

E. L. WALKER.

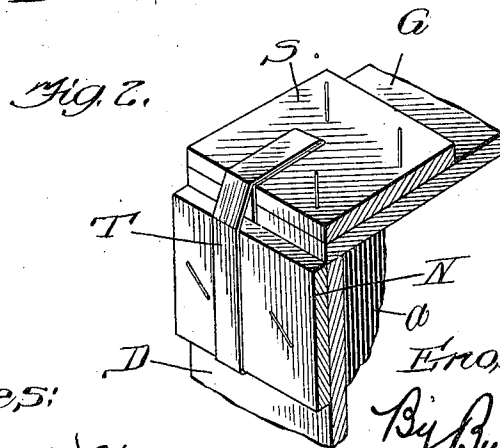
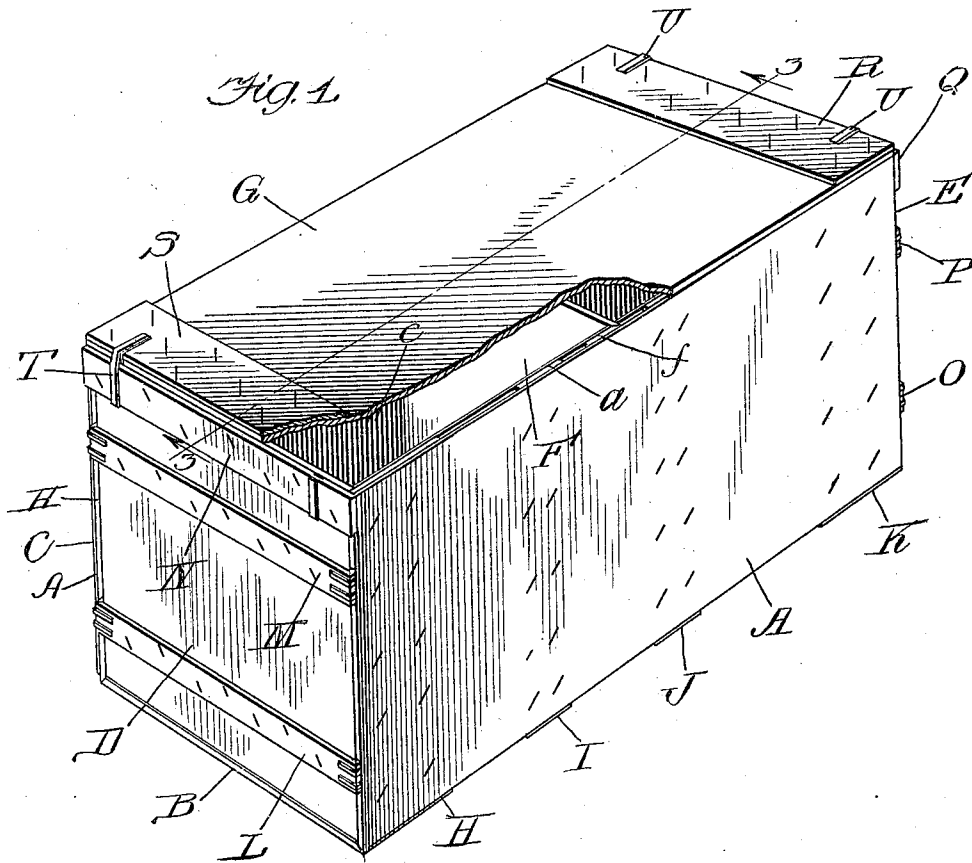
CRATE.

APPLICATION FILED JUNE 20, 1906. RENEWED OCT. 3, 1910.

975,661.

Patented Nov. 15, 1910.

