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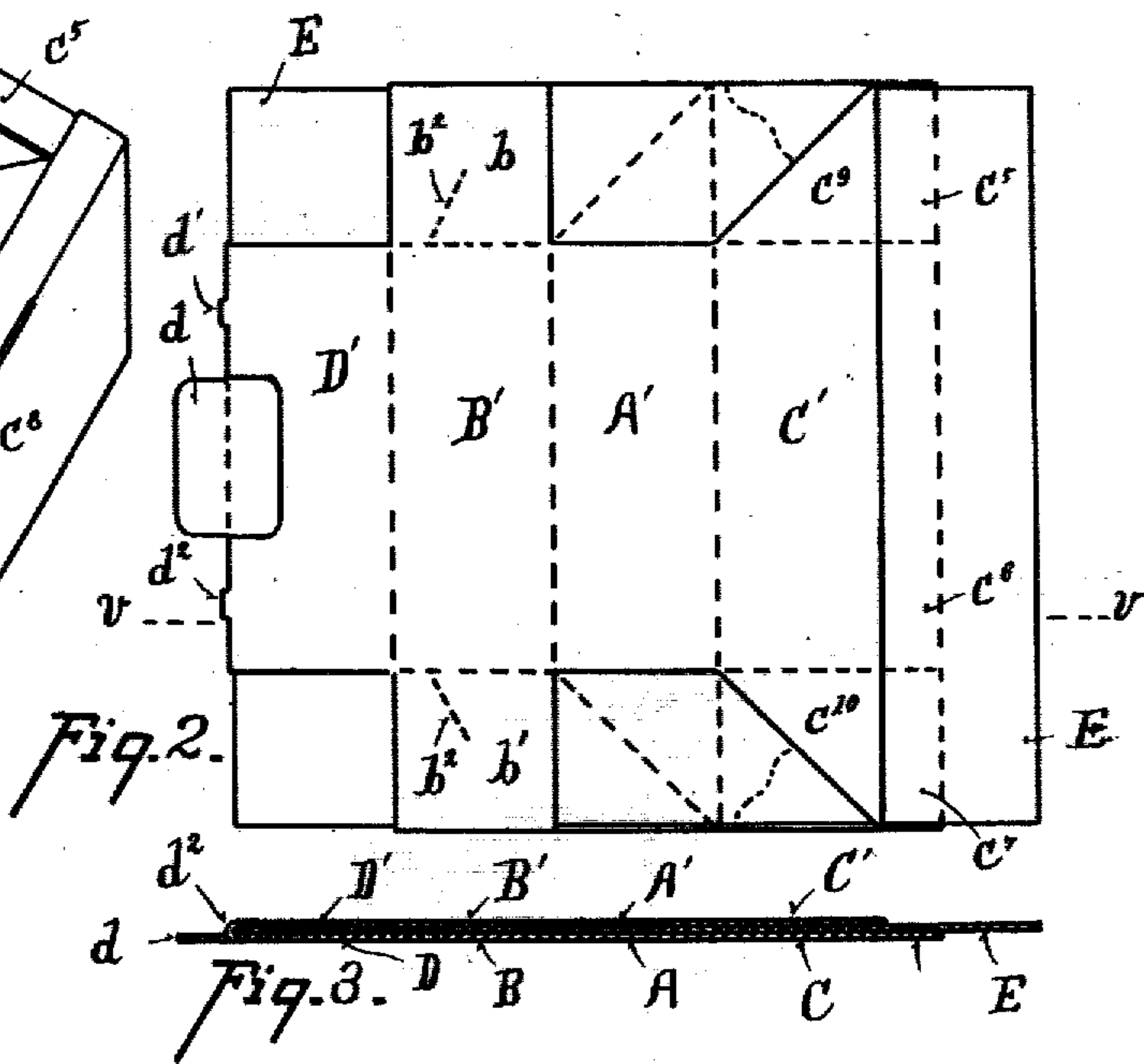
