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D E C I S I O N
of 9 November 2004

Case Number: T 1136/02 - 3.2.3
Application Number: 98106535.2
Publication Number: 0855482
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Language of the proceedings: EN

Title of invention:

A method for laying and mechanically joining building panels

Patentee:

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Headword:

-

Relevant legal provisions:

EPC Art. 76(1), 83, 54, 56

Keyword:

"Main and first auxiliary request - added subject-matter (yes)"

"Second auxiliary request - added subject-matter (no) - disclosure - sufficiency (yes) - novelty and inventive step (yes)"

Decisions cited:

-

Catchword:

-



Case Number: T 1136/02 - 3.2.3

D E C I S I O N
of the Technical Board of Appeal 3.2.3
of 9 November 2004

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Decision under appeal: Interlocutory decision of the Opposition
Division of the European Patent Office posted
28 October 2002 concerning maintenance of
European patent No. 0855482 in amended form.

Composition of the Board:

Chairman: C. T. Wilson
Members: U. Krause
M. K. S. Aúz Castro

Summary of Facts and Submissions

I. With decision dated 18 September 2002 and posted on 28 October 2002 the Opposition Division maintained European Patent No. 0 855 482 in amended form on the basis of an auxiliary request with the following new claim 1 which was amended, with respect to claim 1 as granted, by addition of the underlined passages and by omission of the text in brackets:

"1. A method for laying and mechanically joining rectangular floor panels (1,2) in parallel rows, [especially floor panels,] said panels (1,2) being provided with means formed by the adjacent joint edges (3,4) for mechanically locking together their long edges as well as their short edges in a first direction (D1) at right angles to the principal plane of the panels (1,2), the adjacent joint edges thereby form a first mechanical connection, characterised in that each panel (1,2), at a rear side thereof, being provided with (i) a locking strip (6,6') at one long edge (3) and at one short edge (3'), each locking strip (6,6') being either a separate element connected to the panel or an extension of a lower part of the joint edge (3,3') and extending throughout substantially the entire length of the corresponding edge (3,3') and being provided with a locking element (8) projecting from the strip (6,6'), and (ii) a locking groove (14,14') at an opposite long edge (4) and at an opposite short edge (4') for receiving a locking element (8) of an adjacent panel, each locking groove (14,14') extending parallel to and spaced from the corresponding edge

(4,4') and being open at a rear side of the panel the locking element and the locking groove form a second mechanical connection, locking the panels to each other in a second direction (D2) parallel to the principal plane and at right angles to the joint edges and in that said method includes the following two main locking steps S1 and S2 for laying a new panel:

S1: mechanically connecting a long edge (4 or 3) of the new panel to a long edge (3 or 4) of a previously laid first panel in a first row in such a way that the new panel and the first panel, as a result of said first main locking step S1, are mechanically locked to each other in said first direction (D1) as well as in [a] the second direction (D2) parallel to said principal plane and at right angles to the locked long edges (3,4) wherein the panels, when joined together, can occupy a relative position in said second direction (D2) where a play () exists between the locking groove (14) and a locking surface (10) on the locking element (8), that is facing the joint edges and is operative in said second mechanical connection wherein said first main locking step S1 to this end includes

either

- the substep of placing the new panel in a second row adjacent to said first row with the long edge (4) of the new panel provided

with a locking groove (14) being placed upon and in contact with a locking strip (6) at the adjacent long edge (3) of the first panel, while holding the new panel at an angle relative to a principal plane of the first panel and at a distance from its final longitudinal position relative to a previously laid second panel in said second row, and

