No. 798,257. PATENTED AUG. 29, 1905.

H. H. BELL.

FOLDING CRATE.

APPLICATION FILED APR. 23, 1904.

2 SHEETS—SHEET 1.

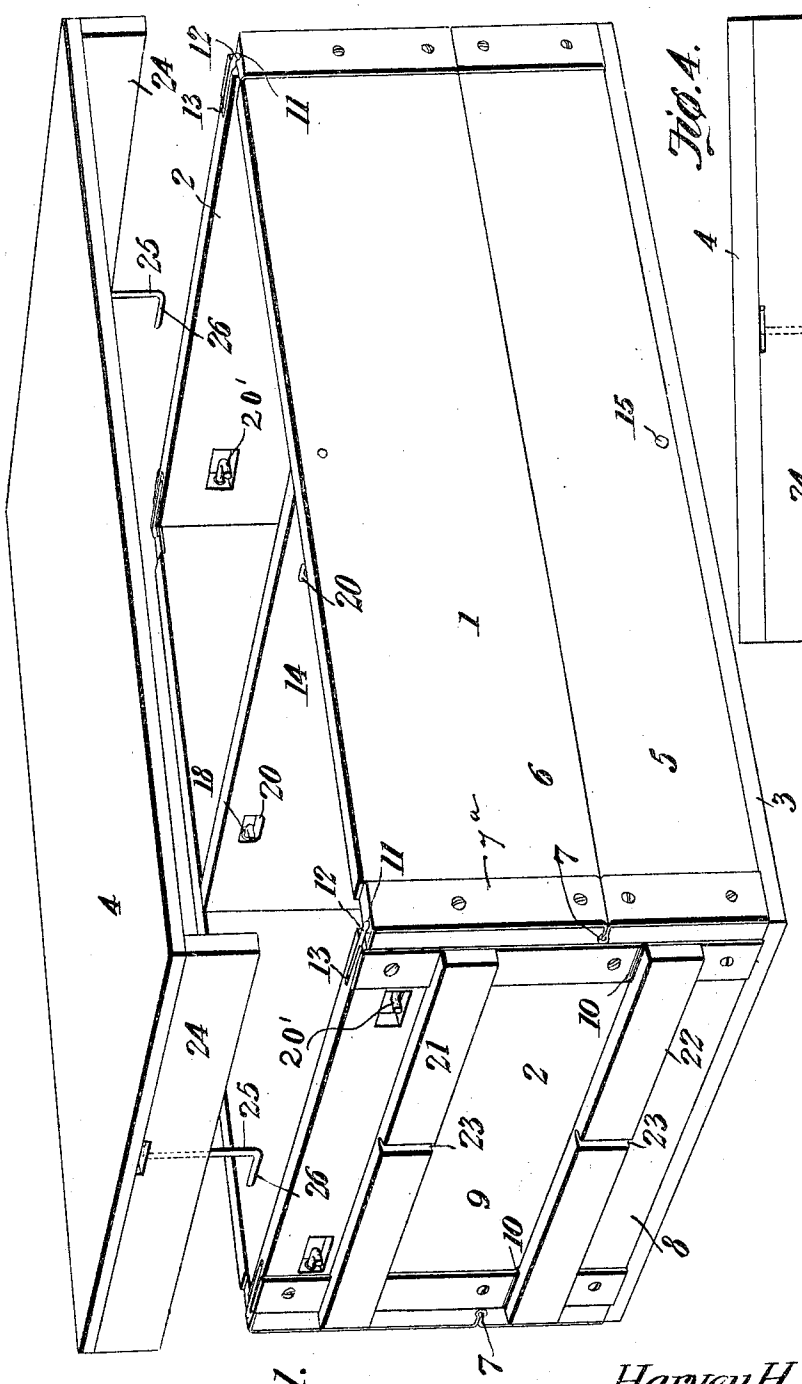


Fig. 1.

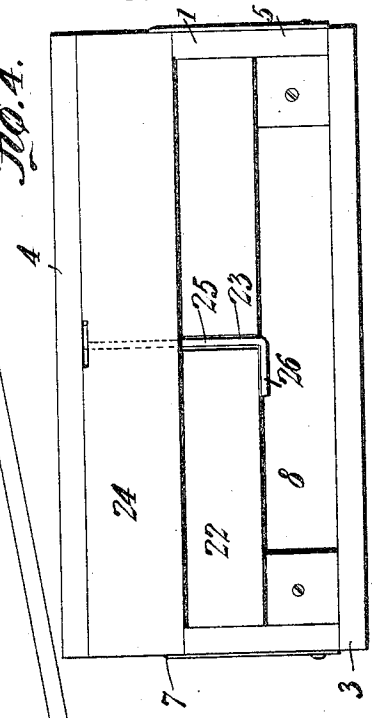


Fig. 4.

