

Internal distribution code:

- (A) [] Publication in OJ
(B) [] To Chairmen and Members
(C) [X] To Chairmen
(D) [] No distribution

D E C I S I O N
of 23 March 2006

Case Number: T 0106/05 - 3.2.03

Application Number: 97928169.8

Publication Number: 0843763

IPC: E04F 15/04, F16B 5/00

Language of the proceedings: EN

Title of invention:

Floor covering, consisting of hard floor panels and method for manufacturing such floor panels

Patentee:

Unilin Beheer B.V.

Opponents:

OII Vörlinge Innovation AB
OV Hornitex-Werke Gebr. Künneineyer GmbH & Co. KG
OVI AB Gustav Kähr
OVIII Akzenta Paneele + Profile GmbH
OIX N.V. TRINTERIO et al.

Headword:

-

Relevant legal provisions:

EPC Art. 87(1), 83, 54, 56

Keyword:

"First priority validly claimed"
"Novelty, Inventive step: yes"
"Sufficiency of disclosure: yes"

Decisions cited:

-

Catchword:

-



Case Number: T 0106/05 - 3.2.03

D E C I S I O N
of the Technical Board of Appeal 3.2.03
of 23 March 2006

Appellant I:
(Opponent OII)

Välinge Innovation AB
Kyrkogränd 1
S-260 40 Viken (SE)

Representative:

Wallin, Bo-Göran
AWAPATENT AB
Box 5117
S-200 71 Malmö (SE)

Appellant II:
(Intervener/Opponent OVIII)

Akzenta Paneele + Profile GmbH
Wiparquet Innenausbausysteme GmbH
Dr. Hans-Jürgen Hannig
Werner-von-Siemens-Str. 18-20
D-56759 Kaisersesch (DE)

Representative:

Lippert, Hans-Joachim
Lippert, Stachow & Partner
Patentanwälte
Frankenforster Strasse 135-137
D-51427 Bergisch Gladbach (DE)

Respondent:
(Patent Proprietor)

Unilin Beheer B.V.
Hoogeveenweg 28
NL-2913 LV Nieuwerkerk aan de IJssel (NL)

Representative:

Hammond, Andrew David
Valea AB
Lindholmospiren 5
S-517 56 Gothenburg (SE)

Party as of right:
(Opponent OV)

Hornitex-Werke Gebr. Künemeyer GmbH & Co. KG
Bahnhofstr. 57
D-32805 Horn-Bad Meinberg (DE)

Representative:

Dantz, Jan Henning
Loesenbeck - Stracke - Specht - Dantz
Am Zwinger 2
D-33602 Bielefeld (DE)

Party as of right: AB Gustav Kähr
(Opponent OVI) Box 805
S-382 28 NYBRO (SE)

Representative: Rostovanyi, Peter
AWAPATENT AB
Box 5117
S-200 71 Malmö (SE)

Party as of right: N.V. TRINTERIO
(Intervener/opponent OIX) Flanders-Fieldweg 41
B-8790 Waregem (BE)

N.V. DEKAPLY
Nachtegaalstraat 10
B-9320 Erebodegem (BE)

N.V. TENG-DECOR
Wijngaardveld 24
B-9300 Aalst (BE)

Representative: Quintelier, Claude
Gevers & Vander Haeghen
Intellectual Property House
Brussels Airport Business Park
Holidaystraat 5
B-1831 Diegem (BE)

Decision under appeal: Interlocutory decision of the Opposition
Division of the European Patent Office posted
17 December 2004 concerning maintenance of
European patent No. 0843763 in amended form.

Composition of the Board:

Chairman: U. Krause
Members: Y. Jest
K. Garnett
C. Donnelly
J. Seitz

Summary of Facts and Submissions

- I. By its decision dated 17 December 2004 the Opposition Division maintained European Patent No. 0 843 763 in amended form on the basis of the main request with the following new claim 1, which had been amended, with respect to claim 1 as granted, by the addition of the passages in bold characters and by the omission of the text in square brackets as follows:
- (a) "Floor covering[,] consisting of hard floor panels
 - (b) comprising a wood-based core **of finely ground wood which is glued, chipboard with fine chips, MDF board or HDF board,**
 - (c) which panels [(1)] are intended to be laid to provide an upwardly facing, flat surface lying in a first horizontal plane and a downwardly facing, substantially flat surface lying in a second horizontal plane,
 - (d) said hard floor panels being provided, at least at the edges of two opposite sides (2-3, 26-27), with coupling parts (4-5, 28-29)
 - d1) formed in one piece with said [wood-based] core and
 - d2) cooperating with each other, substantially in the form of a tongue (9-31) and a groove (10-32),
 - (e) said groove being at least delimited by
 - e1) an upper lip (22-42) terminating at a vertical plane
 - e2) and lower lip (23-43), and
 - (f) said tongue having a tongue portion extending from the tongue tip inwardly up to said vertical plane when said panels are joined, wherein :

