M. W. RANDALL.

COLLAPSIBLE BOX.

APPLICATION FILED SEPT. 14, 1908.

974,596. **Patented Nov. 1, 1910.**

Fig.4.

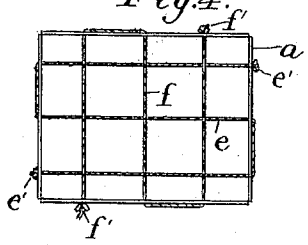


Fig.1.

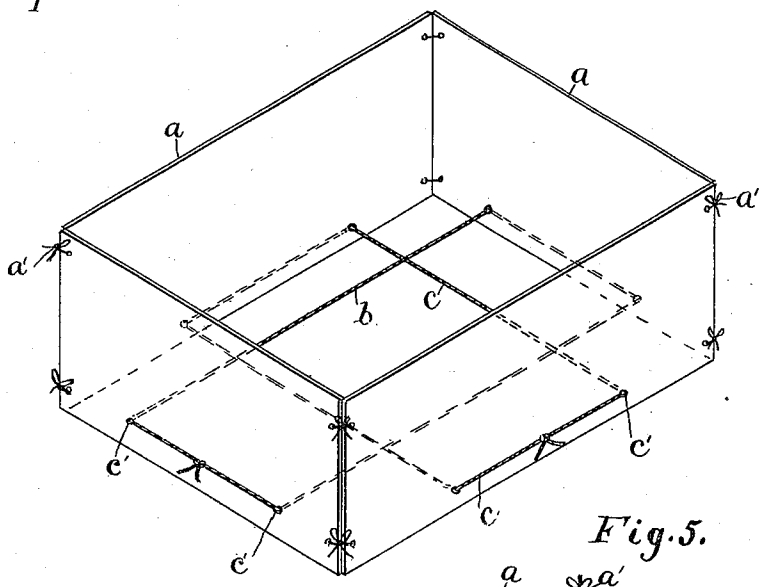


Fig.5.

Fig.2.

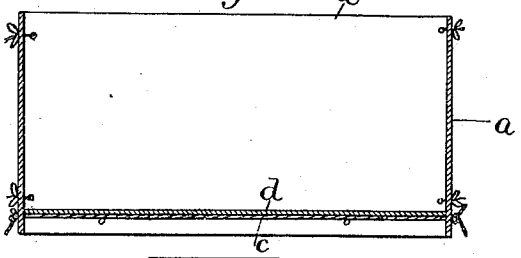
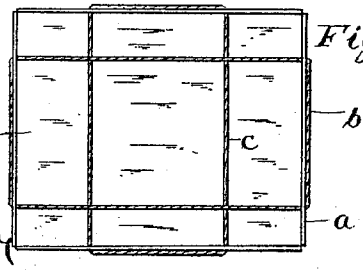


Fig.3.



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UNITED STATES PATENT OFFICE.

MAURICE W. RANDALL, OF PORTLAND, MAINE.

COLLAPSIBLE BOX.

974,596. Specification of Letters Patent. Patented Nov. 1, 1910.

Application filed September 14, 1908. Serial No. 452,842.

To all whom it may concern:

Be it known that I, MAURICE W. RANDALL, of Portland, in the county of Cumberland and State of Maine, and having a post-office address at No. 75 Emery street, in said Portland, have invented certain new and useful Improvements in Collapsible Boxes, of which the following is a specification.

My invention relates to collapsible boxes, such as are used for waste baskets, handkerchief boxes and the like, made from pulp board and supplied to the trade in a "knocked down" or collapsed condition. These boxes are supplied largely to department and ten cent stores, and it is very desirable that they should be constructed cheaply in order to bring them into this class of trade and that they should embody the strongest possible construction from the fact that the material of which the boxes are made is weak and unsubstantial.

