No. 687,610. Patented Nov. 26, 1901.

J. E. DAVIDSON.

PACKING BOX.

(Application filed Jan. 14, 1901.)

(No Model.) 2 Sheets—Sheet 1.

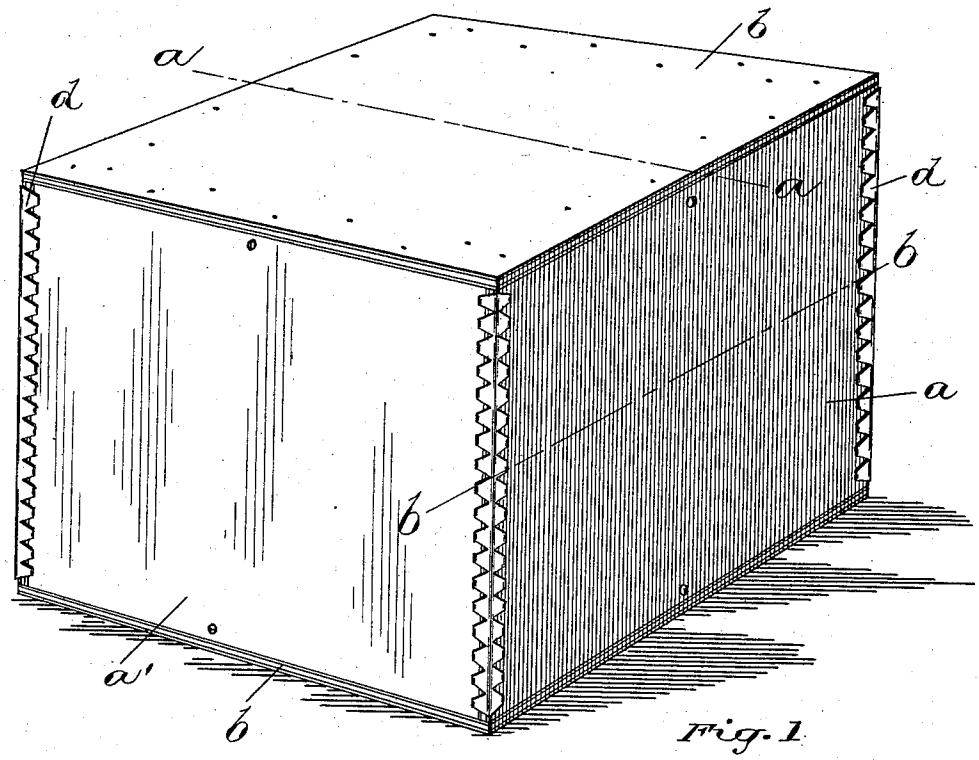


Fig. 1.

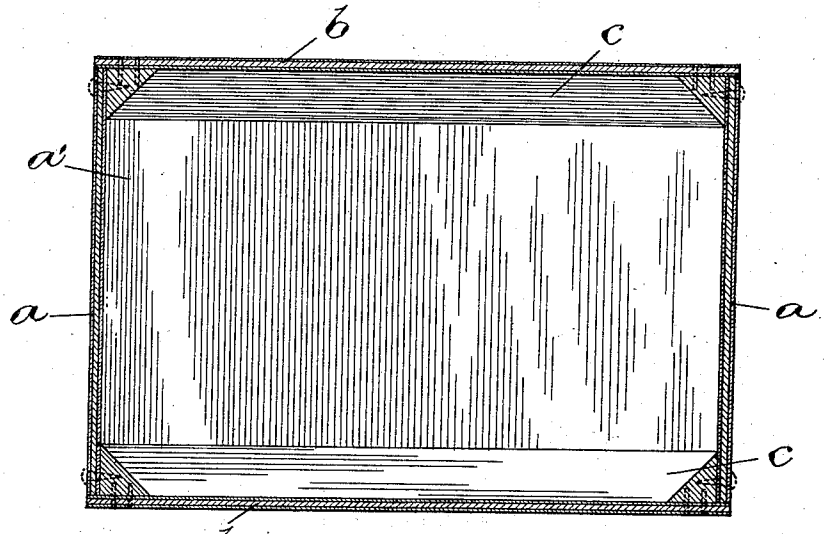


Fig. 2.

