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European Patent Office
Office européen des brevets



(11)

EP 1 353 022 A1

(12)

EUROPEAN PATENT APPLICATION
published in accordance with Art. 158(3) EPC

(43) Date of publication:

15.10.2003 Bulletin 2003/42

(51) Int Cl.7: **E04F 13/08**

(21) Application number: **02715738.7**

(86) International application number:
PCT/JP02/00178

(22) Date of filing: **15.01.2002**

(87) International publication number:
WO 02/055805 (18.07.2002 Gazette 2002/29)

(84) Designated Contracting States:

**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE TR**

Designated Extension States:

AL LT LV MK RO SI

(30) Priority: **15.01.2001 JP 2001006604**

22.02.2001 JP 2001046899

14.03.2001 JP 2001071822

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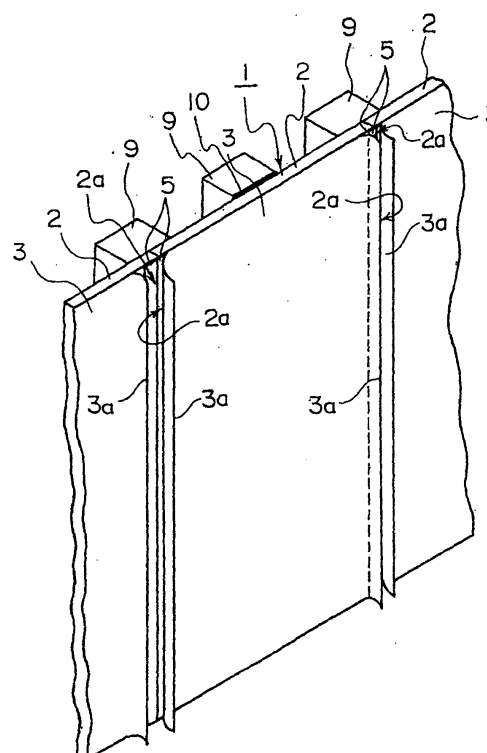
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(54) **PANEL WITH DECORATED SHEET, AND WALL SURFACE CONSTRUCTION METHOD USING THIS PANEL**

(57) A panel wall construction method comprising the steps of applying in advance an adhesive agent to the whole of a panel main body surface or to the whole of a decorated sheet back surface, covering the edge of the panel main body surface or decorated sheet back surface with a protective paper sheet which is peelable and which does not decrease the adhesive strength of the adhesive agent, using the panel with the decorated sheet, which is in the form of the panel main body and the decorated sheet bonded together, fixing the panel with the decorated sheet to a panel supporting backing material with a fixing tool (7) in an installation field, superposing the extensions of the decorated sheets and cutting them at a suitable cutting position, removing the cut ends, peeling the protective paper sheet, and sticking the unstuck portion of the decorated sheet to the panel main body; thus, even a layman can finish the wall surface easily and neatly.

FIG. 1



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Description

TECHNICAL FIELD

[0001] This invention relates to a panel with a decorative sheet used for an interior wall of a building or the like and a method for constructing a wall surface by using the aforesaid panel with the decorative sheet.

BACKGROUND OF THE ART

[0002] Wall surfaces of a building or the like have often been decorated with panels such as calcium silicate plate and plaster board, which are laminated with decorative sheets such as cloth sheets and wallpapers. When constructing a wall decorated with such a decorative panel, a panel body is first fixed to a panel supporting base with fastening means, and then, a decorative sheet is stuck to the surface of the panel body with adhesive.

[0003] As an alternative, there has been a wall constructing method in which a panel body is previously laminated with a decorative sheet, and then, nailed to the panel supporting base.

[0004] However, the former wall constructing method in which the decorative sheet is stuck to the panel body after fixing the panel body to the panel supporting base is practiced in two different processes of setting the panel body and sticking the decorative sheet to the panel body, thus consuming much time. Besides, installation of the wall surface undergoes many processes, which are generally carried out by some constructors including a building constructor for attaching the panel body to the wall, an interior finishing contractor for sticking decorative sheets on the panel body attached to the wall, and others, as the result of which the constructing expenses therefor pile up.

[0005] The aforesaid conventional wall constructing method using the panel laminated entirely with the decorative sheet requires a work of fastening the panel to the wall with fastening means such as nails. Consequently, the heads of the nails driven into the wall through the panel are exposed, so that the surface of the wall becomes awkward in appearance. Moreover, the decorative sheet is stuck to the panel body in such a state that the edge portion of the decorative sheet is folded back. As a result, when joining the panels in the butt contact state, a boundary between the panels comes into prominence, and finishing of the wall surface becomes not neat.

[0006] An object of the present invention is to provide a panel with a decorative sheet, which can be made up by assembling a panel body and the decorative sheet at a time and easily fixed to a wall to form a comely wall surface.

[0007] Another object of the present invention is to provide a panel with a decorative sheet, capable of easily fabricating a comely wall merely by joining multiple

panels without making joint grooves between panels nor exposing nails or other fastening means.

[0008] Still another object of the present invention is to provide a method for constructing a comely wall surface by using the panels with decorative sheets, each comprising a panel body and decorative sheet, in a short working time without requiring specific skill even by an untrained amateur.

10 DISCLOSURE OF INVENTION

[0009] To attain the objects described above according to this invention, there is provided a method for constructing a wall surface using a panel with a decorative sheet by steadying a plurality of plate-like panels each having a surface coated with a decorative sheet onto a panel supporting base in the side-by-side state and effecting surface finishing on the panel surface, which method comprises previously defining a separating part on which the decorative sheet is not stuck by a prescribed width from the joint edge of each panel body on the joint portion of each panel coated with decorative sheet, forming an extension portion of the decorative sheet by lengthening one side portion of at least one of the decorative sheets to be joined each other in the overlapped state by a prescribed length, fixing each panel body coated with decorative sheet onto the panel supporting base, overlapping the edge portion of one of the decorative sheets with the extension portion of the other decorative sheet on the surface of the aforementioned separating part, making a cut in the edge portion of the upper one of the overlapped decorative sheets, removing the cut end piece of one of the decorative sheets, and stacking the edge portion of the other decorative sheet to the surface of the separating part

[0010] The panel coated with the decorative sheet having adhesive previously spread on the surface of the separating part of the panel body or the back surface of the decorative sheet and covered with releasable seal paper so as not to diminish the adhesive properties of the adhesive is available for constructing a wall surface.

[0011] The decorative panel is fabricated by applying adhesive onto the entire surface of the back surface of the decorative sheet, covering entirely the adhesive applied to the decorative sheet with releasable seal paper so as not to diminish the adhesive properties of the applied adhesive, making a cut in the aforementioned releasable seal paper for allowing a covering part of the side edge portion of the decorative sheet having the separating part to which the decorative sheet is not stuck by a prescribed width from either side edge of the panel body to be cut off from the aforementioned releasable seal paper, peeling off the central part of the releasable seal paper, remaining the covering parts of the side edge portion of the sheet stuck to the back surface of the aforementioned decorative sheet, sticking the decorative sheet on the panel body to make the panel coated with the decorative sheet, fixing each of the panel bodies

coated with the decorative sheets onto a panel supporting base, overlapping the edge portion of one of the decorative sheets with the extension portion of the other decorative sheet on the surface of the aforementioned separating part, making a cut in the edge portion of the upper one of the overlapped decorative sheets, removing the cut end piece of one of the decorative sheets, and stacking the edge portion of the other decorative sheet to the surface of the separating part.

[0012] In the covering part of the side edge portion of the sheet, a cut is made along a line at a small distance from the edge of the decorative sheet to define a temporal tacking portion, so that the side edge portion of the sheet can be temporarily adhered to the side surface or back surface of the panel body upon peeling off only the covering part attached to the temporal tacking portion from the side edge portion of the sheet. When steadying the panel body, the aforementioned edge portion of the decorative sheet is removed from the side or back surface, so that the edge portion and extension portion of the adjoining decorative sheets can be overlapped with each other on either of the separating parts, and the edge portions of the adjoining decorative sheets can be temporarily adhered to the panel body or overlapped with each other.

[0013] Otherwise, the edge portion of one of the adjoining decorative sheets can be overlapped with the extension portion of the other decorative sheet by steadying the panel body, which is coated with the decorative sheets and made with chamfered edges, onto a panel supporting base and filling grooves formed along butt joint portions of the chamfered panel bodies with filler.