- (g) the lower lip (23-43)
 - g1) is elastically bendable and
 - g2) extends beyond the upper lip (22-42);
- (h) the coupling parts are provided with integrated mechanical locking means (6) made in one piece with said core which prevent the drifting apart of two coupled floor panels in a direction perpendicular to the related edge and parallel to the underside of the coupled floor panels; said integrated mechanical locking means comprise
 - (i) on the one hand a protrusion (33)
 - i1) located on the lower surface (35) of said tongue,
 - i2) said protrusion extending at least partially beyond said vertical plane inwardly
 - i3) and said protrusion having a contact surface (38,74), and
 - (j) on the other hand a recess (36) in the lower lip for accommodating said protrusion,
 - j1) said recess having a contact surface (39,73) cooperating with said contact surface of said protrusion
 - j2) such that a tangent line (L) which is defined by said contact surfaces when contacting each other is inclined with respect to said horizontal planes;
- (k) said contact surface (39,73) of the lower lip is located at least partially in the portion of the lower lip (23-43) extending beyond the upper lip;
- (l) said protrusion (33), recess (36) and elastically bendable lower lip (23-43) are arranged to permit joining of said panels by shifting them [with respect to each other in a substantially planar

fashion] laterally in a substantially planar fashion towards each other, and
(m) said coupling parts (4-5,28-29) provide for an interlocking, free from play, according to all directions in the plane which is situated perpendicular to the panel edges."

The listing of features (a) to (m) has been added for further reference.

II. The Opposition Division found that the requirement of clarity and 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 this amended form.

With respect to the ground of novelty and inventive step, the Opposition Division further found that the invention as claimed was entitled, not only to the second claimed priority (BE 9700344 of 15 April 1997 - hereafter "P2"), but also to the first claimed priority based on the patent application BE 9600527 filed on 11 June 1996 (hereafter "P1").

III. Appeals were lodged against this decision by Opponents II and VIII on 21 and 15 February 2005 respectively; the appeal fees were paid on the same dates. The statements of the grounds of appeal of Opponent II and Opponent VIII were received on 27 and 18 April 2005 respectively.

Opponents III and IV, who lodged appeals, withdrew their oppositions with letters dated 10 November 2005 and 14 October 2005 respectively.

The opposition of Opponent I had been withdrawn with a letter dated 15 May 2003.

The opposition of Opponent VII was deemed not to have been filed.

In summary, the parties remaining in the proceedings are:

- Opponent II (hereinafter Appellant I),
- Opponent VIII (hereinafter Appellant II),
- Proprietor (hereinafter Respondent),
- Opponents V, VI and IX, as parties of right.

IV. The prior art taken into consideration during the proceedings is as follows:

- Prior use "**Alloc**", presented at the Domotex fair in Hannover, Germany, January 1996 and based, among others, on following evidence:
 - D7: Fibo-Trespo pamphlet "Revolution at floor level"
 - D8: Fibo-Trespo pamphlet "Die Revolution von Grund auf"
 - D9: Fibo-Trespo teaching material "Alloc ... Laminatgulvet som legges uten lim"
 - D10: Fibo-Trespo teaching material "Alloc ... der Laminatboden, der ohne Leim verlegt wird"
 - E9: VHS Video from press conference in December 1995 and from the Domotex fair in 1996

- Patent literature:

- D1: WO-A- 94 26999
- D2: GB-A- 1 430 423
- D4: GB-A- 2 256 023

D14: US-A- 4 426 820
D20: JP-A- 3 169967 with English translation
D23: CH-A- 562 377
D26: US-A- 3 780 469
D32: JP-A- 7 300979 with English translation
D33: BE-A- 557 844

V. During the oral proceedings on 21 and 22 March 2006 the Respondent filed an amended claim 1 as well as a revised set of claims 2 to 33 and adapted parts of the description (amendments dated 21 and 22 March 2006 respectively).

Amended claim 1 of 21 March 2006 is based on claim 1 as maintained by the Opposition Division but comprises an additional feature (g3) (in bold characters in the text) and an amended feature (l) (deletion of the expression "substantially").

Amended claim 1 reads:

- a) "Floor covering consisting of hard floor panels ...(*features (a) to (f)*), wherein:
 - g) the lower lip (23-43)
 - g1) is elastically bendable and
 - g2) extends beyond the upper lip (22-42);
 - g3) wherein the distance (E) by which the lower lip extends beyond the upper lip is smaller than one time (*sic*) the total thickness (F) of the floor panel (1);**
- (*features (h) to (k)*),
- l) said protrusion (33), recess (36) and elastically bendable lower lip (23-43) are arranged to permit joining of said panels by shifting them laterally**

in a [~~substantially~~] planar fashion towards each other, and ...
(feature m)."