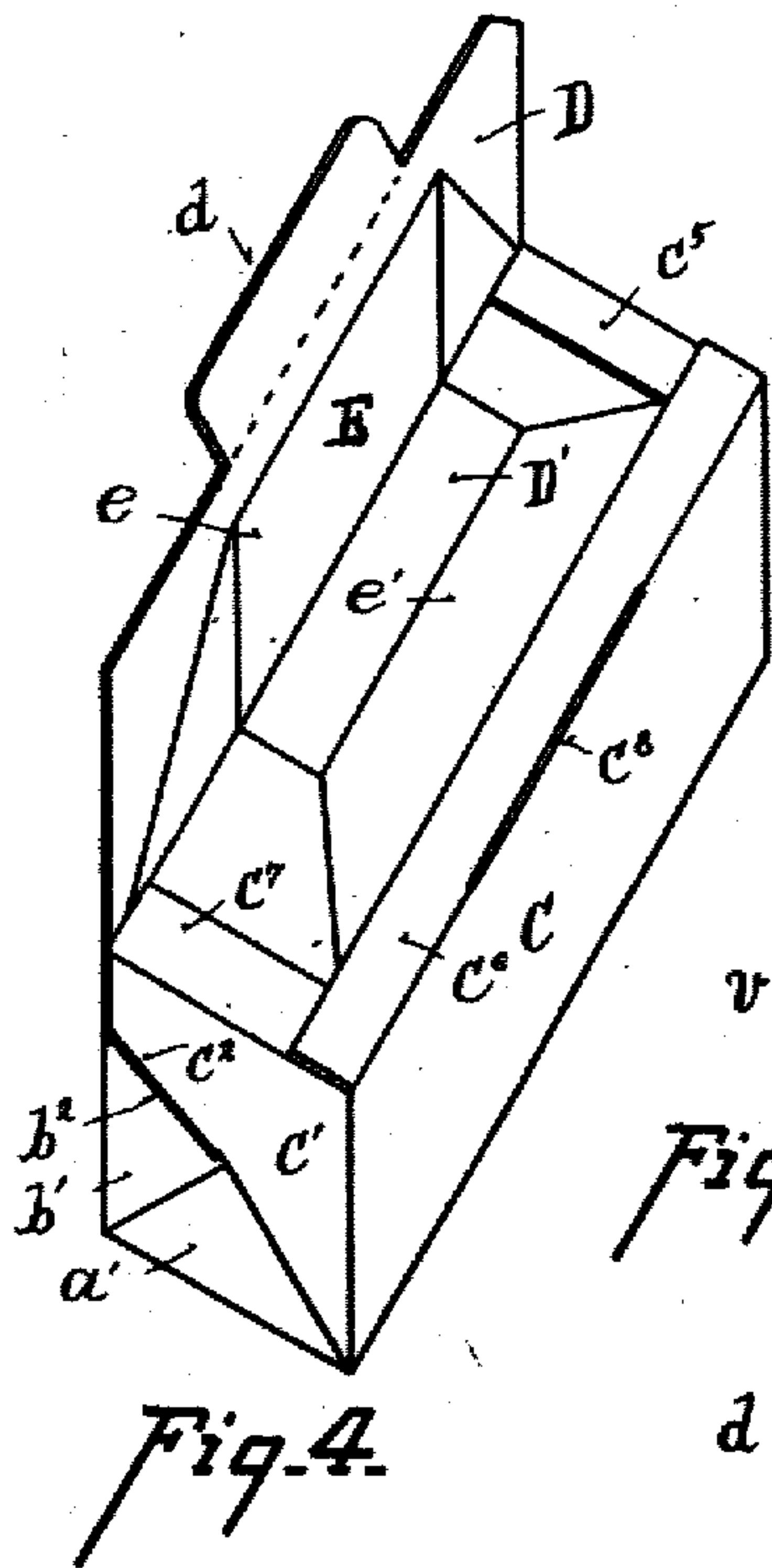
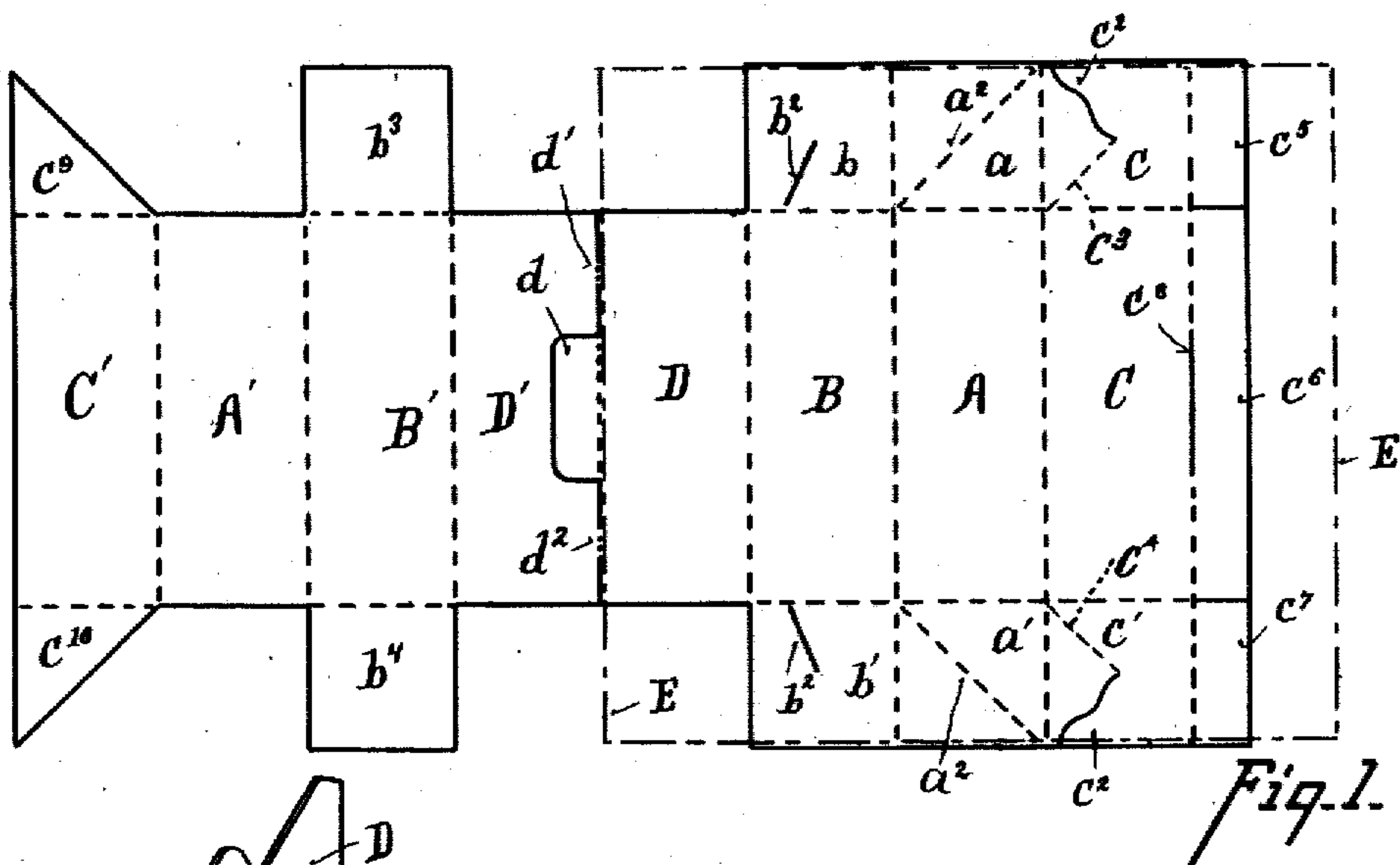
PATENTED JULY 10, 1906.