[0014] It is preferable to fix the panel coated with the decorative sheet onto the panel supporting base by driving fastening means such as nails thereinto at the separating part from the front surface of the panel body. To temporarily fix the aforesaid panel coated with the decorative sheet onto the panel supporting base, there may be used a double-sided adhesive tape having a tape-shaped substrate with adhesive layers on both surfaces thereof between the panel coated with the decorative sheet and the panel supporting base. At least one of the adhesive layers is made of a pressure-sensitive adhesive having no sufficient adhesive properties when being depressed against the adherend surface to which the adhesive tape adheres by a force weaker than a prescribed force. After temporarily fixing, the panel is fixed to the panel supporting base with the fastening means such as nails.

[0015] Other objects and characteristic features of the present invention will be described hereinafter with reference to the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0016] FIG. 1 is a perspective view showing the installed state of a panel coated with a decorative sheet according to the present invention; FIG. 2 is a perspec-

tive view showing the rear of the decorative panel of FIG. 1; FIG. 3 is a perspective view showing the segregated part of the decorative panel according to the present invention; FIG. 4 is a sectional view showing in part the tacking state of the non-stuck portion of the decorative panel of FIG. 3; FIG. 5 is a partially enlarged sectional view showing the structure of a double-sided adhesive tape attached to the decorative panel of FIG. 3; FIG. 6 is a sectional view showing the tacking state of the decorative panel with the double-sided adhesive tape in a constructing method according to the present invention; FIG. 7 is a sectional view showing the fixed state of the decorative panel of FIG. 6; FIG. 8 is a partial sectional view illustrating the manner of joining the decorative panels according to the invention; FIG. 9 is a partial sectional view showing the overlapping state of the decorative sheets on the panels according to the invention; FIG. 10 is a sectional view showing the decorative sheet stuck to the joined panels according to the invention; FIG. 11 is a sectional view showing the joined state of the panels coated with decorative sheets having extension portions according to the invention; FIG. 12 is a perspective view illustrative of the segregated part of the decorative panel according to the invention; FIG. 13 is a perspective view showing the decorative sheet used for the decorative panel of FIG. 12; FIG. 14 is a sectional view showing in part the tacking state of the non-stuck portion of the decorative panel of FIG. 12; FIG. 15 is a cross-sectional view showing the fixed state of the decorative panels of FIG. 12; FIG. 16 is a cross-sectional view showing the overlapping state of the decorative sheets of the panels of FIG. 15; and FIG. 17 is a cross-sectional view showing the decorative sheet stuck to the joined panels according to the invention.

BEST MODE FOR CARRYING OUT THE INVENTION

[0017] The present invention will be described in more detail hereinbelow with reference to the accompanying drawings.

[0018] FIG. 1 through FIG. 10 show one embodiment of the panel coated with decorative sheet according to the present invention.

[0019] This panel 1 coated with decorative sheet comprises a panel body 2 formed of a rectangular flat board, and a decorative sheet 3 adhering to the surface of the panel body 2 for attaching an ornament to a wall surface.

[0020] The panel body 2 is formed of a silica calcium board, gypsum board or the like in a rectangular shape in accordance with fabricating or installing conditions. In case where the panel body 2 is made of a silica calcium board, sealing coat material (sealer) may be applied previously to the entire surface of the panel body. This can prevent adhesive properties of the adhesive applied to the panel from weakening due to elution of alkali components from the surface portion of the panel body, which is possibly caused by reaction with the adhesive applied to the panel body.

[0021] The sealer applied therefor is grouped broadly into a soluble (aqueous) type and a solvent (oily) type. The soluble type includes acrylic resin, vinyl chloride resin, acrylic urethane resin, urethane resin, epoxy resin, fluorocarbon resin, and polyurethane resin. The solvent type includes acrylic silicon resin, urethane resin, acrylic resin, and acrylic emulsion resin. There is another type of sealer called impregnated sealer having improved adhesive properties as paint.

[0022] As the adhesive to be applied to the entire surface of the panel body 2, water soluble paste of partially saponified polyvinyl acetate may be used for forming an adhesive layer 4 by way of example as illustrated in FIG. 3. The edge portions of the panel body 2 except the endmost portions having a prescribed width from the edges of the panel body 2 are covered over the adhesive layer 4 with protective seal papers 5 and 5, which can be peeled without spoiling the adhesive properties of the adhesive applied thereto. There may be used adhesive of the other type than water soluble paste of polyvinyl acetate as noted above, which permits the protective seal paper to be peeled without spoiling the adhesive properties.

[0023] As illustrated in FIG. 2, there is put double-sided adhesive tape 10 on a surface portion of the back of the panel body 2, which surface portion is opposite to the panel supporting base. As illustrated in FIG. 5, the double-sided adhesive tape 10 is provided on its one side with a fixing adhesive layer 11 having moderate adhesive power capable of adhering to the adherend surface (back surface of the panel body 2) to which the adhesive tape adheres and on the other side with a pressure-sensitive adhesive layer 13. The pressure-sensitive adhesive layer has a specific masking member 12 having minimum adhesive power, which does not show sufficient adhesive properties when depressing the tape against the adherend surface by a force weaker than a prescribed force and sufficient adhesive power, which shows sufficient adhesive properties relative to the adherend surface (panel supporting base) 9 due to permeation of the adhesive through perforations 12a to the surface of the masking member 12 by depressing the tape. The double-sided adhesive tape 10 has the fixing adhesive layer stuck to the panel body 2 and the pressure-sensitive adhesive layer covered with the protective seal paper 14 so as to spoil the adhesive properties of the adhesive.

[0024] The decorative sheet 3 is provided on the right and left side ends with extension portions 3a and 3a extending out of the panel body 2, as illustrated in FIG. 2. The separating part is formed by previously covering the panel body with the protective seal papers 5 and 5 in such a state that the entire surface except for the temporal tacking portion is not stuck thereon.

[0025] The protective seal paper 5 is formed in the shape of a tape as illustrated in FIG. 3. The protective seal paper 5 is provided with through holes serving as positioning marks 6, 6... for driving the fastening means

into the panel body. The through hole is made larger in diameter than the head of the nail 7 used as the fastening means, so that the protective seal paper 5 can easily be removed without being caught by the heads of the nails 7, 7... driven in the panel body through the through holes.

[0026] Thus, the panel body 2 and the decorative sheet 3 are stuck to the panel body, leaving the separating parts 2a and 2a partially unstuck from the side edge portion of the panel body by a prescribed width. Furthermore, the endmost portion of the panel body is not covered with the protective seal paper 5, so that the unstuck part of the decorative sheet can be temporally stuck to the endmost portion as illustrated in FIG. 4, consequently to prevent the unstuck part of the decorative sheet from sloughing off from the panel body and causing an obstruction in carrying or storing the decorative panel.

[0027] Next, the method for applying the panel coated with the decorative sheet thus fabricated to construction of a wall or the like will be described.

[0028] First, upon peeling the releasable protective seal paper 14 of the double-sided adhesive tape 10, the panels with decorative sheets 1, 1... are placed side by side in such a state that the pressure-sensitive adhesive layer 13 comes in contact with the adherend surface (panel supporting base) 9 opposite to the part from which the releasable protective seal paper is removed, as shown in FIG. 6. In this condition, the panel body 2 is stuck to the adherend surface 9 by the minimum adhesive force of the pressure-sensitive adhesive layer, which is required for holding the panel body 2, thus to permit the panel body 2 to be moved for being adjusted in position.

[0029] Upon performing the adjustment of the panel body 2 in position, the panel body 2 coated with decorative sheet is pressed against the adherend surface so as to be temporarily stuck to the panel supporting base 9 by the aid of the pressure-sensitive adhesive layer 13 lying between the panel 1 coated with decorative sheet and the adherend surface 9.

[0030] In this state, the panel body 2 is fixed onto the panel supporting base 9 with the fastening means such as the nails 7, 7... as shown in FIG. 7. On this occasion, the nails 7, 7... are driven with reference to the positioning marks 6, 6... so as not to cause the heads of the nails to catch the protective seal paper 5.

[0031] Next, as shown in FIG. 9, the unstuck portion (extension portion 3a) of the decorative sheet of each panel is piled on top of the unstuck portion (extension portion 3a) of the decorative sheet of the adjoining panel 1.

[0032] Then, the overlapping parts of the unstuck portions (extension portions 3a and 3a) of the adjoining decorative sheets are piled together and cut parallel to the side edge of the decorative sheet along an adequate cutoff line 8 (chain line in FIG. 9) by using a cutter. Thereafter, as shown in FIG. 10, an offcut piece of the deco-

rative sheet and the protective seal paper left on the panel are removed, and then, the side end portion of the decorative sheet is held down on the panel body 2 to cause the unstuck portion of the decorative sheet to stick on the surface of the separating part. Consequently, the adjoining decorative sheets come exactly in butt contact with each other, thus to make a comely decorative wall surface having invisible joint lines.

