Nov. 18, 1924. 1,516,352

É. SLAVKAY

COLLAPSIBLE CRATE

Filed July 23, 1923

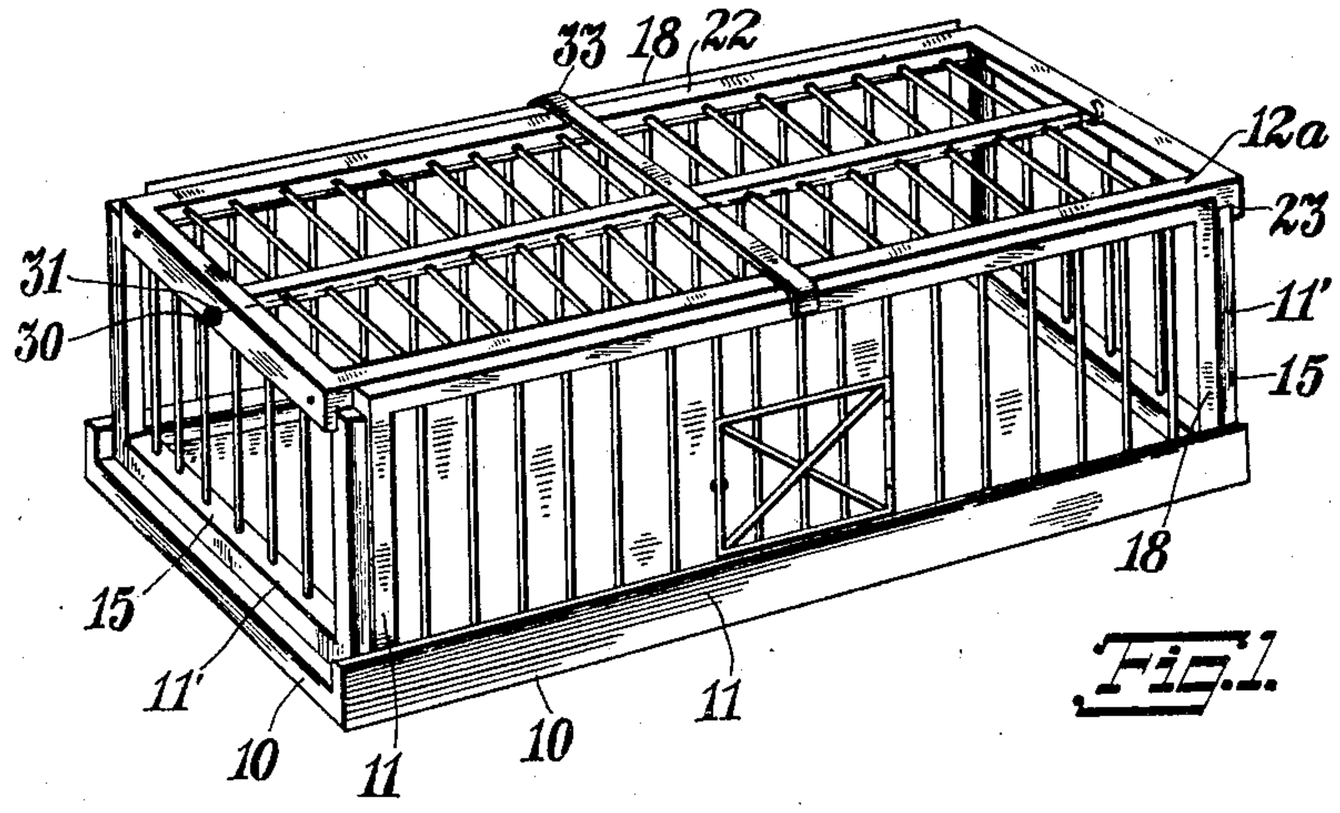

Fig. 1.

