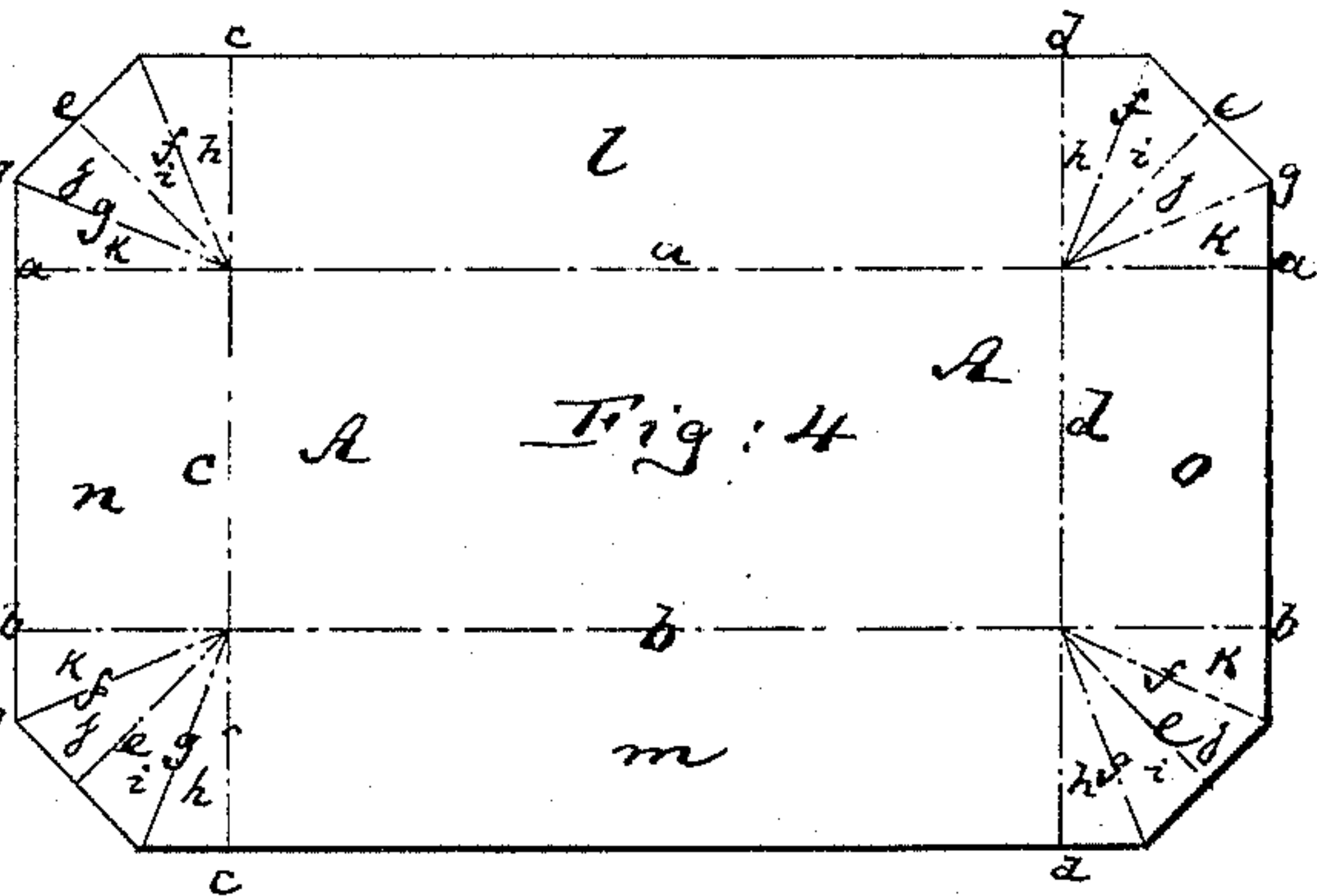
