(No Model.)

M. L. WILCOX.

PAPER BOX.

No. 289,790. Patented Dec. 4, 1883.

Fig. 4.

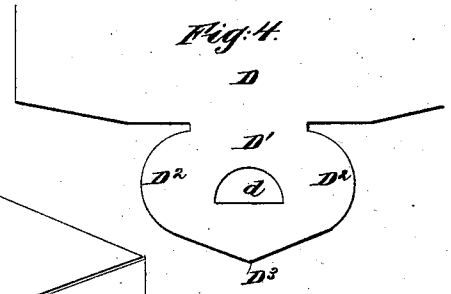


Fig. 1.

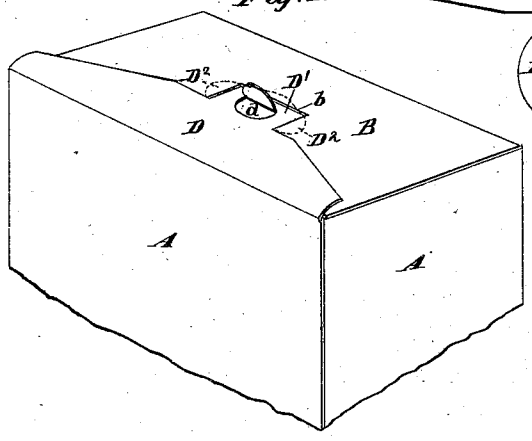


Fig. 2a.



Fig. 2.

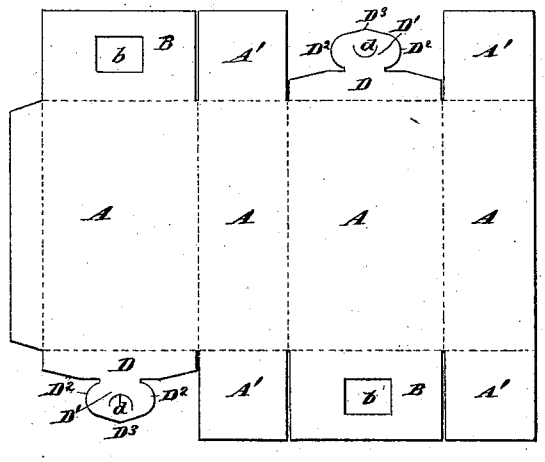


Fig. 2b.

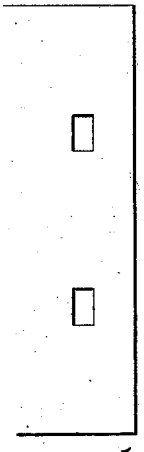


Fig. 3a.

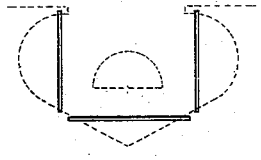


Fig. 3.

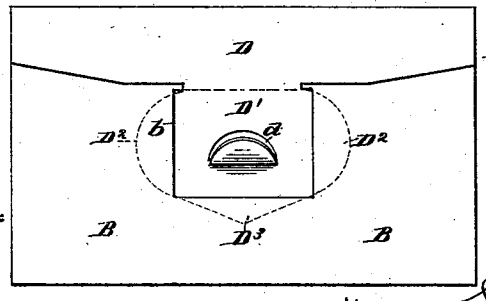
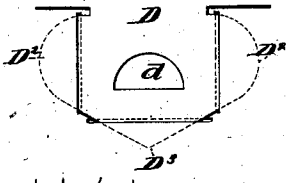


Fig. 3b.



WITNESSES—

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INVENTOR—

Myron L. Wilcox

by his attorney

Thomas D. Stetson

N. PETERS. Photo-Lithographer. Washington, D. C.

UNITED STATES PATENT OFFICE.

MYRON L. WILCOX, OF BROOKLYN, NEW YORK.

PAPER BOX.

SPECIFICATION forming part of Letters Patent No. 289,790, dated December 4, 1883.

Application filed September 26, 1883. (No model.)

To all whom it may concern:

Be it known that I, MYRON L. WILCOX, of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in the Construction of Paper Boxes; and I do hereby declare that the following is a full and exact description thereof.

My improved boxes belong to the class known in the trade as "locked" boxes, being made of stiff paper—3X or 4X manila or other suitable material—cut by machinery, and with the proper creases and corners initiated by machinery, but with the flaps finally engaged together without paste or other cement by simply locking together the flaps by means of properly-formed tucks. The firm of J. W. Wilcox & Sons, of this city, and other box-manufacturers, have long used a simple tuck analogous to a pocket-book tuck; also, a mode of locking in which side extensions or wings projecting from a narrow flap are received in holes in an opposite broad flap. The present invention combines both these principles. I produce a narrow flap having side wings, which lock by extending out laterally from the flap in opposite directions, being inserted through a hole in the opposite flap, and also extend the narrow flap, so that not only its side wings, but also its end, is inserted through the hole in the flap. It is for some uses important to be able to conveniently unlock the box without tearing or straining the tuck. I provide a handle, properly located, for this purpose by simply producing a semicircular slit in the material at the right point. The semicircle thus described may be bent up or may be cut out and removed altogether. In the first case it serves as a handle to be grasped. In the latter case it serves as a handle in which the thumb or finger is inserted. The sides as well as the ends may be similarly locked. I will show the invention as mainly applied to the ends.

