

H. M. ROSEBOOM.
CRATE.
APPLICATION FILED JUNE 14, 1911.

1,040,580.

Patented Oct. 8, 1912.

2 SHEETS—SHEET 1.

Fig. 1.

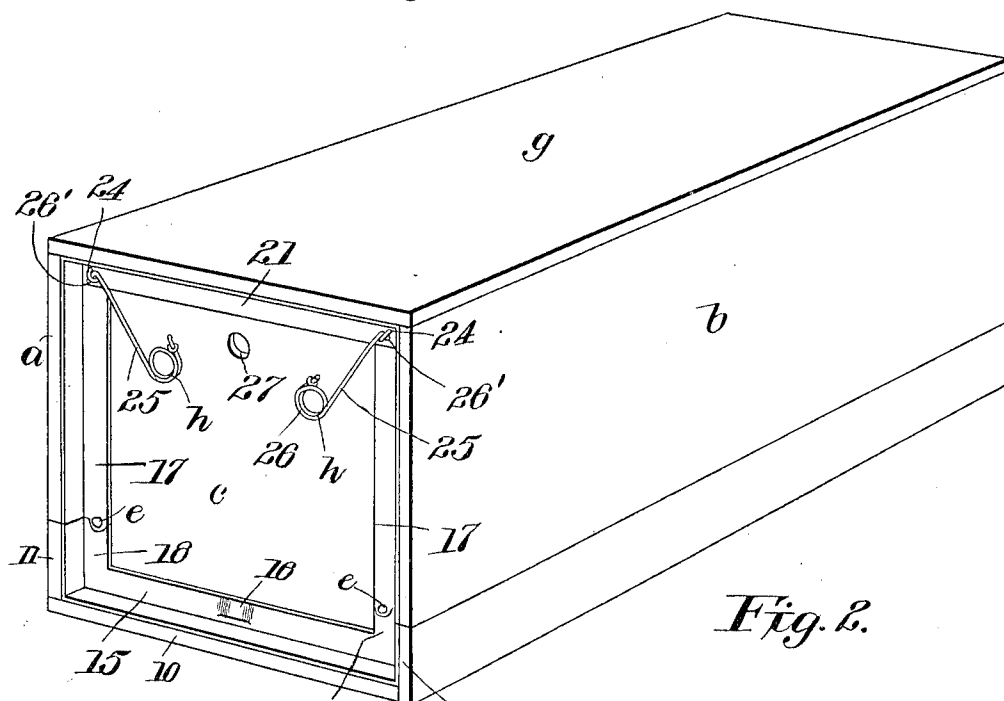
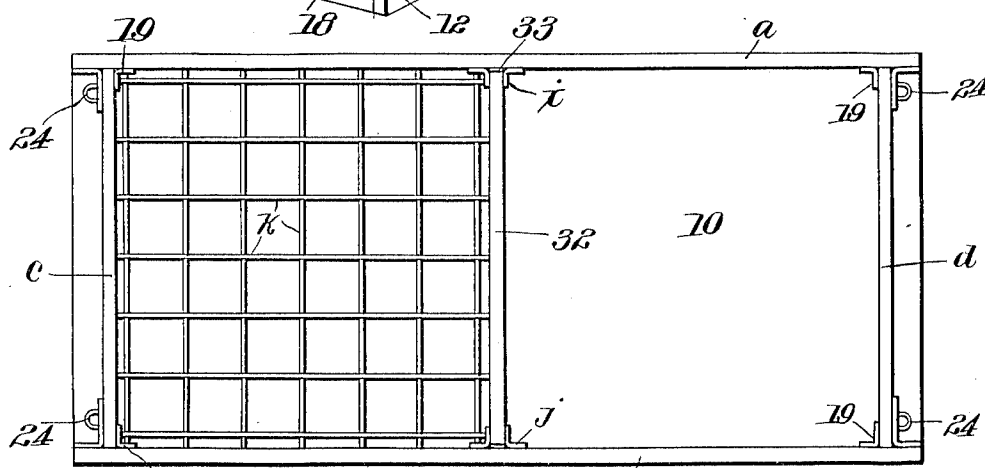


Fig. 2.