3 SHEETS—SHEET 1.



Witnesses:

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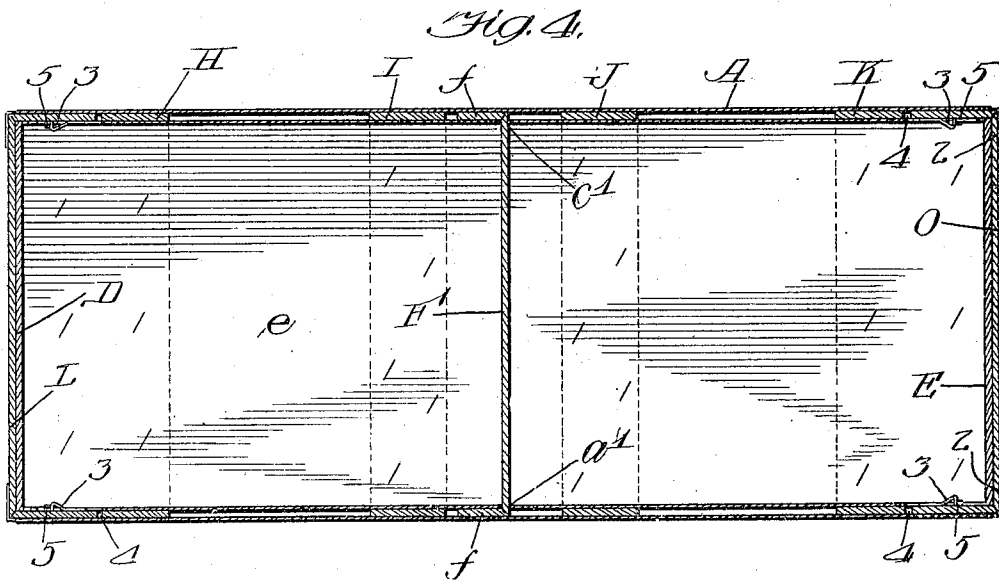
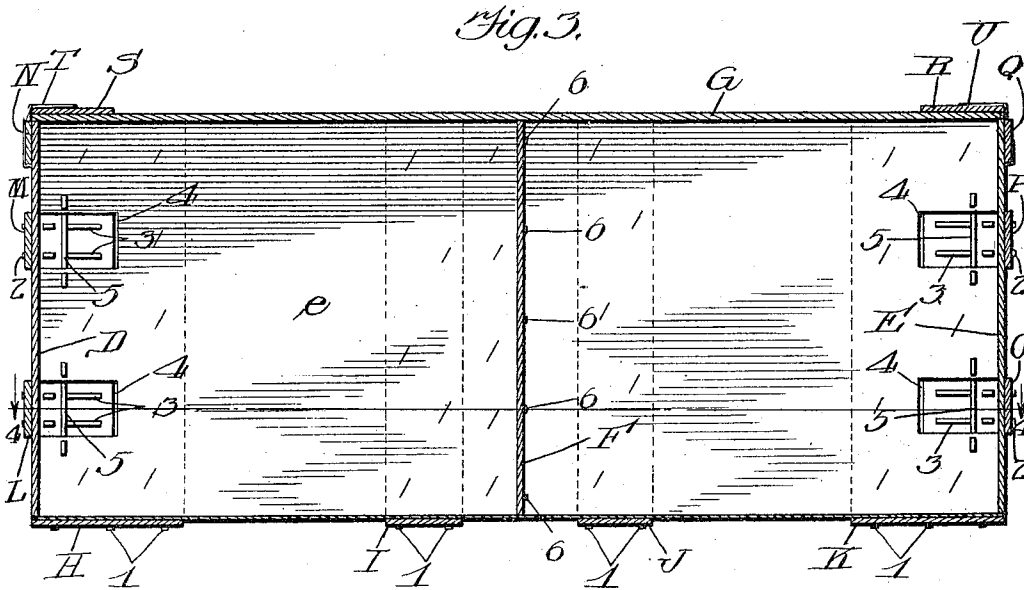
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ORATE.

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3 SHEETS—SHEET 2.