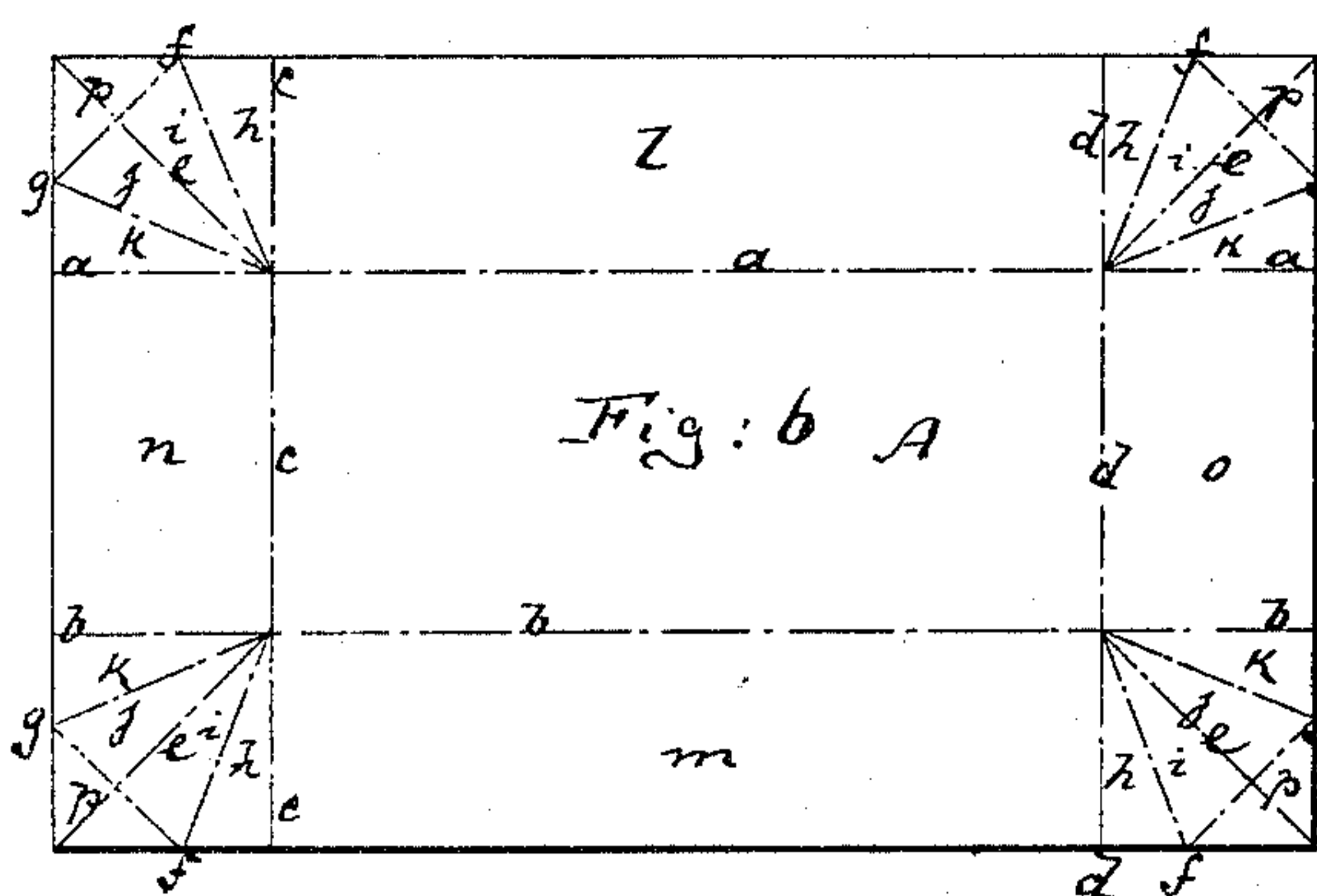
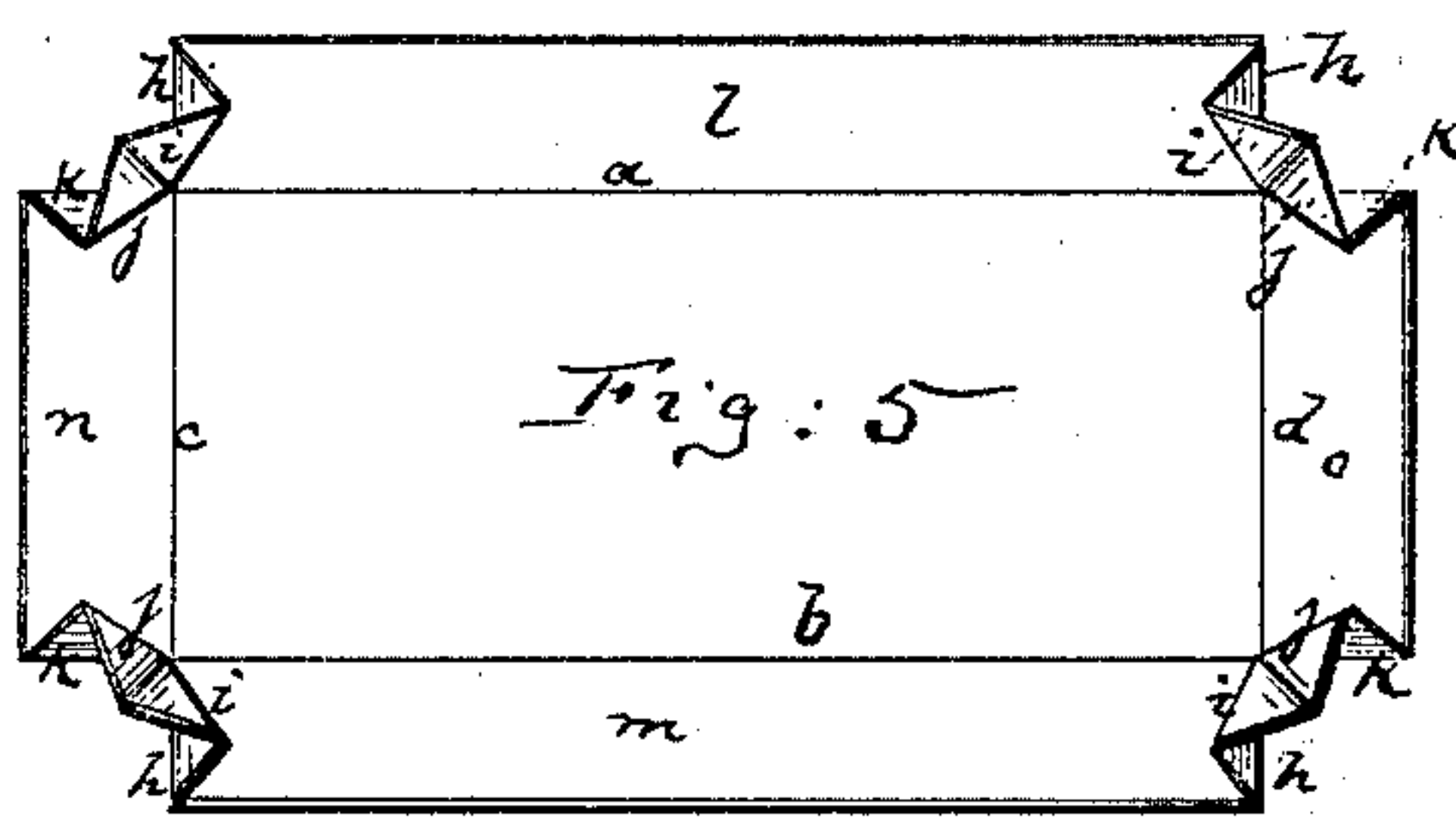
