D. B. THOMPSON.

METAL CRATE.

APPLICATION FILED APR. 14, 1917.

1,255,352. Patented Feb. 5, 1918.

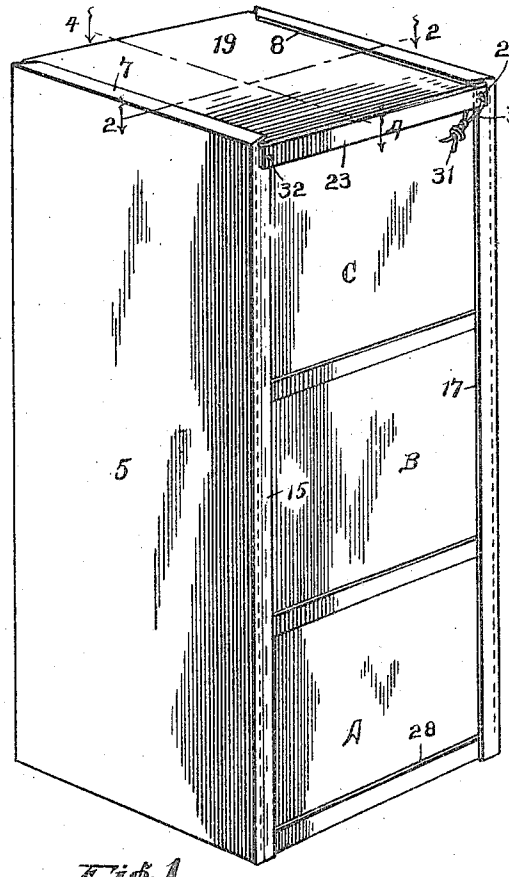

Fig. 1.

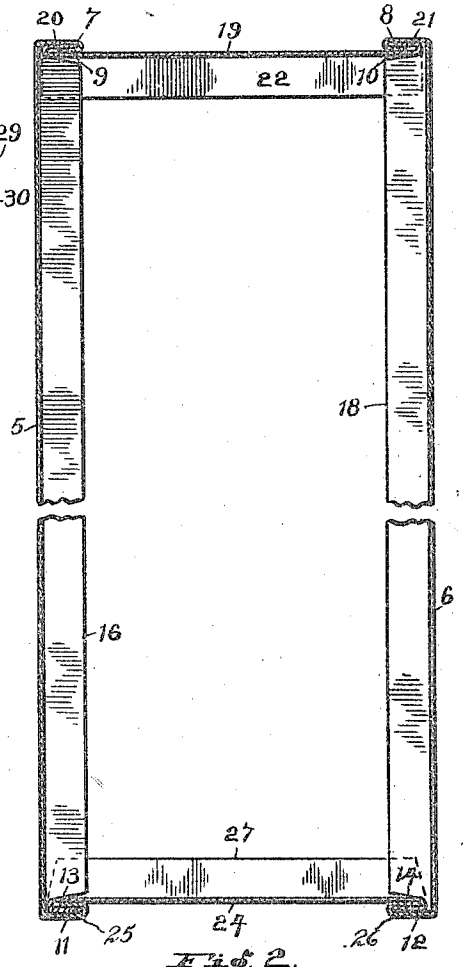

Fig. 2.

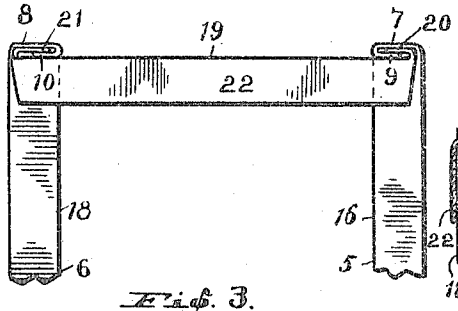

Fig. 3.

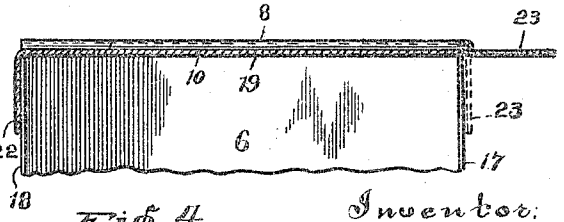

Fig. 4.

