J. P. BUCKINGHAM.

PAPER-BOX.

No. 187,506. Patented Feb. 20, 1877.

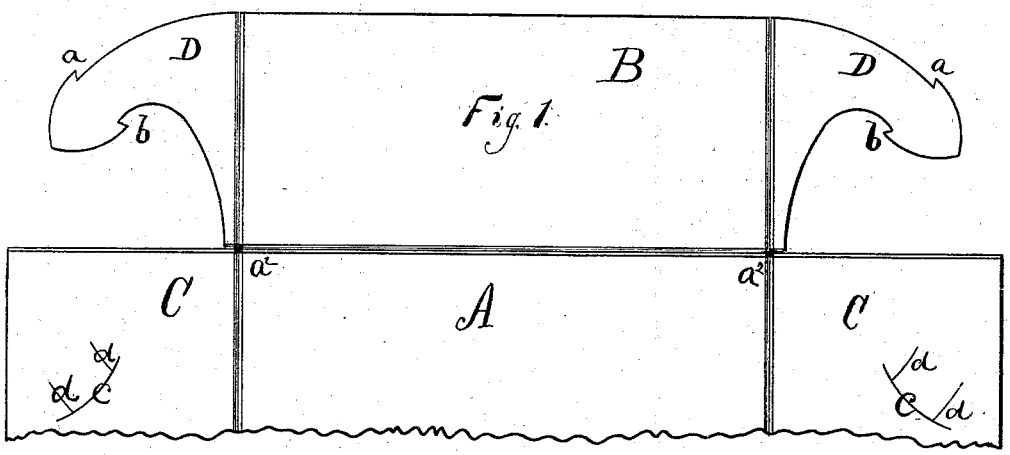


Fig. 1.

Fig. 2.

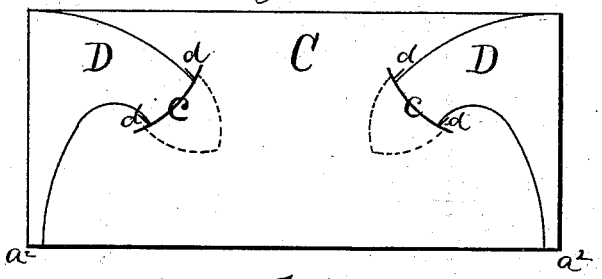


Fig. 3.

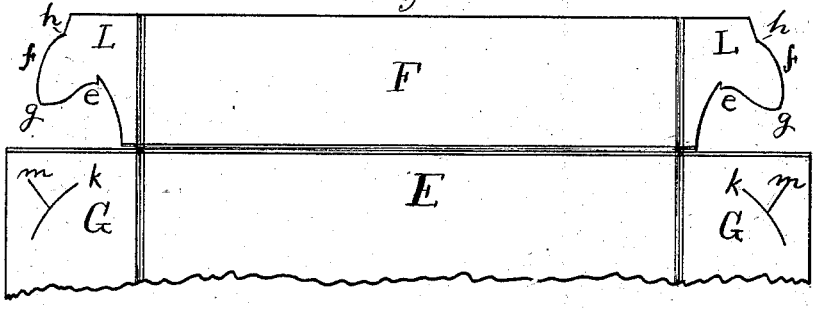
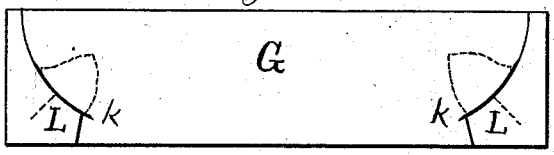


Fig. 4.



Witnesses.
H. N. Dale
L. B. Burr

Inventor
Joseph P Buckingham
By James Shepard Atty.

UNITED STATES PATENT OFFICE.

JOSEPH P. BUCKINGHAM, OF CHICOPEE, MASSACHUSETTS, ASSIGNOR OF ONE-HALF HIS RIGHT TO GEORGE A. DENISON AND OLIVER M. HAMILTON, OF SAME PLACE.

IMPROVEMENT IN PAPER BOXES.

Specification forming part of Letters Patent No. **187,506**, dated February 20, 1877; application filed November 27, 1876.

To all whom it may concern:

Be it known that I, JOSEPH P. BUCKINGHAM, of Chicopee, in the county of Hampden and State of Massachusetts, have invented a new and Improved Paper Box, of which the following is a specification:

My invention relates to that class of boxes which are generally sold in the flat or knock-down form, and put together by the user by merely bending up the sides, and locking the parts together, and the invention consists in the peculiar form of the parts which constitute the lock, as hereinafter described.

In the accompanying drawing, Figure 1 is a plan view of a portion of a blank for a box which embodies my invention. Fig. 2 is a side elevation of said box. Fig. 3 is a plan view of a portion of a blank for the cover of said box; and Fig. 4 is a side elevation of said cover.

