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D E C I S I O N
of 31 March 1999

Case Number: T 0430/97 - 3.2.3

Application Number: 92910367.9

**International
Publication Number:** WO 92/20885

IPC: E04F 15/02

Language of the proceedings: EN

Title of invention:

A flooring system having joinable tile elements, particularly plastic tiles

Applicant:

Bentzon, Frank

Opponent:

-

Headword:

-

Relevant legal provisions:

EPC Art. 56

Keyword:

"Inventive step - obvious combination of known features"

Decisions cited:

-

Catchword:

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Boards of Appeal

Chambres de recours

Case Number: T 0430/97 - 3.2.3

D E C I S I O N
of the Technical Board of Appeal 3.2.3
of 31 March 1999

Appellant:

Bentzon, Frank
C.A. Thyregodsvej 105
8230 Abyhøj (DK)

Representative:

Skoett-Jensen, Knud
K. Skoett-Jensen Patentingenioerer A/S
Lemmingvej 225
8361 Hasselager (DK)

Decision under appeal:

Decision of the Examining Division 2.3.03.108 of the European Patent Office dated 11 November 1996 refusing European patent application No. 92 910 367.9 pursuant to Article 97(1) EPC.

Composition of the Board:

Chairman: C. T. Wilson

Members: F. Brösamle

J.-P. Seitz

Summary of Facts and Submissions

- I. With decision of 11 November 1996 the Examining Division refused European patent application No. 92 910 367.9 according to Article 97(1) EPC.
- II. The appellant (applicant) lodged an appeal on 8 January 1997 - paying the appeal fee on the same day - against the above decision of the Examining Division and filed the statement of grounds of appeal on 11 March 1997.
- III. In the impugned decision the Examining Division expressed the view that the subject-matter of claim 1 is novel but not based on an inventive step in the light of
- (D1) US-A-4 807 412 (=DK-A-155 616)
(D2) US-A-3 500 606
(D4) US-A-841 998
(D7) DE-A-2 812 008 and
(D8) DE-C-209 979.
- IV. The appellant requested that the decision under appeal be set aside and that the patent be granted on the basis of claims 1 and 2 (Annex A) filed with the statement of grounds of appeal - **main request** - or on the basis of a combination thereof - **auxiliary request**.
- V. The above claims 1 and 2 read as follows (obvious amendments):

"1. A floor covering system with tiles of the type having edge coupling means for interconnecting the

tiles, characterized by the combination of

- the tiles being of the type having a top plate and edge walls depending from the edges thereof, preferably made of plastics,
- the coupling means being constituted by separate coupling members having an intermediate web portion (20) for crossing the laid-together edge walls of adjacent tiles through downwardly open recesses in these walls, and opposed head portions for co-operation with respective retention wall means of enlarged, downwardly open holding recesses (16) behind said edge walls,
- said wall recesses extending as vertical slots (12) from the bottom to a substantial partial height of the walls, with a relatively narrow width; and
- the head portions (22) of the coupling members being of increased width relatively to said slots (12) so as to holdingly engage the retention wall means at areas laterally of the slots (12).

2. A floor covering system according to claim 1, in which the interengaging parts of the coupling members and the single tiles are designed so as to stabilise the intermediate web (20) of the coupling member in a position perpendicularly projecting from the associated tile edge wall already by an initial introduction of the relevant head portion (22) into the holding recess (16)."

VI. Following the Board's communication pursuant to Article 110(2) EPC in which the Board set out that the "problem-solution-approach" will be applied for the assessment of inventive step, the appellant essentially argued as follows:

- the application of the "problem-solution-approach" is contested since nobody has the competence to apply it and even when applied it is an "after-analysis of the invention...based on hindsight knowledge";
- a two-part form as a must for applying the "problem-solution-approach" is problematic in the present case and moreover is only a formal requirement;
- reference is made to "Guidelines" CIV, 9.3a so that it should be clear that the claimed invention has to be considered as a whole;
- the formulation of a problem is already a first step of the invention itself and the Board is not free to define an "objective problem" to be solved by the invention when assessing inventive step;
- what is essential in combination with the floor covering system of (D1) is not that the locking elements are **integral** but are too weak so that a normal approach would be to make them stronger;
- pointing simply to **integral** locking elements in (D1) is the result of "solid hindsight knowledge of the invention" and the manufacturer was not

aware of any problems of locking elements being integral or not;

- using a **separate** locking element is not "the solution" because they could tear up the tile walls;
- even if a skilled person considered (D2), (D4) and (D8) he would realize that their proposals are highly unsuitable:
- the real problem of a floor covering system, namely lacking coherence of the tiles when subjected to substantial temperature fluctuations, is not addressed in (D2), (D4) and (D8) and has no bearing on the coupling elements being integral or separate;
- using **separate** locking elements provides a high coherence of the flooring, an easy mountability and a "breaking fuse" effect; under unexpected high separation forces the coupling elements break rather than the tiles.

Reasons for the Decision

1. The appeal is admissible

Main request

2. *Novelty*

Novelty was not disputed in the impugned decision and is acknowledged by the Board so that no detailed arguments are necessary in this respect.

3. *Inventive step*

The floor covering system of claim 1 being novel the crucial issue to be decided is inventive step.

3.1 Claim 1 has to be divided into features known from the nearest piece of prior art and into those not known therefrom to set out **the technical contribution** of the claimed invention with respect to the nearest prior art.

