No. 797,201. PATENTED AUG. 15, 1905.

F. D. HALE.

COLLAPSIBLE BOX.

APPLICATION FILED FEB. 6, 1905.

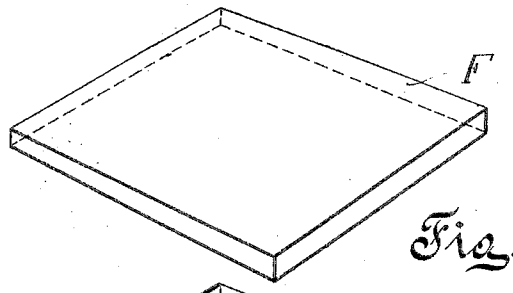


Fig. 1

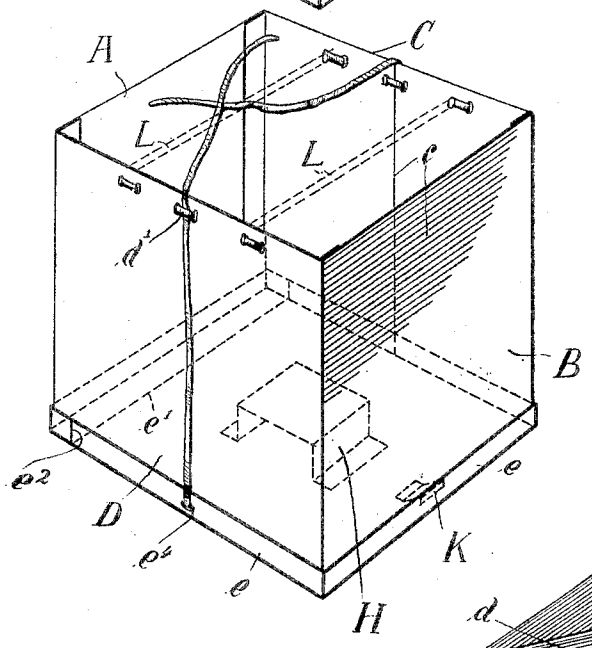


Fig. 3

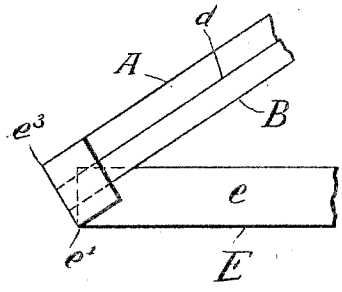


Fig. 4

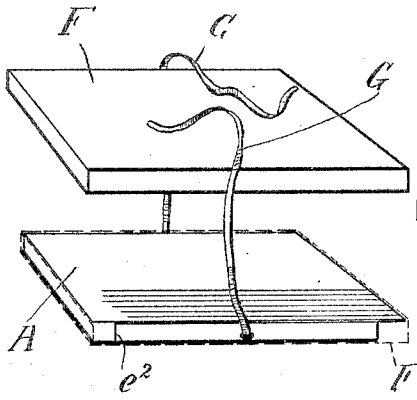
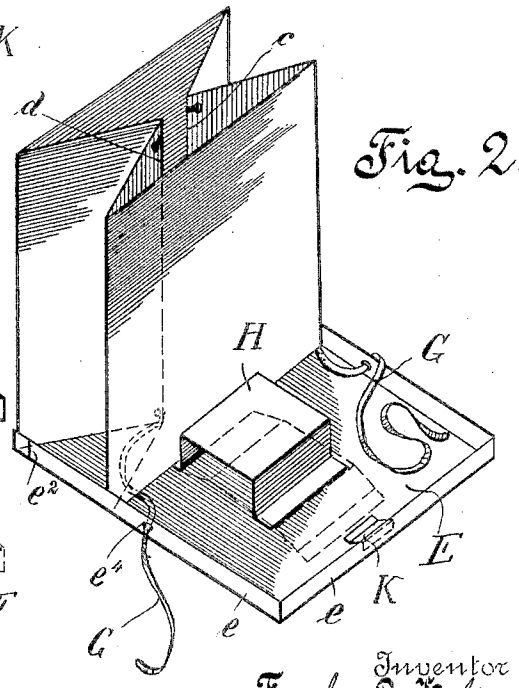


Fig. 2



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UNITED STATES PATENT OFFICE.

