

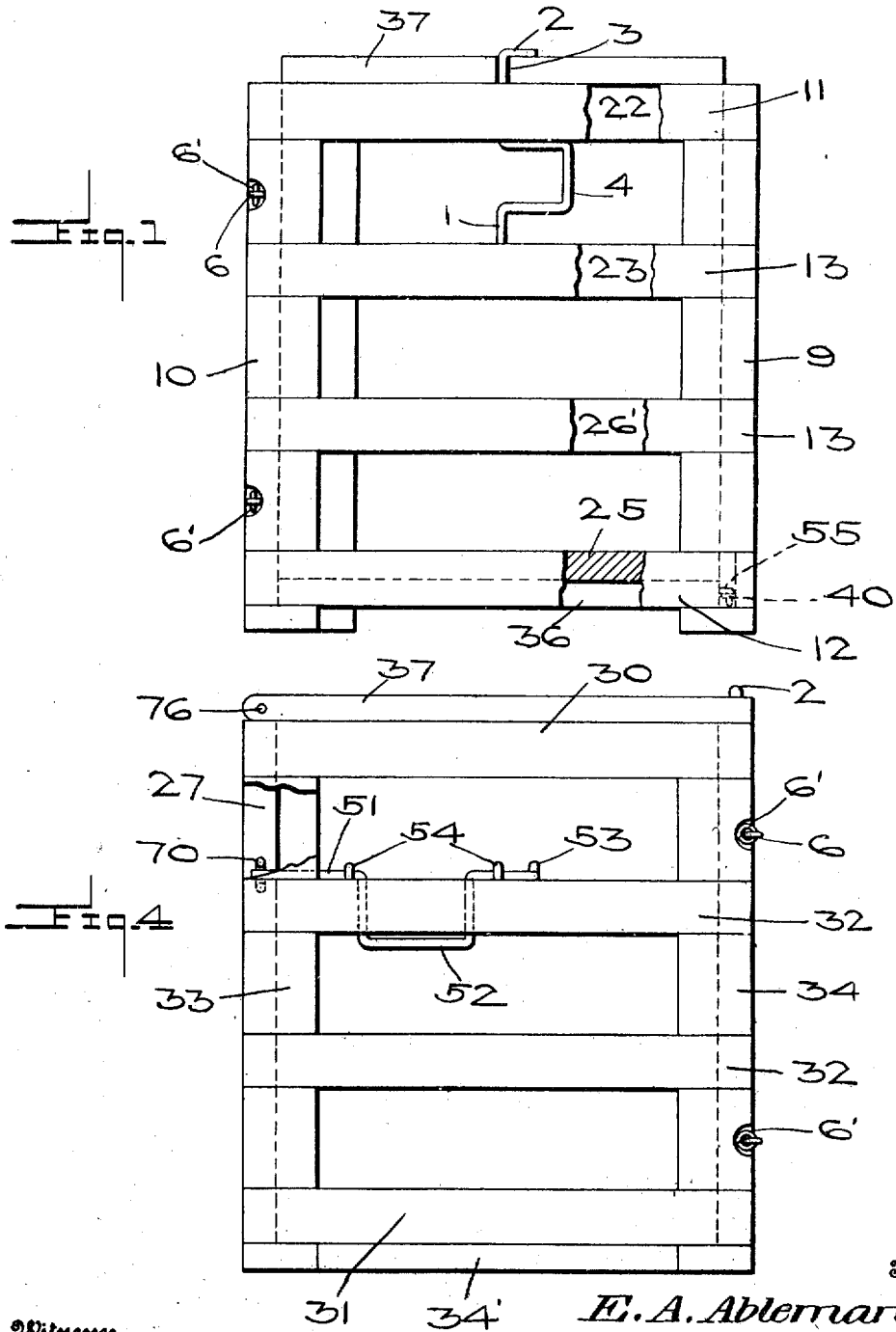
E. A. ABLEMAN.
FOLDING CRATE.

