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Datasheet for the decision of 9 December 2009

Case Number: T 1486/07 - 3.2.03

Application Number: 01920073.2

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Language of the proceedings: EN

Title of invention:
Mechanically joinable floorboards

Patentee:
Välinge Innovation AB

Opponents:
1) Spanolux SA
2) tilo GmbH

Headword:
-

Relevant legal provisions:
EPC Art. 54, 56

Relevant legal provisions (EPC 1973):
-

Keyword:
"Novelty and inventive step (yes)"

Decisions cited:
-

Catchword:
-

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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 1486/07 - 3.2.03

D E C I S I O N
of the Technical Board of Appeal 3.2.03
of 9 December 2009

Appellant 01: (Opponent 01)
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Decision under appeal:
Decision of the Opposition Division of the European Patent Office posted 27 June 2007 rejecting the opposition filed against European patent No. 1272716 pursuant to Article 102(2) EPC.

Composition of the Board:

Chairman: U. Krause
Members: E. Frank
K. Garnett

Summary of Facts and Submissions

I. The appeals lie from the decision of the Opposition Division dated 20 June 2007 and posted on 2 July 2007 to reject the oppositions of Opponents I and II against the European patent No. 1 272 716 pursuant to Article 102(2) EPC 1973. Grant of the patent had been opposed inter alia on the grounds of lack of novelty and inventive step, Article 100 (a) EPC.

II. Appellants I (Opponent I) and II (Opponent II) filed notices of Appeal on 12 September 2007 and 5 September 2007, paying the appeal fee on the same days, respectively. Appellant I submitted its statement of grounds of appeal on 12 November 2007. Appellant II was notified, by communication dated 26 November 2007, that, due to missing grounds of appeal, its appeal could be expected to be rejected as inadmissible. However, Appellant II did not react to the above communication.

III. A communication pursuant to Article 15(1) RPBA was issued together with a summons to attend oral proceedings, which were duly held on 9 December 2009. No one was present on behalf of Appellant II.

IV. Appellant I requested that the decision under appeal be set aside and that the patent be revoked.

The Respondent (Proprietor) requested that the appeal be dismissed.

V. The wording of claim 1 (as granted) reads as follows:

"1. A pair of mechanically joinable floorboards comprising a first floorboard (1) and a second, similar floorboard (1'), whereby each of said floorboards (1, 1') has a core (30) and opposite first and second joint edge portions (4a, 5a and 4b, 5b, respectively), whereby adjoining floorboards (1, 1') in a mechanically joined position have their first and second joint edge portion (4a, 5a and 4b, 5b, respectively) joined at a vertical joint plane (F), said floorboards comprising

(a) for vertical joining of the first joint edge portion (4a) of said first floorboard (1) and the second joint edge portion (4a, 5a and 4b, 5b, respectively), of said adjoining second floorboard (1'), mechanical cooperating means (36, 38), and
(b) for horizontal joining of the first and second joint edge portions (4a, 5a and 4b, 5b, respectively), mechanical cooperating means (6, 8; 14) which comprise

a locking groove (14) formed in the underside (3) of said second floorboard (1') and extending parallel with and at a distance from the vertical joint plane (F) at said second joint edge portion (4b, 5b) and having a downward directed opening, and

a strip (6) integrally formed with the core of said first floorboard (1), which strip at said first joint edge portion (4a, 5a) projects from said vertical joint plane (F) and at a distance from the joint plane (F) has a locking element (8), formed on the strip (6) and projecting towards a plane containing the upper side of said first floorboard (1) and which has at

least one operative locking surface (10) for coaction with said locking groove (14),
the locking groove (14), seen in the plane of the floorboards and away from the vertical joint plane, (F) having a greater width than said locking element (8),

characterised by the combination

that said at least one operative locking surface (10) of the locking element (8) is essentially plane and located at the upper part of the locking element, close to the top of the locking element, at a distance from the upper side of the projecting strip (6) and faces the joint plane (F),

that the locking groove (14) has at least one essentially plane operative locking surface (11) which is located in the locking groove at a distance from the opening of the locking groove and which is designed to cooperate with said locking surface (10) of the locking element (8) in the joined position,

that the locking groove (14) at the lower edge closest to the joint plane (F) has an inclined or rounded guiding part (12) which extends from the locking surface (11) of the locking groove and to the opening of the locking groove and which is designed to guide the locking element (8) into the locking groove (14) during the downward angling of the second floorboard relative to the first floorboard by engaging a portion of the locking element (8) which is positioned above the locking surface (10) of the locking element or adjacent to its upper edge,

that said operative locking surfaces (10 and 11, respectively) of the locking element (8) and the locking groove (14) make a locking angle (A) of at least 50° to the upper side of the boards."

