L. C. BRITTON.

COLLAPSIBLE BOX OR CRATE.

APPLICATION FILED APR. 26, 1916.

1,223,253.

Patented Apr. 17, 1917.

3 SHEETS—SHEET 1.

Fig. 1.

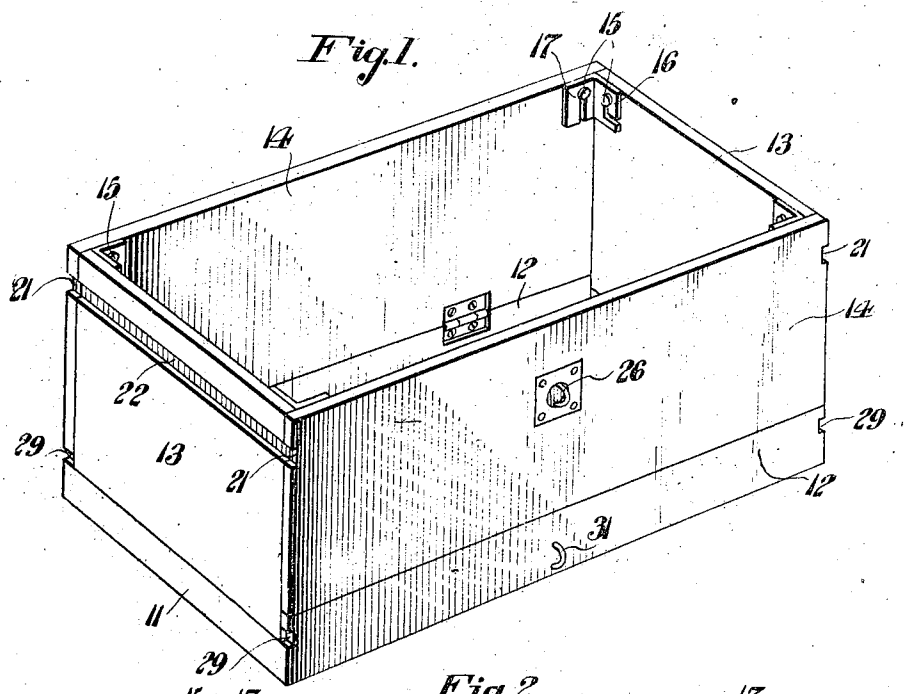


Fig. 2.

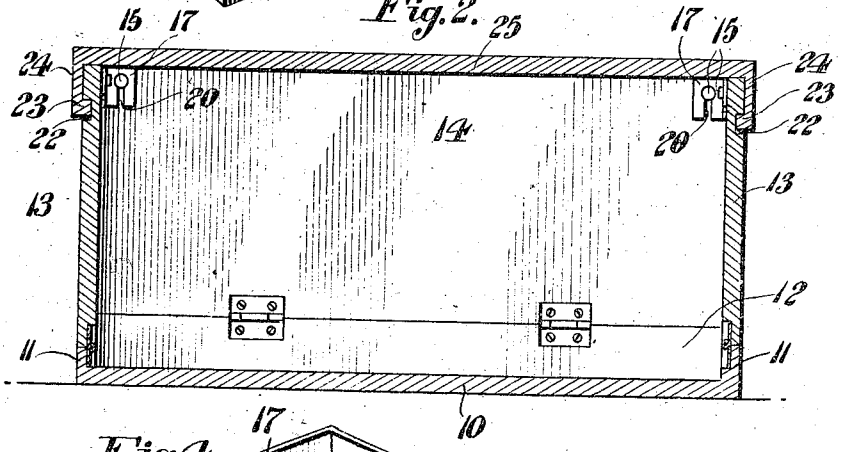
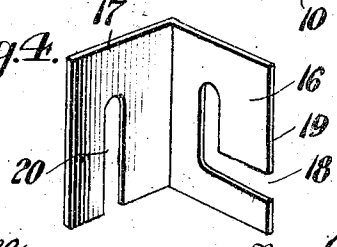


Fig. 4.



