No. 616,473. Patented Dec. 27, 1898.

F. KNOBELOCH.

PAPER BOX.

(Application filed Nov. 11, 1897.)

(No Model.) 2 Sheets—Sheet I.

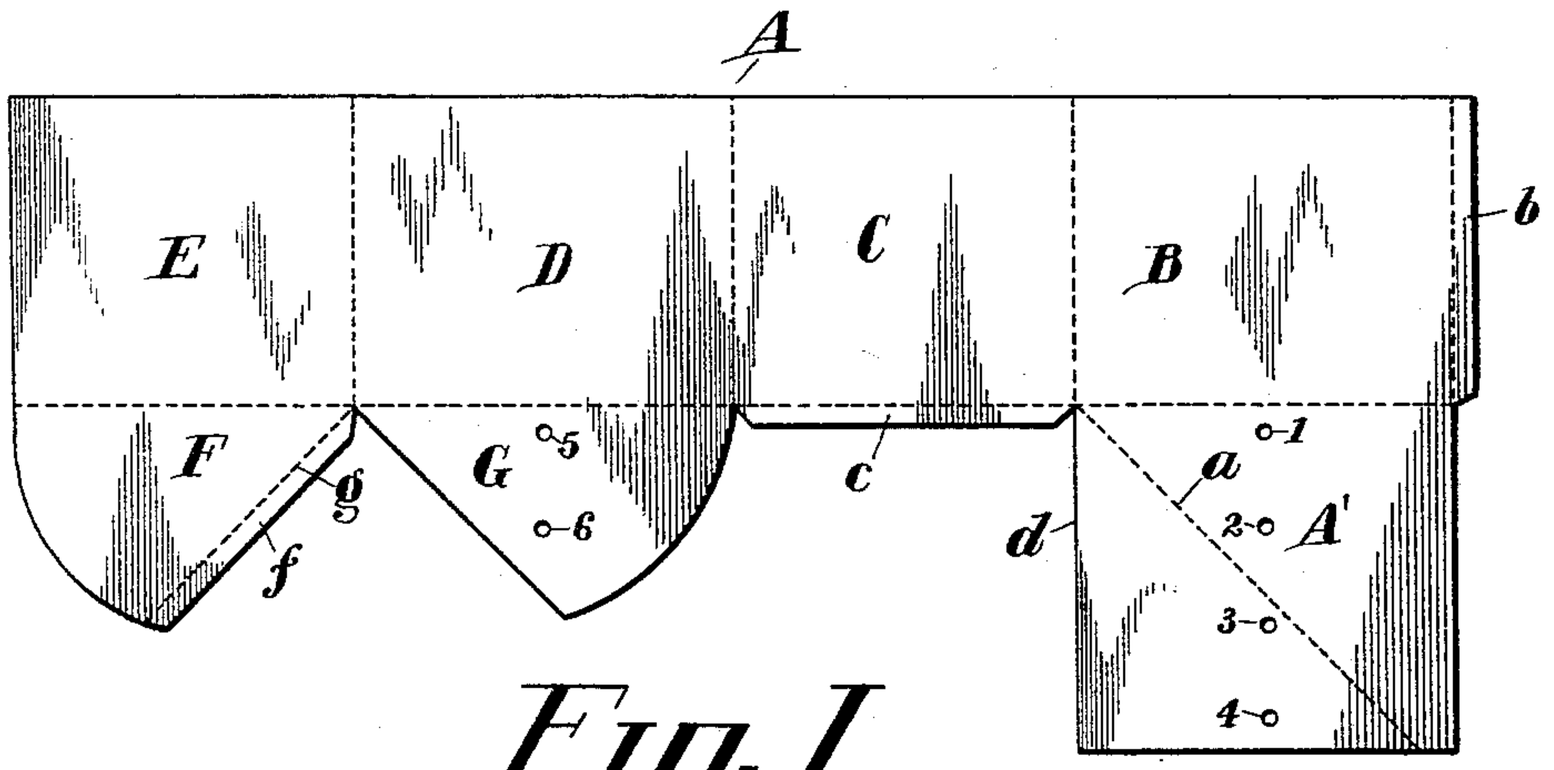

Fig. 1