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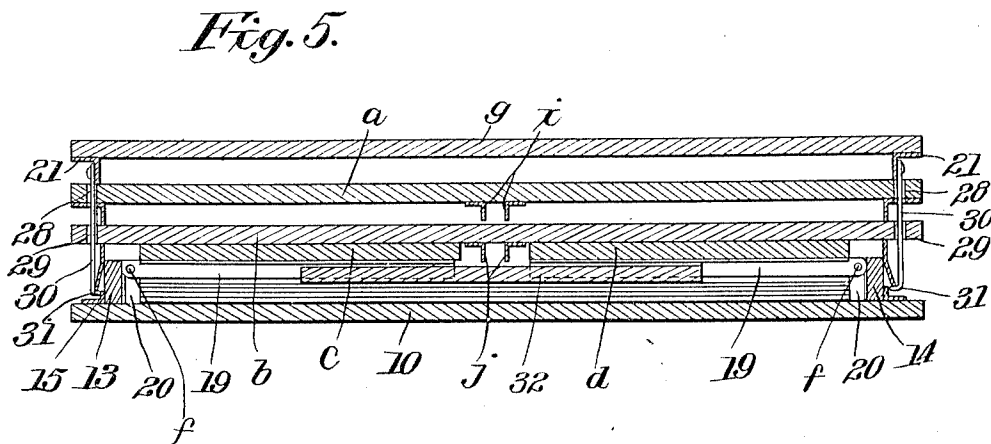
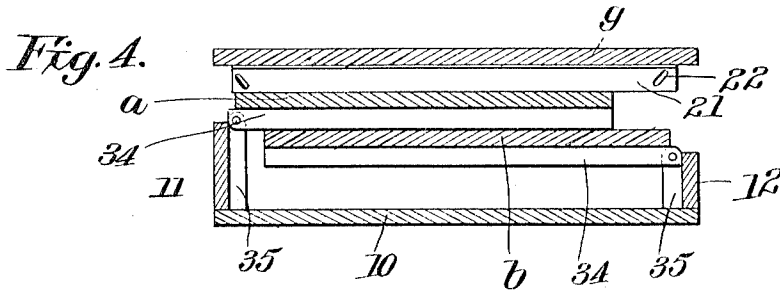
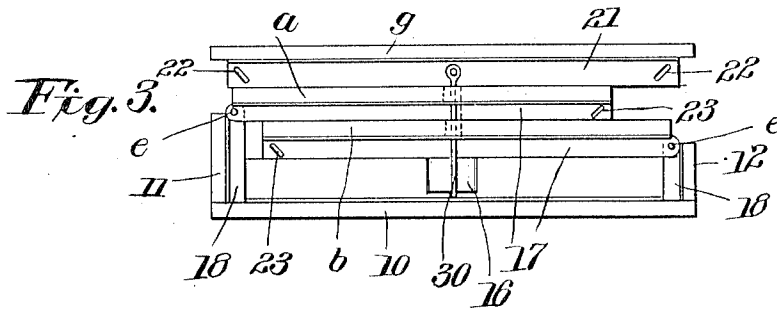
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HARRISON M. ROSEBOOM, OF WESTFORD, NEW YORK.

CRATE.

1,040,580.

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To all whom it may concern:

Be it known that I, HARRISON M. ROSEBOOM, a citizen of the United States, residing at Westford, in the county of Otsego and State of New York, have invented certain new and useful Improvements in Crates, of which the following is a specification.

This invention relates to crates.

One object is to provide a crate particularly adapted for the shipment of eggs or other commodities and embodying such characteristics that it may be quickly and firmly set up for shipment of commodities and when the commodities have been removed readily and quickly collapsed to occupy comparatively small space.

Another object resides in the provision of a crate of the nature stated embodying such characteristics that when it is set up the parts are firmly and securely locked so that the crate will not accidentally collapse and among other characteristics possessing means whereby the parts may be locked firmly and securely together when the crate is folded so that there will be no danger of losing parts of the crate during the return shipment of the crate in its folded condition.

With the above and other objects in view the present invention consists in the combination and arrangement of parts hereinafter more fully described, illustrated in the accompanying drawings and particularly pointed out in the appended claims, it being understood that changes may be made in the proportion, size, form and minor details without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings: Figure 1 is a perspective view of the invention. Fig. 2 is a top plan view with the top removed. Fig. 3 is an end view of the crate in folded condition. Fig. 4 is a cross sectional view of the crate in folded condition. Fig. 5 is a longitudinal sectional view of the crate in its folded condition.

Referring now more particularly to the accompanying drawings, the reference character 10 indicates the bottom of my improved crate provided with side cleats 11 and 12 and with end cleats 13 and 14, there

being angle plates 15 secured to the outer faces of the end cleats 13 and 14, each angle plate 15 being slotted intermediate its ends and on the upper side of its slot being raised to provide a lip 16 for a purpose presently explained.

The characters *a* and *b* indicate the sides of the crate and *c* and *d* indicate the ends of the crate, there being an angle iron 17 connected to the inner face of each side at each end of the latter and these angle irons 17 each form one member of a hinge whose companion member 18 is also preferably in angular form and is secured to the inner side at the corresponding end of the corresponding side cleat and also secured to the outer face of the corresponding end cleat, as shown, said companion hinge members 17 and 18 being pivotally connected at *e*, whereby the side *b* may be folded down and the side *a* folded over upon the side *b* when the crate is folded, as will be more fully hereinafter explained.

