(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 1 803 869 A1

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
04.07.2007 Bulletin 2007/27

(51) Int Cl.:
E04F 15/10 *(2006.01)*

(21) Application number: **06126194.7**

(22) Date of filing: **14.12.2006**

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR
Designated Extension States:
AL BA HR MK YU

(30) Priority: **29.12.2005 US 321015**

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(54) Floor plank being a laminate of two layers of flexible plastic sheet material laminated together in offset relationship

(57) A floor plank (10) is a laminate of two layers (14,16) of flexible plastic sheet material laminated together in offset relationship to define an offset marginal portion (42,58) for each of the layers (14,16). Each of the offset marginal portions (42,58) has oppositely facing adhesive coated surfaces. A foam layer and/or a fibreglass sheet (18) can also be included in the laminate structure of the floor plank. The floor plank (10) can conform to surface contours of a floor base. The bottom layer (18) of the floor plank, whether it is plastic sheet or foam, is conformable to surface irregularities of the floor base. A one piece releasable packaging sheet (128) can cover oppositely facing adhesive coated surfaces of the offset marginal portions (42,58).

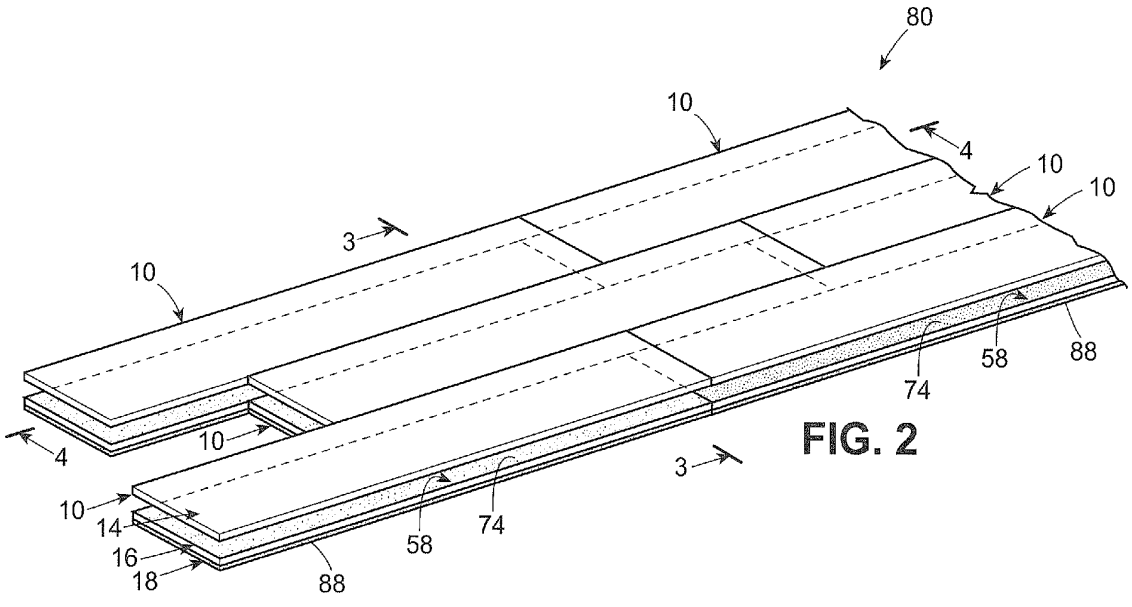

FIG. 2

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Description

[0001] This invention relates to floor planks and packaging therefore. The invention also relates to a packaging system for the floor plank.

[0002] US patent 1,978,075 discloses a woodblock flooring which has a tongue and groove engagement system for sacrament of similar blocks in side-by-side relationship. Since the blocks are formed of wood, they are generally rigid and inflexible, and do not easily conform to surface contours and surface irregularities of a floor base. The woodblocks are also secured to a floor base using mastic or nailing.

[0003] US patent 2,914,815 discloses an interlocked flooring system wherein individual blocks have offset base members formed of plywood. The plywood base members are laminated to the blocks and permit securement of similar blocks in side-by-side arrangement. The plywood base members are also generally rigid and inflexible. Thus the blocks do not easily conform to surface contours and surface irregularities of a floor base.

[0004] US patent 3,554,850 shows parquet flooring with projecting parts for side-by-side securement of similar parquet sections. The parquet flooring is generally rigid and inflexible and thus cannot easily conform to surface contours and surface irregularities of a floor base.

[0005] It is an object of the invention to provide planks that can be installed on a floor base without being bonded to the floor base, and that can be securable to similar adjacent floor planks on a floor base and be conformable to surface contours and surface irregularities of the floor base. This object is provided according to the invention by the features defined in claim 1.

[0006] The present invention therefore provides a floor plank comprising

a) a first layer of flexible plastics sheet material having a first polygonal shape with at least two side edges, a first upper surface with a design pattern and a first lower surface, the first upper surface with the design pattern constituting the top surface of the floor plank,

b) a second layer of flexible plastics sheet material having a second polygonal shape with at least two side edges, a second upper surface and a second lower surface, said first and second layers being laminated together in offset relationship, with the first lower surface of the first layer contacting the second upper surface of the second layer,

c) the offset lamination of said first and second layers defining a first offset marginal portion (a) of said first layer and a second offset marginal portion (a) of said second layer, said first marginal portion of said first layer extending beyond at least one of the side edges of said second layer, and said second marginal portion of said second layer extending beyond at least one of the side edges of said first layer, wherein said first offset marginal portion has a first marginal lower surface that is part of the first lower surface of said first layer, and said second offset marginal portion has a second marginal upper surface that is a part of the second upper surface of said second layer, the first marginal lower surface and the second marginal upper surface having an exposed adhesive coating,

wherein the first and second layers have respective predetermined thicknesses to enable the laminate of the first and second layers to have a flexibility that permits said laminate to conform to surface contours of a floor base upon which the floor plank is laid, and the plastics sheet material of said second layer having a predetermined yieldability to surface irregularities of the floor base upon which the floor plank is laid, such that said second layer, when lying in flat contact on the floor base can conform to surface irregularities of the floor base.

[0007] The floor plank preferably includes a third layer of flexible foam material having a third polygonal shape, the third layer being bonded to the second lower surface of the second layer and being co-extensive with the second layer such that said second and third layers have a common periphery, the foam material of the third layer having a predetermined thickness and yieldability to surface irregularities of the floor base upon which the floor plank is laid, such that the third layer can conform to surface contours of a floor base upon which the floor plank is laid and the third layer when lying in flat contact on the floor base can conform to surface irregularities of the floor base.

[0008] The present invention further comprises a floor plank comprising,

a) a first layer of plastics sheet material having a first polygonal shape with at least two side edges, a first upper surface and a first lower surface,

b) a second layer of plastics sheet material having a second polygonal shape with at least two side edges, a second upper surface and a second lower surface, said first and second layers being laminated together in offset relationship, the first lower surface of the first layer contacting the second upper surface of the second layer,

c) the offset lamination of said first and second layers defining a first offset marginal portion of said first layer and a second offset marginal portion of said second layer, said first marginal portion of said first layer extending beyond at least one of the side edges of said second layer, and said second marginal portion of said second layer extending beyond at least one of the side edges of said first layer, said first offset marginal portion having a first marginal lower surface that is part of the first lower surface of said first layer, and said second offset marginal portion having a second marginal upper surface that is a part of the second upper surface of said second layer, the first marginal lower surface and the second

marginal upper surface having an exposed adhesive coating,

d) a releasable cover member for covering the adhesive coated first marginal lower surface of said first offset marginal portion and the adhesive coated second marginal upper surface of said second offset marginal portion, said releasable cover member comprising one continuous strip of release material extending on the exposed adhesive coating of said first marginal lower surface and extending on the second marginal upper surface to cover the exposed adhesive coating of said first and second offset marginal portions, whereby said one continuous strip of release material covers the exposed adhesive coated surfaces of the first and second marginal portions.