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UNITED STATES PATENT OFFICE.

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METAL CRATE.

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To all whom it may concern:

Be it known that I, DUFFIELD B. THOMPSON, a citizen of the United States, residing in the city of Richmond, in the county of Wayne and State of Indiana, have invented a new and useful Construction for Metal Crates, of which the following is a full, clear, and comprehensive specification and exposition, the same being such as will enable others to make and use the same with absolute precision.

In the shipment of display boxes for containing cakes or the like it is customary to inclose a plurality of such boxes in a wooden or slat crate. These crates require considerable labor to place them in position and as the parts of the crate are usually secured together by nails therefore it is evident that in releasing the boxes the crate will be damaged if not entirely destroyed. Therefore when it is desired to return the boxes a new crate will have to be provided, or the old one repaired, besides requiring much space for their storage, all of which necessitates extra labor and expense. Therefore the primal object of this invention is to provide a permanent and collapsible shipping crate which will be comparatively light in weight, strong and durable in construction, easily opened and closed, which is practically indestructible, adapted to be locked in operative position, which can be used repeatedly without deterioration, which can be quickly opened and closed, which can be collapsed and stored in a small compass of space, and which can be manufactured and sold at a comparatively low price.

Other objects and particular advantages of this invention will be brought out in the course of the following specification.

One manner for carrying out the objects of my invention in a practical manner is shown in the accompanying drawings, in which—

Figure 1 is a perspective view of my complete invention as it would appear in actual practice, that is, showing it containing boxes and in condition ready for shipment.

Fig. 2 is a central vertical section of the assembled crate alone, as taken in the direction indicated by the line 2—2 of Fig. 1, but taken on an enlarged scale from that of Fig. 1.

Fig. 3 shows the upper portion of the assembled crate in elevation, as taken from the rear.

And Fig. 4 is a central section of the upper portion of the crate, as taken in the direction indicated by the line 4—4 of Fig. 1, but taken on an enlarged scale, and showing the hinged flange extending out at right angles to the position in which it is shown in Fig. 1, also showing another position of said flange in dotted lines.

Similar indices denote like parts throughout the several views of the one sheet of drawings.

In order that the construction, the operation, and the advantages of my invention may be more fully understood and appreciated I will now take up a detailed description thereof, in which I will set forth the several features as fully and as comprehensively as I may.

In its proposed construction this invention is made entirely of sheet metal, and it comprises the two sides 5 and 6, which are parallelogram-shaped sheets extending from top to bottom and from front to rear of the completed crate, the two sides being identical with each other in every essential particular.

The upper end portions of the sides 5 and 6 are turned inward at right-angles to form the respective flanges 7 and 8, and a reverse tongue, 9 and 10 respectively, is turned downward and outward under and parallel with the flanges 7 and 8 and spaced from the respective flanges 7 and 8, thereby forming a channel therebetween, but said tongues are only about one-half the length of the flanges. In like manner the lower end portions of the sides 5 and 6 are turned inward at right-angles to form the respective flanges 11 and 12, and a reverse tongue, 13 and 14 respectively, is turned upward and outward and parallel with the flanges 11 and 12 and spaced from the respective flanges 11 and 12 and forms a channel therebetween, but said tongues are only about one-half the length of said flanges.

Extending inward at right-angles from the respective front and rear edges of the side 5 are the plain flanges 15 and 16. In like manner extending inward at right-angles from the respective front and rear edges of the side 6 are the plain flanges 17 and 18.

Numeral 19 denotes the top end of the crate, and the side edges thereof are turned upward and inward parallel with and spaced therefrom forming the reverse tongues 20 and 21 which are adapted to slidably fit between the flange 7 and the tongue 9, and between the flange 8 and the tongue 10, respectively, as shown in Fig. 2.

At the rear the top 19 is turned down at right-angles forming the flange 22. To the front of the top 19 is hinged the relatively swinging flange 23, which is adapted to extend out in alinement with the top 19, as shown by the full lines in Fig. 4, or to be turned down at right angles to the top 19, as indicated by the dotted lines in Fig. 4.