Witnesses
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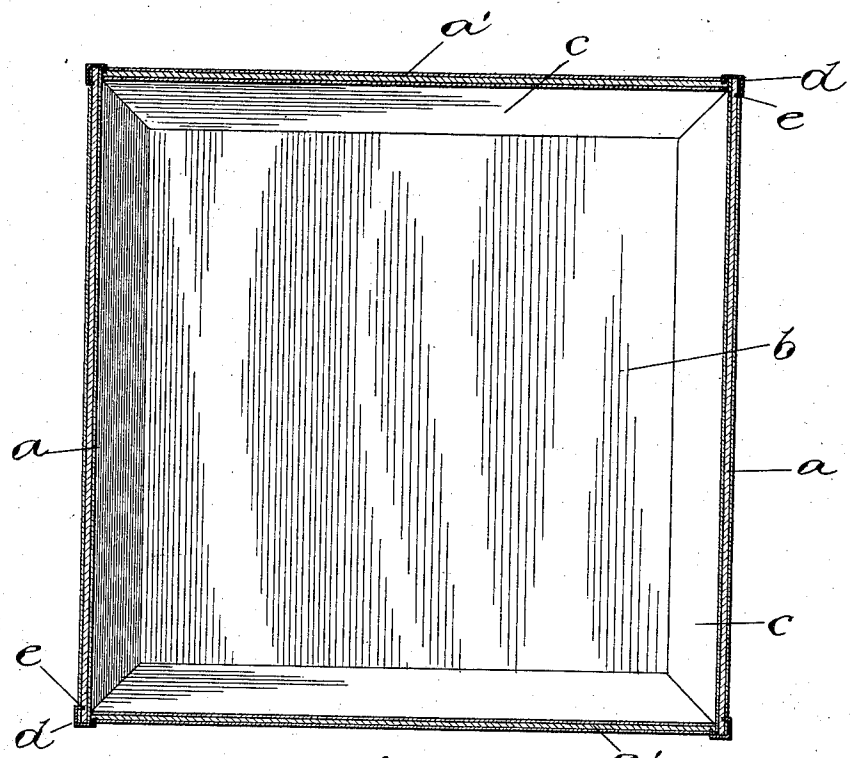


Fig. 3

Fig. 4

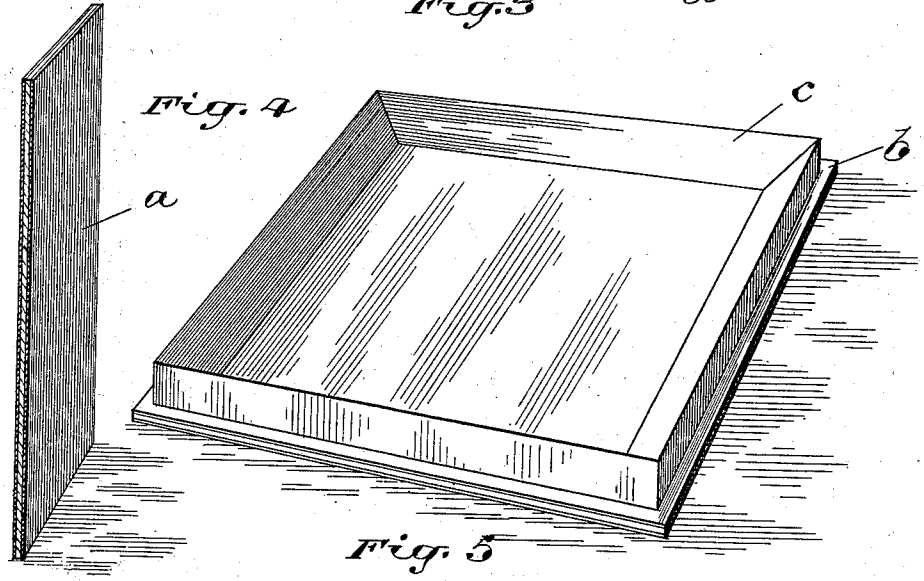


Fig. 5

Witnesses
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UNITED STATES PATENT OFFICE.

JOHN E. DAVIDSON, OF TORONTO, CANADA.

PACKING-BOX.

SPECIFICATION forming part of Letters Patent No. 687,610, dated November 26, 1901.

Application filed January 14, 1901. Serial No. 43,252. (No model.)

To all whom it may concern:

Be it known that I, JOHN EDWIN DAVIDSON, gentleman, of the city of Toronto, in the county of York and Province of Ontario, Canada, have invented certain new and useful Improvements in Packing-Boxes; and I hereby declare that the following is a full, clear, and exact description of the same.

