

Jan. 22 , 1924.

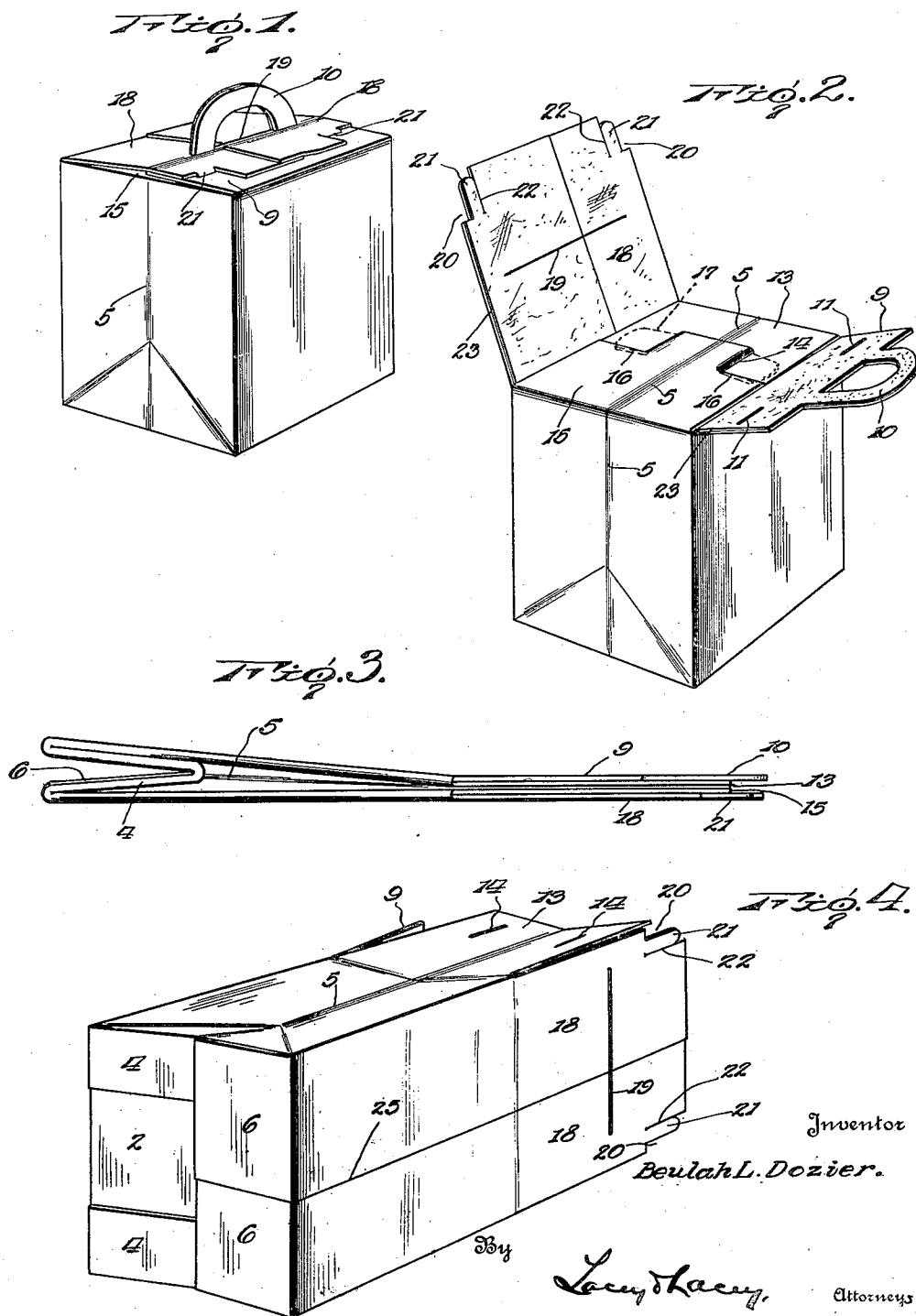
1,481,592

B. L. DOZIER

COLLAPSIBLE BOX

Filed Sept. 13, 1922

2 Sheets-Sheet 1



Jan. 22, 1924.

1,481,592

B. L. DOZIER
COLLAPSIBLE BOX

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2 Sheets-Sheet 2

Fig. 5.

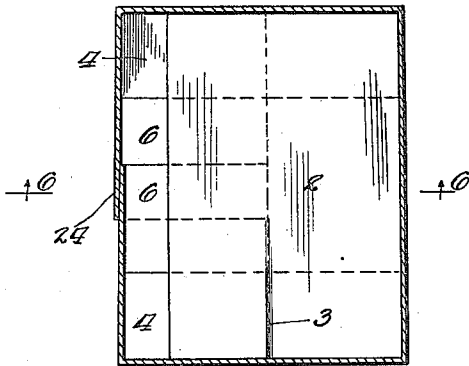


Fig. 6.

