L. ROSENWALD.

COLLAPSIBLE BOX.

APPLICATION FILED JUNE 22, 1914.

1,168,561. Patented Jan. 18, 1916.

2 SHEETS—SHEET 1.

Fig 1

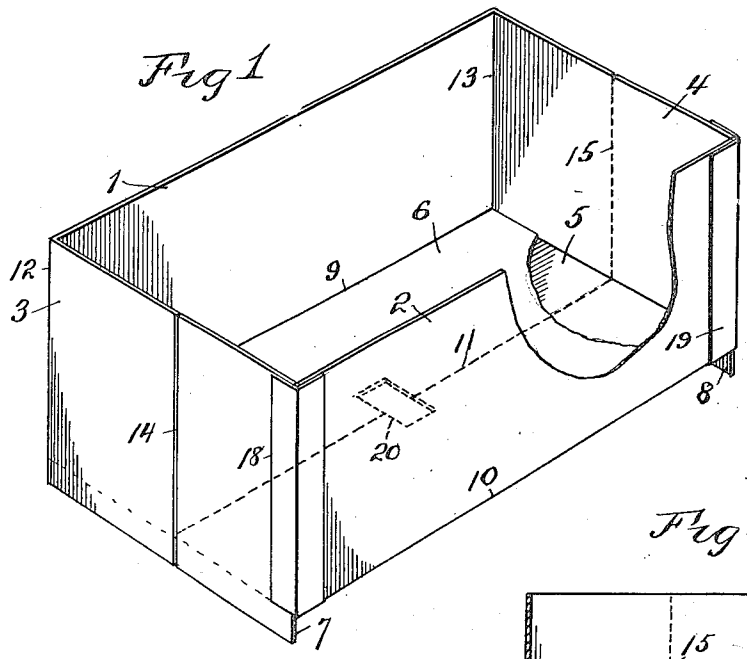


Fig 2

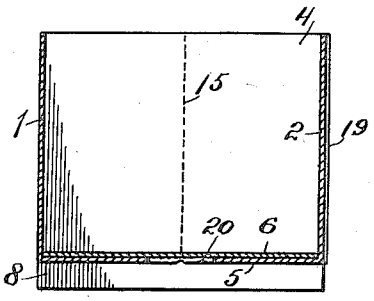


Fig 3

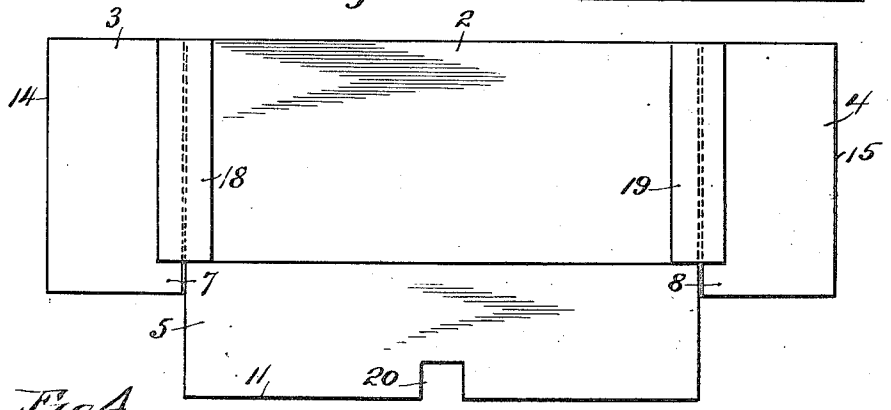
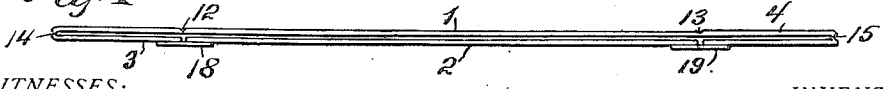


Fig 4



WITNESSES:

R. C. Hamilton

E. B. House.

INVENTOR.

Lucian Rosenwald

BY

Warren D. House

His ATTORNEY.

L. ROSENWALD.

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2 SHEETS—SHEET 2.