[0009] The present invention also extends to a method of packaging a floor plank and a floor plank assembly obtained thereby. The assembly comprises a laminate of two layers of plastics sheet material both of identical polygonal shape, laminated together in offset relationship to define an offset marginal portion for each of the layers, such that the offset marginal portion of each layer extends beyond at least two side edges of the other layer, each of the offset marginal portions having oppositely facing adhesive coated surfaces. according to the invention one continuous strip of flexible releasable material is provided to cover the exposed adhesive coated surfaces of both of the offset marginal portions by contacting a first portion of the releasable cover material against the adhesive coating of one offset marginal portion, a second portion of the releasable cover material is contacted on the adhesive coated surface of the other offset marginal portion.

[0010] Further preferred features of the present invention are defined in the accompanying claims and described in the following description. In particular, it is preferred that the polygonal shapes are congruent rectangles.

[0011] Preferably, the first offset marginal portion extends beyond two intersecting side edges of the second layer such that said first offset marginal portion is substantially L-shaped.

[0012] It is preferred that the second offset marginal portion extends beyond two intersecting side edges of said first layer such that said second offset marginal portion is substantially L-shaped.

[0013] The first and second layers are preferably of synthetic plastics material, such as a vinyl material (typically polyvinyl chloride). The adhesive coating is preferably of a styrene-isoprene- styrene elastomer.

[0014] The first upper surface of the first layer preferably has thereon a wood grain design resembling natural wood.

[0015] Preferably, the plank includes an underlayer of flexible fibrous sheet material (such as fibre glass) bonded between the first and second layers, said underlayer having a polygonal shape and being coextensive with said first layer such that said first layer and said underlayer have a common periphery.

[0016] Further preferred embodiments of the invention will now be described, by way of example only, with reference to the accompanying drawings, in which corresponding reference numbers indicate corresponding parts throughout the several views of the drawings. In the drawings:

Fig. 1 is a perspective view of a floor plank according to one embodiment of the present invention;
Fig. 2 is a perspective view of an assembly pattern thereof;
Fig. 3 is a sectional view taken on the line 3-3 of Fig. 2;
Fig. 4 is a sectional view taken on the line 4-4 of Fig. 2;
Fig. 5 is a sectional view thereof on a floor base;
Fig. 6 is a perspective view showing the flexibility characteristics of the floor plank;
Fig. 7 is a perspective view of a plank according to another embodiment of the invention;
Fig. 8 is a perspective view of an assembly pattern thereof;
Fig. 9 is a sectional view taken on the line 9-9 of Fig. 8;
Fig. 10 is a sectional view taken on the line 10-10 of Fig. 8;
Fig. 11 is a sectional view thereof on a floor base;
Figs. 12 to 14 are perspective views of a packaging system for the floor plank incorporating another embodiment of the invention, before, during and after installation in a floor plank;
Fig. 15 is a plan view of the packaging system packaging device; and
Fig. 16 is a perspective view of a floor plank incorporating a further embodiment of the invention.

[0017] Referring to the drawings, a floor plank incorporating a preferred embodiment of the invention is generally indicated by the reference number 10 in Fig. 1. The floor plank 10 is a laminate of a top layer 14 of flexible plastics sheet material, a middle layer 16 of flexible plastics sheet material and a bottom layer 18 of flexible foam material. All of the layers 14, 16 and 18 are of identical polygonal size and shape, preferably rectangular.

[0018] The top layer 14 and the middle layer 16 are preferably formed of synthetic plastics material, preferably a vinyl plastics material such as polyvinyl chloride sheeting material. An upper surface 24 of the top layer 14 is provided with a design such as a synthetic wood grain design (Fig. 6) that resembles natural wood. The bottom layer 18 is formed of a soft flexible foam material such as polyurethane foam.

[0019] The middle plastics layer 16 and bottom foam layer 18 are laminated together such that they are coextensive and have a common periphery. However the top plastics layer 14 is laminated to the middle plastics layer 16 such that the top layer 14 is offset from the middle layer 16.

[0020] In the offset layer arrangement, a long edge 26

(Fig. 1) of the top layer 14 extends an offset amount "a" beyond a long edge 32 of the middle layer 16 and a short edge 34 of the top layer 14 extends an offset amount "a" beyond a short edge 40 of the middle layer 16 to define an offset L-shaped marginal section 42 of the top layer 14.

[0021] Also in the offset layer arrangement, a long edge 46 (Fig. 1) of the middle layer 16 extends an offset amount "a" beyond a long edge 48 of the top layer 14, and a short edge 50 of the middle layer 16 extends an offset amount "a" beyond a short edge 56 of the top layer 14 to define an offset L-shaped marginal section 58 of the middle layer 16. The L-shaped marginal section 42 of the top layer 14 and the L-shaped marginal section 58 of the middle layer 16 are of identical size and shape.

[0022] A suitable bonding or adhesive composition for laminating the top plastics layer 14 and middle plastics layer 16 together has the following components, the amounts of which are approximate:

a) 35% SIS (styrene-isoprene-styrene elastomer)
b) 54.5% petroleum resin
c) 10% mineral oil
d) 0.05% oxidation resistant BHT (2,6-di-tert-butyl-p-cresol)

[0023] The bonding material for the layers 14 and 16 is provided on a lower surface 64 (Fig. 3) of the top plastics layer 14 and on an upper surface 66 of the middle plastics layer 16.

[0024] The same bonding material applied to the lower surface 64 and the upper surface 66 for laminating top plastics layer 14 and the middle plastics layer 16 can also be used for laminating the bottom foam layer 18 to the middle plastics layer 16.

[0025] The L-shaped marginal section 42 has a downwardly directed adhesive surface 72 (Fig. 1) that is part of the lower surface 64 (Fig. 3) of the top layer 14 and the L-shaped marginal section 58 has an upwardly directed adhesive surface 74 (Fig. 1) that is part of the upper surface 66 (Fig. 3) of the middle layer 16. The adhesive on the exposed adhesive surfaces 72 and 74 is the bonding material used for laminating the top plastics layer 14 and the middle plastics layer 16 together.

[0026] Although the dimensions of the floor plank 10 are a matter of choice, a suitable size for the top layer 14, the middle layer 16 and the bottom layer 18 can be, for example, 6 inches (about 15 cm) by 48 inches (about 145 cm)

[0027] The thickness of the top layer 14 can be, for example, approximately 2.0 mm and the thickness of the middle layer 16 can be, for example, approximately 2.5 mm. The thickness of the bottom foam layer 18 can be, for example, approximately 3 mm. The marginal offset "a" can be, for example, approximately ¾ of an inch (about 1.9 cm). Larger offsets would be provided for larger panels.

[0028] The floor plank 10 is sufficiently flexible as schematically indicated in Fig. 6, to conform to typical variations in surface contour of a floor base 102 (Fig. 5) upon which the floor plank 10 is laid. In addition, the flexible foam material of the bottom layer 18 is yieldable to small bumps and other imperfections in the floor base 102 generally referred to as surface irregularities. The bottom foam layer 18 thus enables the floor plank 10 to conform to such surface irregularities and lie flat on the floor base 102.

[0029] During installation of the floor planks 10 in side-by-side and end-to-end relationship, the downwardly directed adhesive surface 72

[0030] The L-shaped marginal section 42 (Fig 1) of the top layer 14 is positioned so as to engage the upwardly directed adhesive surface 74 of the L-shaped marginal section 58 of the middle layer 16, to form the assembly 80 of the floor planks 10 as shown in Fig. 2. When placing two of the planks 10 together, one plank 10 can be angled at approximately 45° (not shown) relative to the floor base 102 and onto the corresponding upwardly facing adhesive surface 74 (Fig. 1) of an adjacent floor plank 10.

[0031] The floor plank assembly pattern 80 (Fig. 2) is but one example of numerous possible plank patterns known in the art.

[0032] The floor planks 10 can be installed on the floor base 102 (Fig. 5) without mastic or an adhesive coating on the floor base 102, and without mastic or adhesive on an undersurface 88 (Fig. 3) of the bottom foam layer 18. Thus during installation, the floor planks 10 can be placed on a dry floor base surface 102 for easy shifting to any selected position, thereby facilitating installation of the floor planks 10 in any desired pattern.

