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**DECISION**  
**of 10 November 2004**

**Case Number:** T 1142/02 - 3.2.3  
**Application Number:** 98201555.4  
**Publication Number:** 0877130  
**IPC:** E04F 15/14, E04F 15/02,  
E04F 13/08  
**Language of the proceedings:** EN

**Title of invention:**

A flooring system comprising a plurality of floor panels which are mechanically connected to each other

**Patentee:**

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**Opponent:**

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KRONOTEX Fussboden GmbH & Co. KG  
E.F.P. Floor Products Fussböden GmbH  
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**Headword:**

-

**Relevant legal provisions:**

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

**Keyword:**

"Main request - added subject-matter (no);  
Disclosure sufficiency (yes);  
Novelty and inventive step (yes)"

**Decisions cited:**

-

**Catchword:**

-



Case Number: T 1142/02 - 3.2.3

**D E C I S I O N**  
**of the Technical Board of Appeal 3.2.3**  
**of 10 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. 0877130 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 its decision dated 24 September 2002 and posted on 28 October 2002 the Opposition Division maintained European Patent No. 0 877 130 in amended form on the basis of the following new claim 1 which was amended, with respect to claim 1 as granted, by addition of the underlined passages:

- "1. A flooring system, comprising a plurality of rectangular floor panels (1,2) which are mechanically connectable to each other in parallel rows along adjacent long edges (3,4) and short edges (3',4'), respectively, of the panels, said floor panels being provided with means for mechanically locking together their long edges (3,4) as well as their short edges (3',4') in a first direction (D1) at right angles to the principal plane of the panels (1,2), thereby forming first mechanical connections between the panels (1,2), characterised in that each panel, at a rear side thereof, being provided:
- (i) with a locking strip (6,6') at one long edge (3) and at one short edge (3'), each locking strip being integrally formed in one piece with the panel (1,2) and forming an extension of a lower part of the corresponding edge of the panel (1,2) and extending throughout substantially the entire length of the corresponding edge of the panel and being provided with a projecting locking element (8), and

(ii) with a locking groove (14,14') at an opposite long edge (4) and at an opposite short edge (4'), 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 (1,2), said locking strips (6,6') and locking grooves (14,14') forming second mechanical connections locking the panels to each other in a second direction (D2) parallel to the principal plane and at right angles to the joint edges (3,4;3',4'), such that a strip (6,6') of a first one (1) of two joined panels projects on the rear side of the second panel with its locking element (8) received in the locking groove (14,14') of the second panel (2),

that the first mechanical connection allows mutual displacement of the panels (1,2) in the direction of the long and the short edges (3,4),

that the panels, when joined together along their long edges (3,4), can occupy a relative position in said second direction (D2) where a play ( $\Delta$ ) exists between the locking groove (14) and a locking surface (10) on the locking element (8) that is facing the long edges (3,4), such that also the second mechanical connection allow mutual displacement of the panels (1,2) in the direction of the long edges (3,4),

that the panels, when joined together along their short edges (3',4'), can occupy a relative position in said second direction (D2) where a play ( $\Delta$ ) exists between the locking groove (14) and a locking surface (10) on the locking element

(8) that is facing the short edges (3',4'), such that also the second mechanical connection allow mutual displacement of the panels (1,2) in the direction of the short edges (3',4'),

that the second mechanical connection along the long edges (3,4) is so conceived as to allow the locking element (8) to leave the locking groove (14) if the panel (2) associated with the locking groove (14) is turned about its long edge (4) angularly away from the strip (6),

that the second mechanical connection along the short edges (3',4') is so conceived as to allow the locking element (8) to leave the locking groove, if the panel (2) associated with the locking groove, is turned about its short edge (4') angularly away from the strip (6), and

that each locking strip (6') at the short edges (3',4') is flexible and resilient such that two panels (1,2), having already been mechanically joined to a common long edge of a third panel, can be mechanically joined together at their adjacent short edges (3',4') by displacing said two panels horizontally towards each other, while resiliently urging the flexible strip (6') at one (3') of said short edges downwards, until said adjacent short edges (3',4') of the two panels (1,2) have been brought into complete engagement with each other horizontally and the locking element (8) at said one short edge (3') thereby snaps into the locking groove (14') at the second short edge (4')."



