

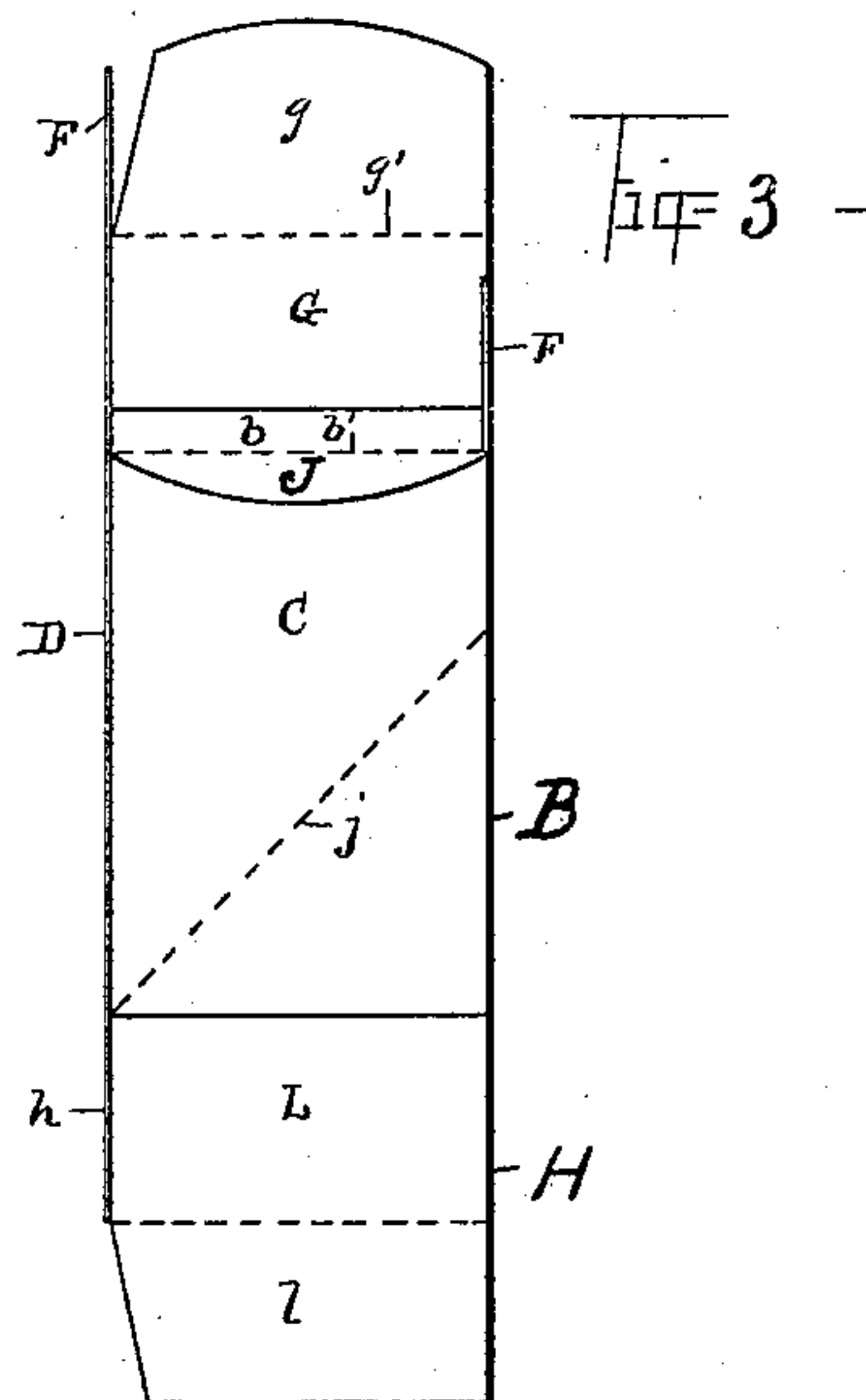