According to my invention I construct a box with four sides, loosely hinged together at their ends so that they will collapse or fold together to form a flat package. The bottom is supported on a system of cords which connect together opposite sides, passing through holes formed in the sides near the lower edge, these cords extending substantially parallel with the sides of the box.

I illustrate my invention by means of the accompanying drawing in which—

Figure 1 is a perspective view of a box constructed according to my invention with the bottom removed, Fig. 2, is a vertical section through such a box showing the bottom in place, Fig. 3, is a view of the box turned bottom side up, Fig. 4, is a like view showing modified arrangement of cords and Fig. 5, shows the side pieces folded together.

In the drawings, *a a* represent four side pieces of suitable size and shape according to the use to which the box is to be put. These side pieces are hinged together at their ends so as to fold into a flat package as shown in Fig. 5. As here shown I fasten the ends together by cords or tapes *a'* tied through holes in the side pieces near the ends so as to form a loose joint which enables the sides to be folded freely upon each other. A bottom is fitted in between the side pieces and is supported upon a system of cords which connect opposite sides passing through one or more holes near the lower edge of each side.

Considering Figs. 1 and 3 I show a pair of holes C' on each side near the lower edge of each side piece and through opposite pairs of holes I pass two endless cords *b* and *c*, these cords crossing each other and forming a support for the bottom and a means for holding the side pieces firmly against the edges of the bottom. The cords extend across the box substantially parallel with the sides of the box since in that position the side pieces will collapse without binding the cord or causing the latter to slide through the holes, the distance between opposite holes remaining always the same whatever the relative position of the side pieces.

In Fig. 4, I have shown the cords *e* and *f* crossing from one side to the opposite side three times, the ends of the cord terminating in the side pieces instead of forming an endless cord. As here shown the ends of the cords form knots *e'* and *f'* outside of the side pieces and prevent the cord from drawing through the hole in the side piece.

It is obvious that the cord may be stretched across as many times as is necessary according to the size of the box. In small boxes a single cord from one side to the opposite side might be all that would be required while in larger boxes more would be needed.

One advantage of this construction is, that the strain on the sides and the support of the bottom are very evenly distributed and the greatest possible strength is given to the box. The box made in this manner may be cheaply made and quickly put together and it possesses the advantage of being collapsible into a flat package which may be cheaply transported.

The bottom may be loose and entirely unconnected with the side pieces as here shown or it may be hinged to one of the side pieces.

I claim:

1. A collapsible box comprising a plurality of side walls hingedly connected at their ends and adapted to fold together to form a flat package, the opposite walls of said box being parallel to each other, a cord threaded between two of the nonadjacent sides of the box, the strands of said cord constituting a plurality of taut bottom supports directly connecting such side walls of the box, and a bottom resting upon said cords and closely fitting between the side walls of the box.

2. A collapsible rectangular box comprising four side walls hingedly connected at their ends and adapted to fold together to

form a flat package, an endless cord connecting two of the side walls of said box, the strands of said cord extending parallel to the other two side walls of the box, a second endless cord connecting the other two side walls of the box, the strands of said cord crossing the strands of the first mentioned cord and extending parallel to the side walls which it connects, and a rectangular bottom adapted to be supported upon said cords and to closely fit between the side walls of the box.

3. A collapsible rectangular box comprising four sides hingedly connected at their ends and adapted to fold together to form a flat package, a plurality of bottom supporting cords connecting two opposite side pieces of the box and extending parallel to the other two side pieces thereof, and a bottom resting upon said cords and closely fitting between the side walls of the box.

4. A collapsible rectangular box comprising four side walls hingedly connected at their ends and adapted to fold together to form a flat package, a continuous cord threaded between two of the side pieces of said box, the strands of said cord constituting a plurality of bottom supports extending directly between opposite side pieces of the box and parallel to the other side piece of the box, and a bottom supported upon said strands.

In testimony whereof I have affixed my signature, in presence of two witnesses.

MAURICE W. RANDALL.

Witnesses:

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MARGARET J. SAUNDERS.