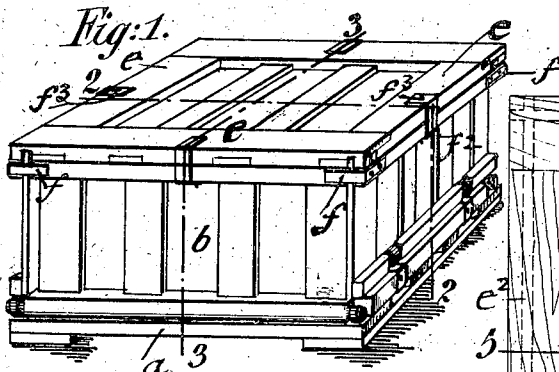


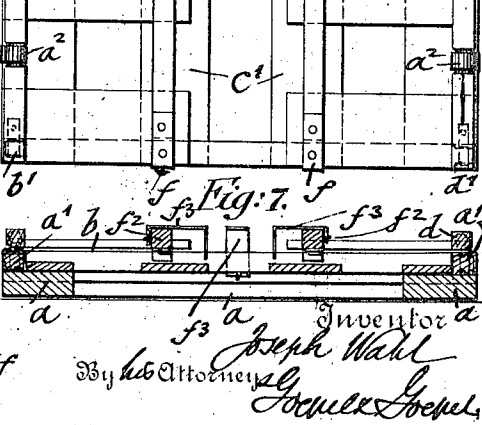
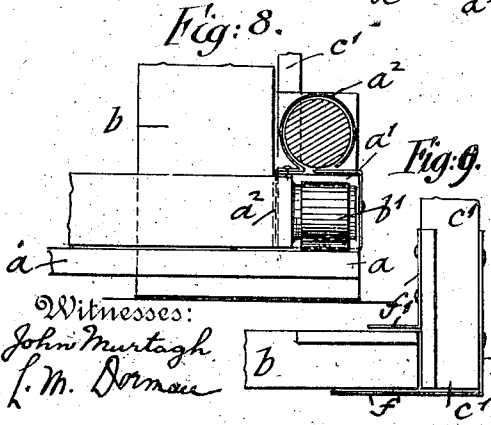
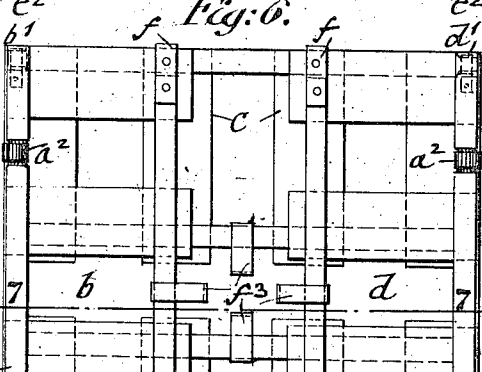
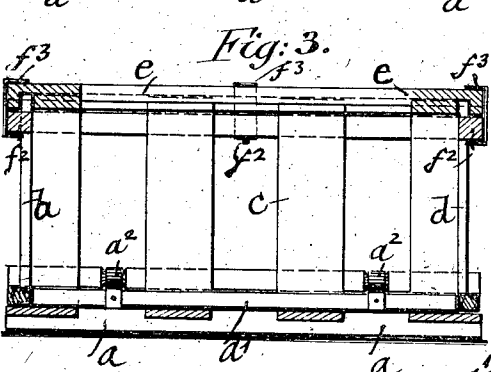
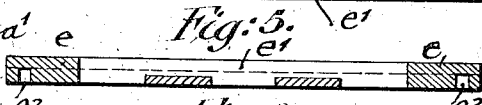
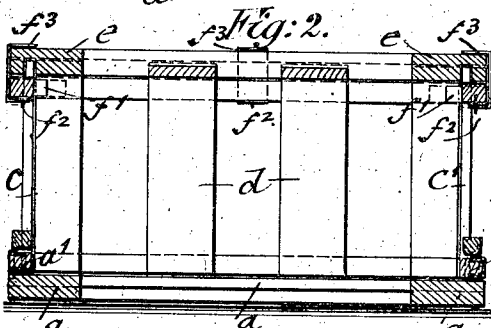
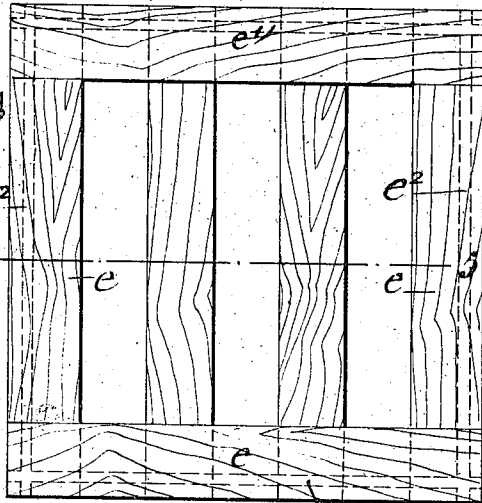
J. WAHL.  
FOLDING CRATE.  
APPLICATION FILED MAR. 27, 1912.