Witnesses

E. F. Stewart

F. L. Emory

Harvey H. Bell

Inventor

by C. A. Snow & Co

Attorneys

ANDREW, B GRAHAM CO., PHOTO-LITHOGRAPHERS, WASHINGTON, D. C.

No. 798,257. PATENTED AUG. 29, 1905.

H. H. BELL.

FOLDING CRATE.

APPLICATION FILED APR. 23, 1904.

2 SHEETS—SHEET 2.

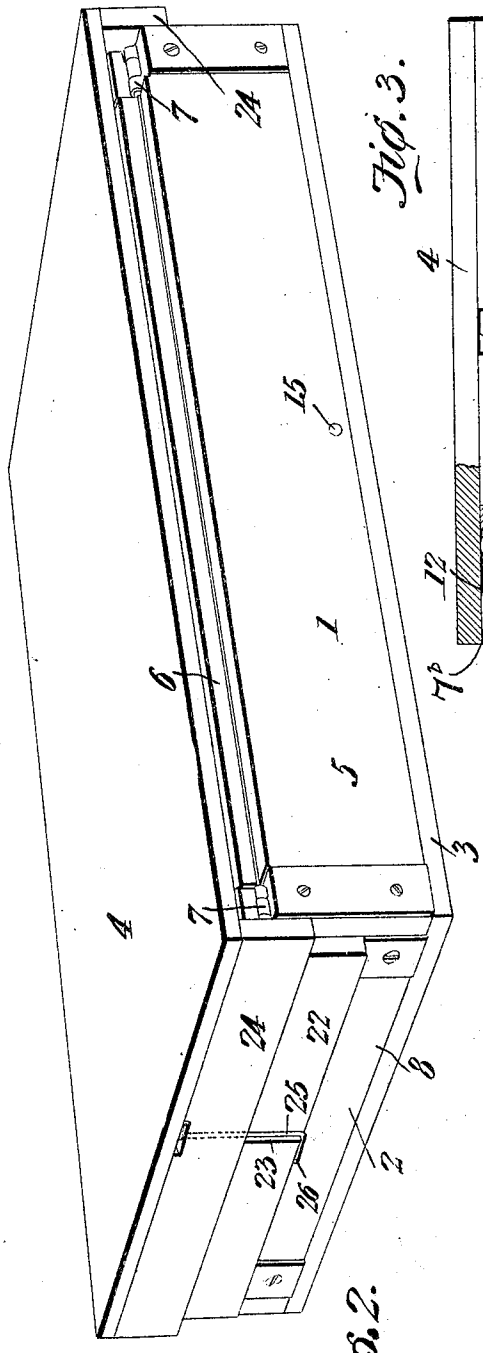


Fig. 2.

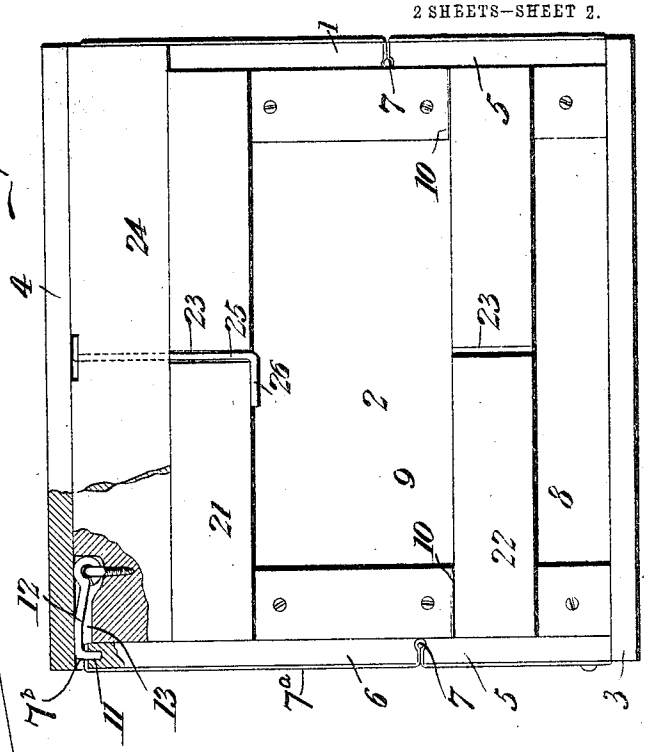


Fig. 3.