[0033] The part of the protective seal paper 5, which is bordered by the cutoff line 8 (the left portion of the protective seal paper 5 in FIG. 9), may be removed before cutting and stuck thereto in advance.

[0034] In the aforementioned embodiment, although both the extension portions 3a and 3a project out of the panel body 2, only one of the extension portions 3a may protrude out of the panel body as shown in FIG. 11.

[0035] The present invention is by no means limited to the embodiment described above and may be modified in various ways. For example, as shown in FIG. 12, the panel coated with decorative sheet may be formed by applying adhesive to the entire back surface of the decorative sheet 23 to form an adhesive layer 24, attaching a releasable protective seal paper 25 to the entire front surface of the adhesive layer 24 so as not to lose adhesive properties of the adhesive layer, making a cut 26, 26... in the protective paper seal 25 for peeling off from the protective paper seal 25 the sheet-side covering parts 25b and 25d constituting the separation parts 22a and 22b to which the decorative sheet is not stuck by a prescribed width from either side edge of the panel body, peeling off the central part 25c of the protective seal paper with the sheet-side covering parts 25b and 25d left on the back of the decorative sheet, and sticking the decorative sheet 3 on the panel body 2.

[0036] In this case, as shown in FIG. 13, there are made cuts 26, 26... in the protective seal paper 25 along prescribed lines, namely, at the positions from which the sheet-side covering parts 25a and 25b constituting the separation parts 22a and 22b to which the decorative sheet is not stuck by a prescribed width from either side edge of the panel body are cut off and the positions separated from the edge portions of the decorative sheets of the sheet-side covering parts 25a and 25b at a small distance, so that the protective seal paper 25 can be split into the sheet-side covering parts 25a and 25b, temporal tacking portions 25d and 25e and the central part 25c. Upon peeling off the central part 25c and the temporal tacking portions 25d and 25e, the decorative sheet is attached onto the panel body 22. According to the structure as noted above, as shown in FIG. 12, the panel coated with decorative sheet by uniting the panel body 22 and the decorative sheet 23 in such a state that the panel body 22 does not touch the decorative sheet 23 at the sheet-side covering parts 25a and 25b without permitting the decorative sheet 23 to stick on the panel body 22 through the sheet-side covering parts 25a and 25b, with forming separating parts 22a and 22b on which only the prescribed width of the decorative sheet 23

does not stick on the panel body 22.

[0037] The side edge portions of the extension portions 23a and 23b are wound backward, so that the temporal tacking portions 24a and 24b from which the covering parts 25d and 25e thereof are peeled off are temporarily adhered to the back surface of the panel body 22, as shown in FIG. 14. Consequently, the panel with decorative sheet can readily be stored and carried without fluttering the extension portions 23 a and 23b. Thus, the panel with decorative sheet can be handled suitably. Furthermore, in case where a thick panel body 22 is used, the temporal tacking portions 24a and 24b may be temporarily stuck to the side surface of the panel body 22.

[0038] Even if the panel coated with decorative sheet thus produced has chamfered side edges, a gap formed between the adjoining panel bodies coming in butt contact with each other can suitably be bridged in the execution manner as noted below.

[0039] First, the adjacent decorative panels are brought in butt contact with each other at the joint portion between the panels as shown in FIG. 15. In so doing, the unstuck portion of the decorative sheet 23 (side edge portion of each of the extension portions 23a and 23b) is disconnected from the temporarily stuck state.

[0040] Next, the side edge portion of the panel body 22 is fixed on the panel supporting base 9 with nails 7, 7... At this time, a groove 27 shaped in a triangular prism is formed by bringing the chamfered edges of the adjacent panel bodies into butt contact with each other.

[0041] Upon filling the groove 27 with a filler such as putty, the surface of the putty filled in the groove is flattened out so as to made the entire surface of the adjacent panel bodies 22 and 22 coming in butt contact with each other smooth continuously.

[0042] Next, the unstuck portions 23a and 23b of the adjacent decorative sheets are put on top of another (FIG. 16), and then, suitable cutting portion 29 is cut with a cutter to remove the remaining protective seal paper and the cute end piece, and finally, the side edge portions of the decorative sheets 33 are brought in but contact with each other and adhered together (FIG. 17).

[0043] Consequently, a comely wall can be produced by the constructing method of the invention as described above.

[0044] The constructing method of the present invention is not limited to the application using the panel coated with decorative sheet. For instance, the decorative sheet may be adhered to the panel body with adhesive after driving fastening means thereinto at a construction site without previously applying the separating part with adhesive. Alternatively, the decorative sheet may be stuck on the separating part by using any other means such as a double-sided adhesive tape or a thermally bonding agent instead of the adhesive.

[0045] Further, although the fastening means such as nails are used for fixing the panel body onto the panel supporting base in the embodiment described above,

the panel body may be fixed onto a substrate such as a concrete surface by using adhesive as one example.

[0046] As the adhesive agent for bonding the decorative sheet and the panel body, any adhesive may be used as long as it can maintain sufficient adhesive power and be peeled easily. By using such suitable adhesive, the decorative sheet can readily be replaced without removing the panel body in redecorating a room or the like.

[0047] As is described above, according to the present invention, the method for constructing a wall surface using a panel with a decorative sheet by steadying the plate-like panels each coated with decorative sheet onto the panel supporting base in the side-by-side state and effecting surface finishing on the panel surface can be practiced by previously defining the separating part on which the decorative sheet is not stuck by a prescribed width from the joint edge of each panel body on the joint portion of each panel coated with decorative sheet, forming the extension portion of the decorative sheet by lengthening one side portion of at least one of the decorative sheets to be joined each other in the overlapped state by a prescribed length, fixing each panel body coated with decorative sheet onto the panel supporting base, overlapping the edge portion of one of the decorative sheets with the extension portion of the other decorative sheet on the surface of the separating part, making a cut in the edge portion of the upper one of the overlapped decorative sheets, removing the cut end piece of one of the decorative sheets, and stacking the edge portion of the other decorative sheet to the surface of the separating part, whereby a comely wall, which does not expose the head of the fastening means and the boundary line formed by the groove between the panel bodies coming in butt contact with each other, can be produced with ease without need specific skill even by an untrained amateur. Besides, the works for making the panel bodies and sticking the decorative sheets on the panel bodies, which have been carried out by different workers or contractor in a conventional constructing method, can be accomplished by the same contractor, consequently to shorten the working time and save the construction cost.

[0048] Moreover, the work for constructing the wall surface can be carried out efficiently by allowing the panel coated with the decorative sheet having adhesive to previously spread on the surface of the separating part of the panel body or the back surface of the decorative sheet and covered with releasable seal paper so as not to diminish the adhesive properties of the adhesive.

[0049] Furthermore, the method for constructing a wall surface using a panel with a decorative sheet can be practiced by making the decorative panel by applying adhesive onto the entire surface of the back surface of the decorative sheet, covering entirely the adhesive applied to the decorative sheet with releasable seal paper so as not to diminish the adhesive properties of the ad-

hesive, making a cut in the releasable seal paper for allowing a covering part of the side edge portion of the decorative sheet having the separating part to which the decorative sheet is not stuck by a prescribed width from either side edge of the panel body to be cut off from the releasable seal paper, peeling off the central part of the releasable seal paper, remaining the covering parts of the side edge portion of the sheet stuck to the back surface of the decorative sheet, and sticking the decorative sheet on the panel body to make the panel coated with the decorative sheet, fixing each of the panel bodies coated with the decorative sheets onto a panel supporting base, overlapping the edge portion of one of the decorative sheets with the extension portion of the other decorative sheet on the surface of the separating part, making a cut in the edge portion of the upper one of the overlapped decorative sheets, removing the cut end piece of one of the decorative sheets, and stacking the edge portion of the other decorative sheet to the surface of the separating part, whereby a comely wall, which does not expose the head of the fastening means and the boundary line formed by the groove between the panel bodies coming in butt contact with each other, can be produced with ease without need specific skill even by an untrained amateur. Besides, a commercially available decorative sheet having the entire back surface coated previously with adhesive can be used merely by making a cut therein, consequently to shorten the time of fabricating the decorative panel and save the construction cost.