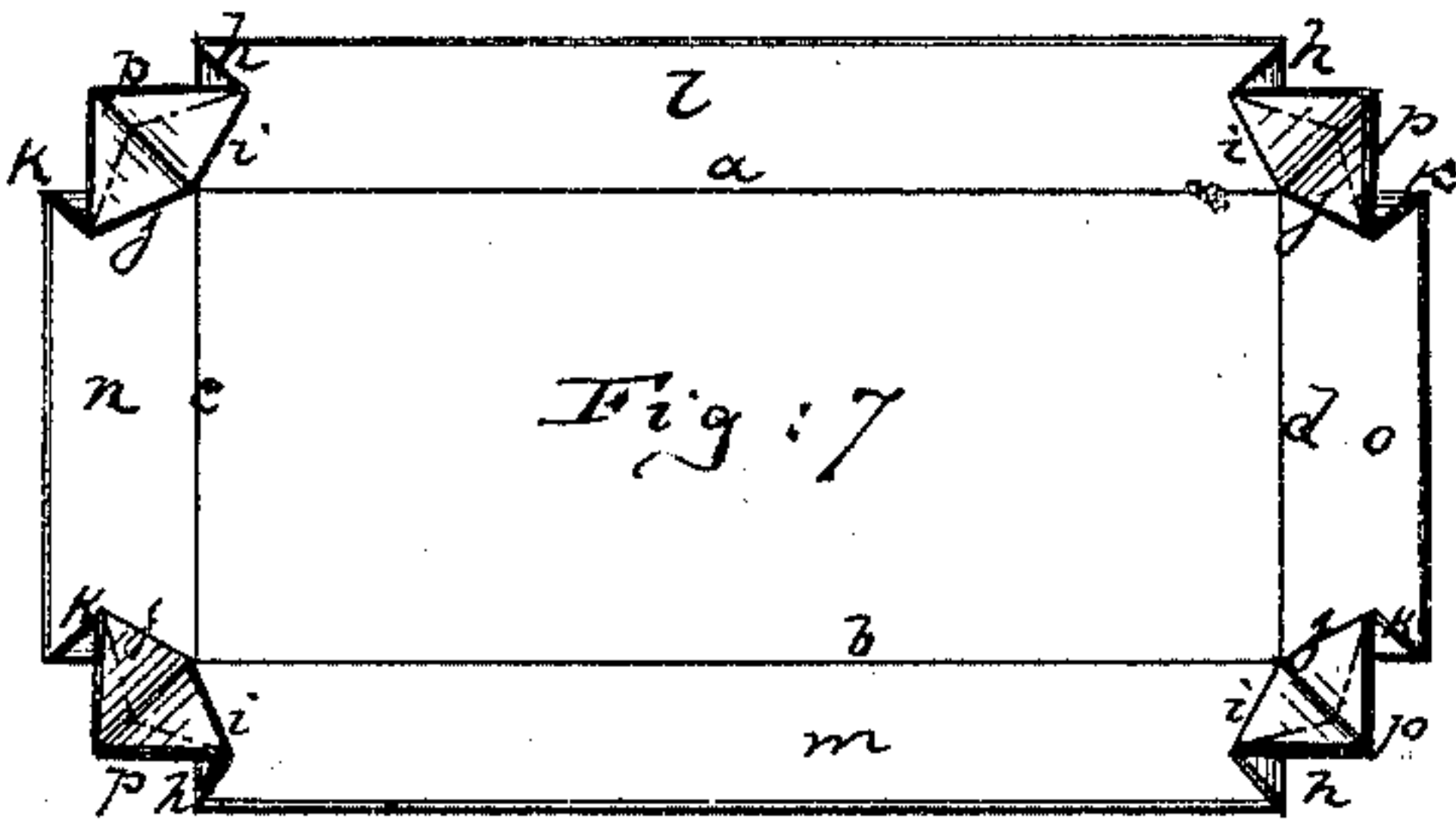