- the substep of subsequently angling down the new panel so as to accommodate the locking element (8) of said strip (6) of the first panel in said locking groove (14) of the new panel,

or

- the substep of placing the new panel in a second row adjacent to said first row with the locking strip (6) being provided at a long edge (3) of the new panel being inserted under the adjacent long edge (4) of the first panel being provided with a locking groove (14), while holding the new panel at an angle relative to a principal plane of the first panel and at a distance from its final longitudinal position relative to a previously laid second panel in said second row, and
- the substep of subsequently angling down the new panel so as to accommodate the locking element (8) of said strip (6) of the new

panel in said locking groove (14) of the first panel,

and

S2: mechanically connecting a short edge of the new panel to a short edge of said previously laid second panel in the second row in such a way that the new panel and the second panel, as a result of said second main locking step S2, are mechanically locked to each other at said short edges (3',4') in said first direction (D1) as well as in a third direction (D3) parallel to said principal plane and at right angles to the short edges (3',4'), wherein said second main locking step S2 is performed by a linear horizontal displacement of the new panel in its longitudinal direction relative to the first panel towards said final longitudinal position until the locking element (8) of the strip (6') at one (4') of the short edges is received in the locking groove (14') at the other one (4') of the short edges wherein, as a result of said linear displacement of the new panel, the locking strip (6') located at the short edges (3',4') to be locked together is bent downwards until the locking element (8) snaps up into the locking groove (14'), whereby the new panel, in its final laid position, is mechanically connected in two direction (D1,D2) at its long edge to the

first panel and in two direction (D1,D3) at its short edge to the second panel."

II. The Opposition Division found that the grounds of opposition, namely insufficient disclosure, added subject-matter and lack of novelty and inventive step did not prejudice the maintenance of the patent in amended form. With respect to the ground of added subject-matter reference was made to the earlier European patent application 94 915 725.9, published as WO 94/26999 (document D1), forming the parent application from which the patent under appeal was divided, and the following documents were considered as prior art with regard to novelty and inventive step:

- D2: SE-A-450 141
- D3: GB-A-2 256 023
- D4: US-A-4 426 820
- D5: JP-A-3-169 967 and English translation thereof
- D6: DE-A-1 212 275
- D7: DE-C-3 343 601
- D8: DE-A-2 238 660
- D9: GB-A-1 430 423
- D10: US-A-5 295 341
- D11: BE-A-557 844
- D12: DE-A-2 616 077
- D13: US-A-4 819 932
- D14: SE-A-7 114 900
- D15: Serexhe, Bernd, "Selbst Teppichböden, PVC und Parkett verlegen", Compact-Praxis "do it yourself", Compact Verlag München, pages 84 to 87, 1985
- D16: US-A-2 430 200

III. A first appeal was lodged against this decision by the Proprietor of the patent (hereinafter denoted Appellant 01) on 20 November 2002 and the appeal fee was paid on the same day. The statement of the grounds of appeal was received on 25 February 2003.

Further appeals were filed by Opponents I, II, III, VII, IX, X and XI, hereinafter denoted Appellants 02 to 08. The relevant dates for these appeals are as follows:

	appeal filed:	appeal fee paid:	statement of grounds of appeal received:
Opp I/App 02	06.12.02	06.12.02	25.02.03
Opp II/App 03	06.12.02	06.12.02	27.02.03
Opp III/App 04	13.11.02	13.11.02	26.02.03
Opp VII/App 05	04.12.02	06.12.02	25.02.03
Opp IX/App 06	30.12.02	30.12.02	21.02.03
Opp X/App 07	26.11.02	26.11.02	05.03.03
Opp XI/App 08	27.11.02	27.11.02	28.02.03

In response to a communication issued by the Board under Article 11(1) RPBA the Appellant 01 submitted new claims, and corresponding amended descriptions, according to further auxiliary requests 1 and 3, the amended claim 1 of these requests further limiting claim 1 of the patent as granted or claim 1 as maintained by the first instance, respectively.

With letter of 8 October 2004 Appellant 05 submitted further evidence relating to the issue of added subject-matter ("Annex 1" to "Annex 6").

Oral proceedings took place on 9 November 2004. The prior art taken into consideration for novelty and inventive step was unchanged.

- IV. Appellant 01 requested that the decision under appeal be set aside and that the patent be maintained as granted, auxiliarily on the basis of auxiliary request 1, filed on 8 October 2004, or auxiliary request 2 (dismissal of the appeals of appellants 2 to 8), or of auxiliary request 3, filed as well on 8 October 2004.

The Appellants 02 to 08 requested that the decision under appeal be set aside and that the patent be revoked.

