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**Datasheet for the decision
of 9 May 2012**

Case Number: T 0424/10 - 3.2.03

Application Number: 02729616.9

Publication Number: 1349995

IPC: E04F 15/04, B27M 3/04,
B27F 1/02

Language of the proceedings: EN

Title of invention:
Flooring system comprising a plurality of mechanically
joinable floorboards

Patentee:
Välinge Innovation AB

Opponent:
Spanolux SA

Headword:
-

Relevant legal provisions:
EPC Art. 54, 56

Relevant legal provisions (EPC 1973):
-

Keyword:
"Admissibility of new main request - yes"
"Novelty and inventive step - yes"

Decisions cited:
-

Catchword:
-



Case Number: T 0424/10 - 3.2.03

D E C I S I O N
of the Technical Board of Appeal 3.2.03
of 9 May 2012

Appellant: Vålinge Innovation AB
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Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 14 December 2009
revoking European patent No. 1349995 pursuant
to Article 101(3)(b) EPC.

Composition of the Board:

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

Summary of Facts and Submissions

- I. The appeal lies from the decision of the Opposition Division dated 14 December 2009 to revoke the European patent No. 1 349 995 pursuant to Article 101(2) EPC.
- II. The Appellant (Proprietor) filed a notice of Appeal on 17 February 2010, paying the appeal fee on the same day. The statement of grounds of appeal was filed on 23 April 2010.
- 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 May 2012. During the oral proceedings, the Appellant filed a new second auxiliary request. At the end of the oral proceedings, the Appellant withdrew its then existing requests, making its new request its main (and only) request.
- IV. The Appellant requested that the decision under appeal be set aside and the patent be maintained on the basis of its new main request.

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

- V. The wording of claim 1 of the new main request reads as follows:

"1. A flooring system comprising a plurality of floorboards (1, 1'), which are mechanically joinable at a joint plane (VP), each of said floorboards (1, 1') having a core (30), a front side (2, 32), a rear side (34) and opposite joint edge portions (4a, 4b), of which one (4a)

is formed as a tongue groove (36) which is defined by upper and lower lips (39, 40) and has a bottom end (48), and the other (4b) is formed as a tongue (38) with an upwardly directed portion (8) at its free outer end, the tongue groove (36), seen from the joint plane (VP), having the shape of an undercut groove (36) with an opening, an inner portion (35) and an inner locking surface (45), and at least parts of the lower lip (40) being formed integrally with the core (30) of the floorboard, and the tongue (38) having a locking surface (65) which is formed to coact with the inner locking surface (45) in the tongue groove (36) of an adjoining floorboard, when two such floorboards (1, 1') are mechanically joined, so that their front sides (4a, 4b) are positioned in the same surface plane (HP) and meet at the joint plane (VP) directed perpendicular thereto, characterised in that at least the major part of the bottom end (48) of the tongue groove, seen parallel with the surface plane (HP), is positioned further away from the joint plane (VP) than is the outer end (69) of the tongue (38), that the inner locking surface (45) of the tongue groove (36) is formed on the upper lip (39) within the undercut portion (35) of the tongue groove for coaction with the corresponding locking surface (65) of the tongue (38), which locking surface is formed on the upwardly directed portion (8) of the tongue (38) to counteract pulling apart of two mechanically joined boards in a direction (D2) perpendicular to the Joint plane (VP), that the lower lip (40) extends beyond the joint plane (VP), that the lower lip (40) has a supporting surface (50) for coaction with a corresponding supporting surface (71) on the tongue (38) at a distance from the bottom end (46) of the undercut groove, said supporting surfaces being intended to coact to counteract a relative displacement of two mechanically joined boards in a direction (D1) perpendicular to the surface plane (HP),

that all parts of the portions of the lower lip (40) which are connected with the core, seen from the point (C) where the surface plane (HP) and the joint plane (VP) intersect, are located outside a plane (LP2) which is located further away from said point than a locking plane (LP1) which is parallel therewith and which is tangent to the coacting locking surfaces (45, 65) of the tongue groove (36) and the tongue (38) where said locking surfaces are most inclined relative to the surface plane (HP), and

