No. 645,036. Patented Mar. 6, 1900.

T. A. KILLMAN.

FOLDING CRATE.

(Application filed Dec. 3, 1898.)

(No Model.) 2 Sheets—Sheet 1.

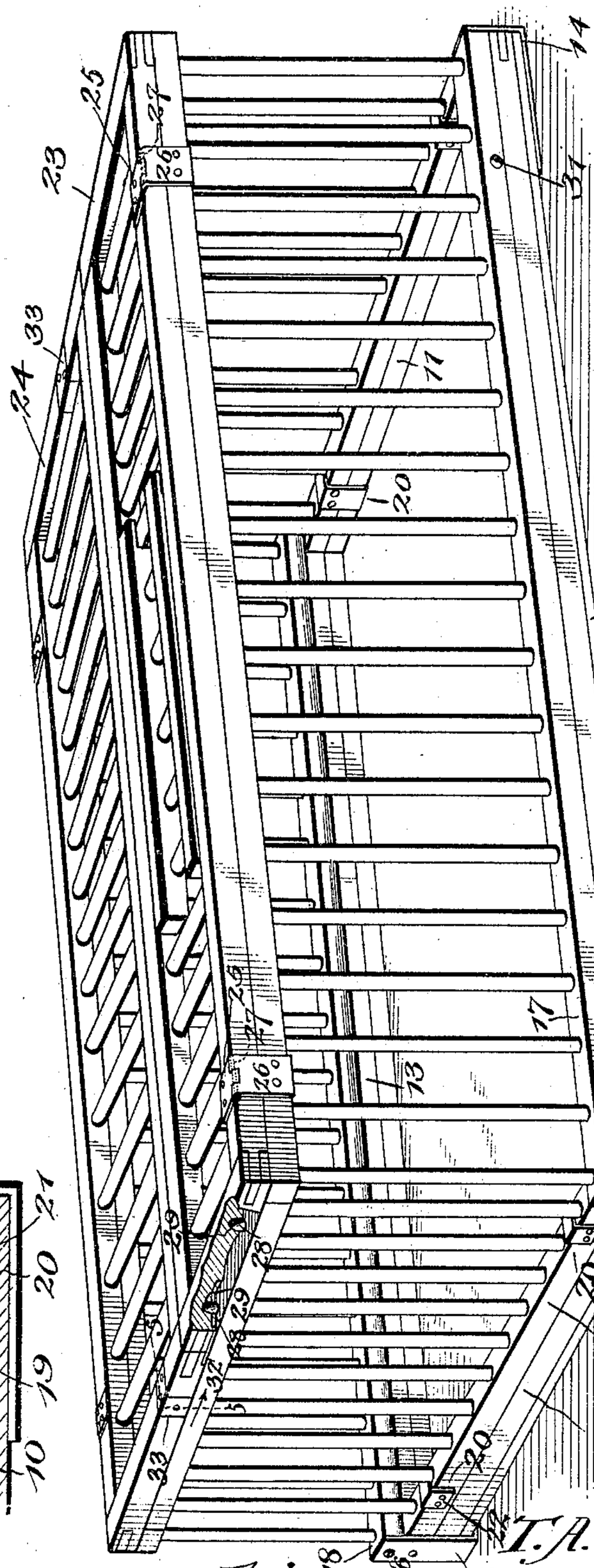

Fig. 4.

Fig. 5.

Witnesses

A. Roy Appleman

O. E. Hoge

By his Attorneys.

T. A. Killman, Inventor.

Cashow & Co.

No. 645,036. Patented Mar. 6, 1900.

T. A. KILLMAN.

FOLDING CRATE.

(Application filed Dec. 3, 1898.)

(No Model.) 2 Sheets—Sheet 2.

Fig. 2.