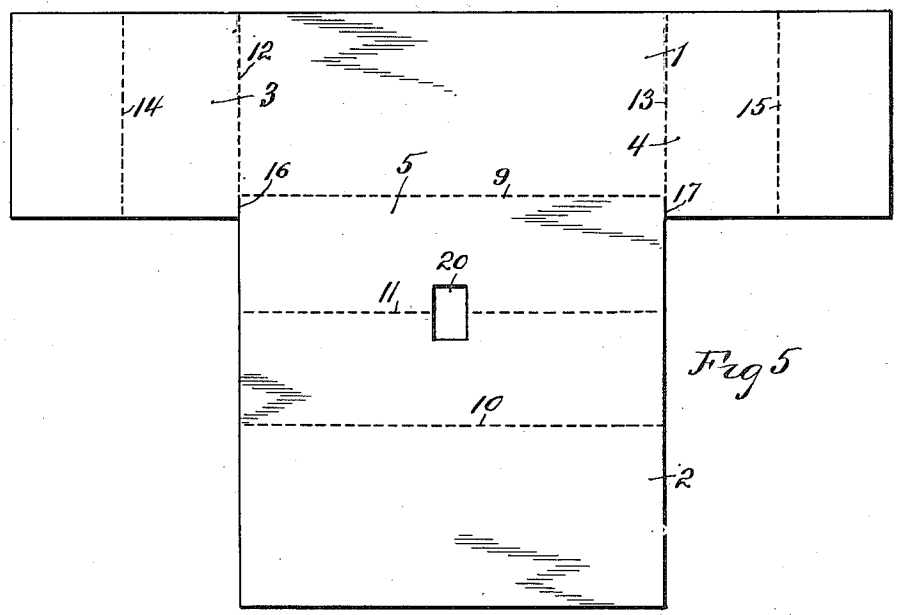


Fig 5

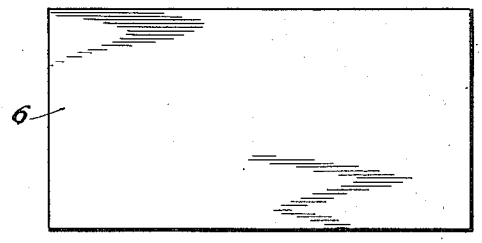


Fig 6

Fig 7

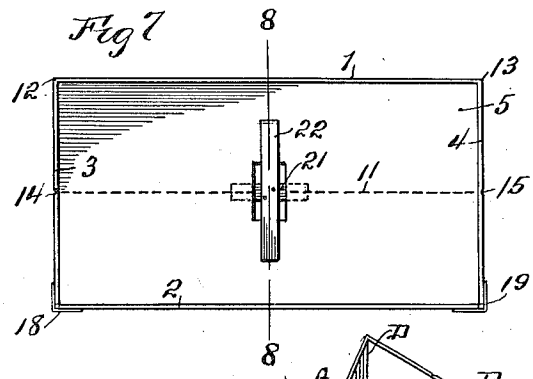


Fig 8

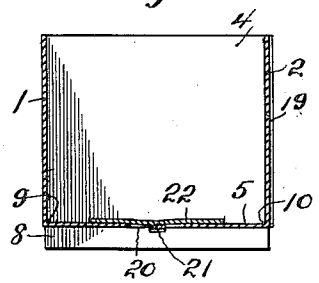
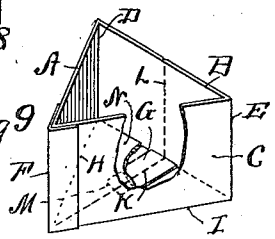


Fig 9



WITNESSES:

R. E. Hamilton

E. B. Hoos.

INVENTOR.

Lucian Rosenwald

BY

Warren D. House

His ATTORNEY.

UNITED STATES PATENT OFFICE.

LUCIAN ROSENWALD, OF KANSAS CITY, MISSOURI.

COLLAPSIBLE BOX.

1,168,561. Specification of Letters Patent. Patented Jan. 18, 1916.

Application filed June 22, 1914. Serial No. 846,488.

To all whom it may concern:

Be it known that I, LUCIAN ROSENWALD, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented a certain new and useful Improvement in Collapsible Boxes, of which the following is a specification.