that the upper (39) and lower (40) lips and tongue (38) of the joint edge portions (4a, 4b) are designed to enable disconnection of two mechanically joined floorboards by upward pivoting of one floorboard relative to the other about a pivoting centre (C) close to a point of Intersection between the surface plan (HP) and the joint plane (VP) for disconnection of the tongue (38) of one floorboard (1') and the tongue groove (36) of the other floorboard (1), and

that the upper (39) and lower lips (40) and tongue (38) of the joint edge portions (4e, 4b) are designed to enable joining of two of said floorboards (1, 1') by one of said floorboards, while the two floorboards are essentially in contact with each other, being pivoted downward relative to the other about a pivoting centre (C) close to a point of intersection between the surface plane (HP) end the joint plane (VP) for joining the tongue of one floorboard with the tongue groove of the other floorboard."

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

D1 = GB 1 027 709 A;

D4 = WO 9747834 A1;

VII. The parties submitted the following arguments:

VII.1 Admissibility of new main request

- (a) The Appellant argued that the wording "close to" was reinserted in claim 1 to overcome Article 123(2) EPC objections of the Respondent and was clearly based on the original application, see claim 2 as filed.

- (b) The Respondent argued that the disclosure on pages 26 and 28 that the pivoting centre was located at the intersection between the surface plane and the joint plane related to prior art rather than to the invention, which referred to a pivoting centre "close to" this intersection, see page 41 (line 36). The original disclosure of the invention thus did not specify where the centre of pivoting was exactly located. The Appellant's request to amend claim 1 to the wording "close to", however, had been presented at too late a stage of the proceedings and thus should not be admitted.

VII.2 Novelty

- (a) The Appellant argued that the general disclosure in claim 16 of D4, as regards the definition of the extended lower lip, cannot be associated to all of the embodiments of this document. In fact, figure 11 of D4 was the only embodiment of an upper lip's undercut, and extended lower lips were only derivable for tongue grooves with horizontally formed upper lips. Moreover, figure 11 as such did not show that the lower lip of its tongue groove protruded, ie extended, beyond the vertical joint plane. Therefore, since D4's figure 11 embodiment did not

disclose a lower lip extending beyond the joint plane of two adjacent floorboards, claim 1 was novel over D4.

- (b) The Respondent argued that claim 16 of D4 encompassed a lower lip extending beyond the joint plane. Claim 16, which referred to any of the foregoing claims, thus also related to D4's figure 11 embodiment and, therefore, claim 16 in combination with figure 11 was novelty destroying. Furthermore, even based on figure 11 alone, the tongue groove's lower lip shown was located as a whole to the left of, ie "beyond" the joint plane when seen from the right hand side of the plane. Thus, claim 1 was not novel over the figure 11 embodiment of D4.

VII.3 Inventive step

- (a) The Appellant argued that page 16 of D4, second paragraph, described extended lower lips only in context with horizontal upper lips of figures 2 to 7, but not for the undercut upper lip shown in figure 11. When manufacturing inclined undercuts of tongue grooves, usual milling cutter disks were too large to be inclined against an extending, ie hindering, lower lip of the groove. To this end, the patent in suit provided extra-small cutting tools, which could be used for milling of undercuts even in case of a tongue groove's lower lip protrusion over the joint plane: see patent, figure 41. Thus, page 16 of D4 pointed away from an undercut in figure 11 if an extended lower lip had to be provided for simplifying engagement of two floor panels. Moreover, claim 1 of the patent also defined a limit to the extension of the lower lip. Therefore, starting from D4, any arbitrary lower lip extension would be in conflict with this limitation. If document D1 was considered the closest prior art, D4

could not lead to a lower lip which extended beyond D1's vertical joint plane, for the same reasons. Therefore, the subject-matter of claim 1 was inventive in the light of D1 and D4.

- (b) The Respondent argued that the embodiment of D4's figure 11 could be considered as the closest prior art and, as was derivable from page 16 of D4, the problem to be solved by the extended lower lip beyond the joint plane in claim 1 of the patent was to simplify engagement of two adjacent floorboards. Thus, it would be obvious for the skilled person to increase the length of the lower lip shown in D4's figure 11, based on the general teaching on page 16. No problems were encountered due to milling, since the patent in suit was not concerned with the manufacture of undercut grooves, but addressed a flooring system. Moreover, as the lower lip drawn in figure 11 could be lengthened by about at least one centimetre to stay within the lip location required by claim 1, also no conflict with claim 1's length limit occurred. Therefore claim 1 lacked an inventive step in the light of D4.