FRANK D. HALE, OF JERSEY CITY, NEW JERSEY, ASSIGNOR OF TWO-SEVENTHS TO JAMES A. HAWES, TWO-SEVENTHS TO FREDERICK DWIGHT, AND ONE-SEVENTH TO EMERSON R. NEWELL, OF NEW YORK, N. Y.

COLLAPSIBLE BOX.

No. 797,201. Specification of Letters Patent. Patented Aug. 15, 1905.

Application filed February 9, 1905. Serial No. 244,900.

To all whom it may concern:

Be it known that I, FRANK D. HALE, a citizen of the United States, residing at Jersey City, New Jersey, have invented certain new and useful Improvements in Collapsible Boxes, of which the following is a clear, full, and exact description.

My invention relates to an improvement in collapsible boxes; and my object is to provide a box which may be readily collapsed, so as to occupy a small space, and which may be easily and quickly extended for use.

Other subordinate advantages will be evident from the accompanying drawings and description.

My invention will be pointed out in the claims.

In the drawings, which show the preferred embodiment of my invention, Figure 1 is a perspective view of the box extended, the cover having been removed. Fig. 2 is a similar view of the box partially collapsed. Fig. 3 is a detail view, and Fig. 4 a perspective view, of the completely-collapsed box and of the cover therefor.

In the above preferred embodiment I have provided a box having a main portion consisting of sides A B C D, forming a tube, preferably having both ends open. These sides are flexibly joined together, so that they can be folded or moved laterally toward each other. For example, two or more sides may be formed from a single sheet of pasteboard with the edges of the sides defined by scored lines, so that the board will readily bend on those lines. The corners may also be reinforced, if desired. I prefer to have these sides permanently as well as flexibly joined together, so that although they can be folded together they are not detachable from each other. The sides C D in this embodiment standing opposite each other are each flexible on a line running from top to bottom thereof, the side C on line c and side D on line d, which in this embodiment divide each of the sides into two substantially equal parts. Each of the sides C and D may therefore be doubled inward on itself, as indicated in Figs. 2 and 3, so that the main portion may be collapsed into a flattened form.

E is the bottom, preferably having the turned-up edge e, and the side A is permanently but flexibly connected to the bottom, so that the collapsed main portion may be folded down on the same. This I prefer to accomplish by scoring the bottom transversely, as on line e', so that the bottom will bend at that point, as shown in Fig. 3, and I have located this line at a distance from the the side A (e' e^3 in Fig. 3) at least equal to and preferably greater than the thickness of the main portion when collapsed, so that the main portion can be easily folded down on the bottom. The turned-up edge e of the bottom may be slit at e^2 on each side, so that the parts will fold, as shown in Fig. 3. When the sides of the box are taller than the length of the bottom, they will project beyond the bottom, as shown in Fig. 4, in which case I prefer to make the distance e' e^3 equal to the height of the turned-up edge e plus the thickness of the main portion when collapsed, so that the distance from the bottom to the side A in Fig. 4 will be the same at any point.

The cover fits over the top of the main portion when extended, as in Fig. 1, and I preferably so proportion the parts that it will also inclose the main portion when collapsed, as shown in Fig. 4. In order to hold said main portion extended, I may provide a flexible fastening, such as a tape G, attached to one of the sides, in this case side D, near the bottom of the same, as shown in Fig. 2. This tape may pass through a guide, in this embodiment a hole e^4, on turned-up edge e and up through a guide d' near its top, as shown in Fig. 1. This guide may be a short tape d', tied through holes on either side of line d, and tape G may be passed through two similarly-placed holes near the lower end of this line. A similar tape may be similarly attached to side C and guided, if desired. When the tapes are pulled out, the box will be extended, and the tapes may be tied over the cover of the box, thus holding the box rigidly in shape.

L L are flexible means—such as tapes, for example—attached to two opposite sides of the box for holding a hat in position in the box, which may be employed, if desired.

H is a collapsible holder for a hat which

may be provided, if desired, and which will fold down upon the bottom E of the box.

K is a detent which may be provided, if desired, which when the box is to be distended, will receive the bottom of the side B between it and the turned-up edge *e* and hold the box-tube distended before the tapes are drawn taut.

