

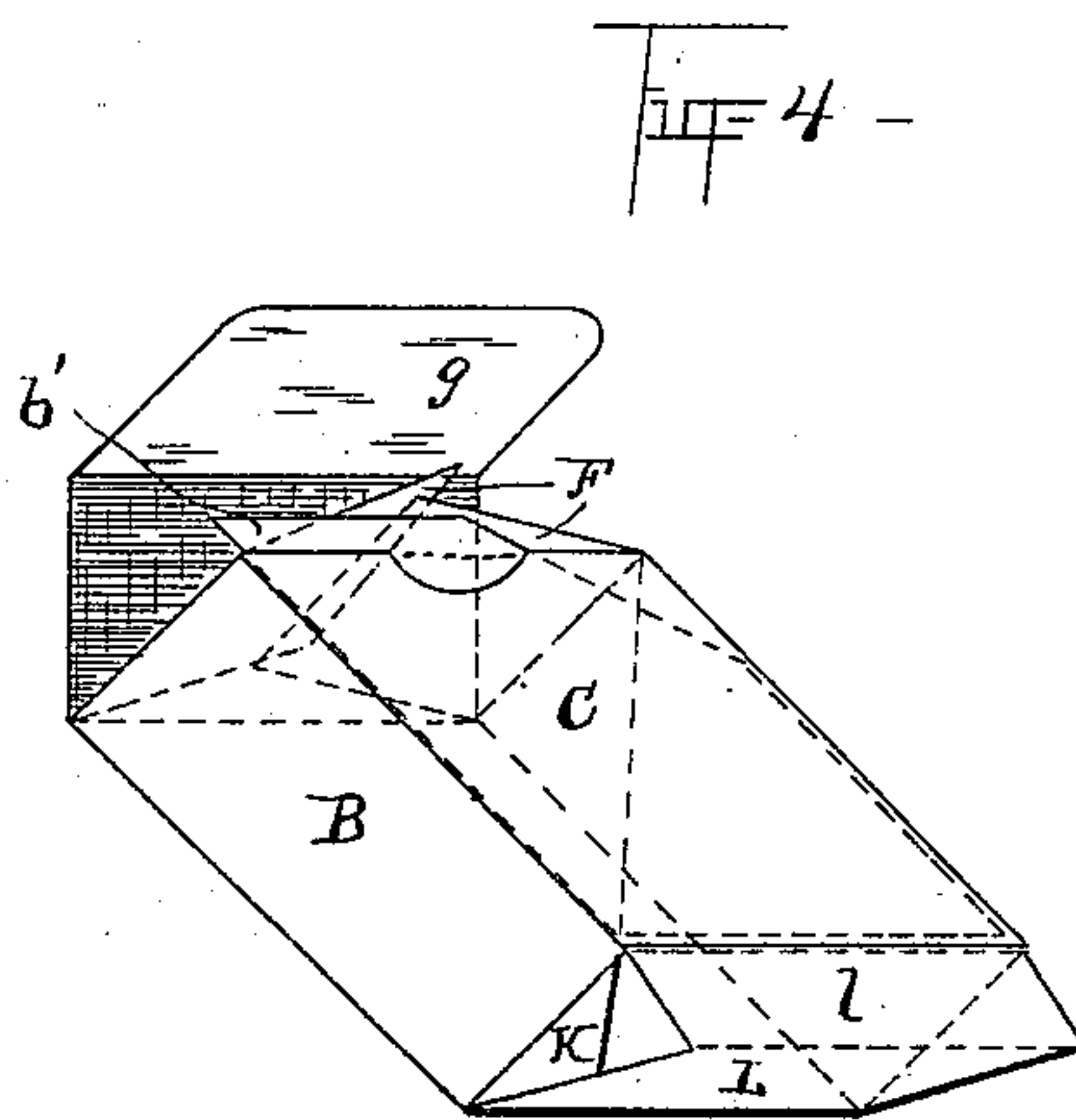