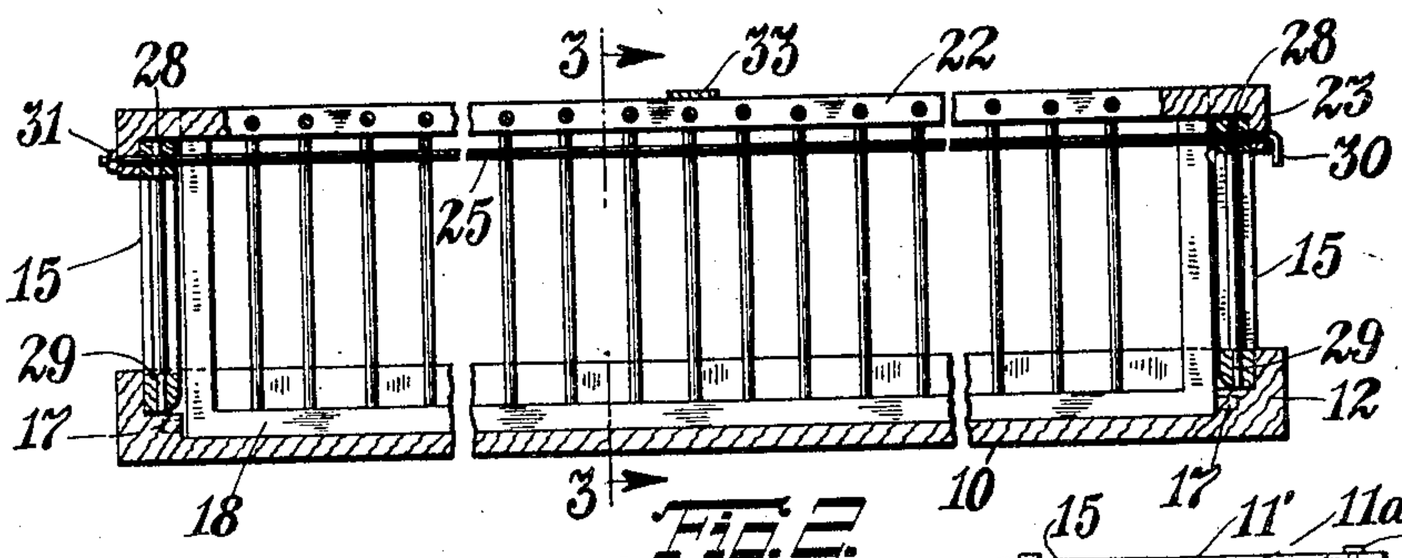

Fig. 2.

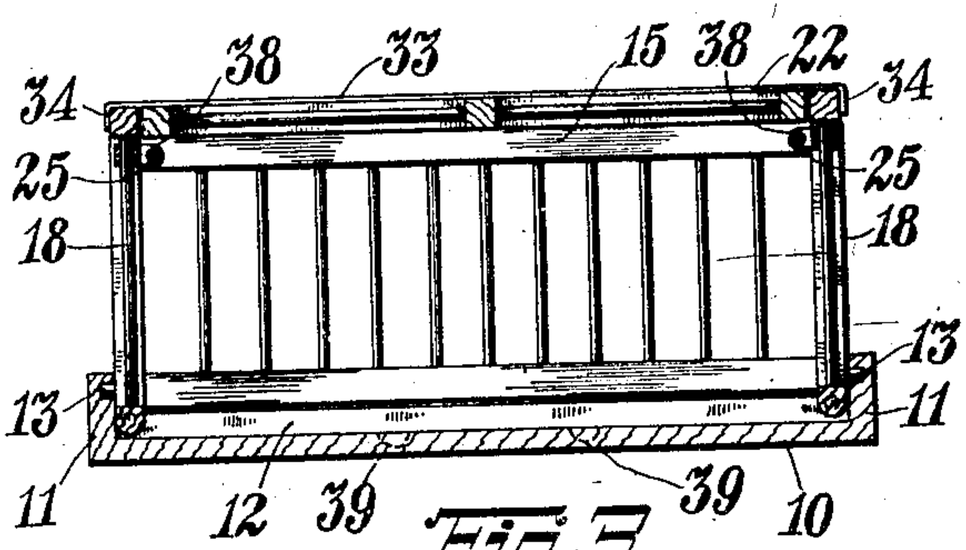

Fig. 3.