F. KNOBELOCH.

PAPER BOX.

APPLICATION FILED DEC. 18, 1902. RENEWED DEC. 18, 1906.

4 SHEETS—SHEET 1.



Inventor

Frank Knobloch

Witnesses

Morris H. Ducker
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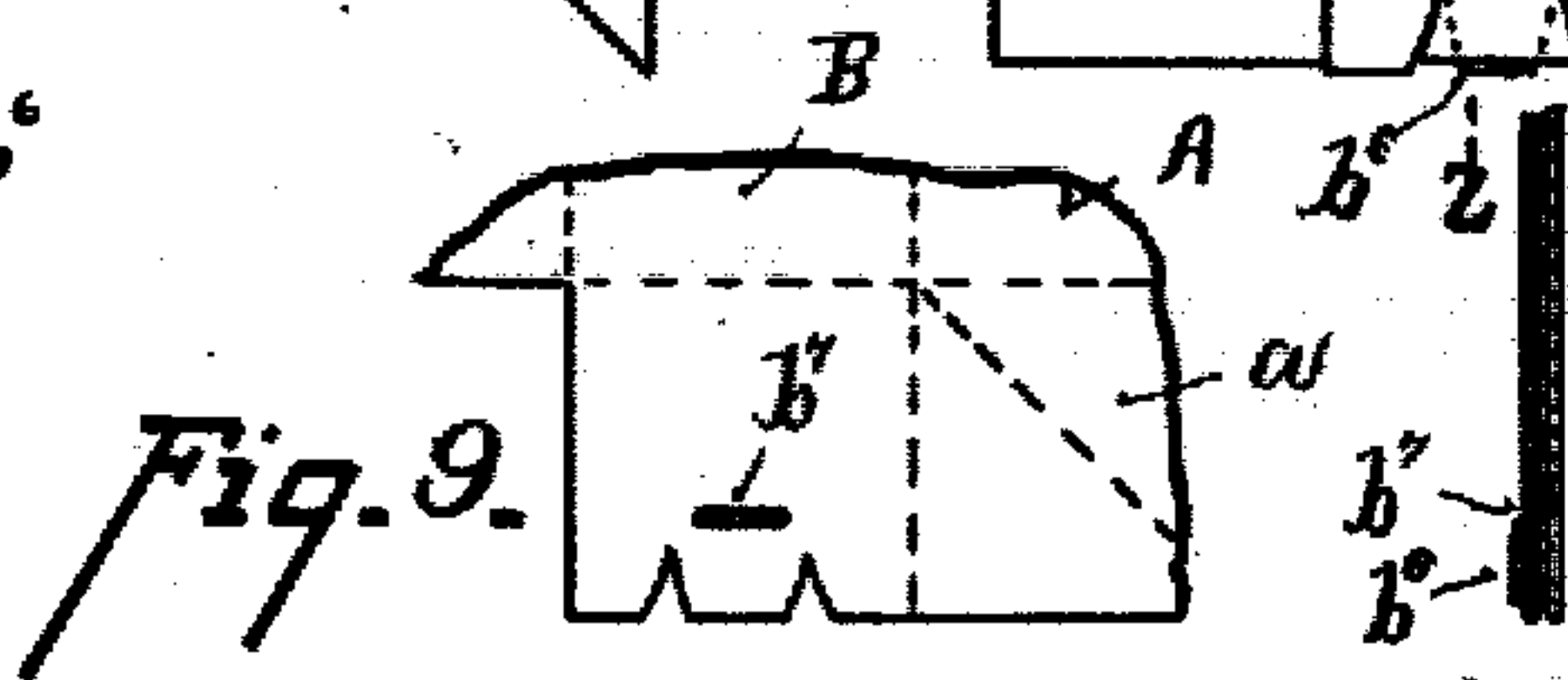
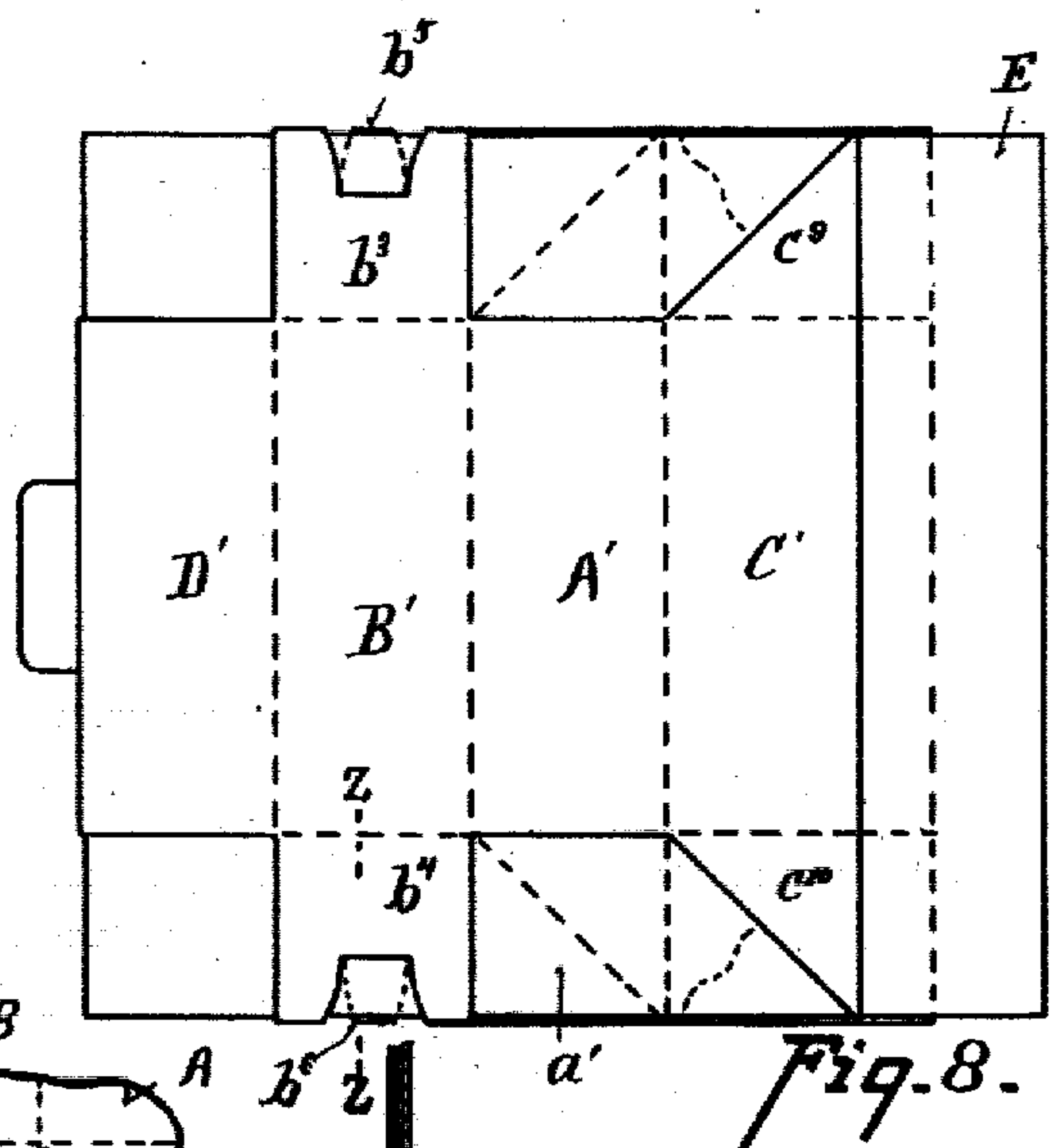
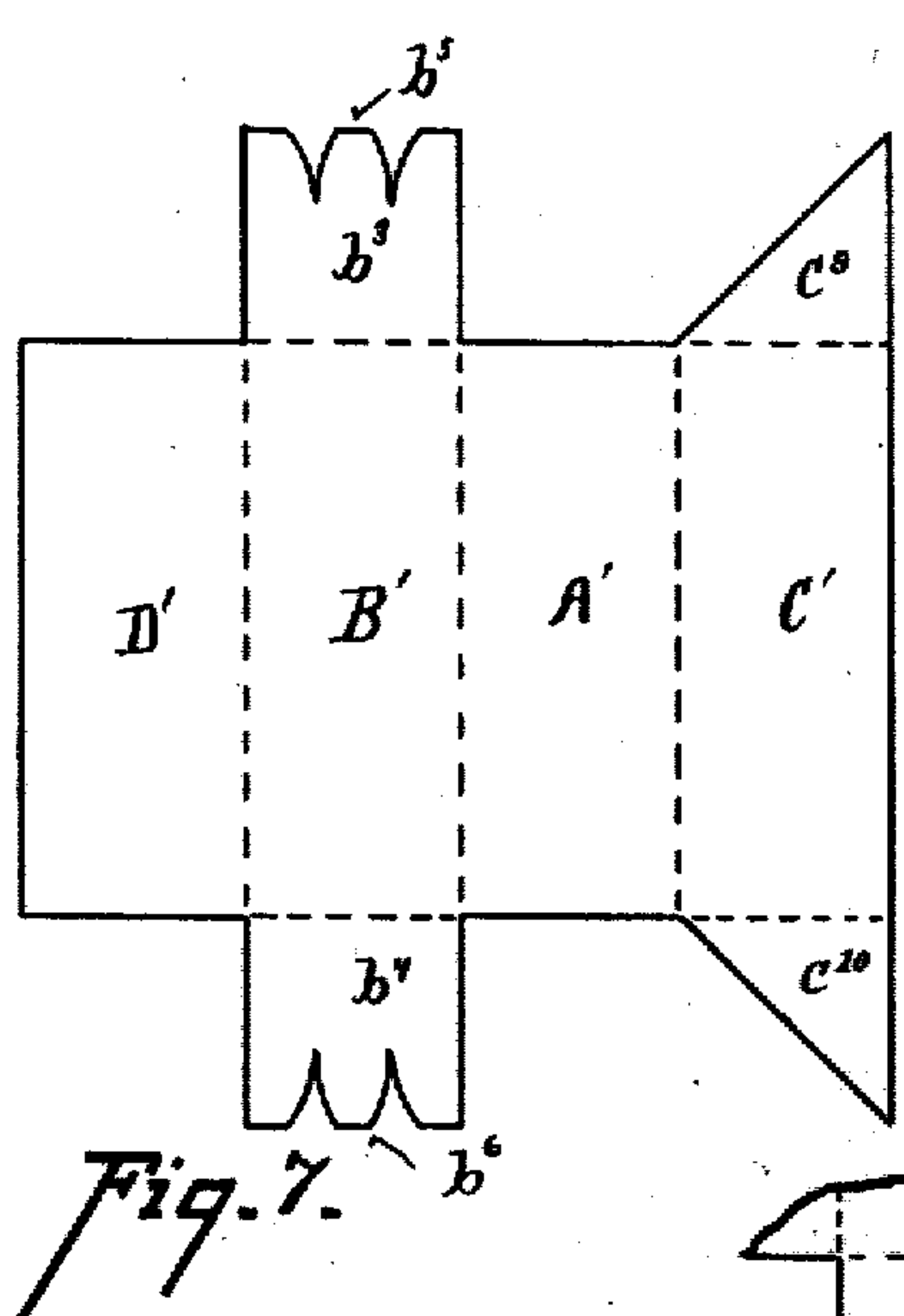
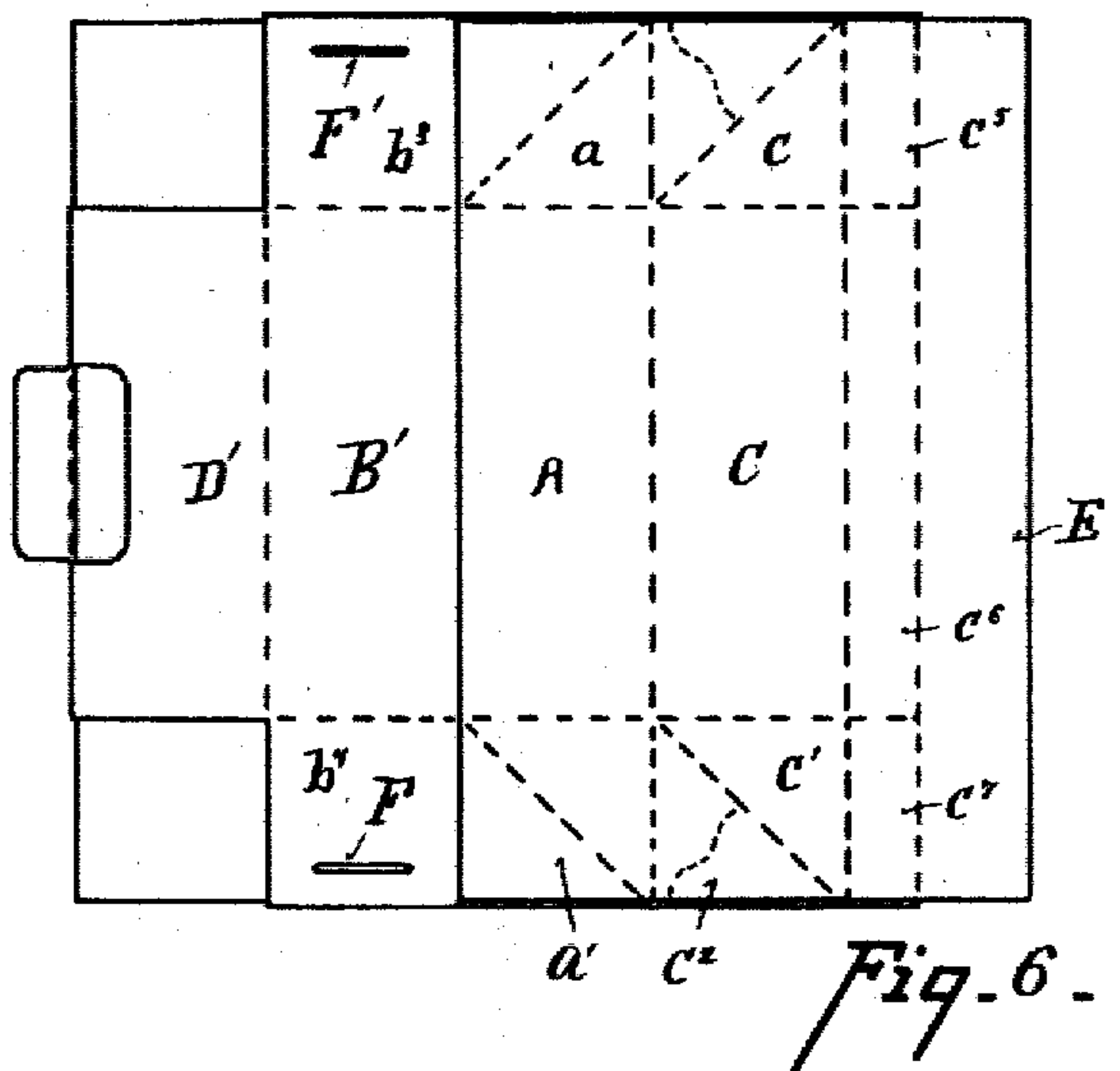