My invention relates to improvements in collapsible boxes.

It relates particularly to improvements in boxes designed to hold berries.

The object of my invention is to provide a novel, cheap and strong collapsible box which may be quickly extended and assembled for use, or which may be quickly collapsed and disposed in compact space for storage or shipment in the knock-down.

A further object of my invention is to provide a berry box which may, with little waste, be cut from sheet paper, wood or other suitable material.

Still another object of my invention is to provide a berry box in which the scorings or creasings in the body will be so arranged and disposed as to be little liable to be weakened at the flexible joints connecting different parts of the body by juice from mashed fruit contained in the box.

Other novel features of my invention are hereinafter fully described and claimed.

In the accompanying drawings, which illustrate my invention, Figure 1 is a perspective view of the preferred embodiment of my invention shown in the extended or assembled condition. Fig. 2 is a vertical cross section of the same. Fig. 3 is a side view of the body of the box, shown in Fig. 1, in the collapsed condition. Fig. 4 is an edge view of what is shown in Fig. 3. Fig. 5 is a plan view of the blank from which the body shown in Fig. 1 is formed. Fig. 6 is a plan view of the supplemental bottom shown in Fig. 1. Fig. 7 is a top view of a modification of my invention, which dispenses with the supplemental bottom. Fig. 8 is a cross section on the line 8—8 of Fig. 7. Fig. 9 is a perspective view, partly broken away of a modified form of my invention.

Similar reference characters designate similar parts in the different views.

Referring first to the form of my invention shown in Figs. 1 to 6, 1 and 2 designate respectively the two sides, 3 and 4 the two ends and 5 the bottom of the body of the box. The corners of the body are respectively provided with vertical flexible joints connecting the ends and sides. Each end is provided, preferably centrally, between the adjacent corners, with a vertical crease or scoring, where the end is adapted to be bent when collapsed as shown in Fig. 3. The bottom 5 is connected at its longitudinal edges by flexible joints with the sides 1 and 2. Said bottom 5 is provided with a longitudinal joint extending from end to end and substantially in alinement with the joints in the ends 3 and 4, when the box is in the assembled condition.

In the preferred form of my invention, shown in Figs. 1 to 6, I provide a supplemental bottom 6, shown detached in Fig. 6, which is of rectangular form, preferably extending from the end 3 to the end 4, and adapted to snugly fit between the sides 1 and 2 so as to hold the body in the assembled condition shown in Fig. 1. The ends 3 and 4 are provided respectively with extensions 7 and 8, which project below the bottom 5 and are adapted to support the box in the assembled condition.

The body of the box is preferably cut from sheet material, such as paper or thin wood, the blank being of T-form, as shown in Fig. 5. This blank is provided with transverse scorings or creasings 9 and 10 which respectively form the flexible joints 9 and 10 which connect the bottom 5 with the sides 1 and 2. The blank is also provided intermediate of the scorings or creasings 9 and 10 with a parallel scoring or creasing 11, which serves as the flexible joint in the bottom 5. The end portion 3 of the blank is connected with the side portion 1 thereof by a flexible joint 12 consisting of a vertical scoring or creasing disposed at right angles to the creasings 9 and 10. A similar scoring or creasing 13 in the blank between the end portion 4 and the side portion 1 forms the flexible vertical joint connecting the side 1 and end 4 of the body.

Creasings or scorings 14 and 15, parallel with the scorings or creasings 12 and 13 are provided in the end portions 3 and 4 of the blank and respectively form the vertical flexible joints in the ends 3 and 4 of the

body. Slits 16 and 17 in the blank extend from the lower edges of the end portions 3 and 4 respectively, Fig. 5, upwardly to the creasing or scoring 9.