VI. The Respondent (Proprietor) requested that the decision under appeal be set aside and the patent be maintained on the basis of:

- claims 1 to 33 as filed during the oral proceedings;
- the description, pages 2 to 5 and 7 to 9, as maintained by the Opposition Division, and pages 6 and 10 as filed during the oral proceedings;
- figures 1 to 25 as granted.

VII. The appellants I and II (Opponents II and VIII) requested that the decision under appeal be set aside and the patent Nr. 0 843 763 be revoked.

Appellant II requested alternatively that the embodiments shown in figures 2 to 4, 8 to 11 and 22 to 25, be removed from the description and figures, and that the corresponding reference numerals be deleted from the claims.

VIII. Appellants I and II submitted essentially the following arguments:

- Regarding the requirements of Article 87(1) EPC, it had to be determined if the invention as claimed was the same (in the light of G 02/98) as the one disclosed in the patent application BE 9600527 (P1) filed on 11 June 1996 on which the first claimed priority is based.

The invention as defined and claimed in the patent (see for instance claim 7), in addition to embodiments having coupling means for engaging respective edges of a pair of panels by a pure translational movement or by a pure turning movement, covered further embodiments in which the coupling means are arranged to permit joining of the said pair of panels both by shifting them laterally in a planar fashion towards each other and by turning them into locking engagement. Such embodiments, however, were not disclosed in P1 but have been added on the basis of the second claimed priority document P2 (patent application BE 9700344 of 15 April 1997) and more particularly on the basis of the embodiment illustrated in figures 22 to 25, newly introduced in P2. The invention as defined in the patent was therefore not the same as the one disclosed in the first priority document P1 (Article 87(1) EPC).

- Appellant II further emphasised the fact that only the embodiments illustrated by figures 5 to 7 were covered by claim 1. In this regard, objections as to a lack of disclosure within the meaning of Article 100(b) EPC as well as to a lack of clarity under Article 84 in combination with Rule 29(7) EPC were raised, the argument being that the claims still contained reference numerals from embodiments other than those of figures 5 to 7, the effect being to mislead the skilled person into trying to perform the invention on an erroneous basis.

- Regarding novelty, Appellant II argued that the claimed subject-matter was already disclosed in the construction shown in D23. The panels shown in D23 had all the features of claim 1, including (g1) and (l). In

column 2, line 12 onwards, it was stated that the core of the panels was made of ligneous material ("Holzwerkstoffe"). It was therefore implicit that the lower lip of the coupling parts was flexible (feature (g1)). Although the coupling arrangement of D23 was clearly designed with an angling engagement in mind, the skilled person would have seen that it would also be possible to engage adjacent panels solely by a lateral and planar movement. This was implicitly the case for embodiments having a lower lip ("Randleiste 3") of reduced thickness, e.g. a thickness value in the order of the lower limit of the range (1/3 of the panel thickness) indicated in claim 7 of D23, or even lower. During the oral proceedings, a model of panels according to D23 was produced and their coupling by horizontal shifting demonstrated. Feature (l) of claim 1 was also disclosed in D23.

- With regard to inventive step, Appellant I considered that the closest prior art was D1 and that it disclosed all the features of claim 1 except features (g3), (j2) and (m). Starting from D1, the technical problem could be stated as making the joint between panels stronger, free from play and easier for the assembly process. The person skilled in the art would have considered the solution offered by prior art document D32 in this respect. According to D32, the core material of the panels was MDF (see the English translation, page 11), the lower lip extended from the upper lip by a length approximately equal to the thickness of the panel as shown in the drawings. The contact surface was inclined because of the triangular shape of the locking ridges 2 of figure 6, and the coupling was characterised in that

it was interlocking, free from play (see translation, page 21, first paragraph: "without gaps occurring").

- Alternatively the claimed flooring was also obviously derivable when taking D32 as closest prior art. This state of the art suggested an angling engagement at the long-side edges of adjacent panels and a drop-in connection at their short-side edges. Hence, the objective problem was to improve the coupling at the short-side edges of the panels so as to enable an interlocked engagement, not only in the horizontal plane, but also in vertical direction. To this effect, D1 would have taught the skilled person to replace the drop-in hook construction at the short-side edges of D32 by a lateral snap-in tongue-and-groove arrangement, whilst keeping the mechanical locking means at the long-side edges. The skilled person would have immediately recognised the advantage of an additional, vertical lock as compared to the drop-in connection of D32.

Additionally, there was no technical prejudice against making the coupling elements integrally with a core material made of MDF. However, this issue was not relevant to the case because the material of the panel is not limited to MDF in claim 1.

- Appellant II relied on the fact that the person skilled in the art would have tried to adapt the relative dimensions of the coupling parts described in D23, and in particular the height of the flange 3 of the lower lip, such as to enable the assembly of panels purely by a lateral planar shifting in the manner suggested for instance by D20 (figures 1 and 2). This approach was already derivable from D23 itself, where

it described a method for fine tuning the geometry of the coupling means to the specific needs of the case by varying and adapting the height-thickness ratio (claim 7 and column 3, lines 35 to 48).

