

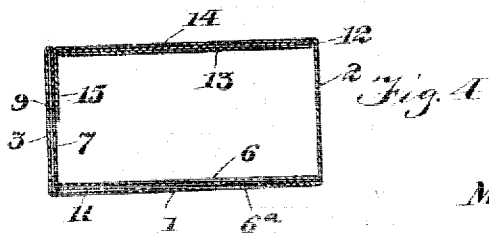
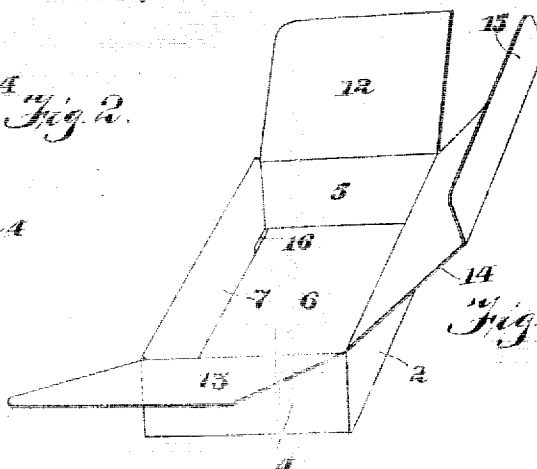
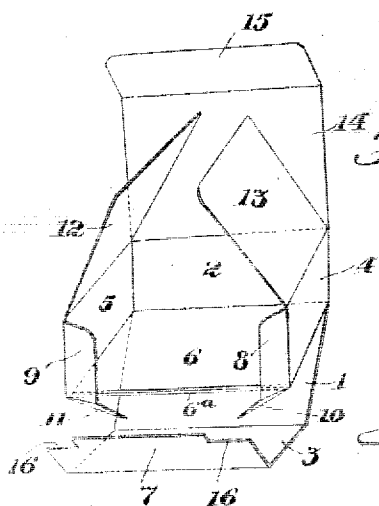
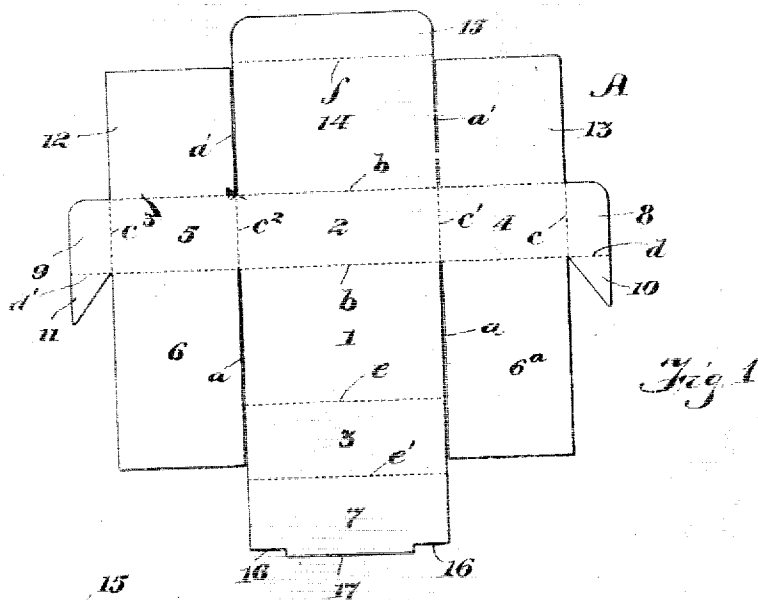
No. 815,704.

PATENTED MAR. 20, 1906.

M. HIRSCH.
FOLDING BOX.

APPLICATION FILED OCT. 23, 1904.

2 SHEETS SHEET 1.



WITNESSES:
Robert Wood
V. E. Nichols

INVENTOR
Morris Hirsch,

BY
Griffin Bernhard & Cavanagh
ATTORNEYS.

