

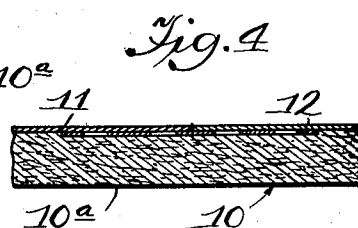
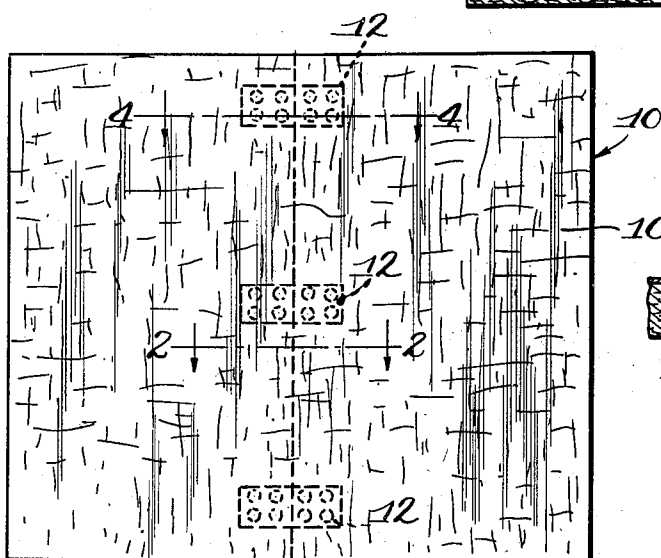
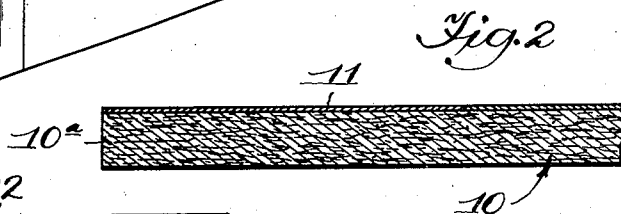
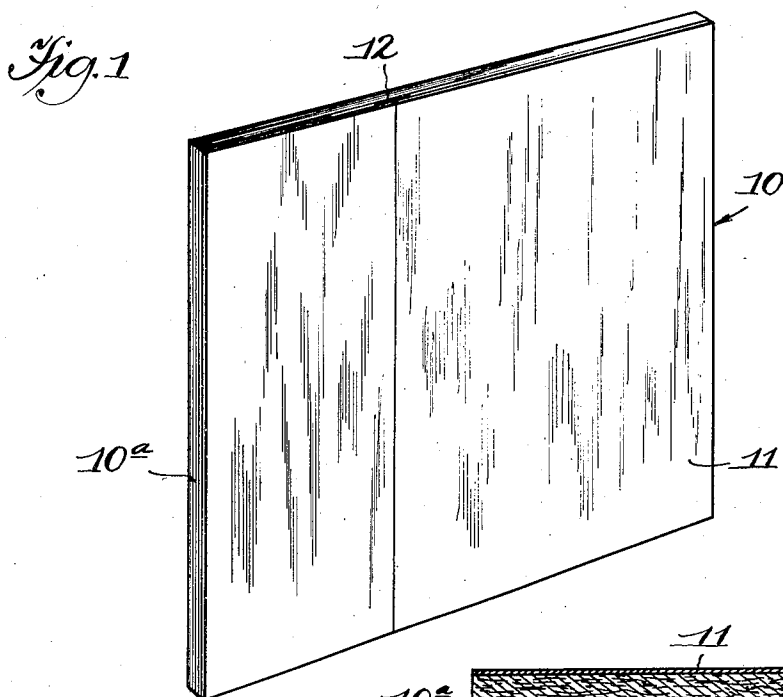
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WOOD VENEERED BOARD OR PANEL AND PROCESS FOR MAKING THE SAME

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WOOD VENEERED BOARD OR PANEL AND
PROCESS FOR MAKING THE SAMEAlbert N. Carstens, Park Ridge, Ill., assignor to
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8 Claims. (Cl. 144—309)

This invention relates to a novel and improved wood veneered board or panel and a process for making the same, and consists of the matters hereinafter described and more particularly pointed out in the appended claims.

The object of the invention is to produce a flat non-warped wood veneered board or panel of simple and economical construction and of artistic appearance, in which but one face of the board or panel is covered by the veneer, and which comprises any of the familiar composition boards as fibre board, plaster board and the like, as a base and a facing of thin wood veneer.

Instead of using a composition board as the base, an ordinary wood board may be used. The invention thus eliminates the core with the opposed, balancing veneer-sheets applied to the faces thereof, now constituting the commercial veneered board.

This application is a continuation in part of my co-pending application Serial Number 478,571 filed August 29, 1930.

The many advantages of the invention will appear more fully as I proceed with my specification.

In the drawing:—

Figure 1 is a perspective view of a piece of my improved board.

Figure 2 is a view representing a section of the same.

Figure 3 is a rear view of a board with two sheets of wood veneer, illustrating the method of making a joint between two adjacent sheets where more than one sheet is required to make a panel.