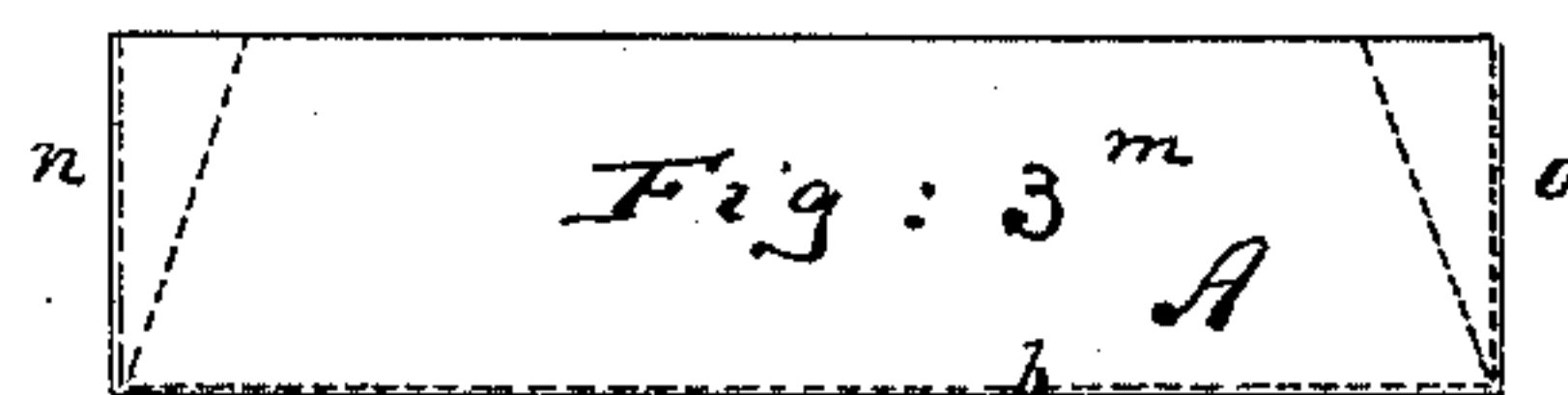