II. The Opposition Division found that, whereas claim 1 as granted contained subject-matter extending beyond the disclosure of 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, 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 regard to novelty and inventive step the following prior art was taken into consideration:

- 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-2 430 200

III. An 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, IV, VI and VIII, hereinafter denoted Appellants 02 to 07. The relevant dates for these appeals are as follows:

|                 | appeal<br>filed: | appeal<br>fee paid: | statement of<br>grounds of<br>appeal received: |
|-----------------|------------------|---------------------|--|
| Opp I/App 02    | 13.11.02         | 13.11.02            | 28.02.03                                       |
| Opp II/App 03   | 30.12.02         | 30.12.02            | 27.02.03                                       |
| Opp III/App 04  | 26.11.02         | 26.11.02            | 05.03.03                                       |
| Opp IV/App 05   | 06.12.02         | 06.12.02            | 25.02.03                                       |
| Opp VI/App 06   | 04.12.02         | 06.12.02            | 25.02.03                                       |
| Opp VIII/App 07 | 27.11.02         | 27.11.02            | 28.02.03                                       |

In response to a communication issued by the Board under Article 11(1) RPBA on 19 February 2004 the Appellant 01 submitted new claims, and corresponding amended descriptions, according to further auxiliary requests 1, 2 and 4, as annexes 1, 2 and 3 on 8 October 2004.

Oral proceedings took place on 10 November 2004. The prior art taken into consideration for novelty and inventive step was unchanged.

- IV. Appellant 01 requests that the decision under appeal be set aside and that the patent be maintained as granted, auxiliarily on the basis of auxiliary request 1 and 2 filed as annexes 1 and 2 on 8 October 2004, or, as auxiliary request 3, that the appeals of the Opponents be dismissed, or, as auxiliary request 3, that the decision under appeal be set aside and that the patent

be maintained on the basis of the documents filed as annex 3 also on 8 October 2004.

The Appellants 02 to 07 request 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:

Granted claim 1 was based on claim 1 of D1 which defined all features necessary for a joint at the two long edges of the panel, including the play. Concerning the joint at the short edge the description teaches, on pages 10 and 16 to 17, that the snap connection requires a complete engagement of the edges without mentioning any play at the short edge. It was clearly taught on page 13, lines 16 to 23, that the panels had to be longitudinally displaceable for the snap joint which, owing to the flexibility of the strip, does not need to have any play itself. When the panels are disconnected in the reverse order of assembling, as mentioned in lines 4 to 7 of page 8 and in lines 6 to 8 of page 14 of D1, only the long edges must be angled out, thereby requiring a certain amount of play at the long edges only. Moreover, the disassembly was referred to on page 6, lines 1 to 3, as one of several objects to be achieved by the invention defined in all of the claims, rather than in claim 1 only. The reference to the mechanical connections "of the aforementioned type" in claim 16 of D1, which claims a joint at all four edges, was to be understood as defining the basic features of the joint, rather than to include each and every feature thereof.

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 preferred feature only.

The claimed system was novel vis-à-vis document D6 disclosing a tongue-and-groove joint having a locking groove at the tongue, rather than at the rear side of the panels, thereby failing to allow separation of the panels by angling about the long edge so that the locking element leaves the locking groove.

The inventive step was to be seen mainly in a flooring system which was specifically adapted for a combination of different connecting methods of the same panels at its long and short edges. This was not suggested by the prior art primarily relied upon for obviousness, namely D3, D4, D6 and D9. 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 system because D6 had the groove at a projecting tongue of the groove panel, rather than at the rear side of the panel itself. For the same reason

a combination with the system of D4, disclosing an angling connection at all four sides without any longitudinal displacement, would not lead to the subject-matter of claim 1. Moreover, D4 disclosed a perfect system for connecting panels at all four sides thereof which would not require any modification. D9 disclosed a snap connection involving a flexible strip on the upper side of the panels which was difficult to implement in D3 or D4.

