S. WEINSTEIN.

FOLDING BOX.

APPLICATION FILED MAY 2, 1916.

1,212,429.

Patented Jan. 16, 1917.

2 SHEETS—SHEET 1.

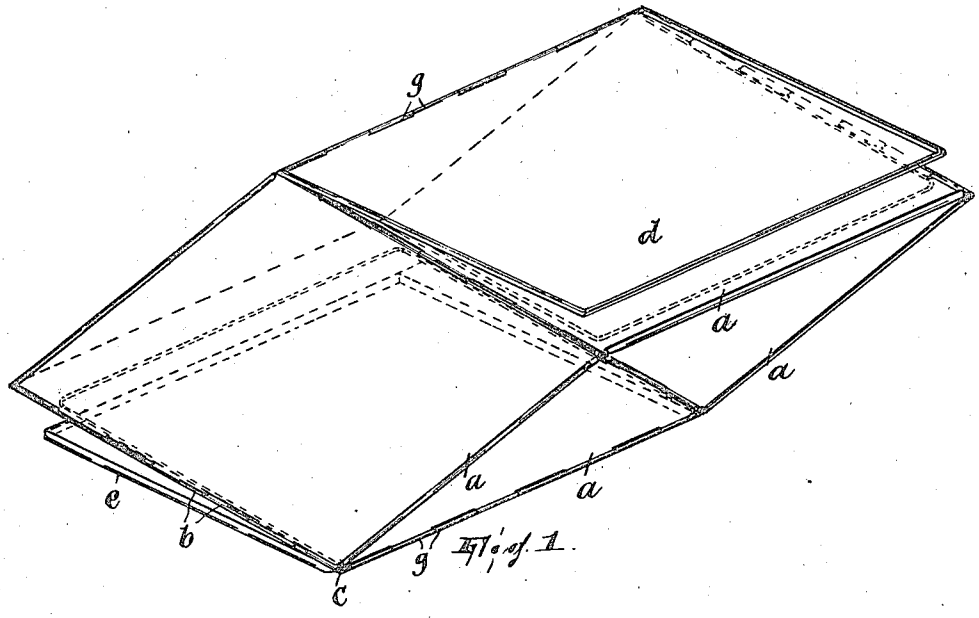


Fig. 1.

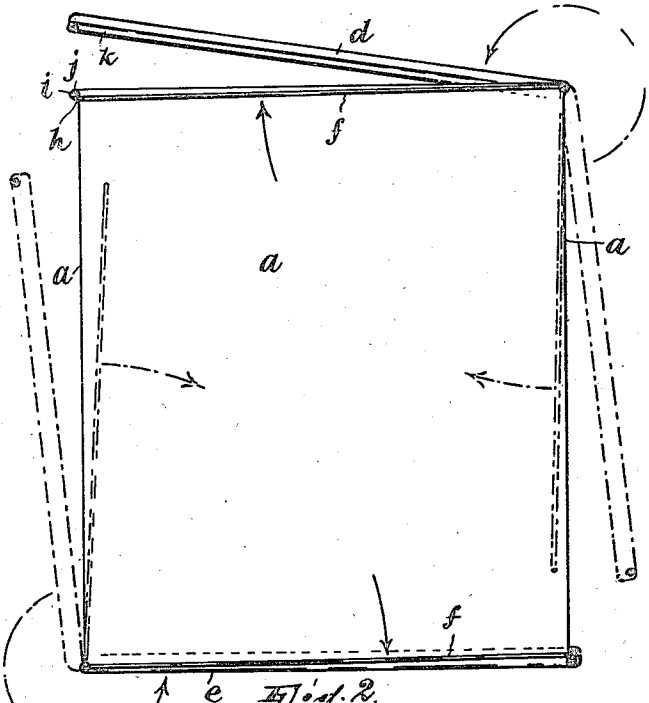


Fig. 2.

WITNESS:

Wm. Bell.