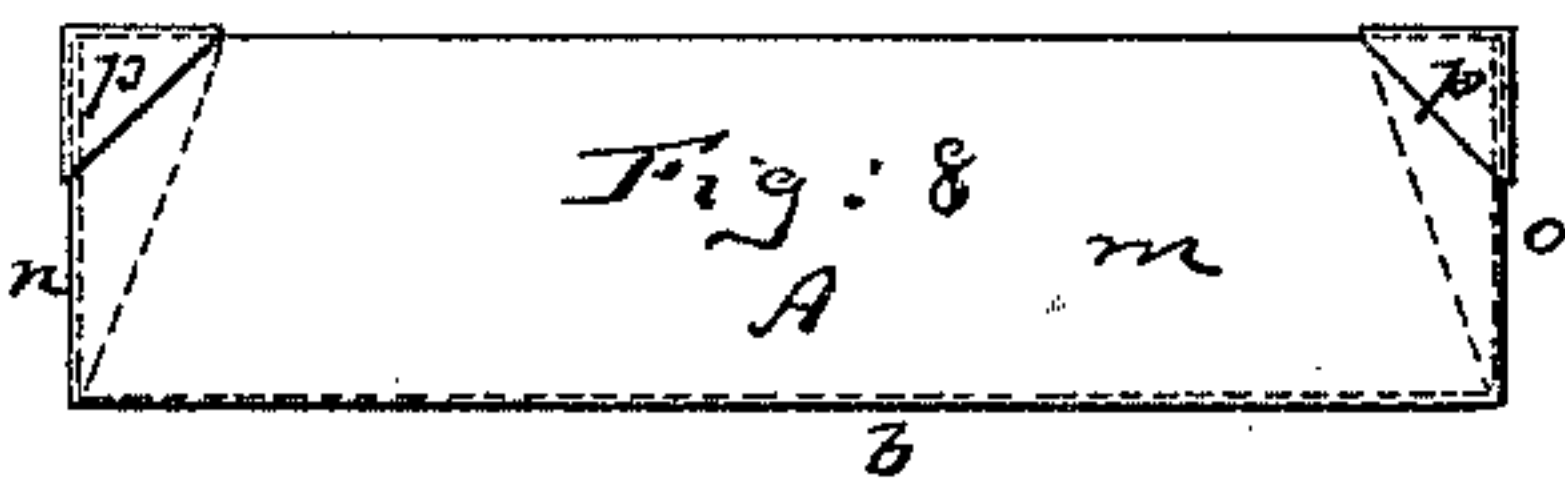
