W. MABLE.

FOLDING CRATE.

APPLICATION FILED MAY 4, 1908.

924,082. Patented June 8, 1909.

2 SHEETS—SHEET 1.

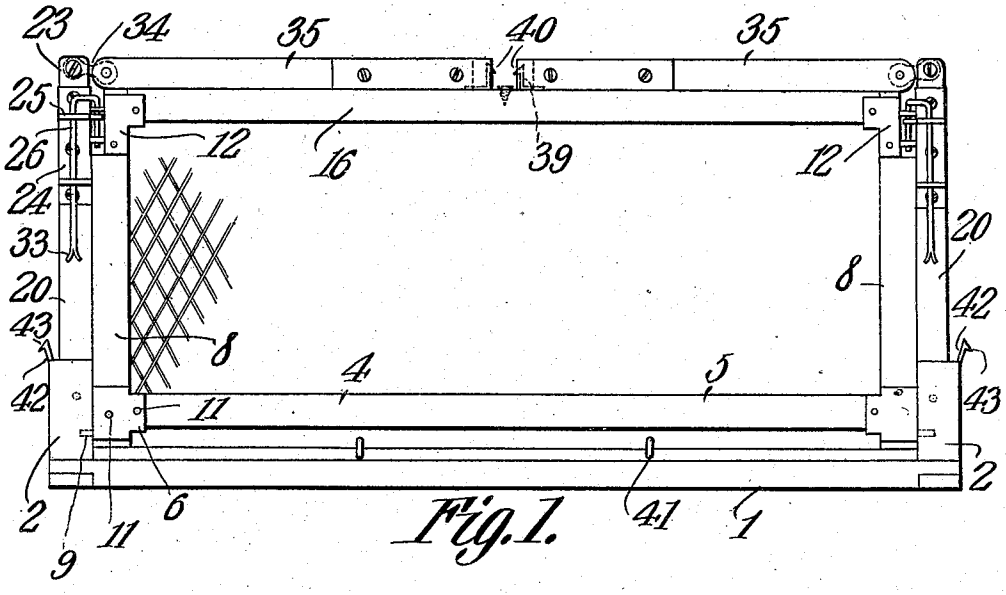


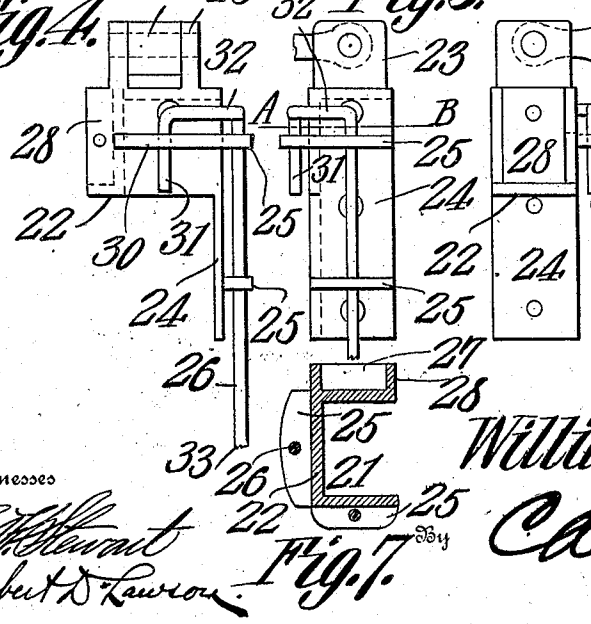
Fig. 1.



Fig. 3.

Fig. 5.

Fig. 4.



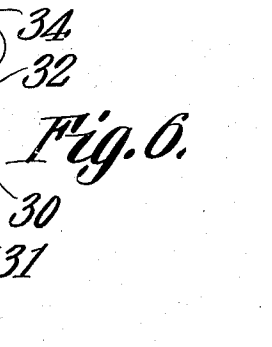


Fig. 6.

Fig. 7.

Witnesses

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2 SHEETS—SHEET 2.