VI. The Appellants 02 to 07 submitted essentially the following arguments:

Regarding the requirements of Article 76(1) EPC it had to be taken into consideration that no distinction was made, in D1, between the joints at the short edges and those at long edges (see figures 2 to 4) and that there was no disclosure of a joint without play. Thus, the play referred to in claim 1 of D1 and described throughout this document as an inherent part of the second mechanical connection must apply to the joint at all four edges of the panels. This was confirmed by claim 16 making reference to the connections "of the aforementioned type". Moreover, the play was a feature of the joint itself, irrespective of the manner in which the joint was used to connect the panels, i.e. angling or snapping. Since the system of claim 1 was not limited to a particular joining method, the joints could also be effected by joining the panels at the short edges first, by angling or snapping, and thereafter displacing the new panel towards the long edge of a previously laid panel until both long edges are connected by snap action. It followed from the description on page 13, lines 16 to 23, that in this

case the displacement along the short edge would require play at the short edge. This also applied to the disassembly by angling out. As a consequence, any system not including the play between the joined panels at both the long and the short edges related to subject-matter extending beyond the contents of the earlier application D1.

An integrally formed, flexible locking strip was neither shown in, nor described in connection with, any of the figures of D1. The description on page 12, lines 23 and 24, did not mention flexibility, and the embodiment of figure 5 involved rigid rather than flexible locking strips. Further, the joints at all edges were described to be of the same type and there was, therefore, no basis for having an integrally formed flexible strip at the short edge only, as defined in claim 1.

Moreover, an integrally formed locking strip was disclosed in D1 only in combination with an additional separate strip therebelow, as shown in figure 5 which was 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.

The subject-matter of claim 1 was not new in view of document D6 disclosing a flooring system involving resilient panels having flexible integrated strips at two edges and corresponding locking grooves at the other two edges. The panels were described as being relatively displaceable along the long edges with play being defined by the difference between dimensions "b" and "a" in figure 2 for a snap engagement at the short edges. The tongue-and-groove connection of figure 2 enabled the panels to be dismantled, without causing damage, by an angling movement whereby the locking element at one panel would leave the locking groove at the other panel.

As to inventive step, either D3, D4 or D6 could be taken as the starting point. D3 disclosed panels, which could be floor panels, for connection at their long edges by an angling movement to bring a groove at one panel into engagement with a locking element at a projecting strip of an adjacent strip panel. A connection at the short sides, which was not described but clearly required for use as floor panels, was suggested by D6 or D9. D6 disclosed a relative longitudinal displacement of the panels for snap connection at the short edges, which could easily be implemented in D3 because the panels of D3 had to be longitudinally displaceable for correction when laying the panels. D9 disclosed a snap connection involving a flexible strip which could be used at any edge of a panel. The flooring system of D4 required, as shown in figure 17, a rather cumbersome operation for connecting

the 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 again 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. Likewise, D6 provided a suggestion for snap connection specifically at the short edges of the panels, making use of the relative displaceability of the panels along their long edges. The flooring system of D6 was problematic with regard to the room required for the sliding connection of the panels at their long edges and to the possibility of disassembling the panels without damage. A solution to both problems was suggested by the angling joint disclosed in documents D3 and D4.

## **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 - Added subject-matter*  
*(Articles 76(1) and 123(2) EPC)*
- 2.1 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 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 two underlined features in the above cited text of claim 1 which essentially concern the joint at the short edges as (a) having play between the locking groove and the locking surface on the locking element and (b) being conceived to allow the locking element to leave the locking groove when angling up the panel associated with the groove.

It was essentially argued in the appealed decision and by the Appellants 02 to 07 that no distinction was made, in D1, between the joints at the short edges and those at the long edges. There was no disclosure of a joint without both features which were presented as being essential. Thus, both features (a) and (b) referred to in claim 1 of D1 and described throughout this document as inherent parts of the second mechanical connection must apply to the joint at all four edges of the panels.

It is true that the two omitted features were present in claim 1 of D1 without having reference to a particular edge of the panels, giving the impression that the joint at any edge of the panels should include these features. However, it will have to be determined on the basis of the content of document D1 as a whole, rather than on claim 1 alone, whether the skilled person was taught that every joint should have the above features (a) and (b).

