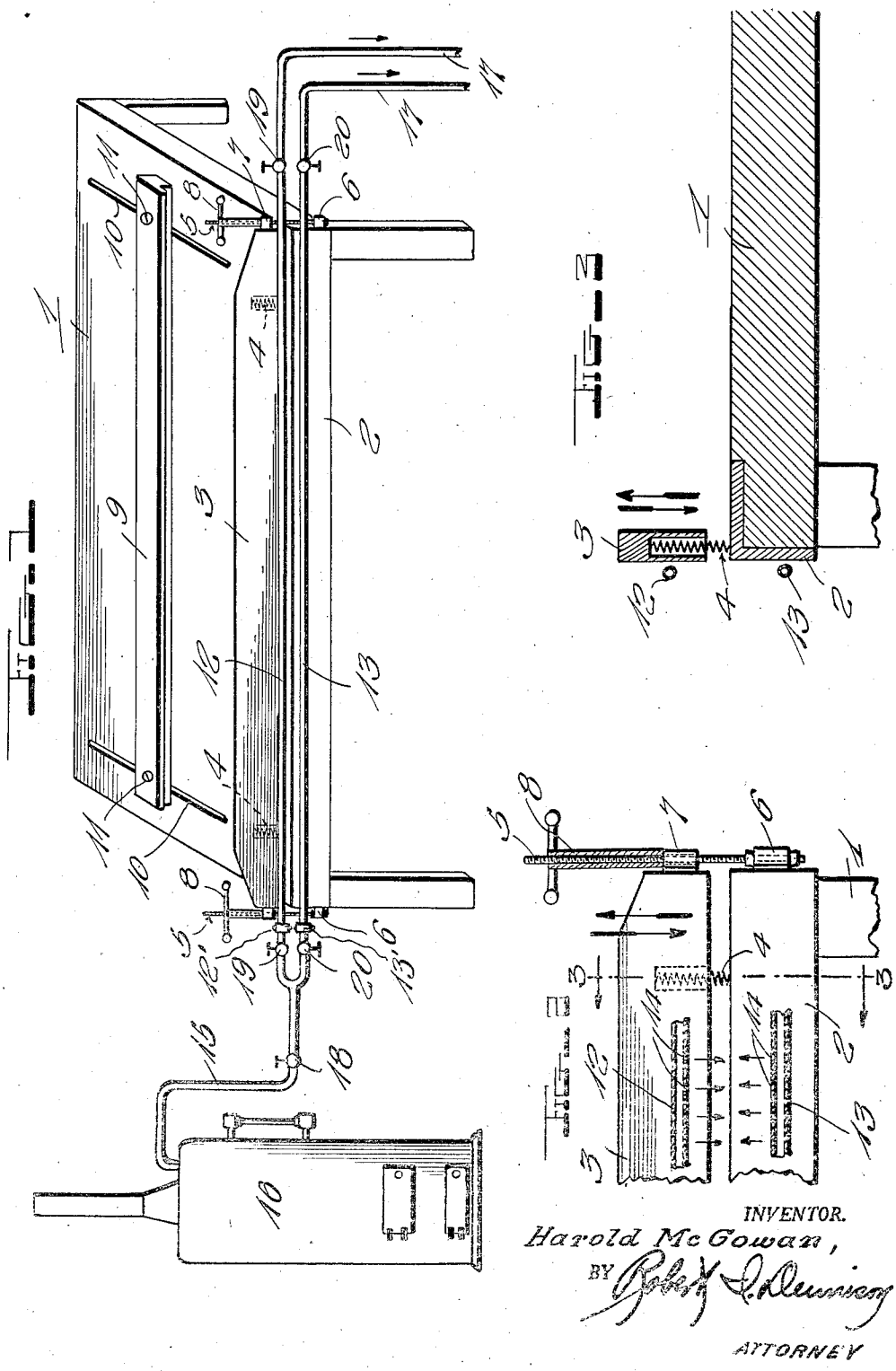
July 27, 1943. H. McGOWAN 2,325,528

ONE-PIECE PLYWOOD CORNER UNIT

Filed May 17, 1941 2 Sheets-Sheet 1



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FIG. 4

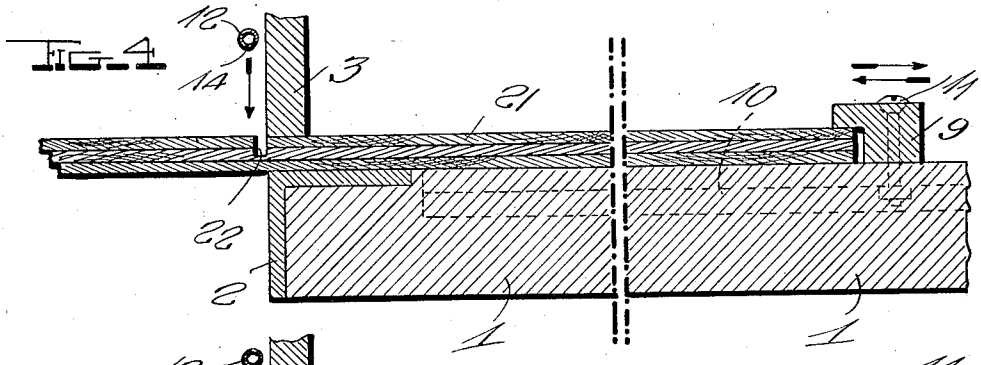


FIG. 5

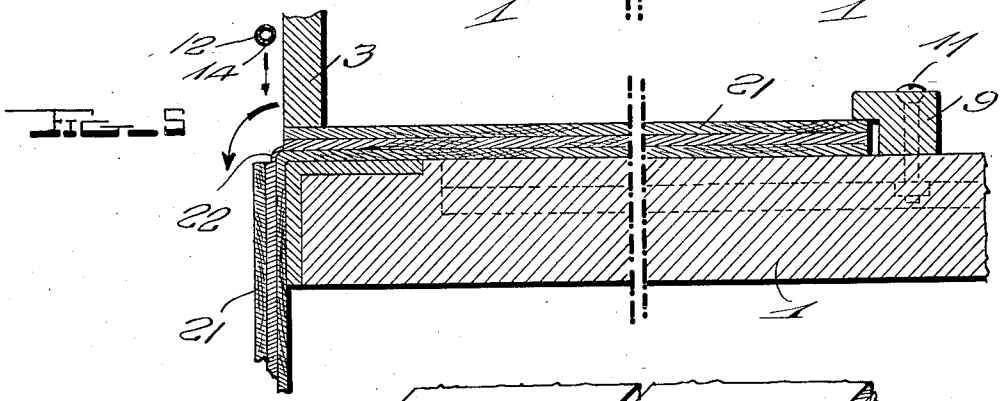


FIG. 6

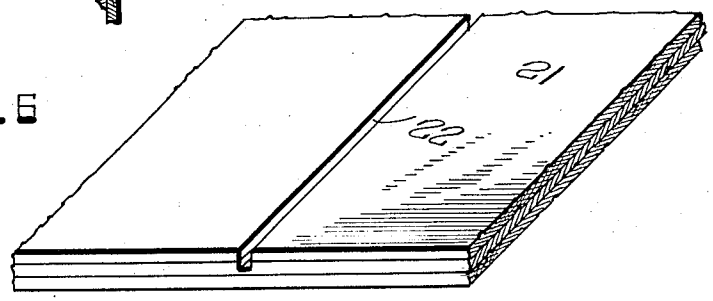


FIG. 7

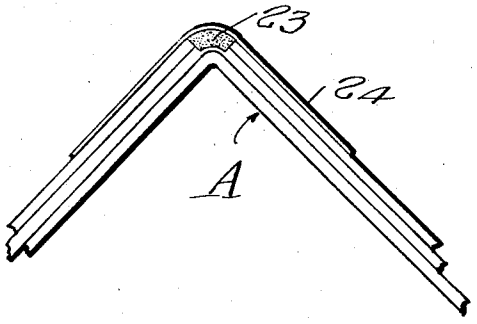
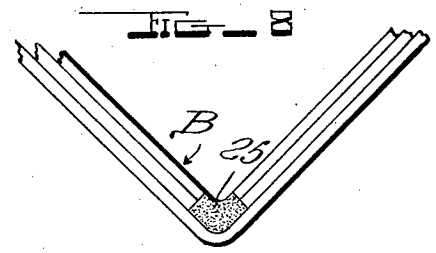


FIG. 8



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UNITED STATES PATENT OFFICE

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ONE-PIECE PLYWOOD CORNER UNIT

Harold McGowan, Central Islip, N. Y., assignor of one-half to Bert Raskin, Brightwaters, N. Y.

Application May 17, 1941, Serial No. 394,022

6 Claims. (Cl. 20—92)

The present invention relates to improvements in building constructions and has reference more particularly to a one-piece angular corner unit formed from plywood material.

