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D E C I S I O N
of 11 March 2004

Case Number: T 1234/01 - 3.2.3

Application Number: 94915725.9

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IPC: E04F 15/14, E04F 15/02, E04F 13/08

Language of the proceedings: EN

Title of invention:
System for joining building boards

Patentee:
Välinge Innovation AB

Opponent:
I: UNILIN FLOORING NV
II: Kronotex Fußboden GmbH & Co. KG
III: E.F.P. Floor Products Fußböden GmbH

Headword:

Relevant legal provisions:
EPC Art. 54, 56

Keyword:
"Novelty (yes)"
"Inventive step - (yes) after amendment"

Decisions cited:
-

Catchword:
-

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Case Number: T 1234/01 - 3.2.3

D E C I S I O N
of the Technical Board of Appeal 3.2.3
of 11 March 2004

Appellant: (Proprietor of the patent)
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Representative:	COHAUSZ & FLORACK Patent- und Rechtsanwälte Postfach 10 18 30 D-40009 Düsseldorf (DE)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office dated 4 September 2001, posted on 20 September 2001, revoking European patent No. 0698162 pursuant to Article 102(1) EPC.**

Composition of the Board:

Chairman: C. T. Wilson
Members: F. Brösamle
M. Aúz Castro

Summary of Facts and Submissions

I. In the oral proceedings of 4 September 2001 the opposition division revoked European patent No. 0 698 162; the written decision was issued on 20 September 2001.

II. Against the above decision the patentee - appellant in the following - lodged an appeal on 19 November 2001 paying the fee on the same day and filing the statement of grounds of appeal on 29 January 2002.

III. Following the board's Communication pursuant to Article 11(2) RPBA in which the board expressed its provisional opinion of the case the appellant filed on 10 February 2004 a **new main request** and **auxiliary requests 1 and 2**. The **main request** is based on claims 1 to 19.

IV. Claim 1 of the **main request** reads as follows:

a) A system providing a joint along adjacent joint edges (3,4) of two floor panels, in which joint:

b) the adjacent joint edges (3,4) together form a first mechanical connection locking the joint edges (3,4) to each other in a first direction (D1) at right angles to the principal plane of the panels (1,2), and

c) a locking device (6,8,14) arranged on the rear side (18,16) of the panels (1,2) forms a second mechanical connection locking the panels (1,2) to each other in a second direction (D2) parallel to

the principal plane and at right angles to the joint edges (3,4),

d) said locking device (6,8,14) comprising a locking groove (14) which is formed in the underside (16) of one of the panels and extends parallel to and spaced from the joint edge (4) of said one (2) of said panels, termed groove panel, and which is open at the rear side (16) of the groove panel (2),

characterized in

e) that the locking device (6,8,14) further comprises a strip (6) integrated with the other (1) of said panels, termed strip panel, said strip (6) extending throughout substantially the entire length of the joint edge (3) of the strip panel (1) and being provided with a locking element (8) projecting from the strip, such that when the panels are joined together, the strip (6) projects on the rear side of the groove panel (2) with its locking element (8) received in the locking groove (14) of the groove panel (2),

f) that the panels, when joined together, can occupy a relative position in said second direction (D2) where a play (Δ) 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,

g) that the first and the second mechanical connection both allow mutual displacement of the panels (1,2) along the direction of the joint edges (3,4),

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

i) that the strip (6) integrated with the strip panel (1) is made of a material different from that of the strip panel (1) and fixedly mounted on the strip panel (1) at the factory, and

j) that the strip is made of a flexible, resilient material such as sheet aluminium."

V. On 11 March 2004 oral proceedings were held in which the following documents were specifically addressed by the appellant and opponents I to III - respondents I to III in the following:

(D6) GB-A-2 256 023

(D7) GB-C-1 430 423

(D9) GB-A-2 117 813

(D10) US-A-3 310 919

(D11) US-A-3 859 000

(D12) US-A-5 295 341

(D29) WO-A-84/02155
(≙ SE-B-450 141 cited in the patent specification)

(D38) DE-C-3 343 601

(DW) US-A-2 430 200

(FR1) FR-A-2 667 639 and

(FR2) FR-A-2 691 491.