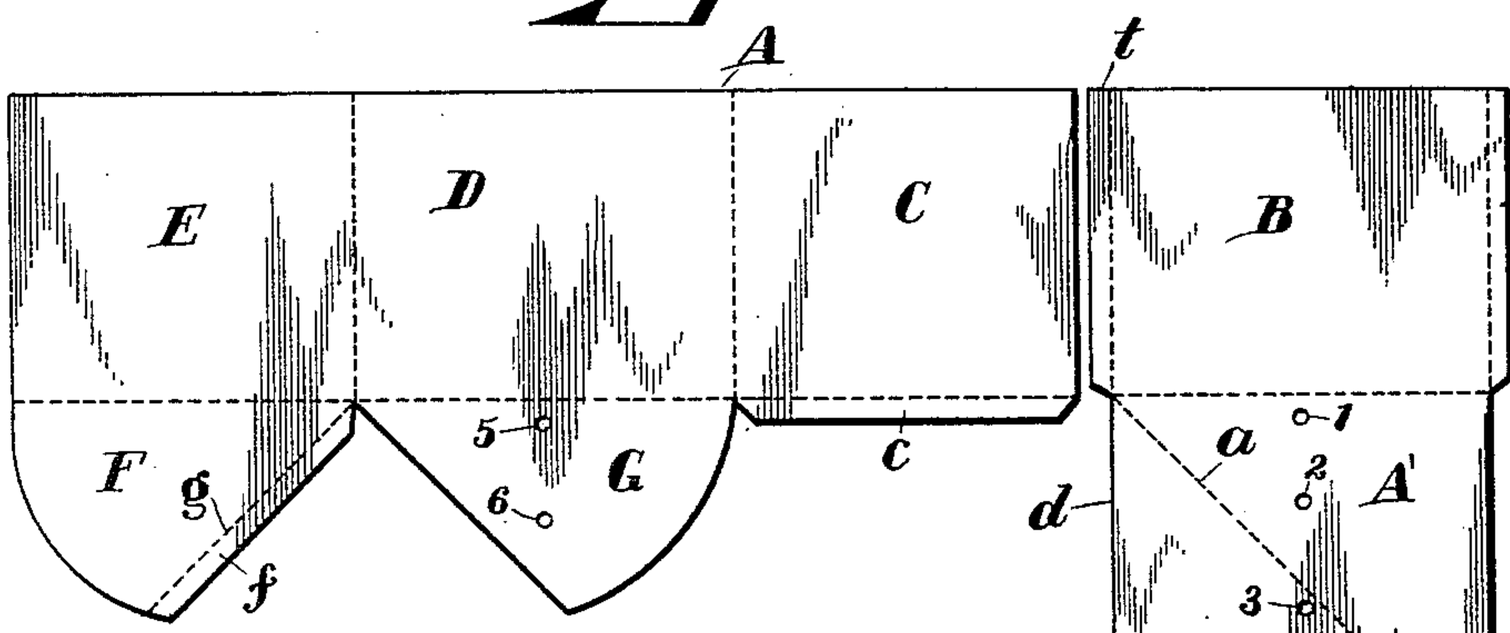

Fig. 2

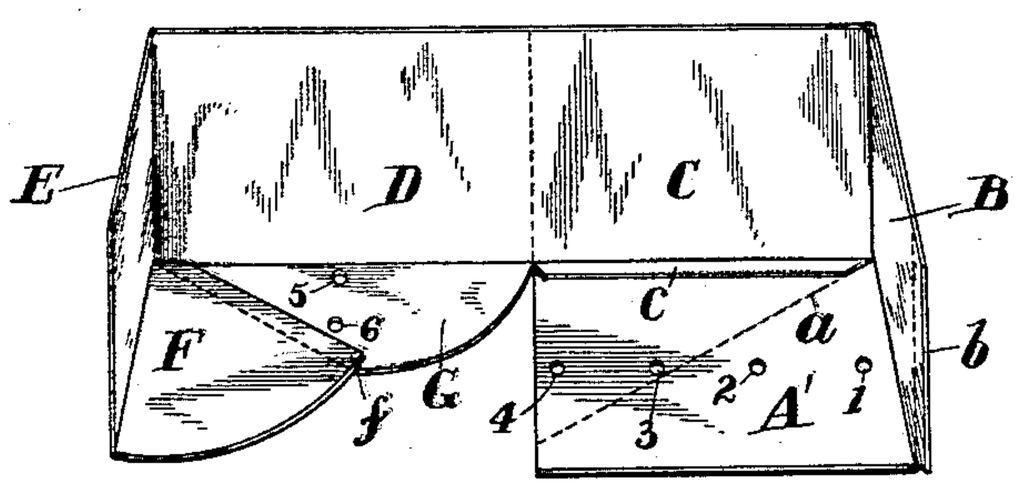

Fig. 3

WITNESSES

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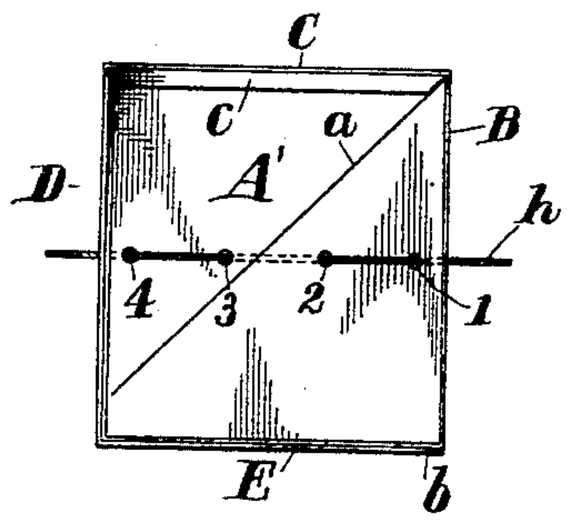

