

H. PAUL.
 FOLDING BOX.
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1,013,561.

Patented Jan. 2, 1912.

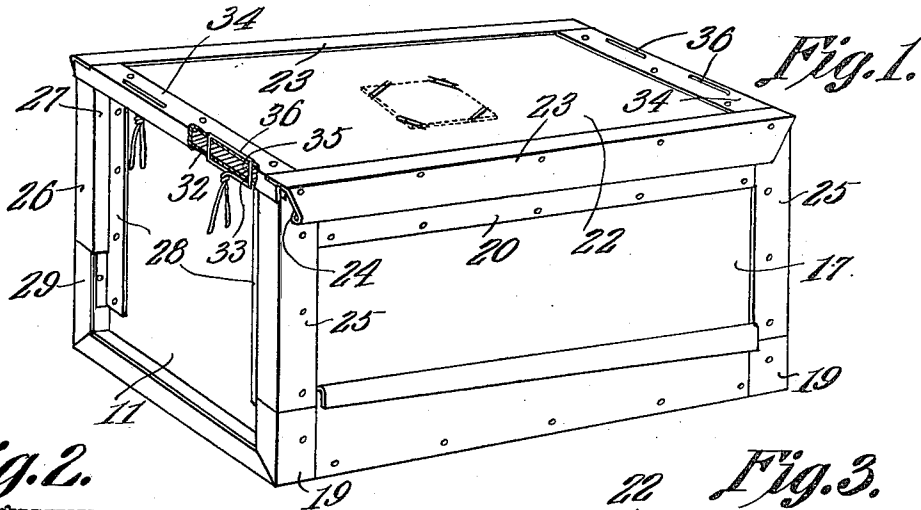


Fig. 2.

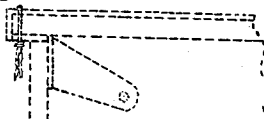
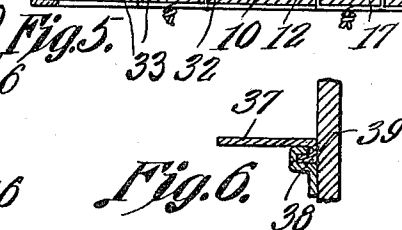
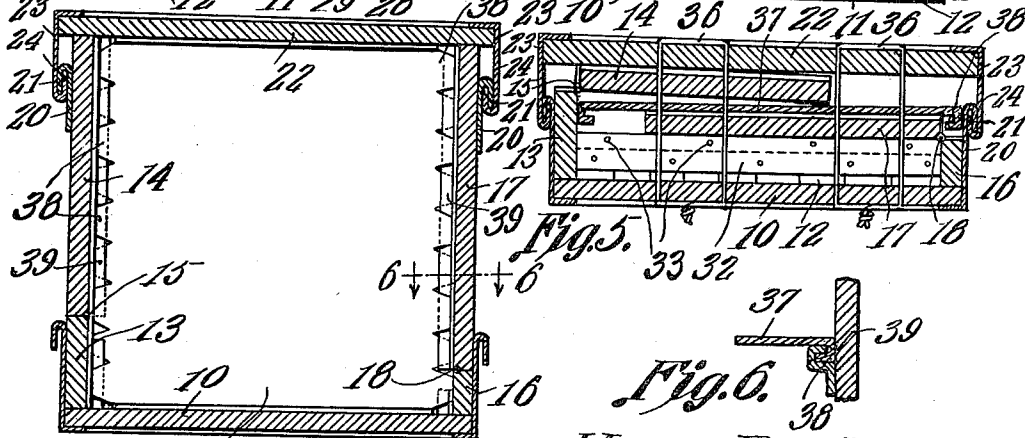
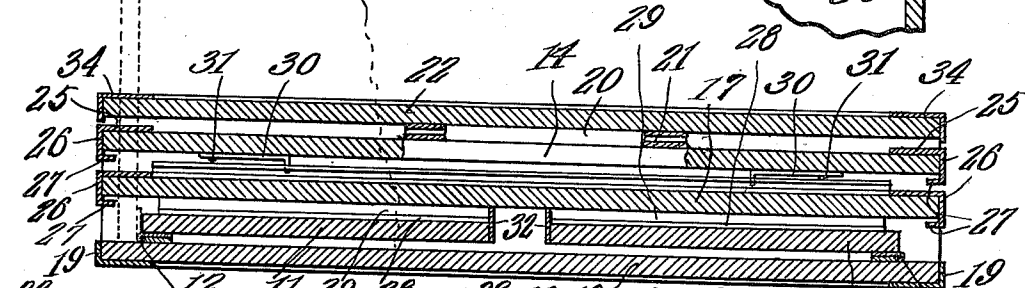
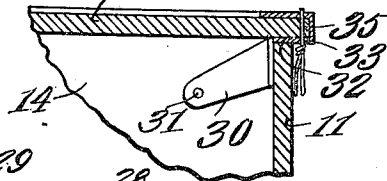


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

HENRY PAUL, OF FORRESTON, ILLINOIS.

FOLDING BOX.

1,013,561.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HENRY PAUL, a citizen of the United States, residing at Forreston, in the county of Ogle and State of Illinois, have invented a new and useful Folding Box, of which the following is a specification.

It is the object of the present invention to provide an improved shipping crate or box of that type designed to be folded and returned to the shipper, after its contents have been removed by the party to whom the shipment is consigned.

The primary aim of the invention is to so construct the box that the top may be assembled with the body of the box for the purpose of closing the same when the box is set up and, may also be assembled with the body of the box when folded, both for the purpose of holding the box in folded condition and for holding the cover to the body when folded for return shipment.

