Feb. 2, 1937. A. W. FLINT 2,069,668

PLYWOOD JOINT

Filed Sept. 5, 1933

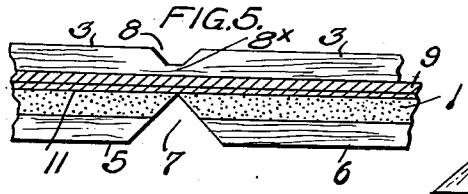


FIG. 5.

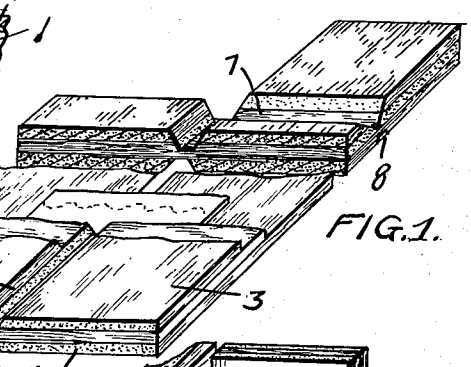


FIG. 1.

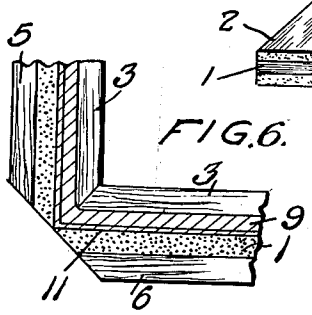


FIG. 6.

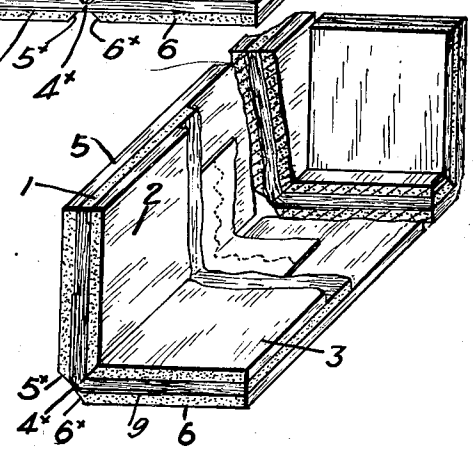


FIG. 2.

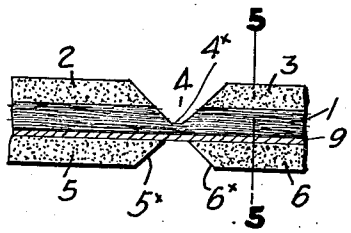


FIG. 3.

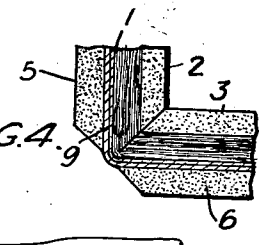


FIG. 4.

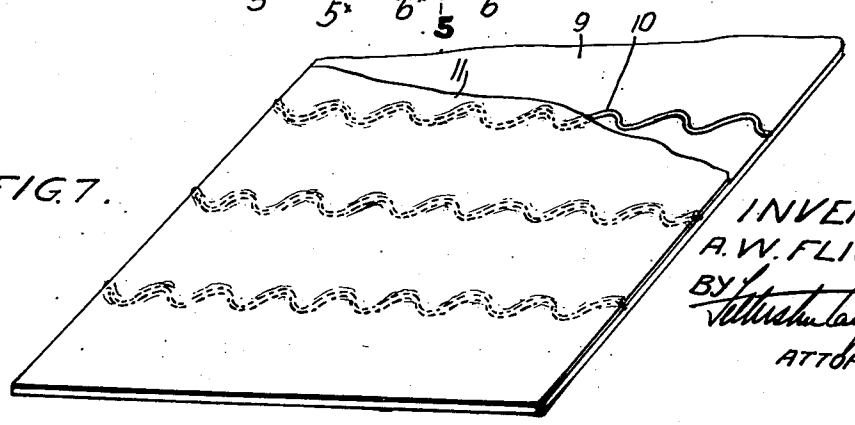


FIG. 7.

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PLYWOOD JOINT

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Application September 5, 1933, Serial No. 688,098

2 Claims. (Cl. 217—2)

My invention relates to improvements in plywood joints, and the object of the invention is to devise means where very light weight wood such as plywood is employed for preventing container or other walls bending away one from the other so as to allow of the joint opening up due to unequal pressure or from warpage and particularly in the case of containers obviating the use of cleats or other supplemental means for holding the joint closed against the weight of the container contents, and it consists essentially of a plurality of thin or veneer wood layers having the grain of one layer extending longitudinally and the grain of the other layer transversely, and a V-groove extending longitudinally of the longitudinally grained layer to expose the bendable fibres of the transversely grained layer to form a bandable joint as hereinafter more particularly explained.

Fig. 1 is a perspective view of a piece of plywood formed with a longitudinal and transverse joint laid out flat and the several layers broken away in step like form to successively expose each underlying layer.