- V. The arguments presented by Appellant 01 can be summarized as follows:

The granted claim 1 was based on the disclosure of the laying method described on page 10, lines 6 to 28, and page 16, line 23, to page 17, line 4, of the published parent application D1. Those passages made reference to several structural elements such as the locking strip, the locking groove and the locking element without mentioning any play operative in the second mechanical connection. The mechanical joint along the adjacent joint edges of the panels was defined on page 1, lines 5 to 16, of D1, again without making reference to any play. Since play was mentioned, in claim 1 of D1 and the corresponding clause on page 7, without relating a particular function in the laying method, and on page 9 of D1 as being beneficial for disassembling the panels, it was evident that play was not essential in laying the panels according to the

claimed method. The passage on page 13, lines 16 to 23, was to be interpreted in the sense that both mechanical connections, the first one and the second one, rather than any particular play, had to provide for the longitudinal displacement of the panels. It was further derivable from the text on page 13, first paragraph, and on page 15, last paragraph, that no play was required when forming the second mechanical connection by angling down the new panel. The problems referred to in the text bridging pages 4 and 5 of D1 were solved by features of the claimed method other than the play, for example by the displaceability of panels, and the integrated strip with blocking element.

A disclosure for the method of joining the short sides of the panels by a snap joint involving a flexible strip which is integrally formed with the strip panel ("one piece snap embodiment") was found on page 12, lines 11 to 24, for the integrally formed flexible strip and on page 13, lines 16 to 23, for the snap joint. It was evident from the formulation "When using a material ..." in lines 18 to 20 of page 18 that the integrally formed strip need not be of a rigid material which would not allow bending of the strip.

Likewise, it was evident from page 8, lines 27 to 31, that the additional strip below the integrally formed strip shown in figure 5 was a preferable feature only.

Regarding the alleged insufficient disclosure the skilled person was aware that a thin strip made of compact laminate, a material mentioned in the patent, was sufficiently flexible for a snap connection, and

figures 2 and 3 taught how to redesign the locking strip of figure 5 in this case.

The claimed method was novel vis-à-vis document D7 which, in column 5, clearly referred to a purely vertical movement for connecting, in the embodiment of figure 4, the short edges. The skilled person would realise that there was an inconsistency in this document because for a rigid material such as aluminium typically used for the edge profiles in D7 the projecting lower edge of the new panel would prevent such a manner of connecting the panels, and conclude that this lower edge had to be removed, thereby dispensing with a lock in vertical direction. In any case, the profiles of D7 were not designed for a snap connection. Further, the sequence of the movements was clearly defined, in claim 1 of the second auxiliary request, by referring to a linear horizontal displacement of the new panel in step S2.

The inventive step was to be seen mainly in the new combination of different connecting methods of the same panels at their long and short edges, whereas the prior art disclosed the same connections at both edges. D3 provided for connections of panels made of a rigid material, excluding any combination with D6 which concerns rubber panels. Moreover, such a combination would not lead to the claimed method because D6 had the groove at a projecting tongue of the groove panel, rather than at the rear side of the panel itself. This also applied to D5. D9 showed a flexible strip on its upper side which was difficult to implement in D4 or D7. Moreover, D4 disclosed a perfectly good system for

connecting panels at all four sides thereof which would not require any modification.

VI. Appellants 02 to 08 submitted essentially the following arguments:

Regarding the requirements of Article 76(1) EPC it had to be determined what was clearly and unambiguously derivable from document D1, rather than what was essential for performing the claimed method. In this sense there was a consistent teaching in D1 of the joint at the long and short sides of the panels having play, see for example claim 1, the text spanning pages 6 and 7, page 9, lines 3 to 15 and page 13, lines 16 to 23, as well as the figures all showing play, there being no clear disclosure that play could be omitted. Since the claimed method was directed to laying and mechanically joining the panels, the joint was part of the claim and had to include play. Likewise, the strip panel and groove panel referred to in claim 1 of all requests were those described in D1 to be joined with play in steps S1 and S2, as shown in figures 2c and 3c. However, it was also clear from the evidence submitted as annexes 3, 4 and 5 submitted on 8 October 2004 that play was an essential feature of the claimed method. As a consequence, any method not including play between the joined panels at the long and short edges related to subject-matter extending beyond the earlier application D1.

