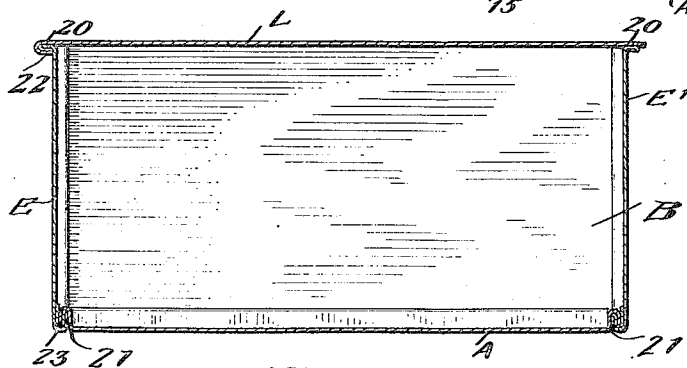
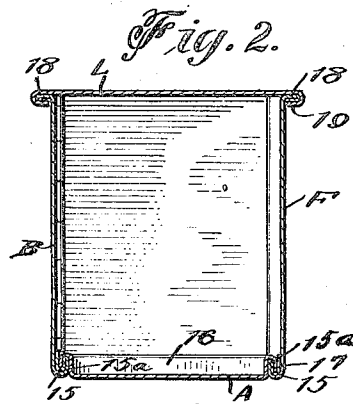
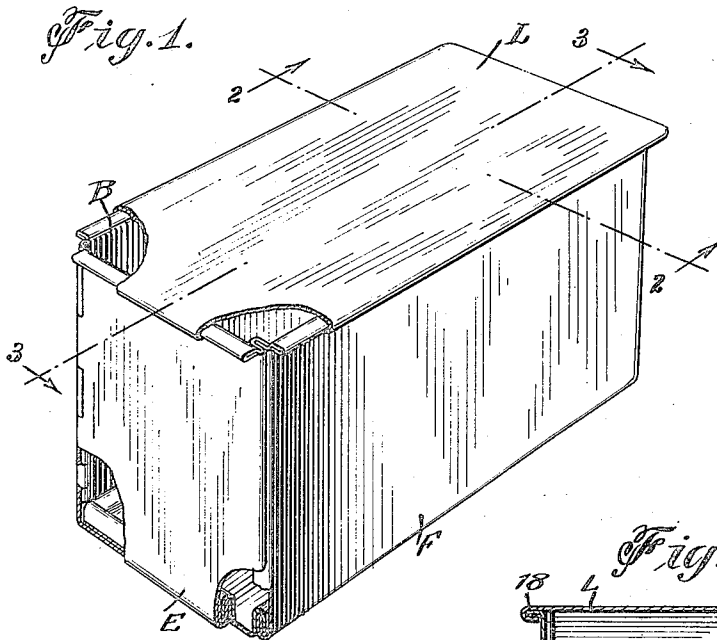


J. A. HAZEN.
COLLAPSIBLE METAL CRATE.

APPLICATION FILED NOV. 8, 1919. RENEWED MAR. 21, 1922.

1,414,948.

Patented May 2, 1922.



WITNESSES

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Fig. 3.

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Specification of Letters Patent.

Patented May 2, 1922.

Application filed November 8, 1919, Serial No. 336,616. Renewed March 21, 1922. Serial No. 545,600.

To all whom it may concern:

Be it known that I, JAMES ALTON HAZEN, a citizen of the United States, and a resident of Long Beach, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Collapsible Metal Crates, of which the following is a specification.

My invention relates to collapsible metal crates as embodied in my Patent No. 1,210,800, issued January 2, 1917, and it contemplates certain improvements as will be specified in the claims.

It is a purpose of my invention to provide a metallic crate comprised of separable sections so constructed as to produce a reinforced connection between the sections when they are in active or set up position whereby a more rigid crate is provided to prevent collapsing and bending of the same under the rough treatment to which it is subjected during shipment.

It is also the purpose of my invention to provide crate sections which facilitate the setting up and collapsing of the crate, and to simplify their construction so that they can be made at a minimum cost.

I will describe one form of crate embodying my invention and will then point out the novel features thereof in a claim.

In the accompanying drawings:—

Figure 1 is a view showing in perspective one form of crate embodying my invention with certain portions broken away to reveal the manner in which the sections are connected;

Figure 2 is a transverse sectional view, taken on the line 2—2 of Figure 1; and

Figure 3 is a longitudinal sectional view, taken on the line 3—3 of Figure 1.

