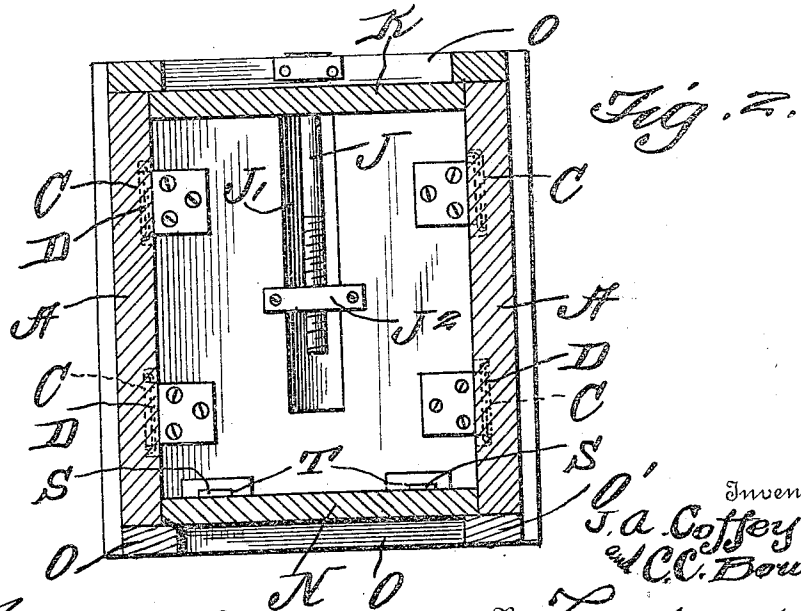
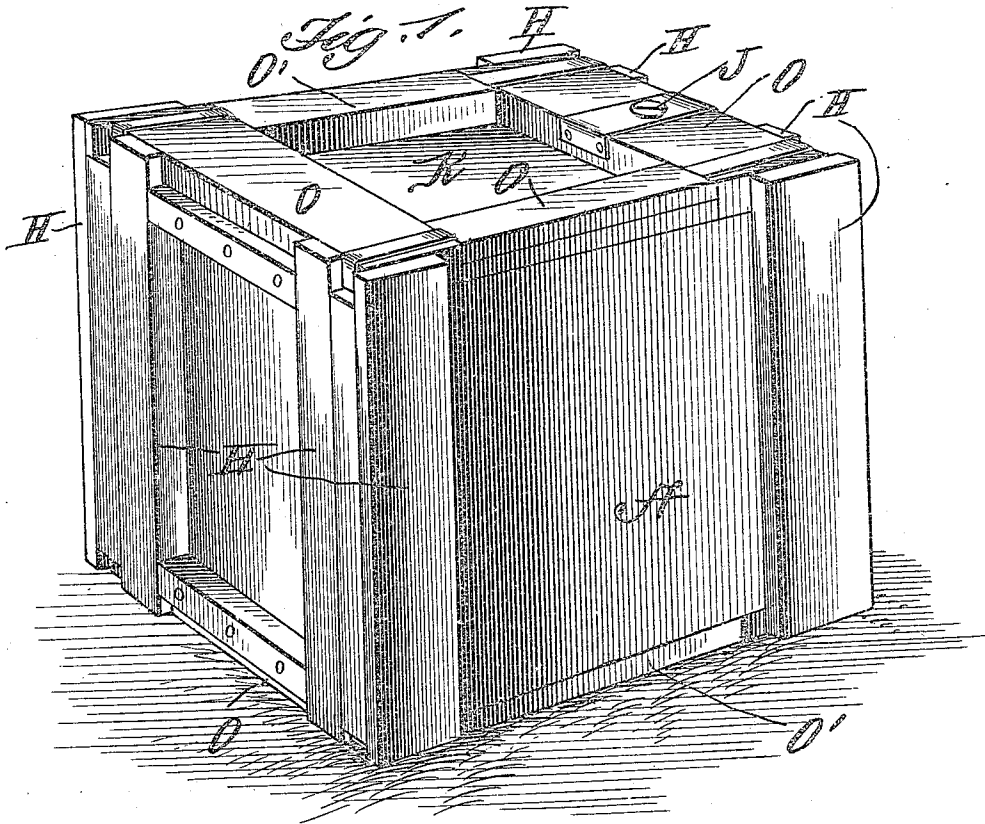


J. A. COFFEY & C. C. BOWEN.
 KNOCKDOWN BOX, GRATE, &c.
 APPLICATION FILED NOV. 23, 1909.

952,786.

Patented Mar. 22, 1910.
 2 SHEETS—SHEET 1.