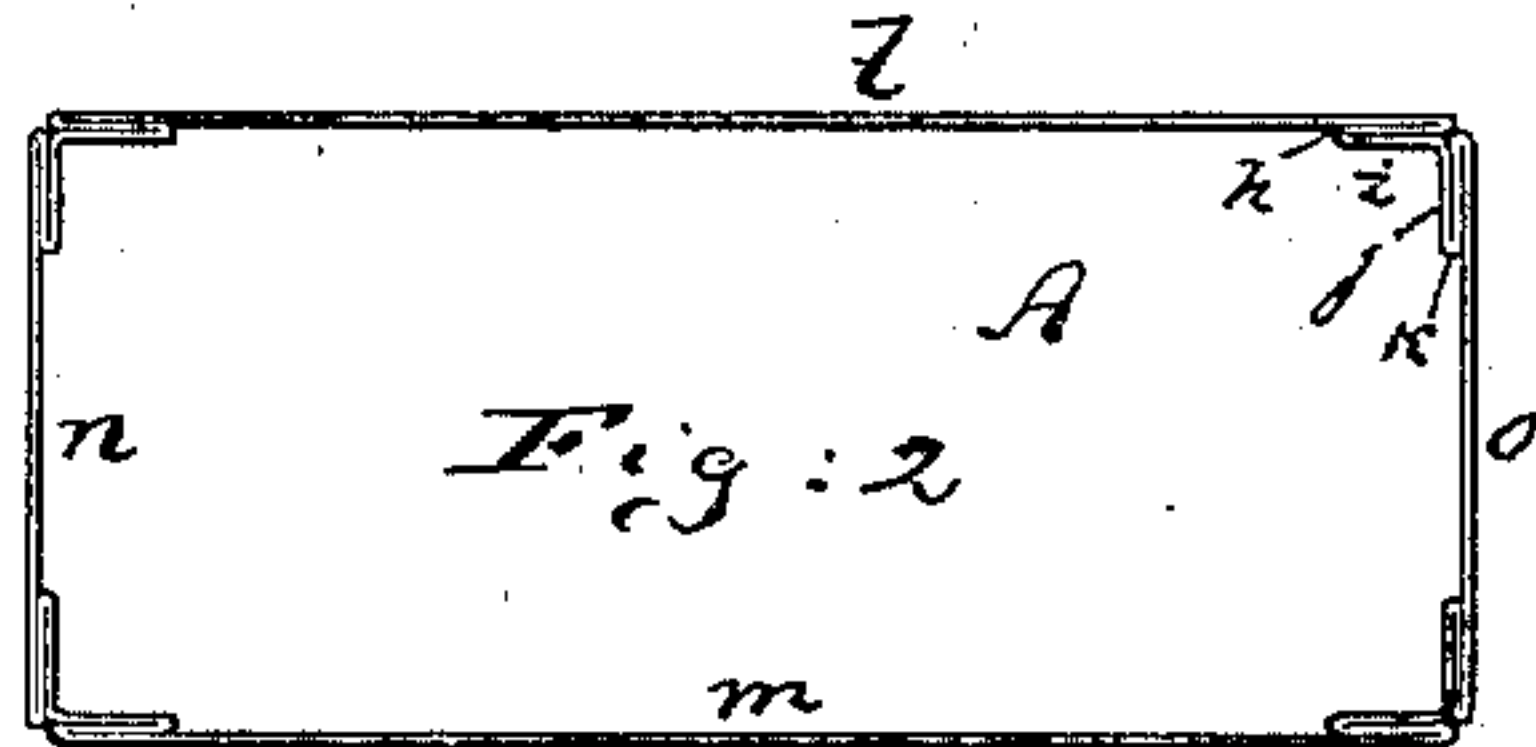
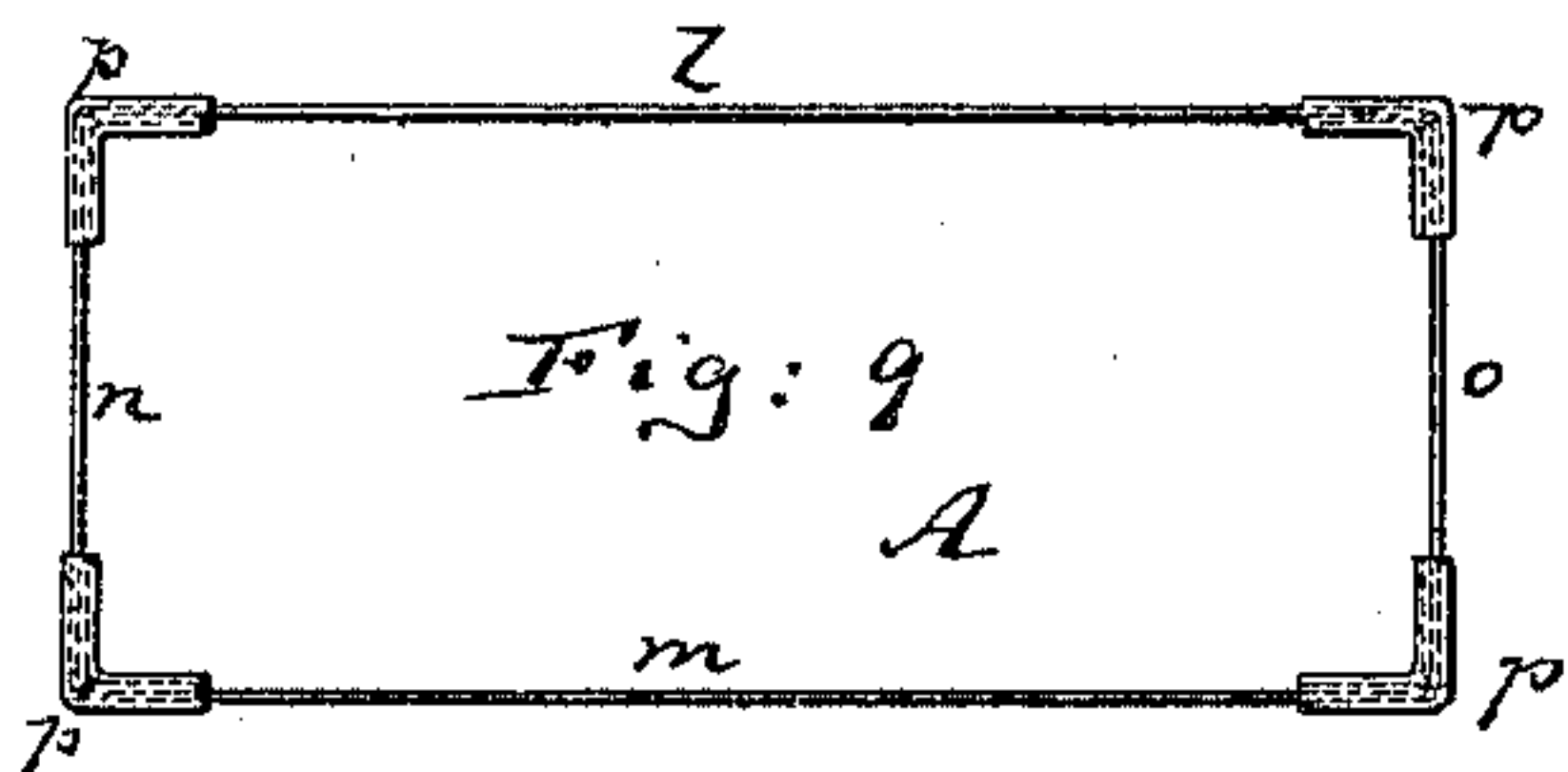
