

No. 606,671.

Patented July 5, 1898.

F. KNOBELOCH.

PAPER BOX.

(No Model.)

(Application filed Nov. 11, 1897.)

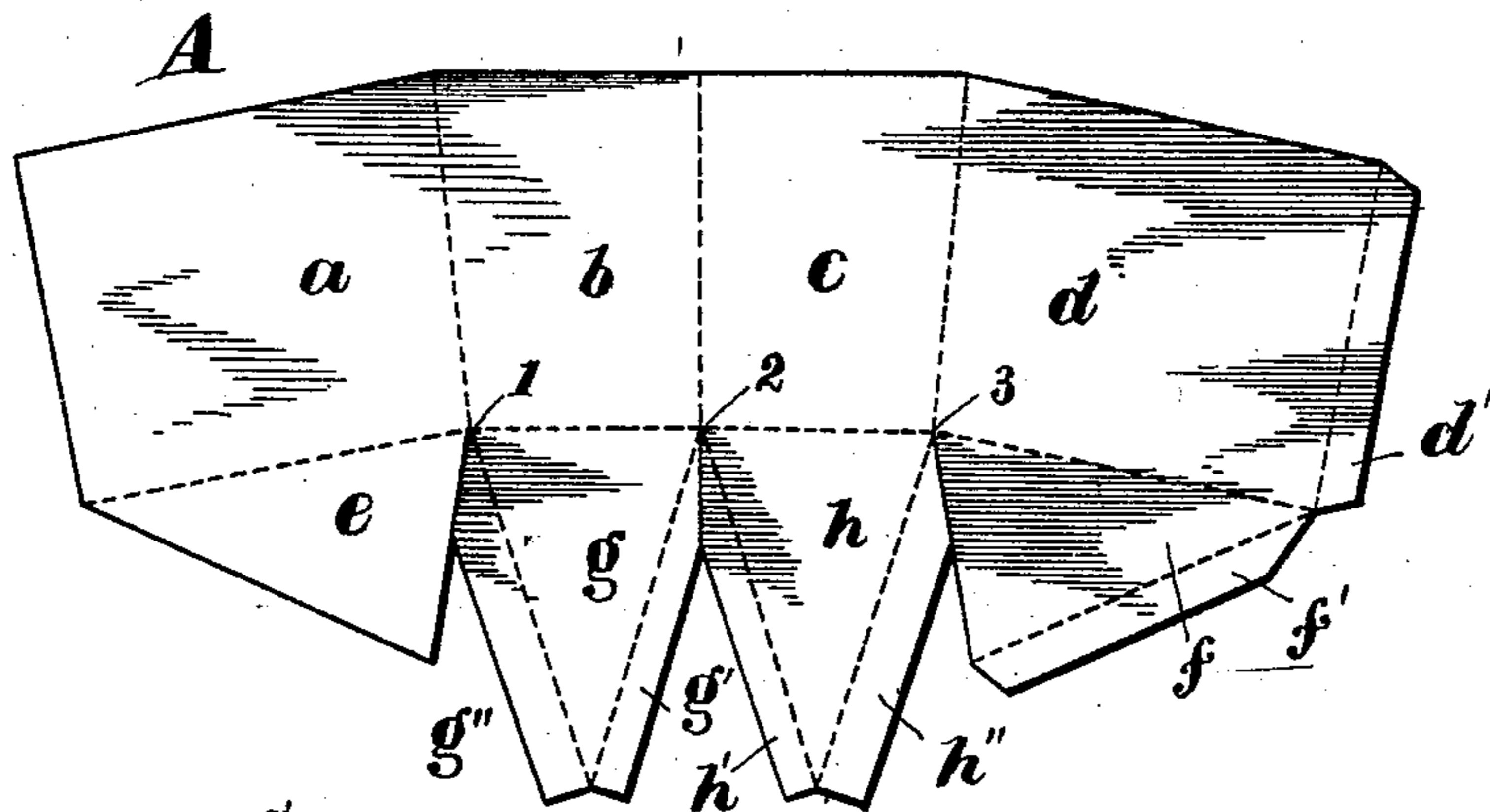


Fig. 1

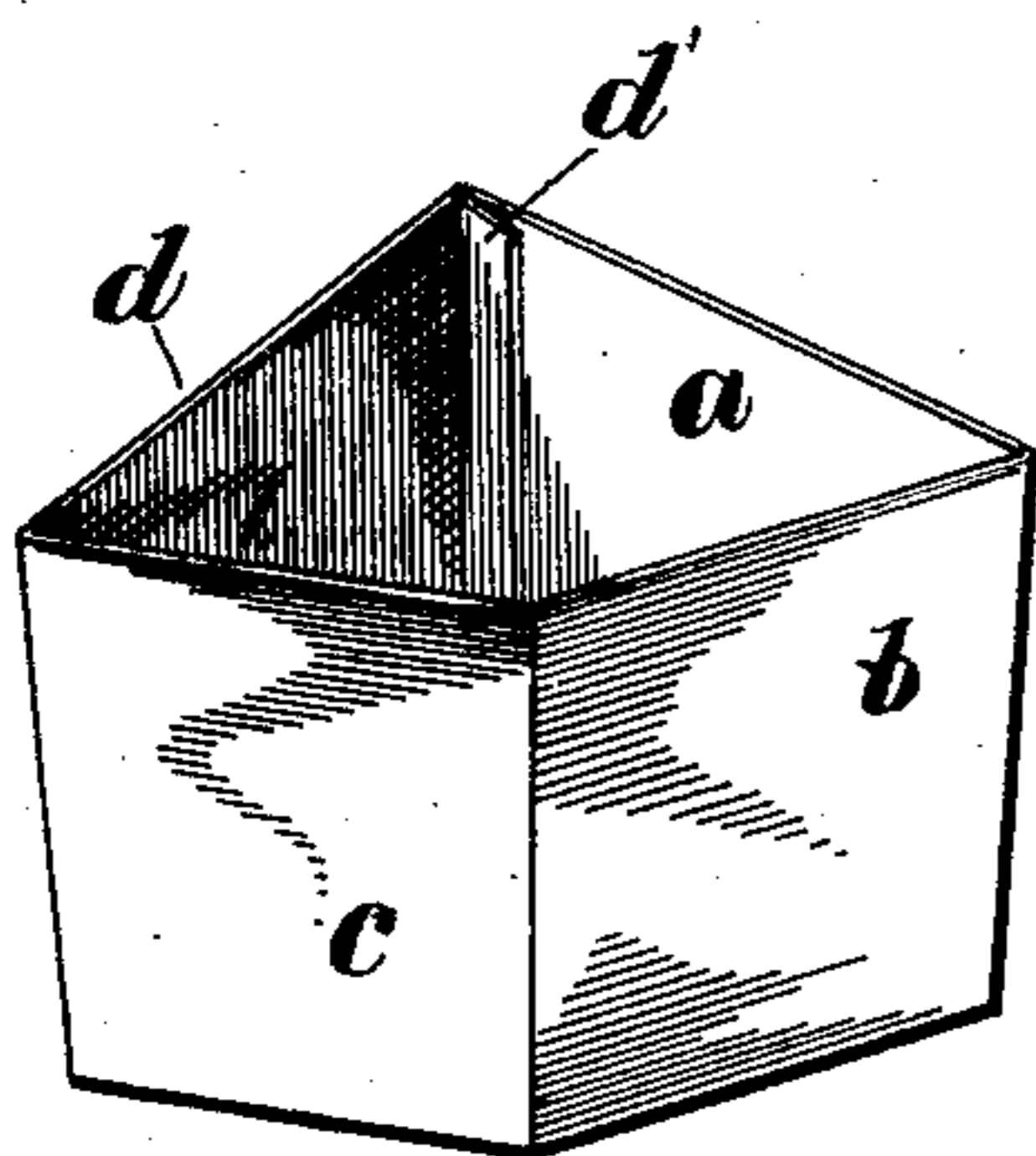