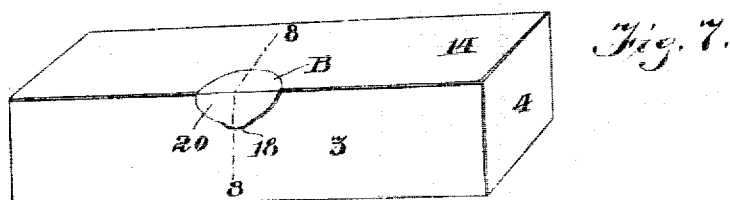
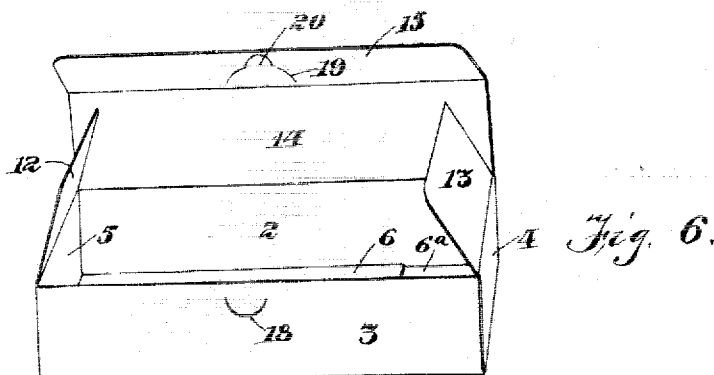
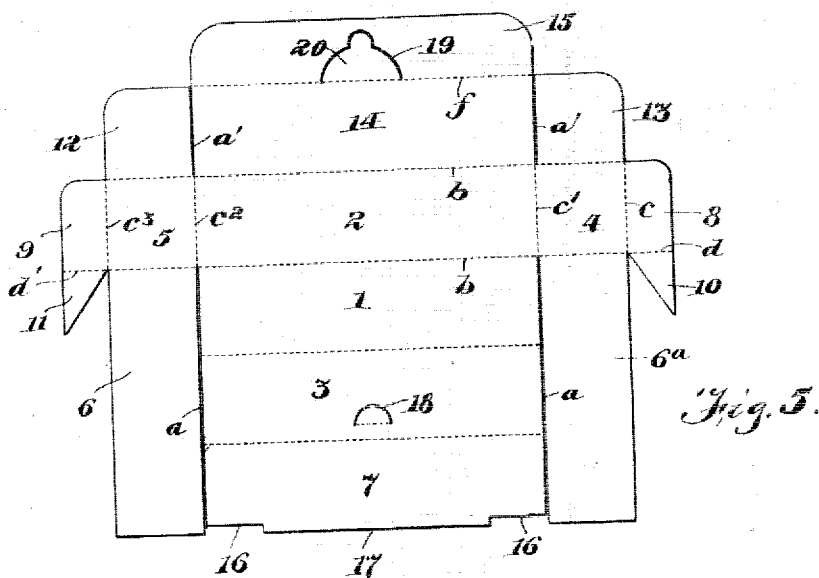
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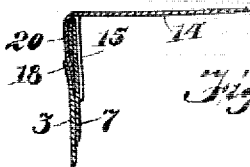
APPLICATION FILED OCT. 28, 1904.

2 SHEETS—SHEET 2.



WITNESSES:

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87

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UNITED STATES PATENT OFFICE.

MORRIS HIRSCH, OF NEW YORK, N. Y.

FOLDING BOX.

No. 815,704.

Specification of Letters Patent.

Patented March 20, 1906.

Application filed October 28, 1904. Serial No. 230,387.

To all whom it may concern:

Be it known that I, MORRIS HIRSCH, a citizen of the United States, residing at New York, borough of Manhattan, in the county of New York and State of New York, have invented certain new and useful Improvements in Folding Boxes, of which the following is a specification.

My invention relates to folding boxes, the same being more particularly directed to improvements in boxes of that class wherein each is made of a single piece of paper-stock by cutting and scoring the stock at one operation.

The first part of my invention is a one-piece folding box the bottom of which is made of a number of layers superimposed one upon the other and held or confined in place by the locking action of a fold forming a part of the box-blank.

Another part of the invention consists of corner-flaps arranged to be folded within or between parallel panels which are located on one side of the box, such corner-flaps being in one piece with the end folds and being adapted to produce strong closed corners through which merchandise or contents of the box cannot escape.