VI. The following evidence has been considered for purposes of the present decision:

D1 = WO 99 66151 A

VII. The parties submitted essentially the following arguments:

Appellant I argued that, according to the broadly formulated claim 1, only "at least one" operative surface of the locking element was located at the upper part close to the top of the locking element. That is, the operative locking surface could be positioned somewhere else as well. And even if the locking surface was located exclusively at an upper part of the locking element, the relative term "upper part" could not describe something other than any positioning "above the lower part" of the locking element. The expression "at a distance" from the upper side of the projecting strip included any distance of the locking surface from the upper side of the strip. Thus, the abutting middle portion of the locking surface of the locking element shown in figure 9 of D1 corresponded to the operative locking surface of claim 1 of the patent. Moreover, with respect to its figures 7a to 7c embodiment, D1 described a locking element having an active locking surface, which was guided into the locking groove. This was also true for the figure 9 embodiment of D1, merely differing in that the projecting portion of the locking element was made integrally, ie in one piece with the body of the board. As was also derivable from figure 9 of D1, the locking angle of the locking surfaces was about 60 to 70 degrees. Furthermore, figure 9 of D1 was shown in figure 5 of the patent and cited in the

specification under paragraph [0041]. Since column 11 of paragraph [0042] of the specification, which still referred to figure 5, explicitly described a 60 degree angle, it was also conceded in the patent itself that D1 disclosed such a high locking angle. An inclined or rounded guiding part at the lower edge of the locking groove, and a locking angle of at least 50 degrees to the upper side of the boards, were therefore also derivable from D1, and claim 1 was thus not novel over the figure 9 embodiment of D1.

As for inventive step, Appellant I further argued that, if claim 1 differed from D1 in that the locking angle was at least 50 degrees and that the locking surface was located at the upper part of the locking element, close to its top, the problem underlying these features was to provide a locking system having a higher horizontal strength, yet being openable. The idea of providing a high, almost perpendicular, locking angle of 70 to 80 degrees in order to increase locking strength, was well known to the skilled person and was also derivable from the figures 7a to 7c embodiment of D1. In this embodiment, a separate resilient strip was foreseen, to facilitate bending of the strip, and thus to open the joint system. However, still to open adjacent floorboards easily in the figure 9 embodiment of D1, as well as in the patent, bending of the strip now being integrated into the board had to be improved, when a steep locking angle for an increased locking strength was foreseen in figure 9 of D1. The bending moment acting on the locking element at the end of the strip therefore had to be increased. Since the bending moment equalled force times lever arm, such an increase could either take place by applying a higher force, or

by moving the application point of the force further away from the imaginary pivot point of the strip. Thus, starting from figure 9 of D1 and applying a steep locking angle, the only option for the skilled person to improve opening of the locking system was to move the operative locking surface of the locking element upwards, thereby increasing the leverage and arriving at the subject-matter of claim 1.

The Respondent argued that the "at least one" operative surface in the characterising portion of claim 1 corresponded with the "at least one" operative locking surface of its preamble. Contrary to prior art D1, the at least one locking surface was moved in its entirety to the "upper part" of the locking element. Even though claim 1 did not draw a precise line between the locking element's upper and lower portion, the operative locking surface was defined as being located only in the upper part of the locking element, close to its top. If this was a clarity issue, the specification of the patent had to be taken into account, and claim 1 had to be interpreted accordingly. However, in particular paragraphs [0028], [0034], [0035] and [0050] also stated, consistently with claim 1, that the operative locking surface of the locking element had been moved upwards. Moreover, guiding in figures 7a to 7c of D1 was achieved by the rounded upper surface of the locking element, rather than by a guiding part at the lower end of the locking groove as claimed in claim 1 of the patent. Finally, no locking angle was disclosed in D1, and also the locking angle as described by column 11 in paragraph [0042] of the patent, was not related to D1. Claim 1 was therefore novel over D1.

The object of the distinguishing features of claim 1 over D1 was to provide a strong joint, which was easily connectable and reopenable. Although the idea of using a steep locking angle to improve horizontal locking strength was known in the art, the problem of opening such a joint system remained. To this end, better flexibility was provided in the figures 7a to 7c embodiment of D1. However, there was no suggestion in the available prior art documents to move the locking surface upwards in order to facilitate opening. Although according to the invention of the patent the locking surface was only located at the upper end of the locking element, surprisingly, a good horizontal lock remained, and due to reduced bending during opening, it was likewise easier to connect or disconnect the floorboards. The subject-matter of claim 1 thus also involved an inventive step.

