(No Model.)

C. P. LEWIS.

KNOCKDOWN CRATE.

No. 343,588. Patented June 15, 1886.

Fig. 1.

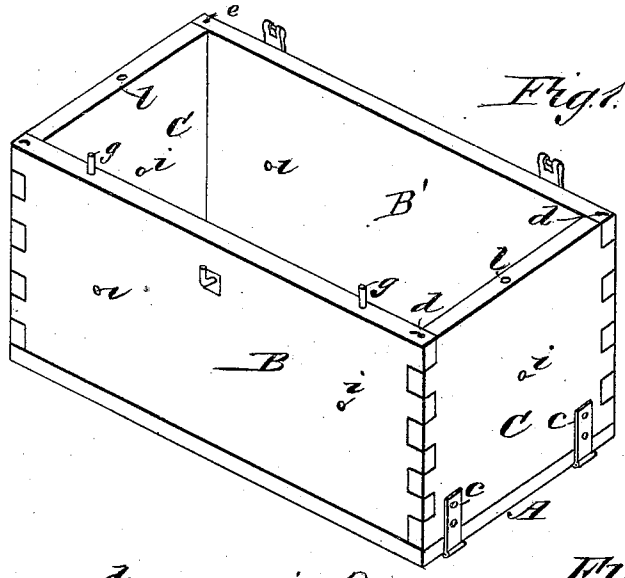


Fig. 3.

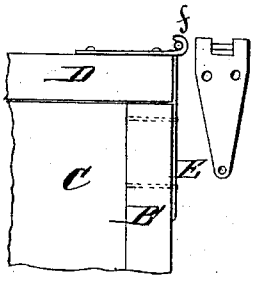


Fig. 2.

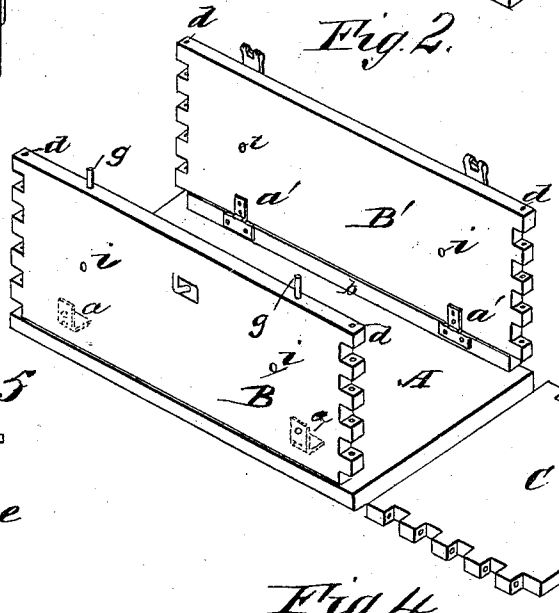


Fig. 6

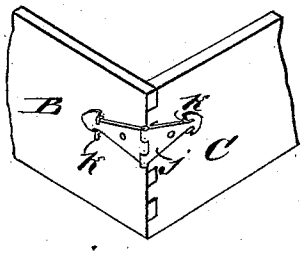


Fig. 7

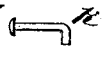


Fig. 5



Fig. 4

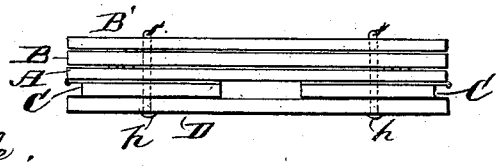
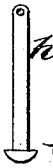


Fig. 8



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UNITED STATES PATENT OFFICE.

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KNOCKDOWN CRATE.

SPECIFICATION forming part of Letters Patent No. 343,588, dated June 15, 1886.

Application filed October 31, 1885. Serial No. 181,471. (No model.)

To all whom it may concern:

Be it known that I, CHARLES P. LEWIS, of Sweet Springs, in the county of Monroe, West Virginia, have invented a new and useful Improvement in Knockdown Crates, of which the following is a specification, reference being had to the annexed drawings, in which—

Figure 1 is a perspective view of my improved crate with the cover removed. Fig. 2 is a perspective view of my improved crate with one end removed, and showing one end opened preparatory to folding the sides of the crate together. Fig. 3 is a detailed view of the hinge of the cover of the crate. Fig. 4 shows the crate folded together and packed for shipment. Fig. 5 represents a rod employed in fastening the corners of the crate together. Fig. 6 shows an additional fastener for the corner of the crate. Fig. 7 represents one of the holders used to retain the additional fastener. Fig. 8 shows one of the bolts employed to hold the parts of the crate together when knocked down, as shown in Fig. 4.