Another part of the invention consists of auxiliary flaps on the corner-flaps, such auxiliary flaps being adapted to be thrust into the space between layers of the bottom and said auxiliary flaps cooperating with the corner-flaps to prevent the parts of the box from falling or pulling away from each other and also producing reinforced corners in the box.

Another part of my invention consists in the provision of a locking-flap arranged for engagement edgewise with one layer of the multiple-ply bottom in a way to not only lock the several bottom layers in place, but to also hold the several folds or panels of the box in their assembled positions.

My improved box possesses many advantages from a practical standpoint, chief among which are the multiple-layer bottom, which secures strength and overcomes leakage of the material packed in the box, and the reinforced corners, the latter also increasing the strength of the box, overcoming all tendency of the contents to leak out, and preventing the several panels or walls from pulling away under pressure of the contents.

Further objects and advantages will ap-

pear in the course of the subjoined description, and the actual scope of the invention will be defined by the annexed claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, wherein like characters of reference are used to indicate corresponding parts in all the figures.

Figure 1 is a plan view of a piece of paper-stock which is cut and scored to produce a blank embodying some of the features of my invention. Fig. 2 is a perspective view illustrating the blank of Fig. 1 in a partly-folded position to produce the box. Fig. 3 is a perspective view of the blank completely folded, the box being shown in an open position. Fig. 4 is a cross-section through the box of Fig. 3 with the top and cover flaps in closed positions. Fig. 5 is a plan view of another form of a blank adapted to produce a box similar to Fig. 3, except that it is somewhat longer. Fig. 6 is a perspective view of the box made by folding the blank of Fig. 5, the cover and top flaps being shown in open positions. Fig. 7 is another perspective view illustrating the box of Fig. 6 closed, and Fig. 8 is a detail sectional view on the line 8 8 of Fig. 7.

I will first proceed to describe the blank and the box made by folding the same shown by Figs. 1 to 4, inclusive, of the drawings. In Fig. 1 the blank A is made in a single piece by cutting or stamping it by a suitable die from paper-stock, cardboard, or other suitable material. Said blank has cuts or incisions *a a'*, and it is creased or scored, as indicated by dotted lines. The blank consists of a bottom 1, the side folds 2 3, end folds 4 5, bottom flaps 6 6*, a side flap 7, corner-flaps 8 9 10 11, top flaps 12 13, and a cover-flap 14. The blank has score-lines *b b* extending crosswise thereof from edge to edge and also has other score-lines *c c' c'' c'''*, as well as short score-lines *d d'*. The bottom 1 is in one continuous piece with the side folds 2 3, side flap 7, and the cover-flap 14. The line of demarcation between the bottom 1, the side fold 3, and the side flap 7 are denoted by the score or crease lines *e e'*. The slits *a a* separate the bottom flaps 6 6* from the bottom 1 and the side fold 3, said bottom flaps 6 6* extending from the end folds 4 5 to the side fold 3. It will be noted that the bottom flaps 6 6* extend from one edge of the respective end folds, while from the opposite

edges of said end folds extend the top flaps 12 13, the latter being separated from the cover-flap 14 by the slit a' . The corner-flaps 8 and 9 project from the end edges of the end folds 4 5, respectively, and these corner-flaps are adapted to be folded on the score-lines c c' . The other corner-flaps 10 11 are triangularly shaped, and they extend from the corner-flaps 8 9, so as to make therewith a double corner-flap on each end fold, the corner-flaps 10 11 being foldable on the score-lines d d' , respectively. It should be understood that the side fold 2 and the bottom flaps 6 6* are foldable on one score-line b , that the cover-flap 14 and the top flaps 12 13 are foldable on the other score-line b , whereas the end folds 4 5 are foldable on the score-lines c' c' . Furthermore, the fold 3 may be turned up on the score-line e , and the side flap 7 is foldable upon the fold 3 on the score-line e' .

Although I have shown the box-blank as being provided with the cover-flap 14 and the top flaps 12 13 in order to produce a box which may be closed on its top side, yet I would have it understood that these parts may be omitted if it is desired to produce a blank which may be folded into an open-top box. As shown, however, the cover-flap 14 has a score-line f and a tuck-flap 15, the latter being foldable on said line f and capable of being thrust into the box, as will hereinafter appear.

