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Bezeichnung der Erfindung: Fire-retardant wall
Title of invention:
Titre de l'invention :

Klassifikation / Classification / Classement : E04 B1/94

ENTSCHEIDUNG / DECISION

vom / of / du 1 October 1987

Anmelder / Applicant / Demandeur : Beheermaatschappij H.D. Groeneveld B.V.

Patentinhaber / Proprietor of the patent /
Titulaire du brevet :

Einsprechender / Opponent / Opposant :

Stichwort / Headword / Référence :

EPO / EPC / CBE Article 56, Rule 67

Kennwort / Keyword / Mot clé : Inventive step (yes) - Overcoming a prejudice -
Reimbursement of the appeal fee (no)

Leitsatz / Headnote / Sommaire

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Case Number : T 36/85

D E C I S I O N
of the Technical Board of Appeal 3.2.1.
of 1 October 1987

Appellant : Beheermaatschappij H.D. Groeneveld B.V.
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Decision under appeal : Decision of Examining Division 107
of the European Patent Office
dated 17 August 1984 refusing
European patent application
No. 81 200 250.9 pursuant to
Article 97(1) EPC

Composition of the Board :

Chairman : P. Delbecque

Members : M. Liscourt

P. Ford

Summary of Facts and Submissions

I. European patent application No. 81 200 250.9 filed on 3 March 1981 claiming priority from a national application in The Netherlands of 6 March 1980 and published under the number 0035817 was refused by a decision of the Examining Division dated 17 August 1984. The decision was based on Claim 1 filed on 18 February 1983 and on Claims 2 to 8 as originally filed and on an additional independent claim proposed on 7 December 1983.

The reason given for the refusal was that in view of the prior art documents DE-A-2 827 837 and GB-A-2 024 391, the subject-matter of the independent claims did not involve an inventive step within the meaning of Article 56 EPC and was thus not allowable.

II. On 15 October 1984, the Appellant lodged an appeal against this decision and paid the appeal fee the same day. The statement of grounds was submitted on 13 December 1984. The appellant argued that the improved fire-proof wall as defined in Claim 1 could not be deduced from the walls disclosed in the prior art which refer to heat insulating walls and fail to deal with the problem of preventing fire from being transmitted.

III. As a result of objections raised by the Board of Appeal in three communications in which among new documents representing the state of the art the specification US-A-3 031 044 was cited, the Appellant submitted on 2 June 1987 a revised portion of the description and a new drawing sheet. During an interview on 1 October 1987 a new Claim 1 was filed together with an amendment to page 2 of the description, Claims 2 to 5 remaining unmodified while Claims 6 to 8 were deleted. It was requested that the

impugned decision be set aside and that a European patent be granted on the basis of these amended documents.

Claim 1 reads as follows:

"A fire-retardant wall comprising:

- a first wall (28) comprising gutter-shaped metal elements (3) contacting one another in side-by-side abutting relationship,
- a second wall, which is to be exposed to fire, comprising adjoining profiled metal elements (13) and
- a partition comprising at least one layer (6) of heat insulating material on each side of which said first wall (28) and said second wall (13, 13) are secured,

characterised in that

- the metal elements (3) of the first wall (28) are filled out with heat insulating material (5),
- the metal of the metal elements (13) of the second wall is sufficiently thin to be able to produce folds under the influence of stress at high temperature caused by fire,
- under such high temperature conditions the first wall (28) maintains a gas and vapour tight seal in the wall construction,
- the partition (6) comprises heat insulating material containing silicate,
- the other heat insulating elements (5, 9, 10, 11) comprise heat insulating material containing calcium-silicate.

IV. Moreover, the Appellant also requested the reimbursement of the appeal fee under Rule 67 EPC.

Reasons for the Decision

1. The appeal complies with Articles 106 and 108 EPC and Rule 64 EPC and is therefore admissible.
2. In the Board's view no objection may be raised to the preamble of Claim 1 acknowledging as known a fire-retardant wall according to document US-A-3 031 044 which represents the nearest state of the art, therefore Rule 29(1)(a) EPC is complied with.

Those features stated in the characterising portion of Claim 1 differ from the prior art referred to above with respect to the salient features which the Appellant desires to protect. Compared with the wording of Claim 1, on which the decision is based, the effective Claim 1 comprises the added features of ability to producing folds, of maintaining gas and vapour tightness, and of containing calcium silicate.