Similar reference characters refer to similar parts in each of the views.

Referring specifically to the drawings, B designates a back side section to the vertical edges of which are hingedly connected end sections E and E'. F designates the front side section of the crate, and between the front and back side sections is interposed the bottom section A. The crate is adapted to be closed by a lid L which is slidably associated with the end and side sections as will be hereinafter described.

As illustrated to advantage in Figure 2, the lower longitudinal edges of the back and

front sections B and F, respectively, are folded upon themselves, as at 15, so as to provide an edge having from two to four thicknesses of metal. These edges are now bent outwardly and upwardly to provide longitudinally extending tongues 15^a which are spaced from the body of the sections so as to provide intervening grooves. The longitudinal marginal edges of the bottom section A are bent upwardly, as at 16, and then outwardly and downwardly to form longitudinally extending tongues 17, such tongues being spaced from the vertical portions 16, so as to form intervening grooves of a width to accommodate tongues 15^a of the sections B and F. The grooves between the tongues 15^a and the body of the sections B and F likewise receive the tongues 17 so that it will be seen that the bottom section A may be readily connected to or disconnected from the side sections B and F by actuating the section to remove the tongues from the grooves of the side sections:

The upper marginal edges of the side sections B and F are bent at right angles and then folded to form a tongue or flange of from two to four thicknesses, such flanges being adapted to coact with similar flanges 19 formed on the longitudinal edges of the lid L. As shown in Figure 2, the tongues or flanges 19 are only of a single thickness and are formed by bending the marginal edges of the section downwardly and inwardly in such manner that the tongues are spaced from the bottom of the section to form an intervening groove in which the tongues 18 are adapted to be disposed.

As shown in Figures 1 and 3, the end sections E and E' are each bent outwardly along its upper edge to provide a tongue or flange 20 of from two to four thicknesses, while its lower horizontal marginal edge is bent in a manner identical to the lower edges of the side sections B and F to form a tongue 21 of from two to four thicknesses which is disposed in parallel relation to the body of the section.

As clearly shown in Figure 3, one transverse marginal edge of the lid L is bent downwardly and outwardly to provide a flange or tongue 22 which is disposed spaced parallel relation to the body of the lid so as to form an intervening groove for receiving the tongue 20 of one of the end

sections E or E'. The other transverse edge of the lid L is disposed in the same plane as the body portion of the section, and in practice provides a handle for applying and removing the lid to and from the crate.

The tongues 21 of the end sections E and E' are adapted to coact with tongues 23 formed on the transverse edges of the bottom section A. As shown in Figure 3, these tongues 23 are formed in a manner similar to the tongues 17 but are of double thickness as clearly shown.

From the foregoing description, it will be obvious that the several tongues and grooves of the sections all coact to maintain the several sections in the extended or set up position, at the same time permitting the ready separation of the sections to allow the collapsing of the crate. When it is desired to collapse the crate, it will be understood that by removing the lid L, the front side section F may be then disengaged from the bottom and end sections by forcing the same downwardly. As soon as the front section is removed the removal of the bottom section may be readily effected by pushing the same inwardly of the crate so that the end sections may be swung inwardly to lie flat upon the back section B.

From the foregoing description, it will be particularly noted that certain of the tongues are of double thickness, the purpose of which is to reinforce the tongues and to thereby produce a more substantial connection between the several connections so that

they will be maintained in rigid extended position.

Although I have herein shown and described only one form of crate embodying my invention, it is to be understood that various changes and modification may be made without departing from the spirit of the invention or the spirit and scope of the appended claim.

Having thus described my invention, I claim:

A collapsible crate comprising, a back section, end sections hingedly connected to the back section, an outwardly extending tongue formed on the outer edge of one of the end sections, a bottom section, downwardly and outwardly extending tongues formed on all of the edges of the bottom section and disposed above the plane of the body of said section, a front section, upwardly and inwardly extending tongues formed on the lower edges of the back and front sections, and engageable with the tongues of the bottom section for supporting the latter between the sections, a lid, inwardly extending tongues formed on the side edges and one of the end edges of said lid and spaced therefrom to provide grooves, outwardly extending tongues formed on the upper edges of the front, end and back sections and slidable in the grooves of said lid to engage the lid tongues for confining the lid upon the crate.

JAMES ALTON HAZEN.