No. 651,085. Patented June 5, 1900.

F. W. OTIS.

PAPER BOX.

(Application filed Feb. 13, 1900.)

(No Model.)

Fig. 1.

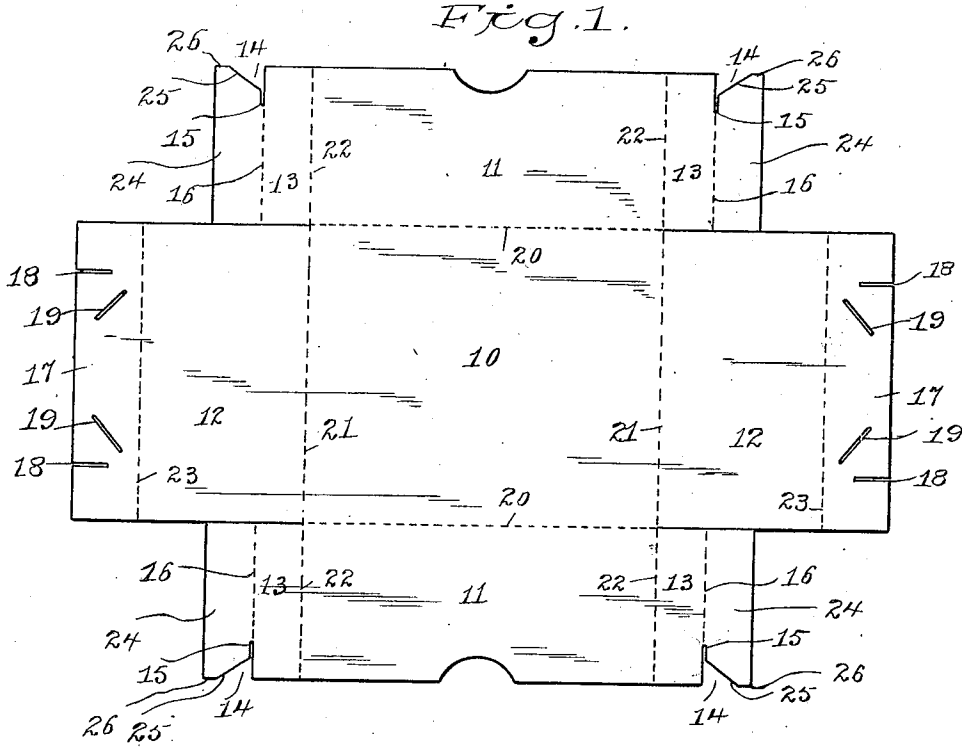


Fig. 3.

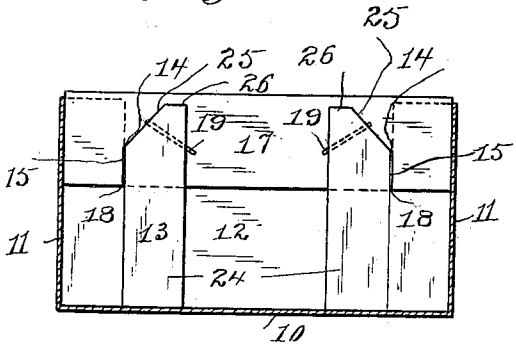


Fig. 4.

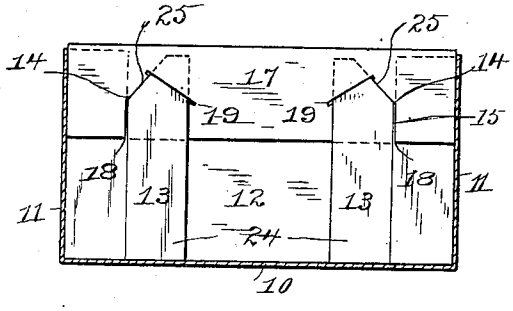
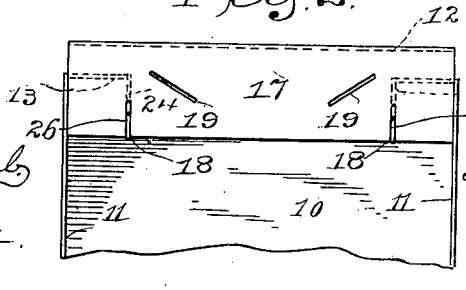


Fig. 2.



WITNESSES

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UNITED STATES PATENT OFFICE.

FREDERIC W. OTIS, OF NEW HAVEN, CONNECTICUT, ASSIGNOR OF ONE-HALF TO HENRY L. BRADLEY, OF SAME PLACE.

PAPER BOX.

SPECIFICATION forming part of Letters Patent No. 651,085, dated June 5, 1900.

Application filed February 13, 1900. Serial No. 5,060. (No model.)

