No. 615,417. Patented Dec. 6, 1898.

F. W. WILCOX.

FOLDING PAPER BOX FORM.

(Application filed Mar. 5, 1897.)

(No Model.)

Fig. 1.

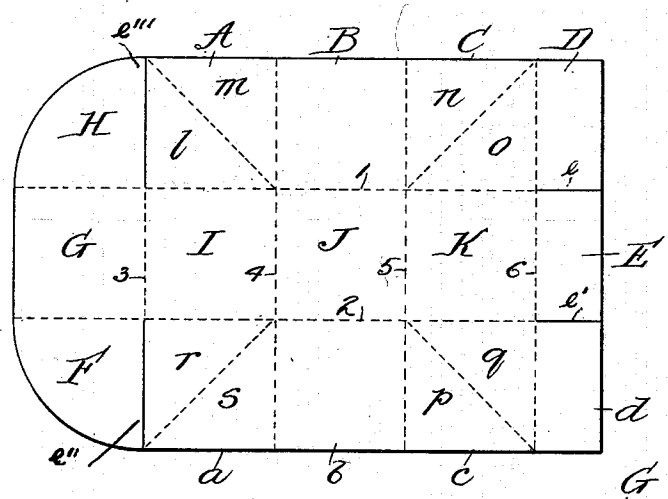


Fig. 5

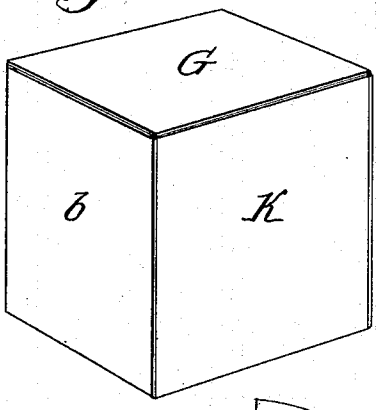


Fig. 4.

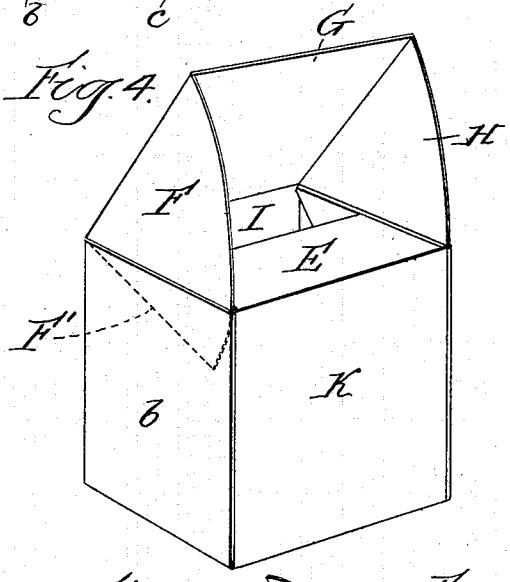


Fig. 2

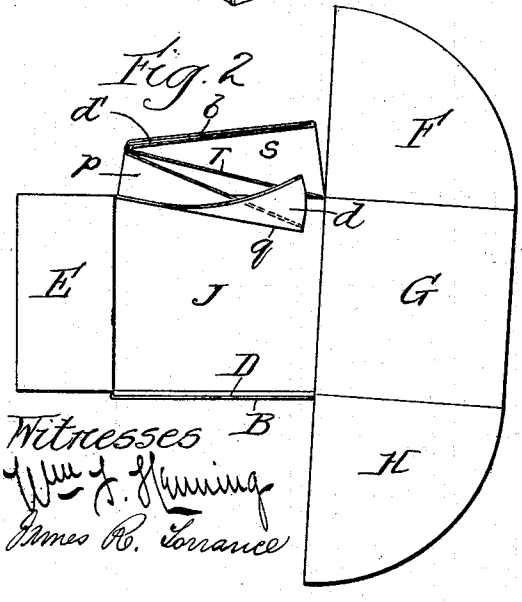
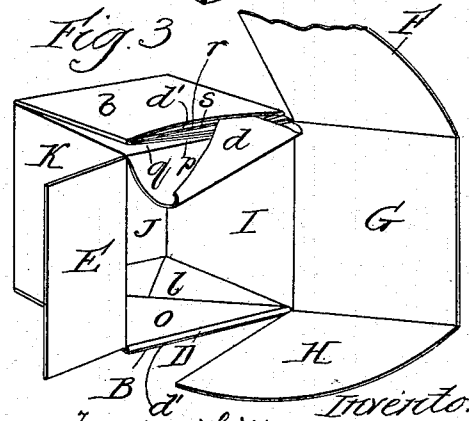


Fig. 3



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UNITED STATES PATENT OFFICE.

FREDERICK W. WILCOX, OF CHICAGO, ILLINOIS.

FOLDING-PAPER-BOX FORM.

SPECIFICATION forming part of Letters Patent No. 615,417, dated December 6, 1898.

Application filed March 5, 1897. Serial No. 625,918. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK W. WILCOX, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Folding-Paper-Box Forms, of which the following is a specification.

My invention relates to folding boxes cut from paper or other flexible material; and the objects of my improvement are to provide a folding box to be cut from a single piece of Manila paper or other material used, which said box shall be a complete carton or package having, when closed, six unbroken faces and shall also possess a winged and hinged lid adjustable at different points, adapting it as a display case, box, or caddy to display merchandise contained therein, whereby delicate articles—such as butter, small fruits, and the like—are displayed, while partly concealing and thus protecting their surface from dust and heat.