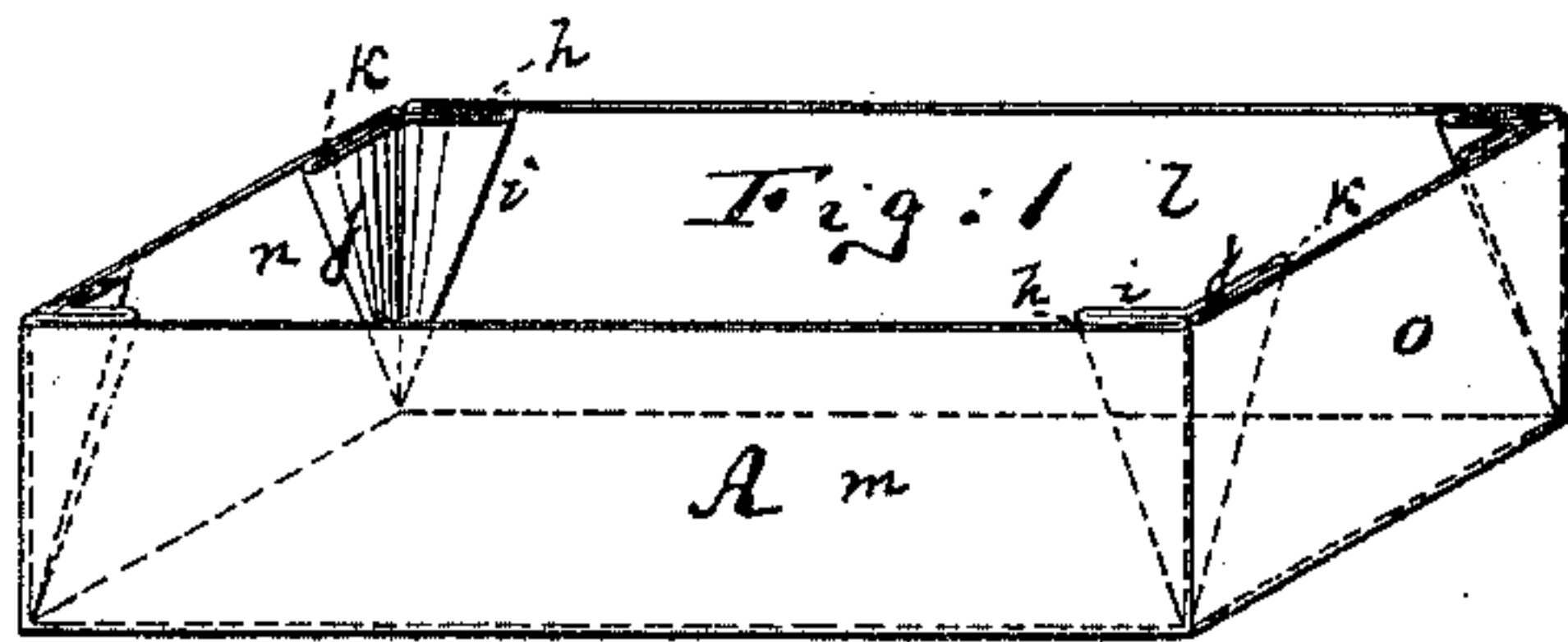