[0050] The works for cutting the sheet and carrying out other required processes can be suitably accomplished by making a cut in the covering part of the side edge portion of the sheet along a line at a small distance from the edge of the decorative sheet to define a temporal tacking portion so as to temporarily adhere the side edge portion of the sheet to the side surface or back surface of the panel body upon removing only the covering part attached to the temporal tacking portion from the side edge portion of the sheet, by removing the edge portion of the decorative sheet from the side or back surface in steadying the panel body so as to overlap the edge portion and extension portion of the adjoining decorative sheets with each other on either of the separating parts, and temporarily adhering the edge portions of the adjoining decorative sheets to the panel body or overlapped with each other.

[0051] The adjoining panel bodies can be smoothly and continuously joined finely in the butt state by overlapping the edge portion of one of the adjoining decorative sheets with the extension portion of the other decorative sheet, steadying the panel body, which is coated with the decorative sheets and made with chamfered edges, onto a panel supporting base, and filling grooves formed along butt joint portions of the chamfered panel bodies with filler, consequently to obtain a comely surface.

[0052] Furthermore, by steadying the panel coated

with the decorative sheet onto the panel supporting base by driving fastening means such as nails thereinto at the separating part from the front surface of the panel body after temporarily fixing the panel coated with the decorative sheet onto the panel supporting base with the double-sided adhesive tape having a tape-shaped substrate with adhesive layers on both surfaces thereof between the panel coated with the decorative sheet and the panel supporting base, there is no need for holding the panel body in fulfilling the work of fixing the panel body onto a wall surface, thereby to make it possible to carry out the work by only one worker.

[0053] The panel coated with decorative sheet can be adjusted in position by using a double-sided adhesive tape having at least one adhesive layer made of a pressure-sensitive adhesive having no sufficient adhesive properties when being depressed against the adherend surface to which the adhesive tape adheres by a force weaker than a prescribed force, so that the adhesive layer of the adhesive tape even if stuck on the adherend surface of the panel supporting base cannot be steadily stuck on the adherend surface unless depressed, temporarily fixing the panel onto the panel supporting base with the aforementioned double-sided adhesive tape intervening between the panel coated with decorative sheet and the panel supporting base, and then, steadying the panel body onto the panel supporting base with the fastening means such as nails.

[0054] The period for constructing a wall surface can be shortened by use of a panel coated with decorative sheet comprising a panel body made of a rectangular flat board or plate and a decorative sheet sticking to the panel body, which decorative sheet has an extension portion formed by lengthening at least one of the side portions thereof to outside the panel body, a separating part on which the decorative sheet is not stuck by a prescribed width from the joint edge of each panel body on the joint portion of each panel coated with decorative sheet, adhesive applied to the surface of the separating part, a releasable protective seal paper attached to the surface of the separating part for preventing the adhesive properties of the adhesive applied thereto from weakening so as to isolate the aforementioned adhesive from the decorative sheet. This also brings about an effect of making it possible to accomplish the works for making the panel bodies and sticking the decorative sheets on the panel bodies by the same contractor, which works have been carried out by different workers or contractor in a conventional constructing method, consequently to save the construction cost.

[0055] Additionally in the panel with decorative sheet, positioning marks are made on the protective seal paper to position the fastening means for fixing the panel body onto the panel supporting base, thus to improve the working efficiency for fixing the panel body. The positioning mark is formed by making a through hole having a larger diameter than that of the head of the fastening means, so that the protective seal paper can easily be

peeled even after driving the fastening means in the panel body.

[0056] Moreover, the decorative sheet has the extension portions on the right and left side edge portion, consequently to form a comely joint portion of the decorative sheets.

[0057] Also in the panel coated with decorative sheet comprising the panel body made of a rectangular flat board or plate and the decorative sheet sticking to the panel body, the decorative sheet has an extension portion formed by lengthening at least one of the side portions thereof to outside the panel body and the entire back surface thereof applied with adhesive, a releasable protective seal paper covering both side edge portions of said adhesive applied to the back of said decorative sheet for preventing the adhesive properties of the adhesive from weakening, and separating parts on which the decorative sheet is not stuck by a prescribed width from each of the side edges of said panel body, consequently to facilitate driving of nails into the panel body, cutting of the decorative sheet, sticking the decorative sheet in a butt joining state with respect to the adjoining decorative sheet, obtain a comely decorative wall, shorten the working period for fabricating the decorative wall, and save the construction cost due to the effect of making it possible to accomplish the constructing work and interior finishing work by the same contractor.

[0058] A commercially available decorative sheet having the entire back surface coated previously with adhesive and covered with a releasable protective seal paper for preventing the adhesive properties of the adhesive applied thereto from weakening can be used as the decorative sheet of the present invention merely by making a cut therein for cutting off the covering part of the side edge portion, which defines a separating part on which the decorative sheet is not stuck by a prescribed width from the side edge portion of each panel body, so as to stick to the panel body upon peeling the center portion of the protective seal paper, remaining the covering parts of the side edge portion of the sheet stuck to the back surface of the decorative sheet.

[0059] The panel coated with decorative sheet can be handled without fluttering the extension portions in storing and carrying by previously making a cut in the covering part along a line at a small distance from the edge of the decorative sheet and temporarily sticking the edge portion of the decorative sheet upon peeling off the temporal tacking portion on the edge portion side of the decorative sheet along the cut. Furthermore, the extension portions can be overlapped to be temporarily steadied together, thus to facilitate cutting of the sheet.

INDUSTRIAL APPLICABILITY

[0060] As is apparent from the foregoing description, the panel coated with decorative sheet according to the present invention is useful as a panel for fabricating an interior wall in doors, because it can produce a comely

wall surface, which does not expose the head of the fastening means and the boundary line formed by the groove between the panel bodies coming in butt contact with each other without need specific skill even by an untrained amateur, and additionally, makes it possible to accomplish the works for making the panel bodies and sticking the decorative sheets on the panel bodies, which have been carried out by different workers or contractor in a conventional constructing method, by the same contractor, consequently to shorten the working time and save the construction cost.

[0061] Furthermore, the wall surface constructing method using the panel coated with decorative sheet according to the present invention enables the panel coated with decorative sheet to be easily steadied on a wall without need specific skill even by an untrained amateur in a short time and the work for producing a comely wall to be carried out.

Claims

1. A method for constructing a wall surface using a panel with a decorative sheet by steadying a plurality of plate-like panels each having a surface coated with decorative sheet onto a panel supporting base in the side-by-side state and effecting surface finishing on the panel surface, said method being **characterized by** comprising:

previously defining a separating part on which said decorative sheet is not stuck by a prescribed width from the joint edge of each panel body on the joint portion of each panel coated with decorative sheet, forming an extension portion of said decorative sheet by lengthening one side portion of at least one of said decorative sheets to be joined each other in the overlapped state by a prescribed length, fixing each panel body coated with decorative sheet onto said panel supporting base, overlapping the edge portion of one of said decorative sheets with said extension portion of the other decorative sheet on the surface of said separating part, making a cut in the edge portion of the upper one of the overlapped decorative sheets, removing the cut end piece of one of said decorative sheets, and stacking the edge portion of the other decorative sheet to the surface of said separating part.

2. The method for constructing a wall surface using a panel with a decorative sheet set forth in claim 1, wherein said panel coated with the decorative sheet having adhesive previously spread on the surface of said separating part of said panel body or the back surface of said decorative sheet and covered with releasable seal paper so as not to diminish the

adhesive properties of the adhesive is used.

3. The method for constructing a wall surface using a panel with a decorative sheet set forth in claim 2 or claim 3, wherein said decorative panel is fabricated by applying adhesive onto the entire surface of the back surface of said decorative sheet, covering entirely the adhesive applied to said decorative sheet with releasable seal paper so as not to diminish the adhesive properties of the adhesive, making a cut in said releasable seal paper for allowing a covering part of the side edge portion of said decorative sheet having said separating part to which said decorative sheet is not stuck by a prescribed width from either side edge of the panel body to be cut off from said releasable seal paper, peeling off the central part of the releasable seal paper, remaining the covering parts of the side edge portion of the sheet stuck to the back surface of said decorative sheet, sticking the decorative sheet on the panel body to make the panel coated with the decorative sheet, fixing each of the panel bodies coated with the decorative sheets onto a panel supporting base, overlapping the edge portion of one of the decorative sheets with the extension portion of the other decorative sheet on the surface of said separating part, making a cut in the edge portion of the upper one of the overlapped decorative sheets, removing the cut end piece of one of the decorative sheets, and stacking the edge portion of the other decorative sheet to the surface of the separating part.
4. The method for constructing a wall surface using a panel with a decorative sheet set forth in claim 3, further comprising making a cut in said covering part of the side edge portion of said decorative sheet along a line at a small distance from the edge of said decorative sheet to define a temporal tacking portion so as to temporarily adhere the side edge portion of said decorative sheet to the side surface or back surface of said panel body upon removing only said covering part attached to said temporal tacking portion from the side edge portion of said decorative sheet, by removing the edge portion of said decorative sheet from the side or back surface in steadying said panel body so as to overlap the edge portion and extension portion of the adjoining decorative sheets with each other on either of said separating parts, and temporarily adhering the edge portions of the adjoining decorative sheets to said panel body or overlapped with each other.
5. The method for constructing a wall surface using a panel with a decorative sheet set forth in claim 3 or claim 4, wherein the edge portion of one of the adjoining decorative sheets is overlapped with said extension portion of the other decorative sheet by steadying said panel body onto a panel supporting

base, said panel body being coated with said decorative sheets and made with chamfered edges, and filling grooves formed along butt joint portions of said chamfered panel bodies with filler.