The blank is shown as having a flap 7, which is constructed to fold inside of the box and to have engagement with several of the parts thereof in a way to lock or confine the members of the box when the blank is folded. I would have it understood that the specific construction of the member for locking the parts of the box-blank in their folded positions may be modified or changed without departing from the spirit of my invention; but for the purpose of saving space and effecting economy in the manufacture of the box I prefer to construct the flap 7 in the manner shown more clearly by Figs. 1 and 2. Said flap 7 is provided with notches 16 at the corners thereof, thus leaving a projecting edge 17 between said corners.

The operation of folding the blank A into the box of Figs. 1, 2, 3, and 4 is as follows: The bottom flaps 6 6* are turned upwardly on the score-line b at right angles to the end folds 4 5, and these end folds are then turned on the score-line c' c' so as to bring the end folds 4 5 at right angles to the side fold 2. This operation of adjusting the end folds brings the bottom flaps 6 6* into overlapping relation, as indicated by Fig. 2. The corner-flaps 8 9 are now turned on the score-lines c c' so as to lie at right angles to the overlapping bottom flaps 6 6* and to the end folds 4 5, after which the triangular flaps 10 11 are folded beneath the lowermost bottom flap.

The bottom 1 is now folded against the corner-flaps 10 11 and one of the bottom flaps. The side fold 3 is turned on the score-line e so as to lie against the corner-flaps 8 9, and the side flap 7 is folded on the score-line e' so as to extend inside of the box and overlap the said fold 3 and the corner-flaps 8 9. The edge 17 of the side flap 7 is adapted to engage in the construction shown with one of the bottom flaps, and as the corner-flaps 8 9 are held between the side fold 3 and the said flap 7 the several parts of the box are securely locked by the engagement of the side flap 7 with the bottom flaps, such locking action of the side flap 7 confining the bottom flaps from movement within the box. The notches 16 of the side flap 7 permit the fingers to be engaged with the edge of the flap, so as to withdraw it from engagement with the bottom flaps, thus releasing the parts and permitting the box to be unfolded. The merchandise may be placed in the box, flaps 12 13 folded upon said box, and the cover-flap 14 closed upon the lapping top flaps, the tuck-flap 15 being thrust inside of the side flap 7.

My improved box has a multiple-layer bottom consisting of the bottom portion 1 and the bottom flaps 6 6*. This is advantageous, because the liquid of moist merchandise is prevented from soaking through the box or leaking out of the same. Furthermore, the corners of the box are materially reinforced by the employment of the flaps 8, 9, 10, and 11, which, it will be noted, provide unbroken or continuous reinforcements at the corners. These flaps not only strengthen the box, but they prevent the leakage of the contents and contribute to the security of fastening the several parts comprising the box. It will be observed that the flaps 8 9 are inclosed within or thrust between the side fold 3 and the flap 7, while the other corner-flaps 10 11 lie between the bottom 1 and lowermost ply 6 or 6* of the multiple-layer bottom.

One advantage of my improved box consists in having the parts locked securely together, so as to allow the top flaps 12 13 and the cover-flap 14 to occupy the open or spread positions. (Shown by Fig. 3.) This permits the several boxes to be thrust one within the other or "nested," thus saving space in packing or storing the boxes and allowing them to be readily separated when it is desired to use the same without permitting the boxes to fall apart during the operation of pulling them one from the other.

The box shown by Fig. 5 of the blank is the same in all essential respects as the blank of Fig. 1; but in Fig. 5 the form or shape of the blank and several of its parts are changed somewhat in order to produce a box which is somewhat longer and narrower than the box of Fig. 3, the two styles of boxes being adapted to receive different kinds of merchandise.