[0033] Preferably the installation of floor planks 10 should start in a corner of a room (not shown) and proceed outwardly therefrom. An expansion gap of ¼ inch or about 0.6 cm, for example, from each wall is generally suitable for most installations. The expansion gap is usually covered by moulding. It has also been found helpful to provide double faced tape on the first row of floor planks 10 to help maintain the first row in place during the positioning of adjacent floor planks 10.

[0034] The top layer 14, the middle layer 16 and the bottom layer 18 of the floor plank 10 are provided with an overall thickness that enables the floor plank 10 to be easily cut with a utility knife, if trimming is needed. Ease of trimming the floor plank 10, as well as the mastic-free placement of the planks 10 on a floor base, 102 make it convenient for a doit-yourselfer to instal the floor planks 10..

[0035] Another embodiment of the floor plank is generally indicated by the reference number 100 in Fig. 7. The floor plank 100 is a laminate of the top layer 14 and the middle layer 16 of the floor plank 10, with the bottom foam layer 18 being omitted. The layers 14 and 16 are laminated together with marginal offsets "a" as previously described with respect to the floor plank 10.

[0036] The floor plank 100 thus includes identical L-shaped marginal sections 42 and 58 with identical offsets "a".

[0037] In installing the floor plank 100 on a floor base 102 (Fig. 11), a lower surface 104 of the layer 16 can be free of any mastic or adhesive covering and placed in direct contact with the floor base 102. The floor base 102 can also remain free of any mastic or adhesive covering. Installation of the floor planks 100 in a plank assembly pattern 110 (Fig. 8) is accomplished in a manner similar to that previously described for the installation of the floor plank 10 in the plank assembly pattern 80 (Fig. 2).

[0038] The lower surface 104 (Figs. 7 and 8) of the layer 16 which contacts the floor base 102 (Fig. 11) is yieldable to surface irregularities of the floor base 102 and thus enables the floor plank 100 to conform to such surface irregularities and lie flat on the floor base 102, as shown in Fig. 11.

[0039] A packaging system for the floor plank is generally indicated by the reference number 120 in Fig. 12. The packaging system 120 will be described in connection with the floor plank 10 but is equally applicable to the floor plank 100.

[0040] The packaging system 120 includes a one-piece packaging device 122 (Fig. 15) preferably of generally rectangular shape and formed of a suitable flexible release material, such as release paper or releasable plastics, that is of a paper thin gauge. A suitable release material is silicone coated paper or equivalent release material.

[0041] The packaging device 122 (Fig. 15) has a rectangular outer periphery defined by opposite long side portions 128, 130 and opposite short side portions 136 and 138. The packaging device 122 also has a rectangular inner periphery defined by opposite long side portions 144, 146 and opposite short side portions 152 and 154. The distance between the outer peripheral side portions 128, 130, 136 and 138 and the corresponding inner peripheral side portions 144, 146, 152 and 154 is approximately equivalent to the marginal offset "a" of the L-shaped marginal sections 42 and 58.

[0042] The length of the outer long sides 128 and 130 of the device 122 (Fig. 15) is at least equal to the length of any of the long edges 26, 32, 46 and 48 (Fig. 1) of the layers 14 and 16 plus the marginal offset "a" of the L-shaped marginal sections 42 and 58. The length of the outer short sides 136 and 138 (Fig. 15) of the device 122 is at least equal to the length of any of the short edges 34, 40, 50 and 56 (Fig. 1) of the layers 14 and 16 plus the marginal offset "a" of the L-shaped marginal sections 42 and 58.

[0043] The length of the inner long sides 144 and 146 of the device 122 (Fig. 15) is approximately equivalent to the length of any of the long edges 26, 32, 46 and 48 (Fig. 1) of the layers 14 and 16 minus the marginal offset "a". The length of the inner short sides 152 and 154 of the device 122 (Fig. 15) is approximately equivalent to the length of any of the outer short edges 34, 40, 50, and 56 (Fig. 1) of the layers 14, 16 and 18 minus the marginal offset "a".

[0044] The following reference identifications can be made for the plank 10 and the packaging device 122;

A = the length of any of the long edges 26, 32, 46 and 48 of the layers 14 and 16
B = the length of any of the short edges 34, 40, 50 and 56 of the layers 14 and 16
C = the length of any of the outer long sides 128 and 130 of the device 122
D = the length of any of the outer short sides 136 and 138 of the device 122
E = the length of any of the inner long sides 144 and 146 of the device 122
F = the length of any of the inner short sides 152 and 154 of the device 122
a = the marginal offset of the L-shaped marginal portions 42 and 58

[0045] The following relationships between the plank 10 and the packaging device 122 can be expressed in terms of the previous reference identifications as follows,

$$C = A + a$$

$$D = B + a$$

$$E = A - a$$

$$F = B - a$$

[0046] The packaging device 122 is assembled to the floor plank 10 in the manner shown in Figs. 12, 13 and 14. Thus two intersecting sides 160 and 162 (Figs. 12 and 15) of the device 122 are placed against the downwardly exposed adhesive surface 72 (Figs. 1 and 12) of the L-shaped marginal section 42 as shown in Fig. 13, and the remaining two intersecting sides 168, 170 (Figs. 12 and 15) of the packaging device 122 are placed against the upward exposed adhesive surface 74 (Fig. 1) of the L-shaped marginal section 58.

[0047] Under this arrangement the inner long side portion 144 of the device 122 is placed against the long edge 32 of the middle layer 16 and the inner short side portion 154 of the device 122 is placed against the short edge 40 of the middle layer 16. The sides 160 and 162 of the device 122 can thus contact and cover the downwardly exposed adhesive surface 72 of the L-shaped marginal portion 42, as shown in Fig. 13.

[0048] After the sides 160 and 162 of the device 122 have been positioned against the downwardly exposed adhesive surface 72 of the L-shaped marginal section 42 the intersecting sides 168 and 170 of the device 122 are moved forward and against the upwardly exposed adhesive surface 74 of the L-shaped marginal section 58 as

shown in Figs. 13 and 14. The inner long side portion 146 of the device 122 (Fig. 12) is thus placed against the long edge portion 48 of the top layer 14 and the inner short side portion 152 of the device 122 is placed against the short edge portion 56 of the top layer 14.

[0049] The device 122 can be stretched slightly, if needed, to accomplish the positioning of the sides 160 and 162 of the device 122 against the downwardly exposed adhesive surface 72 and the positioning of the sides 168 and 170 of the device 122 against the upwardly exposed adhesive surface 74.

[0050] In this manner the one piece packaging device 122, preferably of closed rectangular periphery, covers all the exposed adhesive surfaces of both L-shaped marginal sections 42 and 58 even though the panel 10 includes one L-shaped marginal section 42 with a downwardly exposed adhesive surface 72 (Fig. 1) and the other L-shaped marginal section 58 has an upwardly exposed adhesive surface 74.

[0051] Thus all exposed adhesive surfaces of the floor plank 10, even though they face in opposite directions at different peripheral sections of the plank 10 can be covered and protected with a one piece packaging device 122 until such planks are ready for installation. The packaging device 122 when installed on each of the planks 10 before such planks are ready for use permits the floor planks 10 to be stacked one on top of another (not shown) without one plank 10 adhering to another plank 10. The planks 10 can be stacked for packaging or for display purposes.

[0052] A further and preferred embodiment of the floor plank is generally indicated by the reference number 180 in Fig. 16.

[0053] The floor plank 180 includes all components of the floor plank 10, with the same marginal offsets as previously described, plus an underlayer 182 of flexible fibrous sheet material sandwiched between the top layer 14 and the middle layer 16. The underlayer 182 provides enhanced dimensional stability to the floor plank 180.

[0054] The top layer 14 and the underlayer 182 are coextensive and have a common periphery. Preferably the underlayer 182 is formed of a non-woven glass fibre material such as fibre glass, having a thickness of approximately 0.2 mm.

[0055] The top layer 14 and the underlayer 182 are bonded to the middle layer 16 in offset relationship such that floor plank 180 includes the identical L-shaped marginal sections 42 and 58 with identical offsets "a" as previously described for the floor plank 10. The marginal section 42 has the downwardly exposed adhesive surface 72 on the underlayer 182 and the marginal section 58 has the upwardly exposed adhesive surface 74 on the middle layer 16.

