

(No Model.)

W. H. H. ROGERS.

PAPER BOX.

No. 272,327.

Patented Feb. 13, 1883.

Fig. 1.

A

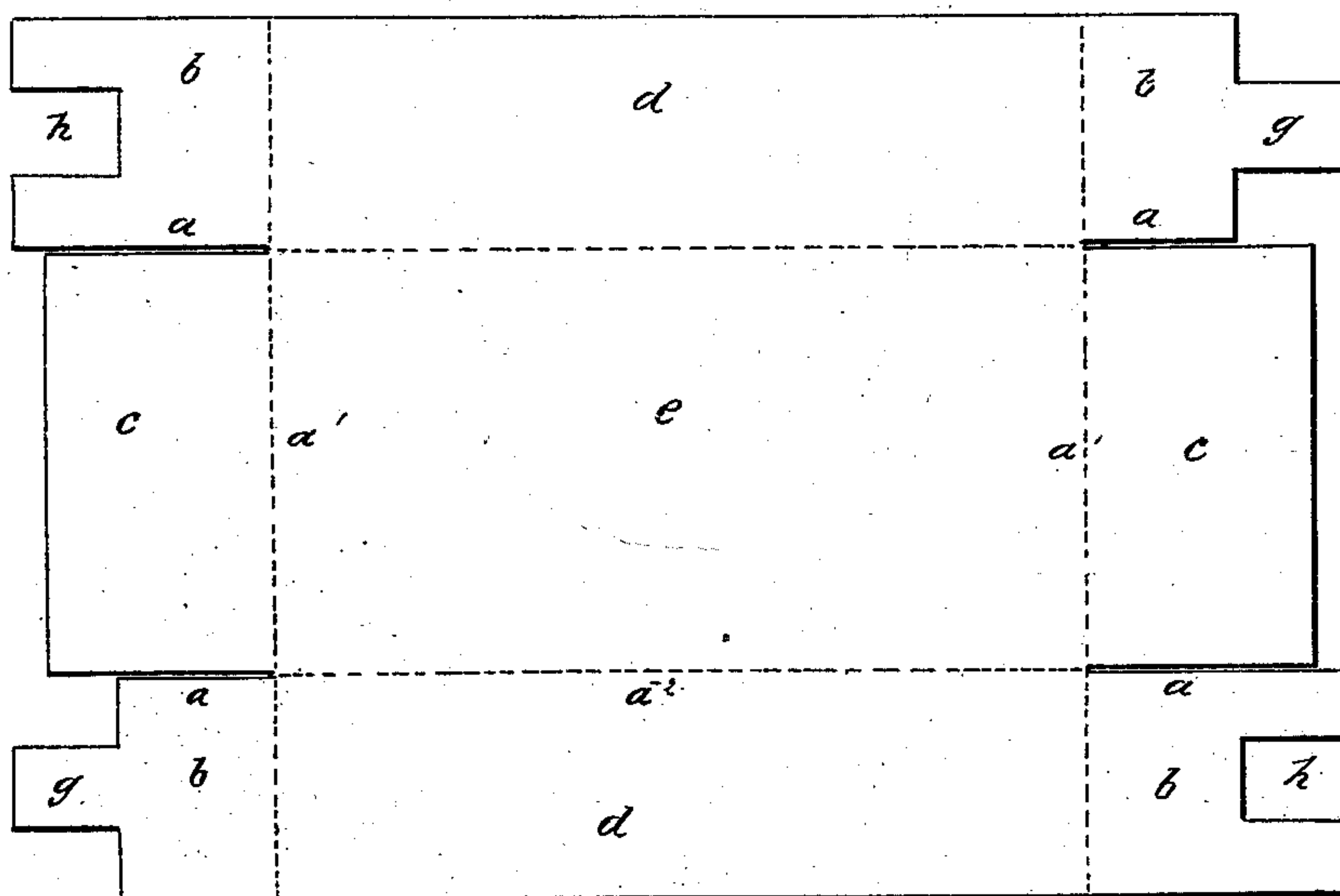


Fig. 2.

