

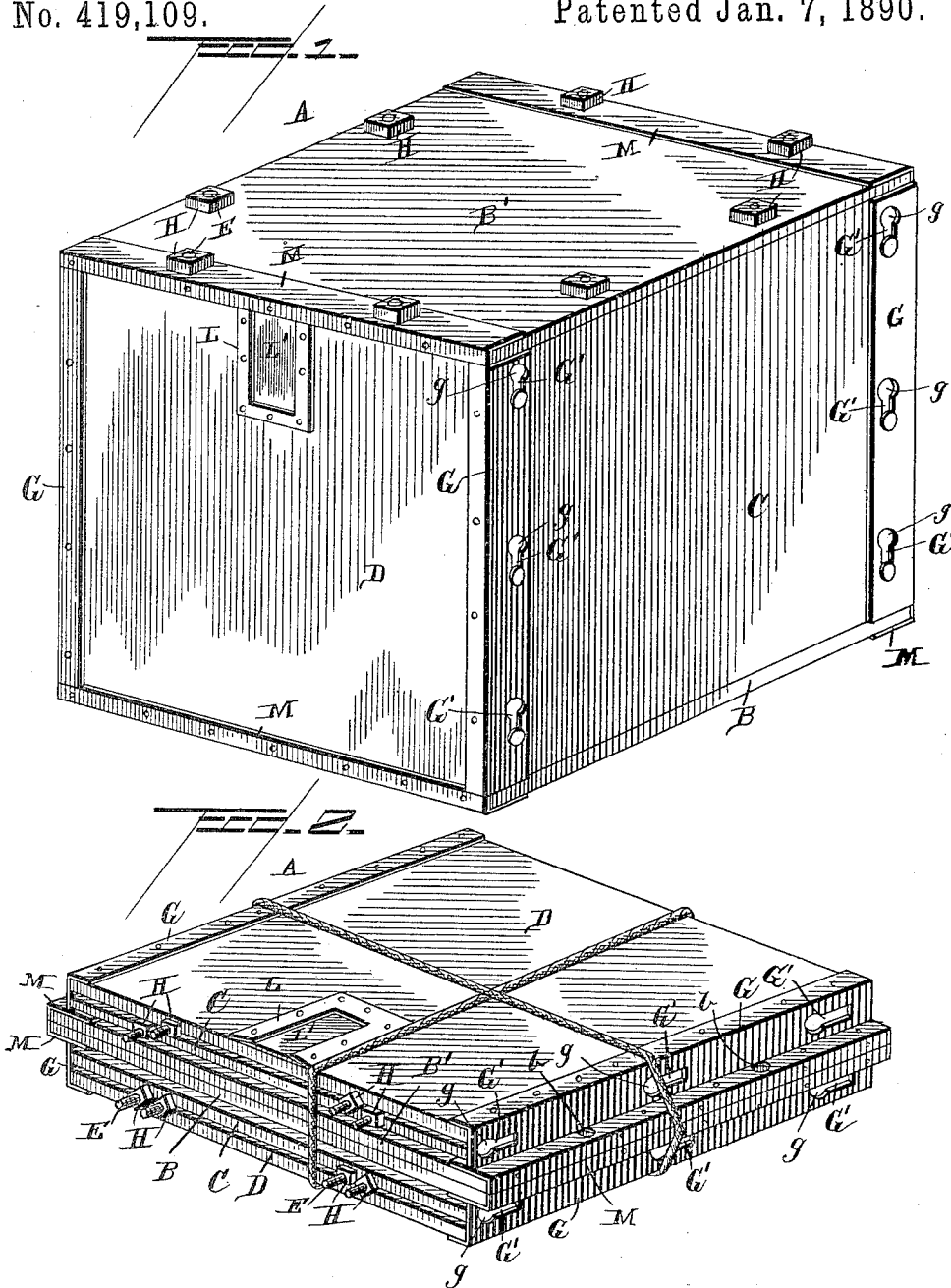
(No Model.)