Figure 4 is a part sectional view of the board transversely of said joint in a plane indicated by the line 4—4 of Figure 3.

Referring now to that embodiment of the invention as illustrated in the drawing:—10 indicates the improved board. It consists preferably of a composition body or base, as for example, plaster board or fibrous board such as those known to the trade as Beaverboard, Masonite, Cellotex, or the like. This base is of that thickness and weight required for the particular purpose for which the improved panel or board is to be used. 11 indicates a facing of wood veneer. Said veneer should preferably be from 1/60 to 1/150 of an inch in thickness, being in this respect much thinner than the usual sheets of veneer now ordinarily used in the manufacture of furniture, desks, and the like.

Veneer of the thinness described requires special treatment in drying to prevent it from curl-

ing, cracking or splitting. I take the sheets of veneer in the condition as to moisture as they come from the lathe or slicer and assemble them in piles of sheets laid flat, the one upon the other, with say eight to twelve sheets to a pile. The piles of veneer sheets are then placed between dry boards of wood, fibre, plaster, or other material capable of absorbing moisture, and are allowed to stand at room temperature (say about 70° Fahrenheit) until the moisture content of the veneer sheets has been reduced to approximately 4 to 10 percent by weight. This may be determined by making moisture tests by weight in the usual manner. This is a slow drying process at ordinary room temperature and the veneer sheets dry without splitting, curling or cracking and will be flat when removed from the piles. The number of sheets in each pile is determined by the rate of drying, which should be so carried on that the required dryness will be attained before mildew or rot appears, but must not be so rapid that curling or splitting will occur, as when too few sheets are included in the piles. Such drying usually takes in the neighborhood of seventy-two hours, and may be for a longer or shorter period, depending upon atmospheric conditions.

After the sheet is dried, it is ready for application to a board or base. It is secured to the face of said board by means of a glue or adhesive which is of such composition that it will remain flexible after setting.

I have found that a good animal glue, hide or bone, dissolved in water and mixed with glycerine will well answer the purpose. I have attained good results by a mixture of 50 pounds of glue, 60 pounds of water and 40 pounds of glycerine. In making the mixture, the glue is heated in the water in the usual fashion. After the glue is dissolved, the glycerine is added.

The glue thus prepared is then applied in a thin, even coat over the entire surface of the board or base either by brush or by rolls and preferably at a temperature of about 150 degrees Fahrenheit. The veneer sheet is then applied and is adhered to the board by pressure either in a press or by means of rolls. After a number of panels or boards have been thus faced with veneer sheets, they are baled in stacks, one upon the other, between caul boards in a press. In assembling the boards or panels in the stacks, the veneer facings are placed proximate to each other with waxed paper or the like interposed between. If the backs of the boards or bases are sufficiently smooth, they may also be assembled

with their facings proximate to the backs. Cold caul boards may be used,—hot caul boards are not required. The caul boards are interposed at intervals to compensate for any slack or unevenness in the stack. In the press the stacks of boards or panels are subjected to pressure, the amount of which depends upon the density of the veneer. The pressure is designed to force the glue into or through the interstices of the veneer.

After the bales have been brought to the desired pressure in the press, they are removed and the veneered boards or panels are continued under that pressure until the glue is set. The boards or panels are then removed from the baling clamps and are stacked to dry. In stacking them they are separated by means of "sticks" spaced to permit air passages between the boards. Preferably in stacking, the veneer faces are turned downward so that the base of each board lies below the veneer face of the one next above. This facilitates drying. After the boards are dried out, the veneer facing is finished by sandpapering in the usual manner.

Owing to the extreme thinness of the veneer, the glue under pressure will be forced into or through the innumerable small cells or interstices found in such thin veneer and will suffice as a filler, it being unnecessary in the improved board to apply any other filler to the outer surface of the veneer. The material of the bond, namely the glue or other adhesive, thus becomes a substantial part of the layer of veneer. In some cases, and in particular in the case of some woods, where the veneer sheets contain a maximum of the small interstices, the glue may penetrate and come out on the outer surface of the veneer to such an extent as to flood said surface. This delays drying and increases the amount of sandpapering required. To overcome this difficulty, I prefer to add to the glue a dryer and filler such as whiting, powdered talc, or chalk and plaster of Paris. I preferably use about 3 percent talc and 4 percent plaster of Paris, making 7 percent of the entire combination, as this appears to give me the better results. When made to include this dryer, the flooding of the outer surface of the veneer is checked, drying is facilitated and made more rapid and this without interfering with the filling of the veneer from its rear face, as hereinbefore described.

The bond of the veneer to the board is flexible and as a result, the pull of the veneer tending to warp the board is reduced to a minimum. At any rate, a board with veneer applied as described, will not warp and there is no necessity for an additional sheet of veneer on the rear face of the board, such as is now required in applying veneer to board or panels, where a second sheet of veneer to oppose the drawing action of the first sheet of veneer has always been required.