Fig. 2

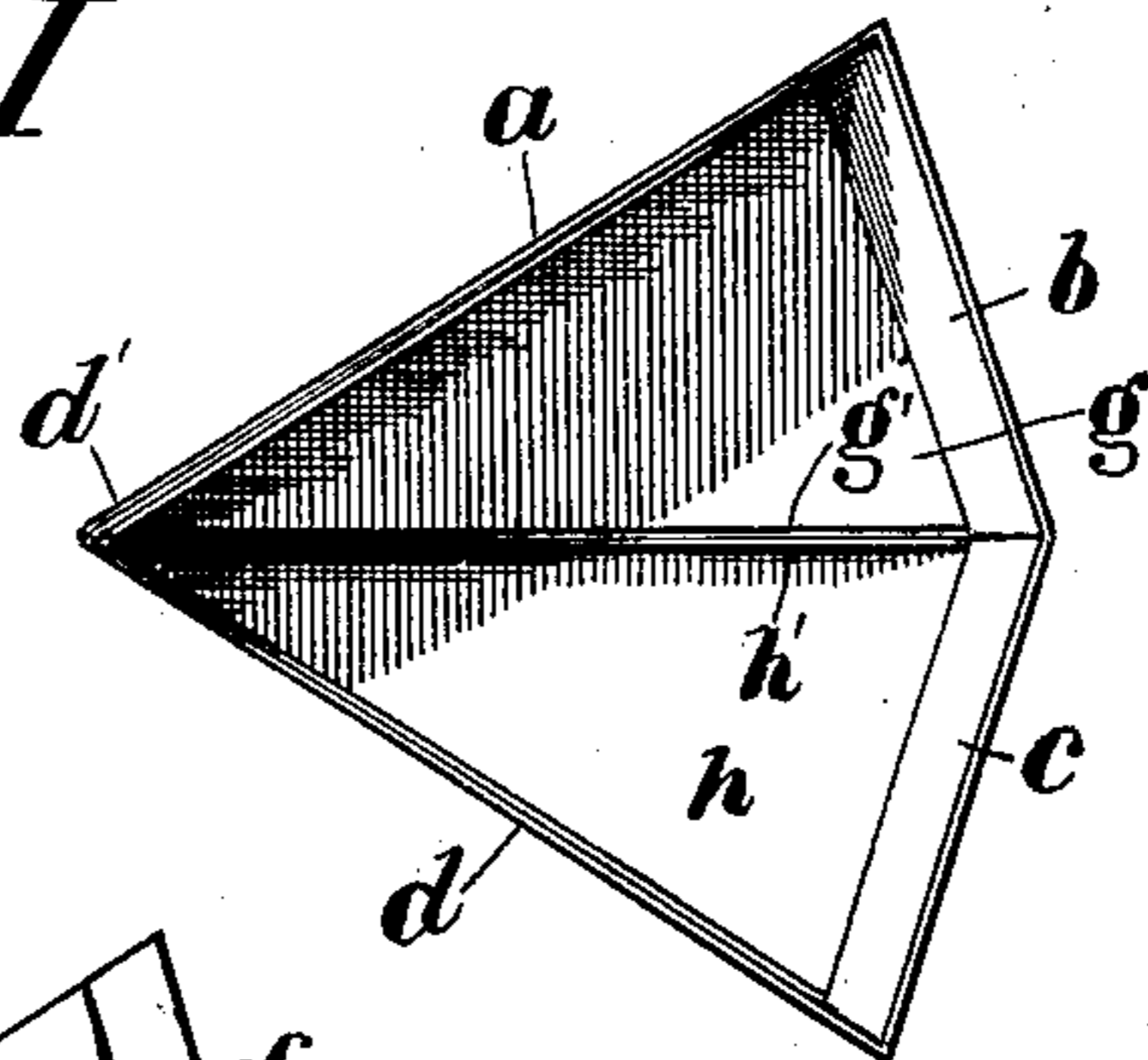


Fig. 3

