

No. 785,102.

PATENTED MAR. 21, 1905.

F. H. HOUGLAND.
BOX.

APPLICATION FILED MAY 3, 1904.

3 SHEETS—SHEET 1.

Fig. 1.

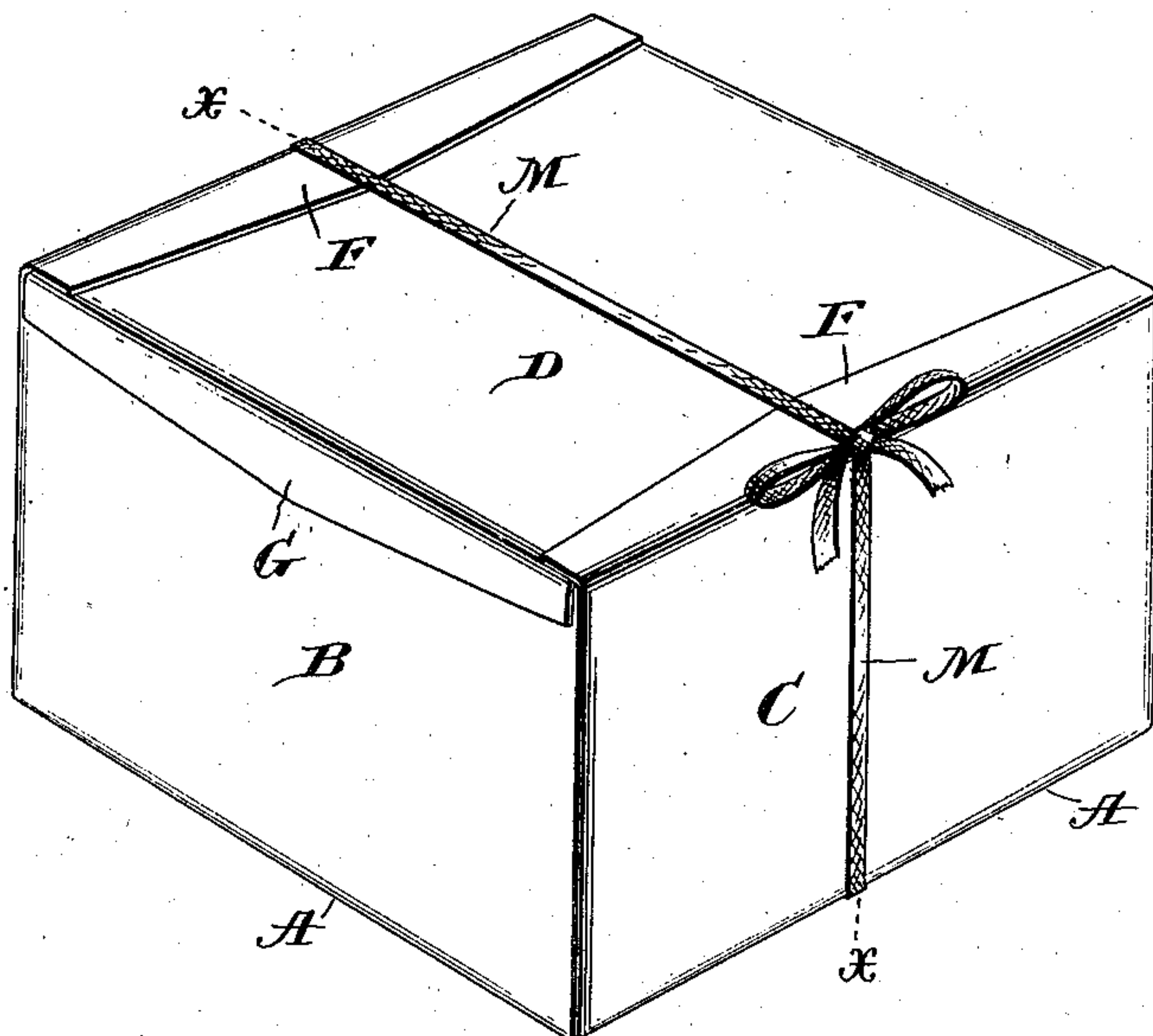


Fig. 2.