IX. The arguments presented by the Respondent can be summarized as follows:

- The claimed priority P1 was valid within the meaning of Article 87(1) EPC since claim 1 of P1 already referred to the feature, "the coupling parts have such a shape that two subsequent floor panels can be engaged into each other exclusively by snapping-together and/or turning", see the English translation of P1 (hereafter "P1en"), page 18, lines 23 to 28. As a result, the application and the patent as amended were entitled to the first priority P1, the filing date thus being deemed to be 11 June 1996 (Article 89 EPC).

- The claimed floor covering was not anticipated by the building elements of D23, which concern covering, panelling and flooring panels.

The teaching of D23 is not wholly clear since there is an obvious inconsistency between the range for the height of the flange 3 ("Höhe der Randleiste") defined in claim 7 and the values which can be obtained by following the instructions of the description, column 3, lines 26 to 45. This inconsistency results from diverging values for the ratio between the height of the flange ("Randleiste" 3) of the lower lip and the panel thickness, on one hand as obtained using the instructions at column 3 (approximately 0.58), and on the other hand as defined by the range of claim 7 (upper limit of 0.5). Facing this apparent internal

contradiction in D23, the skilled person would have arrived at the conclusion that the height of the flange 3 of the lower lip defined in claim 7 was not measured from the bottom surface of the panel but from the lowest point of the coupling recess 4 in the lip. Such an interpretation of the term "Höhe der Randleiste" is fully consistent with the common technical content of the patent family members DE, CA, and AT of D23.

Accordingly, the meaningful content of D23 consisted in defining a minimum value of 0.58 for the ratio between the height of the flange of the lower lip and the panel thickness when measured in accordance with the patent, i.e. from the bottom surface of the panel.

This reading of D23 is also fully in line with the additional recommendation made at column 3, lines 48 to 53, of D23, to increase the thickness of the lower part of the element in cases where the building element was subject to pressure, which clearly applied to flooring panels. The skilled person would therefore have increased the thickness of lower part of the coupling means when using the panels in floorings, which would in turn mean a lower lip lacking the degree of flexibility required for being bendable within the meaning of the patent.

Finally, it was argued that the model produced during the oral proceedings had no intrinsic probative value and was to be disregarded. This was especially so because the coupling means demonstrated by the model was obviously not a true re-construction of D23, since point E1 in the model was offset when compared to its position in figure 1 of D23.

- The subject-matter of claim 1 as amended involved an inventive step.

Neither D1 nor D23 could be considered as the closest prior art.

As mentioned above, D23 generally concerned a building element, which, when used as a flooring panel, needed to be provided with a lower lip of increased thickness; this rendered impossible any lateral and translational snapping engagement of adjacent panels.

The invention defined in D1 aimed to provide a purely mechanical coupling means in the form of separate metallic strips integrated with the panels, which could therefore be kept relatively thin, so that the inconvenience of panels requiring a relatively thick core for supporting tongue/groove connections integrally formed therewith could be avoided. The alternative embodiment described in page 12, lines 23 to 24, of D1 and referring to coupling strips integrally formed with the panels was, however, not explicitly directed to panels having a wood-based core.

The closest prior art was disclosed by the flooring panels of D32, which show different types of coupling elements. These elements are engaged and locked at the long-side edges by an angling movement, during which coupling hooks are dropped into one another at the short-side edges. If the problem is taken to be to modify these panels so as to interlock them at their short-side edges in a manner free from play in the vertical direction, the skilled person would by way of a first attempt have provided the drop-in hooks with adapted locking means, for instance in the manner suggested by D33. The resulting solution would thus have been different from the one claimed in the patent.

But, even if the skilled person had looked for another solution and thereby taken D1 into consideration, he would have replaced the coupling hooks either by an aluminium strip or by an integrally formed strip, provided the latter was thin and long enough to have a sufficient degree of flexibility. The resulting construction would thus have at least lacked feature (g3) of claim 1.

- The method according to claim 30 concerns the manufacturing of floor panels according to the invention and therefore also fulfilled the requirements of novelty and inventive step.

X. Opponents V, VI and IX, who were parties to the appeal proceedings as of right, did not submit any arguments during the appeal proceedings themselves.

(a) During the opposition proceedings these parties had raised several objections directed to product-claim 1 and method-claim 49 as granted, and presented a number of lines of argument to support their case.

(b) Having regard to the amended product-claim 1 as maintained by the Opposition Division and to the method-claim (renumbered as claim 30 according to the request currently on file), the arguments of Opponents V, VI and IX can be summarised as follows:

- Opponent V contested the novelty of the claimed floor covering vis-à-vis D2 and denied the presence of any inventive step when compared to

the combination of D14 and D20. The method-claim was considered to be obviously derivable from the state of the art together with the general knowledge of the skilled person.