A further consideration of the claims of D1 reveals that a joint at all four edges is specifically referred to in claim 16, rendering it questionable whether the

definition of the joint in claim 1 should apply to all four edges of the panel. Claim 16 does not define the joint in detail but refers to it, in particular to its first and second mechanical connection, as being of the "aforementioned type". Even if this suggests that the joints at all four edges should be the same, the content of the disclosure will essentially depend on the description rather than on the claims, the principal purpose of which being to define the matter for which protection is sought (Article 84 EPC).

The description of D1 refers to various forms of the panels or joints, including those having separate or integrally formed strips with rounded or sharp edges, and various methods of laying the panels, such as angling or snapping connections. Panels with integrally formed strips, as defined in claim 1 of the main request, are generally referred to on page 12, lines 23 and 24 of D1, and specifically on page 8 with reference to panels to be laid according to the angling method shown in figure 5. A combination of angling and snapping connections is described on page 10, lines 6 to 19, and with reference to figures 2 and 3 on pages 15 to 17 of D1. Regarding features (a) and (b), it follows from the description on page 13, lines 16 to 23, that it is the function of the "play-feature" (a) to allow "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". It is thereby made clear that the play serves the purpose of allowing the mutual displacement of the panels in the direction of the joint, which means that in case of a combination of angling and snapping connections the joint at the angled edge

should have some play in order to allow displacement along this edge required for the snap joint at the other edge. Feature (b) is described on page 9, lines 3 to 15, and page 16, lines 13 to 22, as being preferred for dismantling the panels by an angling movement, corresponding to a likewise preferred feature for joining the panels by angling. It can, therefore, be concluded that the role of the features (a) and (b), as disclosed in D1, concerns the long edges when joining the panels by angling at the long edges and snapping at the short edges.

Since the flooring system of claim 1 defines the joint at the long edges as allowing the locking element to leave the locking groove when angling up the panel associated with the groove and the joint at the short edges as being a snap joint involving flexible and resilient strips, the claimed system is clearly directed to one being specifically adapted for angling joints at the long edges and snap joints at the short edges. It is evident for a skilled reader of D1, from the above identified description of the role of features (a) and (b), that in the flooring system as defined in claim 1 both features apply to the long edges only and, having no corresponding role when joining the panels by angling at the long edge and snapping at the short edge, need not be present at the short edges.

Appellant 06 argues that, whilst the claimed system may be adapted for providing joints by angling at the long edges and snapping at the short edges, it is in no way limited to such connecting methods but provides for the other types of joints derivable from D1, such as

angling/angling, snapping/snapping and angling at the short edges with subsequent snapping at the long edges, whereby the joint at the short edge would likewise require the presence of features (a) and (b). This argument is not convincing because the skilled person is aware that a system specifically designed to operate in a particular way does not have to be defined by features required for other ways of operation.

- 2.2 Claim 1 of the main request defines, at the short edge of the panel, a locking strip which is integrally formed in one piece with the panel and which is flexible and resilient to be urged downwards until the locking element snaps into the locking groove provided at the short edge of the other panel. It was argued by the Appellants 02, 06 and 07 that such a "one-piece snap embodiment", at the short edge only, 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 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.

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 in 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.

It is further observed that claim 1 does not specify that the integrally formed flexible strips are provided at the short edges of the panels only. In fact, the presence of such strips at the short edges does not exclude that the integrally formed strips at the long edges are likewise flexible, which may indeed be the case since they are made of the same panel material as the strips at the short edges.

- 2.3 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 providing a flooring system as claimed which is specifically adapted to a particular 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 main request are not open to objection under Articles 123(2) and 76(1) EPC.

2.4 *Main request - sufficiency of Disclosure*  
(Article 83 EPC)

An objection as to insufficiency of disclosure was raised by Appellant 04, 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 mentioned passage on page 12, lines 23 and 24, of D1. As set out supra, the skilled reader will 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 will 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, as the entire panel, from compact laminate will 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 main request.