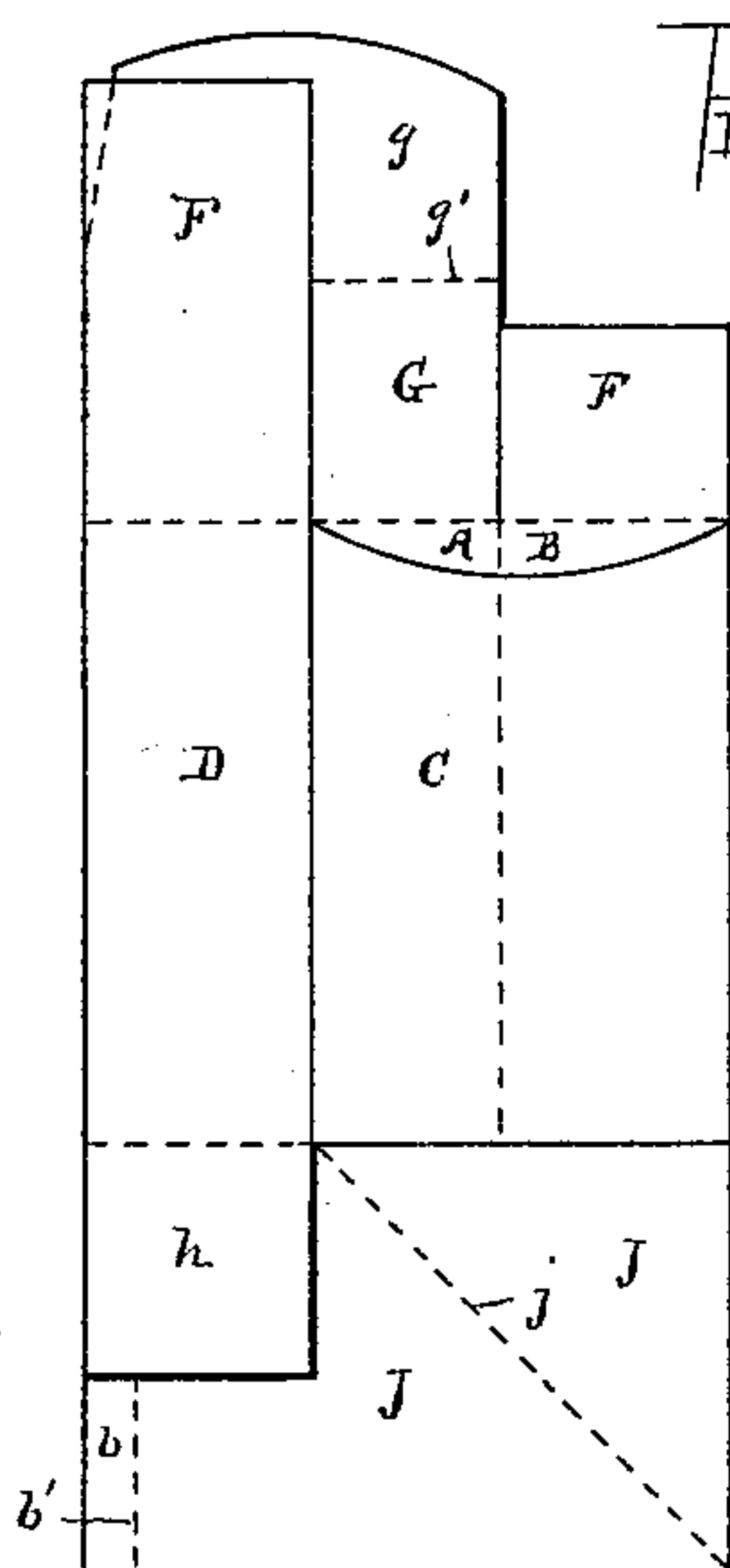