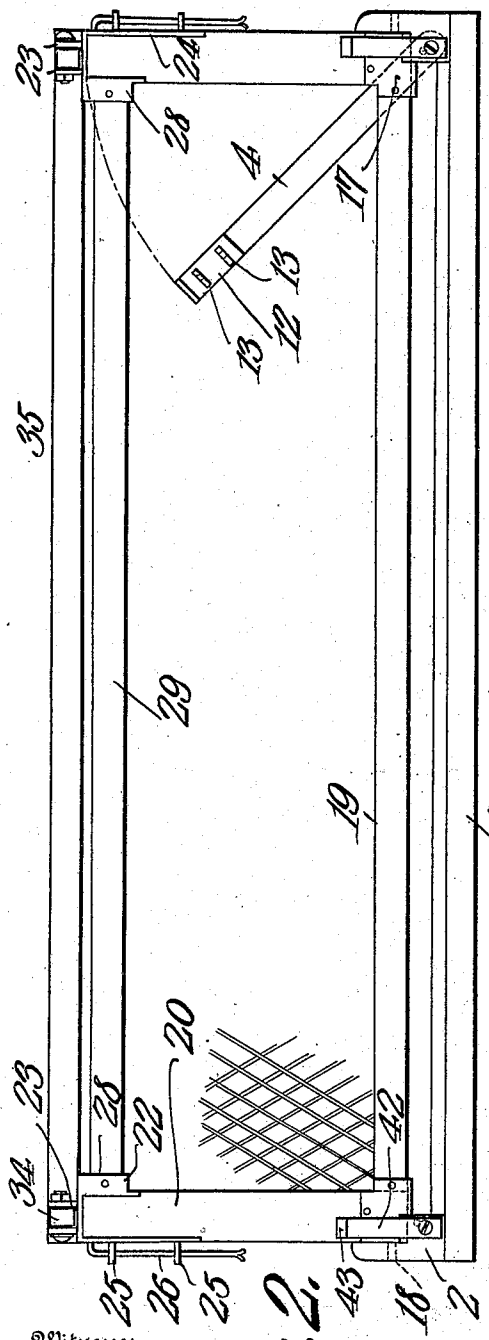


Fig. 2.

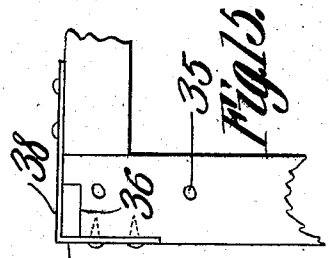


Fig. 15.

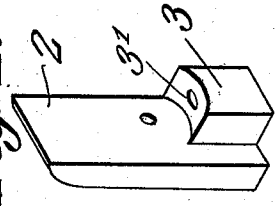


Fig. 14.

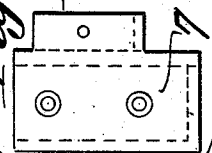


Fig. 12.

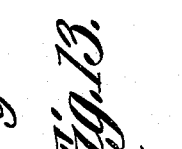


Fig. 13.

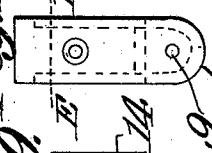


Fig. 11.

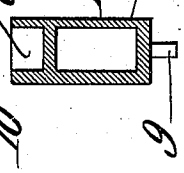


Fig. 9.

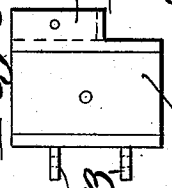


Fig. 8.

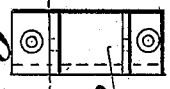
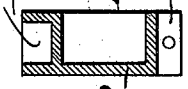


Fig. 10.



Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM MABLE, OF FORT COLLINS, COLORADO, ASSIGNOR OF ONE-HALF TO WINTHROP B. MORRIS, OF FORT COLLINS, COLORADO.

FOLDING CRATE.

No. 924,082. Specification of Letters Patent. Patented June 8, 1909.

Application filed May 4, 1908. Serial No. 430,758.

To all whom it may concern:

Be it known that I, WILLIAM MABLE, a citizen of the United States, residing at Fort Collins, in the county of Larimer and State of Colorado, have invented a new and useful Folding Crate, of which the following is a specification.

This invention relates to folding crates designed for holding poultry, vegetables, fruits, etc., and its object is to provide a durable device of this character which can be folded into a compact bundle and thus occupy a relatively small space when not in use.

Another object is to provide a crate having novel means for fastening it together when set up, said fastening means also being utilized for securing the parts together when folded.