[0056] The adhesive on the exposed surfaces 72 and 74 is the same adhesive used in the floor plank 10 to bond the top layer 14 to the middle layer 16. Thus the same adhesive is used to bond the underlayer 182 to the top layer 14 and to the middle layer 16, and to bond the middle layer 16 to the bottom layer 18.

[0057] The floor plank 180 is installed on a floor in a manner similar to that previously described for the floor plank 10.

Claims

1. A floor plank (10) comprising,

a) a first layer (14) of flexible plastics sheet material having a first polygonal shape with at least two side edges, a first upper surface (24) with a design pattern and a first lower surface (64), the first upper surface with the design pattern constituting the top surface of the floor plank,
b) a second layer (16) of flexible plastics sheet material having a second polygonal shape with at least two side edges, a second upper surface (66) and a second lower surface, said first and second layers being laminated together in offset relationship, with the first lower surface of the first layer contacting the second upper surface of the second layer,
c) the offset lamination of said first and second layers defining a first offset marginal portion (42) of said first layer and a second offset marginal portion (58) of said second layer, said first marginal portion of said first layer extending beyond at least one of the side edges (32) of said second layer, and said second marginal portion of said second layer extending beyond at least one of the side edges (46) of said first layer, wherein said first offset marginal portion has a first marginal lower surface that is part of the first lower surface of said first layer, and said second offset marginal portion has a second marginal upper surface that is a part of the second upper surface of said second layer, the first marginal lower surface and the second marginal upper surface having an exposed adhesive coating,

wherein the first and second layers have respective predetermined thicknesses to enable the laminate of the first and second layers to have a flexibility that permits said laminate to conform to surface contours of a floor base upon which the floor plank is laid, and the plastics sheet material of said second layer having a predetermined yieldability to surface irregularities of the floor base upon which the floor plank is laid, such that said second layer, when lying in flat contact on the floor base can conform to surface irregularities of the floor base.

2. A floor plank according to claim 1, wherein the first and second polygonal shapes are congruent rectangles.

3. A floor plank according to claim 2, wherein the first offset marginal portion extends beyond two intersecting side edges of said second layer such that said first offset marginal portion is substantially L-shaped.

4. A floor plank according to claim 2, wherein the second offset marginal portion extends beyond two intersecting side edges of said first layer such that said second offset marginal portion is substantially L-shaped.

5. A floor plank according to claim 3, wherein the second offset marginal portion extends beyond two intersecting side edges of said first layer such that said second offset marginal portion is substantially L-shaped.

6. A floor plank according to any of claims 1 to 4, including a third layer (18) of flexible foam material having a third polygonal shape, said third layer being bonded to the second lower surface of the second layer and being co-extensive with said second layer such that said second and third layers have a common periphery, the foam material of said third layer having a predetermined thickness and yieldability to surface irregularities of the floor base upon which the floor plank is laid, such that said third layer can conform to surface contours of a floor base upon which the floor plank is laid and said third layer when lying in flat contact on the floor base can conform to surface irregularities of the floor base.

7. A floor plank according to any of claims 1 to 6, including a one piece releasable cover member (122) for covering the adhesive coated first marginal lower surface of said first offset marginal portion and the adhesive coated second marginal upper surface of said second offset marginal portion, said releasable cover member comprising one continuous strip of release material extending on the adhesive coated first marginal lower surface and extending on the second marginal upper surface to cover the exposed adhesive coating of said first and second offset marginal portions, whereby said one continuous strip of release material covers the exposed adhesive coated surfaces of the first and second marginal portions.

8. A floor plank comprising,

a) a first layer (14) of plastics sheet material having a first polygonal shape with at least two side edges, a first upper surface and a first lower surface,

b) a second layer (16) of plastics sheet material having a second polygonal shape with at least two side edges, a second upper surface and a second lower surface, said first and second layers being laminated together in offset relationship, the first lower surface of the first layer contacting the second upper surface of the second layer,

c) the offset lamination of said first and second layers defining a first offset marginal portion of said first layer and a second offset marginal portion of said second layer, said first marginal portion of said first layer extending beyond at least one of the side edges of said second layer, and said second marginal portion of said second layer extending beyond at least one of the side edges of said first layer, said first offset marginal portion having a first marginal lower surface that is part of the first lower surface of said first layer, and said second offset marginal portion having a second marginal upper surface that is a part of the second upper surface of said second layer, the first marginal lower surface and the second marginal upper surface having an exposed adhesive coating,

d) a releasable cover member (122) for covering the adhesive coated first marginal lower surface of said first offset marginal portion and the adhesive coated second marginal upper surface of said second offset marginal portion, said releasable cover member comprising one continuous strip of release material extending on the exposed adhesive coating of said first marginal lower surface and extending on the second marginal upper surface to cover the exposed adhesive coating of said first and second offset marginal portions, whereby said one continuous strip of release material covers the exposed adhesive coated surfaces of the first and second marginal portions.

9. A floor plank according to claim 8, wherein the cover member is a one piece member.

10. A floor plank assembly comprising a laminate of two layers (14,16) of plastics sheet material both of identical polygonal shape, laminated together in offset relationship to define an offset marginal portion for each of the layers, such that the offset marginal portion of each layer extends beyond at least two side edges of the other layer, each of the offset marginal portions having oppositely facing adhesive coated surfaces, said assembly being produced by providing one continuous strip of flexible releasable material (122) to cover the exposed adhesive coated surfaces of both of the offset marginal portions by contacting a first portion of the releasable cover material against the adhesive coating of one offset marginal portion, and contacting a second portion of the releasable cover material on the adhesive coated surface of the other offset marginal portion.