To all whom it may concern:

Be it known that I, FREDERIC W. OTIS, a citizen of the United States, residing at New Haven, county of New Haven, State of Connecticut, have invented a new and useful Paper Box, of which the following is a specification.

My invention has for its object to provide a paper box or a cover therefor of the class commonly known as "folding" or "knock-down" boxes which shall be easy to assemble and when assembled shall be self-locking in the assembled position, thereby avoiding a serious objection to paper boxes of this class now in use, and which shall effect an important saving in the cost of manufacture, for the reason that less stock is required in its production than in the production of any similar box, size for size, now upon the market. With these ends in view I have devised the simple and novel box which I will now describe, referring to the accompanying drawings, forming part of this specification, and using reference characters to designate the several parts.

Figure 1 is a plan view of the blank ready for assembling or setting up; Fig. 2, a plan view of one end of a box, showing the manner in which the parts are brought into position for assembling; Fig. 3, a cross-section of a partly-assembled box looking toward one end of the box before the corners of the end flaps are inserted in the slots; and Fig. 4 is a similar view, the box or cover being completely assembled or set up.

10 denotes the central portion, which in the assembled box or cover forms the bottom of the box or the top of the cover, 11 the side pieces, and 12 the end pieces. The side pieces are provided at each end with flaps 13, and each flap 13 is provided with a notch 14, at the base of which is a slot 15, and with a transverse folding-crease 16, which I have shown as placed at the center of the flap. The end pieces are provided with flaps 17, which are adapted to fold partly over flaps 13 upon the side pieces and are provided with slots 18, leading inward from the edges, and with oblique slots 19, the purposes of which will presently be explained. The side pieces are separated from the central portion by folding-creases 20. The end pieces are separated from the central portion by folding-creases 21. Flaps 13 are separated from the side pieces by folding-creases 22, and flaps 17 are separated from the end pieces by folding-creases 23.

The operation of assembling or setting up will be readily understood from the drawings. The side pieces, end pieces, and flaps are all folded at the creases 16, 20, 21, 22, and 23. The side pieces are brought upward into vertical position—that is, at right angles to the central portion. Flaps 13 are turned inward at right angles to the side pieces, and the flaps themselves are folded at the creases 16, so that the ends of said flaps, which I have specifically indicated by 24, will lie at right angles to the other portion of said flaps and parallel to the side pieces, as clearly shown in Fig. 2. In this position of the parts the end pieces are brought into upright position, and flaps 17 are folded over the inner portions of flaps 13, the outer portions of flaps 13, which I have specifically indicated by 24, entering slots 18 in flaps 17, notches 14 in flaps 13 permitting flaps 17 to fold down closely over the inner portions of flaps 13, the bases of slots 18, in fact, riding down the inclined walls 25 of the notches, which are wholly in the outer ends 24 of said flaps 13. This position of the parts is indicated as clearly as possible in Fig. 3, the flap 17 of the end piece having been folded down closely over the inner portions of flaps 13 of the side pieces and the outer portions of said flaps 13, which are specifically indicated by 24, being turned inward and lying against the face of flap 17 of the end piece. The setting up or assembling of the box or cover is completed by passing the corners of portions 24 of flaps 13 (said corners being for convenience indicated by 26) into the oblique slots 19 in flap 17 of the end piece, which position of the parts is clearly shown in Fig. 4. It will be seen that this mode of locking the side pieces and the end pieces in the assembled or set-up position is so secure as to render it practically impossible to detach said parts in use, it requiring, as a matter of fact, a deliberate act of the user to knock down the box or cover.

In addition to the simple and effective lock of the parts which my novel construction enables me to obtain I effect an important saving in the length of the blank, it being impossible by any system of forming the blanks of which I am aware to produce a box or cover of equal size with that produced by my novel blank without providing an additional tab, flap, or tongue upon the ends of the end pieces, thus requiring an additional amount of stock at each end of the blank equal to the added length of the tab, flap, or tongue. This saving of stock is quite important and makes an appreciable reduction in the cost of producing my novel box or cover.

Having thus described my invention, I claim—

A blank for paper boxes consisting of a central portion, side pieces and end pieces, said side pieces having flaps 13 provided with notches 14, slots 15 and creases 16, and said end pieces having flaps 17 provided with slots 18 running inward from the ends of the blank, and oblique slots 19, said flaps 17 being adapted to fold over the inner ends of flaps 13, the outer ends of said flaps 13 passing into slots 18, and the corners of said flaps 13 entering the oblique slots.

In testimony whereof I affix my signature in presence of two witnesses.

FREDERIC W. OTIS.

Witnesses:

CHARLOTTE B. W. BROWN,

LEWIS B. BROWN.