Regarding the disclosure of an integrally formed, flexible locking strip it had to be taken into consideration that such an embodiment was neither shown in, nor described in connection with, any of the

figures of D1, and that the alternative referred to in lines 23 and 24 of page 12, which did not expressly define a flexibility of the integrally formed strip, was only picked up later when describing the embodiment of figure 5, involving rigid rather than flexible locking strips, as described in lines 18 to 20 of page 18. Thus, the reader of D1 had to combine features picked from separate embodiments. Further indications for a lack of disclosure in D1 could be derived from the facts that the general description of the panels and their joints preceding the disclosure of the laying method on page 12 of D1 only mentioned separate strips made of a material being flexible, resilient and strong, such as aluminium, and that claim 13 of D1, specifying the flexible strip, referred to claim 5 directed to a strip being made of a material different from that of the strip panel.

Further, an integrally formed locking strip was disclosed in D1 only in combination with an additional separate strip therebelow, as shown in figure 5 which is the only figure depicting the integrally formed locking strip, and taught to eliminate any unevenness in the joint, thereby achieving one of the objects of the invention specified on page 5 of D1.

Since there was no disclosure of a panel involving an integrally formed flexible strip, the skilled person was unable to construct the snap connection in this case. In particular, it was not clear how the hard material of the panel should be made flexible and resilient, and how the locking element and locking groove of figure 5 should be redesigned to allow for the snap action.

Regarding novelty of the patent it had to be taken into account that since claim 1 of neither request was clearly limited to a timely order of steps S1 and S2, the claimed method was anticipated by document D7 whereby, in the embodiment of figure 4, the panels had to be connected at their short edges, due to the projecting lower edge of the new panel, by simultaneously angling down and longitudinally displacing a new panel along its long edge, thereby deforming the lip at the second (left) panel to provide for a snap connection. In fact, a similar combined movement was referred to in column 11, line 24 onwards of the patent for the embodiment of figure 3a.

As to inventive step, either D3, D4 or D7 could be taken as starting point. D3 disclosed a method of connecting two panels, which could be floor panels, at their long edges by angling down, as in step S1 of the patent, a groove panel to bring its groove into engagement with the strip of an adjacent strip panel. A connection at the short sides was not described but clearly required for use as floor panels. A suggestion was provided by D6, disclosing the relative longitudinal displacement of the panels for snap connection at the short edges. Since the panels of D3 had to be longitudinally displaceable for correction when laying the panels, the only modification required was to make the strip of D3 resilient, for example by reducing its thickness, to allow for snap connection at the short edges. D4 disclosed, in figure 17, a rather cumbersome connection of panels at all four sides, making it desirable to simplify the joining at the short edges so as to have to manipulate only one panel

at a time. A solution to this problem was suggested in D9 for panels made likewise of plastic material by making the base, corresponding to the extended lower edge of D4, resilient to allow for the deformation required when connecting the panels by snap action. A similar suggestion for a snap joint was provided by D5, taking into account that D4 allowed for a horizontal displacement of the panels in longitudinal direction. D7 disclosed the angling movement for the long edges but lacked a description of a practical way of connecting the short edges of the panels. Such a working alternative was again found in D9.

Reasons for the Decision

1. The appeals comply with the provisions of Articles 106 to 108 EPC and of Rules 1(1) and 64 EPC and are, therefore, admissible.

2. *Main request and first auxiliary request*

Since the patent under appeal is based on a divisional application from earlier European patent application 94 915 725.9, published as WO 94/26999 (document D1), the provisions of Article 100(c) EPC in combination with Article 76(1) EPC have to be complied with. According to the appealed decision claim 1 of the patent as granted, corresponding to claim 1 of the present main request, was not allowed as comprising subject-matter extending beyond the disclosure of D1 by claiming a flooring system without the feature, included in original claim 1, concerning the play between the locking groove and the locking surface on the locking element. Appellant 01 essentially argues that this

feature was neither disclosed as essential in D1 nor as indispensable in the laying method specified on page 10 of D1.