INVENTOR,

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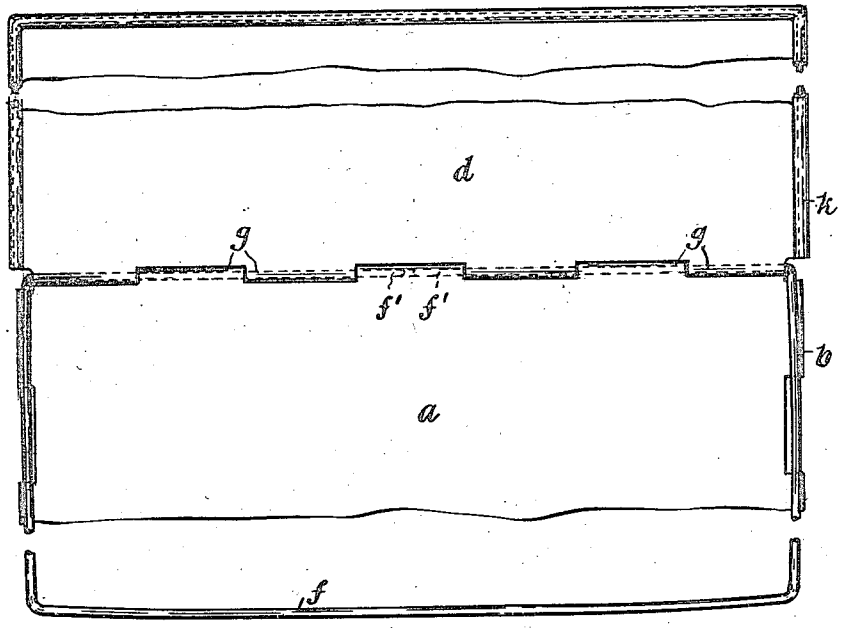


Fig. 3.

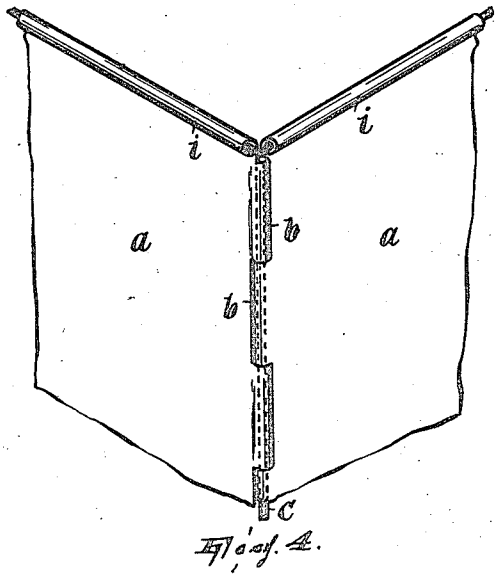


Fig. 4.

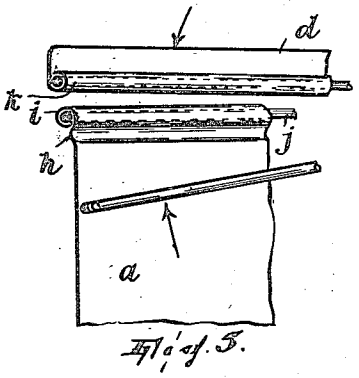


Fig. 5.

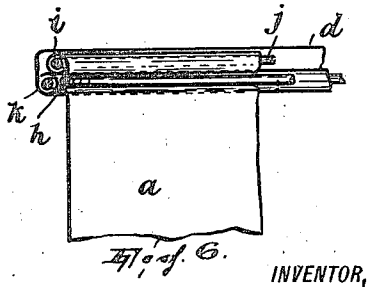


Fig. 6.

WITNESS:

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UNITED STATES PATENT OFFICE.

SAUL WEINSTEIN, OF PATERSON, NEW JERSEY.

FOLDING BOX.

Specification of Letters Patent. Patented Jan. 16, 1917.

1,212,429.

Application filed May 2, 1916. Serial No. 94,881.

To all whom it may concern:

Be it known that I, SAUL WEINSTEIN, a citizen of the United States, residing at Paterson, in the county of Passaic and State of New Jersey, have invented certain new and useful Improvements in Folding Boxes, of which the following is a specification.

The object of this invention is to provide a box that can be folded into flat form and when in open form will form a rigid, strong and substantial structure not subject to collapse without manipulation to accomplish the same.

In the said drawing in which the invention is fully illustrated, Figure 1 is a perspective view showing the box partly folded; Fig. 2 is a sectional front to rear view showing the walls of the box in open position; Fig. 3 is an inside elevation of one end wall or lid, the corresponding side wall and the wire frame or support for maintaining the side walls in the open position; Fig. 4 is a fragmentary outside perspective view of two of the side walls; Fig. 5 is a fragmentary front to rear sectional view of the box, showing one of the end walls partly open; and, Fig. 6 is a similar view, showing said end wall in the closed position.