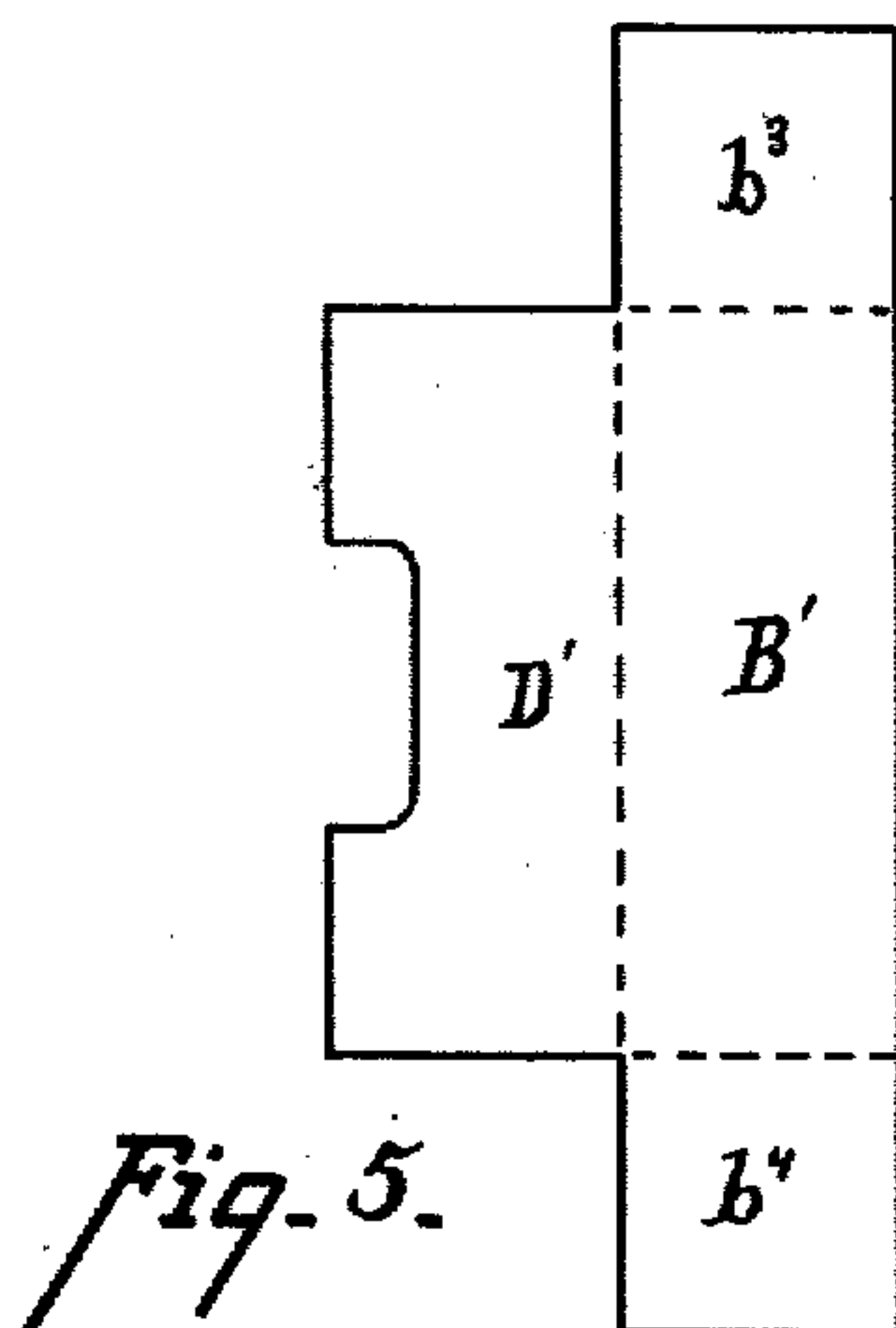
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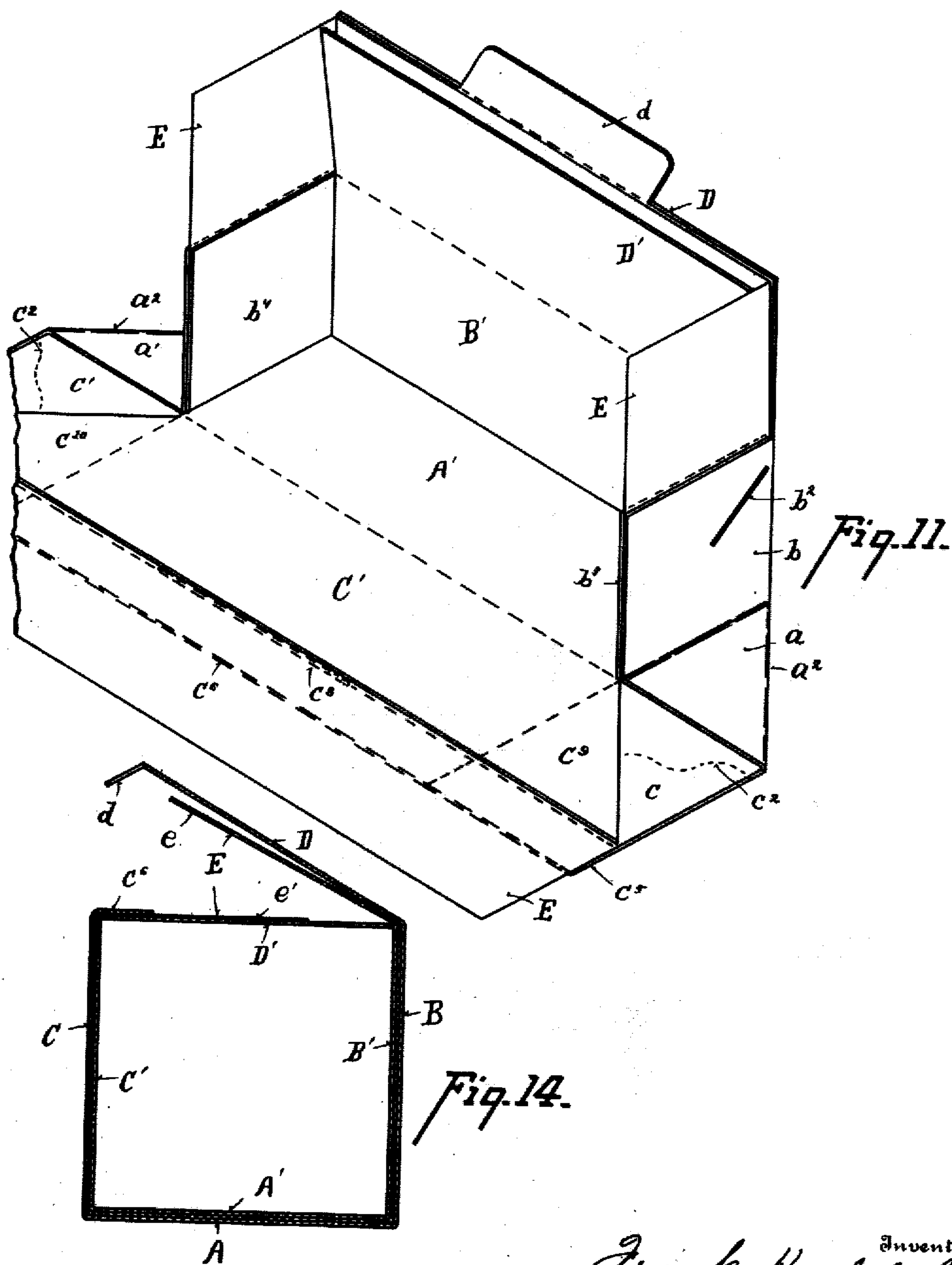
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Witnesses