3.2 Whether claim 1 is cast in a two-part form or not or whether the chosen two-part form is correct has no influence on the above distinction which is also in line with the "Guidelines", CIV 9.3a since the claimed invention is considered **as a whole** i.e. no feature of claim 1 is missing in the above proceedings.

3.3 The elaboration of the technical contribution of the claimed invention to the nearest prior art allows to define the real i.e. **objective** problem to be solved by the invention independently from what was envisaged by the appellant who might not have been aware of the nearest prior art document which for instance was only revealed by an EPO search. The Board's definition of a problem to be solved being based on the technical contribution of the claimed invention to the nearest prior art document seeks to overcome any subjective influence and to create the basis for an objective assessment of the problem to be solved by the

- invention.
- 3.4 The "Guidelines", see CIV, 9.5, fully support the above proceedings by prescribing three steps to be carried out when applying the "problem-solution-approach" for normally assessing the issue of inventive step.
- 3.5 Appellant's arguments relating to the issues of competence to apply the "problem-solution-approach" and "hindsight knowledge" are therefore to be rejected as unfounded and clearly contradictory to the provisions of the "Guidelines".
- 3.6 The extent of protection conferred by (a European patent or) a European patent application is determined **by the terms of the claims** and not by the formulation of a problem so that contrary to the opinion of the appellant the problem cannot be seen as a "first step of the invention", Article 69 EPC.
- 3.7 The nearest prior art document (D1), (see Figures 2 to 7 and its reference signs "8, 18" and "20, 21"), discloses integral locking elements which are found disadvantageous, (see WO-A-92/20885, page 1, first paragraph), since they are liable to break under load so that a tile has to be replaced in this case. The situation according to (D1) is thus not interpreted by the Board but **by the appellant himself** by pointing to DK-C-155 616 which is a parallel application to (D1). Whether the crucial issue with respect to (D1) that the **locking elements break** is a consequence of the locking elements **being integral** with the tiles or of the locking elements being **too weak** can be left open since

the fact that they break is what counts.

- 3.8 Starting from (D1) the objective problem to be solved by the invention is therefore to overcome the above disadvantage of the joining/locking element.

This objective problem is solved with the features laid down in claim 1, namely by providing separate coupling members with an intermediate web portion and opposed head portions cooperating with the wall recesses of the edge walls of neighbouring tiles.

- 3.9 In case that heavy or too heavy loads - due to gravity or temperature - act on the floor covering system the coupling members break rather than the edge walls of the tiles so that only the coupling members have to be replaced and not the tiles which remain undamaged. Breaking of the coupling members clearly avoids tearing up the tile walls, provides a high coherence of the flooring, an easy mountability and acts as a "fuse" since the tiles are not negatively affected thereby.

- 3.10 For the following reasons the subject-matter of claim 1 is not based on an inventive step, (see the Board's communication pursuant to Article 110(2) EPC):

- 3.10.1 It must be assumed that the man skilled in the art will discover during normal use that there are problems with floor tiles using integral locking elements, e.g. as in (D1) or (D7). Due to the elements breaking off the tile must be replaced, and he will look in the prior art to see any possible solution. He will find a number of solutions including the solution of using separate locking members as disclosed in (D2), (D4) and (D8).

Any breaking of the locking member merely requires replacement of the member rather than the whole tile. A possibility would be to use locking members comprising two identical elements connected by a web, e.g. as shown in (D4) and (D8), thus forming mirror images of each other.

- 3.10.2 Since he already has an acceptable shape of locking member "20" in (D7), it would obviously not require an inventive effort from him simply to connect two of these members in mirror image and to provide also the recesses and slots "29" in the tiles to receive these members.
- 3.10.3 By simply connecting two of the projections together in mirror image, and by providing slots "29" in place of these projections, one arrives at the subject-matter of claim 1 so that claim 1 does not define inventive subject-matter within the meaning of Article 56 EPC.
- 3.10.4 Appellant's argument that the objective problem of the invention could be also solved by **stronger** coupling members disregards the likelihood of damages of the edge walls of the tiles and that in this case a "fuse-effect" would not be existent.
- 3.10.5 It is not necessary that one of the documents (D1), (D2), (D4) and (D8) discloses all the features of claim 1 since assessment of inventive step is clearly based on a **mosaic** of one or more pieces of prior art.
- 3.10.6 As indicated in above remarks 3.10.1 to 3.10.3 (D2), (D4), (D7) and (D8) seen in combination directly lead a skilled person who is confronted with the disadvantages

of (D1) and the above objective problem to be solved by the invention **directly** to the floor covering system according to claim 1 even if in (D2), (D4) and (D8) the coherence of the tiles when subjected to substantial temperature fluctuations is not addressed.

3.10.7 The main request has therefore to be rejected.

Auxiliary request

4. *Novelty*

Since this request **is narrower** than the main request the claimed subject-matter is novel.

5. *Inventive step*

5.1 In (D2) the coupling member "5, 6, 7" extends perpendicularly to its surrounding edge wall so that it is possible to premount the coupling members since they are stabilized right from their insertion into the edge wall, (see Figures 2 to 4 of (D2)).

5.2 Present claim 2 therefore adds nothing inventive to present claim 1.

5.3 Under these circumstances the auxiliary request has also to be rejected for reasons of Article 56 EPC.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

N. Maslin

C. T. Wilson