Jan. 9, 1934. J. R. MILLER 1,942,970

BOX CONSTRUCTION

Filed May 22, 1933

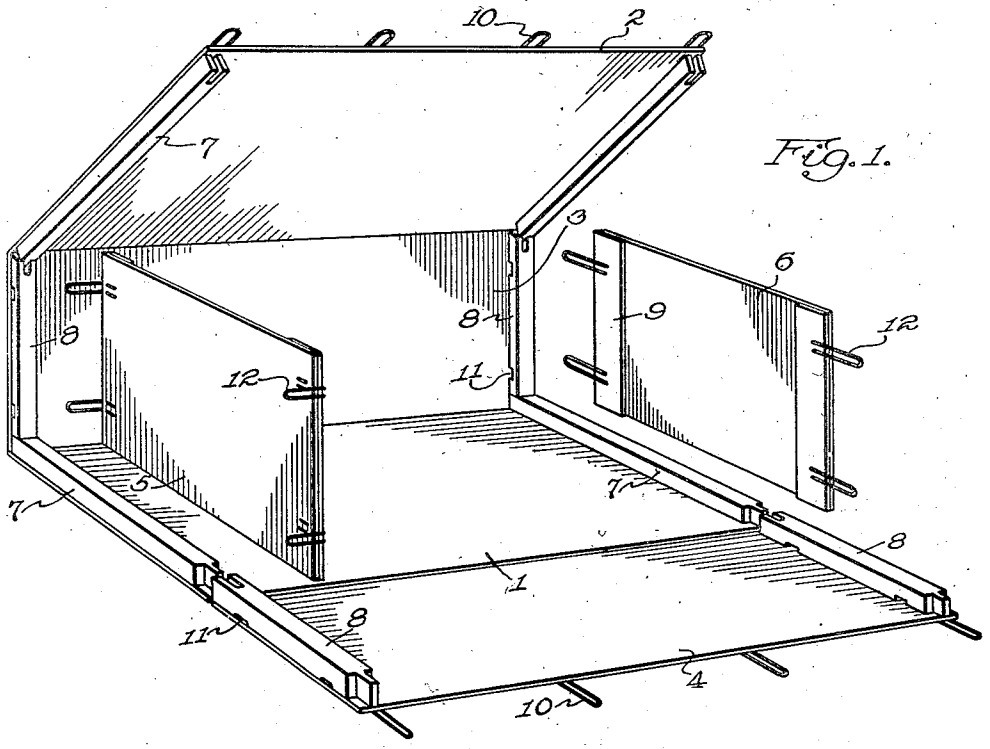


Fig. 1.

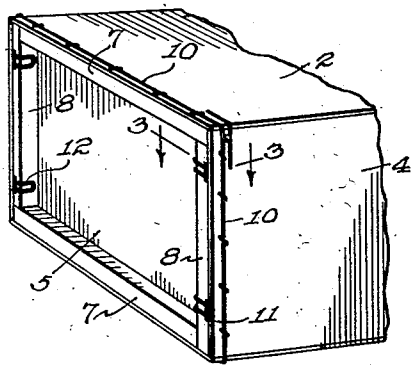


Fig. 2.

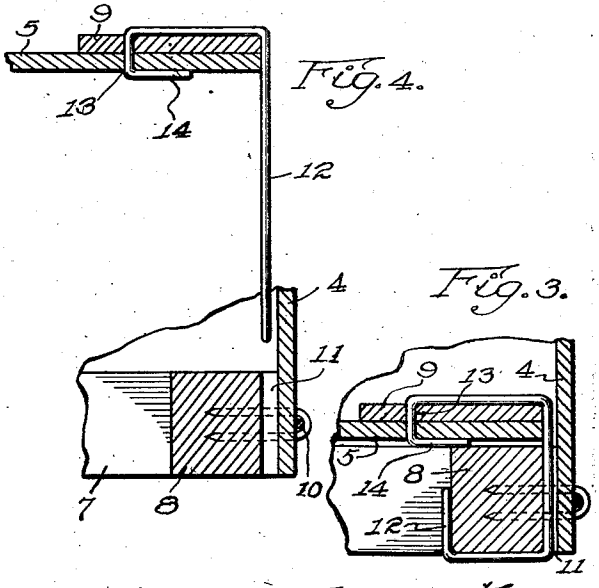


Fig. 4.

Fig. 3.

Witness
Arthur M. Franke.

Inventor
John R. Miller.
Rummler, Rummler
& Woodworth Attys.