Connected to each end piece *c—d* at each of its ends is an angle iron which forms one part 19 of a hinge whose companion part 20 is also preferably angular in form and secured at the corresponding end and upon the inner face of the corresponding end cleat 13—14, said hinge parts 19 and 20 being hingedly connected together at *f* so that when it is desired to fold the crate the end members *c—d* may be folded inwardly of the crate and the side member *b* folded on said ends, with the side member *a* folded down on the side member *b*.

The hinge members 17—18 secured to the side members and side cleats form not only hinges but also provide stops to limit the outward swinging movement of the ends of the crate when the crate is set up and a still further function may be attributed to the hinge members 17—18, as well as to hinge members 19—20 in that these hinge members form strengthening means for the crate.

The character *g* indicates the top of the crate and at each end it is provided with a metallic or other cleat 21, which cleat 21 has an inclined slot 22 at each end adapted to align with the corresponding inclined slots 23 formed one at the upper end of each of the hinge parts 17 of the hinge members of

the sides, the slots 23 of said hinge members being adapted to receive the corresponding eye 24, there being one eye 24 at each upper corner of each end, and after passing the eyes 24 of the ends through the inclined slots of the hinge members 17, said eyes 24 are passed through the inclined slots 22 of the cleat 21 of the top *g*. To prevent withdrawal of the eyes 24 from the slots of the cleat 21 and the hinge members 17 any suitable locking means may be employed and by securing the top *g* to the crate by a suitable fastening means cooperating with the elements just referred to it is unnecessary to nail the top to the crate thereby obviating possibility of splitting the top under the influence of nails driven therethrough into the side and end members as is customary in some instances.

One form of means for locking the top to the crate resides in the spring locking elements *h*, in this instance, consisting of spring arms 25 extending from the corresponding coil 26 secured to the end pieces *c*, the arms 25 having bills 26' which are adapted to pass through the eyes 24 after the eyes 24 have been passed through the slots of the cleats 21 and the slots of the hinge members 17.

Each end piece *c* is preferably provided with a grip hole 27 but any other suitable handle or gripping means may be employed, the opening 27 being preferable for this purpose so as not to interfere with a compact folding of the crate.

In the folding operation the end pieces are first folded inwardly and then the side piece *b* is folded on to the end pieces with the side piece *a* engaging the outer face of the side member *b*, the cleats 21 being preferably inside of the openings 28 and 29 of each end of the side members *a* and *b*. Pivotaly secured on each cleat 21 at each end of the top is a hook 30 which is adapted for passage through the corresponding openings 28 and 29 at each end of the sides *a* and *b* to present its bill 31 in engagement with the aforesaid lip 16 of the corresponding metal plate 15, by virtue of which means the crate is substantially locked in folded condition and by reason of it being folded in the compact condition herein described and as shown in the accompanying drawings, the folded crate occupies comparatively small space and may be readily shipped from one place to another in folded condition after the contents of the crate has been removed.

Under certain conditions, the crate may be divided into compartments by means of a suitable partition 32 which preferably has its opposite edges provided with metal strips 33, the opposite sides of the partition 32 being adapted to fit in the guides *i* and *j* carried by the sides *a* and *b* and side cleats 11

and 12, each guide having one member 34 thereof forming a hinge for cooperation with the corresponding hinge member 35 secured to the inner side of the side cleats 11 and 12, whereby the guides *i* and *j* will not interfere in the least with the folding or collapsing of the crate. When the partition 32 is employed, and it is desired to fold the crate, the partition is first removed from its guides *i* and *j* and placed on the bottom of the crate or upon the folded paper cells *k* before folding in the end members *c* and *d*.

From the foregoing it will be seen that I provide a substantial shipping crate adapted for transporting commodities of any kind, and particularly for the safe transportation of eggs or other perishable or readily breakable commodities and that after the commodities have been removed from the crate the same may be quickly and readily compactly folded for return to the shipper and occupy a minimum amount of space in its folded condition without danger of parts thereof being lost on the return shipment.

What is claimed is:

1. A folding crate comprising a bottom and hinged side and end members, angle irons secured to the inner faces of the side members at the ends of the latter to form stops to limit outward swinging movement of the end members, said angle irons each having a slot at its upper end, a top member having a cleat at each end adapted to overlap the opposite end members when the crate is set up, each cleat of the top having a slot at each end adapted to aline with the corresponding aforesaid slots at the upper ends of the aforesaid angle irons, the end members having eyes adapted for passage through the registering slots of the top member cleats and said angle irons, and hooks carried by the end members and adapted to extend through said eyes after the latter have been passed through said slots to lock the top on the crate when the latter is set up.