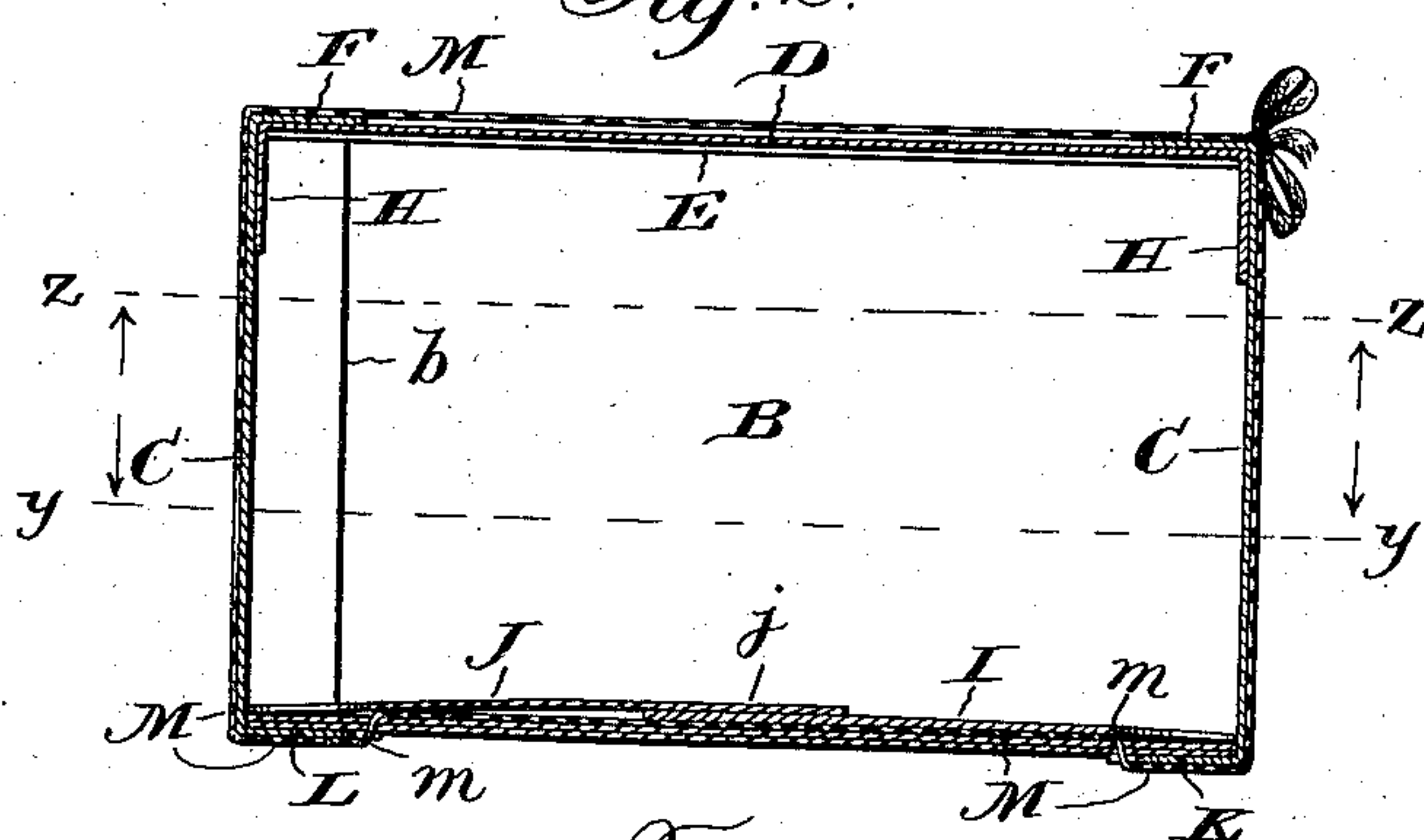
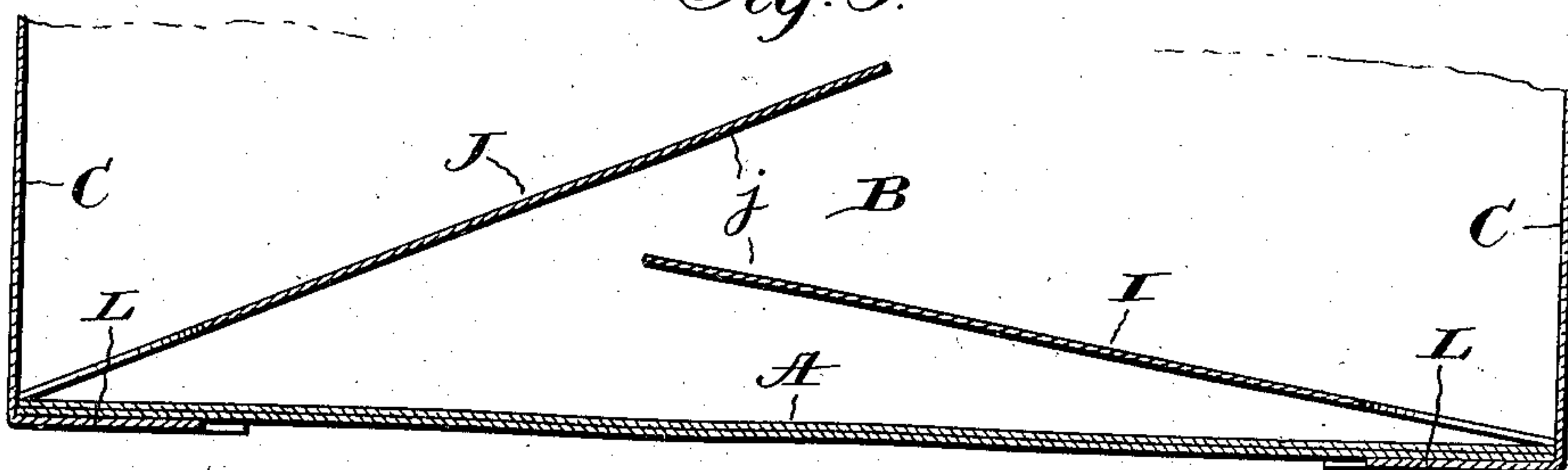