1,045,479.

Patented Nov. 26, 1912.



*Fig. 4.*



Witnesses:  
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# UNITED STATES PATENT OFFICE.

JOSEPH WAHL, OF NEW YORK, N. Y.

## FOLDING CRATE.

1,045,479.

Specification of Letters Patent.

Patented Nov. 26, 1912.

Application filed March 27, 1912. Serial No. 686,466.

*To all whom it may concern:*

Be it known that I, JOSEPH WAHL, a citizen of the United States of America, residing in New York, in the borough of Manhattan, in the county and State of New York, have invented certain new and useful Improvements in Folding Crates, of which the following is a specification.

This invention relates to an improved foldable or collapsible crate which is intended for the purpose of shipping various light articles of ladies wear, or fruits, flowers, confectionery, and other articles of greater weight, in a perfectly secure and protected manner, the crate being adapted to be folded up after use so as to be stored for repeated use or returned to the shipper.

The object of this invention is to furnish an improved collapsible shipping crate, which is made partly of wood and partly of cardboard, and constructed in such a manner that the bottom, side-walls, end-walls and cover are made of longitudinal and transverse strips of wood having interstices between the transverse strips, the side and end-walls being hinged to the bottom and locked together in upright position by means of the cover, which is provided with longitudinal and transverse grooves at its underside for engaging the upper ends of the side and end-walls and holding the same in position in connection with fastening-devices on the corners or side-walls, as will be fully described hereinafter and finally pointed out in the claims.

In the accompanying drawings, Figure 1 represents a perspective view of my improved foldable crate, Figs. 2 and 3 are respectively, a vertical longitudinal, and a vertical transverse section, on line 2-2, and 3-3, Fig. 1, Fig. 4 is a plan-view of the cover of the crate, Fig. 5 a vertical transverse section of the cover, on line 5-5, Fig. 4, Figs. 6 and 7 are respectively a plan-view of the body-portion of the crate, shown in folded position, and a vertical transverse section, on line 7-7, Fig. 6, Fig. 8 is a detail view partly in vertical transverse section, on a larger scale, of the hinge-connection of the side and end-walls with the bottom of the crate, and Fig. 9 is a detail plan view of one of the upper corners of the side-walls, showing the stop-devices for the front and rear-walls.

Similar letters of reference indicate cor-

responding parts throughout the several figures of the drawings.

My improved crate is constructed of six main-parts: A bottom *a*, a front-wall *b*, a rear-wall *d*, two side-walls *c*, *c'*, and a top or cover *e*. The bottom, front and rear-walls, side-walls and cover are constructed of slats separated by interstices and longitudinal holding straps and used whether with or without a lining of cardboard according as the crate is to be used for lighter or heavier goods, or for goods for which ventilation of the contents is desired.