Witnesses

R. A. Bowen
a. c. c. h

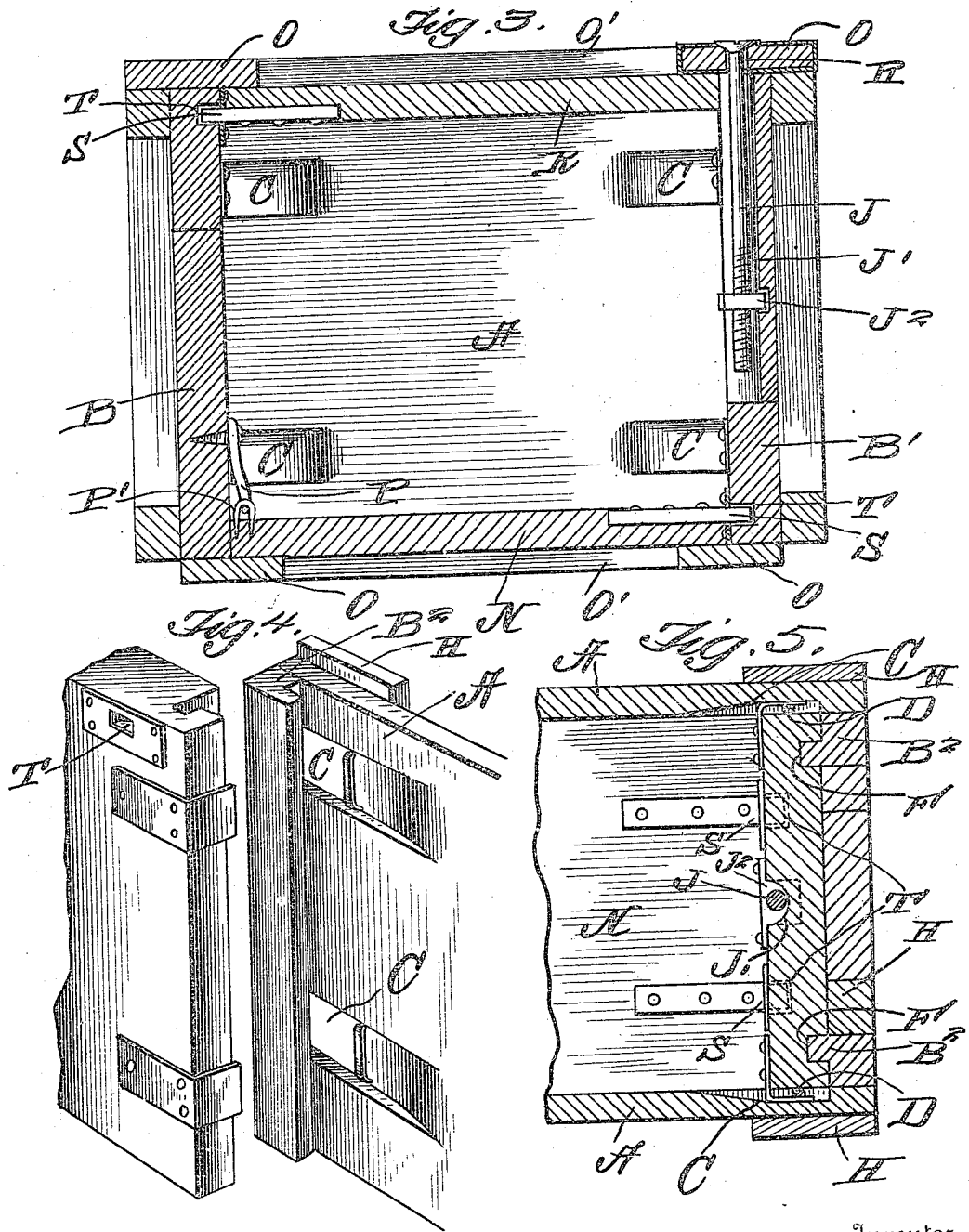
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Witnesses

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UNITED STATES PATENT OFFICE.

JOHN A. COFFEY AND CLARENCE C. BOWEN, OF CADILLAC, MICHIGAN.

KNOCKDOWN BOX, CRATE, &c.

952,786.

Specification of Letters Patent. Patented Mar. 22, 1910.

Application filed November 23, 1909. Serial No. 529,594.

