J. A. STRALEY.

COLLAPSIBLE EGG CRATE.

APPLICATION FILED JUNE 15, 1918.

1,286,828.

Patented Dec. 3, 1918.

Fig. 1.

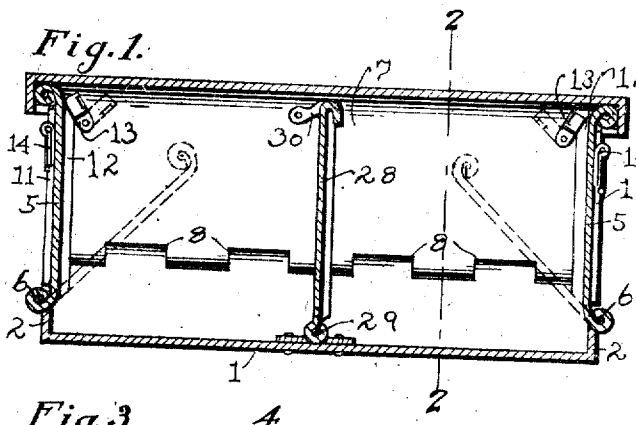

Fig. 2.

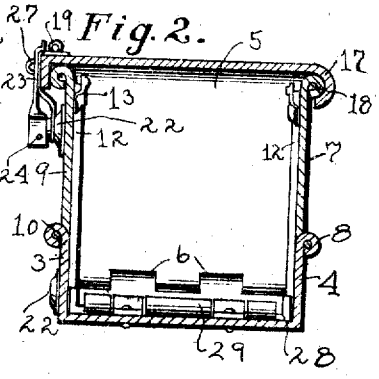

Fig. 3.

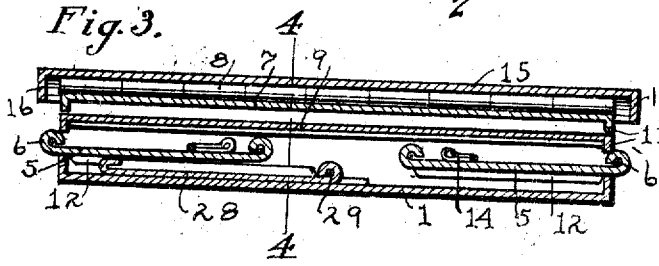

Fig. 4.

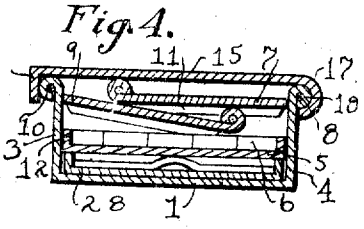

Fig. 5.

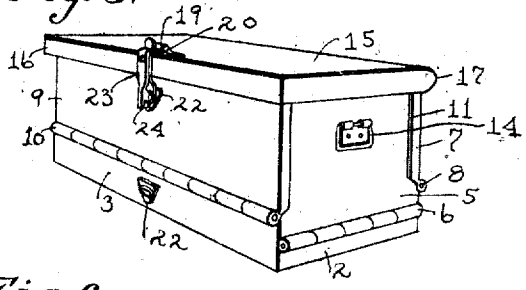

Fig. 6.

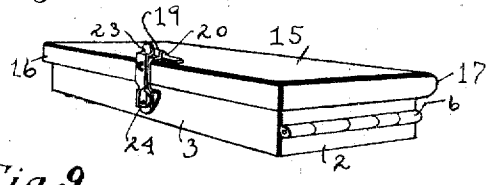

Fig. 7.

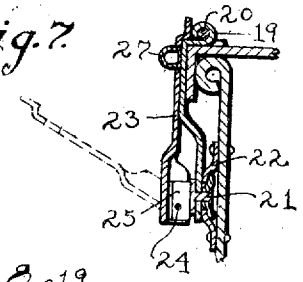

Fig. 8.

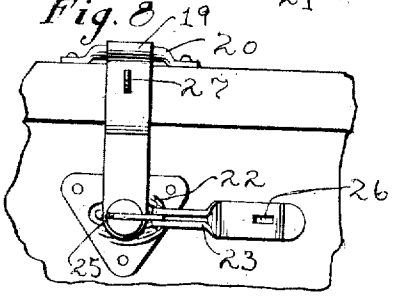

Fig. 9.