It is noted that claim 1 of D1, being directed to a "system for providing a joint adjacent joint edges of two building panels", included the above mentioned "play"-feature, whereas no such feature was mentioned in connection with the disclosure of the laying method on page 10, lines 6 to 29, of D1 on which claim 1 of the main request is based. Since, however, the claimed method makes reference to laying and mechanically joining building panels of a particular type, the mentioned passage on page 10 cannot be taken as the only basis for disclosure of the method. Rather, it will have to be determined whether the skilled person would derive from D1 as a whole that the "play"-feature was an essential part of the claimed laying method.

Apart from the passage corresponding to claim 1 in the description on pages 6 and 7 of D1, the "play"-feature was referred to on page 9, lines 12 to 15, and on page 13, lines 16 to 23, of the description. The first occurrence concerns a minimum play required for a disassembly of the panels which does not form part of the claimed method. The second occurrence, on page 13, concerns the joining of the panels which are said to be able, when joined, to "occupy such a relative position in the direction D2 that there is a small play between the locking surface 10 and the locking groove 14". The paragraph goes on by stating that "this mechanical connection in the direction D2 allows mutual displacement of the panels 1,2 in the direction of the joint, which considerably facilitates the laying and

enables joining together the short sides by snap action". The words "allows mutual displacement" make clear that the "small play" was deemed necessary for the relative displacement of the panels along their long edges, which in turn "enables" the snap joint at the short sides. Since both the displacement of the new panel in its longitudinal direction and the snap connection at its short edge are defined in step S2 of the claimed method, it follows that the "play"-feature, being an integral part of these steps, had to be present in this method.

The counterarguments of Appellant 01 are not convincing. The description of the laying method on page 13 (first paragraph) and page 15 (last paragraph) to page 16 of D1 refers to the figures 1 to 3 which all clearly show the play, the description on page 13 of D1 is silent about the mechanical lock in the first direction D1 which, however, must likewise allow the longitudinal displacement of the panels, and the solution of at least two of the drawbacks referred to in the text bridging pages 4 and 5 of D1 requires such a longitudinal displacement involving the play, namely the easier adjustment of the panels in their longitudinal direction and the connection at the short side of the panels.

There is, therefore, no indication that document D1 considered the claimed laying method without a small play between the locking groove of one panel and the locking surface on the locking element of the other panel when joined.

Since claim 1 of the main request and claim 1 of the first auxiliary request do not comprise the above "play"-feature, both requests contain subject-matter extending beyond the content of the earlier application D1, contrary to Article 76(1) EPC. Both requests cannot, therefore, be allowed.

3. *Second auxiliary request*

3.1 Added subject-matter (Articles 123(2) and 76(1) EPC)

Claim 1 of the second auxiliary request includes, as one alternative for the short edge of a panel, a locking strip which is formed as an extension of a lower part of the joint edge of the panel and which must be flexible in order to allow, in step S2, bending downwards until the locking element snaps up into the locking groove of the other panel. It was argued by the Appellants 04 and 05 that such a "one-piece snap embodiment" was not disclosed in document D1, thereby giving rise to an objection under Article 76(1) EPC.

It is true that an integrally formed, flexible locking strip was neither shown in, nor described in connection with, any of the figures of D1. The only embodiment having integrally formed locking strips at both edges is that of figure 5, involving panels with rigid locking strips which are fitted together by angling at the short and long edges. However, integrally formed locking strips are generally referred to as an alternative to the separate locking strips in lines 23 and 24 of page 12. There is no reference, in this passage, to the embodiment of figure 5 and the skilled reader has therefore little reason to assume, as argued

by Appellant 05, that this alternative should apply only to the inflexible locking strips of figure 5. Rather, it will be understood in the usual way as an alternative to the separate strip shown in figures 1 to 3, not affecting the other features of the strip such as its shape and flexibility, thereby not requiring any different and specific steps in laying the panels.

