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**Datasheet for the decision
of 23 February 2016**

Case Number: T 0819/14 - 3.2.08

Application Number: 05075676.6

Publication Number: 1580388

IPC: E06B3/263, E06B3/273

Language of the proceedings: EN

Title of invention:

Thermally insulating body for a thermal break section for
window and door frames or the like

Patent Proprietor:

NORSK HYDRO ASA

Opponent:

SCHÜCO International KG

Headword:

Relevant legal provisions:

EPC Art. 54, 56

Keyword:

Novelty - (yes)
Inventive step - (yes)

Decisions cited:

Catchword:



**Beschwerdekammern
Boards of Appeal
Chambres de recours**

European Patent
Office
D-80298 MUNICH
GERMANY
Tel. +49 (0) 89 2399-0
Fax +49 (0) 89
2399-4465

Case Number: T 0819/14 - 3.2.08

**D E C I S I O N
of Technical Board of Appeal 3.2.08
of 23 February 2016**

Appellant:
(Opponent)
SCHÜCO International KG
Karolinenstrasse 1-15
D-33609 Bielefeld (DE)

Representative:
Specht, Peter
Loesenbeck - Specht - Dantz
Patent- und Rechtsanwälte
Am Zwinger 2
33602 Bielefeld (DE)

Respondent:
(Patent Proprietor)
NORSK HYDRO ASA
Bygdo Allé 2
0240 Oslo (NO)

Representative:
Colombo, Stefano Paolo
Marchi & Partners S.r.l.
Via Vittor Pisani, 13
20124 Milano (IT)

Decision under appeal: Decision of the Opposition Division of the European Patent Office posted on 5 February 2014 rejecting the opposition filed against European patent No. 1580388 pursuant to Article 101(2) EPC.

Composition of the Board:

Chairwoman P. Acton
Members: M. Foulger
P. Schmitz

Summary of Facts and Submissions

- I. With the decision dated 5 February 2014 the opposition division rejected the opposition against the European patent no. 1 580 388. In particular, the opposition division found that the subject-matter of claim 1 of the patent was new and involved an inventive step.
- II. The appellant (opponent) filed an appeal against this decision. The notice of appeal and the statement setting out the grounds of appeal were filed within the given time limits and in due form.
- III. Oral proceedings took place before the Board of Appeal on 23 February 2016.
- IV. The appellant requested that the decision under appeal be set aside and that the patent be revoked.

The respondent (patent proprietor) requested that the appeal be dismissed, or in the alternative, that the patent be maintained in amended form according to one of the first or second auxiliary requests filed with the letter dated 17 December 2014.

- V. Claim 1 of the main request (patent as granted) reads:

"A longitudinally extending thermally insulating bar-like body (11) for making metal thermal-break sections,
a) the body (11) having a cross-section comprising a stem (12) and two enlarged end heads (13), the enlarged end heads (13) being provided substantially at the respective ends of said stem (12),
b) said enlarged end heads (13) having a profile, in cross section, substantially in the form of a trapezium with its longer base forming a first support surface

(13d) for engaging with a corresponding bottom surface
(14d) of a recess for the said thermally insulating body and with its inclined sides for engaging with longitudinal inclined retaining teeth or longitudinal shoulders of metal half-shells, **characterized in that**
c) said body further comprises a first male member (15b) and a corresponding first female member (15a) that are suitable to mate with a female member (15a) and a male member (15b), respectively, of an analogous thermally insulating body in order to form a substantially tubular-like thermally insulating body,
d) said first male and female members (15b, 15a) are arranged substantially at the ends of said stem (12) in proximity of said enlarged end heads (13)."

The other requests are not relevant for this decision.