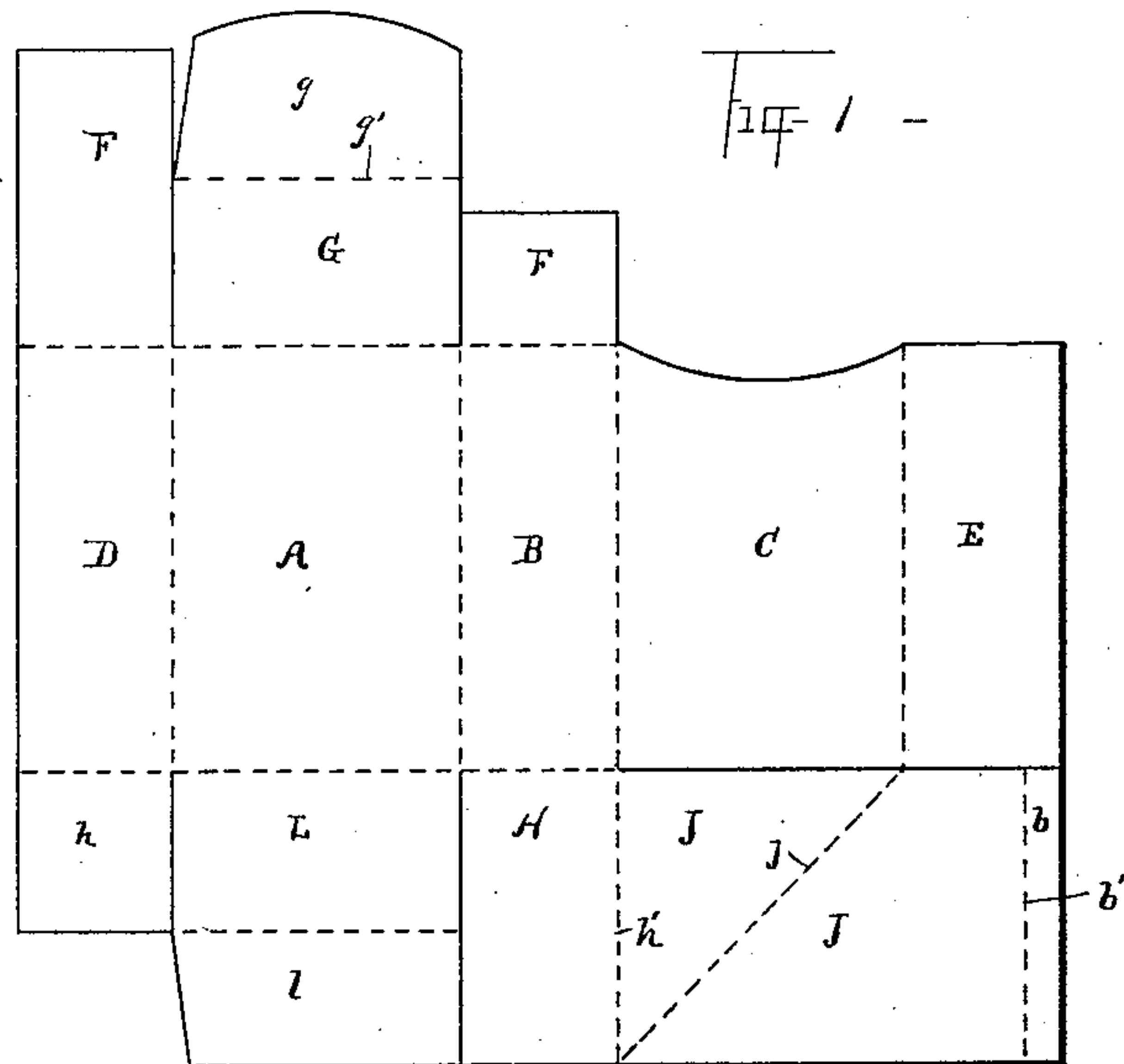
(No Model.)