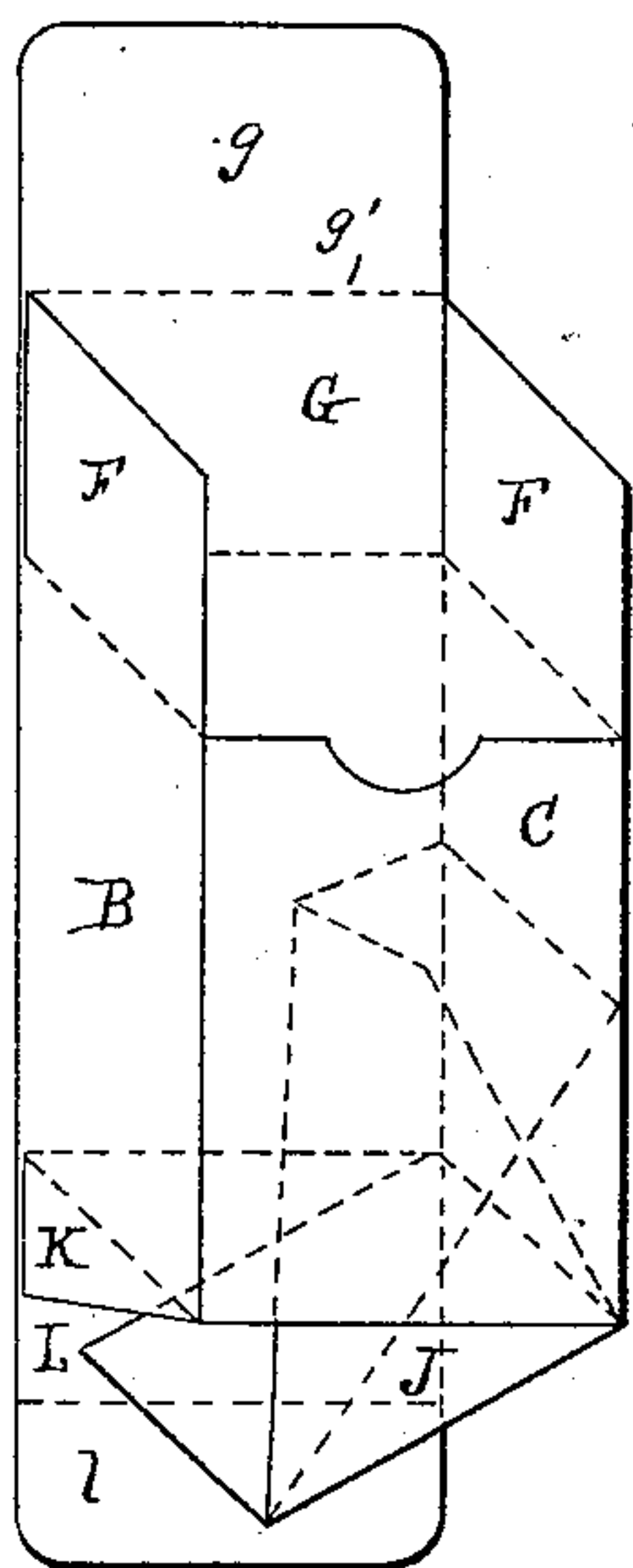
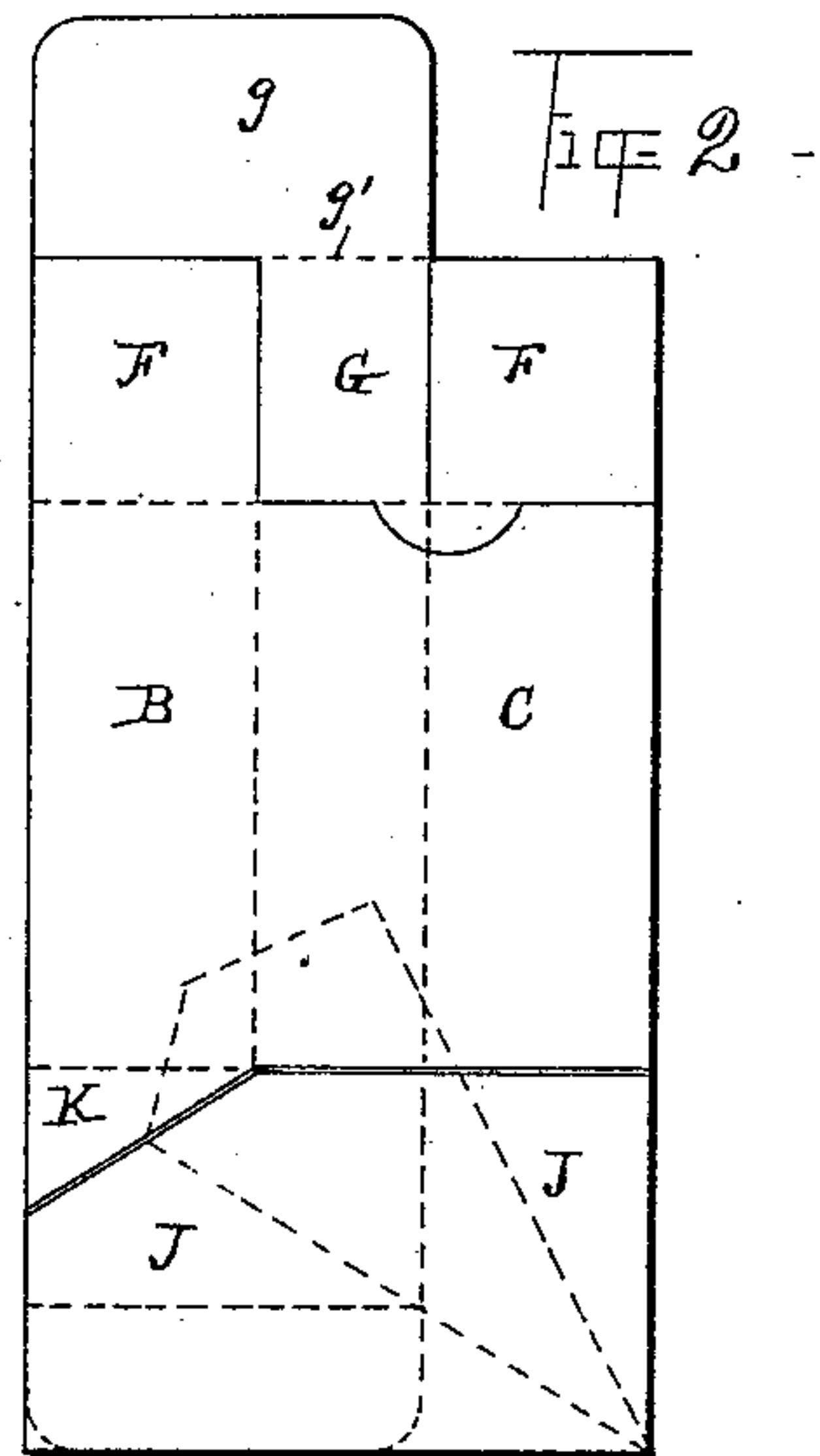