VI. The following documents are cited in this decision:

E1: WO 2005/008011 A2

D2: CH 654 897 A5

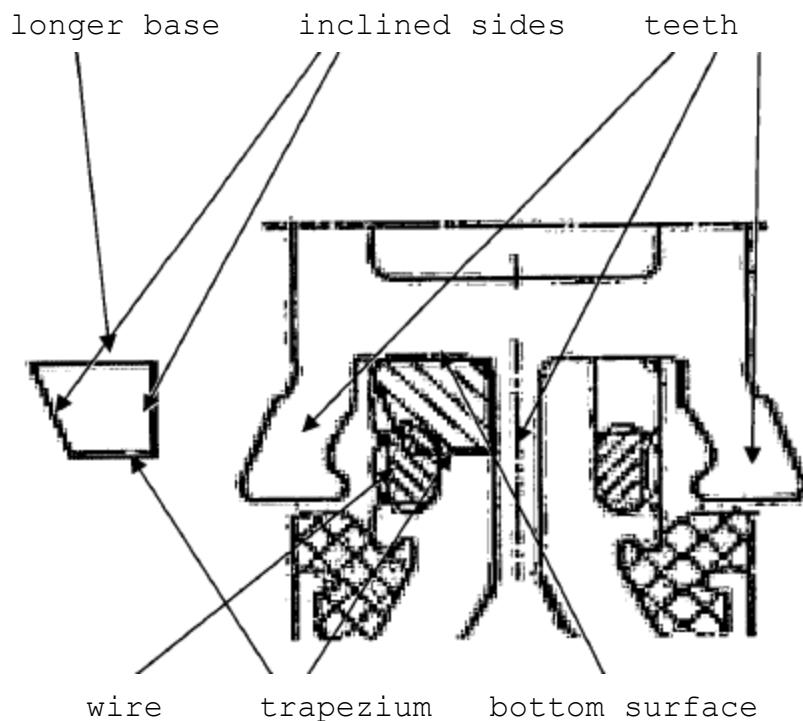
D3: DE 26 34 668 A

VII. The appellant argued essentially the following:

a) Novelty

The subject-matter of claim 1 was not new with respect to E1, which was state of the art under Article 54(3) EPC, and with respect to D3, which was state of the art according to Article 54(2) EPC.

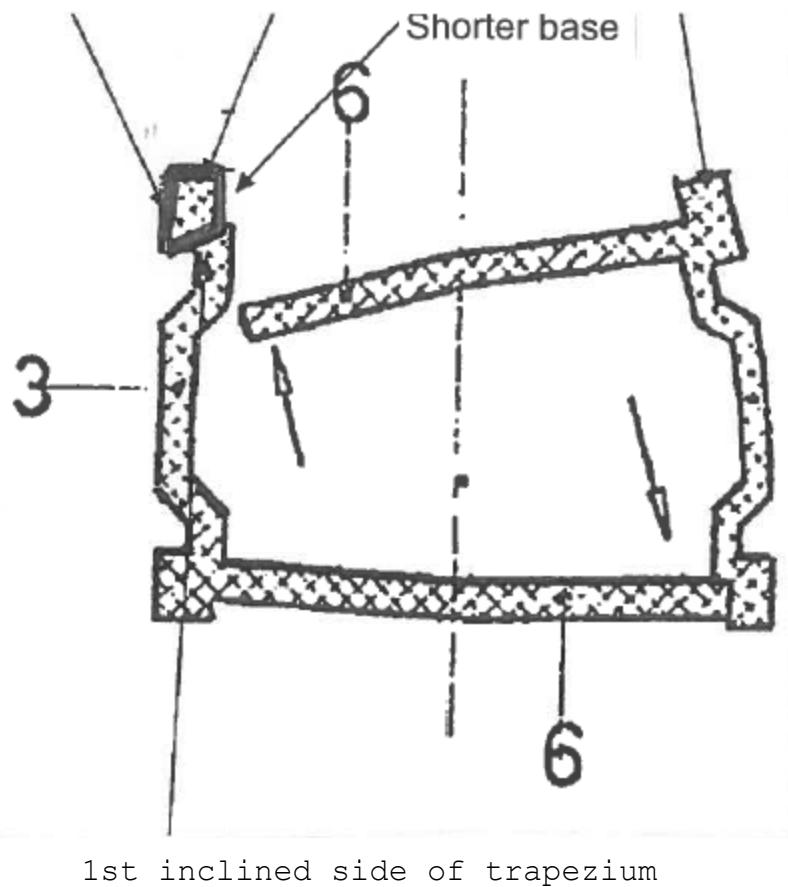
E1 disclosed a longitudinally extending thermally insulating bar-like body with enlarged end heads, see below an enlargement of Figure 3 (taken from the statement setting out the grounds of appeal).