APPLICATION FILED AUG. 21, 1909.

Patented Mar. 22, 1910.

3 SHEETS—SHEET 1.

952,492.



Inventor

E. A. Ableman

Witnesses

Ed. R. Luby
M. D. Lowry

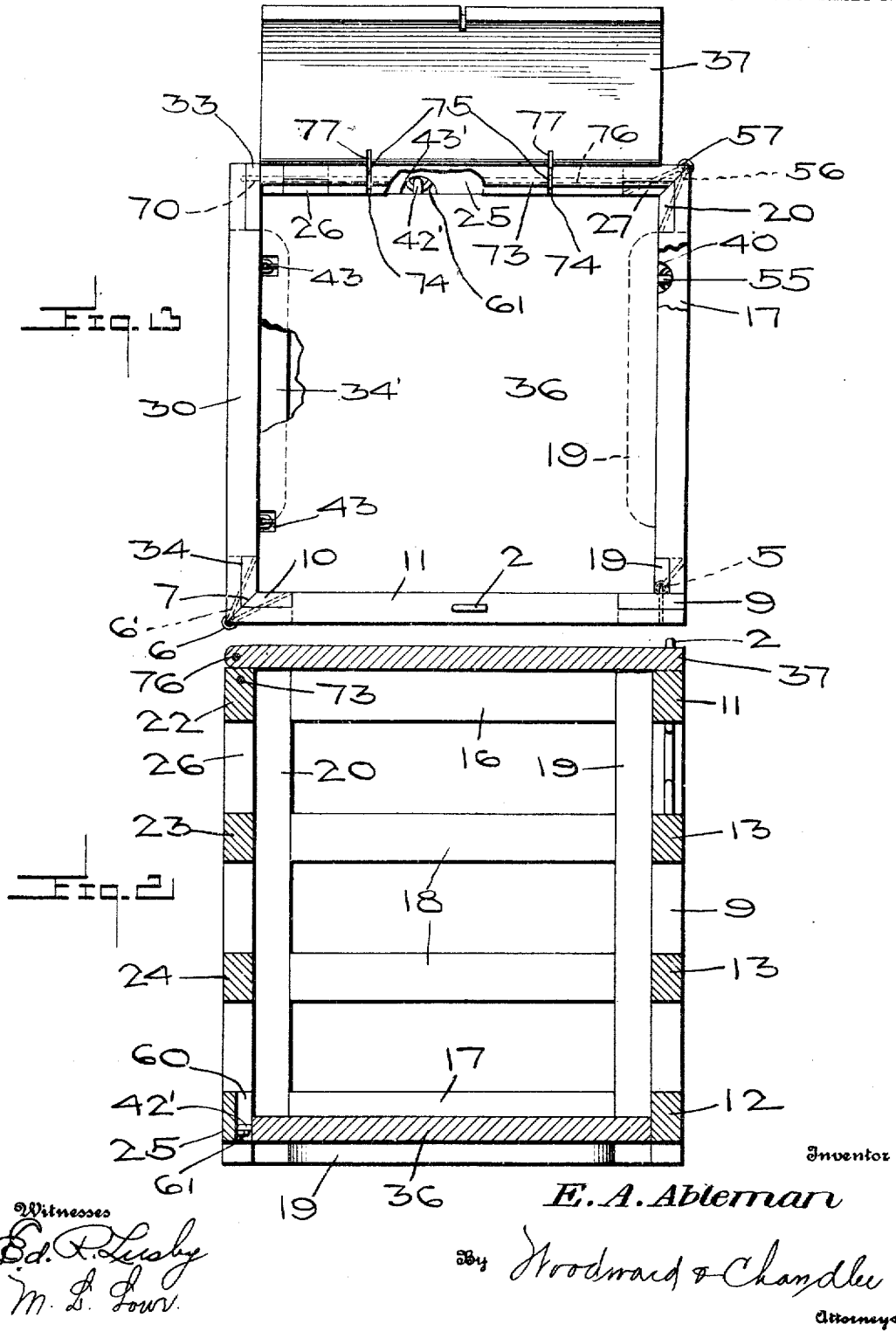