To all whom it may concern:

Be it known that we, JOHN A. COFFEY and CLARENCE C. BOWEN, citizens of the United States, residing at Cadillac, in the county of Wexford and State of Michigan, have invented certain new and useful Improvements in Knockdown Boxes, Crates, &c.; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in knock-down boxes, crates, etc., and comprises a simple and efficient device of this nature so constructed that, when the parts are fastened together, secure and rigid joints are formed which will withstand great pressure and so arranged that, when the box or crate is not in use, it may be taken apart and reduced to a compact form for convenience in shipment, storage, etc.

Our invention is illustrated in the accompanying drawings, in which:—

Figure 1 is a perspective view of a box made in accordance with our invention. Fig. 2 is a cross sectional view. Fig. 3 is a sectional view longitudinally through the box. Fig. 4 is a detail perspective showing the manner of connecting one of the sides and ends of the box, and Fig. 5 is a detail sectional view.

Reference now being had to the details of the drawings by letter, A, A designate the opposite sides of the box or crate and B and B' the ends. Each of said sides is provided with an L-shaped cleat B² projecting from its inner face, preferably adjacent to the end thereof, the outer end of the side and cleat being flush. The inner face of each side is recessed away as at C, said recesses extending underneath the overhanging portion of said L-shaped strips, and D designate staples, one mounted transversely in each of said recesses. Each side is similarly constructed and each end of the box is provided with two longitudinal grooves F formed parallel to each other in the outer face in the end, said grooves being adapted to receive the laterally projecting portions of the L-shaped cleats, as shown

in the sectional view of the drawing. Upon the outer face of each of the sections of each of the ends and upon one of the sides are the cleats H, the ends of which project beyond the top and bottom of the box and afford means for preventing the top K and the bottom N of the box from moving laterally. Each of said tops and bottoms is provided with cross-pieces O, the ends of which rest against the edges of the sides in the manner shown in the sectional view of the drawing, thus allowing the top and bottom to be countersunk or positioned within the box and thus further strengthening the same against any possible strain which may come upon the box or crate. Suitable cleats O' also project from the outer face of the top and bottom and cover the joints intermediate the tops, bottoms and the sides of the box. The top K is provided with metallic fingers or lugs S which project beyond the ends thereof and are adapted to engage holes T formed in the inner faces of one end of the box or crate and adjacent to the opposite ends of the cover is a threaded hole R adapted to receive a retaining bolt J which passes through a countersunk groove J' formed in the inner face of the end and is adapted to engage a threaded nut J² which is seated in said groove and in alinement with the screw. Upon the end of the box opposite the one in which said threaded nut is mounted is pivotally mounted a hook P which engages a staple P' formed in the bottom of the box and which forms an additional means for securely holding the sections of the box or crate together. The cover which is substantially similar in construction to the bottom is also provided with cleats W which cover the joints intermediate the sides and ends of the box.

By the provision of a box or crate made as shown and described, it will be noted that a secure shipping receptacle is afforded which will be so thoroughly braced by the peculiar construction shown that it will withstand severe usage without in any material way impairing the efficiency of the same and, being constructed in the manner set forth, it will be noted that the box may be easily taken apart and reduced to a compact form when not in use.

What we claim to be new is:—

1. A shipping box or crate comprising sides which have L-shaped cleats upon their

inner faces, ends with grooves upon their inner faces for the reception of the laterally projecting portions of said L-shaped cleats, hooks fastened to the ends, the inner faces
5 of the sides having recesses, transversely disposed staples mounted in said recesses adapted to be engaged by said hooks, a top and bottom, the marginal edges of which are positioned intermediate the sides and
10 ends of the box, the inner faces of the ends having grooves, a nut mounted in one of said grooves, screws adapted to be positioned through apertures in the top and bottom and through said nuts, forming
15 means for holding the top and bottom in place.

2. A shipping box or crate comprising sides which have L-shaped cleats upon their inner faces, ends with grooves upon their
20 inner faces for the reception of the laterally projecting portions of said L-shaped cleats, hooks fastened to the ends, the inner faces

of the sides having recesses, transversely disposed staples mounted in said recesses adapted to be engaged by said hooks, a top 25 and bottom, the marginal edges of which are positioned intermediate the sides and ends of the box, the inner faces of the ends having grooves, a nut mounted in one of said grooves, screws adapted to be passed 30 through apertures in the top and bottom and through said nuts, forming means for holding the top and bottom in place, cleats projecting beyond the edges of the ends and sides, and cleats upon the top and bottom 35 adapted to bear against said projecting ends.

In testimony whereof we hereunto affix our signatures in the presence of two witnesses.

JOHN A. COFFEY.

CLARENCE C. BOWEN.

Witnesses:

CLARENCE FELLERS,

JOHN LARSON.