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3 SHEETS—SHEET 3.

Fig. 5.

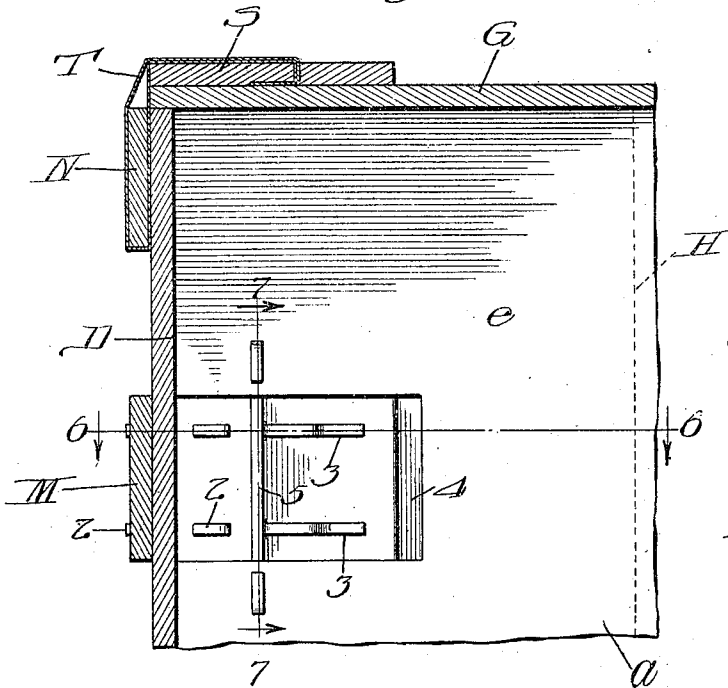


Fig. 7.

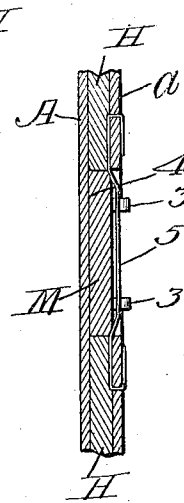


Fig. 6.

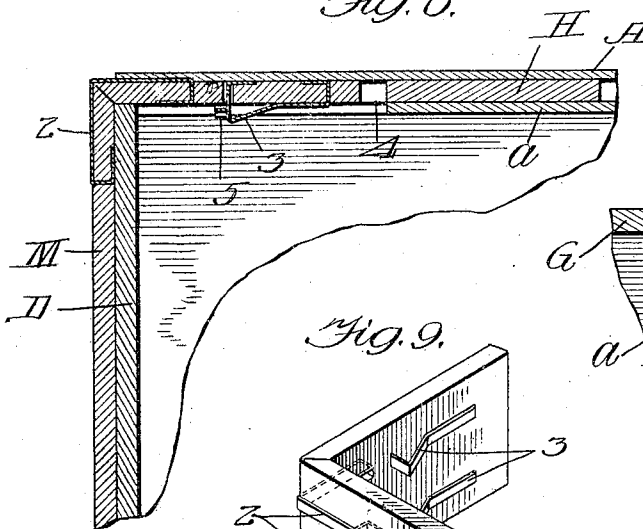


Fig. 8.

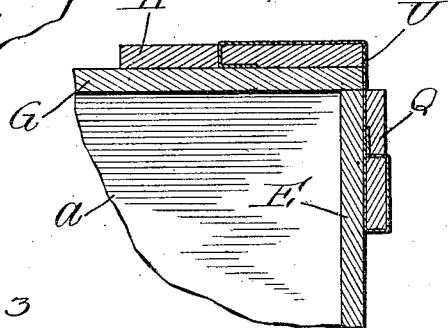
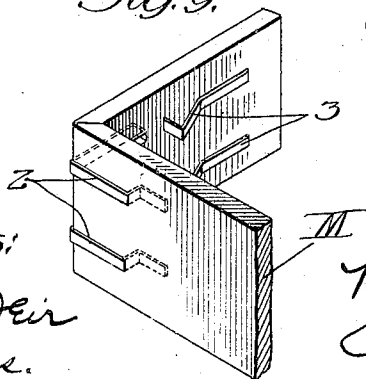


Fig. 9.



