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D E C I S I O N
of 21 March 2002

Case Number: T 0553/00 - 3.2.3

Application Number: 93118968.2

Publication Number: 0599305

IPC: E04F 17/02

Language of the proceedings: EN

Title of invention:

Multi-shell formed piece with flexible insulating plates
disposed between the walls of said formed piece

Patentee:

SAINT-GOBAIN ISOVER G+H Aktiengesellschaft

Opponent:

Deutsche Rockwool Mineralwoll-GmbH

Headword:

-

Relevant legal provisions:

EPC Art. 54, 56

Keyword:

"Novelty (yes)"
"Inventive step (yes)"

Decisions cited:

-

Catchword:

-



Case Number: T 0553/00 - 3.2.3

D E C I S I O N
of the Technical Board of Appeal 3.2.3
of 21 March 2002

Appellant: Deutsche Rockwool Mineralwoll-GmbH
(Opponent) Karl-Schneider-Strasse 16-18
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Representative: Wanischeck-Bergmann, Axel, Dipl.-Ing.
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Respondent: SAINT-GOBAIN ISOVER G+H
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Representative: Naumann, Ulrich, Dr.-Ing.
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Decision under appeal: Interlocutory decision of the Opposition Division
of the European Patent Office posted 3 April 2000
concerning maintenance of the European Patent
No. 0 599 305 in amended form.

Composition of the Board:

Chairman: C. T. Wilson
Members: J. du Pouget de Nadaillac
J. P. B. Seitz

Summary of Facts and Submissions

- I. The appeal is directed against the interlocutory decision dated 3 April 2000 of an opposition division of the European Patent Office, which maintained the European patent EP-B-0 599 305 in an amended form.

Claim 1 is the sole independent claim of the amended claims and reads as follows:

"Multi-shell formed piece, in particular a pipe (1) for restoring chimneys, comprising at least two concentric tubes with spaced-apart walls (2,3) and insulating material (4) being disposed therebetween, the insulating material (4) consisting of at least one bent insulating plate (5) and the fibers (6) of the insulating material (4) running approximately parallel to the surface of the insulating plate (5), such that they are also essentially parallel to the surfaces of the walls (2,3) and, hence, transverse to the heat current (7),

characterised in that at least in circumferential direction, the insulating material (4) is configured as one single piece, i.e. in circumferential direction, it is one single insulating plate (5), in that the axially disposed edges of the insulating plate (5) are in contact one another, and in that the edges (8) are bevelled to form an acute angle such that the insulating material (4) overlaps in the area of the contacting edges (8)."

- II. In the decision under appeal, the opposition division held that, contrary to the arguments of the opponent, the subject-matter of claim 1 was new and implied an

inventive step, particularly having regard to the following prior art documents, which were considered as being the most relevant among those cited by the opponent:

D1: Company Brochure of Rockwool, "Information 105",
Klima- und Rohrleitung 574/1/GD;

D2: AT-A-319 453

D4: DE-A-3 512 089

D6: Zulassungsbescheid, INSTITUT FÜR BAUTERCHNIK,
Mineralfaserdämmplatten und
Mineralfaserdämmstreifen "Rockwool-Brandplatten
RPB/K", Zulassungs-Nr. Z-7.1.124 vom 10 November
1983.

III. The appellant, opponent, filed the notice of appeal on 27 May 2000, paying the appeal fee at the same time. In the statement of grounds of appeal which was received on 26 July 2000, lack of novelty of the subject-matter of claim 1 is still objected having regard to D6, whereas the documents D1, D2 and D6 are mentioned for the lack of inventive step.

IV. In response to a communication of the board annexed to the summons to attend oral proceedings, the appellant filed the following new documents:

D9: Prospectus "Rockwool Brandschutzplatte RPB-9"
dated December 1992.

D10: Prospectus "Rockwool Brandschutzplatte RPB-12"
dated January 1986.

Oral proceedings took place on 21 March 2002.

V. The appellant's submissions can be summarised substantially as follows:

A dual-shell formed pipe for chimneys is described in point 1 of document D6 receiving in the annular space between the two concentric tubes a particular mineral wool insulation material in the form of panels, which are the subject-matter of this document. According to point 2.6, the panels are rectangular and their axially disposed edges, which are in contact with one another once the bent insulating layer is inserted in the annular space, are so bevelled that at least an angle of 45° is formed between the panel external surfaces and the edges. According to point 4.1.1., the purpose of the bevelled edges is to provide a thick and uninterrupted blanket. That only one insulating panel is used for filling the annular room results from the use of the plural of the term "Plattenränder". The person skilled in the art, who receives this information, comes necessarily to an insulating plate having a section as shown in Figures 2 and 3 of the patent in suit.

In claim 1 of the patent in suit, two further features are given, namely that the fibres of the insulating material run essentially parallel to the surface of the insulating material and transverse to the heat flow and, as last feature of the claim, that the contacting edges of said insulating plate overlap. These two features are implicitly disclosed in D6 for the following reasons:

In this technical field, as shown by the prospectuses

D9 and D10, the term "Mineralfaserdämmplatten", which is used in D6, means plates with fibres running parallel to the main surfaces of the plates and these plates are those which are mostly used, since they are cheaper than the "Lamellenplatten" which require additional process stages for their manufacture in order to bring the fibres perpendicular to the surfaces of the plates. "Mineralfaserdämmplatten" can also be bent so as to be inserted in an annular space, whereas this is not possible with the other kind of panels. Therefore, the feature concerning the direction of the fibres is disclosed in D6.

