

No. 745,796.

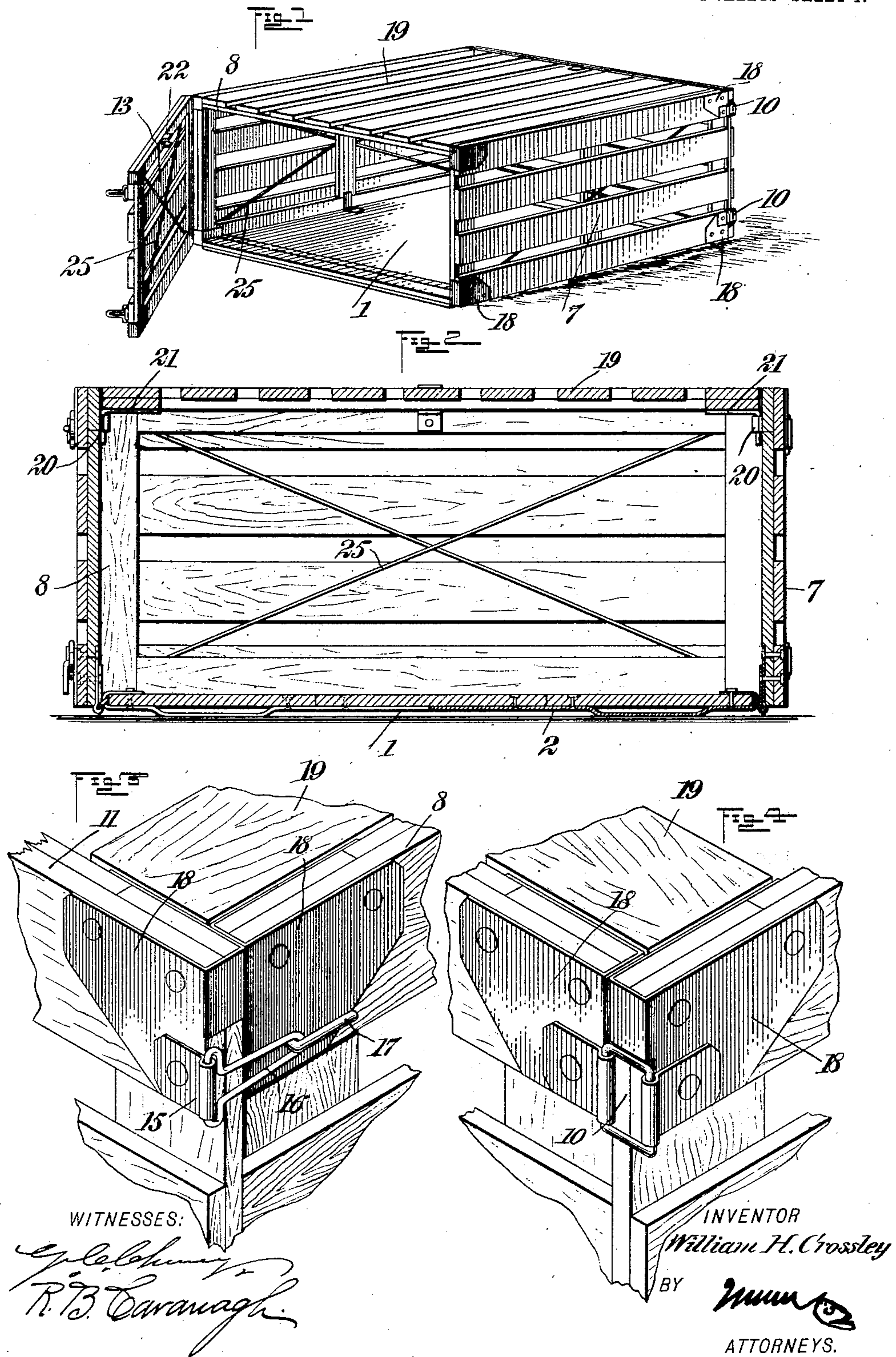
PATENTED DEC. 1, 1903.