A further aim of the invention is to so construct the box that the cover, when in position upon the box when set up, will firmly hold the walls of the box against collapse and, when assembled with the body of the box when the latter is folded, will firmly hold the walls of the body in folded position and against rattling.

The invention further aims to provide, in a box of the type mentioned, a novel form of partition and supporting means therefor.

Still further the invention aims to provide novel means for holding the end walls of the box against collapse and in so arranging the means that it will be prevented from becoming disarranged with respect to the said end walls of the box body.

In the accompanying drawings Figure 1 is a perspective of the box embodying the present invention. Fig. 2 is a vertical longitudinal sectional view through the box folded. Fig. 3 is a similar view through one corner of the box in set up condition. Fig. 4 is a transverse sectional view through the box in set up condition. Fig. 5 is a transverse sectional view through the box in folded condition. Fig. 6 is a detail sectional view on the line 6—6 of Fig. 4 looking in the direction indicated by the arrows.

In the drawings, the box is illustrated as including a bottom which is indicated by the numeral 10, and end walls which are indicated by the numeral 11 and are hinged as at 12 to the bottom 10 at the end thereof.

One side wall of the box body consists of a fixed section 13 secured at one side edge of the bottom 10, and a section 14 which is hinged as at 15 to the upper edge of the section 13. The other side wall of the box consists of a fixed section 16 of less height than the section 13 opposite which it is located, and a section 17 which is hinged as at 18 to the upper edge of the section 16, it being understood that in folding the box the end walls are first folded down to assume the position shown in Fig. 2 of the drawing and that the sections 17 and 14 are then folded down in the order mentioned, to assume the position shown in Figs. 2 and 5. The connection between the sections 13 and 16 of the side walls of the box and the bottom 10 thereof is preferably reinforced at each corner of the box body at the bottom by a suitable sheet metal binding 19.

For a purpose to be presently explained, there is secured upon the outer face of each side wall section 14 and 17, a strip 20 having at its upper edge an overturned flange indicated by the numeral 21. It will be observed by referring to Fig. 1 of the drawing that the edge of each flange extends at an acute angle to the upper edge of the respective side sections 14 or 17, these said edges of the two flanges being however in a common plane.

The cover for the box is indicated by the numeral 22 and secured to each lateral edge thereof is a strip 23 having its lower edge bent to form an upturned inwardly presented flange 24. The flanges 24 are extended at an acute angle to the plane of the cover so that when the cover is slid into place upon the box body, they will seat between the flanges 21 and the strips 20 upon which they are formed, as shown in Fig. 4 of the drawings. Owing to the fact that the flanges are inclined, the flanges 24 will interlock and bind with the flanges 21, when the cover is slid into place, thereby drawing the cover tightly against the upper edges of the walls of the box body and at the same time holding the side sections 14 and 17 against outward bulging, these side sections being held against inward collapse by reason of their engagement with the vertical edges of the end walls of the box body.

A strip 25 is secured to the outer side of each section 14 and 17 at each end thereof and is bent around the corresponding vertical edge of the section to which it is secured,

as indicated by the numeral 26, and is then bent to form a flange 27 lying in spaced relation to the inner face of said section to which the strip is secured. A strip 28 is secured to the outer face of each end wall 11 of the box body at each vertical end thereof and is formed with an outstanding flange 29, which, when the walls of the box body are in set up position, shifts between the respective flange 27 and the side of the box to which the strip 25 carrying the flange 27 is secured. This engagement of the flanges 29 upon the end walls of the box body with the flanges 28 upon the side walls serve to prevent outward bulging of the ends when the box is in use. To prevent inward collapse of the end walls of the box, abutments 30 are pivoted as at 31, one at each upper corner of each side wall section 14 and 17 and, when swung to assume the position shown in Fig. 3 of the drawing, rest at their free ends against the inner faces of the end walls of the box for the purpose stated. It will further be observed from an inspection of Fig. 1 of the drawings that the engagement of the flanges 29 with the flanges 27 serve as an additional means for preventing outward bulging of the bent sides. It will be observed from an inspection of Fig. 3 of the drawings that the abutments 30 are held against upward swinging movement whereby they would become displaced with respect to the end walls of the box, by the cover 22 for the box, they being positioned immediately beneath this cover.

Secured upon the upper edge of each end wall 11 is a strip 32 formed with one or more pairs of openings 33. Each end of the cover 22 is preferably reinforced by a sheet metal binding 34 and is formed with open-

ings 35 which, when the cover is in proper position upon the box body, register with the openings 33 in the strips 32. Sealing wires 36 are then threaded through the openings of each pair and are twisted at their ends as shown in Fig. 1 of the drawings.

While not absolutely necessary, it is preferable that the box be provided with a partition extending transversely thereof at its middle and this partition is indicated in the drawings by the numeral 37 and is in the form of a plate having each of its vertical edges folded to form a tongue 38. These tongues are slidable into engagement with folded flanges 39 secured upon the inner faces of sections 14 and 17 and extending vertically. The plate 37 is removable from the box in a vertical direction.

What is claimed is:

In a folding box, a bottom, sides and ends foldably connected with the bottom, longitudinally extending guides carried by and extending beyond the outer faces of the sides, longitudinally extending guides at the sides of the bottom and extending beyond the outer faces thereof, and a cover having flanges at its sides slidable longitudinally into engagement with the guides upon the sides whereby to be held in position to close the box when set up and slidable longitudinally into engagement with the guides at the sides of the bottom whereby to be held assembled with the box when folded.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

HENRY PAUL.

Witnesses:

JUSTUS DE GRAFF,
ORME HUREN.