The term "overlaps" covers the case where the two edge surfaces are radially abutting against each other, so that the requirement in D6 of having an insulation layer without break necessarily leads to edges which overlap one another. Moreover, the angle of at least 45° between the edge and the panel surface, which is required in D6, leads automatically to an overlapping of the insulating material in the area of the contacting edges.

Supposing that nevertheless the last feature of claim 1 is considered to be new, it does not involve an inventive step, since the skilled person is well aware of the need of an overlapping in the butt-joint area, see in this respect document D1, page 8. By applying this knowledge to the teaching of D6, he arrives immediately at the subject-matter of claim 1.

VI. The respondent defended the patent in suit as follows:

No suggestion of an overlapping can be found in D6. Bevelled edges of a panel, which is bent around a pipe,

doe not mean that these edges necessarily overlap, they can merely abut against each other. It is moreover doubtful whether the term "Mineralfaserdämmplatten" is sufficient to disclose the claimed fibre direction: document D1, for example, shows that the term "Lamellenplatten" can cover fibres which are parallel as well as perpendicular to the panel surface. As far as inventive step is concerned, the combination of document D1 with D6 is illogical because of the different kinds of plates concerned, and, further, does not direct the skilled person to the present invention, since the true teaching of D1 is to avoid an overlapping.

- VII. The appellant requested that the decision under appeal be set aside and the European patent No. 0 599 305 be revoked.

The respondent requested that the appeal be dismissed and that the patent be maintained.

Reasons for the Decision

1. The appeal is admissible.
2. The appellant has essentially based the appeal on the prior art document D6, which is a German official registration paper for insulating panels made of mineral wool and fabricated by a given firm. According to page 3, point 1, of this document, these panels, which are rectangular and have rated bulk density, are intended to fill the space between two shells of a chimney, which can be tubular and concentrically disposed. Pages 4 and 5 specified that the panels must

therefore be bent and that their edges should be so bevelled that an angle of at least 45° should be formed between the edges and the panel surfaces. The width of the panels and the inclination of the edges are to be chosen so that a thick insulating layer without any breaks is obtained.

3. This prior art provides no information as to how the panels are introduced into and arranged in the annular space. In particular and contrary to the appellants's assertion, the number of panels used to fill the space cannot be deduced from this document, since the plural of "edges" does not necessarily mean two edges, but "at least two", so that it could be three and more edges, and thus does not imply only one panel. When several adjacent panels are used in the circumferential direction to surround the internal tube of a chimney, the inclination of the required bevelled edges is not the same as it would be with the use of a single panel surrounding the chimney in the circumferential direction. This document consequently does not provide the information that the opposite edges of a **single** panel inserted into the annular space of a dual-shell insulating chimney contact each other.

Supposing nevertheless that a single insulating panel is used, bevelled edges of this panel with an angle of at least 45° between each edge and the panel surface do not necessarily imply an overlap of the edges, which are parallel to the chimney axis. Inside this suggested range of angles the contact line between the two edges can be radially disposed and in such a case, contrary to the appellant's assertion, the edges do not overlap, at least according to the meaning of this term in the official English language of the patent in suit

(according to Article 69 EPC, claim 1 should also be read in the light of the description and drawings of the patent in suit, which confirm this interpretation of the term "overlap", see column 3, lines 5 to 12; column 4, lines 23 to 26 and Figure 2). Thus, there is no - even implicit- teaching in D6 that the edges of a single insulating panel must overlap.

Therefore, the subject-matter of claim 1 is new vis-a-vis D6. Since each of the other prior art documents, which were cited by the appellant, does not disclose a multi-formed piece comprising all the features of claim 1, the subject-matter of this claim is new (Article 54 EPC).

4. According to the appellant, a passage of page 12 of D1 teaches two possibilities for the joining edges of an insulating blanket: either the edges overlap or they are tightly joined to each other. However, the true teaching of D1 is to avoid the overlapping method and to apply only the second possibility, so that this prior art directs the person skilled in the art away from realizing an overlap. Moreover, this prior art mentions an overlap in general terms without any other indication, so that the skilled person could think that the whole edge of a blanket overlaps the other opposite edge or the edge of another blanket. In this prior art, there is no suggestion of bevelled edges overlapping each other.

Hence, in view of the above whole teaching of D1 and of the teaching of D6 which suggests bevelled edges, a combination of D6 with D1 would have led the person skilled in the art to have the edges so bevelled that a tight contact without overlap of the edges with one

another is ensured when the insulating panel is bent around the internal concentric tube of for example a chimney. Therefore, contrary to the appellant's opinion, this combination does not suggest the subject-matter of claim 1.

5. In its written submission of grounds of appeal, the appellant has also mentioned the combination of D2 with D1, since in its opinion D1 teaches to have edges which are so bevelled edges that they overlap. However, as seen above, the person skilled in the art is first dissuaded by this prior art from realizing any kind of overlap and further this prior art, as well as D2, does not suggest the use of bevelled edges.
6. It follows that the subject-matter of claim 1 was not obvious in the light of the state of the art cited by the appellant.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

A.Counillon

C.T.Wilson