2 Sheets—Sheet. 1.

M. E. COMPANY.
KNOCKDOWN SHIPPING BOX.

No. 419,109.

Patented Jan. 7, 1890.



Witnesses
Henry G. Dietrich
Wm. J. Litzee

Inventor :
Milton E. Company
By his Attorney,
J. R. Littell

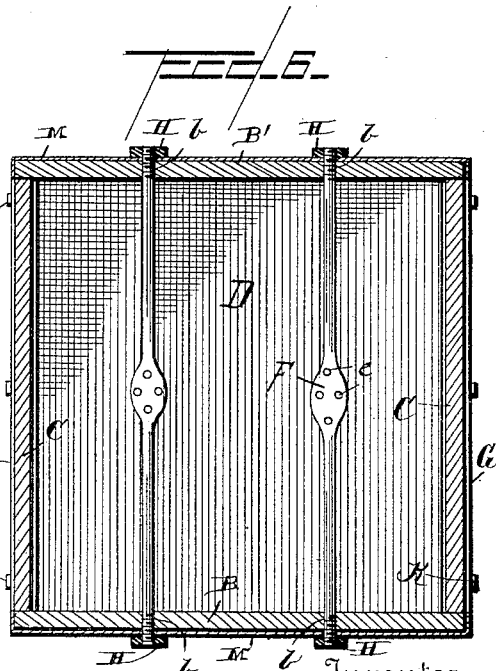
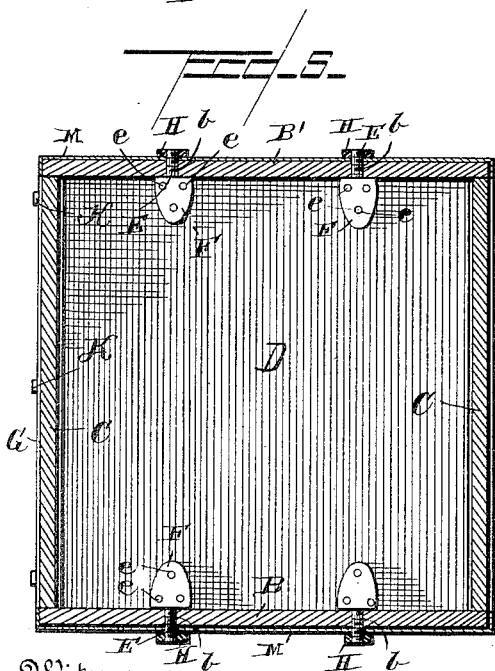
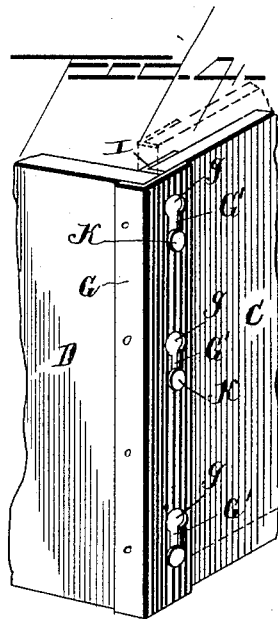
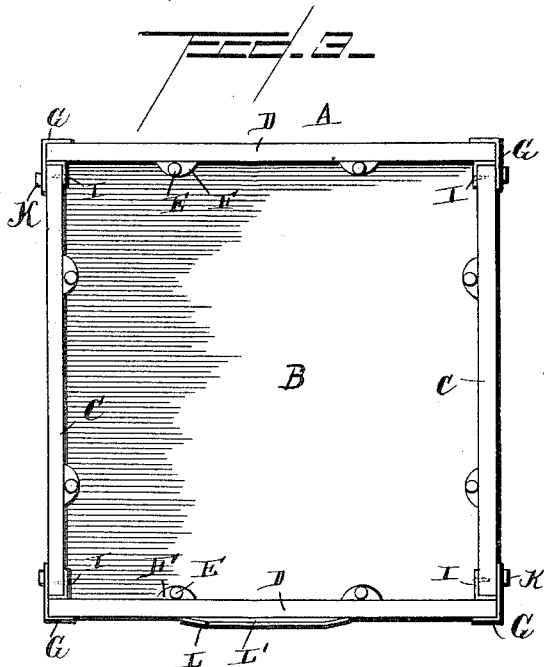
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2 Sheets—Sheet 2.