W. H. CROSSLEY.
FOLDING CRATE OR BOX.

APPLICATION FILED JAN. 13, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



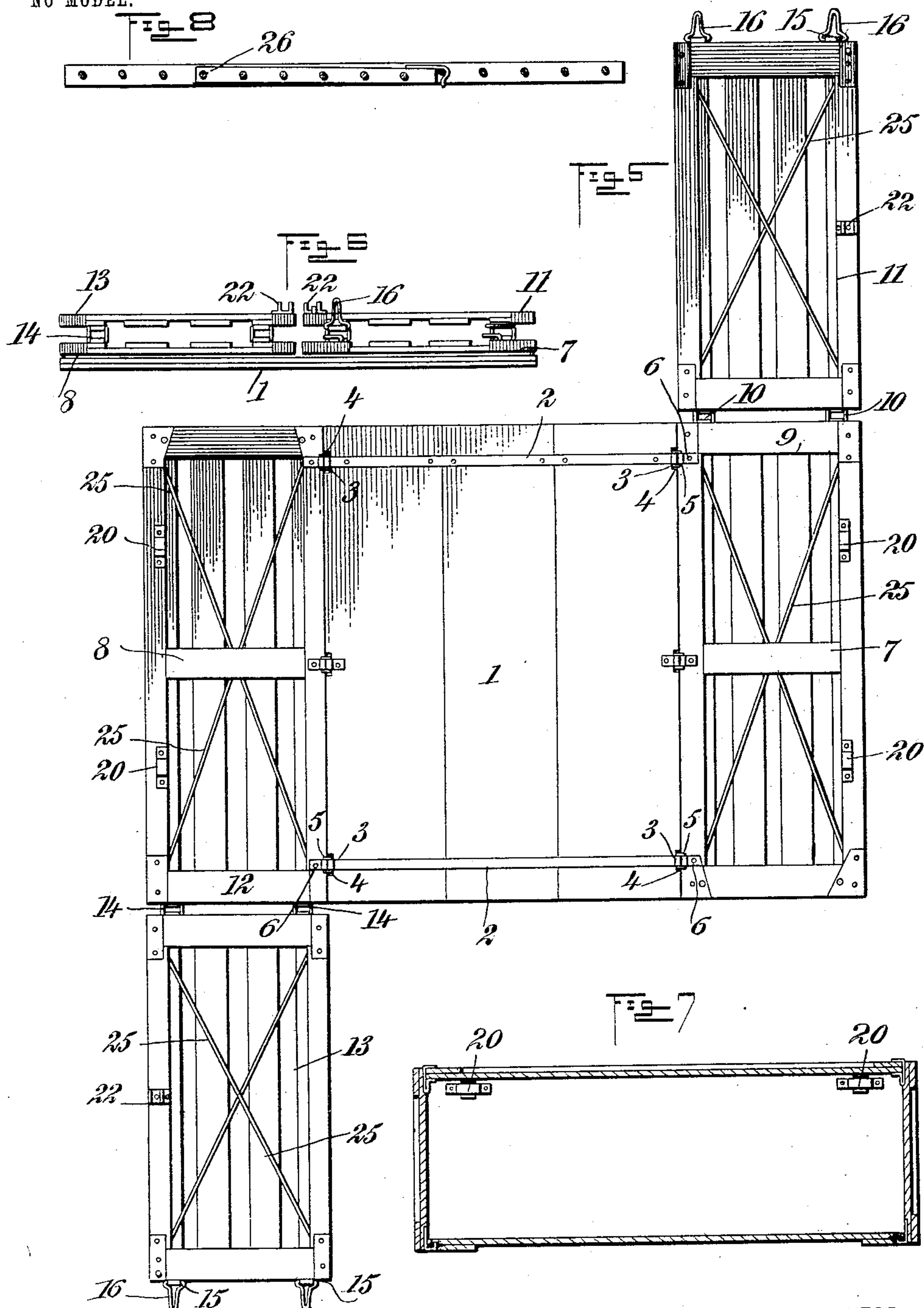
No. 745,796.

PATENTED DEC. 1, 1903.

W. H. CROSSLEY.
FOLDING CRATE OR BOX.
APPLICATION FILED JAN. 13, 1903.

NO MODEL.