2. A folding crate comprising a bottom and sides and ends hingedly secured to the bottom, each end carrying a lip and each side having an opening at each end, the openings at each end being adapted for registration when the crate is folded and also adapted to aline with said lips, a top member, an arm secured to the top member and adapted for passage through the registering openings of the side members for connection with the corresponding lips to lock the crate in its folded condition, said openings in the side members preventing accidental disconnection of said fastening members from engagement with said lips.

3. A folding crate comprising a bottom, side and end cleats rigidly secured to the bottom, end members, angle irons secured

to the inner faces of the end members and the inner faces of the corresponding cleats with the angle irons of the end members and the end cleats hingedly connected together
 5 so that the end members may be swung on the end cleats, said angle irons also strengthening the sides of the end members, a metallic plate secured to the outer face of each end cleat and provided with a lip, angle
 10 irons secured to the inner faces of the side members at the ends of the latter to strengthen the side members, angle irons secured to the inner faces of the said cleats at the ends of the latter and alining with
 15 and hingedly connected to the angle irons of the side members so that the latter may swing on the side cleats, the side members having openings at their ends with the openings at the ends of one member adapted to
 20 register with the openings at the ends of the other side member when the crate is folded, a top member having a cleat on its under side at each end and including a depending portion disposed within the end edges of the
 25 top member and adapted to overlap the opposite end pieces of the crate when the crate is set up, means for locking the top of the crate when the latter is set up, hooked arms secured to the depending portions of the cleats of the
 30 top member and adapted for passage through the registering openings of the side members when the crate is folded and adapted to engage the aforesaid lips to lock the parts of the crate against accidental displacement when the crate is folded, said
 35 openings in the side members preventing accidental disconnection of said fastening members from engagement with said lips and said hooked members being confined within the end edges of the top, bottom and
 40 side members.

4. A folding crate comprising a bottom and side and end cleats secured thereto, end members, angle irons secured to the inner
 45 faces of the end members and the inner faces of the corresponding cleats with the angle irons hingedly connected together so that the end members may swing on the end cleats, a metallic plate secured to the outer
 50 face of each end cleat and provided with a lip, angle irons secured to the inner faces of the side members at the ends of the latter, angle irons secured to the inner faces of the side cleats at the ends of the latter and
 55 pivotally connected to the angle irons of the side members so that the latter may swing on the side cleats, the side members having openings at their ends with the openings at the ends of one side member adapted to
 60 register with the openings at the ends of the other side member when the crate is folded, a top member having a cleat at each end adapted to overlap the opposite end pieces when the crate is set up, means for

locking the top of the crate when the latter 65 is set up, arms pivotally secured to the cleats of the top and adapted for passage through the registering openings of the side members when the crate is folded and adapted to engage the aforesaid lips to lock the 70 parts of the crate against displacement when the crate is folded.

5. A folding crate comprising a bottom and side and end cleats secured thereto, end 75 members, angle irons secured to the inner faces of the end members and the inner faces of the corresponding cleats with the angle irons hingedly connected together so that the end members may swing on the end cleats, a metallic plate secured to the outer 80 face of each end cleat and provided with a lip, angle irons secured to the inner faces of the side members at the ends of the latter, angle irons secured to the inner faces of the side cleats at the ends of the latter and piv- 85 otally connected to the angle irons of the side members so that the latter may swing on the side cleats, the side members having openings at their ends with the openings at the ends of one side member adapted to 90 register with the openings at the ends of the other side member when the crate is folded, a top member having a cleat at each end adapted to overlap the opposite end pieces when the crate is set up, means for locking 95 the top of the crate when the latter is set up, arms pivotally secured to the cleats of the top and adapted for passage through the registering openings of the side members when the crate is folded and adapted to en- 100 gage the aforesaid lips to lock the parts of the crate against displacement when the crate is folded, guide members secured to the inner faces of the side members and to the inner faces of the side cleats, said guides em- 105 bodying hinged parts, and a partition adapted for removable engagement in said guides.

6. A folding crate comprising a bottom and hinged side and end members, angle 110 irons secured to the inner faces of the side members at the ends of the latter, said angle irons each having a slot at its upper end, a top member having a cleat at each end adapted to overlap the opposite end mem- 115 bers when the crate is set up, each cleat of the top member having a slot at each end adapted to aline with the corresponding slots at the upper ends of the aforesaid angle irons, projections carried by the end members adapted for passage through 120 the registering slots of the top member cleats and said angle irons, means constructed and arranged for coöperation with said projecting means of the end members to lock the top of the crate when the latter 125 is set up, the side members each having an opening at each end, a metallic plate disposed at each end of the crate and provided

with a lip, and means secured to the top member and adapted for passage through the registering openings of the side members when the crate is folded and adapted to engage the aforesaid lips to lock the parts of the crate against displacement when the crate is folded.

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

HARRY M. ROSEBOOM.

Witnesses:

GEORGE A. SLOAN,

FRED E. SLOAN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."