One of the important objects of the invention resides in the provision of a one-piece angular plywood corner unit, which, when applied to the studding of buildings will render the corners crackproof, and at the same time compensate for the stresses and strains of the movement of contraction and expansion as well as settlement to which the walls and corners may be subjected.

Another object of the present invention is to provide a plywood corner unit of integral construction which can be produced very economically, yet is strong and durable.

Other objects and advantages will become apparent from the accompanying drawings and description.

In the drawings, forming a part of this specification and in which like references designate corresponding parts throughout the several views:

Figure 1 is a perspective view of the apparatus employed for treating and bending a sheet of the pre-channeled plywood material from which the corner unit is to be formed.

Figure 2 is a fragmentary front elevation of the table, showing the perforated steam pipes in section.

Figure 3 is a vertical sectional view taken approximately on the line 3—3 of Figure 2.

Figure 4 is a fragmentary transverse section through the table, showing a sheet of pre-channeled plywood material clamped thereon and ready for the steam treatment.

Figure 5 is a view similar to Figure 4 showing the plywood sheet after having been subjected to the steam treatment and the outwardly projecting portion of the plywood sheet being bent downwardly.

Figure 6 is a fragentary perspective view of the pre-channeled plywood sheet from which the corner unit is to be formed.

Figure 7 is a top plan view of my improved one-piece inside corner unit, and

Figure 8 is a similar view of an outside corner unit constructed in accordance with the present invention.

In the drawings, the numeral 1 designates the work bench or table over the front edge of which extends a metallic angular straight edge 2. A vertically movable clamping jaw 3 is arranged above the forward edge portion of the table.

Springs 4 normally hold the clamping jaw 3 in a raised position. Suitable screw-threaded rods 5 are mounted at their lower ends in suitable brackets 6 secured at the respective ends of the table and these rods extend upwardly and freely through guides 7, carried by the respective ends of the jaw 3. Handled sleeves 8 are threaded on the upper ends of the screws 5 and coact with the guides 7 for moving the jaw 3 downwardly into clamping engagement with the plywood sheet. The springs normally hold the clamping jaw raised sufficiently to permit the plywood sheet to be readily and easily positioned on the table.

A transversely movable clamping bar 9 is adjustably mounted on the upper face of the table 1 and the manner in which this bar engages and clamps the inner edge of the plywood sheet is clearly illustrated in Figures 4 and 5 of the drawings.

The table 1 is formed with suitable slots 10 to accommodate the fastening elements 11, whereby the clamping bar 9 may be moved and secured in any transversely adjusted position on the table 1.

Upper and lower steam pipes 12 and 13 extend longitudinally across the front of the table. The opposed sides of these steam pipes are formed with steam outlet openings 14 throughout the length of the steam pipes. These steam pipes may be supported in any suitable manner.

A steam supply pipe 15 delivers live steam from a suitable steam boiler 16 to the inner ends of the steam pipes 12 and 13 while the outer ends of the perforated steam pipes have drain pipes 17 associated therewith.

Adjacent their connection with the steam supply pipe 15, the steam pipes 12 and 13 have swivel joints 12' and 13' associated therewith to permit either steam pipe to be swung outwardly and away from the table when bending the steam heated plywood sheet.

A control valve 18 is associated with the steam supply pipe 15, and similar valves 19 and 20 are associated with the perforated steam pipes 12 and 13, as clearly shown in Figure 1 of the drawings.

With reference now to Figure 6, there is shown a sheet of plywood material 21 from which the corner unit is to be formed. In the instant case, a saw cut is made in the longitudinal center of the plywood sheet and this saw cut 22 extends from the top face to the approximate center of the thickness of the plywood sheet.

According to the quality of the center ply, the depth of the saw cut is adjusted so that the fibres of the center ply will break, forming a

bridging when the pre-channeled plywood sheet is steam treated and bent. This bridging will make a good bond with the glue and filler or cement used to reinforce the corner unit.

In forming my improved plywood corner unit, the pre-channeled plywood sheet shown in Figure 6 is placed on the table 1 and the clamping bar 9 is adjusted to position the groove 22 directly adjacent the outer face of the metal straight edge 2 on the forward edge of the table 1. The threaded sleeves 8 are then actuated to bring the jaw 3 downwardly into clamping engagement with the upper face of the plywood sheet as clearly shown in Figure 4.