Fig. 4

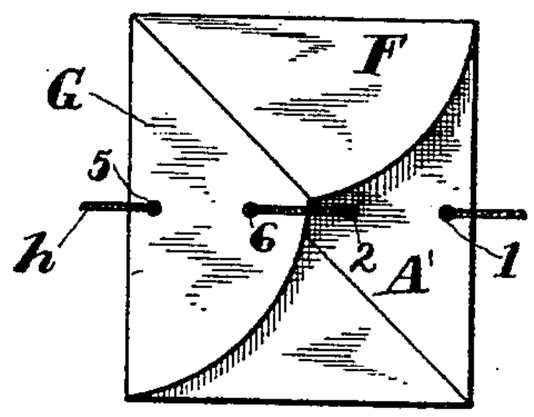

Fig. 5

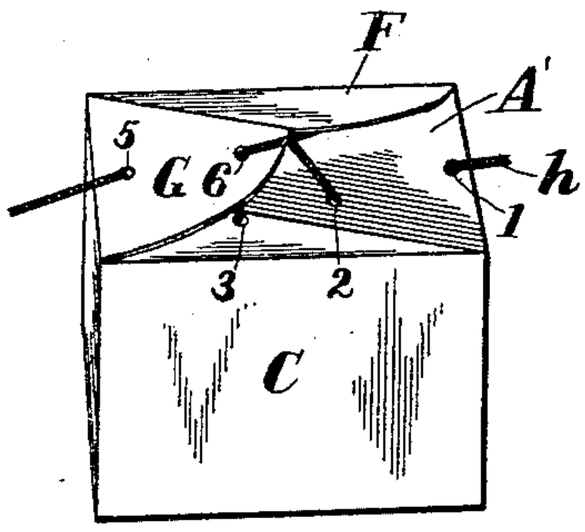

Fig. 6

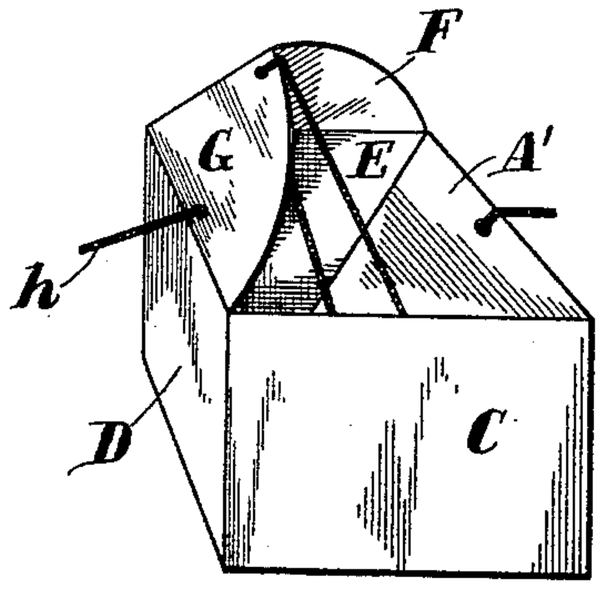

Fig. 7

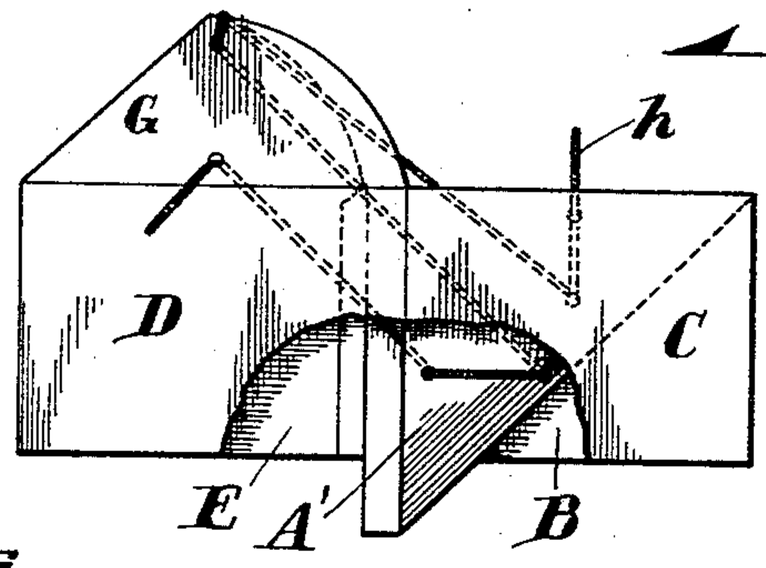

Fig. 8.

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UNITED STATES PATENT OFFICE.

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PAPER BOX.

SPECIFICATION forming part of Letters Patent No. 616,473, dated December 27, 1898.

Application filed November 11, 1897. Serial No. 658,130. (No model.)

To all whom it may concern:

Be it known that I, FRANK KNOBELOCH, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Paper Boxes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to an improvement in paper boxes rectangular in shape and collapsible in construction, to be quickly "set up" or box-shaped by the use of draw-strings, and is more especially designed for millinery purposes and the like, as will be more fully hereinafter set forth and described.

In the drawings, Figure 1 is a plan view of a blank of cardboard cut and scored to form my improved box. Fig. 2 is a similar view of two blanks of cardboard cut and scored to form my improved box. Fig. 3 is a perspective view of the blank partly folded into shape, showing the interior portion. Fig. 4 is a top plan view of the box, showing the inside bottom and the position of the draw-string when the blank is shaped into box form. Fig. 5 is a bottom plan view of same. Fig. 6 is a perspective view of the box overturned, showing the position of the draw-string and the bottom when the draw-string is almost drawn taut. Fig. 7 is a perspective view of the box overturned, partially collapsed. Fig. 8 is a plan view of the collapsed box with a section cut away to show the position of the inside bottom and showing in dotted lines the position of the draw-string.

Like letters and numerals of reference indicate identical parts in all the figures.

A is a blank or sheet of cardboard or other suitable material cut and scored (the dotted lines indicating the scores) to produce a rectangular box with double bottom, in which B, C, D, and E form the side walls thereof, and A′ forms the inside or false bottom, while the lobes or extensions F and G form the outside bottom.