VI. In the above oral proceedings before the board the parties essentially argued as follows with respect to claim 1 of the **main request**:

(a) appellant:

- in contrast to respondent I neither (FR1) nor (FR2) could be seen as a novelty destroying document since in both cases the locking strip does not extend over substantially the entire length of the joint edge as claimed in feature (e) of claim 1 and since the known floor systems did not address the problem of mutual displacement of the panels to be allowed by the locking elements;

- the crucial issue to be decided was therefore inventive step;

- irrespective of the starting point of the invention - favoured is (D29) in this respect - the subject-matter of claim 1 is nonobvious;

– thinner panels and a loose locking effect allowing the panels' mutual displacement by the provision of a specific play of the locking device could not be rendered obvious by (D29) singly or in combination with any one of (D6), (D9) to (D12), (D38) or (DW): (D6) not disclosing a separate, flexible and resilient strip integrated to the strip panel; (D9) to (D12) teaching separate strips on both sides of the panels; (D38) not teaching a groove formed in the underside of the panel but rather two panels each having a prefixed longitudinal bar between which locking is to be carried out; (DW) again not disclosing a groove formed on the underside of the panel and a separate strip made of flexible, resilient material.

(b) respondent I

– (FR1) cited in the appeal proceedings and being *prima facie* relevant was a novelty destroying document with respect to the subject-matter of claim 1 disclosing a locking device with play allowing the panels to be joined to be mutually displaceable and a strip of flexible, resilient material which feature of claim 1 was not clearly defined in the claim and was therefore open to interpretation;

- with respect to the issue of inventive step it was contended that (D38) was the starting point of the invention disclosing a groove in the panel's underside as a prerequisite for a lock as claimed without, however, literally disclosing any play; the objectively remaining object to be solved was therefore the provision of a lock with play being rendered obvious by (DW);

- (FR2) was seen as another possible starting point of the invention leading to the object to be solved being to provide an independent displacement of the panels which target was again rendered obvious by (DW);

- even if the subject-matter of claim 1 was accepted as novel it was not inventive in the light of the prior art so that claim 1 could not be valid.

(c) respondent II:

- (D6) was seen as the starting point of the invention disclosing all features of claim 1 with the exception of features (i) and (j) thereof;

- the problem to be solved was therefore to facilitate mounting of the panels by providing a strip of resilient, flexible material as known from (D38) or (D29);

- the combination of (D6) with (D38) or (D29) rendered obvious the subject-matter of claim 1.

(d) respondent III:

- starting point of the invention was (DW) disclosing features (a) to (h) of claim 1 but not its features (i) and (j);

- applying the so-called problem-solution-approach resulted in the objectively remaining problem to reduce the panel's thickness (in a vertical direction) which problem was solved by a thinner yet stronger material for the features achieving the lock;

- a metal clamp of flexible, resilient material was, however, known from (D29) dealt with in the patent specification so that a combination of (DW) and (D29) rendered obvious the subject-matter of claim 1; in this context a groove had to be seen as "channel-like" which definition was clearly fulfilled by the lock joint of (DW).

VII. The appellant requested that the decision under appeal be set aside and that the patent be maintained on the basis of

- claims 1 to 19;

- columns 1 to 12 of the description whereby in column 9, line 3, the letter "A" is replaced by "Δ";

- Figures 1 to 7,

all documents filed as **main request** on 10 February 2004.

VIII. The respondents requested that the appeal be dismissed.

Reasons for the Decision

1. The appeal is admissible.

Main request

2. *Novelty*

2.1 Respondent I cited in the appeal proceedings *inter alia* (FR1) being *prima facie* relevant and to be considered in the appeal proceedings. The appellant and the board accepted both (FR1) and (FR2) as prior art within the meaning of Article 54(2) EPC.

2.2 An objection based on novelty requires that **all** features of a claim be unambiguously derivable from one single document, in this case (FR1).