Another object is to provide a crate which is reinforced at its joints in a novel manner and which does not require the mortising of the rails of the panels and the consequent weakening of the parts.

With these and other objects in view the invention consists of certain novel features of construction and combinations of parts which will be hereinafter more fully described and pointed out in the claims.

In the accompanying drawings is shown the preferred form of the invention.

In said drawings: Figure 1 is an end elevation of a crate embodying the present improvements, the same being shown set up. Fig. 2 is a side elevation of the crate set up, one of the end panels being shown partly folded. Fig. 3 is an end elevation of the crate folded. Fig. 4 is a front elevation of one of the upper corner castings of one of the side panels. Fig. 5 is an elevation of one side thereof. Fig. 6 is an elevation of the other side casting. Fig. 7 is a section on line A—B, Fig. 5. Fig. 8 is a front elevation of an upper corner casting of one of the end panels. Fig. 9 is an elevation of one side thereof. Fig. 10 is a section on line C—D, Fig. 8. Fig. 11 is an elevation of one of the lower corner castings of one end panel. Fig. 12 is a side elevation thereof. Fig. 13 is a section on line E—F, Fig. 11. Fig. 14 is a perspective view of one of the corner posts of the crate. Fig. 15 is a plan view of one corner of one of the top panels and showing one of the keepers of the catch.

Referring to the figures by characters of reference, 1 designates the bottom panel of the crate and extending upward from each corner thereof is a post 2. Each post has a concaved ledge 3 formed thereon and the ledges are so positioned as to constitute bearings for the lower corner castings of the side panels of the crate which panels are constructed in the manner hereinafter more fully set forth. Arranged between the corner posts and upon the ends of the bottom 1 are end panels 4 each consisting of four corner castings and bottom and end strips seated in the castings. As shown particularly in Fig. 1 the bottom strip 5 has its ends seated in sockets 6 formed by flanges extending from a box-like housing 7 one side of which is open and in which is seated the lower end of one of the end strips 8 of the panel. A stud 9 extends from the housing 7 and bears within one of the corner posts 2 and the lower end of the housing is rounded as indicated at 10 so that the same can rest close to the upper surface of the bottom panel and still be capable of swinging about the axis of the stud 9. The bottom and end strips 5 and 8 are held within their respective sockets by means of nails or pins 11 extending transversely therethrough. The upper end of each end strip 8 projects into a casting 12 open at the bottom and one side and having superposed apertured ears 13 extending from one face thereof while its other face has flanges 14 projecting from it to form a socket 15 designed to receive one end of the top strip 16 of the end panel. The end and top strips are secured within their respective sockets by means of nails or pins in the same manner as is the strip 4. The end panels are so located as to be capable of folding flat onto the bottom panel.

Bearing upon the ledges are the lower corner castings 17 of the side panels, said castings being similar in all respects to the castings 7 and having their studs 18 projecting into the corner posts as indicated in Fig. 2. These corner castings are connected by the bottom strips 19 of the side panels and the end strips 20 of said panels extend upwardly from the castings and are seated within sockets 21 formed within upper corner castings 22. Each casting extends over three faces and the upper end of the end strip on which it is mounted and ears 23 project upwardly from the top of the casting while one side of said casting is elongated as at 24 and has superposed guide ears 25 thereon in which is

mounted a sliding bolt 26. The other side of the casting has a socket 27 formed by flanges 28 and the sockets 27 of the castings constitute seats for the strips 29 of the side panel.

An ear 30 extends from the front face of the casting 22 and has an opening therein and this opening is designed to receive a locking finger 31 extending downward from one end of an L-shaped arm 32 extending at right angles from the upper end of bolt 26. The bolt is capable of moving longitudinally a sufficient distance to permit finger 31 to withdraw from the ear 30 and removal of the bolt from its guide ears 25 is prevented in any suitable manner as by splitting the free end of the bolt and spreading it as indicated at 33.

Pivotally mounted between the ears 23 on each casting 28 is a link 34 to which is pivotally connected one of the top panels 35. These top panels are so proportioned that when the crate is set up they will rest upon the top strip 16 of the end panels. Each end of the free longitudinal edge of each top panel is cut away as at 36 and has a metal strap 37 fastened across this cut away portion and provided with an opening 38. Spring catches 39 extend upwardly from the middle portions of the strips 16 and are designed when the crate is set up to project into the openings back of the keepers or straps 37, each catch being provided with a head 40 designed to spring into the opening 38 and thus fasten the top panel in position.