- Opponent VI did not attend the oral proceedings in the opposition procedure; the objections raised by Opponent VI (lack of disclosure and lack of inventive step) were directed only to claim 1 as granted. The arguments put forward by Opponent VI, which could, to some extent at least, be considered as applicable to the claims as amended, have already been submitted by Appellants I and II (Opponents II and VIII).

- Opponent IX argued that the claimed product lacked inventive step over a combination of the teachings of:

- prior use "Alloc" and D4; or
- D2 in combination with either D14 or D26;

and that the method-claim was obviously derivable from the state of the art, in particular D2, in combination with the general knowledge of the skilled person.

(c) The Opposition Division considered that none of these lines of argument established the obviousness of the claimed invention. The division gave the following reasoning:

- D4 did not disclose a snap-in connection obtainable by lateral movement nor the provision of a flexible lower lip, so that D4 lacked any incentive for amending the "Alloc" construction;

- The coupling means of the panels disclosed in D2, D14, D20 and D26 were made of plastics and the skilled person would therefore not have considered them.

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. *Sufficiency of disclosure - Clarity*

The objections of Appellant II are based on lack of disclosure (Articles 83 and 100(b) EPC) and lack of clarity in accordance with Article 84 in combination with Rule 29(7) EPC. Reliance is placed on the fact that the claims as amended still contain reference numerals from embodiments other than those of figures 5 to 7, these embodiments no longer being covered by the claims.

As to sufficiency of disclosure, the question to be answered is whether or not the additional embodiments or the reference signs in the claims prevent the skilled person from carrying out the invention as disclosed by the patent as amended, and in particular as defined in claim 1. The statement in column 5, lines 52 to 54, makes it clear that the invention as claimed is shown in the embodiments of figures 5 to 7 and 22 to 25, rather than in the other embodiments, to which some of the reference signs contained in the claim might still refer. In the board's view, there can be no doubt

that the skilled person is able to associate the correct reference signs with the corresponding embodiment.

Accordingly, the invention is considered to be sufficiently disclosed in the patent. The requirements of Articles 83/100(b) EPC are met.

As to clarity, according to the established case law of the Boards of Appeal it is only those clarity problems (ie those arising under Article 84 EPC) which arise from amendments made during the opposition proceedings that can be addressed as such during such proceedings. This is not the case here: the reference signs were included in granted claim 1, and this claim also did not cover the further embodiments.

3. *Claim 1 - Priority - Novelty*

3.1 Priority claim (Article 87(1) EPC)

To be entitled to a claimed priority within the meaning of Article 87(1) EPC the invention as claimed must be disclosed as such in the application whose priority is claimed.

The invention according to the first priority document P1 contains the following feature (see page 3, line 6, or claim 1 of the English translation, P1en):

"the coupling parts have such a shape that **two** subsequent floor panels can be engaged into each other exclusively by snapping-together **and/or** turning".

This feature clearly indicates that the coupling means may be configured so as to allow the joining of said pair of panels along a pair of facing edges not only by just one of these movements, that is either only by a lateral shifting or only by angling, but also via a dual mode, i.e. by either shifting or angling the panels. The option of such a dual mode of engagement was thus unambiguously comprised within the disclosure of the first priority P1. No further or additional disclosure is required in this respect, with the result that the Appellants' arguments must fail in that they rely on an alleged lack of any detailed embodiment in P1 having coupling means operable in the dual mode described above.

The patent is thus entitled to claim the first priority P1 and its filing date is 11 June 1996, (Article 89 EPC).

3.2 *Novelty*

The state of the art disclosed in D23 generally concerns building elements, more specifically, panelling or flooring elements (column 2, lines 34 to 39) made of ligneous material (column 2, lines 13 to 16). The panels are provided (see figure 1), at the edges of the two opposite long sides, with coupling parts (3,4,5, 7 and 8) arranged to be engaged by an angling movement (see figures 2 and 3), whereas, at the edges of the two opposite short-side edges, hooks (12 and 14) are engageable by a drop-in movement (see figure 4). The coupling parts and the hooks are formed in one piece with the core material.

The coupling means along the long edges consists of a tongue (8) and a groove (4), which is delimited by an upper lip (5) and a lower lip (3) extending beyond the upper lip (5). They are provided with integrated mechanical locking means (4,7,9) made in one piece with said core ("formschlüssige Verbindung" at column 1, line 26, "Verriegelung" at column 3, line 21), which locking means prevent the drifting apart of two coupled floor panels in a direction perpendicular to the engaged edges and parallel to the underside of the coupled floor panels. More specifically, the mechanical locking means comprises a rounded protruding bulk on the lower surface of said tongue (8) and a recess (4) in the lower lip for accommodating said protrusion, so as to form, in combination with the hooks at the short-side edges, an interlocking, free from play, ("formschlüssige Verbindung") in all directions in the horizontal plane.