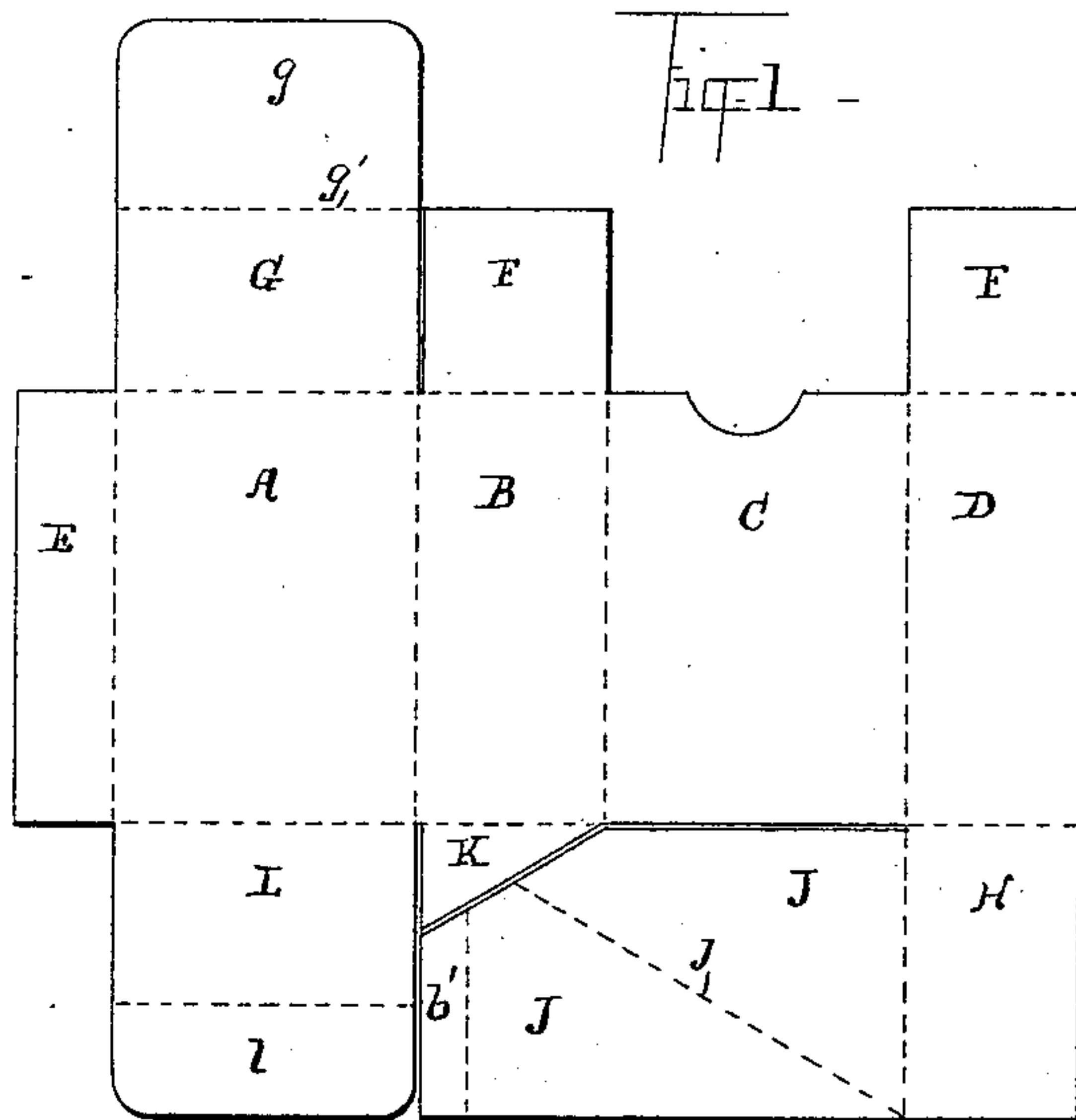
(No Model.)