Reasons for the Decision

1. The appeal of Appellant I is admissible.

2. Since Appellant II did not file grounds of appeal in accordance with the requirements of Article 108 EPC 1973, third sentence, its appeal is not admissible.

3. *Novelty and inventive step*
(Article 100(a) EPC, see Articles 54 and 56 EPC)

The document D1 describes in particular in figures 7a to 7c and in figure 9 two embodiments of mechanically joinable floorboards: cf. page 17, line 20 to page 18,

line 7; page 19, line 33 to page 20, line 16; page 21, lines 1 to 10; figures 7a to 7c, and figure 9.

As to the interpretation of claim 1, the Board agrees with Appellant I's view that due to the terms "at the upper part" and "close to the top" of the locking element 8, the positioning of the operative locking surface 10 onto the locking element 8 has been broadly defined by claim 1. However, as argued by the Respondent, an operative locking surface (ie at least one) has to be placed entirely in the upper part of the locking element, not in its lower part. This is also supported by the specification of the patent, see in particular paragraphs [0034], [0035] (column 8, line 56 to column 9, line 4), and [0050]. Thus, in the view of the Board, even if figure 9 of D1 disclosed that the intended effect of the "locking surface 10" of the "locking element 8" started slightly at a distance from the upper side of the projecting strip because of the opposed rounded lower edge part of the "locking groove 14", such a starting point of the effective (ie operative) "locking surface 10" of D1 would still be necessarily located at the lower part of the "locking element 8" shown in figure 9, rather than at its upper part, let alone close to its top, as is required by claim 1.

Moreover, D1 does not address any locking angle(s) in its description. Contrary to Appellant I's view, also the 60 degree angle, which is described in column 11, lines 7 to 15 of paragraph [0042] of the patent in context with figure 5, actually does not relate to D1. As is derivable from paragraph [0041] of the patent, the cross-sections shown in figure 5 are hypothetical,

not published, cross-sections, which are merely considered to be "fairly similar" to the locking system of, inter alia, D1, and are used as a starting point to describe, where applicable, parts of a strip lock system. Thus, a locking angle of at least 50 degrees to the upper side of the boards as defined by claim 1, merely based on figures of D1 not being drawn to scale, is not considered to be disclosed by D1.

Therefore, in the Board's view, even if the rounded lower edge portion of the "locking groove 14" in figure 9 of D1 served as a guiding means as argued by Appellant I, the pair of joinable floorboards according to the subject-matter of claim 1 differs from the figure 9 disclosure of D1 in that in any event a locking angle of at least 50 degrees, and an operative locking surface located at the upper part of the locking element and close to its top, at a distance from the upper side of the projecting strip, are provided.

The subject-matter of claim 1 thus is novel with respect to the figure 9 embodiment of D1. Novelty of claim 1 over D1's figure 7a to 7c embodiment as well as over the remaining prior art cited in the opposition was not disputed by the Appellant, and is also acknowledged by the Board.

Since according to claim 1 of the patent the operative locking surface is placed in the upper part of the locking element, the difference in degree between the locking angle and the clearance angle, ie the tangent to a circular arc with its centre where the vertical joint plane intersects the upper side of the floorboard,

will be smaller, and the opening of the locking will be facilitated (cf. patent: column 8, line 51 to column 9, line 4), whereas at the same time a good horizontal lock due to the steep locking angle of at least 50 degrees remains (cf. patent: column 7, lines 38 to 47).

In the light of the figure 9 embodiment of D1, the problem to be solved can be seen in the provision of a stronger joint, but which is also easy to connect and disconnect.

Accepting that the idea of using a steeper locking angle to improve horizontal locking strength of a pair of joinable floorboards was commonly known to the skilled person, he would not, however, get any incentive from the available prior art to then locate the operative locking surface of figure 9 of D1 at the upper part of the locking element, close to its top. On the contrary, particularly D1 suggests in its figure 7a to 7c embodiment an arrangement comprising a separate "strip 6" made of resilient aluminium sheet, so as still to enable bending of the strip (although not being drawn to scale, a steeper locking angle than in figure 9 is derivable from figures 7a to 7c of D1). Guiding is then achieved by a rounded tip of the "locking element 8", rather than by a guiding part at the lower edge of the locking groove as claimed in claim 1 of the patent, and the operative locking surface is formed by the entire length of the "locking element 8": see D1, page 17, line 20 to page 18, line 7, page 20, lines 5 to 9, and figures 7b and 7c.

Therefore the subject-matter of claim 1 also involves an inventive step.

Order

For these reasons it is decided that:

1. The appeal of Appellant I is dismissed.

2. The appeal of Appellant II is rejected as inadmissible.

The Registrar | The Chairman

A. Counillon | U. Krause