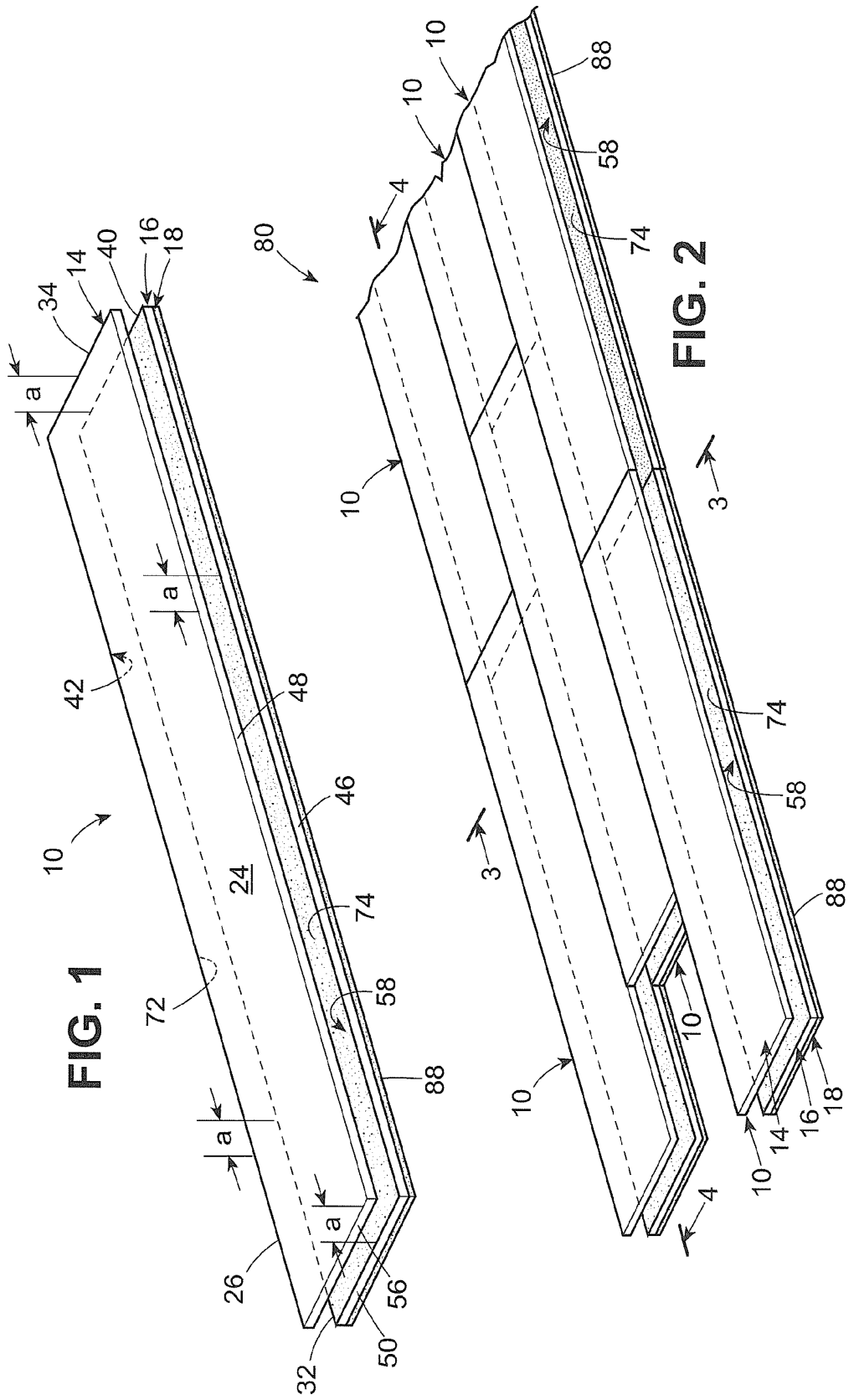

10
24
26
32
34
40
42
46
48
50
56
58
72
74
80
88
a
14
16
18

FIG. 1

10
3
4
58
74
88
14
16
18

FIG. 2

FIG. 3

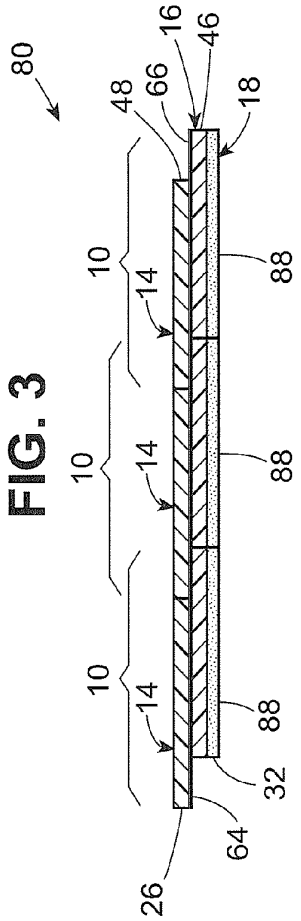


FIG. 4

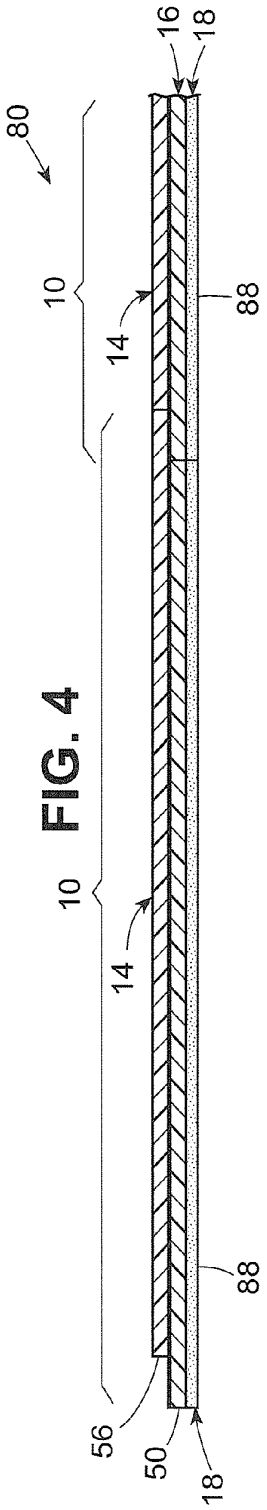
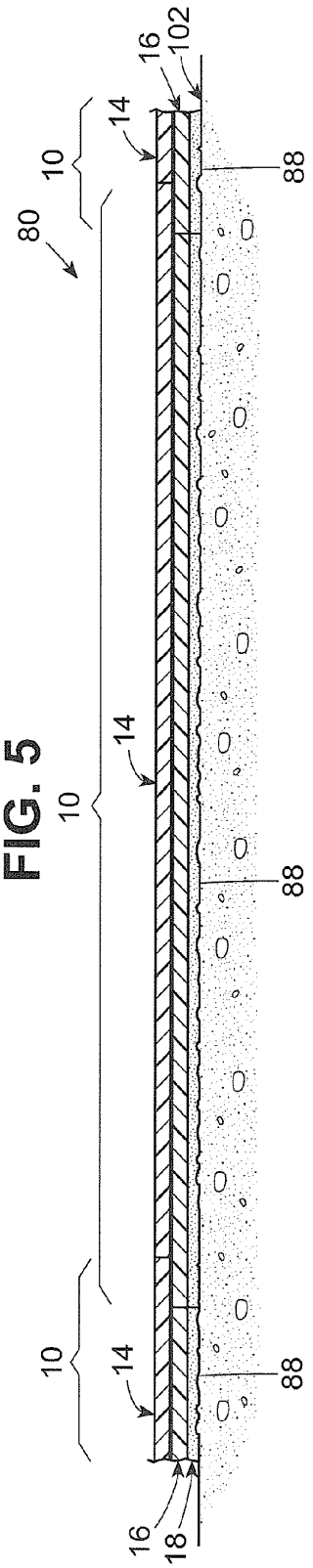


FIG. 5



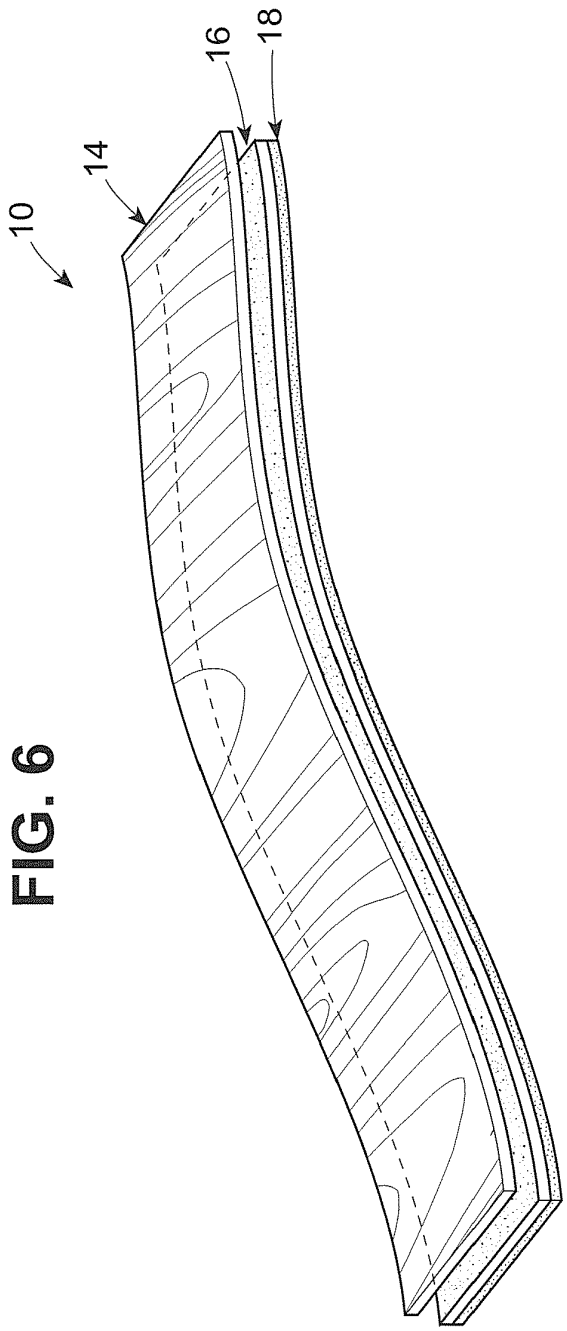
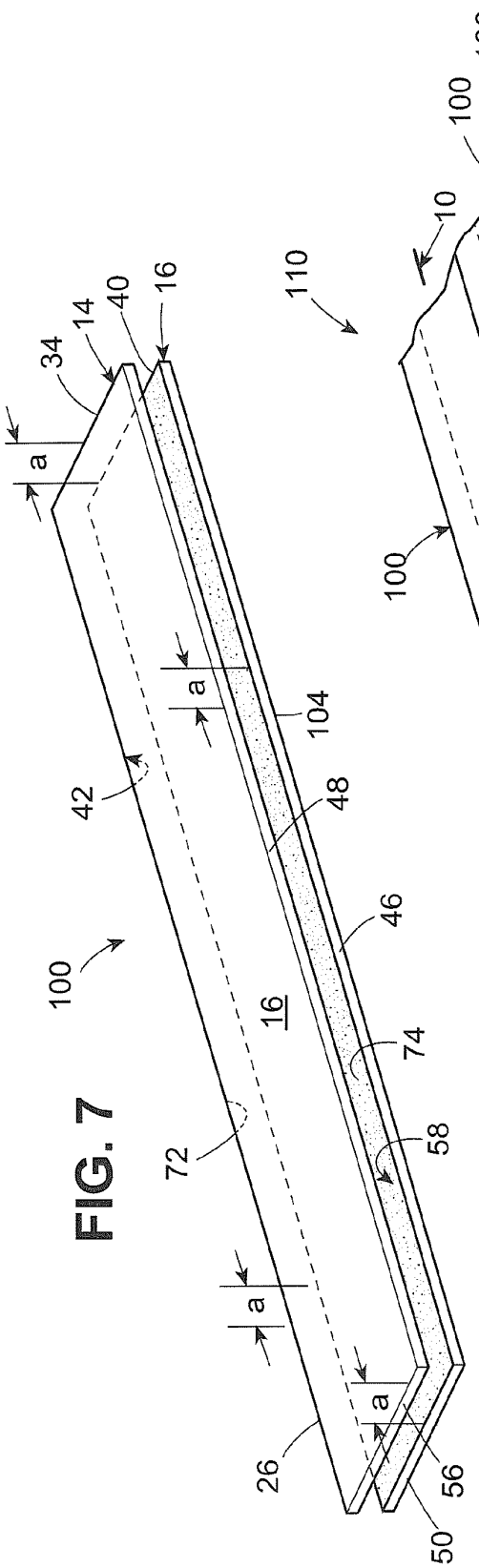