Furthermore, based on the lateral position of the vertical reference joint plane disclosed by D1, which intersected the surface plane at the upper side edges of the installed floorboards, the subject-matter of claim 1 again only differed from D1 in that the lower lip of the tongue groove extended over such a virtual joint plane. Thus, starting from D1 and taking into consideration D4's teaching, claim 1 also lacked an inventive step.

Reasons for the Decision

1. The appeal is admissible.
2. *Admissibility of new main request*

Claims 1 to 60 of the Appellant's new main request filed during the oral proceedings substantially correspond to those of the second auxiliary request filed with its grounds of appeal. It contained a minor amendment to claim 1, viz the reinsertion of the wording "close to", to overcome an objection of extended subject-matter raised by the Respondent. This point had been thoroughly discussed earlier in the oral proceedings, and had also been addressed in the Board's communication with relation to the then first auxiliary request of the Appellant: cf. point 4.1 of the communication. Moreover, the new amendment of claim 1 is clearly based on the original content of the application (see point 3 below).

Thus, the Respondent (and also the Board) could reasonably respond to the new request, and hence the Board exercised its discretion to admit the late filed main request of the Appellant to the proceedings: Article 13(3) RPBA.

3. *Amendments of claims of the new main request*

Claim 1 of the new main request is firstly based on original claims 1 and 2, as the wording "close to" has been reinserted in the claim's forth-last line (cf. page 27 of the main request as filed during the oral proceedings). The dependent claims 3,4 and 5 have been adapted accordingly, and claim 61 has been deleted.

Secondly, compared to claim 1 as filed, the amendment in claim 1 whereby "the lower lip extends beyond the joint plane" was submitted with the Appellant's grounds of appeal and is derivable from page 67, lines 14 and 15, and figures 21a, 21b, 23a, 23b and 41 of the application (as published).

The claims of the new main request therefore comply with Articles 123(2) and (3) EPC.

4. *Novelty*
(Article 54 EPC)

4.1 According to the wording of claim 1, all parts of the portions of the lower lip "40" of the flooring system's floorboards, seen from the point "C" where the surface plane "HP" and the joint plane "VP" intersect, are located outside a plane "LP2" which is located further away from said point than a locking plane "LP1", which is parallel therewith and which is tangential to the coacting locking surfaces "45", "65" of the tongue groove "36" and the tongue "38" where said locking surfaces are most inclined relative to the surface plane "HP".

Thus, the dimensions of the tongue groove, ie its height and width as well as the lateral position of its inner locking surface and this surface's angle with respect to the horizontal, are purposely designed such that the length of the floorboard's lower lip "40" is invariably limited by plane direction "LP2", ie can extend only up to just before the parallel locking plane direction "LP1". See the cross sectional view in figure 21a of the patent.

4.2 Moreover, the technically meaningful interpretation of claim 1 requires the floorboard's lower lip, when seen in cross section, to start somewhere behind, and to protrude over, the vertical joint plane "VP" in order to "extend beyond" this plane, but not to locate the entire lower lip either on the right-hand or left-hand side of the joint plane as argued by the Respondent.

4.3 The parties agreed that the flooring system of document D4 in particular discloses a floorboard's tongue groove having the shape of an undercut groove, since in its figure 11 embodiment the tongue's upward directed portion "53" is brought behind a downward-directed portion "54" of the groove during engagement of two adjacent floorboards: cf. D4, abstract; page 15, forth paragraph; and figure 11.

However, contrary to the Respondent's view, firstly based on the general wording of claim 16 in D4, an extended lower lip of D4's tongue groove cannot be clearly and unambiguously related to the figure 11 embodiment, since too many variations other than the undercut groove of figure 11 are described in the vast variety of embodiments: cf. D4, figures, and their corresponding description. Secondly, D4's figure 11 also does not show that the upper and lower lips "22,23" extend to the left "beyond" the vertical joint plane when seen from the right of the plane, but rather, that they are arranged at the joint plane of two floorboards on the left-hand side of it (cf. point 4.2 of this decision).