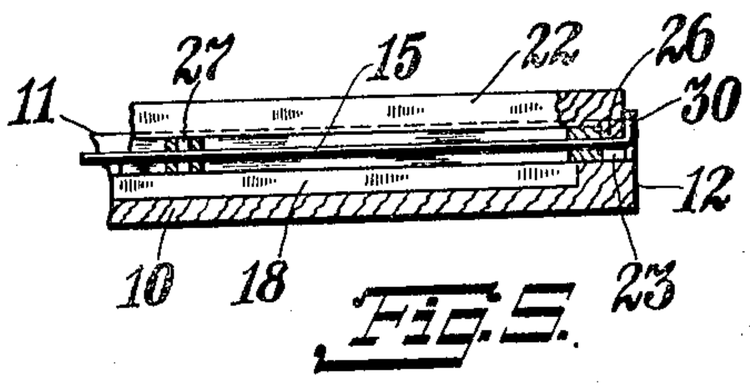

Fig. 5.

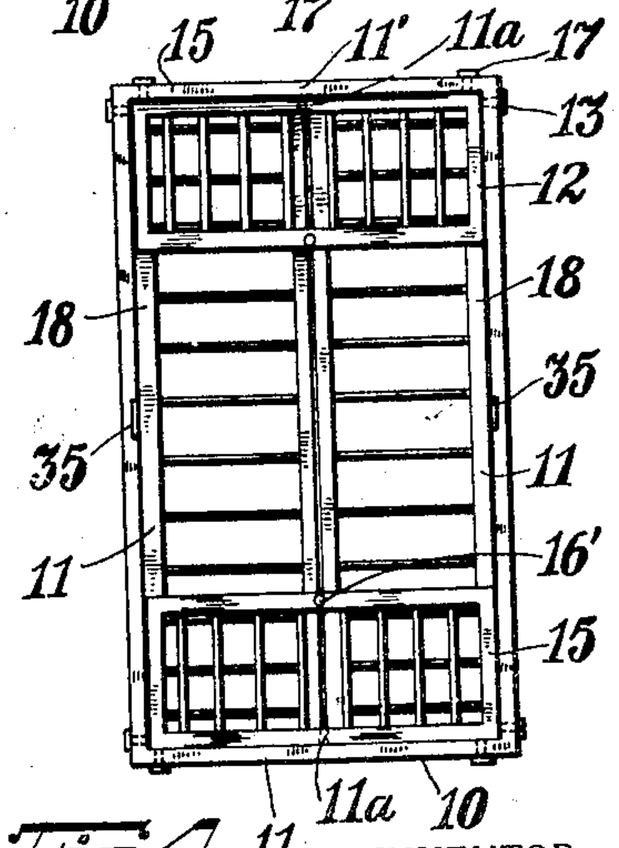

Fig. 4.

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Patented Nov. 18, 1924. 1,516,352

UNITED STATES PATENT OFFICE.

EMIL SLAVKAY, OF ASTORIA, NEW YORK.

COLLAPSIBLE CRATE.

Application filed July 23, 1923. Serial No. 653,072.

To all whom it may concern:

Be it known that I, EMIL SLAVKAY, a citizen of the United States, residing at Astoria, Long Island, in the county of Queens and State of New York, have invented certain new and useful Improvements in Collapsible Crates, of which the following is a specification.

This invention relates to folding or collapsible crates, sometimes known as knock-down crates and which are designed to be returned in collapsed condition to firms or individuals shipping goods therein.

The invention has for an object the provision of an improved collapsible crate characterized by rigidity of its walls when assembled, and by readiness of change between collapsed and erected positions.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawing, and to the appended claims in which the various novel features of the invention are more particularly set forth.

Fig. 1 of the drawing is a perspective view showing my improved collapsible crate in erected position.

Fig. 2 is a central longitudinal vertical sectional view thereof.

Fig. 3 is a transverse vertical sectional view taken on the line 3—3 of Fig. 2.

Fig. 4 is a plan view of the crate as collapsed, with the cover omitted.

Fig. 5 is a fragmentary longitudinal sectional view taken on the line 5—5 of Fig. 4, but showing the cover in place.