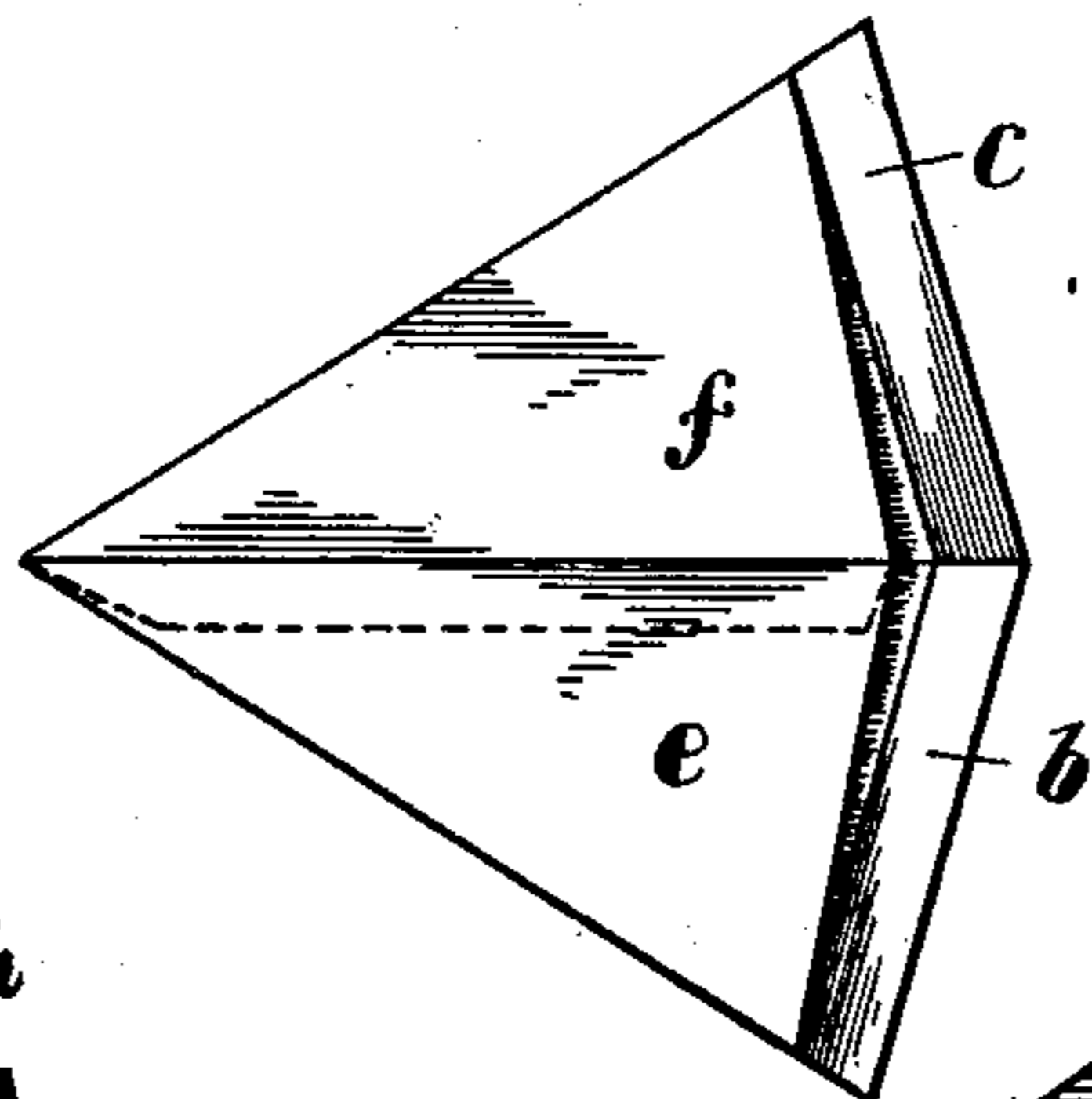


Fig. 4

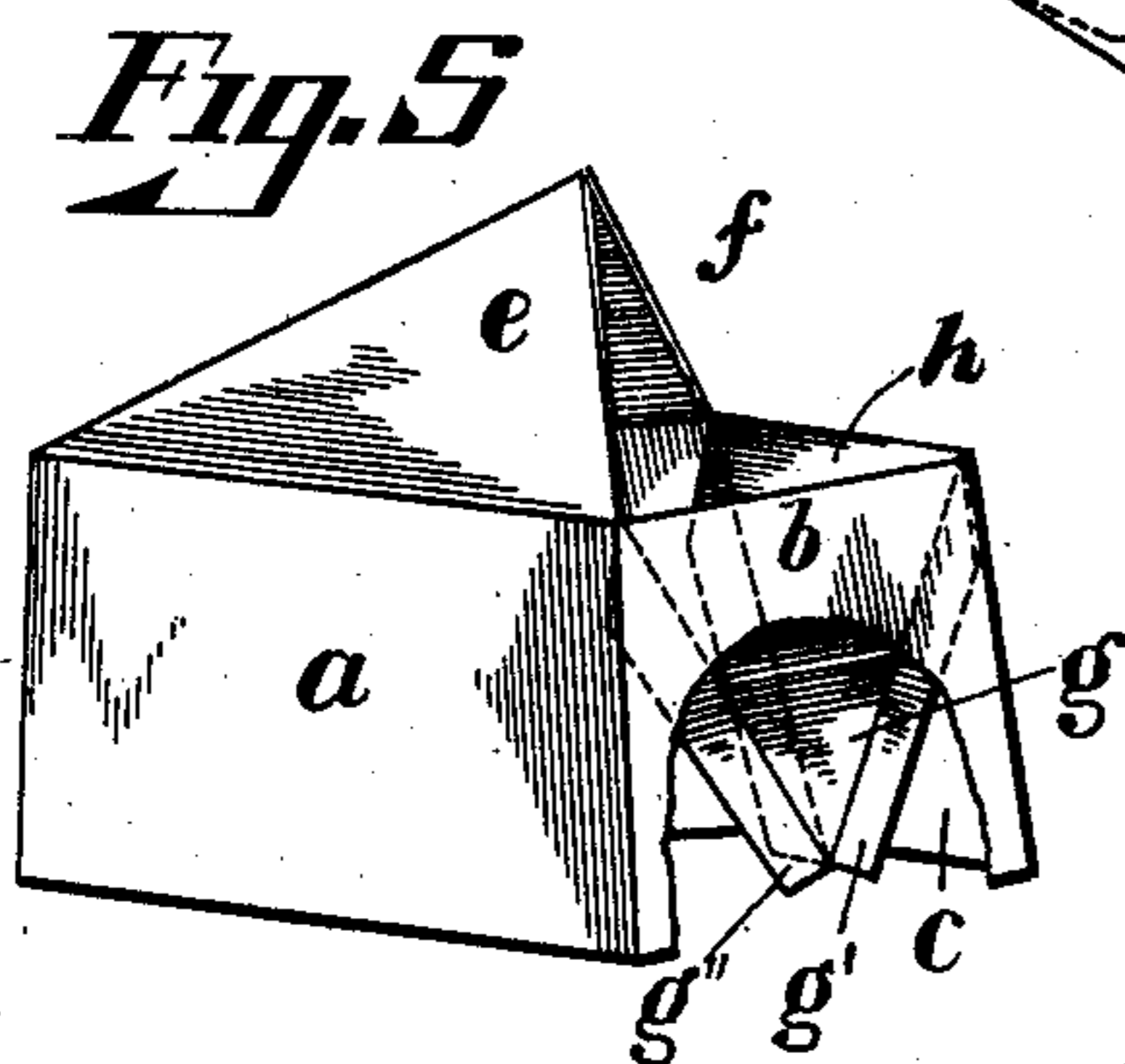


Fig. 5