This is not in contrast to the laying method by angling in the panels, as shown in figure 5 and described in lines 18 to 32 of page 18 which specifically states that this method should be used "when using a material which does not permit downward bending of the strip", thereby suggesting that the integrally formed strip could also be flexible, for example when selecting an appropriate material of the panel, in which case the laying method would not be limited to the angling procedure. Further, the reference of claim 13 of D1, specifying the flexible strip, to claim 5 which is directed to a strip being made of a material different from that of the strip panel, is a limitation of the intended protection rather than of the disclosure.

A further objection under Article 76(1) concerns the alleged lack of disclosure in D1 of an integrally formed locking strip without the additional strip or band therebelow, as shown in figure 5 and described in the first paragraph of page 18 of D1. It is, however, evident from that description that the additional strip does not play a role in the claimed method of laying and joining the panels but has to compensate for thickness variations of the panels for eliminating any unevenness in the joint, thereby relating to a separate "particular" object of the invention as specified on

page 5 of D1, rather than to one of the primary drawbacks to be overcome, as mentioned in the text bridging pages 4 and 5. Further, the description in lines 15 to 17 of page 18 states that the panels may also rest on their undersides only, if made plane, and the general mention of the integrally formed strip on page 12, lines 23 and 24, makes no reference to such an additional strip. It is, therefore, evident from the description of D1 as a whole that the additional strip below the integrally formed strip is optional.

Since no other problems of added subject-matter are recognised, the claims of the second auxiliary request are not open to objection under Articles 123(2) and 76(1) EPC.

3.2 Sufficiency of Disclosure (Article 83 EPC)

An objection as to insufficiency of disclosure was raised by Appellant 07, arguing that, as there was no disclosure of a panel involving an integrally formed flexible strip, the skilled person was unable to construct the snap connection in this case. In particular, it was not clear how the hard material of the panel should be made flexible and resilient, and how the locking element and locking groove of figure 5 should be redesigned to allow for the snap connection.

The alternative of providing an integrally formed strip is referred to in paragraph 0047 of the patent which exactly corresponds to the above cited passage on page 12, lines 23 and 24, of D1. As set out above, the skilled reader would understand this passage in the sense that, other than being integrally formed, the

strip should correspond to the separate strip described in detail with reference to the figures 1 to 3. He would be aware that a thin and long strip having dimensions comparable to those of the separate strips shown in figures 2 and 3 and being made for example, as the entire panel, from compact laminate would be flexible enough to allow a downward deflection for the snap connection, and that the locking element should preferably have an inclined portion corresponding to portion 36 in figures 2 and 3 for deflecting the flexible strip when horizontally displacing the new panel towards its final longitudinal position, as specified in step S2 of claim 1.

It is, therefore, concluded that the objections under Article 83 EPC do not prejudice the maintenance of the patent on the basis of the second auxiliary request.

3.3 Novelty (Articles 52 and 54 EPC)

Appellants 04, 05 and 06 made reference to document D7 and essentially argued that, since the claimed method was not restricted to a specific sequence of steps S1 and S2, it was anticipated by the method disclosed in document D7 whereby, in the embodiment of figure 4, the panels had to be connected at their short edges, due to the projecting lower edge of the new panel, by simultaneously angling down and longitudinally displacing a new panel along its long edge, while deforming the lip at the second (left) panel to provide for a snap connection.

This argument must fail for the reason alone that the movement of the new panel is defined, in step S2 of

claim 1, as a "linear horizontal displacement of the new panel in its longitudinal direction", which clearly excludes any combined horizontal and angling movement as derived from D7 by the Appellants. The linear horizontal movement in question is shown in figure 3b as having neither a vertical nor an angling component.