Eyes 41 are secured upon the end portions of the bottom panel 1 and extending upwardly from the sides of the corner posts are spring catches 42 having beveled heads 43.

When it is desired to set up the crate the side panels are swung into position at right angles to the bottom panel after which the end panels are swung upwardly until the ears 13 upon their upper castings assume positions above and below the ears 30 of the adjoining castings. The bolts 26 are then shifted longitudinally as swung so as to bring the fingers 31 above the ears 13 whereupon, by lowering the bolt, the finger will be caused to pass through the alining openings within the ears 13 and 30 as shown in Fig. 1, and thus securely fasten the side and end panels together. The top panels can then be folded downward onto the end panels and placed in engagement with the spring catches 34, as heretofore described.

When it is desired to fold the crate the top panels are released from engagement with the catches 39. The end panels are then released from the side panels by raising the fingers 31 from engagement with the ears 13. Said end panels are then folded onto the bottom panel, after which the side panels are folded inwardly onto the end panels. When the panels are thus positioned the bolts 26 and fingers 31 can be shifted so as to enable the fingers to enter the eyes 41 as shown in Fig. 3, thus securely fastening the side panels and the end panels in folded positions. The top panels can then be folded upwardly and downwardly onto the side panels so as to bring the keepers 37 thereof into engagement with the catches 42.

It is of course to be understood that each panel of the crate can be provided in addition to the top, bottom, and end strips with slats, netting, or any other material, according to the purposes for which the crate is intended. Importance is attached to the use of the corner castings whereby the various strips of the panels can be rigidly connected together without the necessity of mortising them or using a number of nails or similar devices.

If desired, a partition can be hingedly connected to one of the side panels and detachably fastened in any preferred manner to the opposite side panel.

As shown particularly in Fig. 14 an opening 3′ is formed in the ledge 3 for the reception of a bolt whereby the post can be firmly fastened to the bottom of the crate.

What is claimed is:

1. In a folding crate the combination with a bottom panel, eyes thereon, and corner posts upstanding from the panel; of side and end panels pivotally mounted between the posts and foldable onto the bottom panel, top panels hingedly connected to the side panels and foldable thereonto, a bolt slidably mounted upon each side panel, an angular arm extending therefrom, a locking finger upon each arm, and an eye upon each end panel, the eyes upon the end panels and bottom panel being disposed to engage the fingers when the crate is set up and folded respectively.

2. In a folding crate the combination with a bottom panel, fastening devices thereon and corner posts upstanding from the bottom panel; of side and end panels pivotally mounted between the posts and foldable on to the bottom panel, top panels hingedly connected to the side panels and foldable thereonto, a locking device slidably mounted upon each side panel, and a fastening device on each end panel, said fastening devices upon the end panels and bottom panel being shiftable longitudinally into engagement with the locking device when the crate is set up and folded respectively.

3. In a folding crate the combination with a bottom panel, and fastening devices thereon; of side panels pivotally mounted upon the bottom panel and comprising upper and lower corner castings, and top, bottom and end strips secured to said castings, each of said upper castings having apertured ears outstanding therefrom, end panels pivotally mounted upon the bottom panel and each consisting of upper and lower corner castings

and strips connecting said castings, ears outstanding from the upper corner castings, a bolt slidably mounted within the ears of each of said upper corner castings, and an angular arm upon each of said bolts, disposed, when the crate is set up, to engage the ears upon the corner castings of the side panels and, when the crate is folded, to engage the fastening devices upon the bottom panel.

4. In a folding crate the combination with a bottom panel, and corner posts upstanding therefrom; of spring fastening devices secured to the posts, side and end panels pivotally mounted between and supported by the posts, top panels hingedly connected to and mounted upon the side panels, said fastening devices being disposed to engage the top panels when the crate is folded, and fasteners slidably mounted upon opposite panels for engaging the remaining panels when the crate is set up and for engaging the bottom panel when the crate is folded.

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

WILLIAM MABLE.

Witnesses:
J. T. BUDROW,
FRANK S. GRIFFIN.