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File No.: T 0553/92 - 3.2.3
Application No.: 90 302 141.8
Publication No.: 0 385 756
Classification: E04F 15/024
Title of invention: Access Flooring

D E C I S I O N
of 23 February 1994

Applicant: Tate Access - Floors Limited
Proprietor of the patent:
Opponent:

Headword:

EPC: Art. 56, 84

Keyword: "Inventive step, clarity (yes, after amendment)"

Headnote
Catchwords



Case Number: T 0 553/92 - 3.2.3

D E C I S I O N
of the Technical Board of Appeal 3.2.3
of 23 February 1994

Appellant: Tate Access - Floors Limited
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Decision under appeal: Decision of the Examining Division 2.3.03.108 of
the European Patent Office dated 28 April 1992
refusing European patent application No. 90 302
141.8 pursuant to Article 97(1) EPC.

Composition of the Board:

Chairman: C.T. Wilson
Members: F. Brösamle
W. Moser

~~Summary of Facts and Submissions~~

I. European patent application No. 90 302 141.8 was refused by a decision of the Examining Division dated 28 April 1992 in the light of

(D1) EP-A-0 145 247

whereby in previous communications reference was also made to

(D2) US-A-4 578 910

for reasons of Article 56 EPC.

II. A notice of appeal against this decision was filed on 30 May 1992, the appeal fee being paid in due time. The Statement of Grounds of Appeal was filed on 15 June 1992.

The Appellant requested by implication that the impugned decision be set aside and that a patent be granted on the basis of the main or auxiliary request according to the Statement of Grounds of Appeal.

III. Following the Board's communication pursuant to Article 110(2) EPC dated 30 June 1993, the Appellant (Applicant) modified his request and now requests the grant of a patent on the basis of the following documents:

pages 1, 2 and 4 of 27 August 1993, received on
3 September 1993,

page 3 received on 28 February 1990,

Claims 1 and 2 of 27 August 1993, received on 3 September 1993, and

Figures 1 to 3 received on 28 February 1990.

IV. Claim 1 of this request reads as follows:

"1. Access flooring comprising a plurality of support pedestals (11) each including a lower floor substrate engaging base (20) and an upper floor panel receiving formation characterised in that the upper floor panel receiving formation is a cup (26) of truncated conical form with a screw thread (27), a captive screw (30) comprising a threaded shank and head engageable with said screw thread and having a plurality of floor panels (10) having corners for engaging said cup formation so that four adjacent corners of said panels form an upwardly concave cup-like shell (14) of truncated conical form for engaging said cup formation of one of the pedestals and are retained by the head of said captive screw which locates in the concave cup-like shell."

V. The essential arguments of the Appellant in respect of the requirements of Article 56 EPC can be summarised as follows:

The document (D1) discloses platelike support panels "54" and fixing plates "50" whereby the support panels overlie the corners of the floor panels to a substantial extent to clamp them down.

For a single workman to replace any floor panel at least three of the fixing plates and their screws would have to be removed completely and the fourth

would have to be slackened off; this would be time-consuming and inconvenient in many respects.

Two or more workmen could replace a floor panel by removing one fixing plate completely, slackening the remaining three and sliding the floor panel from the remaining plates.

The complementary cup formations in combination with the captive screw means according to Claim 1 differ, however, considerably from the access flooring described in document (D1) and solve the problem that a selected panel is speedily and with ease removable and replaceable without additional help by a single workman, thereby maintaining a proper panel securing to prevent vibration and drumming and achieving a self-centring and self-tightening effect in combination with a limited overlie between the screw head and the floor panels.

Reasons for the Decision

1. The appeal is admissible
2. *Amendments (Art. 123(2) EPC)*
 - 2.1 In Claim 1 it is now defined that the cup formation "26" and the cup-like shell "14" are both truncated conically and that they are in mutual contact.
 - 2.2 This feature can clearly be seen from Figure 2 as originally filed and also from originally filed Claim 3 which claim discloses that the pedestals engage the

underside of the juxtaposed edges or corners of the adjacent panels.

2.3 Claim 1 and its dependent Claim 2 are not open to an objection under Article 123(2) EPC.

3. *Novelty (Article 54 EPC)*

3.1 The two documents (D1) and (D2) dealt with in the first instance do not deprive the subject-matter of Claim 1 of novelty. Since novelty was not disputed even before restricting Claim 1 to the engaging truncated cones of "26" and "14" this issue needs no further argument. Apart from that a captive screw is not disclosed in the documents (D1) and (D2) so that at least this feature makes the access flooring according to Claim 1 novel.

4. *Inventive step (Art. 56 EPC)*

4.1 The nearest prior art is disclosed in document (D1), which document discloses the features of the preamble of Claim 1, Rule 29(1)(a) EPC.

4.2 The known access flooring comprises a plate-like support "54" at the top of a pedestal "51" and shallow rectangular recesses of constant depth at the corners of the panels "10". The corners of the panels "10" are secured by the fixing plates "50" within the recesses of the floor panels "10". The screws "52" are "normal" screws.