Fig. 3.



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3 SHEETS—SHEET 2.

Fig. 4.

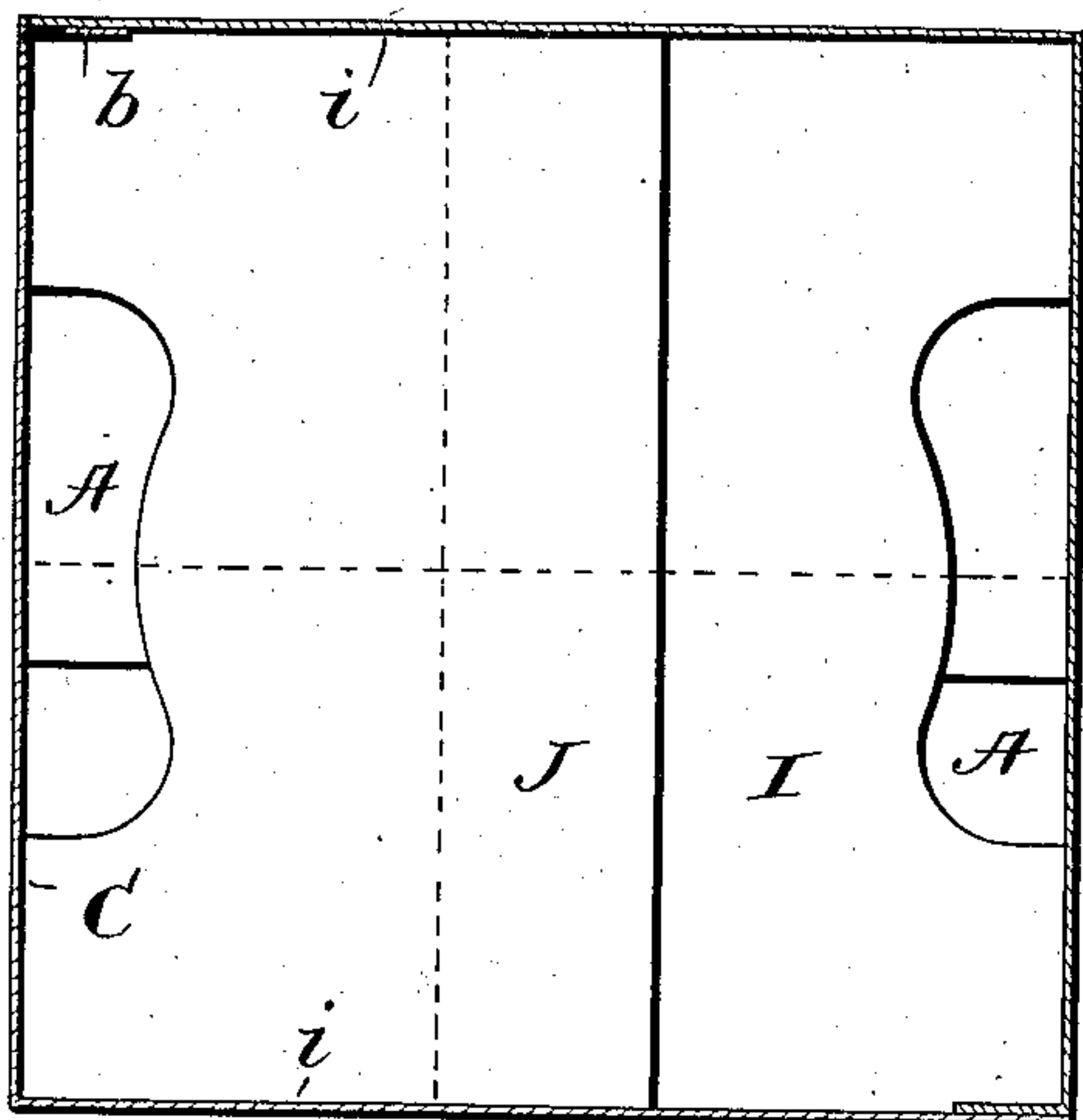


Fig. 5.

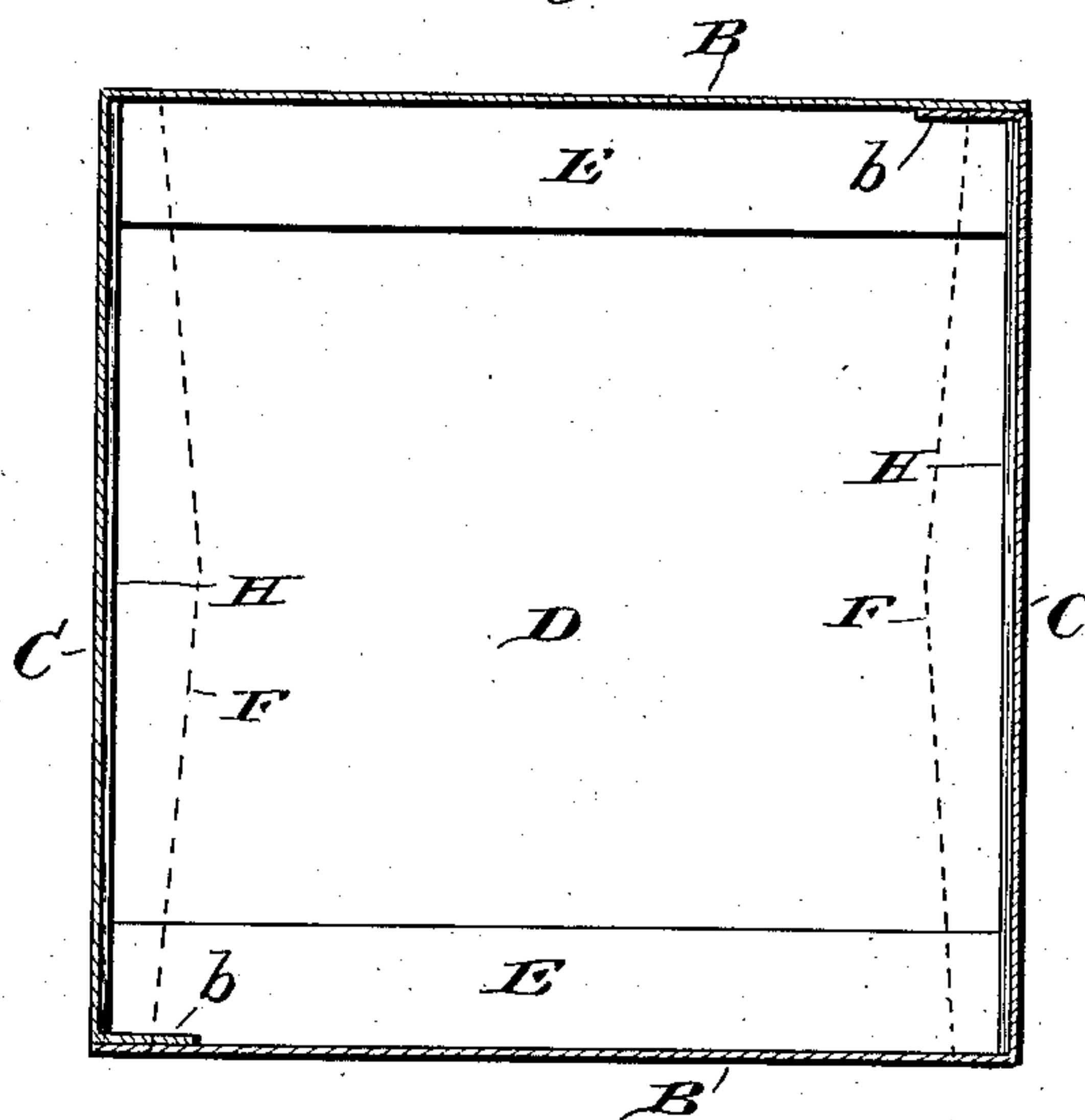


Fig. 6.