The extensions or lobes F G are shown with one side curved. These extensions may be made triangular. The advantage of the curved portions is that it makes the outer bottom of the box more ornamental and, as it were, cuts off corners that might catch. It is not, however, essential that they should be made with these curves at all, but may be made triangular.

On the portions B, C, and F are flaps *b c f*, which flaps are intended to overlap the adjoining portions when the blank is folded into box shape, to be there securely attached or glued in place.

The box is formed in the following manner: The blank is folded in the scores indicated by dotted lines, so as to bring the two end portions B and E adjacent at right angles to each other, having the flap *b* overlap the portion or wall E and preferably made to adhere thereto by glue or any other adhesive substance. The portion A′ is folded up inwardly at right angles to the side B and on top of the portions F and G, bringing the portion A′ inside, when the flap *c* will overlap this bottom A′ and is glued thereto or made to adhere in any convenient way, the flap *c* overlapping the portion A′ on the side marked *d*. The two lobes or extensions F and G are then brought together, and the flap *f* overlaps the lobe G, to which it is glued or fastened. The portion A′, which forms the inside or false bottom, is scored diagonally, as seen at *a*, Figs. 1 and 2. The purpose of this score *a* is to permit of the collapsing of the box, the false bottom A′ folding up into the box, as shown in Figs. 6, 7, and 8, while the outside bottom, which is made up of the lobes or extensions F and G, folds at the score *g* outwardly, as also shown in Figs. 6, 7, and 8. By this folding or collapsing of the inner and outer bottoms, as just described, the sides or walls are of course permitted to come together or collapse, the false or inside bottom is brought up between the side walls B and C, and the side walls D and E brought against each other, as shown in Fig. 8. In order to more readily and conveniently shape the box from its collapsed condition into box form, I provide a draw-string *h*, which passes through perforations or openings in the bottom as follows: The

