A. V. TREGO.

COLLAPSIBLE BOX.

APPLICATION FILED JULY 1, 1918. RENEWED OCT. 3, 1919.

1,337,167.

Patented Apr. 13, 1920.

3 SHEETS—SHEET 1.

Fig. I.

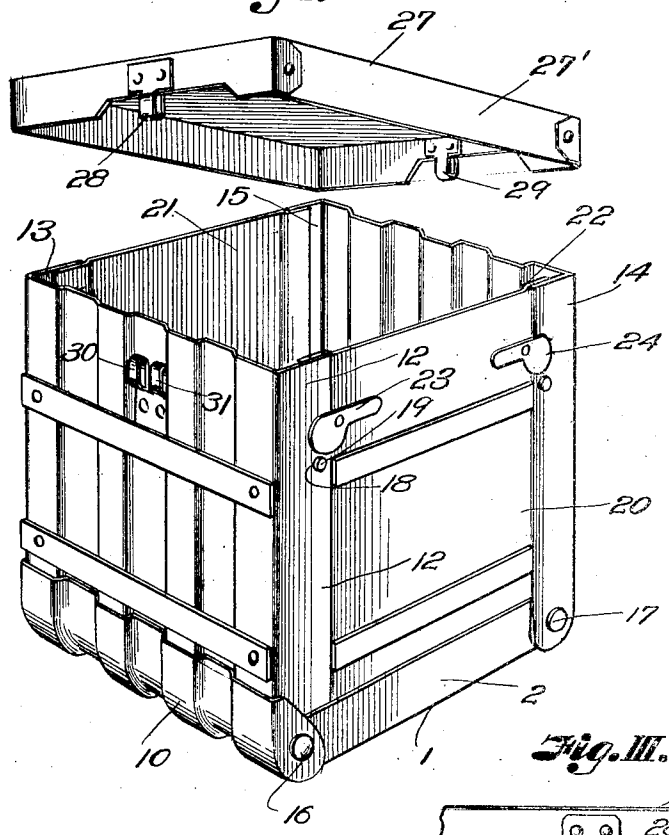


Fig. III.

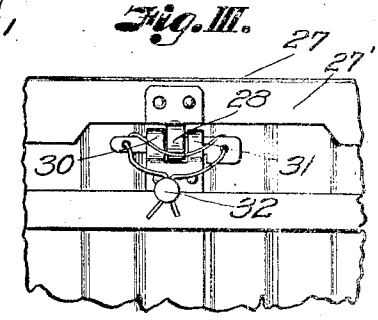
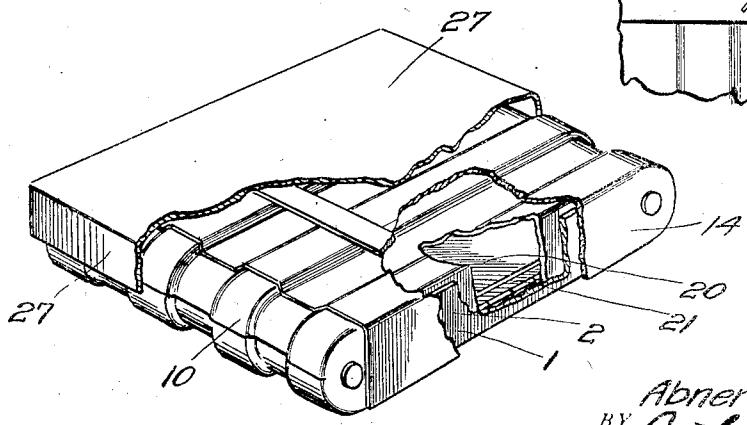


Fig. II.



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3 SHEETS—SHEET 2.

Fig. IV.

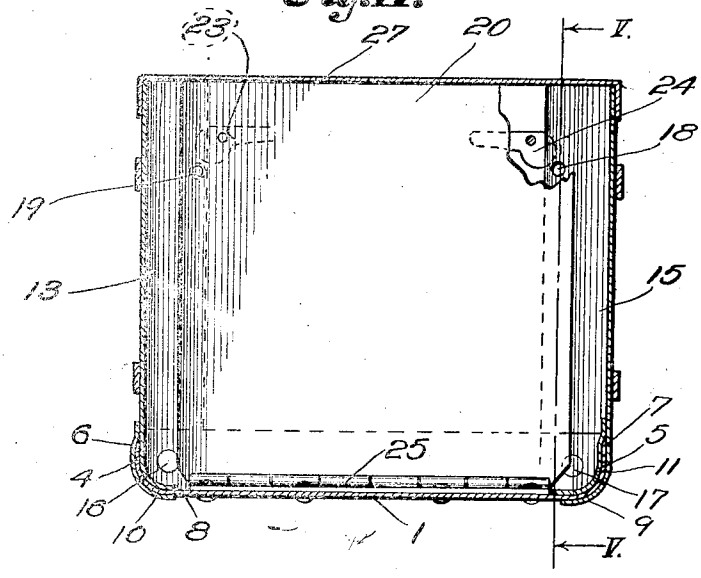
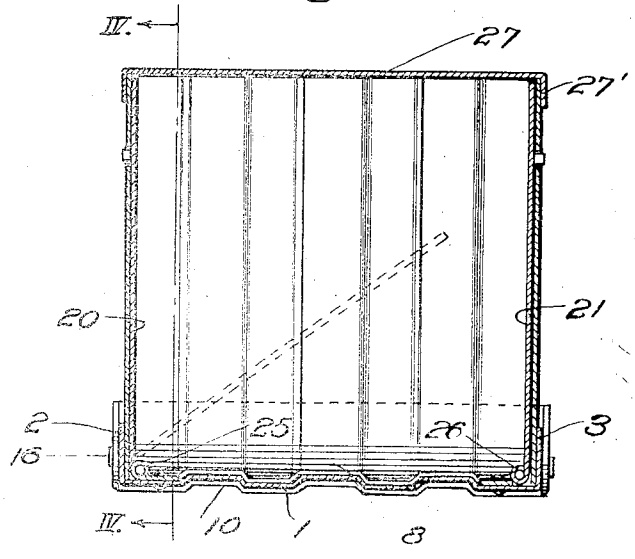