In forming the body of the box, during its construction, the side portions 1 and 2 are bent upwardly along the scorings and creasings 9 and 10 to a position at right angles to the bottom portion 5. The end portions 3 and 4 of the blank are then bent at right angles along the creasings or scorings 12 and 13, so that the free vertical edges thereof are against the vertical edges of the side portion 2. Said end portions 3 and 4 are then secured to the side portion 2 in any manner suitable for forming a flexible joint. In the drawings, I have shown the said end portions connected to the side portion 2 by flexible strips 18 and 19, which permit the body to be collapsed to the flat form shown in Fig. 3. In this flat form, the ends 3 and 4 are bent outwardly along the creases or scorings 14 and 15, and the bottom 5 is bent downwardly along the scoring or creasing 11.

In the collapsed condition shown in Figs. 3 and 4, the side 2 will lie in the same plane as the adjacent portions of the ends 3 and 4 and bottom 5. The side 1 will lie in the same plane as the adjacent portions of the ends 3 and 4 and bottom 5, the sides being parallel with each other, as shown in Fig. 4.

The bottom 5 is provided, preferably centrally, with a slot or hole 20, which is normally covered by the supplemental bottom 6, when such bottom is employed. When the supplemental bottom is eliminated, and the contents of the box are depended upon for retaining the sides in the extended position, the slot 20 serves to admit air through the bottom of the box for the purpose of ventilation. When the supplemental bottom is employed, the slot or hole 20 permits the entrance of the thumb or the finger of the operator for the purpose of forcing the supplemental bottom 6 upwardly from its normal position, when it is desired to remove the supplemental bottom in order to collapse the box.

The modified form shown in Figs. 7 and 8 dispenses with the supplemental bottom, the body being held in the extended position by a locking device comprising, preferably, a locking key consisting of crossed members 21 and 22, suitably secured together, the member 21 being insertible through the slot 20 in the bottom 5. After said member 21 has been so inserted, the locking key is turned to the position shown in Figs. 7 and 8, in which position the member 22 is disposed transversely across the joint 11, with the member 21 below, parallel with and covering a portion of the joint 11, the member 21 being disposed upon the upper side of the bottom 5. The joint 11 is thus held from bending by the locking key, thereby retaining the box in the extended or operative position.

In the form of my invention shown in Fig. 9, the body of the box comprises three sides, A, B and C, the vertical edges thereof being connected by flexible joints D, E and F.

The body shown in Fig. 9 is provided with a bottom G of triangular form, two of the edges of which are respectively connected with the lower edges of the sides A and C by two flexible joints H and I.

The bottom G is provided intermediate of the joints H and I with a flexible joint K. The side B is provided intermediate of the joints D and E with a vertical flexible joint L, the lower end of which, preferably terminates adjacent to one end of the flexible joint K.

The bottom G is preferably provided with a vertical central hole M, which is normally covered by a supplemental triangular bottom N adapted to be fitted between the sides of the body for holding them extended. By removing the supplemental bottom N, the box shown in Fig. 9 may be collapsed, the joint L bending outwardly and the joint K bending downwardly.

With the exception of the elimination of the supplemental bottom, and the substitution therefor of the locking key, the invention shown in Figs. 7 and 8 corresponds in structure to that shown in Figs. 1 to 6.

I do not limit my invention to the structures shown and described, as various modifications, within the scope of the appended claims, may be made without departing from the spirit of my invention.

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

1. A collapsible box having one side provided with a vertical flexible joint, the bottom being connected with two of the sides by flexible joints, and having a flexible joint intermediate of the joints connecting it with said two sides, the bottom having a hole therethrough, and a removable bottom adapted for insertion between and for holding the sides extended and covering said hole, the hole being adapted for the insertion of a finger for the lifting and removal of the removable bottom.

2. A collapsible box having a bottom integral with the sides of the box, the bottom having a hole therethrough, and a removable bottom adapted for insertion between the sides of the box and for covering the hole in the bottom, whereby the removable bottom holds the box extended and is readily rendered removable therefrom by the insertion of a finger through said hole.

3. A collapsible box having flexible joints in two opposite sides and in the bottom dis-

posed in alinement with each other, the bottom having a hole therethrough extending across the joint therein, and means extending across said hole transversely to the joint in the bottom for holding the bottom from bending.

In testimony whereof I have signed my name to this specification in presence of two subscribing witnesses.

LUCIAN ROSENWALD.

Witnesses:
WARREN D. HOUSE,
E. B. HOUSE.