No. 772,694. PATENTED OCT. 18, 1904.

J. T. CRAW.

PAPER BOX.

APPLICATION FILED FEB. 15, 1904.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 2.

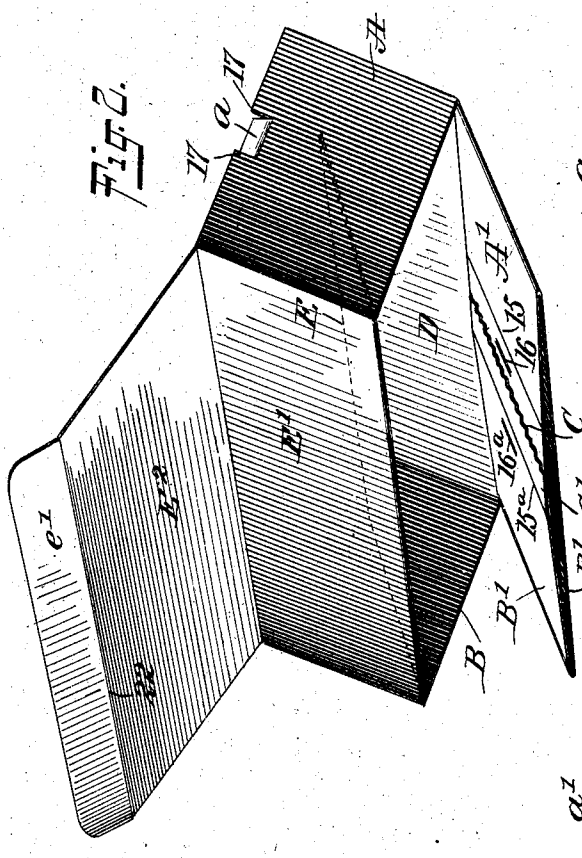


Fig. 1.

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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 3.

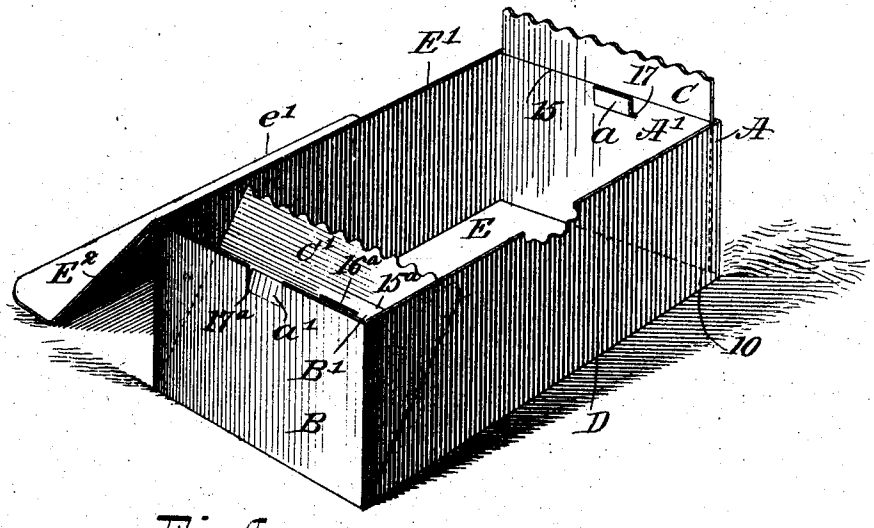


Fig. 4.

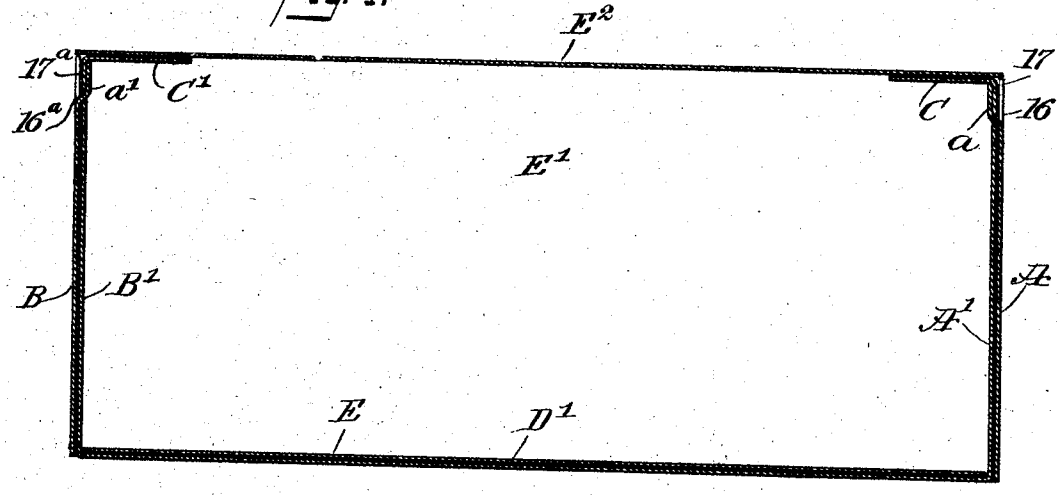
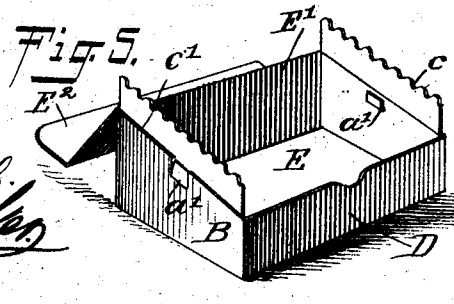