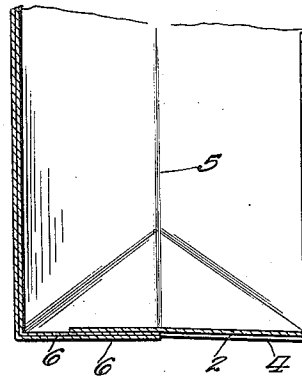
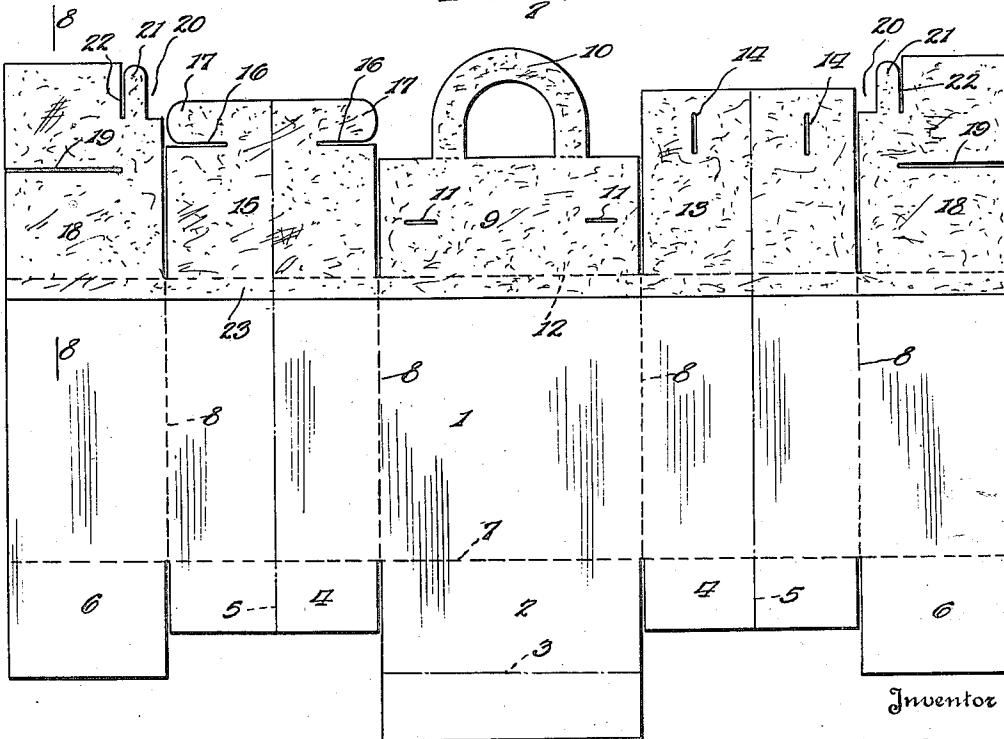


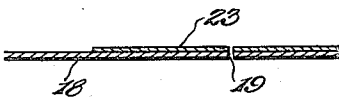
Fig. 7.



Inventor

Beulah L. Dozier.

Fig. 8.



By

Lawyer

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UNITED STATES PATENT OFFICE.

BEULAH L. DOZIER, OF EAGLE PASS, TEXAS.

COLLAPSIBLE BOX.

Application filed September 13, 1922. Serial No. 588,023.

To all whom it may concern:

Be it known that I, BEULAH L. DOZIER, a citizen of the United States, residing at Eagle Pass, in the county of Maverick and State of Texas, have invented certain new and useful Improvements in Collapsible Boxes, of which the following is a specification.

My invention seeks to provide a collapsible or foldable box which may be produced from a single integral piece of material and which will provide a complete closure and handle. I also seek to provide a box which will retain its form when in use but which may be collapsed when not in use so that a large quantity may be stored within a small space and a used box may be easily returned to a shipper for further use. The stated objects and other objects which will incidentally appear in the course of the following description are attained in such a structure as is illustrated in the accompanying drawings, and the invention resides in certain novel features which will be particularly pointed out in claims following the description.

In the drawings—

Figure 1 is a perspective view of my improved box as it appears when fully closed and in use;

Fig. 2 is a similar view showing the box partly opened;

Fig. 3 is an enlarged edge view of the box in collapsed condition;

Fig. 4 is a perspective view of the box with the closing flaps in opened position;

Fig. 5 is a plan view with the walls in horizontal section;

Fig. 6 is a detail section on the line 6—6 of Fig. 5;

Fig. 7 is a plan view of the blank;

Fig. 8 is a detail section on the line 8—8 of Fig. 7.