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UNITED STATES PATENT OFFICE.

MILTON E. CAMPANY, OF HAMILTON, MICHIGAN.

KNOCKDOWN SHIPPING-BOX.

SPECIFICATION forming part of Letters Patent No. 419,109, dated January 7, 1890.

Application filed September 20, 1889. Serial No. 324,491. (No model.)

To all whom it may concern:

Be it known that I, MILTON E. CAMPANY, a citizen of the United States, residing at Hamilton, in the county of Allegan and State of Michigan, have invented certain new and useful Improvements in Knockdown Shipping-Boxes; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improved "knock-down" box, and has for its object to provide an improved form of shipping boxes or crates, whereby the same can be quickly and easily taken apart after emptying, packed into a very small space, and returned to the sender.

A further object is to provide an improved means whereby the inconvenience of tagging or labeling every time it is desired to ship the box is avoided, and a still further object is to so construct the parts of the box as to prevent warping of the sides.

With these objects in view the invention consists in the peculiar construction and arrangement of the various parts, as will be more fully hereinafter described and claimed.

In the annexed drawings, forming a part of this specification, Figure 1 is a perspective view of my box set up ready for shipment. Fig. 2 is a similar view of the same taken apart and packed ready to be returned. Fig. 3 is a top plan view of the box with the top detached. Fig. 4 shows a detail view of the manner of connecting the end and side pieces. Fig. 5 is a vertical sectional view of my improved box, and Fig. 6 is a similar view of a slightly-modified form.

Referring to the drawings, in which similar letters of reference indicate similar parts, A indicates my improved knockdown box, consisting of the bottom B, the vertical end pieces C C, the vertical side pieces D D, and the top or cover B'.

Upon the inner sides of the end and side pieces, near the top edges of the same, are secured the screw-bolts E, arranged at suitable intervals, the threaded ends projecting above the edges of the sides, and in practice I usually employ two bolts for each side and end piece, arranged as shown in the accompanying drawings. The lower ends of the bolts

are flattened and broadened, as at F, the inner face of said flattened portion being made perfectly smooth to rest against the sides, and said portion F is provided with a series of perforations e, adapted to receive the bolts or rivets e', by means of which the screw-bolts are secured to the side and end pieces. At the lower edges of the side and end pieces are secured similar screw-bolts, the threaded ends of said bolts projecting down below the lower edges of the sides, and said lower screw-bolts are preferably secured in vertical alignment with the upper ones.

The vertical edges of the end pieces are provided with the metallic binding-strips I, said strips being secured to the inner faces of said end pieces and bent around the vertical edges and secured, as shown. These metallic binding-strips prevent the end pieces from warping. Along the vertical edges of the end pieces, and on the outer face of the same, are secured a number of headed studs K, said studs extending through the metallic binding-strip on the opposite face, and are then riveted or headed, the metallic strip in this instance serving to prevent the studs pulling out of the ends.

In practice I have used and have shown three studs upon each end; but any desired number may be used.

On the outer faces of the side pieces, along the vertical edges, are secured the metallic binding-strips G, said strips being secured to the outer face of the side and bent around the vertical edge and extended past the inner face of said side piece, and in the portion so extended are formed a number of vertical slots G', said slots corresponding in number to the number of headed studs on the end pieces, and are formed with an enlarged circular portion g, sufficiently large to permit the insertion of the head of the stud, the vertical slot being of a width to permit the shank of the headed stud to slide freely in the same.