2 Sheets—Sheet 1.

A. C. LOHMANN.  
KNOCKDOWN PAPER BOX.

No. 436,142.

Patented Sept. 9, 1890.



Witnesses  
N. H. Lay  
O. C. Pate

Inventor  
A. C. Lohmann  
By his Attorneys  
Hall and Gay

(No Model.)

2 Sheets—Sheet 2.

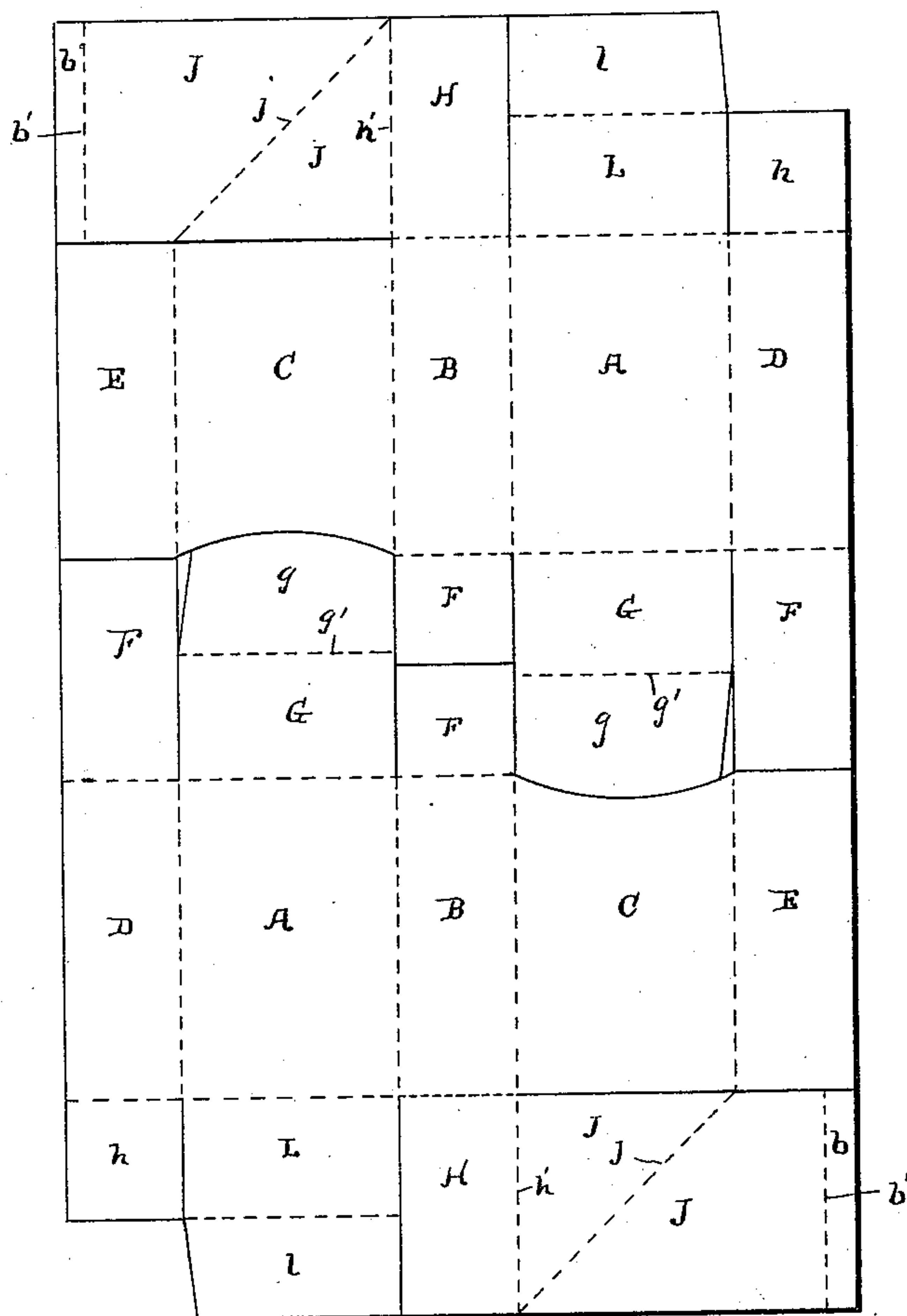
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Fig 4 -



Witnesses  
N. H. Fay  
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Inventor

A. C. Lohmann  
By his Attorneys  
Hall and Fay



# UNITED STATES PATENT OFFICE.

ALBERT C. LOHMANN, OF AKRON, OHIO.

## KNOCKDOWN PAPER BOX.

SPECIFICATION forming part of Letters Patent No. 436,142, dated September 9, 1890.

Application filed January 13, 1890. Serial No. 336,771. (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 Knockdown Boxes, 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 knockdown boxes.

My especial object in this invention is a form of box containing the advantages of the form herein shown, described, and claimed—namely, a box that may be set up at any time, as well after pasting as before, so that it may be shipped in its knockdown form and will not require expert labor to set it up. In combination with the above feature I form the side panels of the box and the paste-flap of equal width, whereby I am enabled to cut the blanks continuously on a machine without waste of material, and make complete boxes identical in appearance, as hereinafter more fully set forth.

In my present form I arrange the scoring on the inner tuck-flap so that it may be cheaply scored on a machine, the angle of the score being such that the same machine may be used to secure any-sized box by an easy adjustment, whereas in other cases the angle of said score was such that it was with great difficulty the adjustment could be made for scoring each variation in the size of the box.

It will be understood that in machines for scoring and making boxes the scoring knives or instruments are set up and secured to a cylinder, and it is far easier to secure said scoring-knives so as to form scores at right angles to each other or at angles of forty-five degrees to each other than at any other angle. On the other hand, if the diagonal score of the inner tuck-flap in a small-sized box is extended in a direction at variance from forty-five or ninety degrees, with every variation in the size of the panel containing said score a corresponding change in the angle of said score relative to the other scores of the panel would be absolutely necessary, and time, labor, and expense would thus be wast-

ed. To any one skilled in the art of box-making by machinery this will be evident, and to such a one the importance and advantage of the form of box herein described will be obvious.