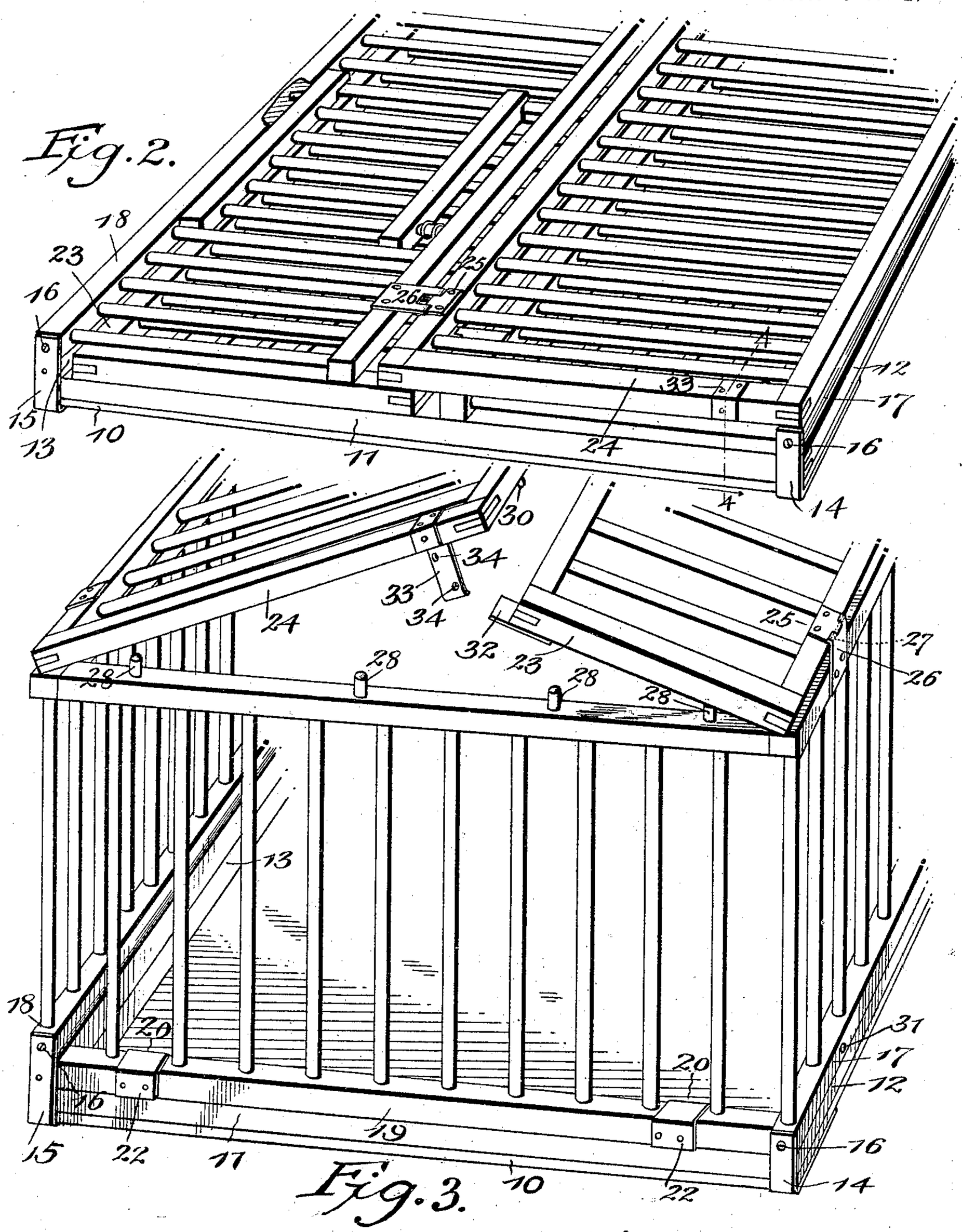

Fig. 3.

Witnesses

A. Roy Appleman Jr.

E. E. Hoyle

T. A. Killman, Inventor.

By his Attorneys.

Cushman & Co.

UNITED STATES PATENT OFFICE.

THOMAS A. KILLMAN, OF LIBERTY, TENNESSEE, ASSIGNOR OF ONE-HALF TO JAMES T. TURNEY, OF SAME PLACE.

FOLDING CRATE.

SPECIFICATION forming part of Letters Patent No. 645,036, dated March 6, 1900.

Application filed December 3, 1898. Serial No. 698,182. (No model.)

To all whom it may concern:

Be it known that I, THOMAS A. KILLMAN, a citizen of the United States, residing at Liberty, in the county of De Kalb and State of Tennessee, have invented a new and useful Folding Crate, of which the following is a specification.

My invention relates to a folding crate particularly adapted for use in shipping poultry; and the object in view is to provide a simple construction and arrangement of parts adapted to be folded into compact form for return shipment and wherein the parts are so disposed as to be mutually bracing and strengthening when the crate is set up for use.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claim.

In the drawings, Figure 1 is a perspective view of a crate constructed in accordance with my invention. Fig. 2 is a similar view showing the same folded. Fig. 3 is a similar view showing the parts in the positions which they occupy at one stage in the operation of setting up the crate. Fig. 4 is a detail section on the plane indicated by the line 4 4 of Fig. 2. Fig. 5 is a detail section on the plane indicated by the line 5 5 of Fig. 1.

Similar reference characters indicate corresponding parts in all the figures of the drawings.