The assembly mode of the panels at their long-side edges is defined, explicitly and exclusively, as an angling of the tongue into the groove (see column 3, lines 60 to 68 and figure 3).

The Board, however, disagrees with the view of Appellant II that modes of assembly at the long-side edges other than the explicitly described angling of the panels would have been implicit for the skilled reader.

The Appellant's arguments are based on the assumption that an embodiment according to figures 1 and 2 of D23 but having a thin (or thinner) lower lip is clearly suitable to allow engagement by a purely horizontal shifting movement of the panels. It was said that this implicit information could be gained from two relevant

parts of D23, namely dependent claim 7 and the passage of the description at column 3, lines 35 to 48, together with figures 1 and 2 of D23.

It is the Board's view that the skilled reader would not have read or even extrapolated the teaching contained in these parts of D23 so as to conclude that the coupling means could also be engaged exclusively by a horizontal shifting of the panels. An implicit disclosure of a feature in a prior art document requires the information to be clearly and unambiguously derivable from the content of the explicit disclosure. In the current case, a lateral shifting engagement of the disclosed coupling means would define a new and alternative embodiment of the arrangement explicitly described in D23. One essential technical prerequisite for such a lateral snap-in engagement is the presence of a flexible lower lip. There is missing from document D23 any information whatsoever about any intended degree of flexibility for the lower lip. No teaching relating to the alleged flexibility of the lower lip can be gathered by the skilled reader from an analysis of the information contained in claim 7 and in the said passage in column 3. These two parts of document D23 consist in two disclosures which are inconsistent with each other. On the one hand, claim 7 defines a range ($[\frac{1}{3} - \frac{1}{2}]$) for the ratio between the height of the flange 3 ("Randleiste") of the lower lip and the overall thickness of the panel. On the other hand, the lowest value for said ratio directly derivable from the instructions at column 3, lines 35 to 45, would be 0.58. This value of 0.58 is even higher than the maximum upper limit ($\frac{1}{2}$) defined in claim 7.

The resulting lack of clear and consistent disclosure, even in an implicit form, is sufficient to reject the Appellant's arguments. It is in particular irrelevant and unnecessary to analyse what information the writer of D23 might originally have intended to convey by comparing its text with those of its patent family members DE, CA, AT.

It can also be added that D23 contains some other technical information which is contrary to the implicit content alleged by Appellant II. Column 3, lines 48 to 53, recites that the thickness of the lower part of the element should be increased in cases where the building element is subject to pressure. When applied to flooring panels having tongue-and-groove coupling means, this passage would in fact tell the skilled person to increase the thickness of the lower lip, rather than to reduce it so as to make the lower lip sufficiently flexible and bendable to permit exclusively a lateral snap-in engagement of the panels.

Finally, the skilled person would not even have considered a reduced thickness for the lower lip because such an amendment to the construction disclosed in D23 would have considerably weakened the mechanical interlocking means and might even have jeopardized the aimed-for "shape-based" engagement ("*formschlüssige Verbindung*") of the coupling means.

The panels of D23 thus disclose all the features of claim 1, except features (g1) and (l), since:

- **contrary to (g1):**

the lower lip (parts 3,4) of D23 is not elastically bendable and

- **contrary to (1)** :

the coupling/locking means of D23 are not able to permit joining of the panels by shifting them laterally.

The subject-matter of claim 1 is thus not anticipated by D23.

None of the other cited state of the art that is relevant for the purposes of Article 54(2) EPC discloses all the features of claim 1 either.

Opponent V relied on the disclosure of D2 for attacking the novelty of the claimed flooring panels. This objection must fail if only for the reason that D2 does not describe a floor panel made of wood, chipboard, MDF or HDF, but deals more generally with a joint structure having resilient tongue and groove parts made of plastics or metal (see for instance column 2, lines 22 to 35). Further, in D2 the upper lip of the groove part extends beyond the lower lip, rather than the other way round as in the claimed panels. In general, the claimed invention differs from D2 by a large number of features of its claim 1.

The subject-matter of claim 1 is therefore novel.

4. *Claim 1 - Inventive step*

An objection under Article 56 EPC was raised by both Appellants I and II and additionally, during the opposition procedure, by Opponents V, VI and IX, now

parties of right. Their grounds were based on various combinations of documents.

- 4.1 The floor panels as illustrated in figures 2 and 3 of D1 have tongue-and-groove coupling means which can be engaged either by a turning movement or by a horizontal translational shifting (page 16, line 23 to page 17, line 12). The material of the lower lip (strip 6) can be metallic, for instance sheet aluminium, and thus different from the material of the core (page 1, lines 17 to 24) or, alternatively, the lower lip can be made in one piece with the core material as disclosed at page 12, lines 23 to 24.