Fig. V.



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3 SHEETS—SHEET 3.

Fig. VI.

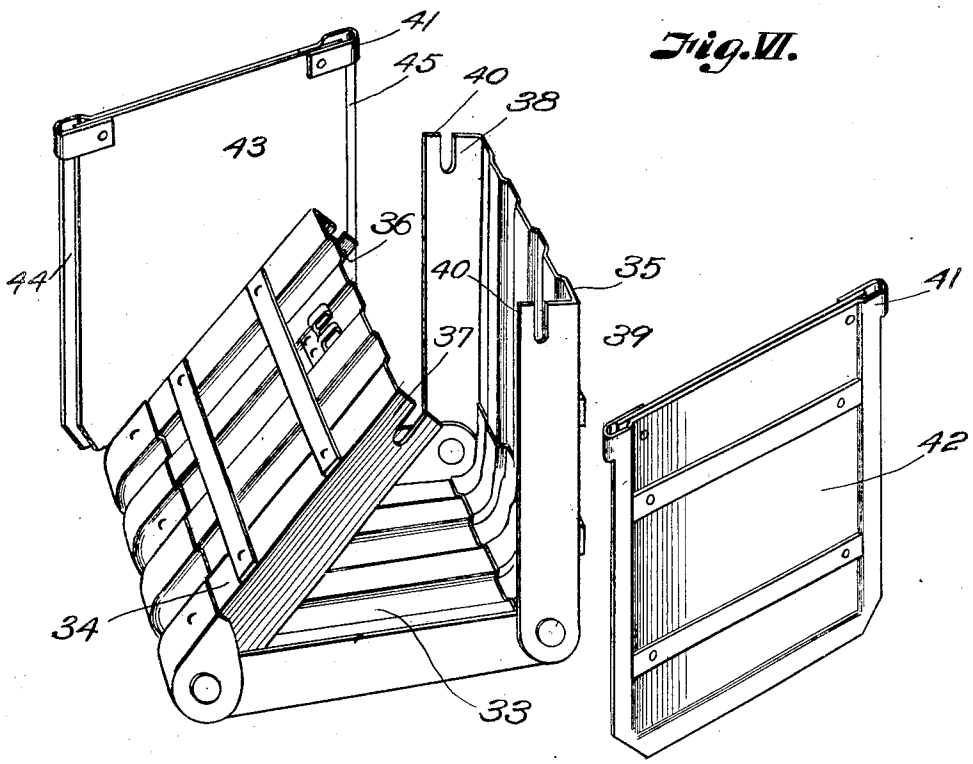
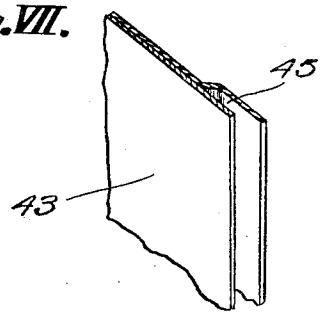


Fig. VII.



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UNITED STATES PATENT OFFICE.

ABNER V. TREGO, OF MOUNT WASHINGTON, MISSOURI.

COLLAPSIBLE BOX.

1,337,167. Specification of Letters Patent. Patented Apr. 13, 1920.

Application filed July 1, 1918, Serial No. 242,855. Renewed October 3, 1919. Serial No. 328,257.

To all whom it may concern:

Be it known that I, ABNER V. TREGO, a citizen of the United States, residing at Mount Washington, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Collapsible Boxes; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to collapsible crates or boxes. One of the objects thereof is to provide a box which may be readily collapsed for shipping when empty and which when so collapsed, may be stored within a relatively small space.

Another object of the invention is to provide means whereby when the structure is set up for use, a strong rigid structure will be provided, well adapted to withstand the rough usage to which a device of this class is usually subjected.

In the drawings:

Figure I is a perspective view of the box constructed in accordance with my invention.