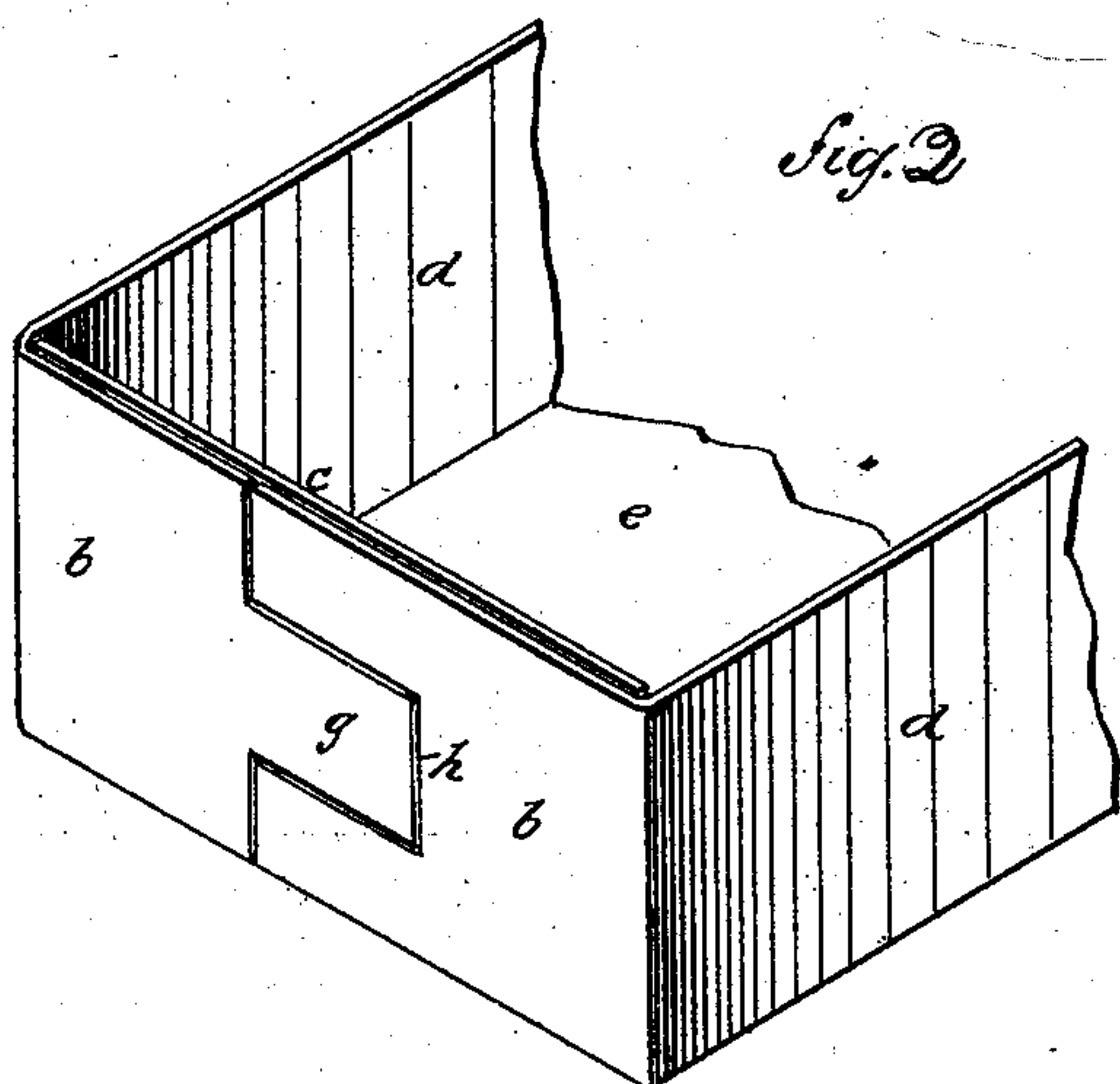