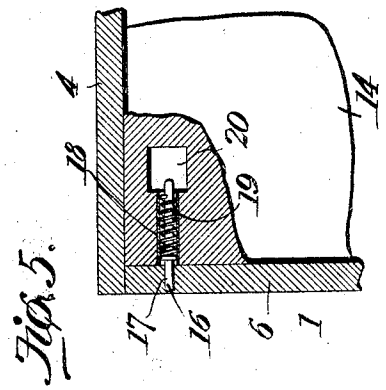


Fig. 5.

Witnesses

E. F. Stewart

F. S. Elmore

Harvey H. Bell

Inventor

by C. A. Snow & Co

Attorneys

ANDREW. B. GRAHAM CO., PHOTO-LITHOGRAPHERS, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

HARVEY H. BELL, OF NEVADA, IOWA.

FOLDING CRATE.

No. 798,257. Specification of Letters Patent. Patented Aug. 29, 1905.

Application filed April 23, 1904. Serial No. 204,631.

To all whom it may concern:

Be it known that I, HARVEY H. BELL, a citizen of the United States, residing at Nevada, in the county of Story and State of Iowa, have invented a new and useful Folding Crate, of which the following is a specification.

My invention relates to folding crates designed especially for use in packing and shipping eggs, and has for its objects to produce a comparatively simple inexpensive device of this character which may be readily set up for use or folded into neat compact form for shipment or storage and one in which the parts will be locked in either their folded or unfolded positions.

To these ends the invention comprises the novel features of construction and combination of parts more fully hereinafter described.

In the accompanying drawings, Figure 1 is a perspective view of a crate embodying my invention and showing the lid disconnected therefrom. Fig. 2 is a perspective view of the crate in its folded condition. Fig. 3 is an end view of the crate unfolded. Fig. 4 is a similar view of the crate folded. Fig. 5 is a detail sectional elevation of one of the locking devices carried by the partition.

Referring to the drawings, it will be seen that my improved crate comprises, essentially, sides 1, ends 2, a bottom 3, and a top or cover 4, these parts being composed of light wood or other suitable material and assembled in the manner hereinafter explained.

The sides 1 are each composed of a primary lower section 5 and an upper secondary section 6, pivotally connected with the lower section by means of strap-hinges 7, the leaves or straps of which are arranged adjacent to the ends of and extend wholly across the sections of the side transversely, while the ends 2 likewise each comprise a lower primary section 8 and an upper secondary section 9, pivotally connected with the lower section by means of strap-hinges 10, the leaves of which extend wholly across said sections transversely. The primary sections 5 and 8 of the sides and ends are permanently attached to the bottom 3 by nails or other suitable fastening devices, attention being here directed to the fact that the sections 8 are of equal height, while the side sections 5 are of unequal height, one of said sections terminating at its upper edge in a plane about midway between the planes of the upper edges of the sections 8 and the other side section 5 for a purpose which will hereinafter appear.

Formed in the normally upper edges of the sides adjacent to their ends are vertical openings or seats 11, designed to receive the ends of retaining members or hooks 12, pivotally connected with the adjacent ends 2 at points suitably remote from the vertical terminal edges of the latter, the upper edges of said ends being provided with longitudinally-disposed seats or recesses 13, designed to receive the body portions of the hooks when in engaging position. The extremities of the upper leaves 7^a of the strap-hinges 7 are bent or extended over the vertical openings 11 and are provided with apertures 7^b, alining with said openings 11, which are thereby reinforced for the reception of the retaining members or hooks 12. This is important owing to the strain at these particular points upon the material of which the crate is composed.