As here embodied my improved crate comprises a base 10 in the form of a rectangular plate and having upstanding flanges 11 extending along the sides thereof, and other upstanding flanges 12, of less height than the flanges 11, extending along the ends thereof. Pivoted to and between the side flanges 11 and the ends thereof as at 13, are the end wall members 15 which may be of skeleton construction as here shown, although it is to be understood that they may be of solid construction if desired. These end members 15 are located above the end flanges 11. Pivoted as at 17 to, and extending between the end flanges 12 are the side wall members or panels 18 which may be of like construction to the end wall members 12 and which are located closely adjacent the inner faces of the side flanges 11 carried by the base 10. These side wall members 18 are of a height substantially equal to one half the width between the side flanges 11 so as to permit of being folded inward upon the base as shown in Fig. 4. The above described arrangement thus provides end and side wall members which are pivoted at their lower edges to the base 10. The end wall members 15 are pivoted slightly higher than the side wall members 18 so as to permit of their being folded down upon the said side wall members, as shown in Figs. 4 and 5, these end wall members being of somewhat lesser height than the side wall members, so that when the top member, which will be presently described, is placed in position it rests at its ends on the end wall members and fits between the side wall members to hold the latter against inward swinging movement, the end wall members extending across the end edges of the side wall members and being thereby held against inward swinging movement.

The top member of the crate is indicated at 22 and may be of similar skeleton construction to the side and end wall members, this top being of a width to fit snugly between the upper edges of the side wall members 18 and being of a length to project across and slightly beyond the top edges of the end wall members 15, the overhanging ends of this top member being provided with downwardly projecting flanges 23 which extend across the vertical faces of the end wall members at the top thereof and so hold the said end wall members against outward swinging movement.

To lock the top 22 in place I make use of one, or more rods which are adapted to be passed through suitable apertures in the top and end members to lock the top member in position with the crate either erected or collapsed. In Figs. 1 and 2 I have shown one of these rods which is numbered 25 and is passed through suitable apertures such as 26 in the downwardly projecting flanges on the top member, and also, when the crate is erected, through registering apertures such as 27 in the top rails of the end members 18. Formed in the said top rails are other apertures 28 which intersect at right angles the apertures 27, being vertical when the members 18 are erect, and which aline with like apertures 29 in the bottom rails of the said end members. When the crate is collapsed the top 22 lies flat upon these end

wall members 15, with the flange 23 engaging over the edges of the latter and the apertures 26 in said flanges registering with the apertures 28, 29 in the top and bottom rails so that the rod 25 may be passed through said series of registering apertures to hold the parts together. The rod may be of a length to project slightly beyond the flanges 23 when in place, and may be formed with a head 30 at one end and have its opposite end screw threaded to receive a fastening nut 31. To hold or brace the side members 18 at their upper edges one or more metal straps 33 may extend across and be fastened to the top member 22 and may have downturned ends 34 which engage over the tops of the said members. To accommodate these strap ends 34 when the crate is collapsed notches or recesses 35 may be cut in the side flanges 11.

Instead of employing the single rod 25 I may employ a pair of rods 25′ which extend along adjacent the respective sides of the crate and which are passed through apertures in the flanges 23 and the end wall members which have the said relative positioning as the apertures 26, 27, 28 and 29. In this arrangement metal eye members 38 are fastened to the stiles of the side members 18 and receive the rods 25′, recesses 39 being provided in the base 10 to receive these eyes when the crate is collapsed. This arrangement, as will be apparent, has the advantage over the single rod in that the corners of the crate are securely held.

It is believed that the manner of use of my improved crate will be readily understood from the above description. With the crate in the collapsed position it is erected by swinging upward in succession the end and side wall members. After the crate has been filled the top is placed in position and the fastening rod or rods inserted. To collapse the crate the above operations are reversed, the top member being laid on the end wall members and the rod or rods again inserted.

While I have illustrated and described a preferred embodiment of my invention it is to be understood that I do not limit myself to the precise construction herein disclosed, and that various changes and modifications might be made therein without departing from the spirit and scope of the invention as defined in the appended claims.

Having thus described my invention what I claim as new and desire to protect by Letters Patent of the United States is as follows:

1. A collapsible crate comprising a base, side and end wall members pivoted to said base and adapted to fold down upon the latter, said side wall members holding said end wall members against inward collapsing movement, and a top member adapted to fit between the upper edges of said side wall members, and having downwardly projecting elements on its ends engaging the top edges of the end wall members to hold the latter against outward collapsing movement.