2.3 This is clearly not the case in the present case. While respondent I focussed on the **characterising** features of claim 1, namely features (e) to (j), the features constituting the claim's **precharacterizing clause** have also to be considered, namely that according to feature (b) "the adjacent joint edges (of two floor panels) together form a first mechanical connection ... in a first direction (D1) ...".

2.4 According to (FR1) no such joint edges forming a first mechanical connection locking the joint edges in a first direction are disclosed since according to e.g. Figures 6 to 8 the panels "10" *per se* form a **butt joint** without achieving a locking effect in a first, in this case **vertical** direction.

2.5 Summarizing the above considerations the subject-matter of claim 1 is **novel** with respect to (FR1), Articles 54 and 100(a) EPC, and respondent I's objection has to be rejected.

3. *Inventive step*

3.1 In the patent specification EP-B1-0 698 162, see column 1, line 32, and column 3, line 22, (D29) is discussed as the starting point of the invention; from this document a panel with a groove formed **in its underside** and a locking device on the rear side of the panels forming a second mechanical connection locking the panels to each other is known.

3.2 The respondents I to III each favoured their own nearest prior art, namely (D38), (D6), and (DW) respectively, as the starting point of the invention without, however, convincing the board that these documents have to be seen as the starting point of the invention. As set out above the groove formed in the **underside** of the panel and a locking device **entering in this groove** and forming a second mechanical connection locking the panels to each other in a second direction "D2" are **essential features** for the issue of what constituted the right starting point of the invention for assessing the invention's contribution to the prior

art. Since (D38), (D6) and (DW) fail to disclose a groove formed in the underside of the **panel** and to disclose a twofold locking effect in a first **and** a second direction they are less relevant as the starting point of the invention than (D29).

3.3 Starting from the nearest prior art document (D29) the object of the invention, see EP-B1-0 698 162, column 1, lines 47 to 51, is to provide a system for joining together panels which allows using floor panels of a smaller overall thickness than present-day floor panels. Contrary to the problems defined by respondents I to III **knowing the claimed invention**, the main problem to be solved was to provide **thinner floor panels** so that the crucial issue to be decided is the question whether or not the available prior art could render obvious the combination of features according to claim 1, namely features (a) to (j) - features (a) to (d) being derivable from (D29) and features (e) to (j) being not known from (D29).

3.4 The subject-matter of claim 1 contains the features necessary to provide for **thinner** floor panels in that a strip of the locking device is integrated with the floor panel and extends substantially throughout the entire length of the joint edge of the strip panel and has a locking element which enters into the groove formed in the underside of the panel, in that a play between the panels to be joined is safeguarded, the first and second mechanical connection allowing mutual displacement of the panels while angling when dismounting the panels, and in that the locking strip is made of a material different from that of the panel

and fixedly mounted on it at the factory, the material being flexible and resilient.

3.5 The above features of claim 1 allow mutual displacement of the thin panels when mounted while forcing adjacent panels adjustably together (the play being defined in the factory!) - see (D29) and its steel clamps "3,3" inserted in grooves formed in the undersides of the panels - so that a dismantled panel could be reused without losing the basic requirements of the claimed floor system, namely displacement of the panels in the locked position of the panels **and** exclusion of any gaps on the upper surfaces of adjacent panels when mounted.

3.6 With respect to the issue of inventiveness of the claimed solution of providing a thinner floor construction according to claim 1 respondent I essentially focussed his observations on (D38). It is obvious that in (D38) not the panels themselves are joined but rather the **additional bars** inserted in adjacent panels "10,10", see for instance Figures 1, 2 and 4 thereof, making the known construction obviously **inappropriate** for thinner than previously known floor panel systems. Contrary to the solution laid down in (D29), document (D38) is not based on the essential feature of claim 1 that the groove into which the locking strip is inserted is formed in **the underside of the panel**. This essential feature of claim 1 can also not be derived from (D6) - disclosing a tongue-and-groove system as the locking device between adjacent panels - nor from (DW).