FIG. 6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74
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72
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FIG. 7

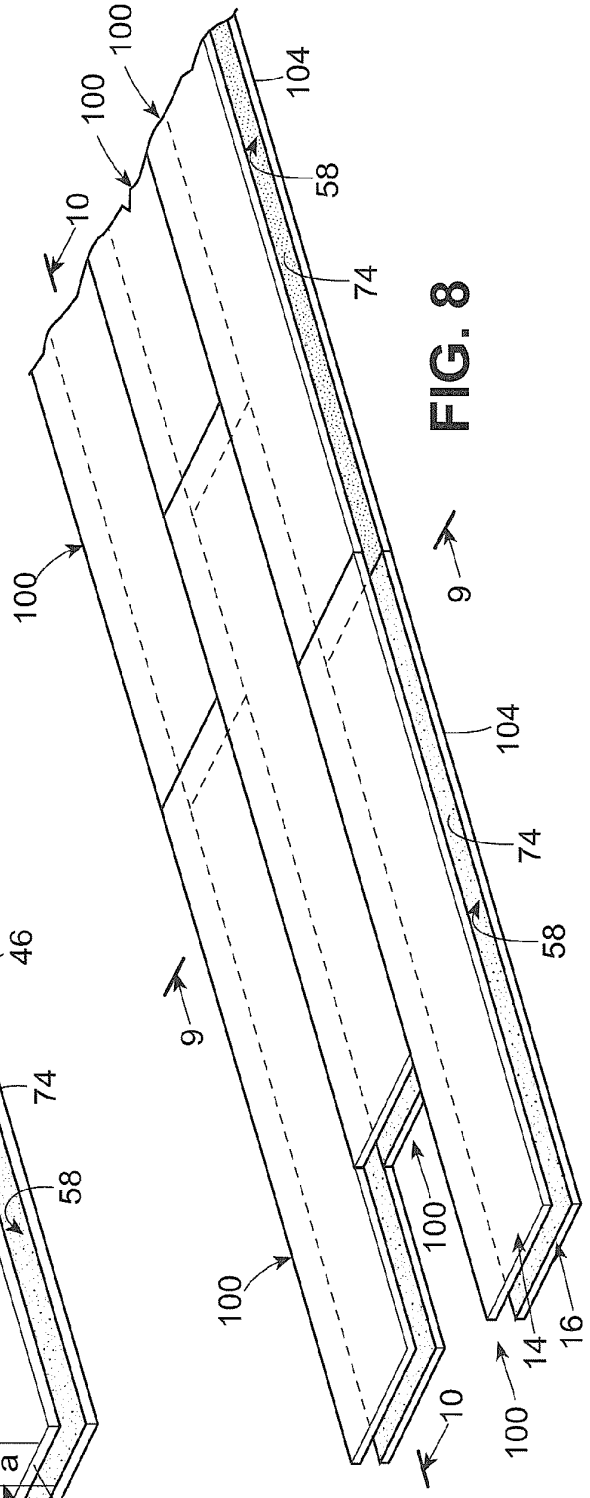
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FIG. 8