I am aware that many changes may be made in the constructions described and illustrated above without departing from the spirit of my invention, and therefore I do not desire to be limited to the embodiment herein disclosed.

What I claim is—

1. In a collapsible box in combination, a main portion composed of a plurality of sides flexibly joined together at their edges to form a tube, whereby said sides are laterally movable toward each other and collapsed, a bottom with turned-up edges, one of said sides being permanently but flexibly joined to said bottom whereby said collapsed main portion may be folded down upon and within said bottom having turned-up edges, and a cover adapted to fit over said main portion.

2. In a collapsible box in combination, a main portion composed of a plurality of sides flexibly joined together at their edges to form a tube, whereby said sides are laterally movable toward each other and collapsed, a bottom with turned-up edges, one of said sides being permanently but flexibly joined to said bottom whereby said collapsed main portion may be folded down upon and within said bottom having turned-up edges, a cover adapted to fit over said main portion, and means to hold said main portion extended.

3. In a collapsible box in combination, a bottom, a main portion having a plurality of sides flexibly joined together into a tube whereby the same may be collapsed, one single side being permanently joined to said bottom, said bottom being flexible on a line running across the same near said side whereby said bottom may bend at said line and said collapsed main portion be thereby folded down on the upper side of the rest of said bottom.

4. In a collapsible box in combination, a bottom, a main portion having a plurality of sides flexibly but permanently joined together into a tube whereby the same may be collapsed, one single side being permanently joined to said bottom, said bottom being flexible on a line running across the same near said side but at a distance from said side at least equal to the thickness of said main portion when collapsed, whereby said bottom may bend at said line and said collapsed main portion be thereby folded down on the upper side of the rest of said bottom.

5. In a collapsible box in combination, a bottom, a main portion having a plurality of sides flexibly but permanently joined together into a tube whereby the same may be collapsed, one of said sides being permanently joined to said bottom, said bottom being flexible on a line running across the same near said side but at a distance from said side at least equal to the thickness of said main portion when collapsed, whereby said bottom may bend at said line and said collapsed main portion be folded down on the upper side of the rest of said bottom, and a cover for said main portion adapted to inclose the main portion when collapsed and also when extended.

6. In a collapsible box in combination, a main portion having four plane sides flexibly joined together whereby the same may be folded toward each other, each of two opposite sides being flexible on a line running from top to bottom thereof whereby each may be doubled inward on itself between the adjacent sides and said main portion collapsed, a non-collapsible bottom having a turned-up edge, a flexible fastening attached to one of said two opposite sides near the lower edge of the same and adapted to pass through a guide on said bottom, a guide carried by said side and located above said first guide and adapted to receive said fastening, and a cover for said main portion adapted to inclose the same when extended.

7. In a collapsible box in combination, a main portion having four plane sides permanently but flexibly joined together whereby the same may be folded toward each other, each of two opposite sides being flexible on a line running from top to bottom thereof whereby each may be doubled inward on itself between the adjacent sides and the said main portion collapsed, a non-collapsible bottom having a turned-up edge, a flexible fastening attached to one of said two opposite sides near the lower edge of the same and adapted to pass through a guide in said turned-up edge, a second guide carried by said side near its top and also near said line therethrough and adapted to receive said fastening, and a cover for said main portion adapted to inclose the same when collapsed and also when extended.

8. In a collapsible box in combination, a main portion having four plane sides flexibly joined together whereby the same may be folded toward each other, each of two opposite sides being flexible on a line running from top to bottom thereof whereby each may be doubled inward on itself between the adjacent sides and said main portion collapsed, a non-collapsible bottom having a turned-up edge, a flexible fastening attached to one of said two opposite sides near the lower edge of the same and adapted to pass through a guide on said bottom, a guide carried by said side and located above said first

guide and adapted to receive said fastening, a cover for said main portion adapted to inclose the same when extended, one of the sides of said main portion being permanently but flexibly joined to said bottom whereby said main portion when collapsed may be folded down on said bottom.

Signed at 514 Broadway this 17th day of September, 1904.

FRANK D. HALE.

Witnesses:
WILLIAM C. BLAKENEY,
WILLIAM C. KENMURE.