6. The method for constructing a wall surface using a panel with a decorative sheet set forth in any of claims 1 to 5, wherein said panel coated with said decorative sheet has said panel body provided on its back with a double-sided adhesive tape, temporarily fixed onto said panel supporting base, and then, steadied onto said panel supporting base by driving fastening means such as nails thereinto at said separating part from the front surface of said panel body.

7. The method for constructing a wall surface using a panel with a decorative sheet set forth in claim 6, wherein said double-sided adhesive tape has a tape-shaped substrate with adhesive layers on both surfaces thereof between said panel coated with decorative sheet and said panel supporting base, and at least one of said adhesive layers is made of a pressure-sensitive adhesive having no sufficient adhesive properties when being depressed against said adherend surface to which said adhesive tape adheres by a force weaker than a prescribed force, and after temporarily fixing, said panel is fixed to said panel supporting base with said fastening means such as nails.

8. A panel coated with decorative sheet comprising a panel body made of a rectangular flat board or plate and a decorative sheet sticking to said panel body, **characterized in that:**

said decorative sheet comprises an extension portion formed by lengthening at least one of the side portions thereof to outside said panel body, a separating part on which said decorative sheet is not stuck by a prescribed width from the joint edge of each panel body on the joint portion of each panel coated with decorative sheet, adhesive applied to the surface of said separating part, a releasable protective seal paper attached to the surface of said separating part for preventing the adhesive properties of said adhesive applied thereto from weakening to isolate said adhesive from said decorative sheet.

9. The panel coated with decorative sheet set forth in claim 8, wherein positioning marks are made on said protective seal paper to position said fastening means for fixing said panel body onto said panel supporting base.

10. The panel coated with decorative sheet set forth in

claim 9, wherein said positioning mark is formed by making a through hole having a larger diameter than that of the head of said fastening means.

11. The panel coated with decorative sheet set forth in any of claims 8, 9 and 10, wherein said decorative sheet has said extension portions on the right and left side edge portion.

12. A panel coated with decorative sheet comprising a panel body made of a rectangular flat board or plate and a decorative sheet sticking to said panel body, **characterized in that:**

said decorative sheet comprises an extension portion formed by lengthening at least one of the side portions thereof to outside said panel body and the entire back surface thereof applied with adhesive, a releasable protective seal paper covering both side edge portions of said adhesive applied to the back of said decorative sheet for preventing the adhesive properties of said adhesive from weakening, and separating parts on which said decorative sheet is not stuck by a prescribed width from each of the side edges of said panel body.

13. The panel coated with decorative sheet set forth in claim 12, wherein said decorative sheet has the entire back surface coated previously with adhesive and covered with a releasable protective seal paper for preventing the adhesive properties of said adhesive applied thereto from weakening, said protective seal paper having a cut for cutting off said covering part of the side edge portion, said cut defining a separating part on which said decorative sheet is not stuck by a prescribed width from the side edge portion of each panel body so as to stick to said panel body upon peeling the center portion of said protective seal paper, remaining said covering parts of the side edge portion of the sheet stuck to the back surface of said decorative sheet.

14. The panel coated with decorative sheet set forth in claim 12 or claim 13, wherein said covering part is provided with a cut along a line at a small distance from the edge of said decorative sheet and temporarily sticking the edge portion of said decorative sheet upon peeling off said temporal tacking portion on the edge portion side of said decorative sheet along the cut.