Fig. 5.



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No. 772,694. Patented October 18, 1904.

UNITED STATES PATENT OFFICE.

JOSEPH T. CRAW, OF JERSEY CITY, NEW JERSEY, ASSIGNOR OF ONE-HALF TO BROWN & BAILEY COMPANY, OF PHILADELPHIA, PENNSYLVANIA.

PAPER BOX.

SPECIFICATION forming part of Letters Patent No. 772,694, dated October 18, 1904.

Application filed February 15, 1904. Serial No. 193,587. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH T. CRAW, a citizen of the United States, and a resident of Jersey City, in the county of Hudson and State of New Jersey, have invented a new and useful Improvement in Paper Boxes, of which the following is a full, clear, and exact description.

The invention relates to the manufacture of paper boxes, and especially to that class of boxes commonly known as "solid-bottom knockdown boxes."

The purpose of the invention is to provide a box which may be quickly and conveniently set up and which when set up will have a perfectly flat springless bottom without exposed folds, the blank from which the box is made being economically cut and so cut and scored that when the parts are adjusted to place they will be, as it were, locked against displacement without the aid of paste or other viscid material except at one edge of the body of the box.

A further purpose of the invention is to provide the material of the box with score-lines at the top of what are the inner end panels of the complete box and wing extensions beyond said score-lines adapted in the complete box to extend from such score-lines inwardly in direction of each other a predetermined distance over the body of the box.

Another purpose of the invention is to provide locks at the ends of the box-body serving to hold the adjacent end panels together and also serving as supports for the said wing extensions.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

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

Figure 1 is a plan view of a blank from which the box is formed. Fig. 2 is a perspective view of the box with the top and the bottom open. Fig. 3 is a perspective view of the box, the bottom being closed and the top open. Fig. 4 is a longitudinal vertical section through the closed box, and Fig. 5 is a perspective view of a slightly-modified form of the box.

The box is adapted to have a double bottom and double ends, and the blank from which the box is formed is shown in Fig. 1 and is substantially L-shaped. The longer portion of the blank is provided at each side of its center with transverse score-lines 10 and 11, running from one longitudinal edge to the other, and with a longitudinal score-line 12 at one side of the center of the said longer section of the blank extending from the score-line 10 to the score-line 11. A cut 13 extends from one end of the longitudinal score-line 12 to the outer edge of the said longer section of the blank, while a corresponding cut 14 extends from the opposite end of the score-line 12 to the opposite end of the said longer or main section of the blank. These score-lines and cuts form two large panels D and D′, located about centrally of the said longer or main section of the blank, the panel D representing the front side of the box and the panel D′ the outer bottom section of the box, and at one side of these two panels D and D′ smaller panels A and A′ are located, the panel A constituting an outer end section of the box and the panel A′ the corresponding inner end section, while at the opposite ends of the central panels D and D′ panels B and B′ are formed, which correspond to the panels A and A′, the panel B representing the opposite outer end section of the box and the panel B′ the corresponding inner end section. The panel A′ is provided with a score-line 15 near its inner end, extending from one edge to the other parallel with the score-line 10, thus forming a wing C, and the panel B′ is provided with a like score-line 15ª, forming a wing C′. The panel A′ adjacent to its score-line 15 has a slot 16 produced therein, and the panel B′ has a corresponding slot 16ª made therein. The panel A at what is its upper edge has cuts 17 made therein, forming a

locking-tab *a*, and the panel B at its upper edge has corresponding cuts 17ª therein, forming a locking-tab *a'*. With reference to the other section of the blank it is divided into three main panels E and E' and E² by means of score-lines 18 and 19, the score-line 19 being practically a continuation of the score-line 12 and the cut 14. The score-line 18 is in the same longitudinal plane with the edge of the main section of the blank in which the tabs *a* and *a'* are formed. The intermediate panel E' constitutes the rear side of the box-body, the panel E constitutes the inner bottom section of the box-body, and the panel E² constitutes the top for the box-body. This latter panel has a score-line 22 produced longitudinally therein, forming a top locking-flap *e'*, and at the outer end of the panel E' a sealing-flap *e* is formed. It will be seen that the panels A, D, B, and E' together constitute the body portion of the blank.