3. *Main request - Novelty (Articles 52 and 54 EPC)*

Appellants 02, 03, 04 and 06 made reference to document D6 and essentially argued that the tongue-and-groove joint shown in figure 2 for all four edges of the panels was identical to that defined in claim 1 and allowed the panels to be dismantled by angling out at the long edges and to be joined at the short edges by

relative displacement along the already joined long edges into a snap engagement at the short edges.

Document D6 discloses a flooring system comprising panels made of a resilient material such as rubber and having, on two adjacent edges thereof, a tongue for engagement of a corresponding groove provided at the other two edges. It is not disputed that this tongue-and-groove connection provides a first mechanical connection of the panels in a direction perpendicular to the principal plane of the panels and a second mechanical connection in a direction parallel to this plane and at right angles to the joint edges. There is, however, a difference between the second mechanical connection of D6 and that of claim 1. In D6 the second mechanical connection can be considered, as argued by the Appellants, as being formed by the resilient portion of the groove side of the panel or "strip panel" below the groove, forming an integrally formed flexible strip provided with a locking element of width "a" in figure 2, engaging the corresponding "locking" groove of width "b" formed at the downward facing side of the tongue at the tongue side of the panel or "groove panel". Since the locking groove is at the tongue, it is not at the rear side of the panel which, according to paragraph 0021 of the patent, is defined as being located behind or underneath the front side, and the flexible strip of the "strip" panel, therefore, does not project on the rear side of the "groove" panel, as defined in claim 1.

This difference has an effect on the way the panels may be joined and dismantled. Whereas the position of the locking groove at the rear side of "groove" panel



allows the panels to be joined and dismantled by angling the groove panel so as to bring its locking groove into and out of engagement with the locking element at the locking strip of the other panel, the panels of D6 are joined at their long edges, as set out in the last paragraph of column 2, by inserting the tongue of one panel into the groove of the other panel and thereafter sliding the one panel along the long edge of the other panel.

D6 is silent about how to dismantle the panels but the obvious way would be to do it in the reverse order of joining, i.e. by relative displacement of one panel along its long edge until its tongue leaves the groove of the other panel. It may be true that the panels can also be dismantled by angular movement of one panel with respect to the other, as argued by the Appellants 02, 03, 04 and 06. However, the panels cannot be said to be specifically adapted to be joined and dismantled in this way, as defined in claim 1, because the angular movement will lead to an undefined deformation of the angled panel and eventually draw the entire tongue out of the groove in the other panel, thereby simultaneously releasing the first and second mechanical connections, rather than releasing the second mechanical connection independently of the first connection by angling the locking groove at the underside of one panel out of engagement with the projecting locking element at the other panel.

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

4. *Main request - Inventive step (Articles 52 and 56 EPC)*

4.1 As set out above, claim 1 of the appealed patent defines a flooring system having panels with a particular arrangement of an integrally formed locking strip at one short and one long edge and a locking groove at the other short and long edges, which arrangement makes the system particularly adapted for joining and disassembling by angling at the long edges and joining by snapping at the short edges, allowing the use of basically the same joint at all edges. The angling joint between two panels is formed by engagement of a locking element at the locking strip extending from the lower part of the long edge of one panel, as defined in feature (i) of claim 1, with the locking groove formed at the rear side of the other panel, as defined in feature (ii) of claim 1, when the other panel is turned about its long edge, which is made possible by the play between the locking groove and a locking surface at the locking element. The same play enables the other panel to be displaced relative to the one panel along its long edge, thereby allowing the locking element at the flexible locking strip at the short edge to snap into the locking groove at the short edge of an adjacent panel. The panels can, therefore, be easily laid and may also be dismantled, at least at the joint along their long edges, without causing damage to the panels.

4.2 An objection under Article 56 EPC was raised by all of the Appellants 02 to 07 and based essentially on a combination either of document D3 with D6 or D9, of document D4 with D9 or D6 or of document D6 with D3 or D4.

4.2.1 Document D3 describes a joint between the adjoining long edges of two similar panels. The joint is formed by a tongue at one panel being inserted 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 joint between the panels is effected 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. In this respect the joint corresponds to the claimed joint at the long edges, as set out above.