false or inside bottom A′ has perforations 1 2 3 4, while the outside bottom F G is provided with openings 5 and 6, the opening 6 registering with opening 3 and opening 5 registering with opening 4 when the box is shaped. The draw-string is made to pass into the box from the bottom through opening 1 and then passes out of the box again through opening 2, then passes into the box again through openings 6 and 3, (which register,) and out of the box again through openings 4 and 5, (which also register,) the draw-string being of sufficient length, of course, to leave enough of the string extending through each opening 1 and 5 to enable it to be grasped in order to pull the box into shape, the string *h* being required to be long enough when the box is completely collapsed to extend from the false bottom over to the portion forming the outside bottom and back and then return to the outside bottom again, as shown in Fig. 8 by the dotted lines.

It will be readily seen that the box may be very quickly and easily shaped by simply pulling the ends of the draw-string *h*, which in turn pulls the inner and outer bottoms into place, which consequently press the side walls outward into their proper position, thus entirely doing away with the use of tongues and slits, which are likely to become torn, and also obviating the loss of time necessitated by the folding into shape and placing of the tongues through slits, necessary with collapsible boxes as heretofore constructed. This draw-string *h* after the box is drawn into place may be tied over the top of the box, thereby securely holding the box in the proper shape, as well as acting as a bail for carrying the box.

The advantages of my improved box are very apparent in shipping and packing same.

I have shown in Fig. 2 two blanks, one of which is to form the sides C, D, and E and the outer bottom F G, while the other blank is to form side B and false bottom A′.

For the purpose of economizing material, which is quite an important item in the manufacture of this class of box, it has sometimes been found desirable, and the object of making the blank in two pieces, as shown in Fig. 2, is to enable me to utilize smaller sheets and avoid the waste of all that part that would be cut away between the false bottom A′ and the opposite end of the blank. Of course making the blank in two pieces, as shown in Fig. 2, is somewhat more troublesome, as it involves the joining together of these two blanks to form a single blank, (shown in Fig. 2;) but it is a very material economy in the saving of paper, as described.

The method of constructing the box when using the two blanks is identically the same as when using but one blank, as in Fig. 1. The additional flap *t* is provided on either the portion B or portion C, which flap overlaps the adjacent portion and is gued thereto.

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

1. A paper box made of a single blank of paper, cut and scored to fold into shape and form a four-sided box with double bottom, one of the sides having an extension to form the inner bottom, and two of the sides having extensions in the shape of triangles or mixtilinear triangles, whose edges are glued together to form the outer bottom, substantially as and in the manner described.

2. A collapsible paper box made of a single blank cut and scored to be folded into shape to form a four-sided box with a double bottom, the inner bottom being formed by an extension of one of the sides and the outer bottom being formed of two triangular extensions of two of the sides, which extensions are glued together at their edges, said bottoms being provided with a draw-string arranged to draw them in place and hold the box in form, substantially as and for the purpose described.

3. A collapsible box made of a single blank of paper or cardboard, cut and scored to fold into a rectangular box with double bottom, the two adjacent sides E, D, being provided with triangular or mixtilinear triangular extensions to form the outer bottom and the side B with an extension A′ scored diagonally to form the inner bottom, substantially as and for the purpose described.

4. A collapsible box made of a single blank of paper or cardboard, cut and scored to fold into a rectangular box with double bottom, the two adjacent sides E, D, being provided with triangular or mixtilinear triangular extensions to form the outer bottom, and the side B with an extension A′ scored diagónally to form the inner bottom, said bottoms being provided with a draw-string arranged to draw said bottoms in place and hold the box in form, substantially as and in the manner described.

FRANK KNOBELOCH.

Witnesses:
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H. G. EDWARDS.