Claim 1 required that the end heads had a profile, in cross section, substantially in the form of a trapezium. Because of the term "substantially" this feature was to be broadly interpreted. The end heads shown in Figure 3 of E1 were indeed substantially in the form of a trapezium. Even if it were to be considered that this was not the case, E1 further disclosed, page 9, 2nd paragraph, that the projections 32 were pressed into the head - this deformation of the head would result inevitably in a trapezoidally shaped head, especially if the wire 9, which was described as optional, were to be omitted. The body shown in Figure 3 further comprised male and female members as claimed. Hence all features of claim 1 were known from E1.

D3, Figure 14, also disclosed a bar-like body with enlarged end heads, see below.

Longer base 2nd inclined side End head



The functional part of the head was formed by the surfaces, shown in bold above, that were in contact with the recess. The remainder of the head did not play a role in the function of the head and could therefore be disregarded. The shape formed by these surfaces was a trapezium, see figure above. The bar-like body also had male and female members, see the parts indicated with reference sign 6. Thus, all features of claim 1 were known from D3.

The subject-matter of claim 1 was therefore not new (Article 54 EPC).

b) Inventive step

D2 was the most relevant prior art and disclosed all features of claim 1 except that one male and one female connecting member were provided. D2 however disclosed that male / female members could be provided (page 4, right hand column, lines 1-3).

The end head shown in D2 was in the form of a trapezium. The longer base could be seen as being suitable to be used as the support surface in a recess because the recess was not part of the claimed object. Should this feature not be regarded as being known from D2 then it was, in any case, merely an everyday workshop modification for the person skilled in the art.

The problem to be solved was therefore simply to provide an alternative arrangement to that known from D2.

The skilled person would arrive at the subject-matter of claim 1 as part of his normal design work because the choice of male / female members for connecting the two stems merely involved a simple choice amongst a very limited number of possibilities in order to arrive at the subject-matter of claim 1.

The subject-matter of claim 1 did not therefore involve an inventive step with regards to D2.

VIII. The respondent argued essentially the following:

a) Novelty

E1 did not disclose an end head in the form of a trapezium but rather a rectangular end head 4. E1, page 9, lines 10-12, disclosed that the end heads had sides

that were arranged substantially perpendicularly to each other. Therefore, the end heads shown in E1 did not have inclined sides as required by feature (b) because the feature of inclined sides excluded a perpendicular end form. Also the use of the plural for "sides" meant that there had to be at least two inclined sides.

D3 disclosed a bar-like body with rectangular end heads. The end heads did not have inclined sides. Moreover, even if a trapezium could be seen in the end heads, the "longer base" would not be suitable to form a support surface for engaging with a corresponding bottom surface of a recess. Although the recess was not part of the claimed object it was still necessary for the end head to have a certain arrangement in order to be suitable for this purpose.

Therefore the subject-matter of claim 1 was new with respect to both E1 and D3.

b) Inventive step

D2 disclosed an end head in the form of a trapezium. However this end head did not have inclined sides because it had only one inclined side and not a plurality. The end head was arranged so that the shorter base provided the support surface for engaging with a corresponding bottom surface of a recess. The longer base provided the connection to the stem and, thus, was not suitable to provide the support surface. Moreover, D2 did not disclose a first male member and a first female member.

The problem to be solved by the patent was to provide a thermally insulating bar-like body which may be adapted to different housings, see patent, paragraph [0005].

Faced with this problem, or even the problem suggested by the appellant, the cited prior art did not provide any hint that would have led the person skilled in the art to the solution claimed in the patent.

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

Reasons for the Decision

1. Main request - novelty

1.1 With regard to E1

E1 is state of the art according to Article 54(3) EPC.

E1 discloses a longitudinally extending thermally insulating bar-like body for making metal thermal-break sections, wherein the body has a cross-section comprising a stem 6 and two enlarged heads 4 being provided at the ends of the stem. Thus feature (a) of claim 1 is known from E1. This has not been disputed.

In dispute, however, is whether feature (b) is known from E1. This feature reads: "said enlarged end heads (13) having a profile, in cross section, substantially in the form of a trapezium with its longer base forming a first support surface (13d) for engaging with a corresponding bottom surface (14d) of a recess for the said thermally insulating body and with its inclined sides for engaging with longitudinal inclined retaining teeth or longitudinal shoulders of metal half-shells". This feature requires that the heads are substantially in the form of a trapezium with inclined sides. Inclined has, in the English language, the unambiguous sense of

leaning, i.e. being not perpendicular. Moreover the use of the plural for sides indicates that at least two sides are inclined. In the undeformed state shown in Figure 3 of E1 the enlarged end heads 4 have a substantially rectangular form with perpendicular sides, see E1, page 9, 2nd paragraph. Thus, they neither have a longer base nor inclined sides.

