterised in that
each yielding section has, in its entire length along the perimeter of the profile, a smaller wall thickness than parts of the walls of the bearing sections."

V. Amongst the documents cited in the Search Report, the following documents were considered in more detail as being the most relevant prior art:

D1: US 4 738 058 A (corresponding to SE 44 75 90 B cited in the search report)
D2: EP 0 230 535 A

VI. The arguments of the Appellant submitted in writing with respect to claim 1 can be summarized as follows:

In case of a collision with the post according to D1, the post broke when the corners are torn up and did not provide sufficient deceleration for a vehicle, since the profile shown in D1 were not divided in respective bearing and yielding sections. By means of the strict division between bearing parts and yielding parts as defined in claim 1, a deformation characteristic is obtained which meets even the strictest safety requirements. Surprisingly, the post in all directions behaves in a uniform manner upon impact, providing an absorption level of a high standard and a deformation

without breaking, thereby minimising the risk of injury to the persons involved.

Reasons for the Decision

1. The appeal complies with the provisions of Articles 106 to 108 EPC and of Rules 1(1) and 64 EPC and is, therefore, admissible.

2. *Amendments (Article 123(2) EPC)*

In newly filed claim 1 it has been added that the yielding sections comprise a number of yield grooves, which is based on claim 3 as originally filed. Moreover, it was specified that each yielding section has a smaller wall thickness than parts of the walls of the bearing sections. This is derivable from throughout the application as originally filed (cf. application as published, claim 1, figs. 1, 2, 2a, 3 and in particular page 4, lines 25 to 31, page 5, lines 26 to 31) where the bearing sections comprise parts having a wall thickness which is bigger than that of the yielding sections. Further, it has been clarified in claim 1 that the specified wall thickness of each yielding section relates to the entire length of the yielding section along the perimeter of the profile. This is based on the figs. 1, 2, 2a and 3. Furthermore, the sectional view of the profile has been clarified in claim 1 as being a transverse section, cf. figures 1, 2, 2a and 3. The uniform transverse section of the tubular profile has been described as being "constant" in the longitudinal direction of the post. This is derivable from originally filed page 2, line 4 (as

published), where an easy production of the post by extrusion is hinted at, the extrusion implying a longitudinally constant profile of the post.

Claim 2 is based on claim 4 as originally filed and figures 1, 2, 2a and 3. Claim 3 is derivable from the description (cf. page 2, line 36 to page 3, line 7 (as published)) and figs. 1, 2, 2a and 3.

The description is adapted to the amended claims, prior art documents D1 and D2 are briefly discussed on newly filed pages 1 and 2.

Thus, the amendments do not give rise to objections under Article 123(2) EPC.

3. *Novelty (Article 54 EPC)*

During appeal proceedings, and also during oral proceedings before the Examining division held on 23 December 2003, document D1 was considered as most relevant prior art. D1 relates to an extruded post for road equipment having a capability of yielding when hit by a vehicle. The transverse section of the profile of the post disclosed by document D1 (cf. figure 1) is divided into a number of alternate "bearing sections" (the wall sections 4 comprising "inwardly open channels 8") and "yielding sections" (the wall sections 4 between the bearing sections and their associated "internal grooves 5"). A "yielding section" as disclosed by D1(cf. figure 1) could possibly be understood as being merely made up by a single "internal groove 5". Thus, at the corners shown, e.g. in figure 1 of D1, the wall thickness of the "yielding

section", i.e. the remaining outer wall part where the "internal groove 5" has been cut out, would be smaller than parts of the bearing sections, i.e. the wall thickness of the "sides 4" and the "inwardly open channels 8". However, since a number of yield grooves are claimed by claim 1 on file, the term "yielding section" must be read onto a wall section of D1 which is formed by a "side 4" and its associated (two)"internal grooves 5".

Thus, the subject-matter of claim 1 differs from D1 in that:

i) each yielding section has, in its entire length along the perimeter of the profile, a smaller wall thickness than parts of the walls of the bearing sections.

Moreover, document D2 describes an extruded hollow section suitable for e.g., supporting traffic signs, and comprising a substantially ring shaped cross-section. However, neither D2 nor the remaining documents on file disclose a post having alternate bearing sections and yielding sections having different wall thickness, thereby providing predetermined yielding capabilities.

Therefore the subject-matter of claim 1 meets the requirements of novelty.

4. *Inventive step (Article 56 EPC)*

Starting from document D1 as closest prior art, the subject-matter of claim 1 is distinguished by

feature i), as set out under point 3 above. The objective problem solved by a smaller wall thickness of the yielding section according to feature i) can be seen in the control of fractures and deformations of the yielding section. In combination with feature i), the number of yield grooves apparently also contribute to the solution of the objective problem formulated above.

As already pointed out in point 3 above, a number of yield grooves are claimed by claim 1 and hence the term "yielding section" shall be read onto a wall section of D1 which is formed by a "side 4" and its associated (two)"internal grooves 5". Based on his common technical knowledge, it is not considered to be obvious for the skilled person, starting from the teaching of D1, to design the wall thickness of such a "yielding section", formed by a "side 4" and its associated (two) "internal grooves 5", thinner along its entire length along the perimeter of the profile than parts of the walls of the remaining "sides 4" and their "inwardly open channels 8", to enable controlled yielding of the "yielding section".

Moreover, document D2 discloses a post having a ring-shaped section with an essentially uniform wall thickness without grooves, and also none of the remaining documents on file disclose a reduced wall thickness for the purpose of controlling the deformation of a post upon impact. Thus, the teaching of the remaining documents cited in the search report also would not prompt the skilled person to adapt the wall thickness of the "sides 4" of D1 in order to

control yielding properties of the "sides 4", and to arrive thus at the subject-matter of claim 1.

The Board is, therefore, convinced that the subject-matter of claim 1 meets the requirements of inventive step. This also applies to claims 2 and 3, being dependent on claim 1.

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 to grant a patent on the basis of the following documents:

   – claims 1 to 3 received on 16 May 2007

   – description, pages 1 to 4 and 6 to 9 received on 16 May 2007
   description, page 5 received on 26 October 2007

   – drawings, sheet 1/5 to 5/5 as published.

The Registrar: The Chairman:

A. Counillon U. Krause