My object is also to produce a box which shall be well stayed and braced, shall be without apertures at corners or edges, and shall be locked into box form and the complete box again locked by the closing of the winged lid, all by means of its folding and manufacture as hereinafter described and without glue or other fastening than its own parts and conformation.

I attain these results by the formation illustrated in the accompanying drawings, in which—

Figure 1 is a blank cut and creased in accordance with my design. Fig. 2 is the blank in the process of being folded. One side is shown already adjusted and the other side is about to receive the corner of its binding and locking flap in the fold which serves as a pocket to receive it. Fig. 3 shows the corner of said flap introduced into its tuck-pocket. It also shows in interior view the bracing of the sides of the box from their lower corners to their opposite upper corners and from side to side at the top or upper edge of the box. Fig. 4 illustrates the box as a display-case, showing the adjustable cover raised to display the contents. Fig. 5 shows the box-form closed and presenting unbroken faces.

Similar letters refer to similar parts throughout the several views.

The box-form is cut from the material in a single piece, as shown at Fig. 1, in which the dotted lines show scores or creases of the material and the heavy lines show cuts through the same.

The blank shows four cuts e, e', e'', and e''', two at either end thereof, and four diagonal dotted lines, upon which the blank is to be creased.

A B C D are connected panels on one edge of the blank, A and C being scored diagonally to be creased, respectively, between the triangular panels l m and n o. a, b, c, and d are similar connected panels on the opposite edge of the blank, a and c being diagonally scored into panels r s and p q, respectively, to correspond with A and C on the other edge of the blank.

F G H are end panels connected together and attached to the main blank at the center, and these form the winged lid of the box D, and d are binding and locking flaps used to fasten their respective sides and hold them in form, while E is a protecting-apron extending more or less into the box to cover the joint between the box and the lid when the latter is closed down and also to protect the contents.

In order to fold the box-blank into form, it may be seized by the hands of the operator at o and l and the ends of the blank brought together until the panel B stands vertical and at right angles with the panel J, the one B forming one side and the other, J, the bottom of the box. The panels A C fold together at the score diagonally across them, the part o, having the flap D attached, being on the inside, and the triangular panels l m folding together and lying and being clasped between B, the outer panel, and n, the inner triangle. The locking-flap D is now inserted in the aperture between B and m, and on being pushed into place locks the side of the form securely together, and also binds or covers its upper inner edge, leaving a pocket d' between B and itself to receive a wing of the cover. The other side of the blank is now treated in a similar manner to the one described, and, as shown in Fig. 2, the panels a and c being creased fold on their creases or scores, and the part attached to the locking-flap d, being brought inside, is inserted as shown at Fig. 3, and when pressed into place it locks that side

also, thus completing the box-form, and also binds or covers its inner edge. The lid G is now brought forward, and its wings F and H are inserted next inside the side walls B *b* in the pockets *d'*, formed between the side walls and the locking-flaps D *d*. The regular curve of the wings F H provides a continuous brace, each against the corner of the box opposite to it as the lid in adjustment plays up and down, as indicated at F'. As they descend into the box the wings stiffen the box vertically, and the attached lid, as it descends and approaches the edge of the box, braces the wings apart and at the same time binds them together, and thus stiffens and braces the box laterally. The descent of the lid stays the box from both expansion and contraction in the same manner as a descending staple, which the lid and its wings resemble. The part E is used to "break joint" where the lid meets the box and also protects the contents thereof during the adjustment of the lid for display purposes or otherwise. The cover G is adjustable at any point, owing to the friction of its wings in their pockets and to the close bearing of the curved wing edges against their respective corners of the box. When closed, the lid is held shut by the same friction. This conformation produces a box having six unbroken outward faces to receive printing or decoration. The unbroken outward faces allow the boxes to be constructed as perfect cubes or other perfect figures, mathematically considered, which will be found of advantage in packing and handling the boxes when filled.

What I claim as my invention, and desire to secure by Letters Patent of the United States, is—

1. In a folding box of flexible material the combination of the panels A, B, C and D, to form a wall-lock for the box-form, the panel A being folded between panels B and C, and the panel D being brought over the assembled upper edges of panels C and A and tucked downward between said A and B, to lock A and B and C together, substantially as described and shown.

2. In a folding box of flexible material the combination of the scored panels A and C folded the one within the other, and the attached binding-flap D, attached to the top of the panel C and covering and binding assembled edges of the panels A and C substantially as described and shown.

3. The herein-described box-form blank having the scores 1, 2, 3, 4, 5 and 6, the cuts *e e' e''* and *e'''*, the unscored panels B, D, E G, I, J, K, *b*, *d*; the scored panels A, C, *a*, *c*, and the rounded panels F and H all substantially as described and shown.

4. In a folding box of flexible material, the combination of the box-form having locked walls on two opposite sides, pockets within the locked walls, and a hinged lid, hinged transversely to the said locked walls and provided with side wings or guides, the said wings or guides being adapted to descend into the said pockets of the box-form when the lid is closing, substantially as described and shown.

5. In a folding box of flexible material the combination of the box-form having locked walls on two opposite sides, pockets within the locked walls, a hinged lid, hinged transversely to the locked side walls and having side wings or guides adapted to descend into said pockets at the sides of the box-form, and the inside cover or joint-breaking protector E, all substantially as described and shown.

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

FREDERICK W. WILCOX.

Witnesses:
FRANK CROSBY,
MARK. C. FARR.