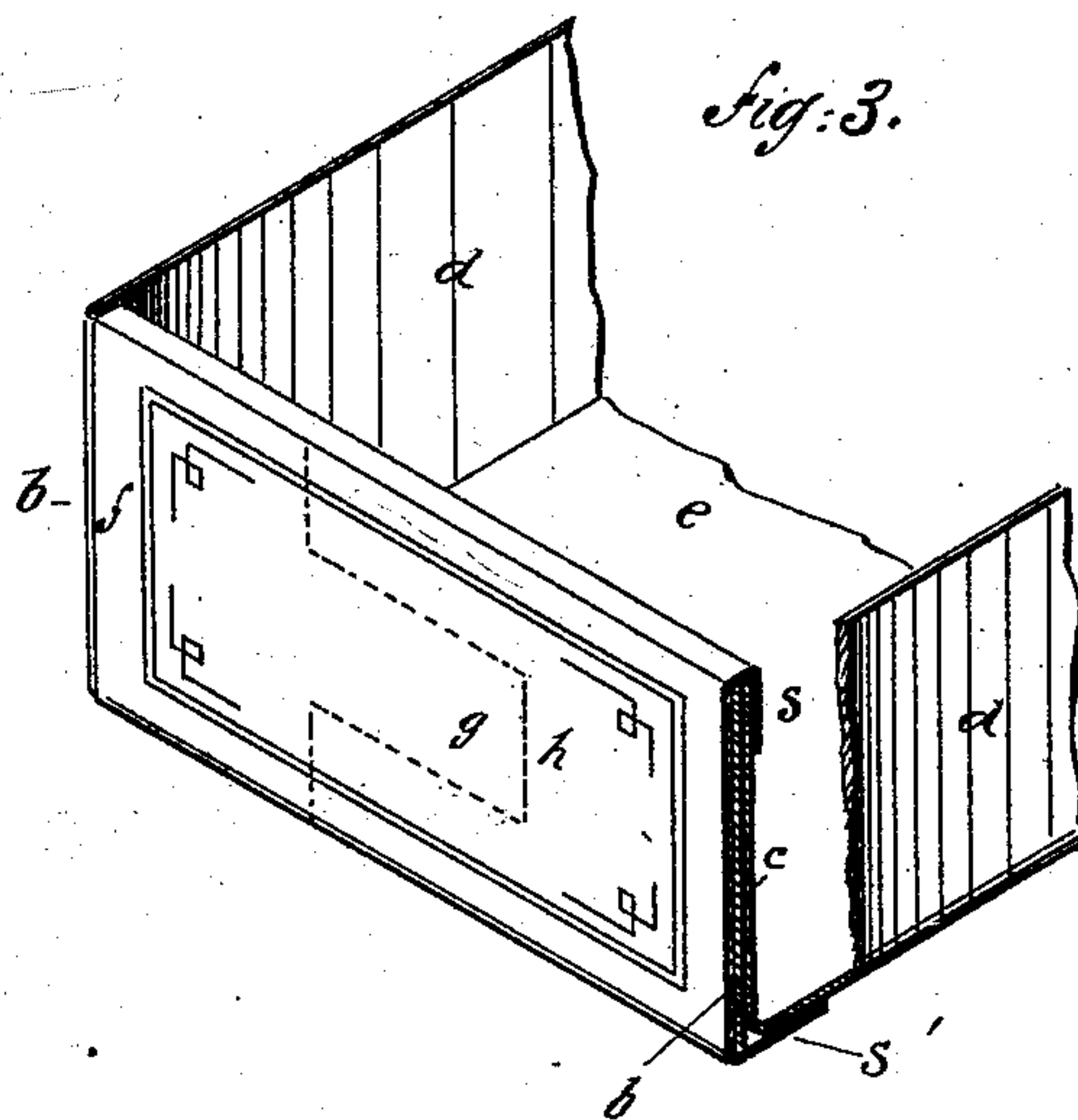