The valves 18, 19 and 20 are then opened and live steam obtained from the boiler 16 enters the steam pipes 12 and 13. The openings 14 cause jets of live steam to impinge against the channeled portion of the plywood sheet 21, thereby thoroughly saturating the channeled portion of the plywood sheet with steam, whereby the outwardly projecting portion of the plywood sheet may be easily bent down against the vertical face of the angular metal piece 2 to dispose the portions of the sheet on opposite sides of the channel 22 at approximately right angles to each other, as shown in Figure 5, and this with very slight pressure. When the lower steam pipe 13 is swung outwardly away from the table, the softened plywood sheet may be bent down against the front face of the table.

By operating the valves 19 and 20, jets of steam may be emitted from either or both of the steam pipes. While I prefer to use live steam, it is to be understood that the channeled plywood sheet may be heated and softened by any other desirable means for facilitating easy bending of the sheet.

Also, the plywood sheet may be bent to form a corner unit of any desired angular shape and I do not wish to limit myself to the forming of a 90° angle bend.

After the sheet of plywood material has been bent on the machine, it is removed from the table and placed in a jack (not shown) and the channel is then filled with a suitable filler such as a mixture of "Weldboard" glue or any other binding cement, and when this is dry, the corner unit is ready for installation.

In Figure 7, there is shown what I term as an inside corner unit A. The filler is designated at 23 and a strip of canvas 24 is secured over the exposed face of the filler and the adjacent faces of the plywood corner unit.

In Figure 8, an outside corner unit B is shown, the filler in this instance being designated by the reference character 25.

A plywood corner unit constructed in the aforementioned character will prevent the formation of cracks at corners in building wall constructions. The filler replaces the wood removed in cutting the channel formed in the plywood sheet at the outset, thereby restoring the original strength to the bent sheet and further holding the plywood sheet permanently to the angular shape to which it is bent.

While I have shown the preferred embodiment of my invention, it is to be understood that various changes in the size, shape and arrangement of parts may be resorted to without departing from the spirit of the invention and the scope of the appended claims.

Having thus described my invention, what I claim is:

1. A corner unit for buildings, comprising a plywood sheet of material having a channel of uniform width extending from the outer face thereof to its approximate center, said channeled portion being bent to form angularly disposed wall portions, and a binder filling said channel, the outer face of said binder being flush with the outer faces of the angular walls of the corner unit.

2. A corner unit for buildings, comprising a plywood sheet of material having a channel of uniform width extending from the outer face thereof to its approximate center, said channeled portion being bent to form angularly disposed wall portions, and a binder filling said channel, said binder having its outer exposed face forming a continuation of the outer face of the angular walls of the corner unit.

3. A corner unit for buildings, comprising a plywood sheet of material having a channel of uniform width extending from the outer face thereof to its approximate center, said channeled portion being bent to form angularly disposed wall portions, a binder filling said channel, said binder having its outer exposed face forming a continuation of the outer face of the angular walls of the corner unit, and a covering of flexible material secured over the outer face of the binder and the adjacent areas of the outer faces of the angular walls.

4. A corner unit for buildings, comprising a plywood sheet of material formed of three united superposed plies, each of which is of substantially the same thickness, said plywood sheet having a channel extending from the outer face of the outermost ply to the approximate center of the intermediate ply, said plywood sheet being bent at its channeled portion to form a pair of angularly disposed walls, with the channel exposed at the outer side of the corner, and a cementitious filler in the channel filling the entire area thereof, the outer face of the filler lying flush with and constituting continuations of the outer faces of the angular walls of said corner unit.

5. A corner unit for buildings wherein the usual side wall studdings and corner posts are employed; comprising a plywood sheet of material formed of three united superposed plies, each of which is of substantially the same thickness, said plywood sheet having a relatively narrow channel extending from the outer face of the outermost ply to the approximate center of the intermediate ply, the side walls of the channel being straight, said plywood sheet being bent along its channeled portion to form a pair of angularly disposed side walls, with the channel exposed at the outer side of the corner, said angularly disposed walls being adapted for disposition against the respective side wall studdings on opposite sides of a corner post and the channeled corner portion of the corner unit being adapted for disposition against said corner post.

6. A corner unit for buildings comprising a plywood sheet of material formed of three united superposed plies, each of which is of substantially the same thickness, said plywood sheet having a relatively narrow channel extending from the outer face of the outermost ply to the approximate center of the intermediate ply, the side walls of the channel being straight, said plywood sheet being bent along its channeled portion to form a pair of angularly disposed side walls, with the channel exposed at the outer side of the corner, said channeled portion forming a freely flexible connection between the angularly disposed side walls.

HAROLD McGOWAN.