FIG. 1

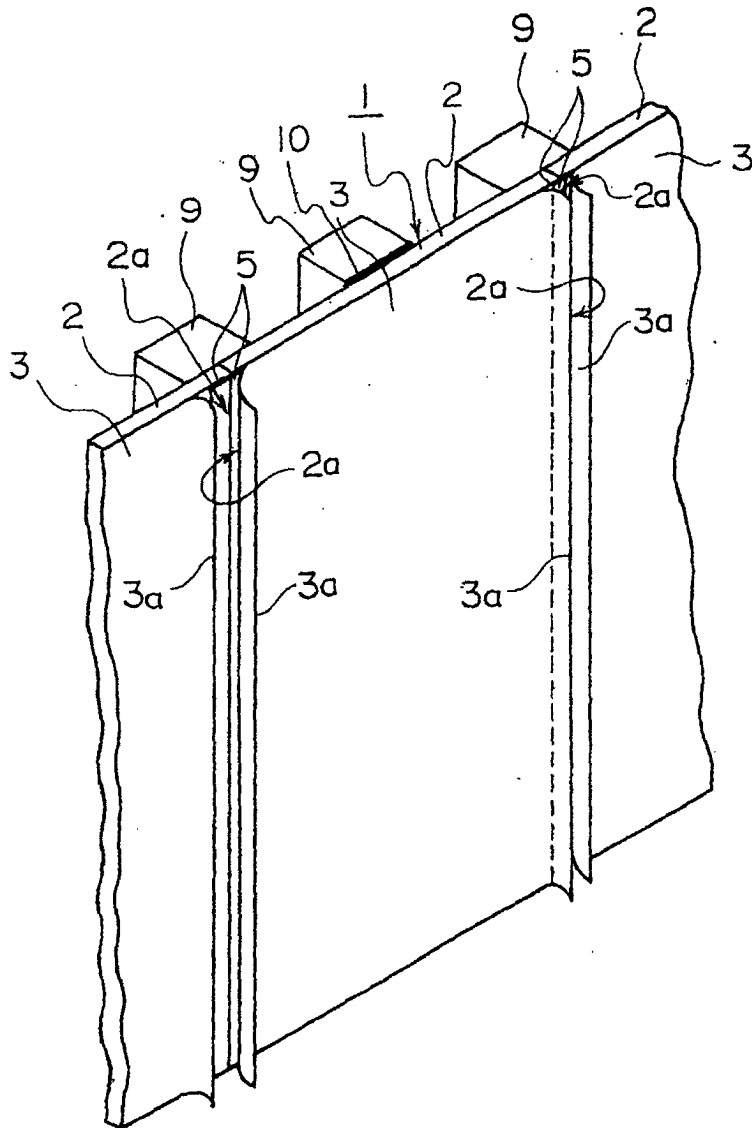


FIG. 2

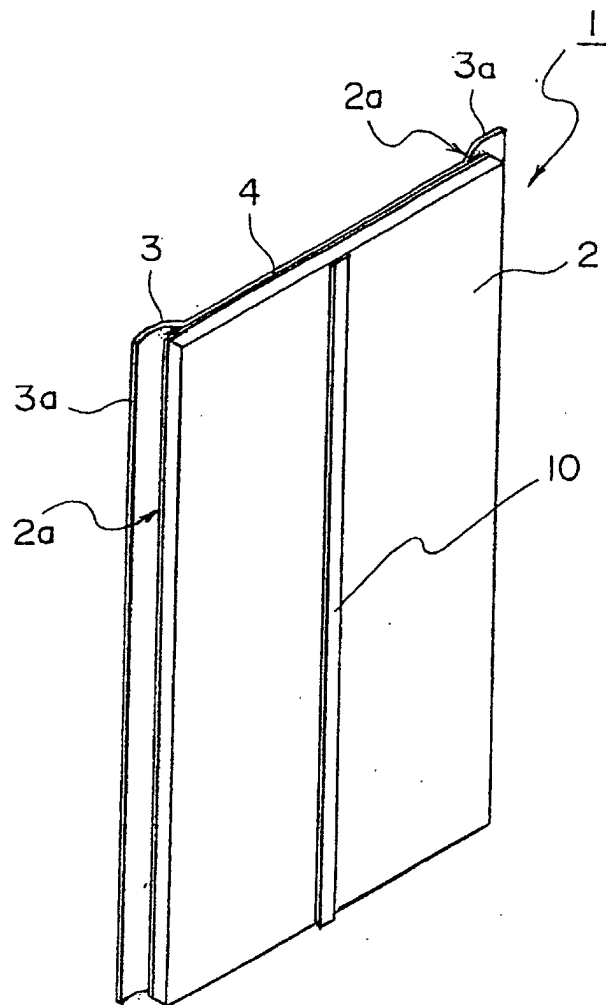


FIG. 3

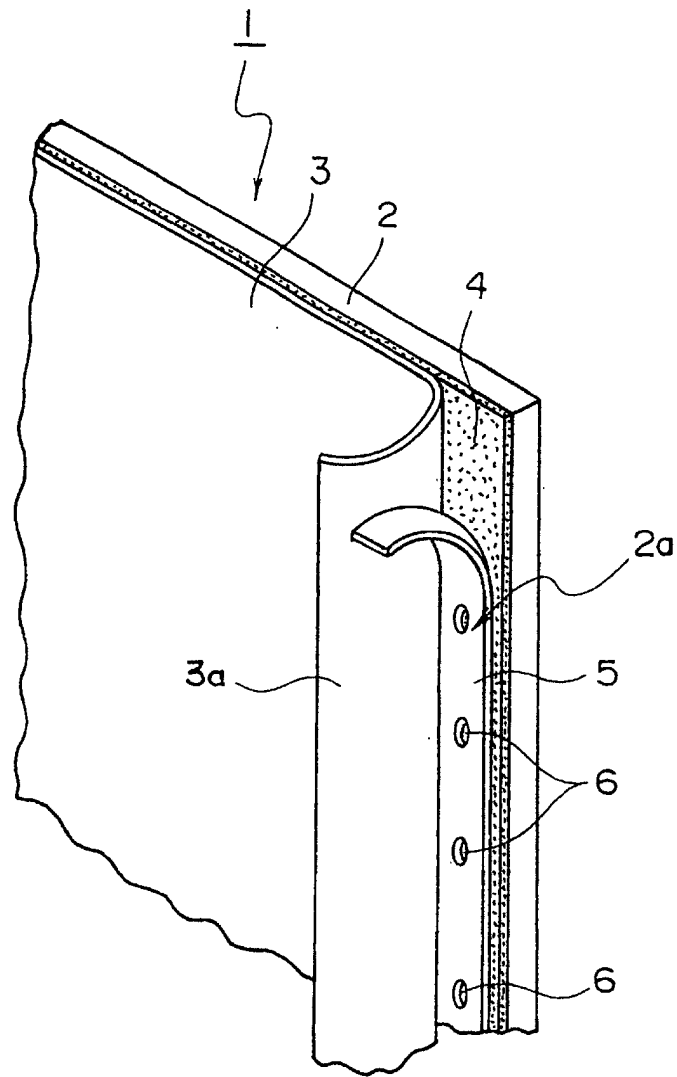


FIG. 4

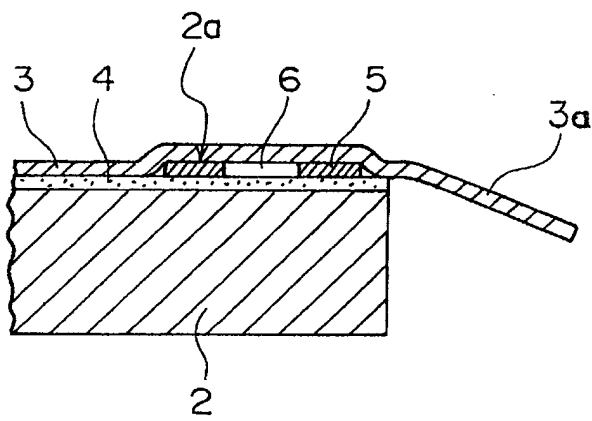


FIG. 5

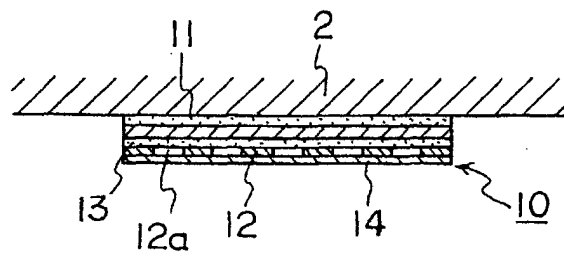


FIG. 6

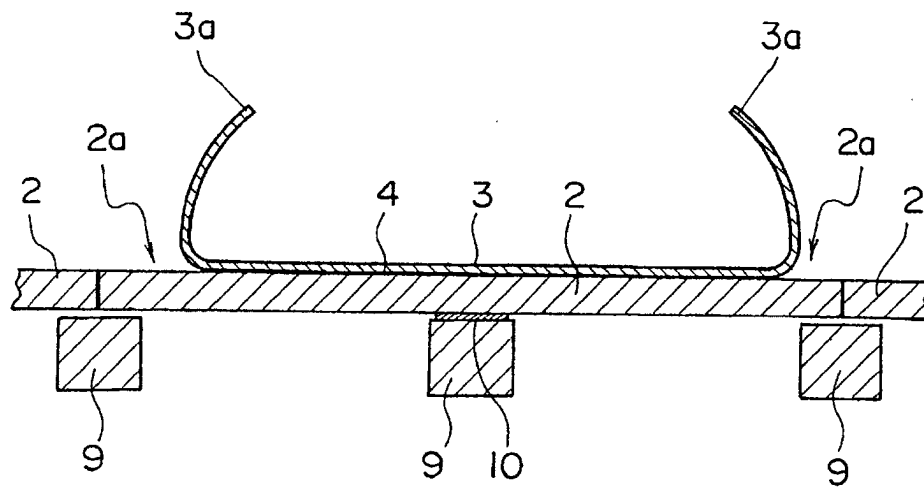


FIG. 7

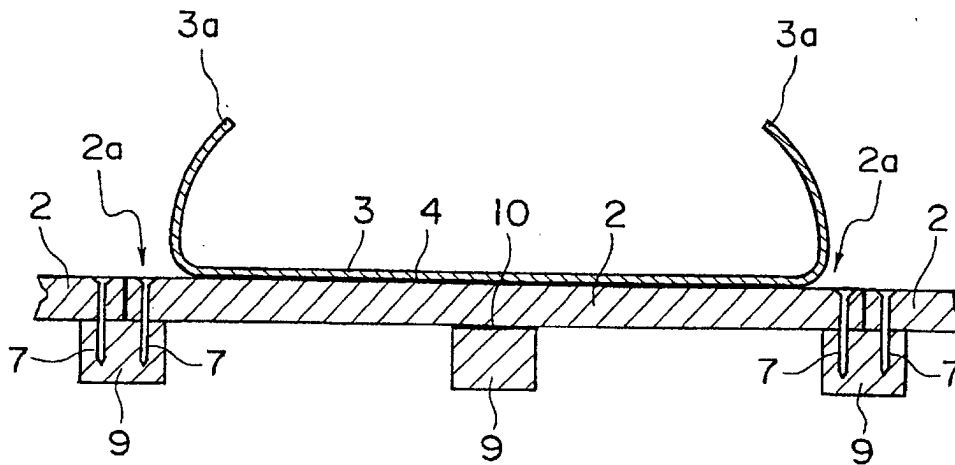


FIG. 8

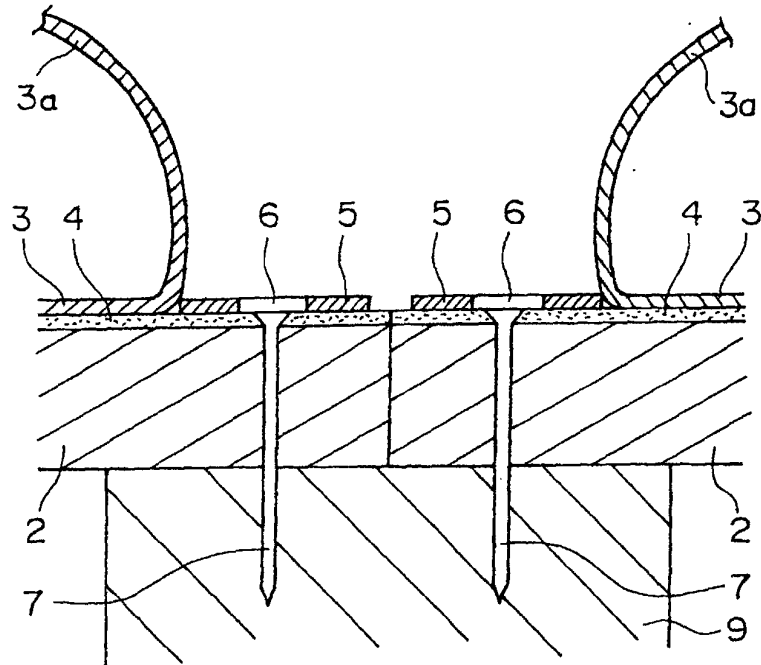


FIG. 9

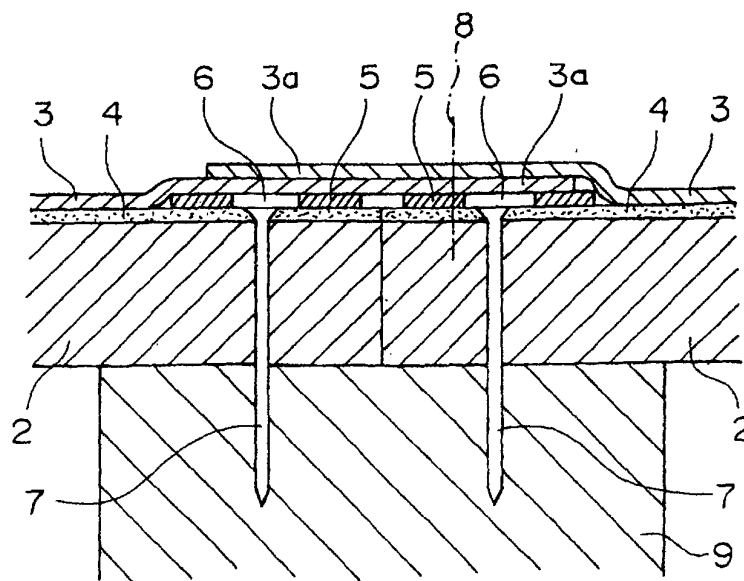


FIG. 10

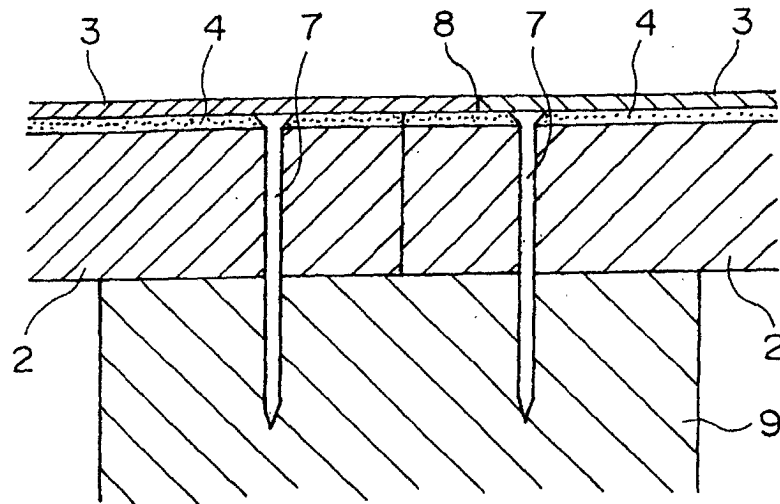


FIG. 11

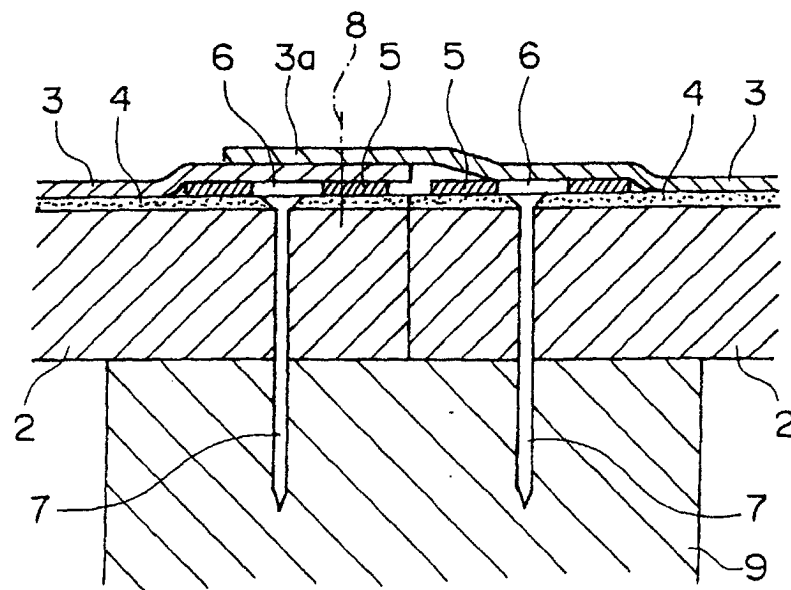


FIG. 12

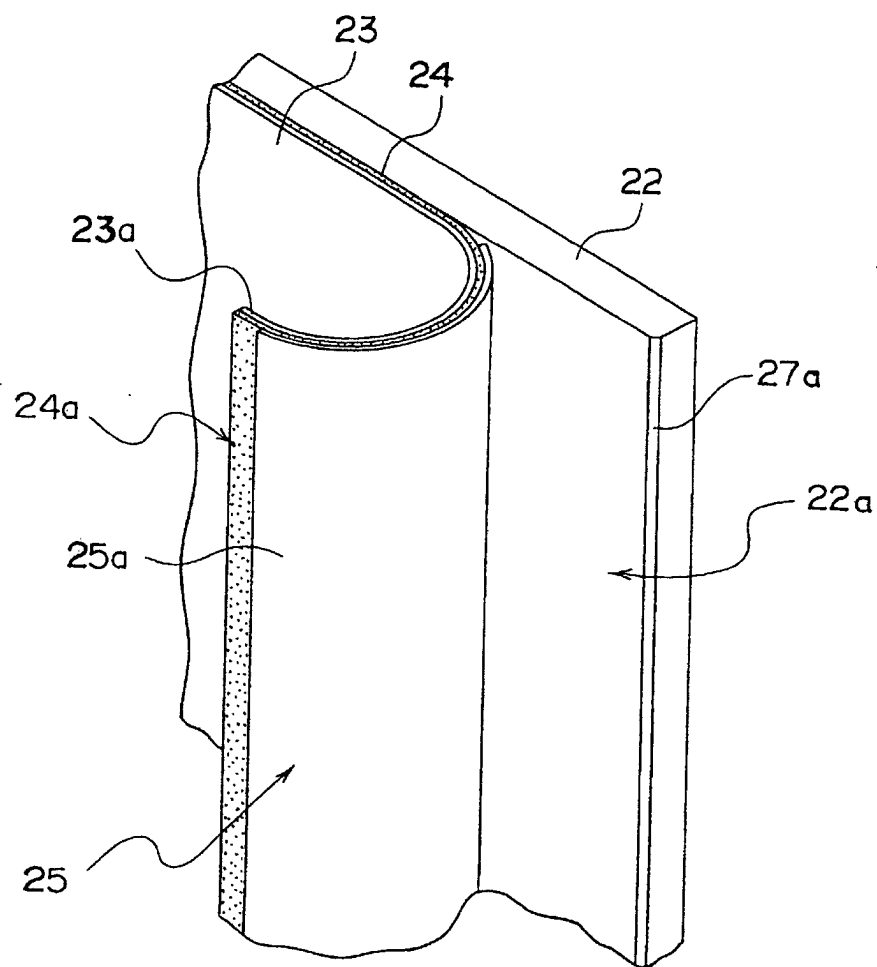


FIG. 13

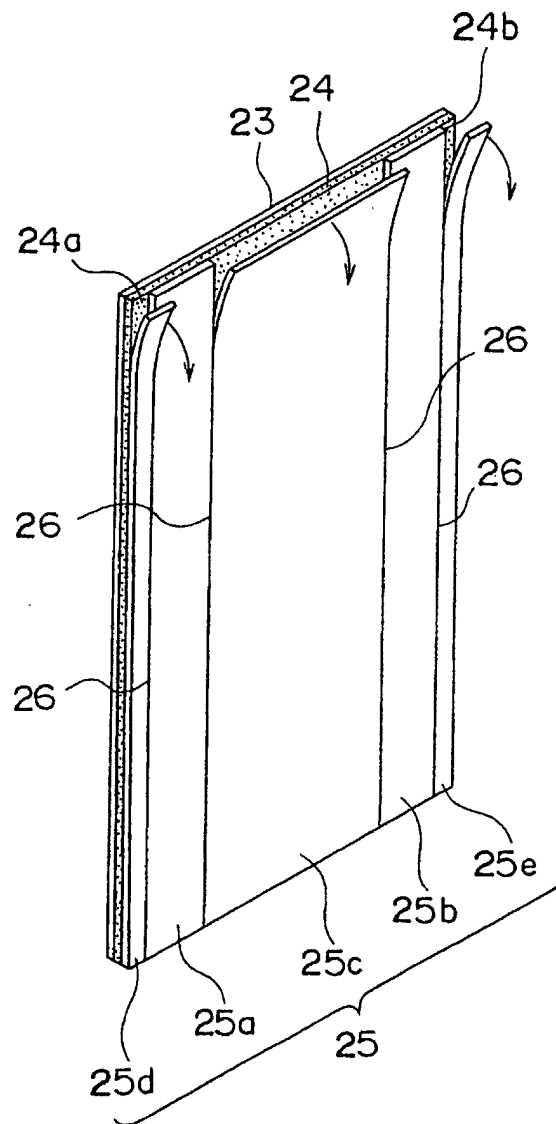


FIG. 14

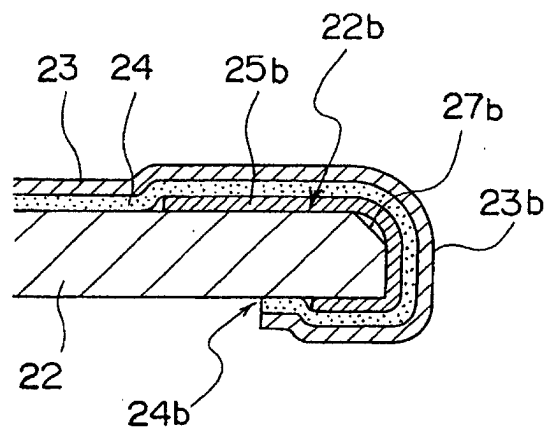


FIG. 15

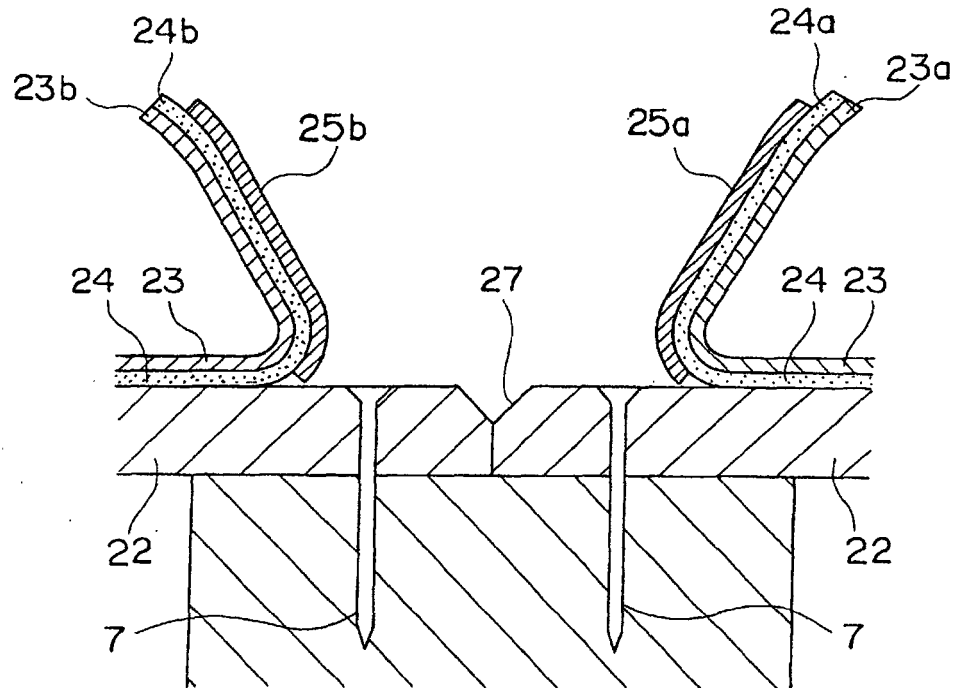


FIG. 16

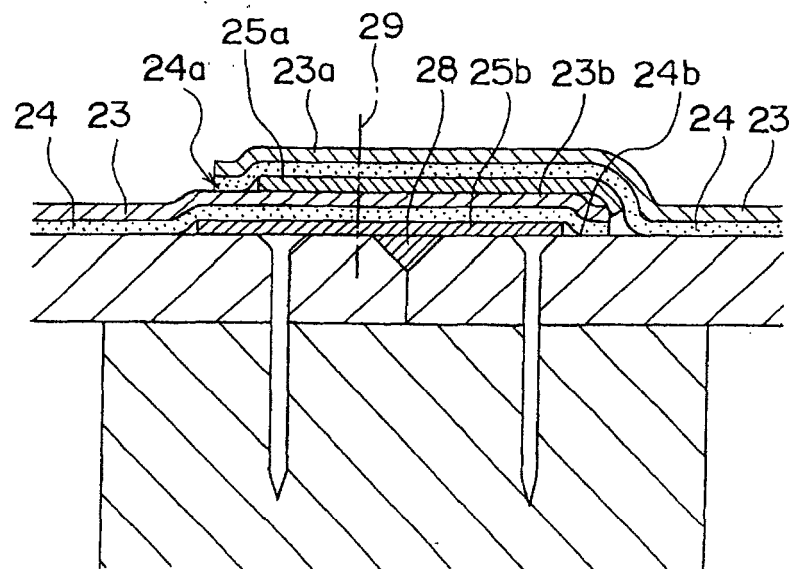
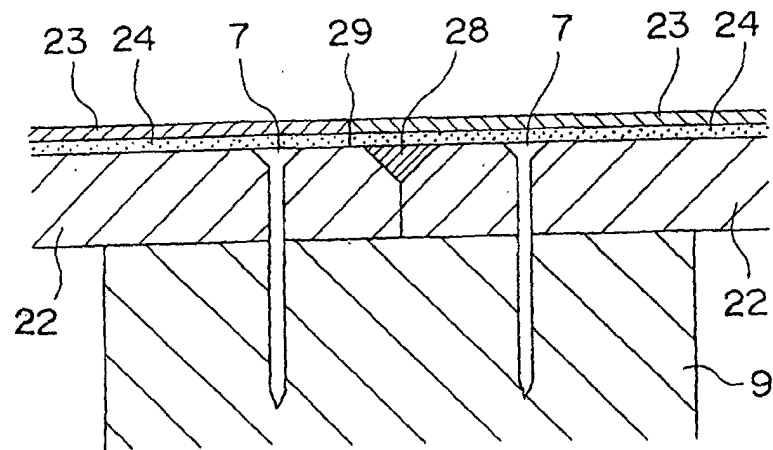


FIG. 17



INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP02/00178

A. CLASSIFICATION OF SUBJECT MATTER Int.Cl. ⁷ E04F13/08		
According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED		
Minimum documentation searched (classification system followed by classification symbols) Int.Cl. ⁷ E04F13/00-13/18		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Jitsuyo Shinan Koho 1922-1996 Toroku Jitsuyo Shinan Koho 1994-2002 Kokai Jitsuyo Shinan Koho 1971-2002 Jitsuyo Shinan Toroku Koho 1996-2002		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
	Microfilm of the specification and drawings annexed to the request of Japanese Utility Model Application No. 130592/1989 (Laid-open No. 74731/1991), (Kimio SUGAWARA), 26 July, 1991 (26.07.1991),	
X	Full text; Figs. 1 to 2	1, 2, 8, 11, 12
Y	Full text; Figs. 1 to 2 (Family: none)	3-7, 9, 10, 13, 14
Y	JP 49-108817 A (Bunyuusha), 16 October, 1974 (16.10.1974), Claims; Figs. 1 to 2 (Family: none)	5
Y	US 3708935 A (National Gypsum Company), 09 January, 1973 (09.01.1973), column 5, lines 62 to 65; Fig.4 (Family: none)	5
☒ Further documents are listed in the continuation of Box C. ☐ See patent family annex.		
* Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family		
Date of the actual completion of the international search 08 February, 2002 (08.02.02)		Date of mailing of the international search report 19 February, 2002 (19.02.02)
Name and mailing address of the ISA/ Japanese Patent Office		Authorized officer
Facsimile No.		Telephone No.

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP02/00178

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	JP 3-206257 A (Kimio SUGAWARA), 09 September, 1991 (09.09.1991), page 2, lower right column to page 3, upper right column; Figs. 3 to 4 (Family: none)	6, 7

Form PCT/ISA/210 (continuation of second sheet) (July 1992)