4.3 As can be seen from the list of arguments under above remark V there is a considerable overlap of the support plates "54" and the corners of the floor panels "10" without, however, a self-centring and self-tightening effect between these elements.

The fixing plates "50" considerably overlie the upper sides of the corners of the floor panels "10" making it difficult to remove a specific floor plate "10" from under the area of the fixing plate "50", so that possibly more than one workman is required to carry out a panel replacement according to the document (D1).

- 4.4 Overcoming these difficulties of the floor system according to document (D1) has to be seen as the problem to be solved by the invention according to Claim 1.
- 4.5 Starting from an access flooring with the features of the preamble of Claim 1 this problem is solved by the features set out in the characterising clause of Claim 1, namely that the upper floor panel receiving formation is a cup of truncated conical form with a screw thread, a captive screw comprising a threaded shank and head engageable with said screw thread and having a plurality of floor panels having corners for engaging said cup formation so that four adjacent corners of said panels form an upwardly concave cup-like shell of truncated conical form for engaging said cup formation of one of the pedestals and are retained by the head of said captive screw which locates in the concave cup-like shell.
- 4.6 With this solution to the problem to be solved by the invention laid down in Claim 1 an access flooring is achieved in which the floor panels and the support pedestals are in a self-centring and self-tightening engagement so that vibration and drumming can be prevented and nevertheless selected panels can easily be removed and replaced; this is basically a direct consequence of the limited overlies from the screw heads and the panel corners enabling a single operator to lift a single panel with ease. The captive screw means excludes the possibility of accidental loss from the

pedestal and the operator is obliged to fasten the screw means at each pedestal since any omission of this task is immediately apparent when a floor covering is laid.

- 4.7 Considering the solution of the problem of the present invention it is obvious that the features laid down in Claim 1 present an access flooring which overcomes the deficiencies of the prior art according to document (D1).
- 4.8 The complementary cup formations which fit together achieve an outstanding stability of the structure combined with a self-tightening wedge-like action which cannot be seen from document (D1) and which is not just a trivial amendment to the clamping panel "50" and its corresponding recess. This is also true for the captive screw means which *per se* cannot be found in documents (D1) - the screw "52" is a "normal" screw - and (D2), since the screw "60" of this document is also not "captive", see Figure 11/12 thereof.
- 4.9 The floor system according to document (D2) is only in some respect similar to the floor system defined in Claim 1, (see corners of the floor panels which form a quarter of a cup, see Figure 1 thereof). In contradiction to the teaching of Claim 1 this cup formation does not directly engage the screw means "60", which is engaged by an additional fixing plate "57". The fixing plate "57" is, however, plane so that the specific effect of the claimed cup formations "25" and "14" is not achieved. The flooring system according to document (D2) is, in another respect, still not suited to guide a skilled person starting from the flooring system of document (D1) to the claimed flooring system, since in document (D2) a direct self-tightening and self-centring effect is not achieved for the following reason: the fixing plate "57" and the "normal" screw

"60" may be in a self-tightening and self-centring engagement; this is, however, not the only engagement between the fixing means and the pedestals "12", since the support plate "47" carries protrusions "51" which enter into openings "36" foreseen in the corners of the floor panels "11". This engagement between "51" and "36" cannot, however, be seen as a self-centring and self-tightening wedge-like action as claimed in the present Claim 1. This known construction could therefore involve problems in preventing vibration and drumming, which requirements have to be seen as basic requirements in respect of any flooring system.

4.10 Summarising, a skilled person starting from document (D1) and being confronted with the objective problem to be solved by the present invention (see above remarks 4.2 to 4.4) could not derive direct hints to achieve the solution as laid down in present Claim 1, even if one would consider the combination of the teachings according to document (D1) and (D2), since even then there would be no direct lead to a cup formation "26" of the panel corner in the form of a truncated cone engaging a corresponding cup formation "14" of truncated conical form. Since the use of captive screw means is not known from documents (D1) and (D2) taken singly, it cannot be seen that a combination of these documents could bring a skilled person to the idea that captive screw means would be a useful element in an access flooring.

4.11 The result of the above considerations is that the subject-matter of present Claim 1 which is restricted by further structural features *vis-à-vis* the refused Claim 1, such as the truncated conical form of the elements "26" and "14", the definition of the captive screw means comprising a threaded shank and head in engagement with the screw thread "27" of the upper floor

panel receiving formation and the location of the captive screw - now fulfils the requirements of Article 56 EPC so that present Claim 1 is allowable.

4.12 Claim 2 is allowable as a dependent claim; the typing error in its line 4 should, however, be rectified so that "suface" reads "surface".

4.13 The amended description forming the basis of the present request to grant a patent reflects the nearest prior art document and is consistent with the claims so that the documents on file are now ready for grant.

Order

For these reasons, it is decided that

1. The impugned decision is set aside
2. The case is remitted to the first instance with the order to grant a patent on the basis of the documents set out above under paragraph III with the amendment to Claim 2 according to above paragraph 4.12.

The Registrar:



N. Maslin

The Chairman:



C.T. Wilson