2. A collapsible crate comprising a base, side and end wall members pivoted to said base and adapted to fold down upon the latter, said side wall members holding said end wall members against inward collapsing movement, and a top member adapted to fit between the upper edges of said side wall members, and having downwardly projecting elements on its ends engaging the top edges of the end wall members to hold the latter against outward collapsing movement, and means for locking said top member to said end wall members to prevent relative displacement transversely of the crate.

3. A collapsible crate comprising a base, side and end wall members pivoted to said base and adapted to fold down upon the latter, said side wall members holding said end wall members against inward collapsing movement, and a top member adapted to fit between the upper edges of said side wall members, and having downwardly projecting elements on its ends engaging the top edges of the end wall members to hold the latter against outward collapsing movement, and means for locking said top member to said end wall members to prevent relative displacement transversely of the crate, said means comprising a rod passing through registering apertures in said downwardly projecting elements and said end wall members.

4. A collapsible crate comprising a base, side and end wall members pivoted to said base and adapted to fold down upon the latter, said side wall members holding said end wall members against inward collapsing movement, and a top member adapted to fit between the upper edges of said side wall members, and having downwardly projecting elements on its ends engaging the top edges of the end wall members to hold the latter against outward collapsing movement, and means for locking said top member to said end wall members to prevent relative displacement transversely of the crate, said means comprising a rod passing through registering apertures in said downwardly projecting elements and said end wall members, said end wall members being provided with apertures to receive said rod when said members are in either erect or collapsed position.

5. A collapsible crate comprising a base, side and end wall members pivoted to said base and adapted to fold down upon the latter, said side wall members holding said end wall members against inward collapsing movement, and a top member adapted to fit between the upper edges of said side wall members, and having downwardly project-

ing elements on its ends engaging the top edges of the end wall members to hold the latter against outward collapsing movement, and element carried by said top member at points between its ends and engaging said side wall members to prevent outward collapsing movement of the latter.

6. A collapsible crate comprising a base having relatively high and low flanges extending along the sides and top ends thereof, end wall members pivoted to said side flanges above the end flanges, side wall members pivoted to said end flanges and having their pivot points slightly lower than the end wall members, the end wall members overlapping the side wall members at their ends and being of less height than the latter. a top member fitting removably between the top edges of the side wall members, and having downturned end flanges projecting over the top portions of the end wall members.

7. A collapsible crate comprising a base having relatively high and low flanges extending along the sides and top ends thereof, end wall members pivoted to said side flanges above the end flanges, side wall members pivoted to said end flanges and having their pivot points slightly lower than the end wall members, the end wall members overlapping the side wall members at their ends and being of less height than the latter, a top member fitting removably between the top edges of the side wall members, and having downturned end flanges projecting over the top portions of the end wall members, and means for locking said top member to said end wall members to prevent relative displacement transversely of the crate.

8. A collapsible crate comprising a base having relatively high and low flanges extending along the sides and top ends thereof, end wall members pivoted to said side flanges above the end flanges, side wall members pivoted to said end flanges and having their pivot points slightly lower than the end wall members, the end wall members overlapping the side wall members at their ends and being of less height than the latter, a top member fitting removably between the top edges of the side wall members, and having downturned end flanges projecting over the top portions of the end wall members, and means for locking said top member to said end wall members to prevent relative displacement transversely of the crate, said means comprising a rod passed through registering apertures in said downturned end flanges and end wall members.

9. A collapsible crate comprising a base having relatively high and low flanges extending along the sides and top ends thereof, end wall members pivoted to said side flanges above the end flanges, side wall members pivoted to said end flanges and having their pivot points slightly lower than the end wall members, the end wall members overlapping the side wall members at their ends and being of less height than the latter, a top member fitting removably between the top edges of the side wall members, and having downturned end flanges projecting over the top portions of the end wall members, and means for locking said top member to said end wall members to prevent relative displacement transversely of the crate, said means comprising a rod passed through registering apertures in said downturned end flanges and end wall members, said side wall members having eye elements thereon near their upper ends through which said rod passes.

In testimony whereof I have affixed my signature.

EMIL SLAVKAY.