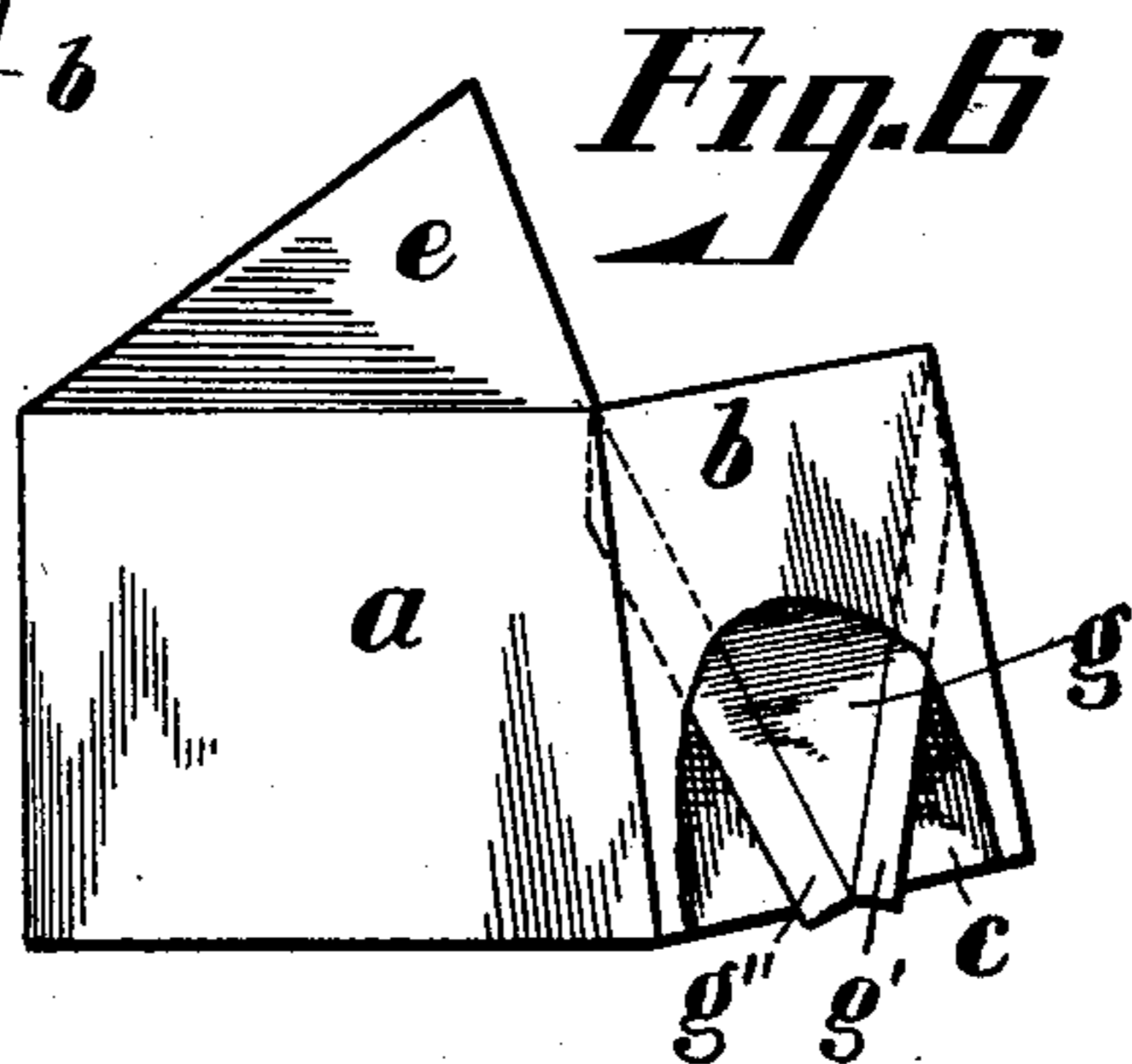


Fig. 6

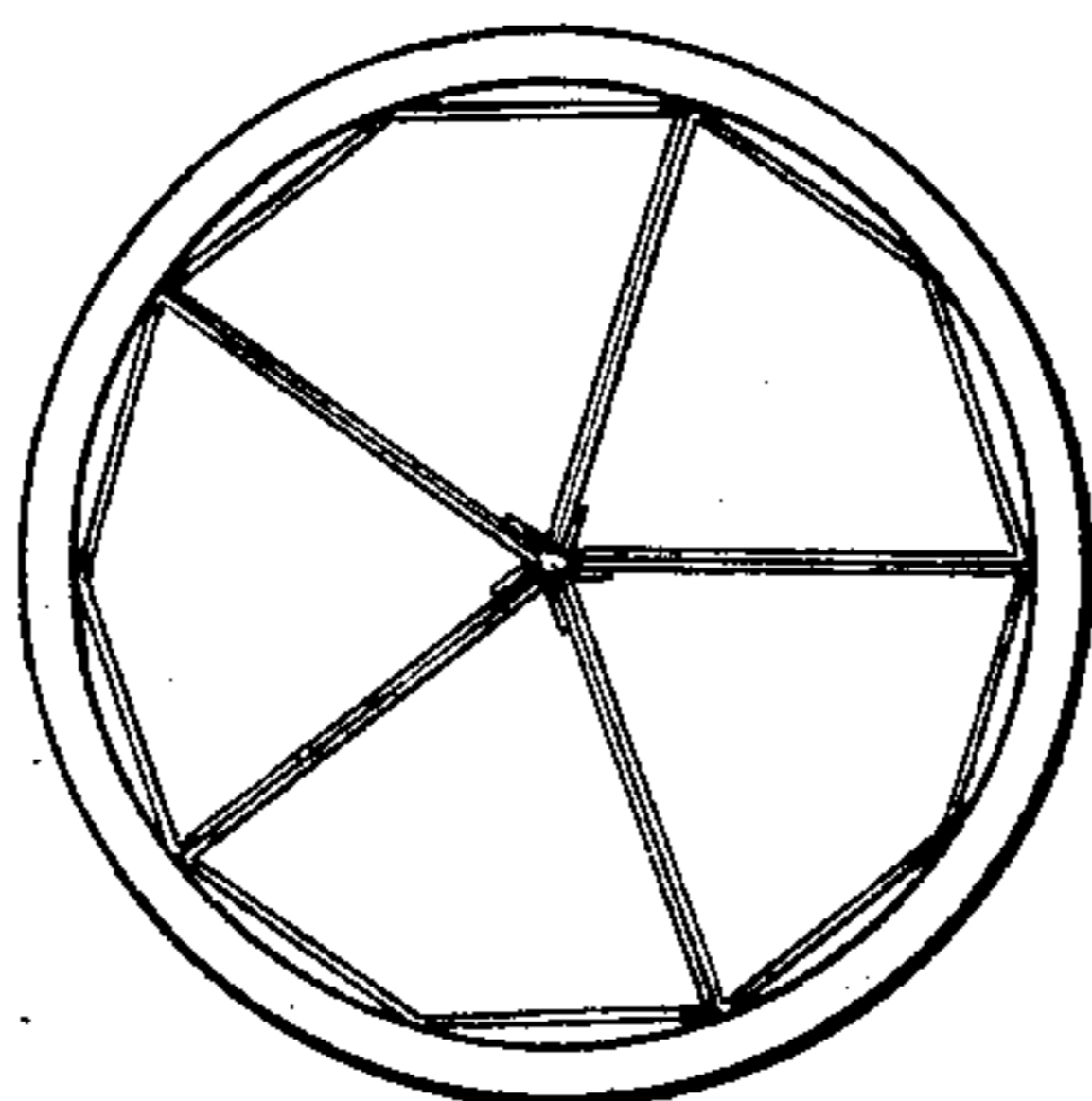


Fig. 7

WITNESSES

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UNITED STATES PATENT OFFICE.