In the crate embodying my invention I employ a single-piece bottom 10, having end flanges 11 and opposite side flanges 12 and 13, the side flange 12 being equal in depth with the end flanges, and the side flange 13 being of greater depth than the other flanges. Secured to the extremities of the side flanges are pivot plates or brackets 14 and 15, which extend, respectively, above the upper edges of the flanges to which they are attached, and mounted in the projecting portions of said pivot plates or brackets are terminal trunnions 16 on the side walls 17 and 18. These side walls may be of any suitable barred or slatted construction, and the difference in depth between the flange 13 and the flanges 11 and 12 is equal to the thickness of one of said side walls, whereby when the side wall 17 is folded inward to lie upon the upper edges of the flanges 11 and 12 the side wall 18 is adapted to occupy a position parallel with the base or bottom, but above that of the side 17. The end walls 19 are of corresponding construction and are provided at their lower edges with hinges 20, of which the movable leaves are extended downward beyond the lower edges of the walls to pivot-pins 21, located contiguous to the plane of the upper or inner surface of the bottom; also, these movable leaves of the hinges 20 are arranged in the planes of the inner surfaces of the end walls, whereby the lower edges of the end walls when the latter are in their normal or upright position rest upon the upper edges of the flanges 11, whereby when folded inward the end walls lie flat upon the bottom 10. The movable leaves of the hinges are preferably doubled upon themselves to form attaching-clips 22, which partly embrace the lower bars of the end walls. The side walls are equal in length with the side flanges 12 and 13, or, in other words, terminate in the planes of the exterior surfaces of the end flanges 11, while the end walls occupy positions between the planes of the side walls or of a length equal with the interval between the inner surfaces of the side flanges 12 and 13, whereby when folded the end walls lie between the side flanges, while the side walls occupy positions terminally above the end flanges, as shown clearly in Fig. 2.

Hingedly mounted, respectively, upon the upper edges of the side walls are the top or cover sections 23 and 24, each of which is equal, approximately, to one-half the width of the crate, and the hinges 25, by which said top-wall sections are mounted upon the side walls, have extended leaves 26, by which the hinge-pins 27 are arranged in the planes of the upper surfaces of the top-wall sections and approximately in the planes of the outer edges thereof. Thus when the walls of the crate are in their normal or operative positions the outer edges of the top wall rest upon the upper edges of the side walls and when the elements of the crate are folded the top-wall sections, respectively, occupy posi-

tions in the planes of the side walls upon which they are hingedly mounted. (See Fig. 2.)

As above indicated, the top-wall sections are approximately of equal width; but I preferably construct them with a difference in width which is equal to twice the thickness of one of the side flanges for the following reasons: The top-wall section 23, which is mounted upon the side wall 17, is adapted to occupy a common plane with said side wall when the crate is folded, and hence the free edge of the top-wall section 23 must occupy a position inside of the plane of the inner surface of the side flange 13, or, in other words, the combined widths of the connected side wall 17 and top-wall section 23 are less than the distance between the outer surface of the side flange 12 and the inner surface of the side flange 13; but the top-wall section 24, which is mounted upon the side wall 18, preferably extends to arrange the free edge of the section 24 flush with the outer surface of the side flange 12 when the parts are folded, and as the flange 13 is of greater depth than the flange 12, thus requiring that the wall 18 shall be of less depth than the wall 17, it is obvious that the top-wall section 24 may exceed the top-wall section 23 in width by a distance equal to twice the thickness of one of the side flanges. Hence when folded the side wall 17 and top-wall section 23 lie between the vertical planes of the inner surface of the side flange 13 and the outer surface of the side flange 12, while the side wall 18 and the top-wall section 24 are flush at their remote edges with the exterior surfaces, respectively, of the side flanges 12 and 13.

The end walls are provided at their upper edges with dowels or pins 28 to engage sockets 29, formed in the under sides of the end bars of the top-wall sections, and the free edge of the top-wall section 24 is provided with pendent pins or dowels 30 to engage corresponding sockets 31 in the pivoted edge of the side wall 17 when the parts are folded, as indicated in Fig. 2. Furthermore, the top-wall section 23 is provided at its free edge with projecting ears 32 to rest upon the upper edges of the end walls and adapted to be overlapped by the free edge of the top-wall section 24 when the parts are set up for use, and depending from the ends of the top-wall section 24 are latches 33, consisting of spring-tongues provided with openings 34 for engagement with studs 35, projecting inward from the end walls, when the crate is set up and for engagement with studs 35, projecting inward from the end flanges 11, when the crate is folded, whereby common locking devices serve to secure the parts in their operative and folded positions.

It will be seen from the foregoing description that the crate embodying my invention is of simple construction and that when folded the parts occupy parallel flat positions, and also it will be understood that various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

Having described my invention, what I claim is—

A crate, comprising a bottom having end flanges of a common depth, side flanges equal in depth to the end flanges, and a second side flange of greater depth, end walls comprising upper and lower sills and connecting-slats, adapted to stand upon the end flanges and to move bodily therefrom and inwardly and lie upon the bottom and within the closure of said flanges, hinge connections between the end walls and their respective flanges, each of said hinges consisting of an element disposed between an end flange and the bottom, and a second element pivotally connected therewith and extending upwardly and over the bottom sill of the adjacent end piece when the latter is upon its flange, side walls of different depths pivotally mounted upon the side flanges with the wall of lesser depth upon the flange of greater depth, and the wall of greater depth upon the flange of lesser depth, the top-wall sections pivotally connected with their respective side walls, one of said side walls being adapted to lie with its top-wall sections upon the end flanges, the other side wall with its top-wall sections being adapted to lie upon the first-named side and top wall sections.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

THOMAS A. KILLMAN.

Witnesses:
WILL A. VICK,
T. E. VICK.