In forming a box from the blank the sealing-flap *e* is secured to the inner face of the free end portion of the outer end panel A, and in this form the blank is stored or shipped.

The blank having been connected as described, when a box is to be made up the blank is adjusted so as to bring the panel D to the front, the panel E' to the rear, and the panels A and B at the outer end portions of the box as is shown in Fig. 2. The inner bottom panel E is then carried upward within the body of the box, as is indicated by dotted lines, and the inner end panels A' and B' are thereupon folded on the outer bottom panel D', as is also shown in Fig. 2. The panels A', B', and D' are then carried up within the bottom portion of the box, and the panels A' and B' are unfolded upward to engage with the outer end panels A and B, thus doubling the thickness of the box at this point and adding to its stability. The inner bottom panel E is then folded down upon the outer bottom panel D', as is shown in Fig. 4, doubling the thickness at the bottom portion of the box. The wings C and C' are then folded down to a substantially horizontal position over the body of the box, the free ends of the wings facing each other, and the tabs *a* and *a'*, formed in the outer end panels A and B, are carried inward through the slots 16 and 16ª in the inner end panels A and B and constitute rests for the wings C and C' when in their normal position.

With reference to the construction shown in Fig. 5 the only difference between it and the construction shown in Figs. 2 and 3 is that the ends of the box are made to slant downward at the top to the front, whereas in the form of the box shown in Figs. 2 and 3 the top portions of the ends of the box are horizontal. It will be understood that in producing a box such as is shown in Fig. 5, the parts whereof are designated similarly to the box shown in Fig. 3, the blank will necessarily be somewhat different in construction, particularly at the elements B' and A' of the box; but the essential features of the invention are the same in both formations of the boxes. The box shown in Fig. 5 is a box which will display articles to a better advantage than the box shown in Fig. 3, and this is the only difference between the formation of the two. It will thus be observed that the tabs *a* and *a'* constitute a firm interlocking connection between the end sections of the box. Finally, the cover-panel E² is carried down over the body of the box, closing the same, and the cover is held in its closed position by bending the locking-flap *e'* downward at an angle to the top panel and causing the said flap *e'* to enter the body of the box at the front.

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

1. In paper boxes, double end panels, the inner end panels having score-lines near their upper edges, and wing extensions beyond the score-lines, adapted to be folded, projecting freely from the edge of the box, and tabs forming a portion of the outer end panels, said tabs passing through the inner end panels, the inner ends of the tabs serving as supports for the said wings, as described.

2. A box formed from a blank consisting of a body portion adapted to fold upon transverse lines to form four sides of a box, said body portion having lateral extensions on opposite sides at one extremity adapted to fold, and also having a second lateral extension with flaps adapted to fold inwardly to constitute reinforcements for the end walls of said box, the edge of said body portion opposite said flaps having tabs and said flaps having slits adapted to register with said tabs when the parts fold.

3. A box formed from a blank consisting of an elongated body portion adapted to fold upon transverse lines to form the vertical walls of a box, said body portion having opposite lateral extensions at one extremity adapted to fold to form the bottom and cover of said box, and having a sealing-tip projecting beyond said extensions, said body portion further having a laterally-projecting extension adapted to form a reinforcement for the said bottom and flaps adapted to fold inwardly to constitute reinforcements for the end walls of said box, said body portion having tabs on the edge opposite said flaps, said flaps having slits adapted to receive said tabs when the parts fold, said flaps extending beyond said slits and folding inwardly to form wings at the ends of said box when the parts fold.

4. A box formed from a blank consisting of an elongated body portion adapted to fold

to form the vertical walls of said box, said body portion having lateral extensions adapted to superpose to form the bottom of said box, and flaps folding upon one of said extensions to reinforce the ends of said box and projecting freely beyond the upper edges thereof to form wings, lying within the box.

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

JOSEPH T. CRAW.

Witnesses:
J. FRED. ACKER,
JNO. M. RITTER.