This invention relates to a packing-box adapted for the shipping of merchandise—such as tea and other granular goods, clothing, millinery, and dry goods—which it is necessary to protect against dampness and atmospheric action; and the object of the invention is to so construct this box that in it will be combined a maximum of strength and minimum of weight; and the invention consists, essentially, of a box the sides and ends of which are made of two or more plies of veneer and fastened to open rectangular frames located at the top and bottom of the interior of the box, the edges of the sides and ends being protected by metal corner-plates provided with sharpened metal points adapted to be driven through the veneer and clenched on the inner faces of the sides, as hereinafter more fully set forth, and more particularly pointed out in the claims.

In the drawings, Figure 1 is a perspective view of the packing-box looking at it from the outside. Fig. 2 is a vertical section on the lines *a a* of Fig. 1. Fig. 3 is a transverse section on the lines *b b* of Fig. 1. Fig. 4 is a sectional perspective view showing the construction of the sides and ends. Fig. 5 is a perspective view of one of the ends and framework looking at it from the inner side.

Like letters of reference refer to like parts throughout the specification and drawings.

a and *a'* represent the sides, and *b* the ends, of the box. Each of the sides and ends, as shown in the drawings, is made of three-ply material, the grain of the outer ply being arranged at an angle to the intermediate ply. Within the box are two open rectangular frames *c*, the sides and ends of which are preferably made of wood triangular-shaped in cross-section. The flat sides of the frame are opposed to the sides and ends of the box in order to provide nailing-surfaces for the sides and ends. In putting the box together the sides and ends are cut to the requisite size and shape, and the frames *c* are made to correspond to the internal measurement of the box. The sides are secured together by metal corner-plates *d*, each of which is provided along both edges with a series of sharpened metal points *e*, arranged at right angles to the body of the plate. The points *e* are pressed through the veneer and clenched against the inner faces of the sides to prevent their withdrawal and also to prevent the displacement of the corner-plates. The frames *c* are then fastened to the ends *b*, and when the ends are placed in position the frames *c* are contained in the box and abut against the sides, which are fastened to the frames either by screw-nails or any other well-known fastening devices. The metal corner-plates resist the lateral internal and external strain on the sides, while the frames *c* brace the parts rigidly in their normal position and resist the compression strains on the exterior faces of the sides and ends.

By making the sides and ends of veneer and constructing the box with the metal corner-plates and the open rectangular frames the weight of the box is reduced to a minimum and the cost of manufacture is considerably cheapened both as regards material and labor.

By making the frames of wood rectangular in cross-section, with the flat sides of the frame opposed to and abutting against the interior faces of the sides and ends of the box, suitable nailing-surfaces are provided without materially diminishing the capacity or cubical area of the box. The ends of the sides *a* abut against and overlap the ends of the sides *a'*, the ends of the sides *a* being flush with the outer faces of the sides *a'*. The ends *b* overlap the edges of the sides *a* and *a'*, the edges of the ends being flush with the outer faces of the sides and the joints formed by the corners of the sides and ends being of sufficient closeness to render the box comparatively air-tight and damp-proof.

It is possible to make the box without the metal corner-plates by securely nailing or otherwise fastening the sides to the rectangular frames. A box made in this way will stand ordinary usage or handling; but for rough handling or long-distance shipments the use of the metal corner-plate is necessary.

The strain at the corners of the box made as above described is a lateral one and the pressure from the interior of the box is fully resisted, as well as the pressure against the exterior of the box.

A box of this description is particularly adapted for the shipping of tea and other granular goods which require to be protected against dampness and atmospheric actions, and it is also adapted for the shipping of millinery, dry goods, &c., where such shipping is by express or long distance by freight, where the cost of shipping is at a comparatively high rate per weight and forms an important item of the cost of the goods.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The herein-described box, consisting of the sides and ends, made each of three sheets of wood veneered so that the grain of the outer sheets is arranged at an angle to the intermediate sheet, the sides being arranged in pairs so that each pair's ends are flat against the inner side of the other pair's ends to form the corners; means for clamping said meeting corners together, and a rectangular frame carried by the inner side of each end and adapted to fit snugly against the inner faces of the sides and allow the projecting edges of the ends to fit flush against the outer edges of the sides, said rectangular frames forming a nailing-surface for the box.

Toronto, December 22, 1900.

J. E. DAVIDSON.

In presence of—

C. H. RICHES,

J. E. CAMERON.