S. B. CONOVER.

PAPER-BOXES.

No. 170,991.

Patented Dec. 14, 1875.



Witnesses:
A. Moraga
O. A. Weidner

Inventor
S. B. Conover
by his attorney
A. V. Briesen

UNITED STATES PATENT OFFICE

STEPHEN B. CONOVER, OF JERSEY CITY, NEW JERSEY.

IMPROVEMENT IN PAPER BOXES.

Specification forming part of Letters Patent No. 170,991, dated December 14, 1875; application filed October 21, 1875.

To all whom it may concern:

Be it known that I, STEPHEN B. CONOVER, of Jersey City, in the county of Hudson and State of New Jersey, have invented a new and useful Improvement in Rectangular Boxes, of which the following is a specification:

This invention relates to a new mode of constructing a rectangular box from a single piece of sheet metal, pasteboard, or other material; and consists in producing a quadruple fold at each corner, so that there will be in each corner two triangular pieces or folds placed against each side, forming such corner, as hereinafter more fully described.

In the accompanying drawing, Figure 1 represents a perspective view of my improved box; Fig. 2, a plan or top view, and Fig. 3 a side view, of the same. Fig. 4 is a plan view of the blank from which the box is made, showing the position of the creases, and Fig. 5 is a plan view of the blank, showing the sides and ends partly turned up during the process of constructing the box. Fig. 6 is a plan view of a blank made according to my invention, but with an additional attachment. Fig. 7 is a top view of said blank, partly turned up. Fig. 8 is a side view, and Fig. 9 a top view, of the box made from such blanks.

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

The blank A, shown in Fig. 4, has the length of the intended box, with double the height added thereto, and the width of the intended box will double the height added thereto. The lines *a*, *b*, *c*, and *d*, in Figs. 4 and 5, show where the blank is bent to form the sides and ends of the box. From each corner of the blank A is detached a triangular piece, so that the blank has an octagonal form, as clearly shown in Fig. 4. The irregular pentagons which are formed by the intersecting lines *a b c d* at the corners of the blank, are creased each as follows: First, on a line, *e*, which divides the right angle where the pentagon joins the intended bottom of the box into two equal parts, said line extending from said angle to the beveled edge at the corner of the box; next, on two lines, *f* and *g*, that extend from the ends of the bevel, respectively, to the inner corner of the pentagon, where the same joins the intended bottom of the box. Thus,

if the lines *a d*, *b d*, *b c*, and *a c*, which form the respective corners of the blank, are also considered as creases in the manufacture of the box, each corner-piece has five creases, and is thereby divided into four divisions or parts, which are marked, in Fig. 4, *h*, *i*, *j*, and *k*. In folding or forming the box from the blank shown in Fig. 4, the crease *e* at each corner is bent slightly outward, and the creases *f* and *g* slightly inward, as indicated in Fig. 5. When, thereupon, the sides *l m*, and the ends *n o* of the blank are turned up, the result will be that the triangular parts *h i* of each corner will fold against the sides, and the triangular parts *j k* against the ends, of the box, in the manner clearly represented in Figs. 1 and 2—that is to say, the triangles *h i*, which are equal, will double against the sides, the triangle *k* coming in direct contact with the side *l*, for example, and the triangle *i* covering the triangle *h*, while the triangle *k* will come in direct contact with the end *o*, for example, and the triangle *j* will cover *k*, all as clearly represented in Fig. 2. By the quadruple triangular folds thus formed within the box at each corner the corners are properly united without additional fastening devices, and a box of harmonious and salable appearance is produced.

From the same blank A a box can also be produced of substantially the same style, excepting that the quadruple triangles on the corner are folded against the outer, instead of the inner, faces of the sides and ends.

I am aware that boxes have already been produced with triangular folds projecting into each corner of the box, but invariably only with double triangular folds, never with quadruple fold, like mine, the objection to the double folds being that they will overlap each other on the ends or sides of the box whenever the box is made of greater height than half its width or length; while with my improved quadruple fold I can produce a box nearly twice as high as it is wide before the triangular flaps *k*, for example, that rest against the same end of the box, will come in contact with or overlap one another. Moreover, my double fastening produced by the quadruple fold is much more reliable than the single fastening produced by the ordinary double fold.

The modification represented in Figs. 6, 7, 8, and 9 consists only in leaving on the blank the corners that are detached from the blank A, Fig. 4, and in folding the additional triangles *p* thus obtained outward over the corners of the box, in the manner indicated in Figs. 8 and 9, so that they will constitute a lock for most efficiently holding the corners together without the use of glue, cement, or other fastening.

I claim as my invention—

1. A rectangular box made with quadruple folds *h i j k* in the corner, substantially as herein shown and described.

2. A rectangular box made with quadruple folds *h i j k* in the corner, and with the triangular lock *p* folded over such corner, substantially as specified.

STEPHEN B. CONOVER.

Witnesses:

ERNEST C. WEBB,
F. V. BRIESEN.