In the drawings, *a* designates four rectangular side walls in the present instance counterparts of each other and pivoted together so that they will form an inclosed space when in rectangular disposition and may be folded into flatwise disposition; the hinges between these walls, which are preferably composed of sheet metal, may be formed by alternate rolled projections *b* on each two adjoining walls penetrated by a wire *c* to constitute the pivot.

d and *e* are end walls, one of which is pivoted to one free edge of a wall *a* and the other of which is pivoted to the relatively opposite free edge of the opposite wall *a*. The pivot between each wall *d* and *a* is preferably formed by the device which I employ to keep the walls *a* in the open position and consisting of a rectangular piece of wire *f* which has approximately the shape of the space formed by said walls when in the open position, its ends *f' f'* extending into the rolled alternating projections *g* of the end wall *d* (*e*) and corresponding wall *a*. The portions *f' f'* of the wire thus form the pivot not only for the device *f* but for the end wall *d* (*e*), the said device *f* being adapted to fold against the inside surface of the wall *a* and the end wall against the outside surface thereof, as shown by dotted lines in Fig. 2, when the box is to be folded.

Since the device *f* approximately fits the inside contour of the box, it will be obvious that when it is swung into the full line position shown in Fig. 2 it will keep the side walls *a* extended or open.

Being itself an open frame-like structure, it permits access to the interior of the box and does not materially reduce its capacity.

For locking the device *f* in the position in which it maintains the side walls *a* in open position, I provide a bend *h*, affording a groove at the inside of all of the side walls excepting the one to which the device *f* is hinged, the bend extending transversely of each such side wall and preferably near its free edge; when the device *f* is swung to the position shown in full lines in Figs. 2 and 6 it springs into the grooves formed by these bends so as to be held against returning to the folded position.

For stiffening the walls adjacent these bends and also reinforcing the free edges of the side walls *a* in which the bends are formed, said edges are preferably rolled, as at *i*, into the form of "wires," and the rolled portions or "wires" may have suitable lengths of wires *j* arranged therein as shown best in Figs. 5 and 6. The said wires further serve as means coacting with the similarly formed wire edges or lips *k* formed on the end walls *d* and *e* to interlock with the side walls *a* (Fig. 6) when the latter are in their open positions. It requires some pressure, as will be evident on comparing Figs. 5 and 6, to spring the rolled or wire edge of end wall *d* (or *e*) past the rolled or wire edges of the walls *a* into the interlocked relation of said walls illustrated by Fig. 6, so that with either wall *d* or wall *e* so disposed a rigid structure, rigidly self-maintained in the extended or open position, is produced.

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

1. The combination of several walls hinged together to form an angular space and foldable into collapsed relation, and a rigid interior support holding said walls in the open position and movable to permit the collapse thereof, one of said walls having an inside transverse groove facing the relatively opposite wall and into which said

support is sprung and another having means to hold the support against movement in a direction relatively transverse of said groove.

2. The combination of several walls hinged together to form an angular space and foldable into collapsed relation, and a rigid interior support holding said walls in the open position and movable to permit the collapse thereof, one of said walls having a transverse wire edge and an inside groove adjoining the same and facing the relatively opposite wall and into which said support is sprung and another of said walls having means to hold the support against movement in a direction relatively transverse of said groove.

3. The combination of several walls hinged together to form an angular space and foldable into collapsed relation, said walls having a transverse inside groove extending around the major part of said space and facing radially inward, and a rigid interior support holding said walls in the open position and movable to permit the collapse thereof and normally engaged in said groove.

4. The combination of a series of rectangular side walls hinged together to form an angular space and foldable into collapsed relation, and rectangular end walls each hinged to a side wall, one at one free edge and the other at the relatively opposite free edge of said series, said end walls being foldable against said series when the latter are collapsed and in the space-forming position of the side walls forming a top and bottom and one of said end walls and the side walls other than that to which it is hinged having reversely projecting interlocking means adapted to be sprung past and in wiping contact with each other in moving said end wall on its hinge to or from perpendicular relation to said side walls.

In testimony whereof I affix my signature.

SAUL WEINSTEIN.