A comparison of Fig. 5 with Fig. 1 will show that the bottom flaps 6 6^a are somewhat longer in Fig. 5 than in Fig. 1, and the several folds are changed accordingly. In the particular type of box shown by Figs. 5 to 8, inclusive, however, I provide additional means for locking the cover-flap 14 when closed, and to this end a curved slit 18 is made in the side fold 3. Another slit 19 is made in the tuck-flap 15 in a way to produce an auxiliary flap 20, which is cut out of the flap 15 and is adapted to be folded on the same score-line *f* as said tuck-flap 15. An imitation seal, the position of which is indicated at B in Fig. 7, may be printed, embossed, or otherwise produced on the outside of the top 14 and the auxiliary tuck-flap 20, thus producing an ornamental effect on the box. It is evident that when the cover 14 is closed the flap 15 should be thrust inside of the box, whereas the tuck-flap 20 projects outside of the box, so as to overlap the fold 3, thus permitting the free edge of said flap 20 to be thrust into the slit 18, whereby a double fastening is employed for holding the cover 14 securely in a closed position.

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

30 1. A folding box comprising a bottom, two side folds, end folds integral with one side fold, bottom flaps on the end folds, and a side flap integral with the other side fold, said side flap being substantially equal in width to said side fold and having a free edge which has locking engagement with the bottom flaps for holding the parts of the box without the employment of separate fastenings.

40 2. A folding box comprising a bottom, two side folds, end folds integral with one side fold, corner-flaps on the end folds, bottom flaps also provided on the end folds, and a side flap integral with the other side fold and foldable upon the corner-flaps and said side fold, said side flap being substantially equal in width to the side fold and one edge of said side flap being free and having locking engagement with the bottom flap for holding the parts of the box without the employment of separate fastenings.

50 3. A folding box, comprising a bottom, two side folds, end folds integral with one side fold, bottom flaps on the end folds, and a side flap integral with, and foldable upon, the other side fold, said side flap being unconfined on one side edge and said edge being provided with notches, said edge between the notches having locking engagement with said bottom flaps.

60 4. A folding box provided with side and end folds, bottom flaps on the end folds, a locking side flap foldable upon one side fold, and a double tuck-flap on each end fold, one

part of each tuck-flap lapping the box-bottom and the other part fitting between the side flap and the side fold which is overlapped by said side flap.

5. A folding box provided with side folds, a bottom, end folds, a side flap foldable upon one of the side folds, and a double corner-flap on each end fold; one part of the corner-flap being foldable at an angle to the other part of said corner-flap, whereby the respective parts of each corner-flap are adapted to overlap the box-bottom and to lie between a side flap and the complementary side fold.

6. A folding box provided with a bottom, two side folds, end folds integral with one side fold, a side flap integral with the other side fold and foldable upon the same, bottom flaps integral with the end folds and adapted to be locked by said side flap, and a double corner-flap also provided on each end flap, each corner-flap being foldable into engagement with a side and the bottom of the box.

7. A folding box provided with side folds, a bottom, a side flap foldable on one of the side folds, end folds integral with the other side fold, bottom flaps on the end folds, and double corner-flaps connected to each of the end folds, each corner-flap having one part extending beyond the other part and said extending part being foldable at an angle to the other part.

8. A folding box provided with a bottom, side folds, end folds integral with one side fold, bottom flaps on the end folds, a side flap on the other side fold, and a double corner-flap integral with each end fold; one part of each double corner-flap being foldable over the bottom and the other part being insertible between the side flap and the corresponding side fold.

9. A knockdown folding box having a bottom, side and end folds, bottom flaps on the end folds, and corner-flaps also provided on the end folds and adapted to be thrust between the bottom and said bottom flaps.

10. A folding box provided on one of its walls with a side flap, which is adapted to lie within said box, a slit in said side wall of the box, a top having at its free edge a flap adapted to be thrust into the box and to lie along-side of the side flap, and a tuck-flap within said top flap, and foldable on the same crease-line as said top flap, said tuck-flap being adapted to be thrust through said slit and into the space between said side flap and the wall of the box.

11. A box-blank scored and cut to produce a bottom, side folds, end folds each having on one edge a bottom flap and on another edge a corner-flap, a bottom tuck-flap extending from each corner-flap, and a side flap on one of the side folds.

12. A box-blank scored and cut substantially as described and comprising a bottom,

side and end folds, the end folds being continuous with one side fold, bottom flaps on one edge of the respective end folds, a double corner-flap on each end fold, one part of each
5 corner-flap extending alongside of one bottom flap, and a member adapted to be in-folded, extending from the other side fold.

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

MORRIS HIRSCH.

Witnesses:

JAS. H. GRIFFIN,
H. I. BERNHARD.