In carrying out my invention, I employ a blank of paper, leather, cloth, or any other desired material which may be easily folded. The blank is shown in Fig. 7 and comprises a central rectangular portion 1 having a plurality of tongues or flaps projecting from its longitudinal edges. Along one longitudinal edge at the center of the same is a rectangular flap 2 which is scored transversely, as indicated at 3, the scoring being disposed nearer the outer than the inner end of the flap so that in the completed box the score or crease will be disposed centrally of the

bottom thereof. Of course, the flap may have the full dimensions of the bottom of the box in which event the scoring will be midway between the inner and outer ends of the flap. Between the flap 2 and the ends of the central body 1 of the blank are shorter flaps 4 which are duplicates in form and dimensions and are scored, as indicated at 5, so as to be divided into two equal sections, and it will be noticed that the said scoring 5 extends across the main body of the blank and to the ends of the alined flaps at the opposite edge thereof. At the ends of the blank are additional flaps 6 which are not scored but which are of less length than the flaps 2 and 4. The longitudinal edge of the main body is defined by scoring 7 which extends from end to end of the blank at the bases of the several flaps 2, 4 and 6. The blank is further scored transversely, as indicated at 8, the said scoring 8 being alined with the edges of the flaps 2, 4 and 6, as clearly shown, and the spaces between the said lines or scoring forming the sides of the completed box. At the upper longitudinal edge of the blank, there is formed centrally a flap 9, the width of which is equal to the distance between the lines of scoring 3 and 7 so that the edge of this flap 9 will be disposed centrally across the top of the completed box. From the end or free edge of the flap 9, a substantially semi-circular loop 10 projects and this loop 10 will form a handle in the completed box. The flap 9 is further provided adjacent its side edges with slots 11 which are alined and are disposed parallel with the free edge of the flap. The adjacent side edge of the body portion of the blank is defined by a line of scoring 12 which is parallel with the free edge of the flap 9 and extends the full length of the blank. From the edge of the blank immediately adjacent one end of the flap 9, extends a rectangular flap 13. This flap 13 has its free edge beyond the free edge of the flap 9 and is provided with slots 14 disposed at a right angle to the adjacent side edge of the blank and located between the lines of its own free edge and the free edge of the flap 9, as clearly shown in Fig. 7. These slots 14 are also disposed midway between the side edges of the flap and the scoring 5 which extends across the flap. Adjacent the opposite end edge of the flap 9 is a flap 15, the free edge of which projects somewhat beyond the free edge of the flap 9 and is longitudinally slit, as indicated at 16,

whereby to form tongues 17. In the completed box, the tongues 17 are engaged in the slots 14 and will frictionally engage the walls of said slots so that the flaps 13 and 15 will constitute a closure for the box. At the ends of the blank adjacent the flaps 13 and 15 are flaps 18 each of which is provided with a slit 19 extending inwardly from its outer side edge. The inner side edge of each flap 18 is cut away, as indicated at 20, to provide a recess in which is a tongue 21, said tongue being defined by a slit 22 cut inwardly from the free end edge of the flap.

It is, of course, obvious that the several flaps are to be folded inwardly relative to the main body of the blank to form the completed box and the flaps at the lower side of the drawing will constitute the bottom of the box, while the flaps at the upper side of the drawing will constitute the top or closure for the box. To reinforce the upper flaps and guard against tearing or other injury to the same through careless handling, I provide a lining 23 which may be of thin cloth or textile material or may be of any material possessing the requisite strength and flexibility. This lining is, of course, cut to correspond exactly with the shape of the several flaps 9, 13, 15 and 18 and is secured to the inner surfaces of said flaps by any suitable adhesive. As shown in Fig. 7, the inner edge of the lining is preferably carried over onto the main body of the blank so that the fold or joint between the main body of the blank and the respective flaps will be reinforced and splitting of the same prevented.