The accompanying drawings form a part of this specification, and represent what I consider the best means of carrying out the invention.

Figure 1 is a perspective view of an end of the completed box, with the flaps locked together ready for use. Fig. 2 is on a smaller scale. It shows the stout paper for the entire box in an extended condition. Fig. 3 is an end view of the completed box. Figs. 2^a and 2^b show the sides equipped for being similarly joined. Figs. 3^a and 3^b show a modification, in which, instead of the rectangle being cut out entirely, it is only cut on three sides, and the inclosed material deflected down instead of being removed altogether. Fig. 3^a shows the aperture thus made, and Fig. 3^b shows the lock completed. Fig. 4 shows the tuck with a semicircular hole instead of a semicircular flap for a handle.

Similar letters of reference indicate corresponding parts in all the figures.

The entire box is formed from a single piece of sufficiently stout paper or other material capable of being folded. The four sides A of the main body are formed as usual. The joint may be re-enforced by lapping the edges over a considerable portion of one side. These parts may overlap or not. This depends on the width and thickness of the box.

I have shown two end flaps folding inward from the sides marked A'. The novelty lies entirely in the front and rear flaps. The rear flap is marked B. A considerable rectangular hole is produced by suitable dies near the middle of this flap, as indicated by *b*. A portion of the front flap where it attaches to the main body is of the usual width. Beyond this is a narrowed portion, which I will term a "tuck." It is marked D', certain portions being designated, when necessary, by additional marks, as D^2 D^3. The neck or point of junction of this tuck D' with the part D is narrower than the hole *b* in the opposite flap. Beyond this the tuck is widened by wings D^2 D^2. The length of the tuck D' is greater than the corresponding dimensions of the hole *b*.

To lock the parts, the flaps A' having been previously folded down, the rear flap, B, is brought lightly down nearly to its final position; then the finger and thumb being applied to the wings D^2 to bend them downward toward the hole *b*, the entire flap D, and its tuck D', and partially-folded wings D^2 are folded over upon the flap B, so that the end D^3 of the tuck D' is thrust downward through the hole *b* after the wings D^2 are thrust downward through the said hole; then the wings D^2 are liberated and allowed to expand, the entire front flap, as also the entire rear flap, are flat-

tened down by hand or otherwise, and the lock is complete. A semicircular cut, *d*, having been previously made in the material in the position indicated, the lip, thus partially liberated, can be bent upward, when required, and serve as a handle by which to withdraw the tuck. By grasping this lip with the thumb and finger and pulling, the force will be exerted on the central portion of the tuck D′, and induce a curving of the material thereof, which will allow the wings D^2 to assume the same form which they did when they were introduced, and permit the tuck to be readily withdrawn by a reverse movement.

In the most complete means of carrying out the invention, both ends of the box are formed in the manner here described, and the entire box may be "knocked down" after being folded around, so as to form the sides A completely, but leaving the ends open. I do not confine myself to that construction.

Modifications may be made in the forms and proportions. The wings D^2 may be made of rectangular outline instead of round. The end of the tuck D′ may be square or rounded instead of pointed, as shown. In large boxes I can make two or more of the narrow flaps D′, each with their wings D^2, and correspondingly provide an opposite flap, B, with two holes, *b*. I can make the side flaps A′, longer or shorter, or can dispense with them altogether. I prefer to equip both ends of the box with the narrow tuck D′, with its wings D^2; but this is not essential. One end may be secured by any other means. For some uses the opposite end may be left entirely open. The material set free by the semicircular cut *d* may be deflected upward to serve as a handle to be grasped, or may be cut out altogether, allowing the aperture thus formed to serve as a holding means by receiving the end of the finger. The term "cut *d*" is used to designate both forms of the handle.

The invention may be applied to the manufacture of boxes of widely-varied dimensions and proportions. I propose to employ it in pocket-books.

I claim as my invention—

1. In a folded box, the flap B, having the aperture *b*, and the winged tuck D′ D^2, of a greater length than width, combined with convenient means for lifting the tuck D′ at its center, and all arranged as shown, so that in locking the parts not only the side wings, D^2, but also the end D^3 of the tuck D′ is engaged in the hole *b*, and all the wings may be readily disengaged, as herein specified.

2. In a folded box having a tuck, D′, provided with wings D^2, engaged in the shorter and narrower hole *b* in the opposite flap, B, substantially as specified, a handle formed by the cut *d*, arranged as shown, so that on applying force thereto to open the lock the tuck D will be lifted by its center and the wings D^2 deflected downward, substantially as herein specified.

In testimony whereof I have hereunto set my hand, at Rochester, New York, this 13th day of September, 1883, in the presence of two subscribing witnesses.

MYRON L. WILCOX.

Witnesses:

ALBERT H. HARRIS,

A. MOORE.