It is further highly questionable whether such a combined horizontal and angling movement of the new panel can be derived from document D7. The teaching of this document seems to be inconsistent in that panels having the edge profiles depicted in figure 4 cannot be joined at their short edges by a movement which is described, in column 5, lines 7 to 14, as being exclusively perpendicular to the plane of the panels. In fact, the projecting lower edge of the new (right) panel cannot pass by the upwardly projecting lip of the old (left) panel by a purely vertical movement so as to provide a connection of both panels. A connection by a combined horizontal and angling movement would require the lip to be resilient and deformed along the edge when angling the new panel in. It can hardly be imagined how this may be achieved with the structure of the profiles as shown in figure 4. The skilled reader of D7 will therefore resolve this inconsistency by assuming that the projecting lower edge of the new panel should have been omitted, just like the tongue 14 of the figure 1 embodiment, to allow joining by the mentioned "purely vertical movement".

As a consequence, neither a horizontal displacement of the new panel in its longitudinal direction nor a snap connection at its short edge, as defined in step S2 of claim 1, can be derived from D7.

Since the other available documents do not disclose a method as defined in claim 1 either, the subject-matter of claim 1 is considered to be new.

3.4 Inventive step (Articles 52 and 56 EPC)

3.4.1 An objection under Article 56 EPC was raised by all of the Appellants 02 to 08 and based on a combination of a document disclosing an angling joint at the long edges of a panel, such as documents D3, D4 and D7, with a document disclosing a snap connection at an edge of a panel, such as documents D5, D6 or D9.

3.4.2 Document D3 describes a joint between the adjoining long edges of two similar panels. The joint is formed by inserting a tongue at one panel into a groove at the other panel. In order to restrict separation of the panels, the one panel has a rib at a rebate cooperating with a recess in a projection of the lower edge of the other panel. The panels are joined by tilting the one panel relative to the other panel with the tongue partially inserted into the groove for locating the rib in the recess. This joining method corresponds to the first alternative of angling step S1 in claim 1. A joint at the short side edges of the panels is not described, but it is stated that the panels and joints "may be used in any application where controlled spacing of the panels is desired to allow for expansion of the panels such as flooring,..." (Page 7, last paragraph).

The Appellants 02 and 06 argue that a suggestion for a joint at the short edges, which was clearly required

for flooring applications, was provided by D6, disclosing the relative longitudinal displacement of the panels for snap connection at the short edges. Since the panels of D3 had to be longitudinally displaceable for correction when laying the panels, the only modification required was to make the projection of D3 resilient, for example by reducing its thickness, to allow for snap connection at the short edges.

These arguments are not convincing. Whilst the application to flooring is mentioned, it remains unclear which type of flooring would require a joint allowing for a defined separation of the panels, thereby providing a gap between the facing upper edges of the panels. In any case, the use of a snap joint at the short edges of the panels cannot be considered as being obvious. First, there is no description of any play allowing a relative longitudinal displaceability of the panels when joined at their long edges. Such a movement cannot be said to be implicit because the panels could be correctly positioned before being joined. The longitudinal displaceability is, however, a condition for a snap joint at the short edges. Second, if there was a desire for providing a joint at the short edges, the skilled person would not take document D6 into consideration because of its incompatibility regarding the material of the panel, a resilient material such as rubber being required for the resilient tongue-and-groove joints integrally formed with the panel in D6. Rather, the skilled person would turn to a document disclosing a joint at the short edges for the same type of panels and joints at the long edges, such as document D4 or D7, suggesting an angling joint similar to that at the long edges (D4) or

a joint providing a locking engagement in the third direction D3 only, i.e. at right angles to the short edges (D7).

- 3.4.3 Document D4 discloses, as shown in figure 17 and described in column 3, lines 11 to 21, and column 5, lines 35 to 51, a method of joining panels at both the long and short edges by inserting a second panel to be joined, in inclined position, into the groove at the long edge of a first panel, subsequently inserting, while maintaining the inclined position of the second panel, a third panel to be joined into the groove at the short edge of the second panel, angling the third panel down into the inclined plane of the second panel and displacing it along the short edge to engage the groove of the first panel at its long edge, and thereafter lowering the second and third panel simultaneously into the plane of the first panel. In this way, the joints at both the long and short edges of the panels are made by an angling movement.