Figure 1 is a plan view of a box-blank formed according to this invention. Fig. 2 is a plan view of the box in knockdown form ready for shipping. Fig. 3 is a front elevation view of the box with the inner tuck-flap folded into position; and Fig. 4 is a plan view of two companion blanks illustrating how they interfit with each other.

A piece of straw-board or other box material is so scored as to define front and rear panels, respectively, C and A, and side panels B and D, and the paste-flap E. The top corner tuck-flaps F are respectively integral with the panels B D. The usual top or cover tuck-flap G is also provided, and integral with this is tuck-flap g. The bottom portion of the box-blank is cut and scored so as to form bottom panel L integral with rear panel A, said bottom panel being provided with bottom tuck-flap l. The bottom corner tuck-flap h is integral with panel D, and bottom panel H is integral with side panel B, but free from bottom panel L. The inner side flap J is formed integral with bottom panel H and free from front panel C. Top tuck-panel b is integral with inner side tuck-flap J, the score b' defining the separation of the two. The inner side tuck-flap J is provided with the diagonal score j, that extends at an angle of forty-five degrees from lower extremity of score h', which outlines the separation between panels H and J. In other words, said score j extends from the lower corners of panels H and J to a point where the upper free edge of panel J meets the lower common corners of panels C and paste-flap E. The tuck-flap J greatly strengthens the box and also serves to hold tuck-flap g in closed position, as said flap g is tucked in between flap J and C, and the weight of the box contents pressing against flap J serves to bind flap g between J and C. The distance from score h' to score b' should be equal to the length of panel C, in order that the inner tuck-flap J may extend the entire length of panel C. The flap b may then be bent over as an aid to securing a tight cover. Under the construction above de-



scribed the distance of score  $j$ , where it intersects panels C and E, from the common point of intersection of panels J C B H is equal to the width of panel C, and in this form of box said score  $j$  is always formed at an angle of forty-five degrees to score  $h'$  and the cut that separates panels C and J. It will further be noticed that the length of bottom panel H and width of panel C are equal. Thus score  $h'$  and the cut separating panel C and flap J, together with score  $j$ , outline an isosceles triangle, of which the score-line  $j$  is the base.

It will be noticed that paste-flap E is of the same width as panels B and D, so that either of the outer panels E or D may be used as a paste-flap. This forming the outer flaps of equal width enables me to reverse the blank and fit the heads of the same together, as shown in Fig. 1, and I can thus continuously score and cut said blanks on a machine without waste of material. This is a point of great utility, particularly in boxes formed with an inner tuck-flap and such as I herein show, as otherwise they could not be cut continuously on a machine nor without great waste of material. It will be further noticed that the top tuck-flap  $g$  and the bottom flap H are located in different planes at right angles to each other in the complete box and in different longitudinal planes in the blank—that is, H does not lie in the same longitudinal plane bounded by scores bounding flap  $g$  and panels G A L and flap  $l$ , while B and H lie in the blank in the same longitudinal plane, but in the completed box are in planes at right angles to each other and at right angles to the plane of the top tuck-flap  $g$ , said flap H and panel B being integral and separated

only by a score-line at the bottom edge of the box.

The foregoing description and accompanying drawings set forth in detail forms embodying my invention; but change may be made therein, provided the principles of formation respectively recited in the following claim are employed. I therefore particularly point out and distinctly claim as my invention—

A knockdown paper box provided with front and rear panels C and A, side panels B, D, and E, of equal width, whereby either of the extreme side panels may be used interchangeably as a paste-flap, top tuck-flap  $g$ , and bottom flap H, located in different planes at right angles to each other in the complete set-up box, said flap H and the central side panel B being located in the completed box in planes at right angles to each other and at right angles to the plane of the tuck-flap  $g$ , and the flap H being integral with the panel B, inner tuck-flap J integral with the flap H and separated therefrom by a score  $h'$ , said flap J free from but immediately adjacent to the front panel C and extending across the entire width of said panel and provided with the diagonal score  $j$ , extending at an angle of forty-five degrees from the score  $h'$ , whereby the said panel J may be folded and inserted within the box to form a pocket for the top tuck-flap  $g$ , substantially as set forth.

In testimony that I claim the foregoing to be my invention I have hereunto set my hand this 8th day of January, A. D. 1890.

A. C. LOHMANN.

Witnesses:

J. B. FAY,  
N. H. FAY.