Disposed within the crate centrally between its ends is a foldable wall or partition 14, pivoted adjacent to its lower edge upon a horizontal pintle or pintles 15, extended through the adjacent side walls 1, said partition being adapted to swing on its axis from a normally vertical position to a horizontal position flat upon the inner face of the bottom 3 and when in its vertical position to be automatically locked by spring-actuated members or bolts 16, mounted for reciprocation in a horizontal plane and adapted to engage at their outer ends with sockets or seats 17, formed in the side walls 1 and constituting keepers. These bolts 16 are preferably in the form of suitable lengths of rod metal having angularly-bent inner terminal portions or finger-pieces and are slidable in sheet-metal sleeves or casings 18, seated in suitable sockets formed in the partition at points beneath and suitably remote from the normally upper edge of the latter, these sleeves being adapted also to house springs 19, which press the bolts normally to engaging position, it being apparent, of course, that the bolts may be retracted by engaging the angular terminal portions, which for this purpose work in suitable openings 20, formed in the partition. Bolts similar in construction and operation are provided on the ends at $20'$ for engagement with coöperating seats or sockets in the adjacent sides.

The ends 2 each have secured thereon upon its outer face an upper horizontal cleat 21 and a lower cleat 22, these cleats being provided with vertically-alined transverse grooves or recesses 23, while upon the ends of the cover 4 are secured depending members or cleats

24, adapted in practice when the crate is in unfolded operative position to bear at their lower edges upon the adjacent edges of the upper cleats 21 and when the crate is in folded position to similarly bear at their lower edges upon the upper edges of the cleats 22, there being extended through vertical transverse openings in the cleats 24 and for free pivotal movement engaging devices or hooks 25, the body portions of which are when in engaging position adapted to seat within the grooves 23, while their angularly-bent lower ends 26 may be turned into engagement with and beneath the lower edges of the cleats 21 22, as the case may be, whereby the cover will be held in place when the crate is in either unfolded or folded condition.

In practice when it is desired to fold the crate the partition 14 is released at its upper end by withdrawing the spring-actuated bolts 16 and folded downward in either direction to lie flush upon the bottom 3. It will be seen that owing to the presence of the spring-actuated bolts 16 the partition may be released without springing or forcing the sides of the crate outward, and thus injuring the stability of said crate. The retaining members 12 are next disengaged and the upper sections 9 of the ends 2 are folded inward, while the upper sections 6 of the sides are in turn and one after the other turned inward to folding position, attention being here directed to the fact that owing to the edge of the primary section of one side terminating in a higher vertical plane than that of the corresponding edge of the other section 5 the said sides will after the folding of the ends fold inward properly one above the other. Finally, the cover is seated upon the folded sides and has its engaging members 25 engaged with the lower cleats 22.

It will be seen that the bolts 20′ perform an important function in relieving the hook members 12 of strain in an outward or lateral direction, thus causing the parts to be assembled in a rigid and durable manner.

From the foregoing it is apparent that I produce a simple inexpensive crate which will admirably perform its functions and one which when in folded position will materially economize space in packing for shipment or storage. In attaining these ends I do not wish to be limited to the precise details herein set forth, inasmuch as minor changes therein may be resorted to without departing from the spirit of the invention.

Having thus described the invention, what is claimed is—

1. In a folding crate a box structure including a bottom, ends, and sides, said ends and sides each composed of lower and upper sections; strap-hinges connecting the lower and upper end sections, strap-hinges connecting the lower and upper side sections at the ends thereof, said upper side sections being provided at their upper edges, adjacent to the end sections, with vertical recesses and the ends of the upper leaves of the strap-hinges being bent above said recesses and provided with apertures alining therewith; and hooks mounted in seats at the upper edges of the end sections and engaging the recesses at the upper edges of the upper side sections through the apertures in the hinge-leaves.

2. In a folding crate, a box structure including a bottom, ends and sides, said ends and sides each composed of lower and upper sections, said lower sections being permanently connected with the bottom; strap-hinges connecting the lower and upper end sections; strap-hinges connecting the lower and upper side sections at the ends of said sections, said upper side sections being provided at their upper edges, adjacent to the end sections, with vertical recesses and the ends of the upper leaves of the strap-hinges being bent above said recesses and provided with apertures alining therewith; hooks mounted in vertical recesses or kerfs at the upper edges of the end sections and engaging the recesses at the upper edges of the upper side sections through the apertures in the hinge-leaves, and spring-actuated bolts connected with the upper end sections and engaging transverse apertures near the upper edges of the upper side sections.

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

HARVEY H. BELL.

Witnesses:
W. P. FITCHPATRICK,
B. F. BELL.