Witnesses

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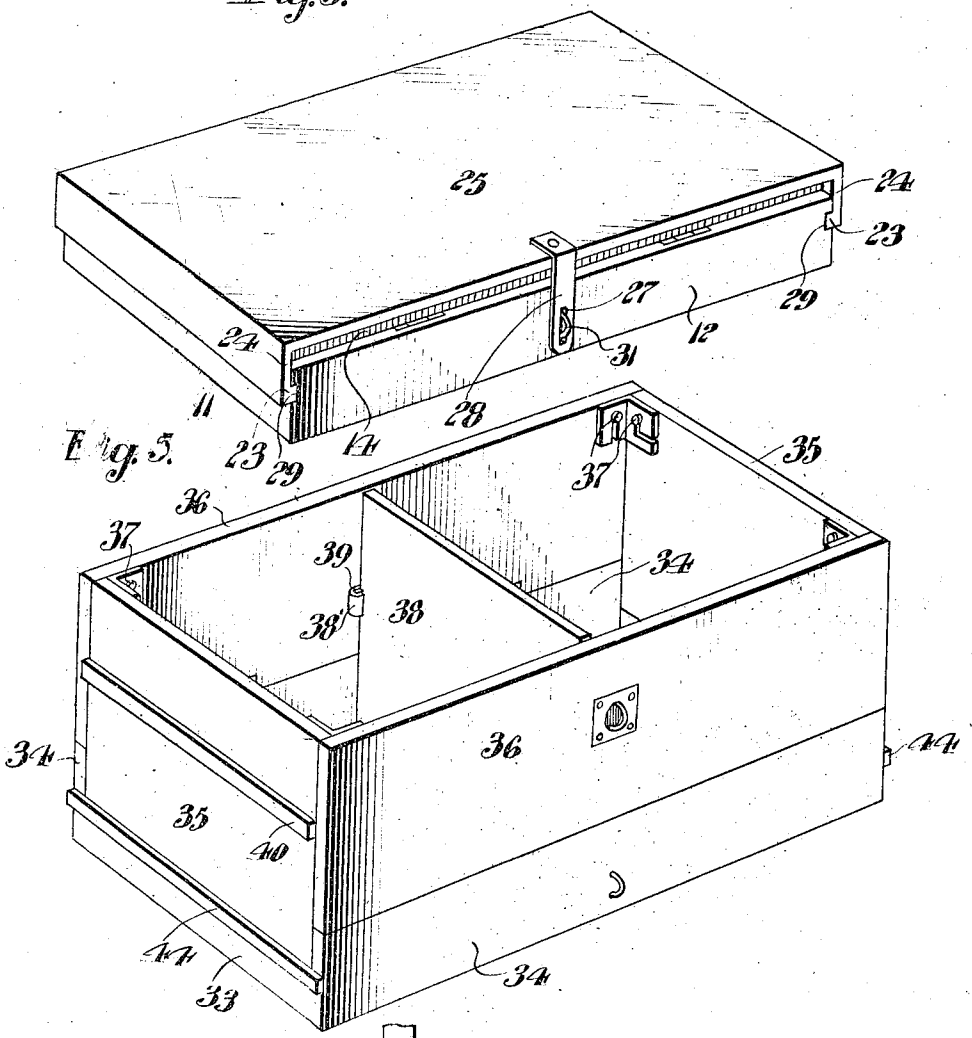
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3 SHEETS—SHEET 2.

Fig. 3.



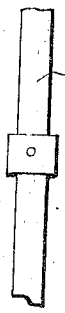


Fig. 8.

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3 SHEETS—SHEET 3.

Fig. 6.

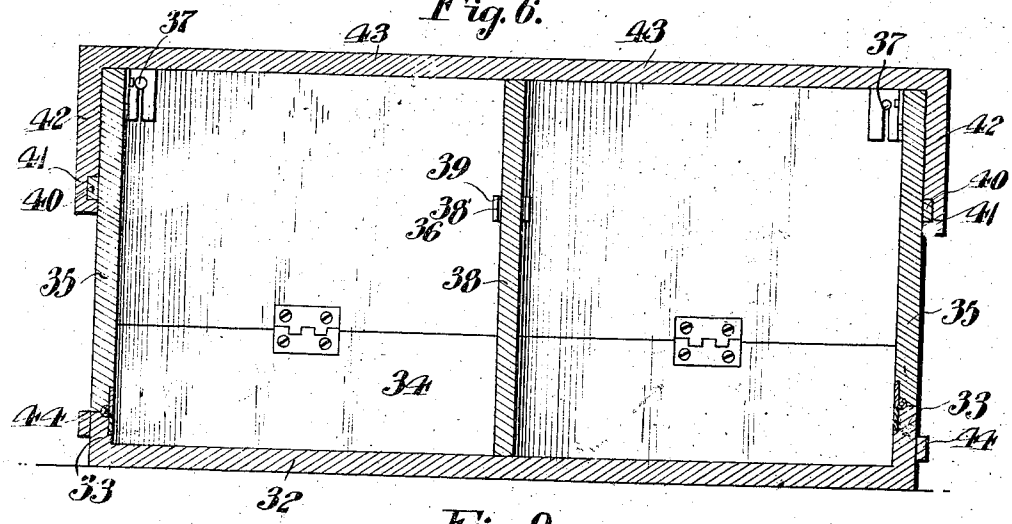


Fig. 9.