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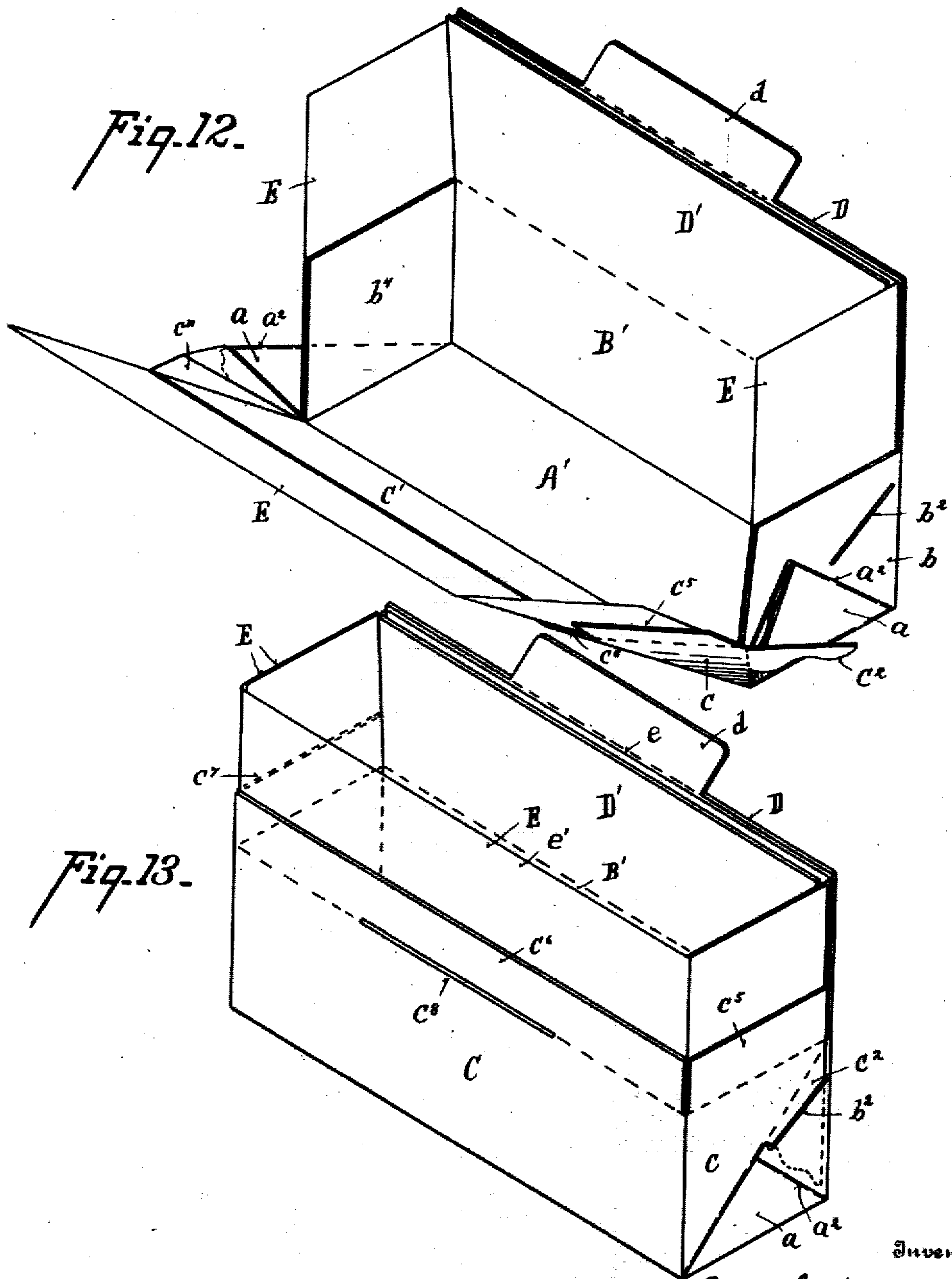
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UNITED STATES PATENT OFFICE.