In putting the box together it will readily be understood that the headed studs on the end pieces are to be placed in the enlarged portions of the vertical slots and then forced down or up, as the case may be, to bring the shanks of said studs into the narrow portion. In this manner each of the corners is securely

fastened and can be quickly detached when so desired. The metallic bindings prevent any warping, so that all danger of the parts not engaging properly is avoided.

5 In practice the slots and studs are so arranged in relation to each other that each side and end piece may be interchangeable. The top and bottom pieces are shaped to correspond to the shape of the box, and
10 around the edges of the same are formed a series of vertical apertures *b*, adapted to receive the threaded bolts *E*, secured upon the upper and lower edges of the side and end pieces, said threaded bolts extending
15 entirely through the top and bottom pieces, and upon the ends of the same are turned the nuts *H*, whereby the top and bottom are secured to the vertical sides of the box. The top and bottom are also provided with
20 the metallic binding-strips *M*, said strips being secured to the outer faces of the same, turned over the edges, and secured thereto, thus preventing the cover from warping, and as the threaded bolts are arranged in vertical alignment, and in practice at equal distances, the top and bottom are also interchangeable, so that there is very little difficulty in fitting the parts together. Near the upper edge of one of the vertical
30 sides is secured the label-holder *L*, said label-holder being formed of a single blank essentially rectangular in shape and having a center open portion, the outer edges being secured to the side of the box, the inner
35 edges being bent slightly outward to form a guide for the label *L'*, said label having on one side the address of the person to whom the box is sent and on the other the address of the person to whom the box is to be returned, and it is also of water-proof material and can
40 be used over and over any number of times, thus doing away with the annoyance of labeling the box every time it is to be shipped or returned. The holder is preferably secured so that its upper edge and opened
45 portion are directly beneath the cover, and by this arrangement when the label is placed in the holder and the cover secured to the box the latter will project far enough over
50 the holder to prevent any one trifling with the label.

While I have described specifically the constructions of the various parts of my device, I do not wish to be confined to such
55 precise constructions, but may vary the same as necessity and desire may dictate.

When it is desired to make a very strong box, the screw-bolts are not made short, as already shown and described, but extend
60 entirely through the box, as shown in Fig. 6,

said bolts being flattened at their central portion and secured to the sides of the box.

The construction of the various parts having been fully set forth, the manner of putting the same together and taking apart is
65 easily understood. The end and side pieces are first united, as already described. The bottom is then placed on and secured by the nuts, the box filled and labeled, and the cover placed on and secured, as described. 70

When the box is to be unpacked and knocked down, the top is first removed, and then the bottom. The sides are then disconnected, the label changed, the nuts replaced on the bolts, and the parts packed for return
75 shipment, as clearly shown in Fig. 2.

What I claim is—

1. In a knockdown box, the combination, with the end pieces carrying the headed studs, of the side pieces having the metallic
80 strips secured thereto, provided with the vertical slots adapted to engage with the headed studs, substantially as shown and described.

2. In a knockdown box, the combination, 85 with the sides of the box detachably secured to each other, of the screw-bolts extending entirely through the box and secured to the sides at their central portion, said bolts being threaded at the ends adapted to receive the nuts, substantially as and for the
90 purpose set forth.

3. In a knockdown box, the combination, with the end pieces provided with metallic binding-strips and the headed studs, of the
95 side pieces provided with metallic binding-strips, said strips having a series of vertical slots adapted to engage with the headed studs, substantially as shown and described.

4. An improved knockdown box consisting 100 of the end pieces provided with the upper and lower screw-bolts, the metallic binding-strips, and the headed studs, the side pieces provided with the upper and lower screw-bolts and the metallic binding-strips
105 formed with a series of vertical slots adapted to engage the headed studs, the bottom provided with apertures adapted to receive the lower screw-bolts, the top or cover provided with apertures adapted to receive the upper
110 bolts, and the nuts for securing said top and bottom pieces, all arranged and adapted to operate substantially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

MILTON E. CAMPANY.

Witnesses:

HORACE B. PECK,
J. B. STREETER, Jr.