In manipulating the blank to produce the box, the flap 2 is first folded to assume a position at right angles to the inner surface of the main body of the blank. The blank is then folded along the lines of the innermost scoring 8 so that the panels carrying the flaps 4 and 13 and 4 and 15 respectively will be brought into position at right angles to the central panel of the blank and the flap 2. The flaps 4 will thus be brought against the outer surface of the flap 2 and will be secured thereto by adhesive, the end portions of the scoring 5 coinciding with the scoring 3 so that the completed bottom of the box may be folded inwardly, as shown in Fig. 3. The end panels of the blank are then folded upon the outermost lines of scoring 8 so that they will assume an overlapping relation and lie at right angles to the intermediate panels and parallel with the central panel of the blank. The flaps 6 will be thereby caused to overlap portions of the respective flaps 4 and the ends of the said flaps 6 will overlap. The flaps 6 may then be secured to the flaps 4 and to each other and to the portion of the flap 2 beyond the scoring 3 by adhesive so that the bottom of the box will be completed. It is to be

noted that the edges of the overlapping flaps 6 will coincide with the scoring 3 and 5 and the bottom of the box may, consequently, be folded, as shown in Fig. 3, when the box is to be collapsed. The outermost panels of the blank are of such width that their meeting edges will overlap somewhat and these overlapped edges are joined by adhesive, as will be readily understood. The overlapped edges are shown at 24 in Fig. 5.

The box completed as so far described will have the form shown in Fig. 4, but the lines of scoring upon the intermediate panels of the blank will permit the box to be collapsed, as shown in Fig. 3, so that the prepared boxes may be stored in quantities within a small space and no time is lost in preparing the box when the use of the same is needed. The box, as shown in Fig. 4, is set up on end when the use of the same is desired, as indicated in Fig. 6, and the article to be carried is deposited in the box through the upper end of the same. The flap 13 is then folded over across the open top of the box and the flap 15 brought over upon the said flap 13, the tongues 17 being thereby brought into such position that they may be readily engaged in the slots 14 and thereby hold the flaps 13 and 15 together. When the box is formed, as shown in Fig. 4, the flaps 18 will partly overlap just as the end panels of the blank overlap and the overlapped portions of the said flaps 18 are secured together by adhesive. The notches or open-ended slots 19 will thus be brought into alinement and will constitute a slot having closed ends through which the loop or handle 10 may be inserted. To complete the closing of the box, the handle or loop 10 is inserted through the completed slot 19 and the flaps 9 and 18 folded down onto the flaps 13 and 15, the tongues 21 being thereby brought into position to engage the slots 11 through which they are inserted, as shown in Fig. 1, after which the loop or handle 10 is bent upwardly so as to project from the completed box. It will be readily seen that I have provided a box which may be easily assembled for use and which may be stored in a very compact space and which may be produced at a low cost. The device is intended more particularly for use in delivering hats but it may, of course, be used for various purposes. Notwithstanding the inexpensiveness of the box, it will be strong and durable and may be repeatedly used.

Having thus described the invention, what is claimed as new is:

1. A blank for a box consisting of a single integral sheet of foldable material comprising a central rectangular body portion, and flaps extending from the longitudinal edges of said body portion, the central flap at one side edge of the body portion being provided

at its free edge with an outwardly projecting loop and having slots adjacent its side edges disposed parallel with the adjacent edge of the body portion of the blank, a flap adjacent one side edge of the said central flap having a rectangular formation and being provided near its outer free end with slots disposed parallel with its side edges, a flap adjacent the opposite side edge of the central flap having slits in its side edges defining tongues adapted to engage the slots in the last-mentioned flap, and flaps at the ends of the blank each provided with a slit extending inwardly from its outer side edge and provided with an inwardly extending slit adjacent the inner corner of its free end edge, said slits defining tongues.

2. A box of foldable material having flaps at the upper ends of all its sides, the flaps on two opposite sides being adapted to fold over across the top of the box and partly overlap and being provided with interengaging tongues and slots, the flap at one remaining side of the box being adapted to fold over the said overlapped and interengaged flaps and being provided at its corners with tongues and centrally with a slot at right angles to said tongues, and the flap at the opposite remaining side of the box being provided at its end edge with a handle loop adapted to be inserted through the slot in the said last-mentioned flap and being

further provided with slots to receive the tongues on the opposed flap.

3. A box consisting of a bottom, sides rising from the bottom, and flaps at the upper ends of all the sides, the flanges at two opposite sides being constructed to fold over the box and overlap and interlock, and the flaps at the remaining opposite sides being constructed to fold over the first-mentioned flaps and overlap and interlock, one of the last-mentioned flaps being provided at its free edge with a projecting handle member adapted to pass through and extend above the overlying flap.

4. A box blank including a central body portion and a plurality of flaps projecting from the side edges of the body portion, the flaps at one side of the body being foldable into overlapping relation to form the box bottom, and the flaps at the opposite side being foldable into overlapping relation to form a closure, the closure-forming flaps at the ends of the blank overlapping and formed with slits in their outer side edges to form a slot when overlapped, and the closure-forming flap at the center of the blank being formed with a projecting locking handle member to extend through said slot.

In testimony whereof I affix my signature.

BEULAH L. DOZIER. [L. s.]