FRANK KNOBELOCH, OF DAYTON, OHIO.

PAPER BOX.

No. 825,544.

Specification of Letters Patent.

Patented July 10, 1906.

Application filed December 19, 1902. Renewed December 18, 1905. Serial No. 292,270.

To all whom it may concern:

Be it known that I, FRANK KNOBELOCH, a citizen of the United States of America, and a resident of Dayton, county of Montgomery, State of Ohio, have invented certain new and useful Improvements in Paper Boxes, of which the following is a specification.

My invention relates to a box formed from blanks of paper of a heavy and of a light texture laid one upon the other and folded up together, which keeps its contents proof against both a dry and a moist atmosphere. Its object is to provide a means for facilitating the folding of the light and the heavy paper together to form the box.

A further object is to provide a box which is more proof than those now in use against the varying conditions of the atmosphere.

These objects are attained by the means shown in the accompanying drawings, in which—

Figure 1 is a plan view of a blank of heavy paper, shown in full line, and in dot-and-dash line showing the blank of light paper. Fig. 2 is a similar view of the same after the heavy blank has been folded upon itself, the lining-blank of light paper being shown here in full lines. Fig. 3 is a sectional view taken upon line *v v* of Fig. 2. Fig. 4 is a perspective view of the box before the cover is closed. Fig. 5 and Fig. 6 show plan views of modified forms showing a different manner of holding the light paper and the heavy together. Fig. 7 and Fig. 8 are similar views of another modified form. Fig. 9 is a detail view of a part of the exterior blank of heavy paper, showing the means of securing the lighter paper in place. Fig. 10 is a sectional view taken upon line *z z* of Fig. 8. Fig. 11 is a perspective view showing the first step in folding blanks upward to form the box. Figs. 12 and 13 are perspective views illustrating the second and third steps in the folding. Fig. 14 is a sectional view of the completed box.

Referring to the parts, the primary blank of heavy paper which forms the exterior of the box is of the same shape in all of the modifications. This part of the blank is scored to form four central rectangular figures or sections—to wit, the bottom section A, the front and rear side sections B and C, and the top section D. At each end of the central sections are extensions integral therewith, separated by scoring only into end sections corresponding in width to the contig-

uous central sections. Thus *a a'* represent the end sections in line with the bottom A, each of which is provided with a diagonal score *a²*. *b b'* represent the end sections in line with the rear side section B, each of which is provided in this instance with a locking-slit *b²*, and *c c'* represent the end sections in line with the front side section C, each of which is provided with a locking-tongue *c²*, formed by a substantially diagonal cut which extends from the outer edge of the end section adjacent to one of the central end sections *a a'* to a point near the center of section *c* or *c'*. Each of the end sections *c c'* is also provided with a score *c³ c⁴*, extending from the termination of the cut above referred to adjacent to the center of the section diagonally to the adjacent corner of bottom section A, as shown in Fig. 1. It will thus be seen that the lateral integral end folding sections are three in number, the central end sections *a a'* being scored diagonally and the others provided with the described interlocking devices—to wit, the slit *b²* and tongues *c²*. Along the alined edges of the front side section C and end sections *c c'* are folding flaps *c⁵*, *c⁶*, and *c⁷*, and a slit *c⁸* is provided between the front side section C and flap *c⁵* to receive a securing flap or ear *d*, formed integrally with the cover or top section D. To fold up this blank to form the exterior of the box, the blank is bent along the line dividing side B from bottom A, the ends *a a'* being doubled upon themselves along the line *a²* and the ends *b b'* being bent at right angles along the line dividing them from side B, the exterior then presenting in appearance the form shown in Fig. 11. The folded ends *a a'* are then bent upward against ends *b b'*, as shown in Fig. 12, and then the front side C is bent upward, the end *c c'* doubling along the score *c³ c⁴* and the ears *c²* being inserted into the slits *b²*, as shown in Fig. 4. It is to be noted that the central end sections *a a'* when the box is folded lie between the interlocking end sections.

I will now describe the means for holding the light paper lining in place upon the heavy paper and for causing it to fold readily with the same.

In Fig. 1 I have shown formed integral with the blank of heavy paper just described and connected to it by small tongues *d' d²* a secondary blank consisting of the following parts—viz., a rectangle D' corresponding to D, a rectangle B' corresponding with B, rec-

tangles $b^3 b^4$ at its ends corresponding to $b b'$, a rectangle A' corresponding to a , and a rectangle C' with triangular portions $c^9 c^{10}$. This blank is to be folded about the line between parts $D D'$, so that the parts just described lie flat upon their corresponding parts in the primary blank, the edges of triangular portion $c^9 c^{10}$ registering with the scored lines $c^3 c^4$. Between the heavy paper a rectangular blank of light paper E is placed, which is of a width equal to the width of the blanks of heavy paper and of a greater length than they, so as to extend beyond them, as shown in Fig. 1. In folding up the blank to form the box the parts of the heavy paper forming the exterior of the box are folded in the same manner as afore described. The secondary blank of heavy paper holding the light paper flat upon the primary blank has the folding lines in the secondary blank registering with the folded lines in the primary blank, and the light paper is caused to fold similarly to the heavy paper. Thus when in the first step side B is turned upward about the line between it and bottom A the secondary blank and the light paper likewise fold up about that point, and when ends $b b'$ are bent inward the light paper is caused to fold along the lines a^2 , the secondary blank not having any part to correspond with the ends $a a'$. When the folded parts $a a'$ are turned upward against the ends $b b'$ and as the ends $c c'$ are folded against the ends $a a'$, the light paper is folded along the line registering with line $c^3 c^4$ and with the edges of the triangular flaps $c^9 c^{10}$, which register with the line $c^3 c^4$. After the ears c^3 have been inserted into the slits b^3 , as shown in Fig. 13, the box is ready to receive whatever is to constitute its contents, such as crackers, cakes, &c.