3 Sheets—Sheet 1.

A. C. LOHMANN.
PAPER BOX BLANK.

No. 436,141.

Patented Sept. 9, 1890.



Witnesses
N. H. Fay
O. C. Cole

Inventor.

A. C. Lohmann
By his Attorney
Thos. B. Hall

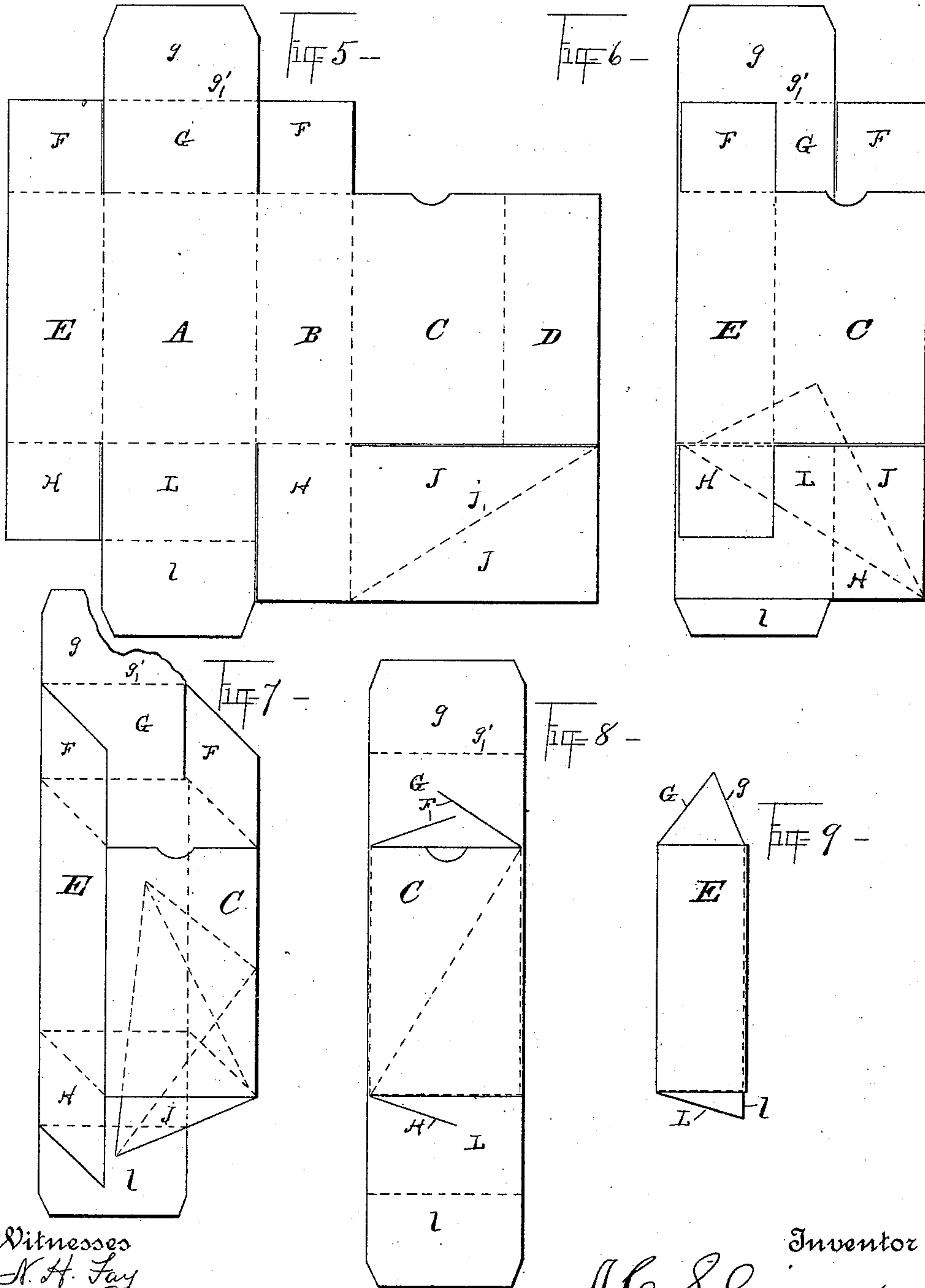
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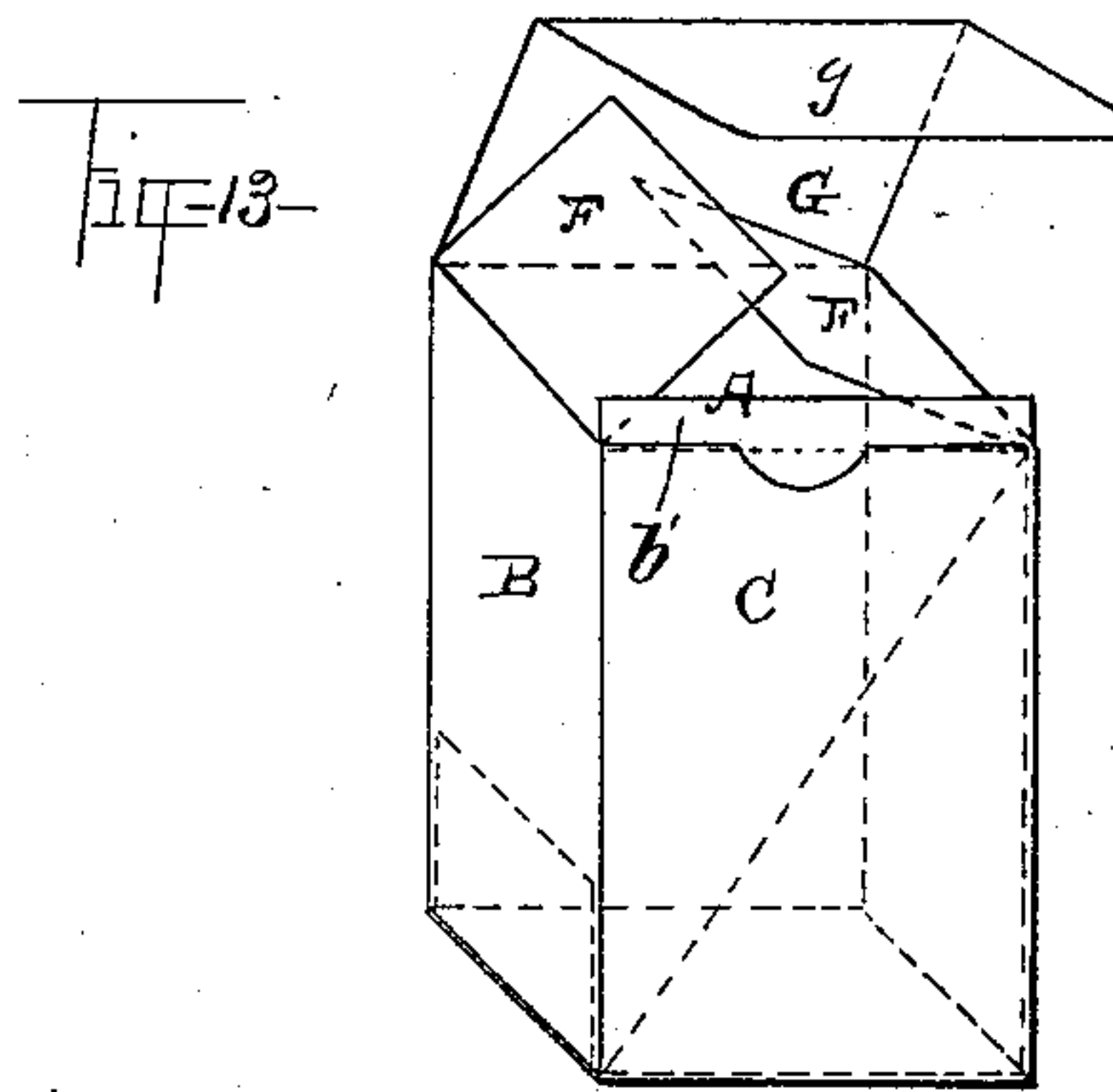