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COLLAPSIBLE EGG-CRATE.

1,286,828. Specification of Letters Patent. Patented Dec. 3, 1918.

Application filed June 15, 1918. Serial No. 240,156.

To all whom it may concern:

Be it known that I, JOHN A. STRALEY, a citizen of the United States, residing at Toledo, in the county of Lucas, State of Ohio, have invented a new and useful Collapsible Egg-Crate; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to a collapsible shipping crate, and has for its object to provide a device of this character which embodies novel features of construction whereby it can be collapsed into a small amount of space when empty and returned to the original shipper at slight expense.

Further objects of the invention are to provide a collapsible shipping crate which can be inexpensively constructed of sheet metal, which can be quickly set up in operative position or collapsed, which provides a substantial and rigid crate when opened up, and which admits of the contents of the crate being easily inspected and removed at any time.

With these and other objects in view, the invention consists in certain novel combinations and arrangements of the parts as will more fully appear as the description proceeds, the novel features thereof being pointed out in the appended claims.

For a full understanding of the invention, reference is to be had to the following description and accompanying drawings, in which:—

Figure 1 is a vertical longitudinal sectional view through a crate constructed in accordance with the invention, showing the same as opened up and locked in operative position.

Fig. 2 is a transverse vertical sectional view on the line 2—2 of Fig. 1, the intermediate partition being folded downwardly against the bottom.

Fig. 3 is a longitudinal sectional view through the crate when collapsed.

Fig. 4 is a transverse vertical sectional view on the line 4—4 of Fig. 3.

Fig. 5 is a perspective view of the crate when opened up and in operative position.

Fig. 6 is a similar view of the crate when collapsed.

Figs. 7 and 8 are enlarged detail views of the locking means for holding the cover in position upon the crate.

Fig. 9 is an edge view of the cover plate, showing the roll flange at the back thereof.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

Referring to the drawings, which illustrate one embodiment of the invention, the numeral 1 designates the bottom of the crate, said bottom being rectangular in shape and being formed of some strong light material such as sheet metal. The ends of the bottom are provided with comparatively short upstanding flanges 2, while the sides are provided with upstanding flanges 3 and 4 which extend upwardly above the end flanges 2, the front flange 3 being preferably slightly higher than the rear flange 4 to facilitate the folding of the crate. End walls 5 are hingedly connected at 6 to the upper edges of the end flanges 2 so that they can either be folded inwardly against the bottom 1 or swung upwardly into an upright position. In a similar manner the back 7 of the crate is hinged at 8 to the rear side flange 4, while the front 9 is hinged at 10 to the front side flange 3. The hinges 8 and 10 are formed with knuckles which project outwardly from the sides of the crate and provide outstanding ribs upon the crate.

When the crate ends 5 are swung upwardly they engage the end flanges 11 on the back 7 and front 9, being in turn provided with end flanges 12 which fit against the back and front and are engaged by pivoted latch members 13 thereon. These latch members are movable into and out of engagement with the upper ends of the flanges 12 of the crate ends, and when in operative engagement therewith, as indicated by full lines on Figs. 1 and 2, the ends and sides of the crate are securely locked in an upright position. However, when the latch members are swung out of engagement with the flanges 12, as indicated by dotted lines on Fig. 1, the front and back or the crate can be swung outwardly a slight amount and the ends 5 folded downwardly against the bottom, said ends being indicated by dotted lines on Fig. 1 as partially collapsed against

the bottom. If desired, these crate ends 5 may be provided with suitable handles, such as are indicated at 14.