It may be true that, as argued by Appellant 05, the joining method of D4 is rather cumbersome because at least two panels must be manipulated at a time, making it desirable to find a simpler way of providing a joint at all four edges of a panel. It is, however, unclear why the skilled person looking for such a simplification should, as argued by Appellants 05 and 07, take documents D5 or D9 into consideration which are concerned with a joint at two edges only. Further, an application of a corresponding joint to the short edges of the panels in D4 would require not only a considerable redesign of the joint at the short edge of the panels to allow for a snap connection instead of an

angling connection but also a displaceability of the panels along their long edges which should be prevented in D4 (see column 4, lines 7 to 9).

It therefore appears that the skilled person would rather turn to documents D6 or D7 because these documents also relate to joints at all four edges of the panels. He would, however, dismiss the teaching of D6 which involves, for its integral resilient tongue-and-groove joint, the choice of a particularly resilient material such as rubber for the panel. Moreover, the tongue-and-groove joint of D6 would differ from that defined in claim 1 of the patent in that, if the portion of the groove panel (the left panel in figure 2 of D6) below the groove is considered to form a locking strip having a locking element at its tip engaging a locking groove at the rear side of the tongue at the tongue panel (the right panel in figure 2), the locking groove would not be at the rear side of a panel as defined in paragraph 0021 of the patent. As a consequence, the joint would be suitable for a snap connection at the short edge only, whereas the joint defined in claim 1 provides for an angling connection at the long edges and for a snap connection at the short edges.

- 3.4.4 As to document D7, a modification of the joint at the short edge of the panels of D4 to correspond to that depicted in figure 4 of D7, taking account of the necessary omission of the projecting lower edge of the groove panel (see section 3.3 above), could indeed be considered by the skilled person as a solution to the problem of simplification. However, the resulting joint at the short edge would be obtained by vertically

lowering or angling down the new panel, whereby the locking element of a previously laid panel moves vertically upwards into the locking groove at the new panel from below, instead of horizontally displacing the new panel until the locking element snaps into its locking groove.

Appellants 06 and 08 argue that, due to the problems of connecting the short edges of the panels in the method disclosed in document D7, the skilled person would look for an improvement and find a working alternative in D9. Document D9 teaches to provide a snap joint between a locking element at projections formed at an edge of one panel and a locking groove provided at the rear side of a flexible tongue ("base 24") forming an extension of the upper edge of the other panel. This teaching is, therefore, based on the flexibility of the panel and its upper extension. Since the edge profiles of D7 are typically made of a rigid material, the teaching of D9 seems to be incompatible with D7. Furthermore, the incorporation of the joint of D9 into D7 would require a series of modifications and still not lead to the joining method as defined in step S2. In fact, the edge profiles of D7 would have to be made of a resilient material and the upper extension would have to be redesigned, for example by rounding the leading edge and increasing its length, to allow for sufficient deflection for the snap connection, resulting in a joining method which differs from step S2 of claim 1 in that the flexible strip is an extension of the upper edge of the new panel rather than of the lower edge of the previously laid panel.

3.4.5 The Board therefore comes to the conclusion that the arguments of the Appellants 02 to 08 are based on artificial combinations of various features of the prior art picked out of their context. Indeed, as outlined by Appellant 01, the prior art discloses joints designed for particular joining methods such as angling (D3, D4, D7, D8, D16), sliding (D6, D11), snapping (D5, D6, D9, D10, D11), or making use of separate connectors (D2, D12, D13, D14), but with the exception of D6 not a single one of the known joints is suitable for more than one joining method, unlike the case in the patent under appeal providing a joint used for connection by angling at the long edges and for connection by snapping at the short edges of a panel. The only exception, the tongue-and-groove joint of D6, requires a special (resilient) material of the panels and is adapted to a particular combination of sliding at the long edges and snapping at the short edges but cannot provide a pointer towards an angling connection since it is neither intended nor suitable for such a connecting method.

Claim 1 of the second auxiliary request is, therefore, considered to meet the requirements of inventive step.

4. Since the grounds of opposition do not prejudice the maintenance of the patent on the basis of the second auxiliary request, the third auxiliary request need not be dealt with.

Order

For these reasons it is decided that:

The appeals are dismissed.

The Registrar:

The Chairman:

R. Schumacher

C. T. Wilson