Similar letters of reference indicate the same parts in the different figures of the drawings.

To the bottom A of the crate is hinged, at one edge thereof, a side piece, B, the lower edge of the side piece resting upon the upper surface of the bottom, and the hinges *a* thereof being secured in the inner angle formed between the bottom A and the side piece, B, as shown in dotted lines in Fig. 2.

To the upper surface of the bottom A, at the opposite edge, is secured a strip, *b*, of the same thickness as the side B, so that when the said side B is folded down upon the bottom A the upper surface of the strip *b* will be even with the top of the side piece, B. The side piece, B′, is secured to the strip *b* by hinges *a′*, so that the side B′ may fold down upon the side B. The end pieces, C, are secured to the bottom A by hinges *c*, which extend along the under side of the bottom A and up the outer side of the ends C, so that the ends may be folded upon the under surface of the bottom A. The end pieces, C, and the side pieces, B and B′, are dovetailed together with a square dovetail, the projections upon the end piece fitting into the notches of the side piece, as shown in Fig. 1.

In each corner of the box is made a hole, *d*, which extends down through a part or all of the projections forming the dovetail, and the rods *e* (shown in Fig. 5) are inserted in the holes *d* when it is desired to secure the sides and ends of the box together.

The cover D of the box is secured to the side B′ by a strap-hinge, E, the part of the hinge attached to the cover D having a hook, *f*, which engages the pintle of the hinge supported by the part attached to the side B′, so that the cover may be attached to the box by bringing the hook *f* into engagement with the pintle of the hinge and closing the cover down in the usual way.

In the upper edge of the side B of the crate there are dowels *g*, which are received in holes in the box-cover.

The box is fastened in the usual way by means of a hasp and staple, or by any other suitable fastener.

The box is folded for shipping by removing the rods *e* from the corner-holes *d*, folding the end piece, C, under the bottom A, then folding the side B down upon the bottom, afterward folding the side B′ over upon the side B. The cover D is then placed beneath the whole, and bolts *h* (shown in Fig. 8) are inserted in holes *i*, formed in the sides, ends, bottom, and cover of the box so folded, and are secured therein by spring-keys or otherwise.

In the edges of the end piece, C, are formed holes *l*, for receiving and retaining the bolt *h* when not in use.

The boxes, which are required to be very strong, and in which the corner-fastening already described would be insufficient, I have provided with an extra fastener, as shown in Fig. 6, which consists of a strap-hinge, *j*, embracing the corner of the box and secured by buttons *k*, the shanks of which pass through the sides of the box. The strap-hinge *j* is secured in place by turning the buttons over the ends thereof, as shown in Fig. 6.

My improved crate may be made with entire sides, as shown in the drawings; or it may be slotted, perforated, or formed of slats secured to suitable frames forming the sides or ends of the box or crate.

My improved crate is adapted to carrying fruits or goods of various kinds, and after being used may be knocked down in the manner

already described and stored in a small space or reshipped.

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

1. The combination, in a packing-crate, of the bottom A, provided with the strip *b*, side pieces, B B′, hinged to the bottom and to the strip, the end pieces, C, hinged to the bottom and arranged to fold thereunder, the end pieces and the side pieces being dovetailed together with a square dovetail, as described, and apertured, and the rods *e* inserted in the apertures of the dovetails, as herein specified.

2. The combination, in a packing-crate, of the bottom A, provided with the strip *b*, sides B B′, hinged to the bottom A and strip *b*, and arranged to fold one over the other on the bottom A, the end pieces, C, arranged to fold under the bottom, and the cover D, the several pieces having apertures *i*, for receiving the bolts *h*, and the bolts *h* inserted in the said apertures, substantially as herein specified.

3. The combination, with a crate having folding sides B B′ and folding ends C C, of a strap-hinge, *j*, embracing the corner of the box, and buttons *k*, adapted to retain the hinge in its place on the corner of the crate, substantially as herein specified.

4. The combination, in a packing-crate having sides B B′, ends C C, and the cover D, provided with apertures *i*, for receiving the bolt *h*, of the apertures *l*, formed in the ends of the box for receiving and retaining the bolt *h* when not in use, substantially as herein specified.

CHARLES P. LEWIS.

Witnesses:
R. G. BAILEY,
P. B. CALLAGHAN.