A designates the bottom of the box, and B B C C the four side flaps formed thereon. The box may be scored at the angle of the bottom and sides in any ordinary manner, but preferably by a V-shaped scoring upon the inside. Two of the flaps, B B, have at each end corner-flaps D D. From the edge of the flap B, which, in the formed-up box, is at the top edge, to about half-way between the outside corners of the flaps B and C, the outside edge of the corner-flaps describe a segment of a circle, the center of which circle is at the corner a^2 of the bottom A. An outwardly-projecting shoulder, *a*, preferably a little hooked, is then formed as shown. The corner-flap D, just inside the shoulder *a*, is narrower than at any other point, (except the end,) and directly opposite the shoulder *a*, and substantially on a radial line of the circle described by the outer edge of said corner-flap, is another shoulder, *b*, the edges outside the shoulders meeting so as to form a dart-shaped end, as shown. From the inside shoulder *b* to near the corner of the bottom A a concave form, as shown, is preferred for the inner edge of the corner-flap, but any other form which will not interfere with the operation of the shoulder *b* may be employed. In the corners of the flaps C C I form a curved and diagonal slit, *c*, the same being substantially on a radial line of the circle described by the outside edge of the flap D, and near the ends of said slit I form two transverse slits, *d d*, the outer one of which slits should be substantially on the periphery of the circle before mentioned, and the inner one a distance from it fully equal to the width of the neck of the corner-flap D. The length of the slit *c* should be fully equal to the width of the flap D at the outer corners of its shoulders. The respective flaps being thus provided at each corner of the box with corner-flaps and slits, the four flaps are bent up, preferably with the corner-flaps on the outside, and the dart-shaped ends passed through the slits, when the shoulders *a b* hook upon the inside of the box, just outside the transverse slits, and firmly lock the sides of the box together, so that they cannot very easily be detached.

It should be noticed that when the flaps C C are bent up at right angles to the bottom A, and the corner-flaps D at the same angle to the flaps B, the act of turning up the flaps B will cause the dart-shaped ends of the corner-flaps to move on a true circle, of which the junction of flap and bottom is the center, so that they will readily present themselves to and enter the slits formed to receive them, without any undue strain on the paper.

By forming the transverse slits *d d* in the slit *c*, the portion of the stock between said slits may spring inward to accommodate the neck of the corner-flap, while the portion of the stock outside of said transverse slits will not be sprung inward so far, (after the shoulders have passed by,) but that it will firmly hold the shoulders *a b*, but will allow them to pass in without injury.

In thin stock the points of the shoulders might be folded over, to be passed through a shorter slit and without the transverse slits; but for heavy stock, such as I propose to use, to bend over the points of the shoulders to pass through a shorter slit would ruin them; hence the importance of the long slit with its transverse slits.

The cover for my said box (shown in Figs. 3 and 4) is, in many respects, like the box

proper, shown in Figs. 1 and 2, and already described.

E designates its top; F F G G, its four side flaps; but as these are generally narrower—that is, of less depth than the box proper—some changes are desirable. The corner-flaps L L L L formed on flaps F F have but one hook, *e*, and, with the exception of the outer edge *f*, are practically the same shape as the corner-flaps shown in my previous application, filed April 4, 1876, allowed July 21, 1876. This outer edge *f* is curved from the corner *g* to the neck *h*, from whence it runs to the top edge in a straight line. In the corners of the flaps G G I form curved slits *k*, running diagonally partially across the corner, and of a width fully equal to that of the corner-flap between *e* and *h*, the same being the neck *h* of the flap. I also form a transverse slit, *m*, for substantially the same purpose as the transverse slits *d d* in the slit *c* of the box proper before described, the two slits *k m* forming a T-shaped slit. The flaps, formed as described, are bent up, and the points *g* passed through the T-shaped slit *k m* until the neck *h* substantially fills said slit. The hook *e* then hooks upon the inside of the cover, the opposite edge of the neck being held at the other end of the slit, thereby firmly locking the sides of the cover together.

In Figs. 2 and 4, the parts of the corner-flaps which come upon the inside of the box are represented in broken lines.

I claim as my invention—

1. In a knock-down box, the peculiar shape of the corner flaps D D D D, to wit, the outer edge describing a circle of which the corner of the bottom is the center, and having two shoulders on a radial line of said circle, just forward of a narrow neck, substantially as described.

2. In a knock-down box, the combination of the corner-flaps formed on flaps B B with the side flaps C C, having the diagonal slits *c c c c* pointing toward the corner of the bottom, substantially as described.

3. In a knock-down box, the flaps C C, having the diagonal slit *c*, and the transverse slits *d d* near the ends of the said slit, substantially as described, and for the purpose set forth.

JOSEPH P. BUCKINGHAM.

Witnesses:
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