Fig. 3.



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PAPER BOX.

SPECIFICATION forming part of Letters Patent No. 272,327, dated February 13, 1883.

Application filed December 5, 1882. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. H. ROGERS, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Paper Boxes, of which the following is a full, clear, and exact description.

This invention relates to that description of paper boxes which are usually of a square or oblong form, and are made by cutting a blank from a sheet or piece of straw-board, pasteboard, manila, or other suitable paper, so that when folded up in fixed courses or directions certain flaps or projections are produced, which will overlap the adjacent ends or sides, and so that when the folded portions are properly secured the sides and ends of the box are held in their proper relative positions to one another and to the bottom.

The invention consists in an interlocking construction of the overlapping corner or outer meeting-end flaps of the box, substantially as hereinafter described, and whereby said meeting-end flaps are not only made to more effectually support one another from sagging and the box has additional strength given it, but the seam formed by said flaps where they meet or abut one against the other is diverted from a straight line or course, and by its tortuous character, corresponding with the shape of the interlocking marginal portions of the flaps, is less liable to cause the face-piece, label, or binder on the end of the box to crack or break than is a straight seam, while a like flush surface is obtained for the face-piece or label as when said joint or seam is a straight one.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of the blank used in making my new and improved paper box, showing its overlapping corner or outer-end flaps with their meeting marginal portions constructed to interlock or engage with one another. Fig. 2 is a perspective view of a portion of said blank after its sides and one end have been folded up; and Fig. 3 is a similar view to Fig. 2, in partial section, after the face-piece has been applied to cover the ends of the box and to overlap the upper edge of said end and underlap the lower edge thereof and the bottom of the box.

A in Fig. 1 represents the blank, which is formed by taking a sheet of straw-board, manila, or other suitable paper or pasteboard, and making the four incisions, *a*, in two of its opposite edges or ends, and scoring, marking, or creasing it, as indicated by the dotted lines *a'* *a*². These cuts *a* form the four corner flaps, *b*, and intermediate opposite end flaps, *c*. The corner flaps, *b*, should be of such lengths or dimensions in direction of the cuts *a* that the combined lengths of either pair of them on the same end of the blank will be just equal to the length of the flap *c* between them. They consequently may be trimmed off at their ends, or be of a length equal to the depth of the intermediate flap, or even longer, according to the relative dimensions of the box to be produced, in order that when the blank *A* is folded to form the box the end edges of said flaps *b* will abut against each other, as shown in Fig. 2. The flaps *b b* are constructed with tongues *g*, and corresponding openings, *h*, made in them, so that when said flaps are bent to overlap externally the inner end pieces or flaps, *c*, they not merely abut one against the other at their meeting ends or edges, but interlock or engage with each other in the planes of their faces, and thus more effectually restrain one another from sagging and give increased strength to the box.

In folding the blank to form the box either intermediate end flap, *c*, is preferably bent up first, in line of the crease *a'*, at right angles to the bottom *e* of the box. The side pieces, *d d*, are then bent up in line with the creases *a*², and the corner flaps, *b b*, which are virtually extensions of the side pieces, are turned over in line with the creases *a'* and lapped upon the outside of the end flap, *c*, as shown in Fig. 2. This being done, a face-piece, *f*, of thin strong paper or other suitable material, is pasted or otherwise cemented over the end of the box, as shown in Fig. 3. This face-piece is of the length of the end of the box, and of such depth or width as to leave marginal portions beyond the upper and lower edges of said end, which marginal portions are respectively turned over and under said end edges and cemented down over on the inside of the flap *c* and under on the exterior of the bottom *e*, as shown at *s* and *s'*. This face-piece *f*, thus arranged on either end of the box, may either be a plain sheet or