FIG. 9

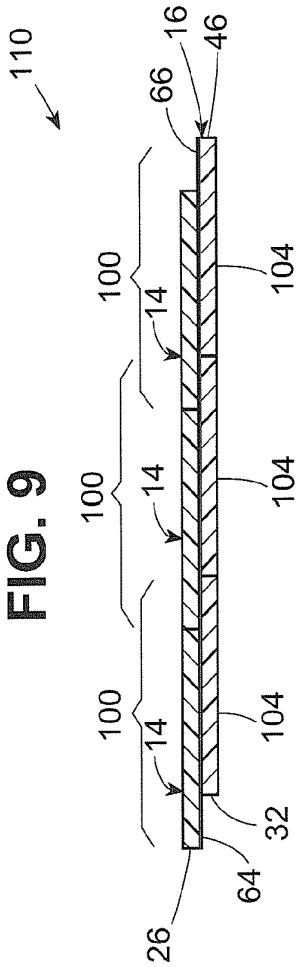


FIG. 10

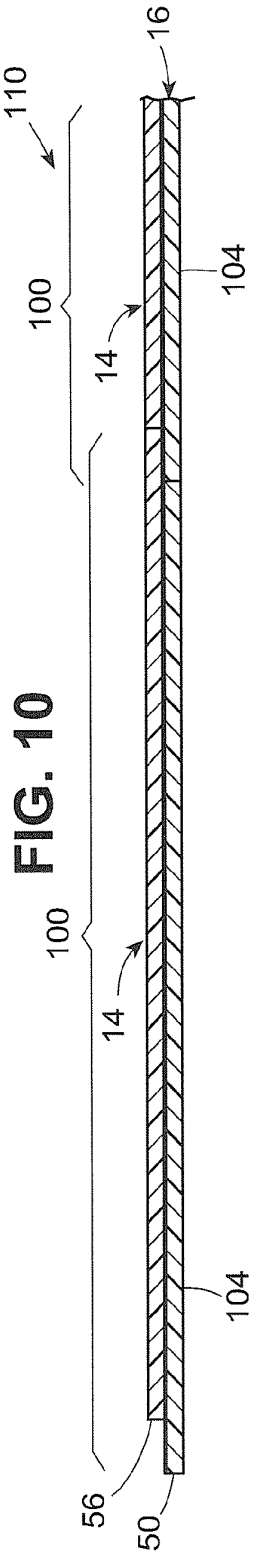
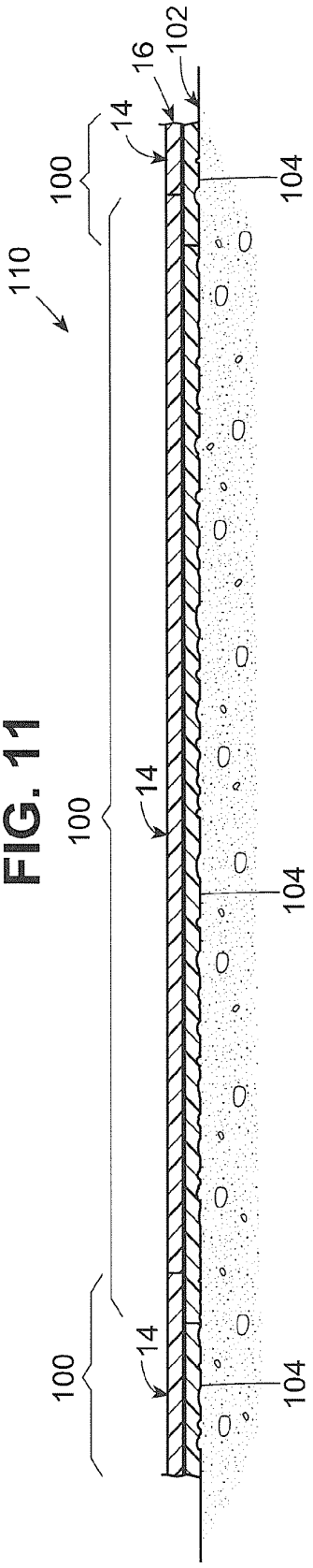
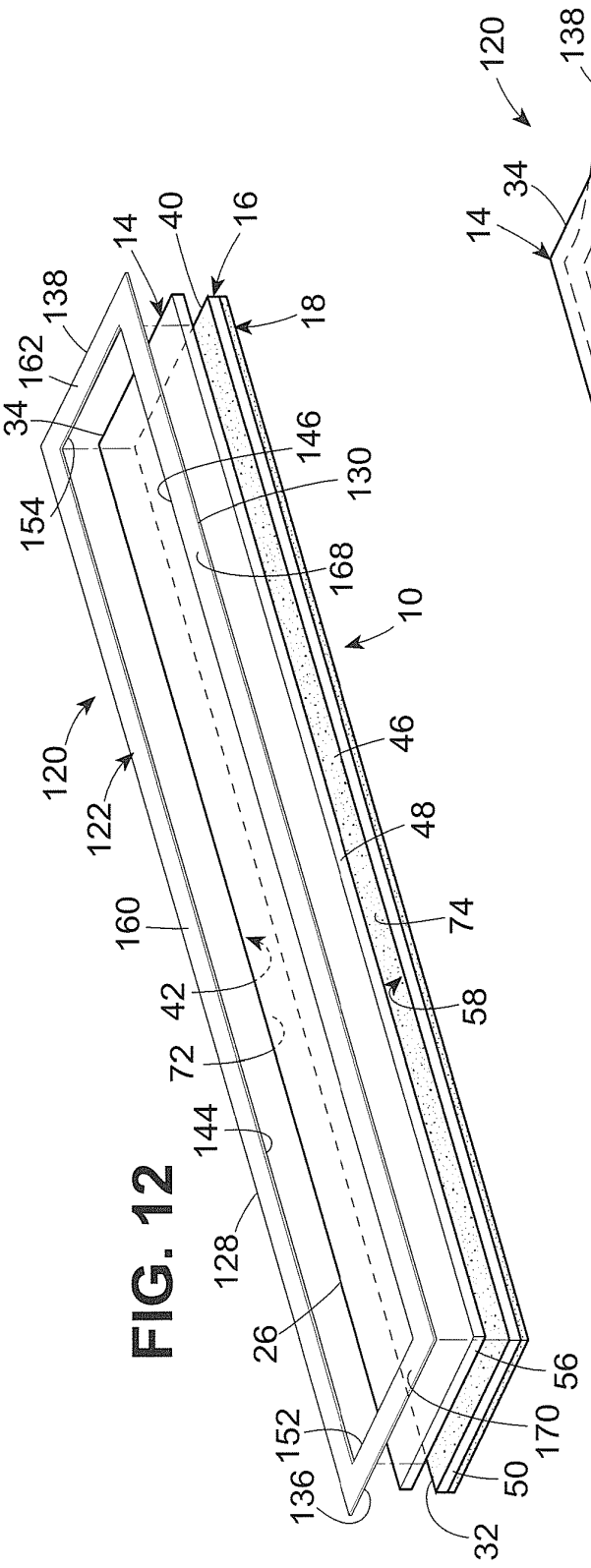


FIG. 11

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152
136
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170
128

FIG. 13

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FIG. 12

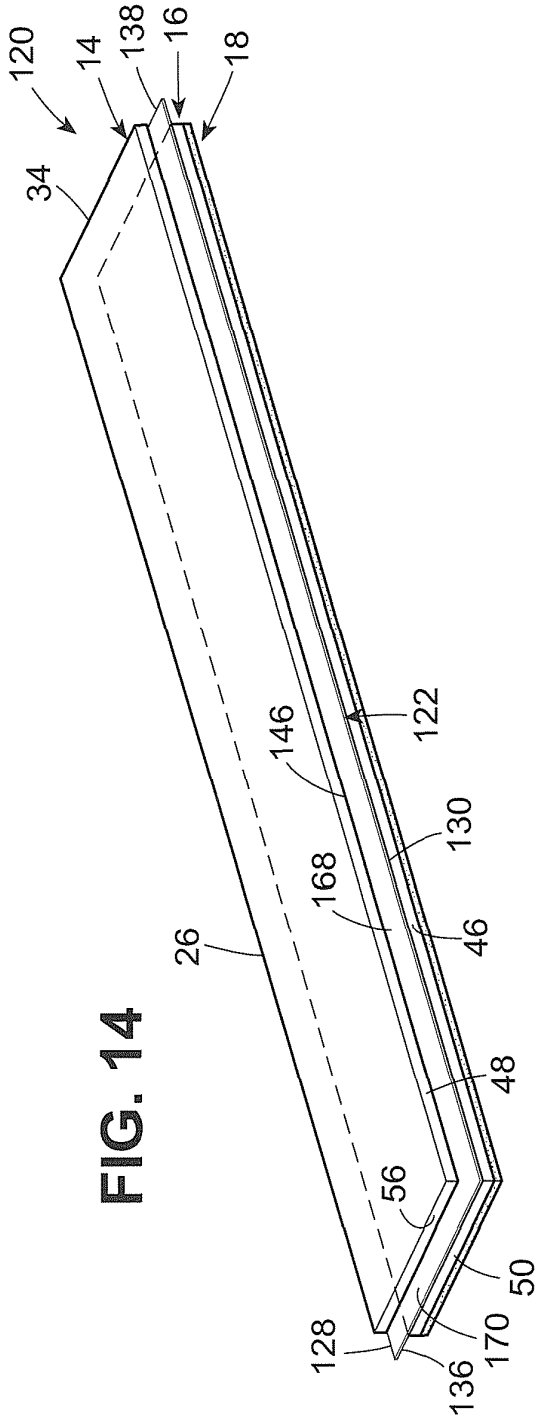
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FIG. 14