3.7 (FR1) and (FR2) disclose openings formed in the underside of the panels and clamping elements entering into them when the floor system is mounted without, however, being relevant for the skilled person confronted with the problem to provide for thinner flooring panels since the basic requirements of flooring are not considered in these documents, namely adjustable play to easily allow mutual displacement of the laid panels and provision of a safe contact of adjacent panels on their opposing front surfaces, see for instance Figure 8 of (FR1), clearly showing the smaller pins "3" entering into the holes "6" and held in position solely by means of **friction** between the underside strips "5" of **rubber** clearly complicating/obviating mutual displacement of the newly laid panel with respect to its predecessing panel.

(FR2), see page 3, lines 28 to 33, and page 4, lines 9/10, teaches clearly against **the existence of play** so that again the principal requirement of mutual displacement of the panels when laid cannot be fulfilled. What is clearly disclosed in (FR2) is the use of individual clips "2" securing adjacent panels in defined positions; the known clips are, however, **small** locking elements not to be compared with the locking strips "6" which extend "**throughout substantially the entire length** of the joint edge (3) of the strip panel (1)", see feature (e) of claim 1. Moreover the grooves "3" shown in (FR2), see Figure 8 thereof, are orientated in the wrong direction with respect to the claimed subject-matter, namely **perpendicularly** to the floor panels' main extension.

3.8 Documents (D9) to (D12) and (D7) were only discussed with respect to additional bars inserted into the panels to be joined and to a snap-connection between adjacent panels, not, however, in combination with the issue whether or not a skilled person being confronted with the provision of a **thinner** than previously known floor system **would, not could** envisage a combination of the above documents to achieve the claimed system according to claim 1. In addition no **incentive** can be seen for a skilled person **not knowing** the subject-matter of claim 1 to envisage combinations of the above documents, especially of (D29), (DW), (D38), (D6), (FR1) and (FR2) so that it is irrelevant that **single features** out of the combination of features according to claim 1 are known *per se*.

3.9 The arguments raised by respondents I to III are clearly *ex post* since they failed to link the known documents to the present problem to be solved, see EP-B1-0 692 162, column 3, lines 47 ff, of how a flooring system could achieve panels which can be **thinner** than previously known panels. Under these circumstances the assessment of the claimed contribution to the prior art cannot be solely focussed on the existence of single features of claim 1 without simultaneously answering the question **why** specific features should be taken out of context and be relied upon when starting from the nearest prior art (D29).

3.10 Summarizing, the subject-matter of claim 1 is novel and inventive within the meaning of Articles 54, 56 and 100(a) EPC so that claim 1 is valid.

3.11 Likewise valid are claims 2 to 19 which relate to embodiments of the subject-matter of claim 1.

4. With respect to further arguments raised by the parties, the following is observed:

It is true that the properties of the material of the strip are not defined in detail in claim 1, since aluminium as the material thereof is only optional. Claim 1 is, however, not unlimited or unclear since a skilled person was aware that the claimed material had to be flexible and resilient. In the context of floor-panels the board agreed on the fact that wood cannot be seen as "flexible" and "resilient" (unless extremely thin), not to speak of concrete, the main property for a skilled person being not its resilience/flexibility.

The various definitions of the nearest prior art document raised by the respondents neglect the real-life conclusion of the appellant, namely (D29) as the starting point of the invention, **and** the issue of the problem to be solved by the invention (thinner panels) and are nothing other than arguments knowing the claimed invention - which becomes most obvious from the different problem-solution-approaches of the respondents which **redefine** the problem to be solved knowing the claimed invention.

With respect to respondent II it can clearly be argued that the problem to be solved - to facilitate mounting - did not exist on the priority date since already sufficiently solved in the prior art; with respect to respondent III it is observed that the provision of a stronger locking-strip material cannot be seen as the

problem to be solved by the invention since already (D29) turned to **steel** clips, clearly a strong/resilient material.

Summarizing, the respondents could not convince the board that the subject-matter of claim 1 is not novel and based on an inventive step, Articles 54, 56 and 100(a) EPC.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the first instance with the order to maintain the patent in the following version:

   - claims 1 to 19;

   - columns 1 to 12 of the description wherein in column 9, line 3, the letter "A" is replaced by "Δ";

   - Figures 1 to 7

   all documents filed as main request on 10 February 2004.

The Registrar: The Chairman:

A. Counillon C. T. Wilson

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