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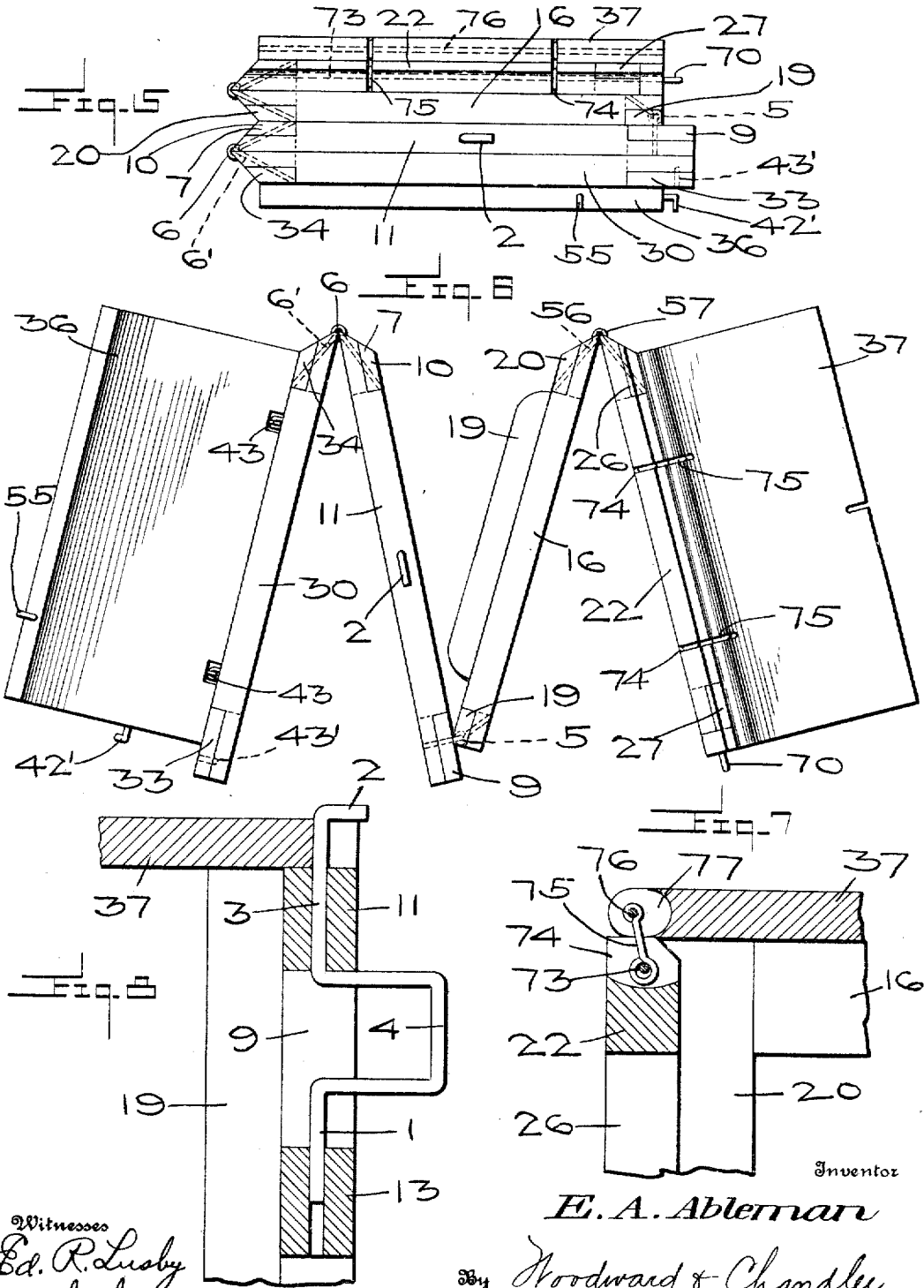
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UNITED STATES PATENT OFFICE.