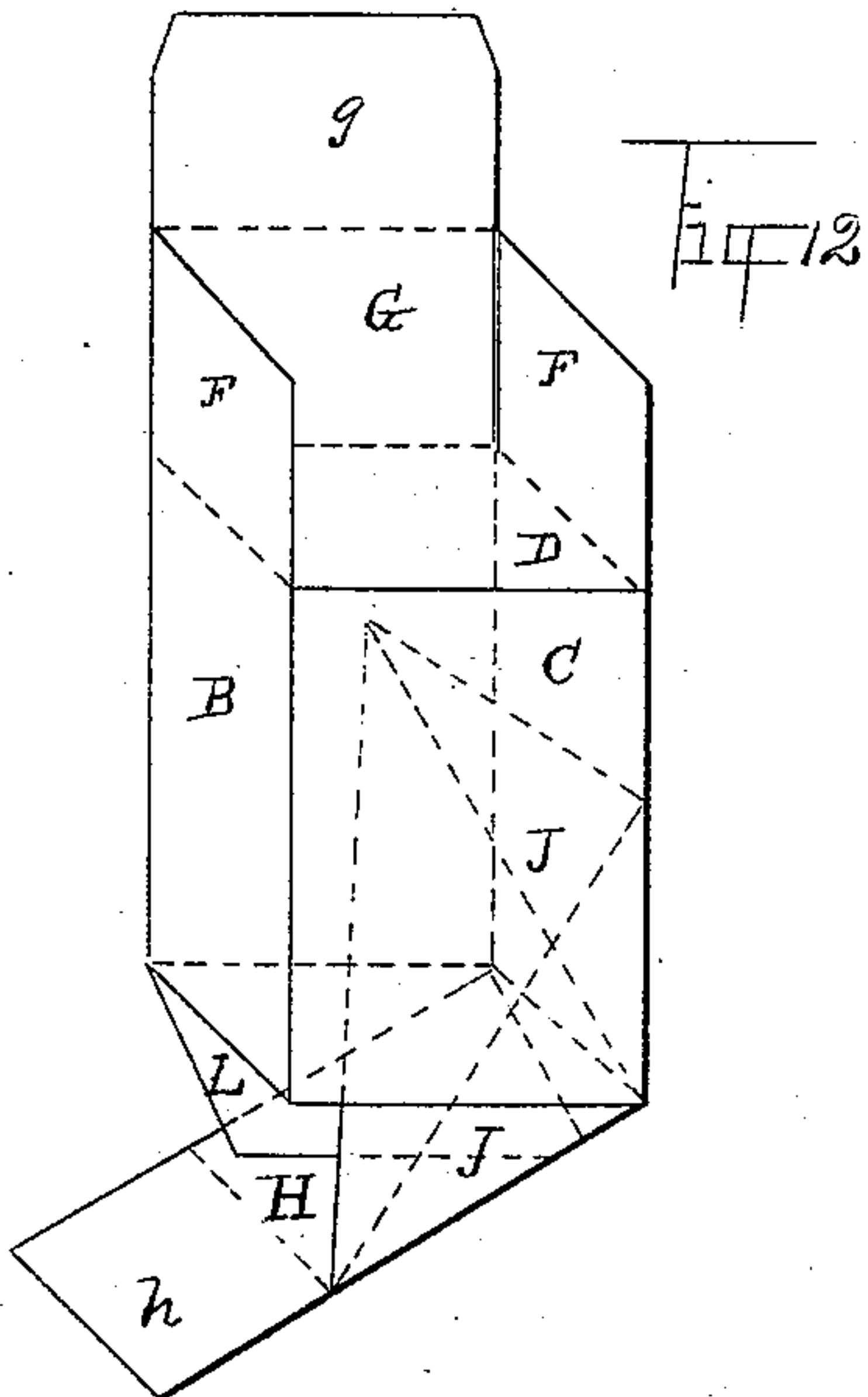
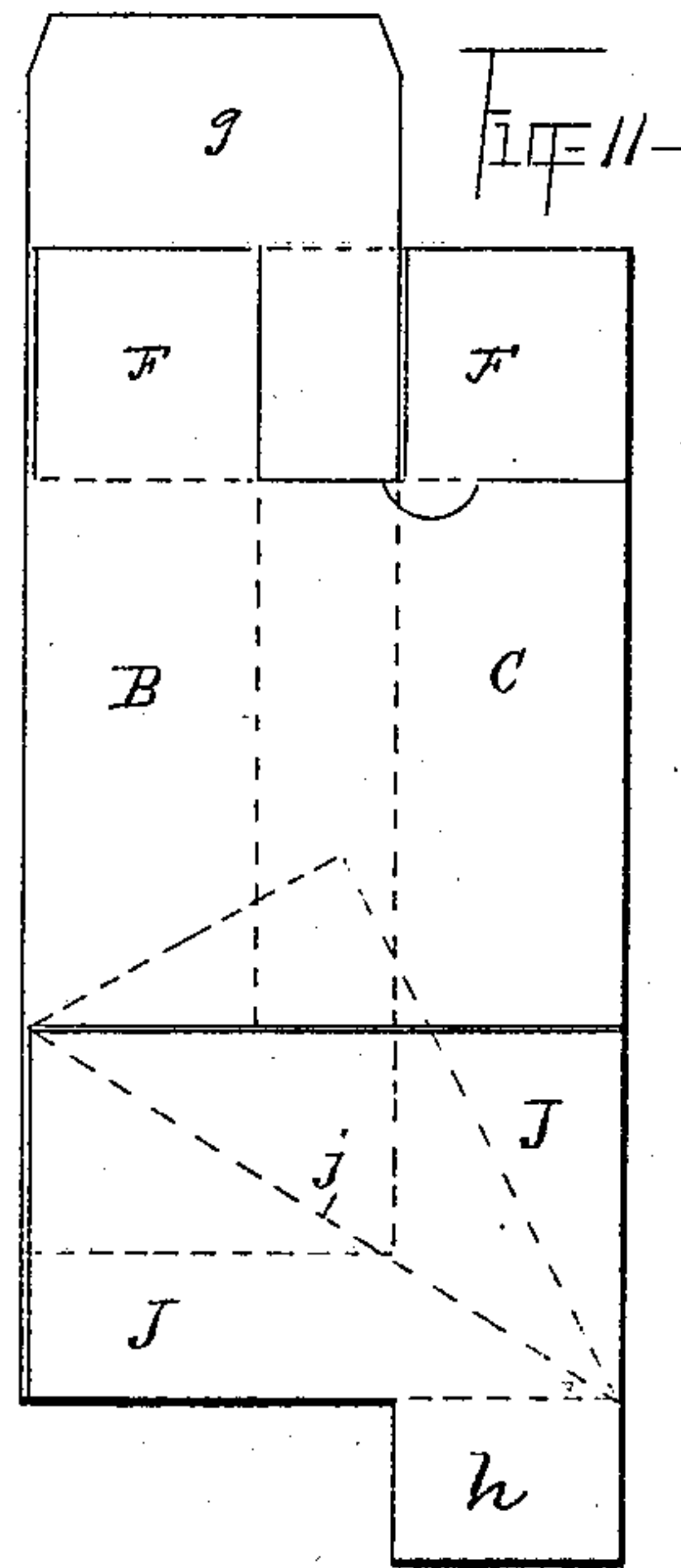
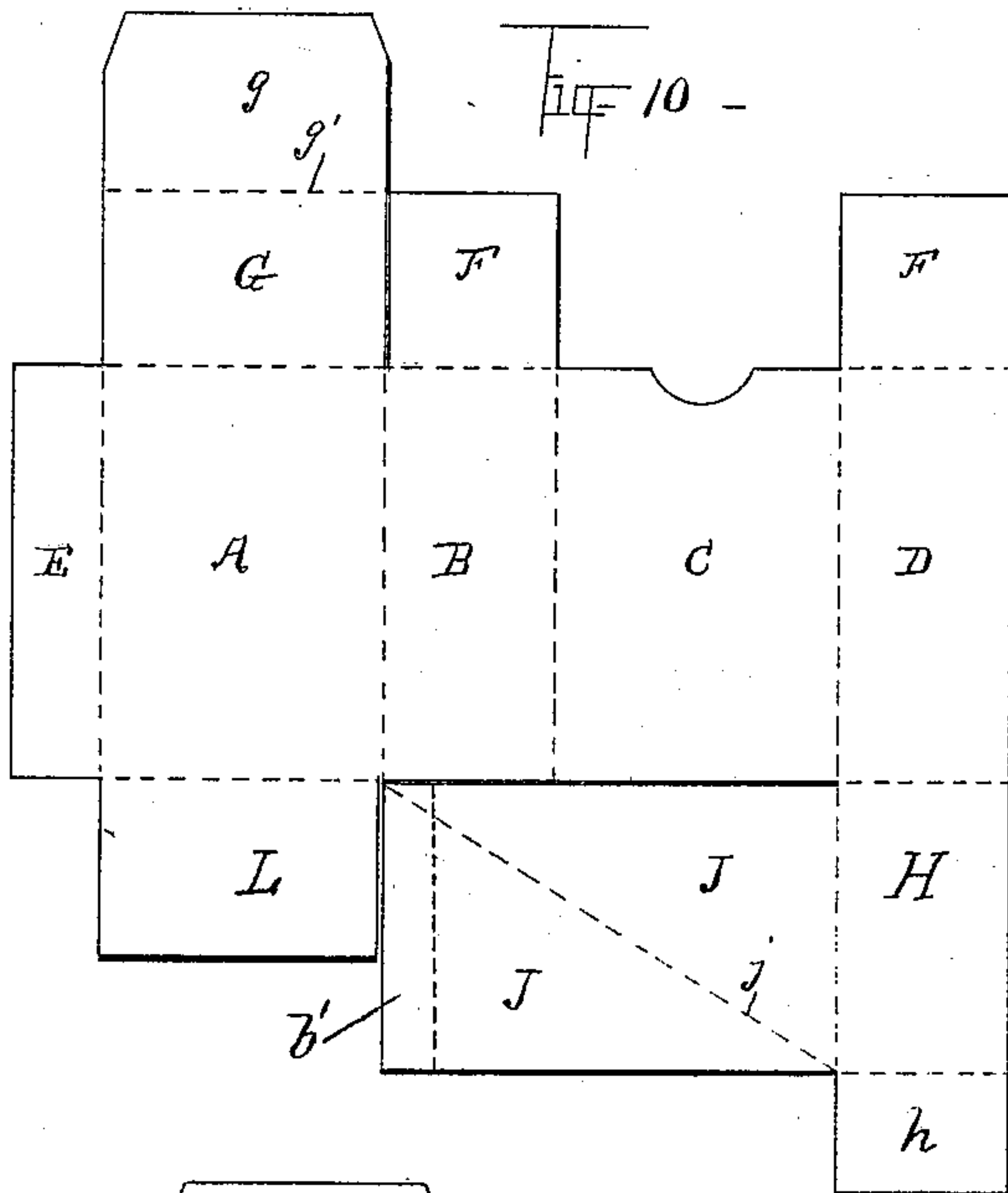
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C. O. Pate