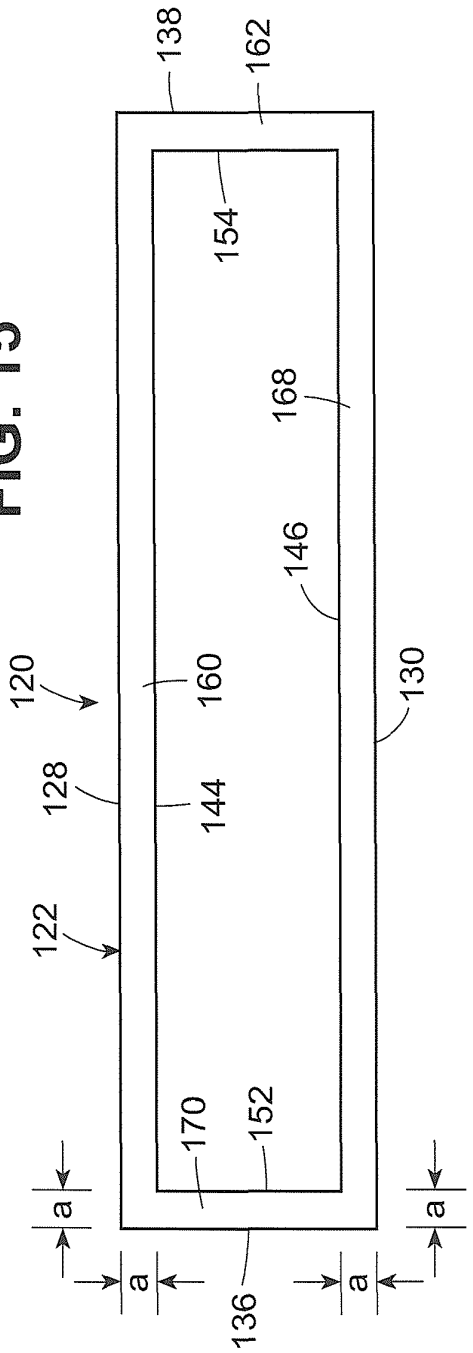
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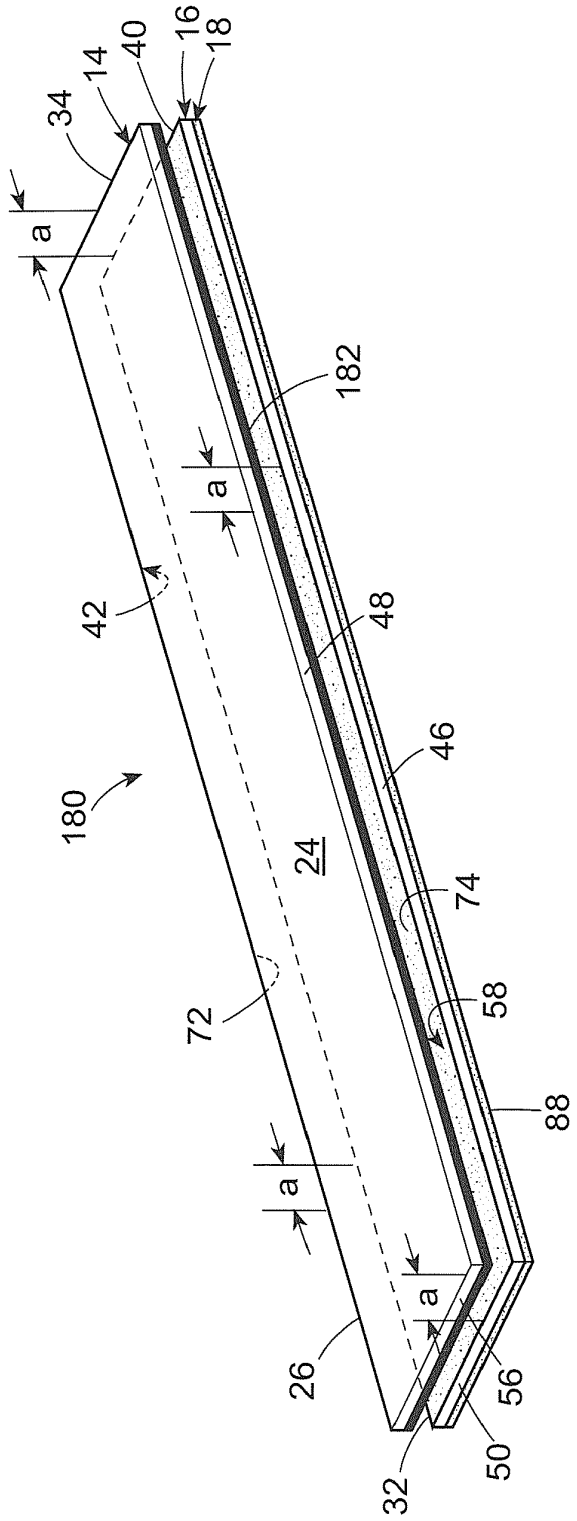
FIG. 15

FIG. 16



European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 06 12 6194

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
P,X	CA 2 545 319 A1 (TRU WOODS LTD [CN]) 20 November 2006 (2006-11-20) * the whole document *	1-10	INV. E04F15/10
Y	DE 201 08 723 U1 (WINTER THOMAS [DE]; KLUSMEIER WERNER [DE]; BONDZIO HANS DIETER [DE]) 14 March 2002 (2002-03-14)	1-6	
A	* figures 1,2 * * page 1, line 1; claim 1 * * claim 2; figures 1,2 * * page 1, line 24 * * page 2, line 5 - line 7 *	8,10	
Y	DE 19 14 705 A1 (WALTERSCHEID KARL JOSEPH) 1 October 1970 (1970-10-01)	1-6	
A	* claims 1-6,8 * * figures 1,3 *	8,10	
A	DE 30 31 036 A1 (ROTH WERKE GMBH [DE]) 4 March 1982 (1982-03-04) * claims 1,5 * * page 4, line 19 - line 26 * * page 6, line 16 - line 22 * * figures 1,2 *	8-10	TECHNICAL FIELDS SEARCHED (IPC) E04F E01C
A	WO 99/49152 A (CASA DA VINCI BODENSYSTEME GMB [DE]; KORZILIUS MARK [DE]) 30 September 1999 (1999-09-30) * page 1, line 22 - line 34 * * page 5, line 11 - line 12 * * page 6, line 28 - line 34 * * page 9, line 28 - line 31 * * claims 1,3; figures 1,3 *	8-10	

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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	27 April 2007	Bastian, Almut

CATEGORY OF CITED DOCUMENTS

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& : member of the same patent family, corresponding document

EPO FORM 1503 03.82 (P04C01)

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 06 12 6194

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	DE 203 07 987 U1 (WINTER THOMAS [DE]) 23 September 2004 (2004-09-23) * paragraphs [0001], [0002], [0004], [0006] * * claims 1,2,5,6 * -----	8,10	
A	GB 1 308 011 A (COUQUET P) 21 February 1973 (1973-02-21) * page 1, line 8 - line 13 * * page 2, line 41 - line 46 * -----	6	
			TECHNICAL FIELDS SEARCHED (IPC)

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	27 April 2007	Bastian, Almut

CATEGORY OF CITED DOCUMENTS

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European Patent Office

Application Number
EP 06 12 6194

CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☒ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

☐ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

European Patent Office

LACK OF UNITY OF INVENTION
SHEET B

Application Number
EP 06 12 6194

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-7

A floor plank comprising a laminate of two layers of flexible plastics sheet material both of polygonal shape, laminated together in offset relationship to define an offset marginal portion for each of the layers, such that the offset marginal portion of each layer extends beyond at least one side edge of the other layer, each of the offset marginal portions having oppositely facing adhesive coated surfaces.
The two layers have respective predetermined thicknesses to enable the laminate to have a flexibility that permits it to conform to surface contours of a floor base upon which the floor plank is laid, and the plastics sheet material of the second layerhaving a predetermined yieldability to conform to surface irregularities of the base.

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2. claims: 8,9

A floor plank comprising a laminate of two layers of plastics sheet material both of polygonal shape, laminated together in offset relationship to define an offset marginal portion for each of the layers, such that the offset marginal portion of each layer extends beyond at least two side edges of the other layer, each of the offset marginal portions having oppositely facing adhesive coated surfaces.
The plank further comprises one continuous strip of releasable cover member for covering the adhesive coated marginal lower and upper surfaces of the offset marginal portions, the strip extending on the exposed adhesive coating of the marginal lower and upper surfaces to cover their exposed adhesive coating.

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3. claim: 10

European Patent Office

LACK OF UNITY OF INVENTION
SHEET B

Application Number
EP 06 12 6194

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

A floor plank assembly comprising a laminate of two layers of plastics sheet material both of identical polygonal shape, laminated together in offset relationship to define an offset marginal portion for each of the layers, such that the offset marginal portion of each layer extends beyond at least two side edges of the other layer, each of the offset marginal portions having oppositely facing adhesive coated surfaces.
This assembly is produced by providing one continuous strip of flexible releasable material to cover the exposed adhesive coated surfaces of both of the offset marginal portions by contacting a first portion of the releasable cover material against the adhesive coating of one offset marginal portion, and contacting a second portion of the releasable cover material on the adhesive coated surface of the other offset marginal portion.

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 06 12 6194

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27-04-2007

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REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- US 1978075 A **[0002]**
- US 2914815 A **[0003]**
- US 3554850 A **[0004]**