EPHRAIM A. ABLEMAN, OF GHEEN, MINNESOTA.

FOLDING CRATE.

952,492.

Specification of Letters Patent. Patented Mar. 22, 1910.

Application filed August 21, 1909. Serial No. 514,053.

To all whom it may concern:

Be it known that I, EPHRAIM A. ABLEMAN, a citizen of the United States, residing at Gheen, in the county of St. Louis and State of Minnesota, have invented certain new and useful Improvements in Folding Crates, of which the following is a specification.

This invention relates to certain new and useful improvements in folding crates.

The object of my invention is to provide a crate, arranged so that the same may be compactly folded when empty, for return shipment.

A further object is to provide a folding collapsible crate, for shipping poultry, produce, and other merchandise, so constructed that in its unfolded condition, there is provided a firm, secure and rigid structure, which can be readily folded when not in use.

With these and other objects in view, the present invention consists in the combination and arrangement of parts as will be hereinafter more fully described and particularly pointed out in the appended claim, it being understood that changes in the specific structure shown and described may be made within the scope of the claim without departing from the spirit of the invention.

In the drawings forming a part of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a front view of the crate in its unfolded condition. Fig. 2 is a transverse vertical sectional view through Fig. 1. Fig. 3 is a top view. Fig. 4 is an end view. Fig. 5 is an edge view of the folded crate. Fig. 6 is a view of the crate in a partly unfolded condition. Fig. 7 is a transverse sectional view showing the method of securing the lid. Fig. 8 is a horizontal sectional view on line 8-8 of Fig. 1.

In carrying out the object of my invention, I construct a crate comprising a front, back, two similar sides and a top and a bottom. The front of the crate is in the form of a rectangular frame comprising the two vertical members 9 and 10 in the form of battens, which are connected by means of the cross strips 11, 12 and 13. As shown, the cross strips are mortised within the side members 9 and 10, the uppermost strip 11 being held flush with the upper end of the side members, while the lower strip 12 is held a suitable distance above the bottom end of the battens. The member 9 is rec-

tangular in cross section, while the batten 10 has its outer edge beveled as shown at 7. The beveled edge batten 10 carries the eye-bolt 6, while the opposite batten 9 carries the hinge 5. The cross strips 11 and 13 of this front section each have an opening within which is revolubly held a locking member, made of bar iron and comprising the crank 4 from which extend the two similar straight sections 1 and 3, the upper section 3 ending in the locking stem 2. This locking member is arranged so that the same will slide longitudinally within the openings carrying the same. Hingedly secured to this front section is a side section, comprising the two side battens, 33 and 34, connected by means of the cross strips 30 and 31, and the intermediate battens 32. The side batten 34 is bevel edged and carries the eye-bolt 6' arranged to engage the eye-bolt 6 carried by the batten 10, so that these two members 10 and 34 are hingedly connected. As shown, the eye-bolts extend diagonally through these members 10 and 34 to insure a firm connection. A cross strip 30 ends flush with the side battens 33 and 34, as does the bottom cross strip 31, which, however, is provided with the carrying cleat 34 which extends inward a suitable distance and is provided with a hinge 43 so that the bottom 36 with which the hinge 43 is also connected may be folded against the inner face of this side section. The bottom, as shown, is provided with the hook 42', while the side batten 25 upon the inside is provided with the socket 43', into which laterally extends the locking stem 51 of the bar lock 52, which is provided with the stop end 53. By means of the staples 54, this locking member is secured to the upper cross strip 32 which is transversely slotted, to receive the side members of the locking mechanism, as shown. Secured to the outer edge of the bottom 36 is the locking hook 55.