These features may be derived from the filed description respectively page 4, lines 1 and 2, page 5, lines 35 and 36, and page 6, lines 2 to 14. Therefore the subject-matter of Claim 1 does not extend beyond the context of the application as filed as required by Article 123(2) EPC.

3. The examination as to whether a device according to Claim 1 is disclosed in any of the documents uncovered by the search report leads to the conclusion that the subject-matter of Claim 1 is novel having regard to the state of the art, due to the fact that they all fail to disclose a fire-retardant wall including thin metal elements which are able to produce folds at high temperature.

4. In the fire-retardant wall of the same kind known from US A 3 031 044, thick metal sheets are used to obtain good structural qualities and between said metal sheets gypsum plates are interposed to prevent heat from being transmitted from the side which is exposed to fire to the opposite side of the wall. This may lead to heavy walls which have to be built on the spot and are difficult to handle. Furthermore, thick metal plates exert efforts on the structure when exposed to fire.
5. Therefore the technical problem to be solved underlying the present application resides in the provision of a simple, light wall which provides for fire-retarding properties and avoids exerting efforts on the supporting structure when exposed to fire.
6. The solution of this problem is based on the first idea of making use of thin metal sheets which are able to produce folds when subjected to the heat of a fire avoiding thereby to exert stress on the structure, the second idea consisting in arranging the metal elements of the first wall so that they maintain a gas and vapour tight seal when the wall is exposed to heat and the third idea consists in using insulating materials containing silicate.
7. It remains to be examined whether the subject-matter of Claim 1 involves an inventive step and the question arises whether the publications cited would give the skilled person any indication how the known fire-retardant wall would have to be modified to avoid the drawbacks pointed out above.
8. In the present case, a prejudice has been overcome because the walls of the prior art were provided, in order to resist to fire and to avoid deformations, with thick metal

plates and there is nothing to be found in the prior art which is at the disposal of the Board and which could give the man skilled in the art any lead that his problem could be solved by reducing considerably the thickness of said metal elements.

It may be that the advantages obtained by such a reduction of the thickness of the metal elements, namely the reduced costs and the easy handling, are obvious indeed to the man skilled in the art but only after the idea of reducing said thickness has occurred to him, that is to say after he has overcome a prejudice. Furthermore, the main and unforeseeable advantage of the use of thin metal for the fire-exposed wall is that due to the deformability of that thin wall, no stress is transmitted to the supporting structure and that the gas and vapour tightness of the calcium silicate containing area is maintained, while heat absorbed by evaporating of crystal water contained in calcium silicate prevents the temperature of the first wall during a substantial time from overstepping a certain temperature.

The fire retardant wall according to Claim 1 cannot therefore be considered as obvious for the man skilled in the art and satisfies therefore the requirements of Article 56 EPC.

9. As the reasoning of the former instance, which led to the refusal of the application was based on a main claim which was broader than the present Claim 1 on file inter alia as it did not contain any indication about the thickness of the metal elements, the Board does not consider it as necessary to discuss any further the reasoning of the Examining Division which reasoning was well founded.

10. The dependent Claims 2 to 5, having as subject-matter special embodiments of the invention as claimed in independent Claim 1 on which they ultimately depend, are also allowable, since their acceptance is contingent on the allowability of Claim 1, which has to be approved.
11. The Appellant has shown no cause for the requested reimbursement of appeal fee and the Board cannot find a procedural violation making a reimbursement equitable. In fact, the scope of the main claim has been amended during the appeal proceedings.

Order

For these reasons, it has been decided that:

1. The decision of the Examining Division dated 17 August 1984 is set aside.
2. The application is remitted to the first instance with the order to grant a European patent on the basis of the following documents:
 - Claim 1 received on 1 October 1987
 - Claims 2 to 5 received on 2 June 1987
 - description, pages 1 to 8, received on 2 June 1987, lines 1 to 25 of page 2 being replaced by page 2 received on 1 October 1987
 - drawing sheet 1/2 as originally filed
 - drawing sheet 2/2 received on 2 June 1987.

3. The request for reimbursement of the appeal fee is refused.

The Registrar

The Chairman

F. Klein

P. Delbecque