The skilled person would understand that the one-piece alternative for the lower lip ought to provide the same physical properties that are described for the aluminium strip, i.e. that there should be sufficient flexibility for it to be bendable and to allow a snap-in fitting. There is indeed no reference, in the passage at page 12, to the embodiment of figure 5, and the skilled reader would therefore have little reason to assume, as argued by the Respondent, that this alternative should apply only to the inflexible lower lips of figure 5. Of course the lower lip should be designed by taking into account the selected core material (such as compact laminate) in order to assure a sufficient degree of flexibility for the snap-in connection. This could for instance be achieved by making it in the form of a relatively thin and long strip with dimensions comparable to those of the separate strips shown in figures 2 and 3.

A further teaching of D1 generally recommends leaving a play Δ between the opposed surfaces of the recess 22 in

the groove and the protrusion 2 on the tongue (see for instance figure 1 and claim 1, page 20, line 33). This play fulfils two functions: first it facilitates the longitudinal shifting of the panels when engaging their short sides by a snapping action (see page 13, lines 16 to 23) and, second, it allows the disassembly of the panels (page 9, lines 3 to 15).

It follows that the claimed invention differs from D1 by the following features:

- **(b)**: the floor panels comprise a wood-based core of finely ground wood which is glued, chipboard with fine chips, MDF board or HDF board,
- **(g3)**: the distance (E) by which the lower lip (23, 43) extends beyond the upper lip (22, 42) is smaller than one times the total thickness (F) of the floor panel (1);
- **(j2)**: the recess (36) in the lower lip for accommodating the protrusion (33) has a contact surface (39, 73) cooperating with the contact surface of the protrusion such that a tangent line (L) which is defined by said contact surfaces when contacting each other is inclined with respect to said horizontal planes;
- **(m)**: the coupling parts (4-5, 28-29) provide for an interlocking, free from play, according to all directions in the plane which is situated perpendicular to the panel edges.

Appellant I considered that the problem to be solved could be defined as making the joint between panels

stronger, free from play, and easier for the assembly process.

It is, however, unclear why the skilled person would, as argued by Appellant I, have taken document D32 into consideration for solving this problem. D32 is concerned with a drop-in coupling arrangement at the short sides. Any application of such a joint would bring into question the retention of the snap-in coupling of D1 altogether, and even teach away from an interlocking in the vertical direction. This kind of solution would have been dismissed by the skilled person because it would render the joint weaker than the arrangement of D1 which he is trying to improve. Additionally, the embodiment of figures 2 and 6 of D32 referred to by Appellant I deals with the coupling at the long-side edges of the panels, in which the tongue and groove connection is achieved by an angling movement. It might be true that features (b) and (j2), taken in isolation, could be derived from page 11, line 2, and figures 2 and 6 of D32, respectively. However, there would be no reason for the skilled reader to consider that the tongue and groove arrangement according to this embodiment would also allow an engagement of the panels purely by a horizontal shifting movement.

The skilled person would not find a satisfactory solution in D4 either. The panels are joined by a tongue-and-groove connection along their long sides. The engagement is operated first by a tilting movement with the tongue partially inserted into the groove for locating the rib in a recess (see page 5, last paragraph). A joint at the short-side edges of the panels is not described in D4. The skilled person would

therefore find nothing in D4 to lead him to configure the coupling means at the short-side edges of the panels disclosed in D1 in either the one way or the other. As regards the joint at the long-side edges, whilst the panels of D4 are made of wood, none of the other distinguishing features (g3), (j2) and (m) can be derived from D4.

4.2 The state of the art disclosed in prior use "Alloc", which prior use was not disputed by the Respondent, is technically substantially equivalent to D1, and in fact slightly less relevant since the coupling means of "Alloc" are exclusively made of separate strips of sheet aluminium. Claim 1 thus differs from "Alloc" by features (d1) and (h), in addition to features (j2) and (g3). A similar reasoning and the same conclusion as in paragraph 5.1 above therefore apply so far as concerns any combination of "Alloc" with D32 or D4.

4.3 Document D32 describes floor covering panels with a core made of MDF. They are provided with integrally formed coupling means in the form of a tongue 3 and groove 2 located at their long-side edges and retaining hooks 4,5 at their short-side edges, whereby the coupling is performed by an angling engagement at the long-side edges and a drop-in connection of the hooks at the short-side edges. The tongue-and-groove coupling at the long-side edges comprises mechanical locking means, which consist of a protrusion 3c on the tongue and a recess 2d in the groove, and which can provide a coupling free of gaps (see for instance first paragraph of page 21 of the English translation). At the short-side edges, the hooks 4,5 are engaged by a drop-in movement for interlocking the engaged panels in a

direction perpendicular to the edges, but not in the vertical direction.

It follows that the panels of D32 lack the following features of claim 1:

- having regard to the tongue-and-groove coupling at the **long-side edges**:
features (g1), (g3) and (l);
- having regard to the hook-coupling at the **short-side edges**:
features (e1), (g) to (g3), (j2), (k), (l) and (m).