Numeral 24 denotes the bottom of the crate, and the side edges thereof are turned downward and inward parallel therewith and spaced therefrom, forming the reverse tongues 25 and 26 which are adapted to slidably fit between the flange 11 and the tongue 13, and between the flange 12 and the tongue 14, respectively as shown in Fig. 2.

At the rear the bottom 24 is turned up at right-angles forming the flange 27. At the front the bottom 24 is turned up at right-angles forming the flange 28.

Of all of the flanges above mentioned only the flange 23 is movable independently of the member to which it is attached.

Formed through one end of the hinged flange 23 is a small aperture 29, with a like aperture registering therewith formed through the upper portion of the flange 17, for instance, to receive a wire 30 which may be looped therethrough with its projecting end portions secured together by the seal 31. And, if desired, a like wire and seal may be placed through the aperture 32 located on the opposite side of the crate.

For the purpose of making clear the operation we will presume that the construction is in operative position, as in Fig. 1. Desiring now to remove the boxes A, B and C, the first operation would be to cut the wire 30 and remove it from the aperture 29, after which the flange 23 may be turned out to the position in which it is shown in Fig. 4. Then by grasping the flange 22 it is evident that the top 19 may be slid rearward and entirely removed.

The removal of the top will permit the upper ends of the sides 5 and 6 being moved slightly apart. The boxes C, B and A may then be lifted out in the order mentioned. After the above other boxes may be placed therein and the top again replaced and secured as before. But if it is desired to store the crate for a time then one has only to slide the bottom out to the rear, which can be done when the crate is empty. After the last mentioned operation the two sides 5 and 6 may be brought together, with the top 19 and the bottom 24 placed therebetween, parallel therewith, which will permit the crate to be stored in a very small space.

From the above it will be noticed that no nails, rivets, or screws will be required, and that the danger of breakage of parts will be practically *nil*, and that the crate can be easily and quickly assembled or taken apart as desired, and that the inclosed boxes can not be taken out or opened without detection.

I desire that it be understood that various changes may be made in the several details of construction without departing from the spirit of the invention or changing the principles thereof.

Having now fully shown and described my invention and its intended operation, what I claim and desire to secure by Letters Patent of the United States, is—

1. A sheet metal crate comprising two sides having flanges extending inward from each edge thereof, a bottom having a flange extending up from the front and the rear edges thereof and extending between the sides, sliding joints connecting the bottom and the sides, a top having a flange on one edge thereof and extending between the sides, a hinged flange connected to the other edge of the top and extending between the sides and adapted to be turned down at right angles to the top or to be turned out in alinement therewith, and sliding joints connecting the top and the sides.

2. A sheet metal crate comprising two sides, flanges extending inward from each vertical edge of each of the sides, a bottom, sliding interlocking joints connecting the sides and the bottom, a top, sliding interlocking joints connecting the sides and the top, flanges extending up from the front and the rear edges of the bottom, a flange extending down from the rear edge of the top, a flange hinged to the front edge of the top, and means whereby the hinged flange may be secured at right-angles to the top.

3. A sheet metal crate comprising two sides each having inturned flanges protruding from its edges, a top and a bottom each adapted to slidably interlock with the ends of the sides, inturned flanges extending from the bottom, an inturned flange extending from one edge of the top, a hinged flange extending from the other edge of the top and means for securing the hinged flange at right-angles to the top, all substantially as set forth.

4. A metal crate comprising two sides, flanges integral with and extending inward from the edges of the sides, a top and a bottom, slidable interlocking joints for detachably connecting the upper and lower edges of the sides with the outer edges of the top and the bottom, flanges integral with the front and the rear edges of the bottom and with the rear edge of the top, a flange hinged

to the forward edge of the top, and means for securing the hinged flange at right-angles to the top, all substantially as set forth.

5. A sheet metal crate adapted to be disassembled and packed into a small compass of space and comprising two vertical sides spaced apart parallel with each other, flanges extending inward from the longitudinal edges of the sides, a top, a bottom, flanges extending inward from the front and rear edges of the bottom and from the rear edge of the top, a hinged flange attached to the forward edge of the top, and means for detachably connecting the side edges of the top and the bottom with the end edges of the sides.

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

DUFFIELD B. THOMPSON.

Witnesses:

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R. E. RANDLE.