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UNITED STATES PATENT OFFICE.

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CRATE.

975,661.

Specification of Letters Patent.

Patented Nov. 15, 1910.

Application filed June 20, 1906, Serial No. 322,508. Renewed October 3, 1910. Serial No. 535,155.

To all whom it may concern:

Be it known that I, ENOS L. WALKER, a citizen of the United States of America, and resident of Cape Girardeau, Cape Girardeau county, Missouri, have invented a certain new and useful Improvement in Crates, of which the following is a specification.

My invention relates to boxes or crates or other like receptacles.

Generally stated, my invention contemplates an improved knockdown crate or box for use in shipping eggs or other produce.

Special objects of my invention are the provision of improved means for securing the different parts of the box together; the provision of an improved construction for the different walls of the crate or box; the provision of an improved construction by which the box or crate is rendered more strong and serviceable than heretofore; the provision of an improved construction and arrangement whereby the crate is at the same time comparatively inexpensive to manufacture; and the provision of certain details and features of construction tending to increase the general efficiency and serviceability of a box or crate of this particular character.

To the foregoing and other useful ends my invention consists in matters hereinafter set forth and claimed.

In the accompanying drawings, Figure 1 is a perspective of a crate embodying the principles of my invention, a portion of the top or cover being broken away to show the invention. Fig. 2 is a detail perspective of one of the cover fasteners. Fig. 3 is a longitudinal section on line 3—3 in Fig. 1. Fig. 4 is a horizontal section on line 4—4 of Fig. 3. Fig. 5 is a detail section of one corner of the box. Fig. 6 is a horizontal section on line 6—6 in Fig. 5. Fig. 7 is a vertical section on line 7—7 in Fig. 5. Fig. 8 shows another form of cover fastener. Fig. 9 is a detail perspective view of one end of one of the reinforcing strips.

As thus illustrated, my improved crate or box comprises a side A, a bottom B, another side C, end walls D and E, a middle wall F, and a top or cover G. The side A has an inner piece *a* and the side C has a similar inner piece *c*. The two sides and the said bottom B are flexibly connected by strips H, I, J and K, each strip comprising three sections flexibly connected end to end

by metal pieces 1. These strips are interposed between the inner and outer pieces or thicknesses of the sides, and are secured to the under surface of the bottom B. At their centers, the said inner pieces of the sides are provided with slots *a*¹ and *c*¹ extending vertically thereof. The end wall D has reinforcing strips L and M and N secured to the outside thereof, and each (except the last) composed of three sections flexibly secured end to end by small metal pieces 2. Said strips are also provided with metal catch pieces 3, as shown more clearly in Fig. 9.

As shown, the strips H and K are notched, and the inner pieces *a* and *c* are provided with notches or recesses 4 which coincide with the notches in the strips. These notches or recesses are spanned by narrow strips of metal 5.

The end wall E is, of course, similar to the end wall D, and has a couple of reinforcing strips O and P and an upper strip Q. Preferably, the middle wall F has end sections *f* flexibly secured thereto by metal pieces 6. A single sheet or board constitutes the top or cover G, which is reinforced by cross pieces or strips R and S. The metal fasteners T are employed for securing the top or cover in place. The fasteners can be of the kind shown in Fig. 8. In this case the fasteners U are not doubled back for their full length.

When constructed as shown, the sides and bottom constitute one flat blank. The end walls are each a flat blank. Also, the middle wall before insertion is in the form of a flat blank. The cover is also, of course, flat. All of these can be shipped in a perfectly flat condition.