2 SHEETS—SHEET 2.



WITNESSES:
R. B. Cavanagh

INVENTOR
William H. Crossley
BY *Munn Co.*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

WILLIAM HAYES CROSSLEY, OF BLOOMSBURG, PENNSYLVANIA, ASSIGNOR
OF ONE-HALF TO ISAIAH W. WILLITTS, OF BLOOMSBURG, PENNSYLVANIA.

FOLDING CRATE OR BOX.

SPECIFICATION forming part of Letters Patent No. 745,796, dated December 1, 1903.

Application filed January 13, 1903. Serial No. 138,901. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HAYES CROSSLEY, a citizen of the United States, and a resident of Bloomsburg, in the county of Columbia and State of Pennsylvania, have invented new and useful Improvements in Folding Crates or Boxes, of which the following is a full, clear, and exact description.

This invention relates to certain novel and useful improvements in crates or boxes, and has particular application to receptacles of the type commonly known as "folding" or "knockdown" boxes.

One of the principal objects of the present invention is to provide an article of the character specified which shall have the side portions or members forming the frame thereof so jointed or connected by clips or hinges that the box may be quickly folded into its knockdown position, whereby a number of boxes may be readily shipped from place to place in bulk with great economy and a saving of space and at the same time the portions or sides forming the frame will be connected by hinges, so that it will be impossible for the same to become separated.

A further object of the invention is to provide a novel and useful device to be employed as a means for locking the hinged or folded sides of the frame in their upright or box-forming positions, the latching means being readily operated when it is desired to unloosen the sides for folding the same.

A further object of the invention is to provide the sides of the crate or box with clips for retaining the top portion thereon when the sides are in their upright positions, the construction being such that by loosening and moving one of the sides of the end portions of the crate or box the top may be readily lifted from the receptacle.

With these and other objects of a similar nature in view my invention consists in the peculiar construction, combination, and arrangement of parts, as will be hereinafter described in this specification, delineated in the accompanying drawings, and set forth in the appended claims.

Reference is to be had to the accompany-

ing drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of a crate or box embodying my improvement. Fig. 2 is a transverse vertical sectional view of the same. Fig. 3 is a perspective view of a corner of the crate or box, showing the clasp or latching means employed for holding the sides. Fig. 4 is a similar view, but showing the character of my preferred form of hinge for the sides or ends of the crate or box. Fig. 5 is a plan view showing the relative arrangement of the sides and portions of the crate or box in their extended unfolded positions. Fig. 6 is an end view showing the crate or box folded. Fig. 7 is a transverse vertical sectional view taken through the box and showing the clips employed for retaining the top of the box in position. Fig. 8 is a side elevation, with parts in section, of a modified construction of the top and bottom of the box or crate.

Referring now to the accompanying drawings in detail, wherein my invention is specifically illustrated, 1 designates the bottom part of a crate or box, which may be in one piece or may be formed of a series of boards and is preferably provided with two or more transversely-extending straps 2 2, arranged near the ends thereof, said straps having their extreme end portions provided with loops 3 for retaining links 4, which links pass through similar loops 5, formed at the end of a comparatively short metallic strip 6, secured to the lower end portion of the sides 7 and 8 of the crate or box, the construction being such that the loops and the intervening link form hinges, whereby the sides may be folded inward and outward relative to the bottom portion. This construction is clearly shown in Fig. 5.

To the end strip 9 of the side 7 is connected, by hinges 10 10, similar to those described, the end gate 11, said gate being capable of swinging freely upon the hinges and, as will be observed, may be folded longitudinally of the side 7 or may be moved transversely or

at right angles when it is desired to form the end portion of the crate or box. The end strip 12 of the opposite side 8 has a similar end portion 13 connected therewith through the medium of hinges 14 14, the portion 13 being also capable of movement in the same direction as the gate 11.