Secured to the side batten 9 by means of the hinges 5, is a side member comprising the two vertical battens 19 and 20, which are connected by means of the cross strips 16, 17 and 18, arranged as are the members of the opposite side section. The lower cross strip 17 is, however, provided with the inwardly directed supporting cleat 19, upon which the forward edge of the bottom 36 rests when said bottom is in its carrying position. In order to support this bottom at its opposite end and below the hinges 43,

I also provide the opposite side section with an inwardly directed carrying cleat 34'.

The side member 20 carries the eye-bolt 56 connected to the eye-bolt 57, carried by the back of the crate. This vertical cleat 20 of the side member is also bevel edged, while the lower cross strip 17 upon the inside and just above the cleat is provided with the staple 40 arranged to be engaged by the hook 55 carried by the bottom, as disclosed. Hingedly secured to this side member, is the back, this back comprising the two similar side battens 26 and 27, connected by means of the cross strips 22 above and 25 below, and strengthened by means of the intermediately positioned cross strips 23 and 26'. As disclosed, the member 26 is also bevel edged so that the same may be held against the side member 20 at right angles in a locked position.

The bottom member or cross strip 25 upon the inside is provided with a groove 60 within which is held the staple 61, this staple being engaged by the hook 42', carried by the bottom 36. Projecting from the outer edge of the batten 27 is the staple 70 arranged to enter a slot and be engaged by the locking stem 51, so that the back is secured to the side section in a firm and secure manner.

Passing through a lengthwise positioned bore within the upper cross strip 22 of the back is the bar 73, this top frame member having suitable transverse slots 74 making the bar accessible therethrough. Pivottally carried upon the bar 73 are two elongated links 75, these links at their remaining ends being held upon the bar 76 passing through the lid or top 37, this top also having two access slots 77, as shown. By this means the lid 37 may be folded upon the inner face of the back.

From the foregoing it will be seen that the vertical members of the crate, are hingedly connected in such a manner that the top or lid folds against the inner face of the back, the back in turn folding upon the outer face of the side member, the front in turn folding upon the inner face of this side member, while the remaining side section folds upon the outer face of the front section, the bottom finally folding against and closing the inner face of the side section.

By this means, when the crate members are folded I provide a firmly united, compact

mass. In their folded condition the members are held together by any suitable means. As the hooks 42' and 55 firmly engage within the staples 51 and 40, the bottom is firmly held to its proper position. The crate may be folded or unfolded with ease, accuracy and despatch, and in its folded position, the bottom 36 is protected by the projecting carrying cleat 44, as disclosed.

It will be understood that any suitable means for linging the sections of the device together may be used in place of the eye-bolts as described.

And having thus described my said invention, what I claim as new and desire to secure by United States Letters Patent is:

A crate having in combination, a front section comprising a rectangular frame with one of its vertical edges beveled, a side section comprising a rectangular frame having one of its edges beveled and hinged to the beveled edge of the front section so that said side section folds upon the outer face of said front section, a solid square bottom hinged to the lower inner end of said section permitting said bottom to fold against the inner face of said side section, a second side member having one of its vertical edges beveled, said side member being hinged to said front section so that said side member will fold upon the inner face of said front section, a rectangular back section having a vertical beveled edge hingedly secured to the beveled edge of said side member and arranged to fold upon the outer face of said side member, means to secure said back to said side section, a rectangular lid arranged to fold upon the inner face of said back, elongated links pivottally located within slots formed in the upper edge of the top and having their lower ends movably secured within suitable access slots formed in the upper edge of the back, a staple carried by said back, a hook secured to said bottom to engage said staple, and battens secured to the opposite side sections and projecting inwardly therefrom upon which the bottom is adapted to rest.

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

EPHRAIM A. ABLEMAN.

Witnesses:

PETE SPRALOR,
JACOB SCHUS.