FRANK KNOBELOCH, OF DAYTON, OHIO, ASSIGNOR, BY MESNE ASSIGNMENTS,
TO THE KENNARD MANUFACTURING COMPANY, OF SAME PLACE.

PAPER BOX.

SPECIFICATION forming part of Letters Patent No. 606,671, dated July 5, 1898.

Application filed November 11, 1897. Serial No. 658,131. (No model.)

To all whom it may concern:

Be it known that I, FRANK KNOBELOCH, a citizen of the United States, and a resident of 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 what is termed a "collapsible" paper box, which can be readily and quickly made to assume box form and is more especially intended for what may be termed a "pail-filler" for use in packing candies and the like, as will be more fully hereinafter described.

In the drawings, Figure 1 is a plan view of a blank or sheet of cardboard cut and scored to form my box. Fig. 2 is a perspective view of my improved box folded into shape. Fig. 3 is a top view of same. Fig. 4 is a bottom plan view of same. Fig. 5 is a perspective view of my improved box, bottom side up and partially collapsed, with a portion of one side cut away to show the position of the false bottom. Fig. 6 is a side view of my improved box in its collapsed condition, bottom side up, with a portion of one side cut away to show the position of the false bottom. Fig. 7 is a top view of a pail containing my improved boxes, showing the manner of packing same therein.

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

A is a blank, of cardboard or other suitable material, cut the desired shape and scored where the same is to be folded, the dotted lines indicating scores and the heavy lines the cuts in Fig. 1. The portions of the blank *a*, *b*, *c*, and *d* form the four sides of the box, and *e* and *f* the outside bottom. The extensions *g* and *h* are the portions which form the inside or false bottom, which collapses or folds upward on the inside of the box.

The box is formed in the following manner: The portion or side *d* is brought into contact with the side *a*, which is possible by reason of the scores shown in dotted lines, and the flap *d'* on the portion *d* is glued to the side or portion *a*, preferably on the inside, there-

by leaving the outside wall or side *a* unmarred by the flap, making a neater appearing box, less liable to be torn loose. The extensions *g* and *h*, which are cut or slit away from the bottom flaps *e* and *f* and from each other, being slit or cut to the points 1, 2, and 3, are then folded up inside the walls or sides, and the portions *e* and *f* are brought together, and the flap *f'* on the portion *f* is glued to the portion *e*, also preferably done on the inside, so as to leave a free unbroken surface on the outside of the box. The flaps *g'* and *h'* on the extensions *g* and *h* are then brought together in a perpendicular manner and glued or attached to each other, thus forming a ridge *g' h'* on the false bottom on the inside of the box, as seen in Fig. 3. It will be readily understood that if it is preferred to construct the bottom without the vertical ridge shown at *g' h'*, Fig. 3, one of these flaps may be omitted and the other one lapped over the opposite triangular extension and glued flat or horizontally, thus making the inside bottom perfectly smooth and flat. It will not be so stiff or rigid when thus constructed. It will, of course, be understood and perfectly apparent that it makes no difference which of these marginal flaps *g' h'* is left on, or both may be left on and glued to the opposite side in a flat or horizontal position. The flaps *g''* and *h''* are bent upward on the inside, and when the box is in its proper shape, Figs. 2 and 3, these flaps *g'' h''* lie up against the side walls *a* and *d*, standing at right angles to the false bottom *g* and *h*, and thus brace this false bottom and also hold the side walls outward, which cannot be collapsed until the inside or false bottom is lifted up, as seen in Figs. 5 and 6.

By reason of the shape of the blank shown in Fig. 1, in which the top edge is of greater measurement than the measurement along the score which forms the lower edge of the box, the two short walls or sides *b* and *c* stand at a slight inclination from the perpendicular, as clearly seen in Figs. 3 and 4. I prefer to shape my box with these walls at such incline, as my improved box is more particularly designed for use as a candy-pail filler or the like, as seen in Fig. 7, which pails usually have bottoms of smaller circumference

than the orifice thereof, and it is to permit of their close packing therein and to lose as little space in the pail as possible that I have designed my box with such sloping or leaning walls as above described, and for this same reason I make my improved box of trapezi form, which permits of their close packing in a pail, as shown in Fig. 7.