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Thos. J. Hall

UNITED STATES PATENT OFFICE.

ALBERT C. LOHMANN, OF AKRON, OHIO.

PAPER-BOX BLANK.

SPECIFICATION forming part of Letters Patent No. 436,141, dated September 9, 1890.

Application filed July 20, 1889. Serial No. 318,170. (No model.)

To all whom it may concern:

Be it known that I, ALBERT C. LOHMANN, a citizen of the United States, and a resident of Akron, county of Summit, and State of Ohio, have invented certain new and useful Improvements in Paper-Box Blanks, of which the following is a specification, the principle of the invention being herein explained and the best mode in which I have contemplated applying that principle so as to distinguish it from other inventions.

My invention relates to paper-box blanks and knockdown paper boxes; and it consists, broadly, of a construction that will permit the inner side flap to be bent or folded so as to be easily and readily tucked up into position after the box has been pasted.

By my construction the box may be set up any time, as well after pasting as before, and it is so readily set up, owing to its peculiar construction, that any one can accomplish it whether expert or not. This materially decreases the cost and adds to the utility of the box.

Another feature of improvement is that the preferred form of blank wastes but little paper and can be continuously scored, cut, and pasted on a machine. This further adds to its cheapness.

Another feature of invention is leaving the faces of all the bottom flaps plain and unscored, whereby they are brought into closer engagement with each other and form a flat solid bottom. This gives greater stability and equilibrium to the box than if one or more of the said bottom faces were scored, which has been the construction heretofore necessary, in order to permit the insertion in position of the inner side flap.

Referring to the drawings, Figure 1 is a plan view of the box-blank in open flat position. Fig. 2 is a plan view of the box-blank after being pasted and the inner side flap being folded on its diagonal score. Fig. 3 is a perspective view of the partly-completed box, showing the inner side flap partially inserted into its position, the other flaps being left in open position. Fig. 4 is a perspective view of the box, showing the inner side flap in-

serted in its final position, the bottom corner-flap also being in position, and the bottom tuck-flap as well as the top flap being shown in partially-folded position. Fig. 5 is a plan view of a modified form of box-blank in open flat position. Fig. 6 is a plan view of this modified form of the box-blank after being pasted and the inner side flap being folded on its diagonal score. Fig. 7 is a perspective view of this modified form, showing a partly-completed box having the inner side flap partly inserted into its position, the other flaps being shown in open position. Fig. 8 is a back plan view of the box after the inner side flap is fully inserted into position. Fig. 9 is a side view of the box complete, with the exception of the top and bottom tuck-flaps being left in partly-open position. Fig. 10 is a plan view of a second modified form of box-blank in open flat position. Fig. 11 is a plan view of this second modified form of the box-blank after being pasted and the inner side flap being folded on its diagonal score. Fig. 12 is a perspective view of the second modified form, showing a partly-completed box having the inner side flap partly inserted into position, the other flaps being shown in open position. Fig. 13 is a perspective view of this second modified form with the inner side flaps and bottom flaps in closed position, the upper flaps or cover-flaps being shown in partly-open position.

A piece of box-paper or straw-board is so scored as to define the four sides A B C D of the box and the paste-flap E. The sides B and D may be considered as the side panels and A and C as the front and rear panels, respectively. The side cover-flaps or top flaps F are also cut out, as well as top or cover tuck-flap G, that is provided with tuck *g*, the score *g'* defining the line between G and *g*.

The following description refers particularly to the form of box shown in Figs. 1, 2, 3, and 4. The bottom portion of the box-blank is cut and scored so as to form the following flaps and tucks: bottom tuck flap L, provided with tuck *l*, plain cross bottom flap H, and inner side tuck-flap J, that is provided with the oblique or diagonal score *j* on its side-engag-