The cover plate 15 is bodily removable from the crate, being provided at the front and sides thereof with downwardly projecting straight flanges 16, and at the rear thereof with a rolled flange 17 providing a groove or channel which is adapted to receive and interlock either with the outstanding rib 18 at the top of the back 7, or with the outstanding knuckles of the hinge 8 when the crate is collapsed, as indicated by Fig. 4. At the front of the crate the cover plate 15 is provided with a hasp member 19 which is hingedly secured to the cover at 20, the swinging end of the hasp member being provided with a pivoted latch 21 which is adapted to engage either one of a pair of keepers or sockets 22. A locking lever 23 is pivotally connected at 24 to a wing 25 which is rigid with the latch 21, said lever providing a convenient means for rotating the latch into operative or inoperative position. The openings of the sockets 22 are transversely elongated so that when the latch 21 is turned into a horizontal position it will enter the sockets, although when it is turned into a vertical position it can either be placed in engagement with the sockets or removed therefrom. When the latch member is in operative position the operating handle or locking lever 23 can be folded against the hasp member 19 and a slot 26 therein fitted over an eye or staple 27 projecting from the hasp member. Any suitable form of lock can be applied to the staple 27 for locking the crate cover in a closed position. When the crate is expanded and set up in operative position, as indicated by Figs. 1 and 2, the rolled or curved flange 17 of the cover is brought into an interlocking engagement with the rib 18 at the top of the back 7 and the latch member 21 caused to engage the socket 22 which is applied to the front 9 of the crate. However, when the crate is collapsed, as indicated by Figs. 3 and 4, the rolled flange 17 of the cover plate 15 is caused to interlock with the hinge 8 and the latch member 21 caused to engage the socket 22 which is applied to the front flange 3 of the bottom.

An intermediate partition 28 may be provided, said partition being shown as hingedly connected at 29 to the crate bottom 1 at the middle thereof, and adapted either to be collapsed against the said crate bottom or swung upwardly into an upright position. When in an upright position the upper edge of the partition is engaged by hook members 30 which are pivoted upon the front and sides of the crate, said hook members being readily movable into and out of operative position. If desired, the rolled flange 17 of the cover plate may have a series of tongues 17^a cut therefrom by transverse slits, said tongues having a spring action and tending to grip the rib 18 or hinge 8 in such a manner as to hold the members tightly together and take up any looseness which would cause rattling or possibly result in the members working loose.

Having thus described the invention, what I claim as new and desire to secure by Letters Patent, is:—

1. A collapsible crate including a bottom provided at opposite sides thereof with upstanding flanges, front and back members collapsible against the bottom, the back member being provided at the upper edge thereof with an outstanding rib, independent keepers upon the front and the corresponding flange of the bottom, hinges connecting the front and back members to the respective flanges and formed with knuckles which provide outstanding ribs, end members foldable against the bottom, a removable cover plate provided at one side with a returned hooked flange adapted to engage either the rib at the top of the back when the crate is open, or the hinge knuckles at the lower edge of the back when the crate is collapsed, a hasp member applied to the opposite side of the cover plate, and latch means upon the hasp member for engaging either of the before mentioned keepers.

2. A collapsible crate including a bottom provided at opposite sides thereof with upstanding flanges, front and back members foldable against the bottom, the back member having an outstanding rib at the upper edge thereof, hinges connecting the front and back members to the respective flanges and formed with knuckles providing outstanding ribs, end members foldable against the bottom, a removable cover plate having a hooked flange at one side thereof adapted to engage either the rib at the top of the back when the crate is open or the hinge knuckles at the lower edge of the back when the crate is collapsed, said hooked flange being formed with spring tongues which resiliently grip the rib or knuckles to avoid looseness, and latch means at the opposite side of the cover plate for engaging either the front or the bottom flange to which the front is hinged.

3. A collapsible crate including a bottom provided with short end flanges and tall side flanges, end members hingedly connected to the end flanges and foldable against the bottom, front and back members hingedly connected to the respective side flanges and also foldable against the bottom, the hinge connections including outwardly projecting knuckles which form outstanding ribs and the upper edge of the back being formed with an outstanding rib, a removable cover plate having a hooked flange at one side thereof adapted to engage either the out-

standing rib at the upper edge of the back when the crate is open or the hinge knuckles at the lower edge of the back when the crate is collapsed, and latch means for securing the opposite edge of the cover plate either to the front or to the bottom flange carrying the front.

4. A collapsible crate including a bottom provided with short end flanges and tall side flanges, end members hingedly connected to the end flanges and foldable against the bottom, front and back members hingedly connected to the respective side flanges and also foldable toward the bottom, the end members and front and back members being each provided with inwardly extending end flanges, latch members carried by the front and back members for engagement with the end flanges of the end members when the crate is opened up and the end members are swung outwardly into engagement with the end flanges of the front and back members, and a cover for the crate.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN A. STRALEY.

Witnesses:
G. W. TWILER,
L. ROY SPAULDING.