E1 further discloses a deformed state wherein the projections 32 are pressed into the end head, see page 9, 2nd paragraph. However, given the relative positioning of the projection 32 and head 4 shown in Figure 3, it would appear that the projection is pressed into the wire 9. Even if the wire were not present as argued by the Appellant, then the projection would still be pressed against this part of the head. There is no disclosure of the remainder of the head being deformed, thus a deformation of the head to form a trapezium is not unambiguously disclosed. Moreover even if such a deformation would take place then it would still result in the opposite side of the head being perpendicular to the base i.e. not inclined. Therefore, even with this interpretation, the feature of inclined sides is not known from E1.

The subject-matter of claim 1 is thus new with respect to E1.

1.2 With regard to D3

D3 discloses a longitudinally extending thermally insulating bar-like body for making metal thermal-break sections, wherein the body has a cross-section comprising a stem 3 and two enlarged heads being provided at the ends of the stem, see Figure 14. Thus feature (a) of claim 1 is known from D3. This has not

been disputed.

However, the enlarged head of D3 does not have inclined sides. Even if the appellant's explanation regarding the form of the head as a trapezium could be accepted then the head would still only have one inclined side. Also, if viewed in this manner, the longer base would not be suitable for forming a support surface for engaging with the bottom surface of a recess. The recess is not part of the claimed object and, therefore with another form of recess, the longer base would come into contact with the bottom surface of the recess. This would however also lead to different surfaces of the head being in contact with the recess. In this case the effective shape would no longer be a trapezium but a five-sided shape.

The subject-matter of claim 1 is therefore also new with regard to D3.

2. Inventive step

2.1 Closest prior art

D2 was viewed by the appellant as representing the closest prior art. This document discloses a longitudinally extending thermally insulating bar-like body for making metal thermal-break sections, wherein the body has a cross-section comprising a stem 7 and two enlarged heads, see Figure 1, being provided at the ends of the stem (feature (a) of claim 1). The heads have the form of a trapezium. Moreover this document also discloses an embodiment wherein the connecting webs are split and provided with male and female mating members, see page 4, right hand column, lines 1-6.

2.2 Differences with the subject-matter of claim 1

This document does not disclose that the longer base forms a support surface for engaging with a corresponding bottom surface of a recess. In the drawings of D2, the shorter base of the trapezium is shown as engaging with the bottom of the recess. Since the longer base forms part of the connection to the stem then it is not suitable for engaging with a corresponding bottom surface of a recess. Moreover the enlarged head of D2 has only one inclined side.

D2 discloses that the connecting pieces 7d may be split and replaced by a male / female connection, see D2, page 4, left hand column, line 21 through to right hand column, line 6. This passage does not however disclose that there is one male and one female connector but rather leaves this point open.

2.3 Problem to be solved

According to the appellant the problem to be solved is to provide an alternative arrangement to that known from D2. For the sake of argument, this problem is used in the following.

2.4 Solution

In seeking to solve the above problem, the skilled person would realise that D2 indicates that male / female connections may be used. From this there were only two options - one male connector and one female connector on each stem or two identical connectors on each stem. It would be expected that the person skilled in the art would be able to choose between these two alternatives without the exercise of inventive activity.

However there are other modifications that must be made in order to arrive at the subject-matter of claim 1:

- i) Rotation of the trapezium such that its longer base forms a support surface for engaging with a corresponding bottom surface of a recess.
- ii) Providing the trapezium with inclined sides (in the plural).

The argument that these modifications were simple workshop modifications which would not require any inventive activity is not persuasive because the person skilled in the art, not being endowed with any inventive capability, would have needed a hint to do so. Lacking such a hint has the consequence that the person skilled in the art would have had no reason to carry out any of the required modifications and also no reason to believe that doing so would involve any expectation of success.

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

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

C. Moser

The Chairwoman:

P. Acton



Decision electronically authenticated