In making a butting joint between two adjacent sheets of veneer, I first use jointing process to get smooth edges, then butt the edges of the two sheets together and lay them back upwards on a suitable table or support. I then take very thin tissue gummed tape of about 1/300 of an inch thick, cut it into strips and preferably perforate said strips as indicated in Figure 3, where 12, 12 indicate such strips. Said strips are applied to cross the abutted joint at intervals of five to ten inches. If desired, a strip may be placed parallel to the joint with the median line of said strip substantially above the butting joint. In the latter case the tape may be applied by a

taping machine. I then apply the glue to the face of the board, which is then laid down on the rear face of the veneer, thus crossed at the joints by the said tissue paper strip or strips, and apply pressure either by roll or by press as hereinbefore described. After the glue joint is dry, it may be found that the veneer sheet, by expansion, has overlapped at some places. When sandpapering and finishing the face of the veneer, these overlapped pieces are lightly sandpapered out with the result that in the end the veneer presents a face with a uniform butt joint throughout.

It will be noted that in this treatment the removal of the paper used at the joints as heretofore practiced in veneering work, is eliminated, obviating the heavy sanding usually done. Sanding through face stock of panels is also eliminated. On account of the compressibility of composition board, the thin tissue paper between the rear face of the veneer and the front face of the composition board is, by the pressure employed in applying the veneer, indented into the composition board so that a smooth unbroken face is presented at the joints. Obviously, if the board or other base is harder than the veneer, the embedding will be in the veneer either wholly or in part rather than entirely in the base.

My invention makes it possible to use wall board, plaster board and other insulating board in places where, for appearance and beauty, a wood panel is desirable. When the improved board is in place with the veneer face only presented to view, it has the look of a solid wood board.

The many uses of my improved board will be obvious to those familiar with the art. A use not heretofore mentioned is in building construction for door and window frames, window sills, and like constructions, where a comparatively heavy board is necessary for strength. Such boards of wood material are expensive. By the use of my improved board a much cheaper composition board of insulation material of the required thickness may be substituted at greatly reduced cost. In the use of such board the thin veneer sheet should be applied not only to the face of the board, but also to all exposed edges or margins, thereby presenting a composition board of the required thickness, which, to all appearances, is solid board of material of that of the wood veneer.

I claim as my invention:—

1. An improved veneered board, comprising a base and wood veneer sheets bonded to one face thereof, said veneer sheets abutting at their proximate edges, thin paper strips interposed between the base and the sheets of veneer in overlapping relation with said butting edges and embedded between the proximate faces of the base and the veneer sheets.

2. The process of making a veneered board, comprising a base with a veneer face, which consists:—in assembling thin sheets of veneer containing the moisture substantially as when cut in piles of sheets laid flat, in stacking the piles of veneer sheets with boards of material capable of absorbing moisture interposed between adjacent piles; in then drying the same at ordinary temperature to a moisture content by weight of substantially 4 to 10 percent; in applying to said base an adhesive flexible when set in a thin even coating at a temperature of about 150 degrees Fahrenheit; in then applying one of the dry sheets of veneer to the face of the board thus

treated; and in applying pressure to said sheet to force the glue into the veneer, maintaining said pressure until the glue is substantially set.

3. The process of making a veneered board, comprising a base with a veneer face, which consists:—in assembling thin sheets of veneer containing the moisture substantially as when cut in piles of sheets laid flat, in stacking the piles of veneer sheets with boards of material capable of absorbing moisture interposed between adjacent piles; in then drying the same at ordinary temperature; in applying to said base an adhesive mixed with glycerine in a thin even coating; in then applying one of the dry sheets of veneer to the face of the board thus treated; and in applying pressure to said sheet to force the glue into the veneer, maintaining said pressure until the glue is substantially set.

4. The process of making a veneered board, comprising a base with a veneer face including two or more veneer sheets, which consists:—in butting the veneer sheets together; applying to the base contacting rear face of said veneer sheets at the butting joints a tissue strip or strips which overlap said joint at either side; applying an adhesive to the base; then bonding said base to said veneer sheets by pressure to embed said paper strips.

5. A substantially non-warped finished veneered panel, comprising a thin and relatively inflexible base and a wood veneer sheet of substantially 1/60 of an inch or less in thickness bonded to one face only of said base, said bond comprising an adhesive which is flexible when dry or set.

6. A substantially non-warped finished veneered panel, comprising a flat base made of a relatively inflexible composition board and a wood veneer sheet of 1/60 of an inch or less in thickness bonded to one face only of said base, said bond comprising an adhesive which is flexible when dry or set.

7. A substantially non-warped finished veneered panel, comprising a flat base made of relatively inflexible composition board and a wood veneer sheet of 1/60 of an inch or less in thickness bonded to one face only of said base, said bond consisting of an adhesive containing glycerine.

8. A substantially flat finished veneered panel, comprising a flat base made of a relatively inflexible composition board and a veneer sheet of substantially 1/60 of an inch or less in thickness bonded to one face only of said base, said bond being of a composition to permanently prevent warp or twist of the finished panel or of any of the parts forming said panel.

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