Fig. 2 is a similar view to Fig. 1 showing the longitudinal and transverse joints with the plywood set upon one side of each joint at right angles to the plywood on the other side of the joint.

Fig. 3 is an enlarged transverse sectional view through the longitudinal joint before being set up.

Fig. 4 is a similar view to Fig. 3 showing the joint set up.

Fig. 5 is a longitudinal sectional view on line 5—5 Fig. 3 showing the end joint before being set up.

Fig. 6 is a sectional view through the joint illustrated in Fig. 3 set up.

Fig. 7 is an enlarged perspective detail of a flexible reinforcing strip.

In the drawing like characters of reference indicate corresponding parts in each figure.

1 is a thin layer of wood of the type known as veneer and 2 and 3 are parallel portions of another layer which are superimposed on the layer 1 and glued thereto. The fibres of the layer 1 extend transversely of such layer and the fibres of the layer portions 2 and 3 longitudinally of the layer.

The portions 2 and 3 are separated by a V-groove 4 which extends also partially through the transverse fibres of the layer 1, the apex portion of the V-groove 4 being preferably flattened as indicated at 4× leaving a narrow thin strip of transverse fibre extending between the sides of the groove to form the bottom thereof and exposed so as to be readily pliable. The sides of the groove 4 are preferably at a 45° slope so as to permit the portions 2 and 3 and the underlying portions of the strip 1 folding definitely to a position at right angles one to the other to form, when desired, the side and bottom of a container.

5 and 6 are exterior wall portions glued to the layer 1 and having also a longitudinal grain, the inner longitudinal edges being chamfered off as indicated at 5× and 6×. The portions 5 and 6 on the exterior and the portions 2 and 3 on the interior of the layer 1 prevent the cracking or breaking of the layer 1 transversely owing to the comparatively short fibre length of the grain by binding such short fibres together.

For the purpose of forming an end wall, a transverse joint may be made as indicated in detail in Figs. 5 and 6 in which a V-groove 7 is formed extending completely through the layers tially through the layer portion 3 so as to leave 1 and 5, 6 and a shallow groove 8 extending para thin layer of flexible fibre readily bendable to form a joint similar to that above described in connection with the groove 4.

In order to further reinforce and strengthen the flexible portion of the fibres and bind them together without decreasing their flexibility, a strip of paper 9 is employed on which transverse flexible reinforcing wavy wires 10 are held in properly spaced position by a strip of very thin paper 11 being glued to the main paper strip and overlying the wires. This strip is inserted between the layer 1 and layer portions 5 and 6 in Figs. 3 and 4 and between the layer portion 3 and layer 1 in Figs. 5 and 6 so as to bridge the joints formed by the flexible portions 4× and 8× and held by the glue securing the wood layers together.

From this description it will be seen that I have provided a flexible joint for plywood so that this wood may be used for various purposes such as the forming of containers in which an absolutely closed joint is necessary dispensing with cleats of any form, and which also will enable the wood plyboard being used in place of cardboard for the formation of cartons and other like containers, the carton blanks being formed of plywood jointed as above described on lines corresponding to the crease lines of the carton.

What I claim as my invention is:

1. In a box body formed of a single sheet of multilayered plywood having the wood fibre of the inner and outer layers running longitudinally of the sheet and of the intermediate layer cross-

wise of the sheet, the combination with a groove extending parallel with the longitudinal fibres of the inner layer and through such layer and partially through and transversely of the fibres of the intermediate layer to leave a thin layer of unsevered freely bendable fibres forming the base of the groove and a groove extending completely through the outer layer and centered directly opposite the aforesaid groove of the intermediate and inner layers to form a line of bend, of a groove extending at right angles to such line of bend and partially through and transversely of the fibres of the inner layer to leave a thin layer of unsevered freely bendable fibres forming the base of the groove, and a groove centered opposite the aforesaid right angularly extended groove and extending through and crosswise of the grain of the outer layer and through and parallel to the grain of the intermediate layer to form a line of bend extending transversely to the aforesaid line.

2. In a box body formed of a single sheet of multilayered plywood having the wood fibre of the inner and outer layers running longitudinally of the sheet and of the intermediate layer crosswise of the sheet, the combination with a groove extending parallel with the longitudinal fibres of the inner layer and through such layer and partially through and transversely of the fibres of the intermediate layer to leave a thin layer of unsevered freely bendable fibres forming the base of the groove and a groove extending completely through the outer layer and centered directly opposite the aforesaid groove of the intermediate and inner layers to form a line of bend, of a groove extending at right angles to such line of bend and partially through and transversely of the fibres of the inner layer to leave a thin layer of unsevered freely bendable fibres forming the base of the groove, a groove centered opposite the aforesaid right angularly extended groove and extending through and crosswise of the grain of the outer layer and through and parallel to the grain of the intermediate layer to form a line of bend extending transversely to the aforesaid line, a strip of fabricated material extending across each line of bend between the layers, and adhesive means for securing such material in place and coacting with the strip to bind the unsevered fibres together.

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