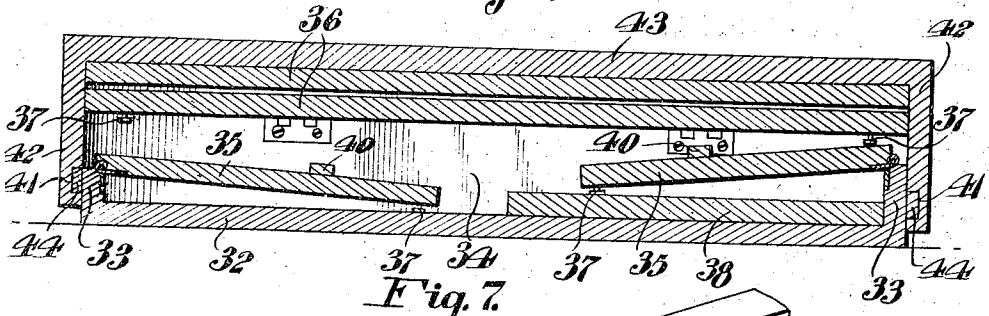
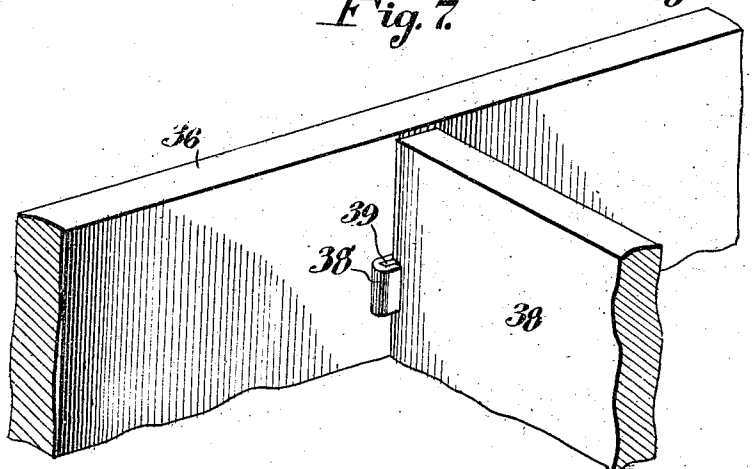


Fig. 7.



Witnesses

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UNITED STATES PATENT OFFICE.

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COLLAPSIBLE BOX OR CRATE.

1,223,253. Specification of Letters Patent. Patented Apr. 17, 1917.

Application filed April 26, 1916. Serial No. 93,698.

To all whom it may concern:

Be it known that I, LEWIS C. BRITTON, a citizen of the United States, residing at Egeland, in the county of Towner and State of North Dakota, have invented new and useful Improvements in Collapsible Boxes or Crates, of which the following is a specification.

This invention contemplates the provision of a collapsible box or crate, the component parts of which can be folded in compact form so that the crate as a whole will occupy a minimum amount of space, to permit a large number of the same to be transported at the same time, the crate however being constructed to provide a strong and durable shipping case when the parts are set up in position for use.

The nature and advantages of the invention will be better understood from the following description when taken in connection with the accompanying drawings, the invention residing in the construction, combination and arrangement of parts as claimed.

In the drawings forming part of this specification like numerals of reference indicate similar parts in the several views and wherein:—

Figure 1 is a perspective view of the preferred form of the invention with the cover removed.

Fig. 2 is a longitudinal sectional view therethrough with the cover in position.

Fig. 3 is a view of the crate showing the parts folded.

Fig. 4 is a detail view of one of the clips.

Fig. 5 is a perspective view of a modified form of the invention with the cover removed.

Fig. 6 is a longitudinal sectional view therethrough with the cover in place.

Fig. 7 is an enlarged fragmentary view of a portion of one side wall of the crate showing the connection between the wall and partition.

Fig. 8 is an edge view of the partition.

Fig. 9 is a longitudinal sectional view through the crate with the parts folded.

Referring to the drawings in detail and particularly to Figs. 1 to 4 inclusive, the box or crate constructed in accordance with my invention embodies a bottom 10 to which are secured opposed strips 11 and 12 respectively. The strips 11 have hingedly associated therewith the end walls 13 which are adapted to be folded inwardly in superimposed relation upon the bottom, while hingedly secured to the strips 12 are the side walls 14. The strips 12 extend above the strips 11 to permit the side walls 14 to fold in superimposed relation upon the end walls 13 subsequent to the folding of the end walls.

