

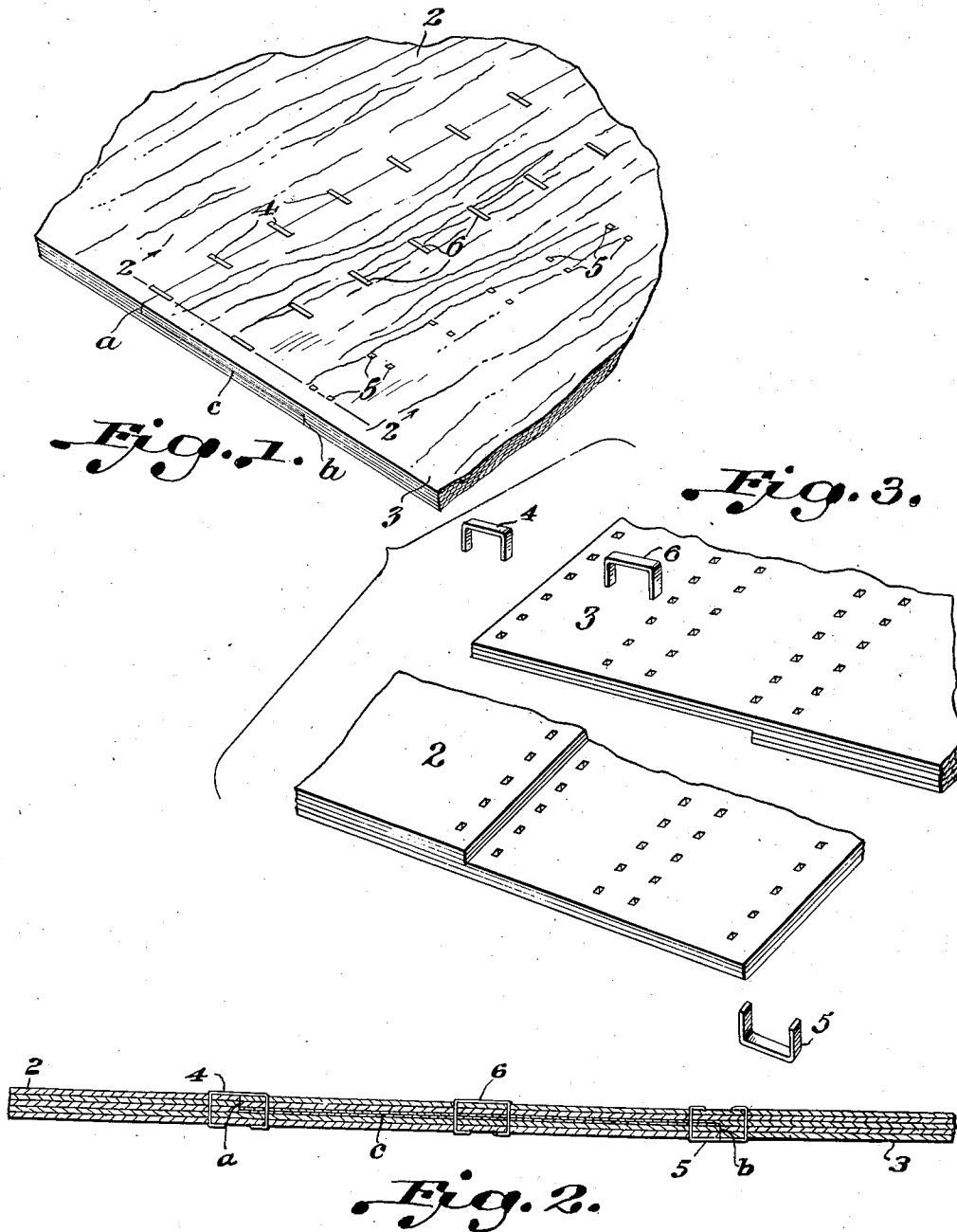
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R. A. MULLER

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PLYWOOD PANEL

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INVENTOR:
Robert A. Muller,
BY
J. H. McCready,
ATTORNEY

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PLYWOOD PANEL

Robert A. Muller, Wellesley, Mass., assignor to
Atlas Plywood Corporation, Boston, Mass., a
corporation of Massachusetts

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This invention relates to plywood sheets and to methods of making products of this character for special purposes.

The commercial methods of producing plywood are such that there are fairly definite limits to the sizes of the sheets of plywood which can be manufactured economically. For most purposes the dimensions of these sheets are ample, but occasionally situations arise which call for sheets of considerably larger sizes. A typical instance is in the crating of automobiles and machines for foreign shipment. While such sheets or panels can be produced by obtaining special equipment to accommodate these larger sizes, the expenditure involved is not warranted by the relatively limited demand for them.

The present invention deals with the problem presented by these conditions. It aims to devise a plywood sheet structure and a method of joining plywood sheets with a view to producing exceptionally large sheets or panels while avoiding the necessity for using expensive special equipment.

The nature of the invention will be readily understood from the following description when read in connection with the accompanying drawing, and the novel features will be particularly pointed out in the appended claims.

In the drawing,

Figure 1 is a perspective view of a portion of a plywood sheet embodying the present invention;

Fig. 2 is a vertical, sectional view approximately on the line 2—2, Fig. 1; and

Fig. 3 is a disassembled perspective view of the invention.