The outer or free ends of the side gates 11 and 13 are pivotally connected, as at 15, to a number of wire loops or latches 16, preferably two for each side, said latches being adapted when the crate or box is in its assembled position and the side gates are swung laterally all at right angles to the sides to pass over and engage with locking-pins 17, which pins are bent to form a relatively long head portion, and said pins may be turned so that the head portion extends toward the loop, whereby the latter may be passed over the same, and then the pin may be moved to the position shown in Fig. 3, whereby the loop 16 is securely hooked to the same. If desired, the edges of the sides and ends of the frame carrying the loop and the turning-pin may be bound with metallic corner-plates 18, which plates will prevent the edges of the wood or similar material from being broken or damaged by contacting with hard substances, as during transportation.

When it is desired to place the cover 19 (shown in Fig. 1) upon the crate or box, the sides 7 and 8 are moved upward until they are in a vertical position relative to the bottom 1 and one of the end portions—for instance, that shown at 11—is moved or swung on its hinges at right angles to the side 7 and hooked through the medium of the loops with the corresponding turning-pins on the side 8. These sides 7 and 8 are provided along their upper longitudinal edges with a number of small metallic brackets or clips 20, adapted to receive short tongues 21, carried by the aforesaid top. The hinged end portions 11 and 13 are also provided with the retaining-clips, formed in the present instance of two extending parallel arms, said clips being shown at 22. The top has its short end portions passed between the clips 22 of the ends 11 and 13, which have been latched or fastened in position, and the tongues 21 of said top are adapted to pass through the clips or brackets when said top is placed horizontally on the frame. The crate or box is now assembled, substantially as shown in Fig. 1. To completely close the same, the other end portion, as at 13, is then swung on its hinges at right angles to close the open end of the box and the clip 22 engages with the adjacent edge of the top 19. The end 13 is then moved or secured against movement by the pin and hinged loop, as heretofore described. I also wish it to be understood while I have shown and herein described one particular embodiment of my invention I do not wish to be considered as limiting myself to the precise details of the construction which for

the purposes of illustration I have herein delineated; but certain modifications and variations may be resorted to without departing from the spirit of the invention or sacrificing any of the numerous advantages thereof. For instance, if desired, the sides of the box may be solid or may be formed of slats, as illustrated, and may also have a number of cross-braces 25 for the purpose of giving an additional rigidity to the crate or box. Furthermore, the top and bottom portions may be formed of slats and a small opening or openings provided with doors, as shown at 26 in Fig. 9, may be formed in the top or in some instances in the bottom. Any number of straps, as at 2 2, may be used, and, if desired, reinforcing-straps can be employed for the sides.

The numerous advantages incident to my crate or box will be readily apparent, so that it is unnecessary to dwell upon them here. It will be noticed that this crate or box is particularly adapted for shipping articles long distances and that it may be closed or opened without the use of tools. It will be found convenient to send back to the consignor, as is often necessary to do with receptacles of this character, especially in the case of dealers in dairy products and truckers, for the crates may be folded and packed one inside the other, thereby effecting a saving of space.

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

1. A folding crate or box, comprising a base portion, straps extending transversely of said base portion, said straps having loops formed at the ends thereof, side portions hinged to the loops at the ends of the straps, whereby said sides may be folded inward upon the base, an end portion hinged to one of said sides, a second end portion hinged to the diametrically opposite end of the other side, said end portions being adapted to fold inward upon the sides, latches on the end portions engaging with keeping means on the sides for retaining the parts in their assembled position to form a crate, a removable top for the entire structure, and clips secured to the end portions adapted to engage said top and retain the latter in position, substantially as set forth.

2. A folding crate or box, comprising a base portion, sides hinged to said base portion and adapted to fold inward thereon, end portions hinged to said sides, the construction being such that a box may be formed when the parts are assembled, means for locking the parts in their assembled positions, such means comprising a hasp pivoted to one of the hinged end portions of the box, said hasp being adapted to engage a pin rotatably secured in one of the sides of the box, U-shaped clips secured to the ends and sides of the box, a top portion, and tongues on the top portion

adapted to interlock with the U-shaped clips
on the sides, the clips on the end portions of
the box engaging with the top of the crate,
the construction being such that said top is
5 detachably secured to the box, substantially
as set forth.

In testimony whereof I have signed my

name to this specification in the presence of
two subscribing witnesses.

WILLIAM HAYES CROSSLEY.

Witnesses:

GUY JACOBY,
JACOB STINER.