The side-walls *c*, *c'* are hinged to longitudinal cleats *a'* which are nailed or otherwise attached to the bottom *a* by means of metallic straps *a''* which are passed around cleats *a'* and around the rounded off portion of the lower straps of the side-walls, as shown in Fig. 8, said straps being attached by means of tacks to the cleats so as to form a neat and yet reliable hinge-connection between the side-walls and the cleats of the bottom. The front and rear-walls *b* and *d* are likewise hinged to the bottom by means of hinge-straps *b'*, *d'*, which are attached to the bottom and formed of ring-shaped portions that engage the rounded off ends of the bottom-strips of the front and rear-walls, as shown clearly in Figs. 1 and 3. The side-walls *c*, *c'* are provided along their upper corners with exterior angular straps *f* which are attached to the outside of the side-walls so that the angular portion projects over the front and rear-walls when they are placed in upright position. A second angular-strap *f'*, is attached to the inside of each upper corner of the side-walls near the angular straps *f*, both angle-straps *f*, *f'*, being made of sheet metal and forming a loop adapted to embrace the upper ends of the front and rear-walls and hold the same rigidly in upright position for forming the box-body, as shown in Fig. 9. The angular-straps *f*, *f'* project when the side-walls are folded down on the bottom *a* over the lower straps of the front and rear-walls, as shown in Fig. 6. The exterior angular corner-straps *f'* serve also for reinforcing the upper corners of the box-body, and hold the front and rear-walls in upright position against pressure both in inward or outward direction. The cover *e* is provided at its underside with longitudinal and transverse grooves *e'*, *e''* which are

arranged near the edges and at such a distance from the same that they fit snugly over the upper ends of the side-walls and front and rear-walls so as to serve for holding them firmly in upright position in connection with the angular straps  $f, f'$  on the side-walls. The side-walls are provided at the center of their outer upper strips with staples of screw-eyes  $f^2$  and angular locking straps  $f^3$  which are placed over the outer edge strips of the cover  $e$  after the walls and cover have been placed in position and connected together, as shown in Fig. 1, the upper ends of said angular straps  $f^3$  being nailed on to the cover after goods to be shipped have been placed into the crate. On arrival of the crate with the goods, the nails are withdrawn from the fastening-straps  $f^3$  and the box opened in the usual manner.

When the box is to be used for shipping articles, the front and rear-walls are first placed in upright position, then the side-walls also placed in raised position in such a manner that the outer and inner angle-straps engage the upper corners of the front and rear-walls and hold them in upright position after the goods are placed in the crate and the cover placed in position over the body by means of the grooves on its underside on the upper ends of the side and end-walls. The fastening-straps are then placed in position and fastened to the edge-strips of the cover by nails or screws. When the goods arrive at the point of destination, the nails or screws of the locking-straps are removed, the locking-straps swing clear of the cover, and the latter lifted off the body of the box; the goods shipped in the crate are then removed, the front and rear-walls are first folded down on the bottom, then the side-walls over the front and rear-walls, as shown in Figs. 6 and 7, after which the cover is placed in position over the folded body and the parts tied together so that the box can be stored or returned to the shipper for repeated use. As the grooves

of the cover hold the side and end-walls in position, in connection with the angle-straps, special fastening-devices are dispensed with, and a strong shipping crate obtained that can be manufactured cheaper and quicker than other folding crates heretofore made.

I claim:

1. A foldable shipping crate, comprising a bottom, cleats attached to the bottom at opposite sides thereof, side-walls hinged to said cleats, front and rear-walls hinged to said bottom at the front and rear edges thereof, angle straps attached to the upper corner of one of the side walls on the inner and outer faces thereof and projecting at right angles thereto forming a loop for engaging the upper corner of an adjacent end-wall, and a cover provided at its underside with longitudinal and transverse grooves near its edges, said grooved cover being adapted to be placed over the upper edges of the side and end-walls.

2. A foldable shipping crate, comprising a bottom, cleats attached to the bottom at opposite sides thereof, side-walls hinged to said bottom at the front and rear edges thereof, angle straps attached to the upper corner of one of the side-walls on the inner and outer faces thereof and projecting at right angles thereto forming a loop for engaging the upper corner of an adjacent end-wall, a cover provided at its underside with longitudinal and transverse intersecting grooves, said grooves being adapted to be placed over the upper ends of the side and end-walls, and angular locking straps applied to eyes or staples on the upper strips of the side and end-walls and adapted to be placed over the edge strips of the cover.

In testimony, that I claim the foregoing as my invention, I have signed my name in presence of two subscribing witnesses.

JOSEPH WAHL.

Witnesses:

PAUL GOEPEL,  
JOHN MURTAGH.