a printed label, and serves not only to give a finish to the box, but contributes to the strength of its end wall by making it of a treble thickness, and, by underlapping the bottom of the box as well as the upper end edge thereof, effectually binds the bottom and inner and outer end flaps of the box together, making a firm entirety of the bottom, sides, and end or ends, also making the box tight, and, what is of great importance, perfectly covering or concealing not only the seam formed by the junction of the flaps *b b*, but all raw edges at the end of the box. Furthermore, the corners of the end flap, *c*, and corner flaps, *b b*, are prevented from bending down and forming what in other constructions are known as "dog-ears," and which are very objectionable. Such construction, too, of the meeting marginal portions of the overlapping end flaps, *b b*, also forms a crooked or irregular seam or joint, corresponding with the shape of the interlocking marginal portions of said flaps, which, in breaking the direct continuity that is incidental to a straight seam as produced by overlapping end flaps having straight meeting edges, makes the thin binder, label, or face-piece *f*, when applied as hereinbefore described, less likely to crack or break in line with the seam, and, without destroying or interfering with the flush surface for the label or binder, a more perfect binding effect is obtained for the label or face-piece than if the seam were a straight one, and the box is correspondingly strengthened. By making said face-piece *f* a printed label it not only utilizes the label in the construction of the box, but the label is at the same time advantageously exhibited upon a smooth surface at the end of the box, thus making the whole to present a finished and perfect appearance. It is not necessary, however, that the face-piece *f* should be a label. It may be plain on one end of the box and a label on the other. Furthermore, the blanks of which the boxes are formed may be manufactured in one place and shipped in their flat state for use in another, where they may be folded up into boxes, and the face-piece *f* then applied.

The within-described combination of elements in the construction of the box enables me to produce an exceedingly cheap as well as very strong paper box, having solid or unbroken corners, and one which is tight without raw edges at its ends, and that merchants, shoe-dealers, and others will use, because, while perfect, it resembles in appearance the

old form of box in use by them, and will stand rougher usage in being tossed or thrown about, while it is not or need not be any more expensive than the old form or construction of box.

Although the interlocking portions *g h* of the meeting outer end flaps are here shown of rectangular shape, they may be of any other suitable interlocking or engaging form. Thus they might be of a waved or zigzag construction and the number of their engaging points or parts be varied as desired. This feature of the invention may be used with any face-piece, label, or binder applied to the end of the box, whether said binder be arranged to overlap the upper and lower edges of the end of the box, or either of said edges, so long as it is arranged to cover the seam or joint formed by the interlocking edges of the end flaps, and constitutes an outside cover and binder applied to the end of the box; but it is preferred in every case to construct and arrange said face-piece *f* to overlap the upper edge of the end of the box and to underlap the bottom of the same, for the reasons hereinbefore given.

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

1. In a paper box having its bottom *e*, inner end flaps, *c c*, sides *d d*, and outer end flaps, *b b*, made of or from a single piece, the end flaps, *b b*, constructed to interlock or engage with each other in the planes of their faces, in combination with an outside binder or face-piece applied to the outer end of the box, and arranged and adapted to cover the seam or joint formed by the interlocking of the outer end flaps, substantially as specified.

2. The combination, in a paper box the body of which is made from a single piece, of the bottom *e*, with its upturned inner end flaps, *c c*, the sides *d d*, with their bent-over meeting outer end flaps, *b b*, constructed to interlock or engage with each other, as described, and face-pieces or binders *f*, cemented to and arranged and adapted to cover the ends of the box, and extended over the upper edges of said ends to the interior of the box and under the bottom of the box, whereby the strength of the box is increased and the raw edges at its ends are concealed and protected, essentially as described.

WILLIAM HENRY HARRISON ROGERS.

Witnesses:

EDGAR TATE,

EDWARD M. CLARK.