In closing the box the inner cover D' is first turned down over the contents, end flaps $c^5 c^7$ are then turned down, causing the light paper to be folded inward, leaving flaps $e e'$ front and rear, as shown in Fig. 4, then flap c^6 is turned downward, carrying flap e' down, and tongue d is inserted into the slit c^8 to close the box.

It is seen with this construction no former is needed to hold the light paper in place to cause it to fold in the desired manner, the secondary blank holding it in place and causing it to fold along the lines desired. It is seen likewise that with the box just described there is a complete interior and an exterior box of heavy paper, between which lies a complete box of light paper, so that the contents of the box are entirely protected against the effects of varying conditions in the atmosphere.

The modifications shown in Figs. 7 to 10, respectively, differ from that just described only in the following parts. The secondary blank instead of being secured to the primary blank by tongues, such as tongues $d' d^2$,

(shown in Fig. 1) has cut into ends $b^3 b^4$ of the part B' tongues $b^5 b^6$, which project down through slits in the light paper E into the slits b^7 , formed in the ends of portions $b b'$, as shown in Fig. 10. The shape of the secondary blank is the same in this modification as in that aforedescribed. The manner of folding the same together and the form of package resulting is the same as just described.

In Figs. 5 and 6 I have illustrated a modification of the secondary blank which omits the parts $A' C'$ described in the modifications already disclosed, and I fasten the parts together by clips $F F'$, passing down through the parts $b^3 b^4$, through the light paper, and through the end $b b'$. The folds in the primary blank are made in same manner as in the modifications already described, and the secondary blank holds the light paper in place upon the primary blank and causes it to follow the same folds as occur in the light paper in the other modifications.

It is seen that besides facilitating the folding of the parts the secondary blank affords integral ends to the interior of the box, so as to cover any fissures which may occur in the interlocking ends of the primary blank, that this, together with the intimate contact with one another with which these inner ends hold the light paper and the primary box, renders the same impervious to the atmosphere, and likewise that when the contents of the box or a portion thereof are removed therefrom that the light paper does not become crumpled, but is retained in shape by the secondary blank.

What I claim is—

1. A blank for a paper box comprising among its members a flat main blank suitably cut and scored, a former-blank superposed upon the main blank and having cut and scored portions adapted to register with similar portions of the main blank and a lining consisting of a separate sheet of thin paper interposed between the main blank and the former-blank whereby when said blank is folded the former-blank serves as a former for the lining and remains a permanent part of the box when folded, substantially as described.

2. A blank for a paper box comprising among its members a flat main blank suitably cut and scored, a former-blank superposed upon the main blank and having parts cut and scored to register with parts of the main blank and a lining consisting of a separate piece of thin paper of greater area than the former-blank interposed between the main blank and the former-blank, the said main blank and the former-blank being connected at separated points to hold them in registration, whereby when said blank is folded the former-blank serves as a former for the lining and remains a permanent part of the box when folded, substantially as described.

3. A blank for a paper box comprising among its members a flat main blank suitably cut and scored, a former-blank of less area than the main blank superposed upon the main blank and having cut and scored portions adapted to register with portions of the main blank, a lining consisting of a separate sheet of thin paper interposed between the said main blank and the former-blank and means for connecting said main blank, lining and former-blank at separated points only to hold them together, with the main blank and former-blank in registration, whereby when said blank is folded the former-blank serves as a former for the lining and remains a permanent part of the box when folded, substantially as described.

4. A paper box comprising among its members a main blank, cut and scored to provide, rectangular portions forming the top, bottom and sides of the box and a laterally-extending integral portion at each side, separated only by scoring, into sections adapted to interfold to form the ends of the box, one of said integral sections being scored diagonally and the others of said sections being provided the one with a slit and the other with a locking-tongue, a lining of thin paper, and a former-blank of less area than the lining and main blank and provided with top, bottom and side portions scored to register with the main blank and having lateral portions adapted to interfold between the folds of the end portions of the main blank and force the lining to conform to such interfolding, whereby said former-blank serves as a former for the lining during the folding.

5. A paper box comprising among its members a main blank cut and scored to provide rectangular portions forming the top, bottom and sides of the box and a laterally-extending integral portion at each side, separated only by scoring into sections adapted to interfold to form the ends of the box, one of said integral sections being scored diagonally, a lining of thin paper, and a former-blank of less area than the lining and main blank and provided with top, bottom and side portions scored to register with the main blank, and having lateral portions adapted to interfold between the folds of the end portions of the main blank and force the lining to conform to such interfolding, whereby said former-blank serves as a former for the lining during the folding operation and remains a permanent part of the box when folded, substantially as described.

6. A box made from a primary blank of heavy paper, with rectangles scored thereon to form the bottom, the sides, the top and the ends of the box, a sheet of light paper to be laid upon the primary blank and a secondary blank of heavy paper laid upon the light paper and corresponding in shape and scoring to the portion of the primary blank upon which it lies, tongues formed in the ends of the secondary blank to project through the light paper and the primary blank to hold the same thereon when the three are folded up together, substantially as shown and described.

7. A box made from a primary and a secondary blank of heavy paper with an intermediate sheet of light paper, the primary blank having scored thereon four rectangles to form the bottom, the sides and the top and having extensions upon the sides and the bottom portions to be interfolded to form the ends of the box, the sheet of light paper corresponding in width to the primary blank and extending beyond the ends thereof, the secondary blank having rectangles scored thereon, corresponding in shape to the bottom, sides and the top of the primary blank, and having at the ends of one of its sides extensions to form the interior ends of the box, substantially as shown and described.

8. A blank for a paper box cut and scored to provide central rectangular integral sections forming the bottom, sides and top of the box, the bottom and side sections having at each end extensions integral therewith, separated by scoring only, into end sections corresponding in width to the contiguous central sections, the end sections corresponding with the bottom being provided with a single diagonal score and the end sections at either side of said diagonally-scored sections being provided, the one with a locking-tongue and the other with a locking-slit, the end sections having the locking-tongues being also provided with diagonal scores extending from the central portion thereof to the corner adjacent to the bottom section whereby in folding the end of the box the diagonally-scored end section may be folded on said diagonal score to form a portion of the end of the box and lie between the interlocking sections on opposite sides thereof, substantially as described.

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Witnesses:

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