When the parts are assembled, the sides and bottom are bent into position, and the ends of the strips L and M, O and P are then inserted in the notches or recesses 4. The metal catch pieces 3 slide under the metal strips 5 and thus lock the end walls in place. The end sections of the middle wall are then bent into position, and said wall is then inserted downward in the slots *a*¹ and *c*¹. It will be seen that the end sections of the middle wall slide down between the inner and outer sheets or thicknesses of the sides. When this is done, the top or cover is then secured in place by the metal fasteners. Thus all flexible joints are metal

reinforced, and the entire box or crate is of sheet material, such as veneer, each sheet or wall being reinforced by cross strips.

I prefer the form of cover fastener shown in Fig. 8. Any other form of fastener may, however, be employed without departing from the spirit of my invention.

The box or crate thus constructed may be used for shipping eggs or other produce.

I do not, of course, limit myself to the exact construction shown and described, as it is obvious that various ways may be employed for using the double walls in a box of this kind, and of removably securing the transverse walls in place by means inserted between the inner and outer layers of said walls, as well as of reinforcing the sides by means of spacing pieces which extend crosswise of the grain of the walls of the box, without in any way departing from the spirit of my invention.

What I claim as my invention is:

1. A knockdown box or egg crate comprising inner and outer sheets of material separated by transverse spacing strips to form sides having air spaces therein, a bottom flexibly connected with the ends of said strips whereby said double wall sides are flexibly connected with said bottom, transverse walls for said box, provided on their vertical edges with side portions engaging between the inner and outer sheets of said sides to fix the said transverse walls in position between the said sides, and a suitable cover the said sides and bottom being formed from a blank distinct from said transverse walls, as set forth.

2. A knock-down box or egg crate, having folding double sides, each providing a plurality of air spaces, a suitable bottom, and transverse walls provided on their vertical edges with means engaging between the inner and outer thicknesses of said sides, to hold the latter in place, whereby said transverse wall serves as a binder to hold the box together, said walls removable to permit the sides and bottom to be shipped flat, as described.

3. In an egg crate, hollow sides, a bottom, and transverse walls each provided on the vertical edges thereof with means for engaging between the inner and outer thicknesses of said sides, said walls removable to permit

the sides and bottom to be shipped flat, as described.

4. In a box, sides made of thin sheets of wood with the grain running lengthwise thereof, each side consisting of inner and outer sheets, vertical strips interposed between the said inner and outer sheets, with the grain of the wood running at right angles thereto, means for fastening said sheets and strips together, a bottom having transverse strips flexibly connected with the lower ends of the said strips in the sides, and transverse walls for binding the box together, said walls having means for removably engaging the said sides, as set forth.

5. In a box, folding side and bottom walls flexibly connected together at their edges, and removable transverse walls having means for removably engaging the sides to lock the box together, the sides being flush and smooth on their outer surfaces.

6. In a box, hollow sides, a bottom having its edges flexibly connected with the lower edges of the said sides, removable end walls for holding the box together, and means on said walls for locking them in place on the vertical edges of the sides, as set forth.

7. In a box, hollow sides, a bottom flexibly connected therewith, said sides each consisting of inner and outer sheets of wood with the grain running lengthwise thereof, vertical strips interposed between said inner and outer sheets, the inner sheets having vertical slots a transverse middle wall inserted in said slots having means engaging between said sheets, and end walls provided with means engaging between said sheets at the ends of the box, said walls being removable.

8. As an article of manufacture, a foldable box blank comprising a pair of hollow sides, a bottom, and means for flexibly connecting the sides and bottom together, said sides thereby adapted to be spread out flat in the plane of the bottom for transportation, and then folded at right angles thereto for use, as set forth.

Signed by me at Cape Girardeau, Missouri, this 16th day of June, 1906.

ENOS L. WALKER.

Witnesses:

EDWARD H. ENGELMAN,
GUS B. ENGELMAN.