ing face, which, in the form shown in Fig. 1, engages with side C. It is not necessary that the score *j* extend from corner to corner; but it may extend obliquely or in any direction that will permit the tuck-flap J to be inserted in position. Top flap *b'* is also formed by scoring, as shown in Figs. 1 and 10, and when the box is in complete form is folded into engagement with flaps F, as shown in Figs. 4 and 13. Plain corner-flap K is also formed, and, taken together with the flap J, the conjoint form of the two is rectangular. It will be noticed that the tuck-flap L is connected with the side A and with it only. Corner-flap K is connected with side B, but is otherwise free, and cross bottom flap H is connected with side D and also with inner tuck-flap J. It will be further noticed that all of the bottom flaps, or, in other words, the flaps that go to form the bottom of the box—viz., L, K, and H—have plain unscored faces, whereby the box when in completed set-up position has a perfectly flat level bottom to stand on, and thus possesses greater stability of equilibrium than as though any of said bottom flaps were scored or otherwise made with an uneven surface. It will also be observed that said bottom flaps, together with said inner tuck-flap, when in open position conjointly form a rectangle, whereby they may be cut from a continuous strip of box-paper without loss or waste of the material. In setting up the box the oblique or diagonal score *j* permits the inner side flap J to be folded upon itself, and thereby renders said flap easy of insertion into its position in engagement with side C. When it is once inserted in said position, said inner side flap may be unfolded and flattened out, so as to form a flat, smooth, and unbroken surface for the inner front face of the box. The tuck-flap J greatly strengthens the box and also serves to hold the tuck-flap *g* in closed position, as said flap *g* is tucked in between flap J and side C. The corner-flap K is turned up into position at right angles to side B, and it, together with cross-flap H and bottom tuck-flap L, forms a tight corner at one end of the box, said corner being of triple thickness. The other corner of the box is necessarily tight also by reason of cross-flap H being connected with side D. The box or box-blank may be shipped in the flattened knockdown position shown in Fig. 2 after being pasted, in which figure the inner side tuck-flap J is shown as it may be folded upon itself to insure its ready and easy insertion into finished position.

In the first modified form shown in Figs. 5, 6, 7, 8, and 9 the construction of the sides A B C D E, together with the top flaps F G *g*, are similar to the first form, the only difference being the relative construction or location of the bottom flaps with respect to each other and to the side flaps. In this form bottom tuck-flap L is connected with side A, cross bottom flap H is connected with side B, and inner side tuck-flap J is rectangular in

form, but is provided with its oblique score *j*, said inner side flap J being connected with H. E is the paste-flap. A second cross bottom flap H is also formed connected with paste-flap E. The manner of setting up this box is identical to that described for the preferred form in all essentials, and will not therefore be described.

In my second modified form shown in Figs. 10, 11, 12, and 13 the top or cover flaps, as well as the respective side flaps A B C D E, are exactly identical with my preferred form. The bottom flaps and inner side flaps differ as follows: The bottom tuck-flap H is connected with the side panel D and is provided with the tuck-flap *h*, and is also connected with the inner side flap J, which is rectangular in form, while the bottom cross-flap L is without a tuck-flap and is connected with the side panel A.

The manner of setting up this form of blank is obvious after a description of the preferred form has been read, and therefore will not be described here.

Let the scores defining the separation of panels E and A, A and B, B and C, C and D, and H and J be considered the longitudinal scores of the blank and the cuts parallel with said scores as the longitudinal cuts of the blank. Let the planes inclosed by said scores and cuts be regarded as the longitudinal planes of the different panels of the blank, while the scores and cuts located at right angles to the longitudinal scores and cuts may be designated as the "transverse" scores and cuts, and the planes inclosed by said transverse lines may be called the "transverse" planes. Thus when I speak of two panels lying in the same longitudinal plane with each other, I mean lying in a plane bounded by the same longitudinal lines, which, as heretofore stated, are lines bounding the long sides of panels E, A, B, C, and D, lines in extension of the same or parallel therewith, and when panels or flaps are spoken of as located in the same transverse planes is meant panels bounded by the same transverse lines, which are the scores and cuts extending at right angles to the longitudinal lines. It will be noticed in all the forms that the bottom flap H lies in the same longitudinal plane with one of the side panels and in a different longitudinal plane from the plane in which is located the top tuck-flap *g*, and that in all the forms the bottom flap, with which the inner side tuck-flap J is integral, lies in the same longitudinal plane with one of the side panels, and that said bottom flap is located in a different longitudinal plane from the top tuck-flap *g*; also, that the inner side tuck-flap J is in the same transverse plane with the bottom flap, with which it is integral, and is immediately adjacent to the front panel C, with which panel it forms a pocket. In this pocket the top tuck-flap *g* is inserted.

The foregoing description and accompany-

ing drawings set forth in detail forms an embodiment of my invention; but change may be made therein, provided the principles of formation respectively recited in the following claims are employed.

I therefore particularly point out and distinctly claim as my invention—

1. A paper-box blank having a top tuck-flap *g* and a panel *C*, with which said flap is adapted to engage, an inner side tuck-flap *J*, formed separate from said panel *C*, but immediately adjacent thereto, said inner side tuck-flap provided with a score on its side-engaging face, whereby it may be folded into engagement with said panel and form, in conjunction with said panel, a pocket for said top tuck-flap, substantially as set forth.

2. A paper-box blank having a top tuck-flap *g* and a bottom flap *H* located in different longitudinal planes, an inner side tuck-flap *J* integral with said bottom flap and lying in the same transverse plane therewith and provided with an oblique score, whereby it may be folded and tucked into engagement with one of the blank-panels *C* and thereby

form a pocket for said top tuck-flap, substantially as set forth.

3. A paper-box blank having a plain bottom flap, an inner side flap having a scored side-engaging face, a bottom tuck-flap, and a bottom corner-flap whereby a tight bottom is secured, substantially as set forth.

4. A paper-box blank having a plain unscored bottom flap, an inner side flap provided with an obliquely-scored side-engaging face, an unscored bottom tuck-flap, and a bottom corner-flap, substantially as set forth.

5. In a paper-box blank, the combination of a plain unscored bottom flap *L*, inner side flap *J*, provided with an oblique score *j*, and bottom corner-flap *K*, the conjoint form of flaps *K* and *J* being rectangular, substantially as set forth.

In testimony that I claim the foregoing to be my invention I have hereunto set my hand this 18th day of July, A. D. 1889.

A. C. LOHMANN.

Witnesses:

J. B. FAY,

E. E. PATE.