Patented Jan. 9, 1934

1,942,970

UNITED STATES PATENT OFFICE

1,942,970

BOX CONSTRUCTION

John R. Miller, Brewton, Ala., assignor to T. R. Miller Mill Company, (Incorporated), Brewton, Ala., a corporation of Alabama

Application May 22, 1933. Serial No. 672,193

4 Claims. (Cl. 217—12)

This invention relates to box constructions which are manufactured with the side, top and bottom walls connected together with wire strips stapled thereto and bendable along the meeting edges of the sides, and top, and bottom walls so as to form a hinge between such parts of the box in the assembly of the box flat into the box form. The invention relates to the means for clipping the ends or heads of the box to adjacent walls thereof.

The object of the invention is to provide an improved and easily operated fastening means for the end sections of wood boxes or foldable shipping crates.

Figure 1 of the drawing illustrates in perspective a foldable veneer box including detached end walls ready for connection with the main body portions of the box.

Fig. 2 is a fragmentary perspective view of an assembled box.

Fig. 3 is a sectional detail taken on the line 3—3 of Fig. 2.

Fig. 4 is a sectional detail showing the parts illustrated by Fig. 3 but not in assembled relation.

Boxes of the class to which this invention relates frequently have walls which are formed of veneering and the invention is illustrated in connection with such a veneer walled box. The panels forming each wall are reinforced at opposite sides by cleats which at their ends are formed to interfit as by tongue and groove connections. Such walls of the box are connected together by wire, the ends of which are twisted together to close the box.

The invention relates particularly to the means for securing the end panels in place, these end panels being provided with projecting U-shaped wire clips for passing through grooves cut on the inner sides of cleats at the ends of the side walls of the box.

These U-shaped clips before assembly of the box extend in the plane of the end members which carry them, but in assembling the box are bent at right angles to the end members and then slid between the side wall veneer panels and the cleats thereof through grooves in the cleats.

The end members of the box are locked thereto by bending these U-clips around the cleats of the side walls.

The parts of the construction above briefly outlined are designated by number in the following specification.

The veneer panels 1 and 2 are respectively bottom and lid elements of the box; 3 and 4 are respectively rear and front side walls. The separable end walls are indicated at 5 and 6. Each section of the box is reinforced by cleats, those for the top and bottom sections being indicated by the numeral 7, and cleats for the side walls being indicated by 8.

The end members also have reinforcing strips 9 along opposite edges. The meeting ends of the cleats 7 and 8 are formed to interlock when the binding wires 10 forming the connection between the top, bottom and side walls of the box are bent along the meeting edges of these walls in the operation of folding the structure into box form.

The feature of improvement now claimed is the transverse slotting at 11 of the cleats 8 in combination with wire U-clips 12 attached to the box ends 6 and 7. The box ends at the location of the reinforcing strips 9 are perforated at 13 to receive the ends of the U-clips 12 which are bent at their ends 14 to grip the end sections of the box.

The U-clips are allowed to project in the plane of the end sections as illustrated at the right of Figure 1 until the time of assembly when these clips are bent over the reinforced edges of the end section to extend outwardly at right angles to the plane of the end section, as indicated on the end section 5 at the left of Figure 1.

After the side walls 3 and 4 are swung upwardly to vertical position, the ends of the box are slid into place with the U-clips 12 passing between the veneer panels 3 and 4 and the cleats 8 and through the slots 11 in the cleats. The relationship is shown by Figure 4. Finally the U-clips are bent around the cleats as indicated by Figure 3. The appearance of the completed and closed box is shown by Figure 2.

Although but one specific embodiment of this invention is herein shown and described, it is to be understood that some of the details as set forth may be altered or omitted without departing from the spirit of the invention as defined by the following claims:

I claim:

1. A box construction of the class described having side walls with cleats extending along the edges of the said side walls, said cleats being transversely grooved on the face adjacent the side wall which the cleat reinforces, and end walls for the box carrying projecting metallic clips positioned to be bent at right angles to the plane of said end walls for passage through said grooves in the cleats and bent around the latter.

2. A box construction of the class described having side walls with cleats extending along the

edges of the said side walls, said cleats being transversely grooved on the face adjacent the side wall which the cleat reinforces, and end walls for the box carrying projecting metallic clips positioned to be bent at right angles to the plane of said end walls for passage through said grooves in the cleats and bent around the latter, said clips being formed of wire bent into U-form.

3. A box construction of the class described wherein a plurality of the walls thereof are hingedly connected together by metallic binding elements, the side walls of said box being reinforced by end edge cleats, and an end wall of said box being provided with bendable projecting metallic clips positioned to be bent at right angles to the plane of said end wall for passage between the wall and reinforcing cleat of an adjacent side wall of the box and bent around said cleat.

4. A box construction of the class described wherein a plurality of the walls thereof are hingedly connected together by metallic binding elements, the side walls of said box being reinforced by end edge cleats, and an end wall of said box being provided with bendable projecting metallic clips having parts positoned at right angles to the plane of said end wall and passing between the wall and reinforcing cleat of an adjacent side wall of the box and being then bent to clamp the end wall in position.

JOHN R. MILLER.