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). Appellant 05 argues that a suggestion for a joint at the short edges, which was clearly required for flooring applications, was provided by D6, disclosing a joint at the long edges including play allowing a relative longitudinal displacement of the panels for snap connection at the short edges. Since the panels of D3 had to be longitudinally displaceable as well 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 provision of a snap joint at the short edges of the panels cannot be considered as being obvious. First, there is no description of a relative longitudinal displaceability of the panels when joined at their long edges. Such a joint 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 at right angles to the short edges only (D7).

- 4.2.2 Document D4 discloses panels having joints at all four edges involving locking strips with locking elements engaging locking grooves. As shown in figure 17 and described in column 3, lines 11 to 21, and column 5, lines 35 to 51, the panels are adapted to be joined at both the long and short edges by an angular movement involving a longitudinal displacement of one panel with respect to an adjoining panel in inclined position

before being lowered by angling both panels down simultaneously.

It may be true that, as argued by Appellant 02, the joints of D4 require a rather cumbersome joining procedure for connecting the panels at all four sides 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, not clear why the skilled person should turn to a document such as D9, disclosing a joint at two edges of the panel only, when striving for an improvement for joints at all four edges. Moreover, 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).

A consideration of document D6 would make more sense because this document also provides joints at all four edges of the panels. However, the integral resilient tongue-and-groove joints of D6 involve the choice of a particularly resilient material such as rubber for the panel, which is inconsistent with the more rigid plastics material of the panels in D4. Moreover, as set forth above when discussing D6 for novelty, the tongue-and-groove joint of D6 would differ from that defined in claim 1 of the patent in that the locking groove would be at the rear side of the tongue, rather than 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 structural features of the claimed joint, as defined by the features (i) and (ii) in claim 1, provides for an angling connection at the long edges and for a snap connection at the short edges.

4.2.3 Appellants 02, 03, 04, 06 and 07 all present an argument based on document D6 as closest prior art, whereby an angling joint at the long edges was obvious in view of documents D3 or D4 in case there was insufficient room for assembling the panels along their long edges in the way disclosed in D6 or for disassembly without damaging the panels.

This argument fails for several reasons. There may be problems in assembling and disassembling the panels of D6 under certain circumstances, but neither D3 nor D4 refers to such a problem. It is, therefore, not clear why a skilled person should consider these documents, all the more as the identical structure of the joint at the long and short edges of the panels in D6 suggests that the mentioned problems could easily be overcome by assembling and disassembling both joints in the same way, i.e. by snapping the tongue into the groove at the long edges for assembly and pulling it out again for disassembly, which due to the shape of the tongue seems to be possible without causing damage. No modification of the joints at the long edges to correspond to those of D3 or D4 would, therefore, be required for such a different operation.

Further, since neither D3 nor D4 discloses that the angled joint at the long edges of the panels enables the panels to be displaced in the direction of the long

edges and such a displaceability shall even be prevented in D4 (see column 4, lines 7 to 9), the known angled joint would not be considered as being suitable for a combination with a snap joint at the short edges, as in D6, which requires such a displacement. Even if, despite these problems, the skilled person would consider modifying the angled joint at the long edges of D3 or D4 for incorporation in the panels of D6, he would not arrive at the flooring system of claim 1 because of the remaining differences at the short edges where, according to D6, the groove is at the rear side of the tongue, rather than at the rear side of the panel, as specified in claim 1, corresponding to the joint at the long edge.

- 4.2.4 The Board therefore comes to the conclusion that the arguments of the Appellants 02 to 07 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 involving angling (D3, D4, D7, D8), sliding (D6), snapping (D5, D6, D9, D10), or making use of separate connectors (D2), but with the exception of D6 not a single one of the known joints is adapted to more than one type of joining, as is the case in the patent under appeal providing a joint adapted 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 joint since it is neither intended nor suitable for such a type of joint.

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

5. *Further requests*

Since the grounds of opposition do not prejudice the maintenance of the patent as granted, the main request can be allowed and there is no need to deal with the auxiliary requests.

**Order**

**For these reasons it is decided that:**

1. The decision under appeal is set aside.
2. The patent is maintained as granted.

The Registrar:

The Chairman:

R. Schumacher

C. T. Wilson