The construction shown in the drawing comprises two sheets or sections 2 and 3, respectively, of plywood which may be composed of any desired number of plies. These sheets may be made up in standard dimensions and of the usual constructions, the grain in adjacent plies running at right angles to each other. The margins of these two plywood sheets are reduced in thickness to substantially one-half that of the main portions of the sheets, and these relatively thin marginal strips are overlapped upon each other, as clearly illustrated. For convenience in manufacture, the sheets may be initially produced in the usual manner, and the thin marginal strips subsequently are formed by running these portions of the sheets through a scarfing or planing machine which removes the surplus material and forms substantially smooth flat surfaces on the area from which the stock has

been taken away. In this operation square shoulders, such as those shown at *a* and *b*, are formed at the junction of the reduced margin with the main body of the sheet. One or both of these marginal areas next is coated with an adhesive *c* and, while such coating is still moist and tacky, the two margins are overlapped, one upon the other, in the relationship shown with the edge of each sheet abutted against the shoulder of the other sheet. With the sheets held in this relationship a series of metallic fasteners are driven through the overlapped areas to secure them firmly together, after which the sheets are stacked in racks, or any other suitable manner, while the adhesive dries. Preferably the fastening of the sheets is accomplished by driving two rows of staples 4 and 5 along the joints between the edges of the marginal strips and the shoulders against which they abut, the staples straddling the joints and being clinched at the opposite side of the composite sheet. A multiplicity of other staples, such as those shown at 6, are driven through both of the overlapped strips and clinched, the staples being either arranged in a row about midway between the two rows of staples 4 and 5, or else distributed in any other manner necessary to cooperate with the latter in mechanically securing the entire areas of both sheets together. Naturally the distribution of these staples and their spacing from each other will depend upon the requirements of individual situations.

The construction above described produces a composite sheet composed of the sections 2 and 3 with the overlapped joint made in the manner just mentioned. It has been found in practice that this joint is practically as strong as a corresponding section of either of the main sheets 2 or 3. The overlapped areas, however, should be ample to give the desired strength and rigidity, a typical width of each of the reduced strips being from three inches to five inches. The fact that the staples straddle the edges of the strips which abut against the shoulders *a* and *b* is important in contributing to the strength of the union between the sheets.

An important advantage of this process is that by assembling the sheets in the manner above described while the adhesive between the overlapped areas is still soft and tacky, and then driving and clinching the staples or other fasteners, ample pressure can be applied by them to the glued joint to hold the parts rigidly in their final positions while the glue sets. Thus the necessity for compressing the joined areas of

the sheets in a hydraulic or other press is avoided. This is important from the standpoint of manufacturing expense for the reason that it avoids the necessity of using special equipment not customarily employed in a plywood plant, and it reduces the handling expense which would be involved if it were necessary to use a plywood press.

The common hardwood plywood sheets or panels are customarily made in sizes up to 4 x 7 feet. By joining these or smaller panels in the manner above described, it is entirely feasible to produce very much larger sheets, and to accomplish this result very economically.

In crating machines, automobiles, and the like, for foreign shipment, it is often desirable to use a plywood which has been waterproofed. These sheets can be united in the manner above described and the joint can be made waterproof by using a glue or cement which is either waterproof or not, as desired, but which, in any event, is compatible with the material used in waterproofing the board.

While I have herein shown and described a typical embodiment of my invention, it will be understood that minor departures may be made from this disclosure within the spirit and scope of the invention.

Having thus described my invention, what I desire to claim as new is:

1. An article of the character described, comprising two plywood sheets, each provided with a marginal strip of substantially uniform thickness overlapped upon a similar margin of the other sheet, both of said margins being of reduced thickness compared with that of the adjacent portions of the sheet, and the extreme edge of each of said reduced strips being abutted against a shoulder on the other sheet formed at the

junction of said reduced strip with the body of the sheet, and rows of staples straddling the respective joints between each of said shoulders and the adjacent edge of the other sheet, said staples being clinched upon the faces of said sheets opposite to said respective joints.

2. An article of the character described, comprising two plywood sheets, each having a marginal strip thereof of approximately one-half the thickness of the main body of the sheet, said strips being of great width in proportion to their thickness and each being overlapped upon the other, with its edge abutted against a shoulder formed at the junction of the reduced margin with the main body of the other sheet, whereby a joint is formed between each of said shoulders and the edge abutting against it, a row of staples straddling each of said joints, and clinched upon the opposite sides of the respective sheets, and a plurality of additional staples driven through the overlapped portions of said strips and securing said strips together in face to face relationship.

3. An article of the character described, comprising two plywood sheets, each provided with a marginal strip of substantially uniform thickness overlapped upon a similar margin of the other sheet, both of said margins being of reduced thickness compared with that of the adjacent portions of the sheet, and the extreme edge of each of said reduced strips being abutted against a shoulder on the other sheet formed at the junction of said reduced strip with the body of the sheet, rows of staples straddling the respective joints between each of said shoulders and the adjacent edge of the other sheet, said staples being clinched upon the faces of said sheets opposite to said joints, and a coating of adhesive between the marginal strips.

ROBERT A. MULLER.