As argued by the Appellant, extended lower lips of the tongue grooves, ie longer than the upper lips, are always related to horizontally shaped upper lips without

undercut in D4: cf. eg, page 16, second paragraph, and figures 2 to 7. Therefore, the flooring system of claim 1 in any event differs from D4's disclosure in that the lower lip of the floorboards tongue groove extends beyond the joint plane.

- 4.4 Novelty of claim 1 over the remaining prior art was not disputed by the Respondent, and is also acknowledged by the Board.

Therefore the subject-matter of claim 1 of the new main request meets the requirements of novelty.

5. *Inventive step*
(Article 56 EPC)

- 5.1 The Board agrees with the parties that the figure 11 embodiment of document D4 can be considered as the closest prior art, since it describes a flooring system's tongue and groove floorboard having an undercut groove. As stated under point 4.3 of this decision, the subject-matter of claim 1 differs from D4's disclosure in that the lower lip of the floorboard's tongue groove extends beyond the joint plane of two adjacent floorboards.

In the Respondent's view, the problem underlying this distinguishing feature is to simplify the engagement of two floor panels, as was also derivable from page 16 of D4, lines 12 and 13.

However, although the Board shares the Respondent's view on the problem to be solved as the patent is silent on the extended lower lip's objective (cf. patent, column 42, lines 52 and 53), D4 first of all gives no indication

that its figure 11 tongue groove may be designed such that its lower lip will extend beyond the vertical joint plane, whilst the undercut of its upper lip will be maintained. On the contrary, D4 invariably teaches to foresee extended lower lips only in context with horizontally shaped upper lips, cf. point 4.3 of this decision. As argued by the Appellant, this is most likely due to the fact that milling problems occur when milling an undercut into the upper lip by means of the milling cutters "63" and "64" of D4. These cutters have relatively large dimensions and, therefore, when being positioned at an oblique angle with respect to the floorboard, protruding lower lips would hinder the milling process: cf. D4, page 18, line 32 to page 19, line 19, and figures 13 and 15.

Moreover, if the lower lip in D4's figure 11 was extended beyond the joint plane, the groove portion would also have to be formed such that the length of the lower lip never extended beyond the locking plane, which plane is tangential to the steep innermost portion of the circular undercut of figure 11, cf. point 4.1 of this decision. Irrespective of whether a minor lengthening of the lower lip in figure 11 (not drawn to scale) is possibly not in conflict with the length limitation defined by claim 1 of the patent as argued by the Respondent, such a design would be accidental, ie unintended, since it is nowhere derivable or hinted at in D4 in context with the above limitation of the extension of lower lips beyond the joint plane.

Hence, starting from the teaching of D4's undercut tongue groove in figure 11, the skilled person would not get any motivation based on his ordinary common technical

knowledge to extend the lower lip of the groove beyond the joint plane, much less to invariably limit the lower lip's length up to a locking plane's direction formed by the circular locking surfaces shown, if he had to simplify the engagement of two adjacent floorboards, and thus arrive at the flooring system of claim 1.

- 5.2 For the sake of completeness, the Board refers to document D1, which describes a lower lip of a floorboard's tongue groove in a cylinder- cylindrical socket connection: cf. D1, figures. According to the Respondent's view, in D1 a virtual reference plane forms the vertical joint plane as defined by claim 1 of the patent, which intersects the horizontal surface plane at the upper side edges of two assembled floor boards. Thus, D1 does not disclose a lower lip which extends beyond this virtual joint plane. However, when considering D1 as the closest prior art as argued by the Respondent, the skilled person again would not get any incentive from D4 to extend the lower lip shown in D1, if the floorboards should be readily engaged, cf. point 5.1 of this decision.
- 5.3 The subject-matter of claim 1 of the new main request therefore complies with the requirements of inventive step.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the Opposition Division with the order to maintain the patent on the basis of claims 1 to 60 according to the main request filed during the oral proceedings after any necessary consequential adaptation of the description and figures.

The Registrar

The Chairman

D. Hampe

U. Krause