Fig. 2 shows the box in complete form ready for use. In order to collapse the box or "knock it down," I take hold of the ridge $g' h'$, as seen in Fig. 3, and pull it upward. This causes the two short sides c and b to fold together against one another and the two long sides a and d to fold together against one another in the form shown in Fig. 6, while the outer bottom, composed of the two flaps e and f , is forced outward into the position shown in Fig. 6. The box then lies perfectly flat ready for shipping or packing. To bring it again into the shape shown in Fig. 2, all that is necessary is to push the outer bottom $e f$ inward, which forces the sides away from one another and the two bottoms into horizontal position, one resting upon the other, as shown in Figs. 2 and 3. The simplicity of this construction is such that the collapsed box can be brought into shape instantly, and it is impossible to make any mistake. No adjusting of tongues or grooves or other locking devices are necessary.

In collapsible boxes as heretofore made considerable difficulty was experienced in putting them into box form from their collapsed condition by reason of the use of tongues, which had to be passed through slits in order to hold the box in shape, which tongues and slits were very apt to become torn, making them unsatisfactory and requiring considerable time to shape the box. In my improved box these difficulties and objections are all overcome, as the use of tongues and slits is obviated and the box can be pressed into shape without loss of time.

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

1. A paper vessel made of a single blank of suitable material, cut and scored to fold into trapezi form, with a double bottom, the inner bottom formed of two triangular extensions of the narrower middle sides of the blank and the outer bottom consisting of two triangular extensions of the outer wider sides of the blank, substantially as and for the purpose described.

2. A paper vessel of trapezi form made from a single blank having triangular flaps e, f , integral with the outer wider sides of the blank and the triangular extensions g, h , integral with the narrower inner sides of the blank, said blank scored to fold in the manner described, to produce double bottom extending over the entire surface, substantially as and in the manner described.

3. A paper vessel of trapezi form made of

a single blank cut and scored to form the four sides, each of these sides being provided with a triangular extension, one of the outer extensions being provided with a flap to overlap and be glued to the other outer extension, and one or both of the inner triangular extensions being provided with an overlapping flap to be glued to the other to form the inner bottom, both bottoms extending over the entire bottom, substantially as and in the manner described.

4. A paper vessel made of a single blank cut and scored to fold into trapezi form, with a double bottom, each bottom extending over the entire surface and one bottom consisting of two triangular extensions of the inner sides, the edges of which are glued together, substantially as and in the manner described.

5. A paper vessel made of a single blank cut and scored to fold into trapezi form without a top but having a double bottom, said bottom consisting of four triangular extensions integral with the four sides, two of which are glued together at their edges to form the inner bottom, and the other two are glued together at their edges to form the outer bottom, substantially as and in the manner described.

6. A collapsible box made of a single blank of suitable material, cut and scored to fold into trapezi form, with a double bottom, the inner bottom provided with extensions so arranged as to brace and hold the box firmly in shape when pushed to its normal position, substantially as shown and described.

7. A collapsible box of trapezi form made from a single blank and provided with double bottom, the triangular extensions forming the inner bottom having marginal flaps or extensions arranged to fold perpendicularly and form a brace for the bottom, substantially as and in the manner described.

8. A collapsible box of trapezi form made of a single blank the triangular extensions forming the inner bottom, being provided with marginal flaps $h'' g''$ which fold up and rest against the inner sides of the box, forming a strengthening and stiffening brace, substantially as and in the manner described.

9. A collapsible box of trapezi form made of a single blank and having a double bottom, one of the triangular extensions forming the inner bottom being provided with a marginal flap or extension to lap over the edge and onto the other extension, where it is glued to form a solid and flat bottom, each triangular extension being provided with bracing-flaps, substantially as and in the manner described.

10. A collapsible box of trapezi form made from a single blank cut and scored, both the triangular extensions which together form the inner bottom, being provided with marginal flaps or extensions $g' h'$ to lap over one another and the opposite triangular extension where they are glued to form a plain horizontal bottom stiffened by the doubling of

these flaps and also provided with bracing extensions, substantially as and in the manner described.

11. A collapsible box of trapezi form made from a single blank cut and scored, the triangular extensions which together form the inner bottom being provided with marginal flaps $g' h'$, bent at right angles to the bottom and glued together to form a vertical brace for the inner bottom.

12. A collapsible box of trapezi form made from a single blank cut and scored, having double bottom consisting of two triangular

extensions of the narrower inner sides, provided with marginal flaps on their approximate sides, bent at right angles to the bottom and glued together to form a vertical brace, the triangular extensions also having outer flaps bent at right angles to rest against the inner side of the vertical walls, substantially as and for the purpose described.

FRANK KNOBELOCH.

Witnesses:

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H. G. EDWARDS.