Projecting inwardly from the two upper corners of each of the said walls are headed elements 15, which are arranged in pairs when the walls are in set up position, the elements of each pair being disposed in right angular relation to accommodate a fastening clip of the character disclosed in Fig. 4. As shown this clip is constructed from a single length of metal bent to provide right angularly disposed branches 16 and 17 respectively, the branch 16 being formed with an L-shaped slot 18 opening at its vertical edge, while the branch 17 is provided with a vertical slot 20 opening at its lower edge. It is of course to be understood that one of these clips is used at each corner of the box, the vertical slot 20 of the branch 17 receiving one of the headed elements in the side walls 14, while the L-shaped slot 18 of the branch 16 receives the adjacent headed element on the end wall 13. When the headed element in the side wall is moved into the vertical portion of the L-shaped slot, the clip is held immovably associated with the crate, and the walls rigidly supported in upright position.

The vertical edges of the side walls 14 are provided with alined notches 21 adapted to register with a transverse groove 22 in the end walls 13, when the latter are in set up position, which arrangement permits the cleats 23 forming part of the depending walls 24 of the cover 25 to be slidably fitted within the groove 22 from either side of the crate, and when the cover is associated with the crate the tongue and groove connection assists the clips above described, to rigidly support the side and end walls in set up position, thereby producing a shipping crate of maximum strength and efficiency.

Mounted upon one of the side walls 14 is a keeper 26 adapted to be received by the slot 27 in the hasp 28 whereby the cover may be locked upon the crate by means of a suitable pad lock or the like.

To permit a large number of these crates to be transported at the same time, the component parts of the crate may be folded in

the manner shown in Fig. 3, which is accomplished by removing the corner clips, and subsequently folding the end walls 13 in superimposed relation upon the bottom 10 and the side walls in superimposed relation upon the end walls 13. It will now be noted that the strips 12 have their opposite edges notched as at 29, the notches being disposed in alinement to receive the cleats 23 of the cover 25, thereby permitting the latter to be also associated with the crate in collapsed condition, the cover 25 serving in this instance to hold the side and end walls folded in superimposed relation. In this position of parts the slot 27 of the hasp 28 receives a keeper 31 projecting from one of the strips 12, and with which keeper the pad lock hereinabove mentioned may be associated for locking the cover in position and thereby holding the component parts of the crate folded.

In Figs. 5 to 9 inclusive I show a modified form of the invention. In this instance the crate comprises a bottom 32 from which rises end strips 33 and side strips 34. The end walls 35 are hingedly secured to the strips 33 to fold inwardly upon the bottom while the side walls 36 are hingedly secured to the strips 34 to fold inwardly in superimposed relation upon the end walls 35. Projecting inwardly from the respective walls adjacent the upper corners thereof are headed elements 37, which when the said walls are in set up position are disposed in pairs, with one element disposed at a right angle with respect to the other element of the pair. The corner clips illustrated in Fig. 4, and hereinabove described in connection with the preferred form of the invention are used in the same manner, being associated with the headed elements 37 as shown and serve to hold the walls fixed relatively. With this form of the invention a vertical partition 38 may or may not be used, means being provided to hold the partition removably positioned within the crate. This means as shown in this particular instance consists of a pair of substantially U-shaped clips 38′ secured to the side walls 36 at directly opposite points, and adapted to receive the opposite edges of the plates 39, which latter are secured to the opposed vertical edges of the partition and project a slight distance beyond the opposite sides or faces thereof. Manifestly by reason of this construction the vertical partition can be easily inserted and removably held in position within the crate, or entirely dispensed with should the occasion require.

Secured to each of the end walls 35 is a transverse cleat 40 adapted to be received within the grooves 41 formed in the depending walls 42 of the cover 43, which tongue and groove connection coöperates with the corner clips to provide a very rigid construction when the parts are in set up position for use. The cover can be locked upon the crate in any suitable manner.

When it is desired to fold the crate, the corner clips are first removed, the end walls folded inwardly upon the bottom, and the side walls subsequently folded in superimposed relation upon the end walls. Extending transversely across the end strips 33 are cleats 44 which are adapted to be received within the grooves 41 of the cover, and the latter is associated when the crate is in collapsed condition. The cover in this instance serves to hold the parts folded and can also be locked upon the crate in any suitable manner.

While it is believed that from the foregoing description the nature and advantages of the invention will be readily apparent, I desire to have it understood that such changes in the construction and arrangement of parts may be resorted to when desired as fall within the scope of what is claimed, without departing from the spirit of the invention.

What is claimed is:—

The combination with a receptacle having a bottom, side and end walls hingedly mounted thereon, of headed elements projecting from the adjacent corners of the respective walls and disposed within the receptacle when the walls are in set up position, corner clips, each having right angularly disposed branches, one branch having a straight slot opening at the lower edge of the branch for the reception of one of said headed elements, and the remaining branch having a substantially L-shaped slot opening at its free vertical edge for the reception of the remaining headed element, whereby said clip serves to hold the walls rigid in their set up position.

In testimony whereof I affix my signature.

LEWIS C. BRITTON.

Witnesses:

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A. L. PARSONS.