Fig. II is a perspective view of a box collapsed in accordance with my invention, the parts being broken away to disclose the relative position of the elements in the collapsed position.

Fig. III is a detail view of the lock or seal.

Fig. IV is a sectional view on the line IV—IV of Fig. V.

Fig. V is a sectional view on the line V—V of Fig. IV.

Fig. VI is a dissociated view of a slightly modified form of box ready to collapse.

Fig. VII is a sectional view through one of the removable side plates for the modified form of box.

Referring now to the drawings by numerals of reference:

1 designates the bottom of the box which is preferably corrugated and which is provided with upstanding side flanges 2 and 3. The ends of the bottom are slightly curved upwardly as shown at 4 and 5, Fig. IV.

The upstanding curved portions 4 and 5 of the bottom constitute lips, which are received in the recesses 6 and 7 formed by the walls 8 and 9 of the end members and the downwardly projecting supplemental lips 10 and 11 fastened to the end members as shown.

By referring to Figs. I and IV, it will be observed that the supplemental portion 10 is on the outside of the end member, while the one designated 11 is on the inner side, this construction permitting the folding down of the two end members as will appear hereinafter.

The end members are preferably corrugated and have vertical edge flanges 12, 13, 14 and 15 respectively. The end members are fastened to the upstanding flanges 2 and 3 by fastening devices shown as rivets 16 and 17, and in such manner that the flanges 12 and 13 are located on the inside of the flanges 2 and 3, while the flanges 14 and 15 are on the outside of the flanges 2 and 3 as will be apparent by referring to Fig. I.

The flanges 12, 13, 14 and 15 are provided near their upper ends with openings 18 through which studs, pins or projections 19 on the removable sides 20 and 21 may be projected. The removable sides 20 and 21 consist of plates provided with off-set edges 22 to form shoulders with lateral extensions overlapping the flanges 12, 13, 14 and 15, so as to bring outer faces of the sides flush with the outer faces of the flanges 12 to 15 inclusive.

The removable side members 20 and 21 are provided with cam latches 23 and 24, which when the sides are in position, may overlap the edges of the flanges from the ends and hold the sides in position as shown in Fig. I, the lower edges of the sides 20 and 21 being hinged to the bottom of the box as shown at 25 and 26 respectively, Fig. V.

The cover 27 is provided with a peripheral flange 27′ adapted to overlap the edges of the box and said cover is provided at opposite ends with hasps 28 and 29 adapted to aline with and be interposed between the loops 30 and 31 whereby a suitable fastening device, such as a seal 32 or the like may be employed to fasten the cover to the box.

By referring to Fig. VI it will be observed that the modified form of box shows a bottom 33 having hinged thereto the ends 34 and 35 in substantially the same manner as shown in the preferred form. The difference here being that the ends are provided

with edge flanges 36 and 37 for the end 34, and 38 and 39 have the end 35. The flanges are provided with cutout portions to provide outstanding fingers 40 to receive the loops 41 on the upper ends of the removable sides 42 and 43, said removable sides having a double thickness of metal to provide grooves 44 and 45 so as to receive the edges of the flanges 36 to 39 inclusive.

The box shown in Fig. VI will have a cover substantially like that shown in the preferred form, the essential difference being that in the preferred forms the sides are removable and receivable within the box. When in place the loops on the side members engage the fingers on the flanges on the end of the box.

Having thus described my invention what I claim as new therein, and desire to secure by Letters-Patent, is:

1. A collapsible box comprising a bottom, ends and sides, means for hinging the ends to the bottom, flanges on the ends and bifurcated to provide fingers and loops on the sides for engagement with said fingers.

2. A collapsible box comprising a bottom, ends and sides, means for hinging the ends to the bottom, flanges on the ends and bifurcated to provide fingers, loops on the sides for engagement with said fingers and parallel spaced edges on the sides to receive the edges of the end flanges between them.

3. A collapsible box comprising a bottom with upturned ends and flanged sides, ends pivoted to the flanges on the bottom, downwardly curved double walled portions on the ends in interlocking engagement with upturned ends of the bottom and sides removably engaging the ends.

4. A collapsible box comprising a bottom having upturned ends and flanged side edges, end members having inturned flanges pivoted to the flanges on the bottom, double walls on the lower edges of the ends for over-lapping the upturned ends on the bottom and side members removably engaging the flanges on the ends.

5. A collapsible box comprising a bottom, end members hingedly secured to the bottom and having inturned flanges and bifurcated to provide fingers and removable side members having parallel vertical edges to receive the flanges on the end members and means for positively engaging the fingers on the flanges on the end members.

6. In a collapsible box comprising a bottom, end members hinged thereto and having inturned flanges, side members provided with vertical edge grooves to receive the inturned flanges, fingers on the end member and loops on the side members for engagement with the fingers.

7. In a collapsible box a bottom, end member hinged thereto and provided with inturned flanges, removable side members having vertical edge grooves to receive the flanges, means for locking the sides to the flanges and a removable cover.

In testimony whereof I affix my signature.

ABNER V. TREGO.