The Board agrees with the Appellant I that the objective problem derivable from the difference of coupling means **at the short-side edges** of the panels can be defined as providing additionally a lock in the vertical direction at those edges.

The Respondent argued that the skilled person, looking for a locking in the vertical direction, would first be guided by D33. This prior art suggests a locking means in form of pin-hole arrangements, which could be easily provided as such on the hooks 4,5 in D32. The skilled person would recognise that the inclusion of the pin-hole arrangements in D32 would advantageously not require any further change or adaptation of the coupling means of D32.

The Board is not convinced by this approach because the vertical interlocking pin-hole construction, as derivable from D33, requires a certain degree of elasticity for the pins to vertically snap and grip into the holes, something that is in fact achieved by

using an elastic material, preferably plastics. Such a solution would be contrary to the concept of the wood-based panels of D32 having integrally formed coupling and interlocking means. It is also questionable as to what extent the locking means (pin-hole arrangements) of D33 could be mounted on the hooks of D32 so as to be engageable into one another without jamming, since the panels of D32 are not only engaged by a purely vertical movement but also by pivoting about their long-side edges.

The skilled person, as argued by Appellant I, would instead have turned to document D1 as the relevant source of inspiration. D1 teaches a purely mechanical locking of the panels based on an angling at the long-side edges (as in D32) and a vertical interlocking at the short-side edges by virtue of a lateral snap-in connection. The skilled person would also select in this respect the alternative "one-piece" mode of realisation of the coupling means as suggested in D1. The substitution of the drop-in connection at the short-side edges of D32 by a snap-in locking as suggested by D1 would thus present itself as straightforward when the skilled person was looking for a solution to the said problem of realising a vertical lock at the short-side edges.

However, such an admittedly obvious substitution would not lead to panels having all the features of claim 1.

As mentioned in the above discussion on the technical content of D1 (see item 5.1), the required flexibility of the lower lip is obtained, in the one-piece construction of the coupling and interlocking means, by

a lower lip being relatively thin and long, in fact much longer than the overall thickness of the panels.

Thus, the panels resulting from a combination of D1 and D32 would still lack at least feature (g3) of claim 1, which requires that the lower lip should not extend beyond the upper lip by a length greater than the thickness of the core.

- 4.4 The state of the art disclosed in D23 has already been discussed in relation to novelty aspects and concerns solely an angling engagement of the coupling means. It is highly unlikely that the skilled person starting from D23 would have reduced the thickness of the lower lip down to a value which would provide sufficient flexibility so as to enable a purely lateral shifting engagement. There is no incentive for such a reduction. A substantial lowering of the thickness would even carry the risk of considerably weakening the thinner part of the lower lip located at the lowermost point of the groove 4 and eventually of jeopardising the firmness of the mechanical interlock itself.

The skilled person would not have taken D1 or D20 into consideration with a view to changing D23. Both D1 and D20 refer to coupling concepts which are basically and conceptually different from D23: D1 teaches the use of a long and thin lip, whereas the coupling elements of D20 are made of plastics.

- 4.5 The parties of right argued during the opposition procedure that the claimed invention was also rendered obvious by the combination of D14 with D20, or D2 with either D14 or D26.

The Board agrees in this respect with the reasons given by the Opposition Division for rejecting these arguments.

D14 concerns panels for forming a sports surface, which are preferably made of plastic material (column 2, lines 15 to 18); no lateral snap-in connection is foreseen in D14.

Prior art D20, as mentioned previously, refers to coupling means made of plastics too. The general technical problems of wooden floorings are not addressed in these documents, which could therefore not constitute a source of inspiration for the skilled person.

The releasable joint structure shown in D2 has been developed for interconnecting members made of plastics or metal (page 1, lines 9 to 15); there is no mention whatsoever of wood-based panels or floorings. The skilled person would therefore disregard D2 as relevant state of the art and certainly as the closest prior art in the current case. This conclusion applies even more obviously to D26, which describes plastic toys.

4.6 The Board therefore comes to the conclusion that the arguments of the Appellants and of the parties of right are not sufficient to establish that the claimed product was obviously derivable from the available prior art. At least some of the arguments are based on artificial combinations of various features picked out of their context or extracted from technically remote prior art documents.

Claim 1 is therefore considered to involve an inventive step and to meet the requirements of Article 56 EPC.

5. *Method-claim 30*

The claimed method defines a process for manufacturing the flooring panels as defined in claim 1 or in its dependent claims, which are considered to be novel and to involve an inventive step. The claimed method thus meets the requirements of Article 52(1) EPC too.

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:
 - (a) claims 1 to 33 as filed during the oral proceedings;
 - (b) the description, pages 2 to 5 and 7 to 9 as maintained by the opposition division, and pages 6 and 10 as filed during the oral proceedings;
 - (c) figures 1 to 25 as granted.

The Registrar:

The Chairman:

A. Counillon

U. Krause