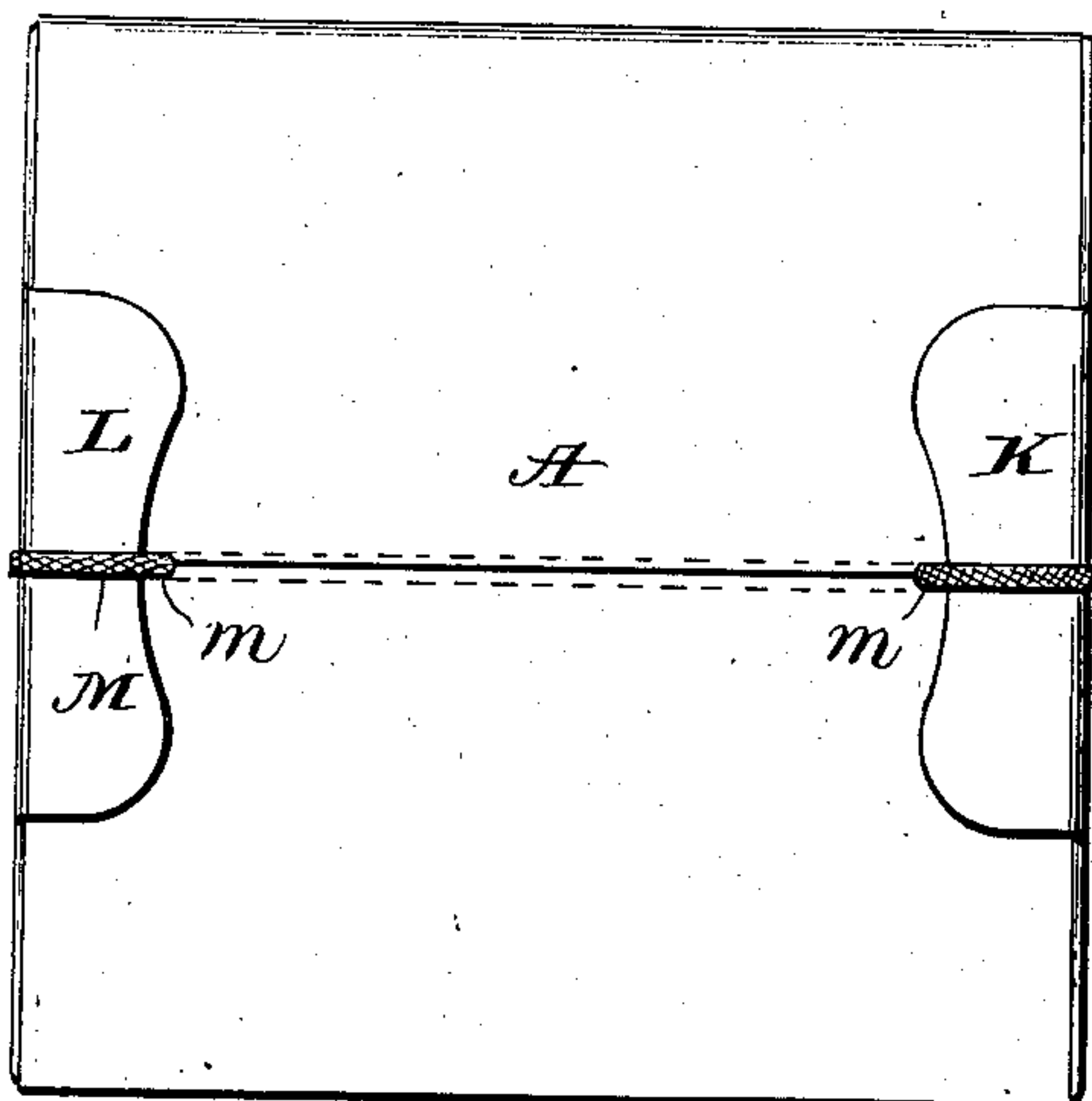
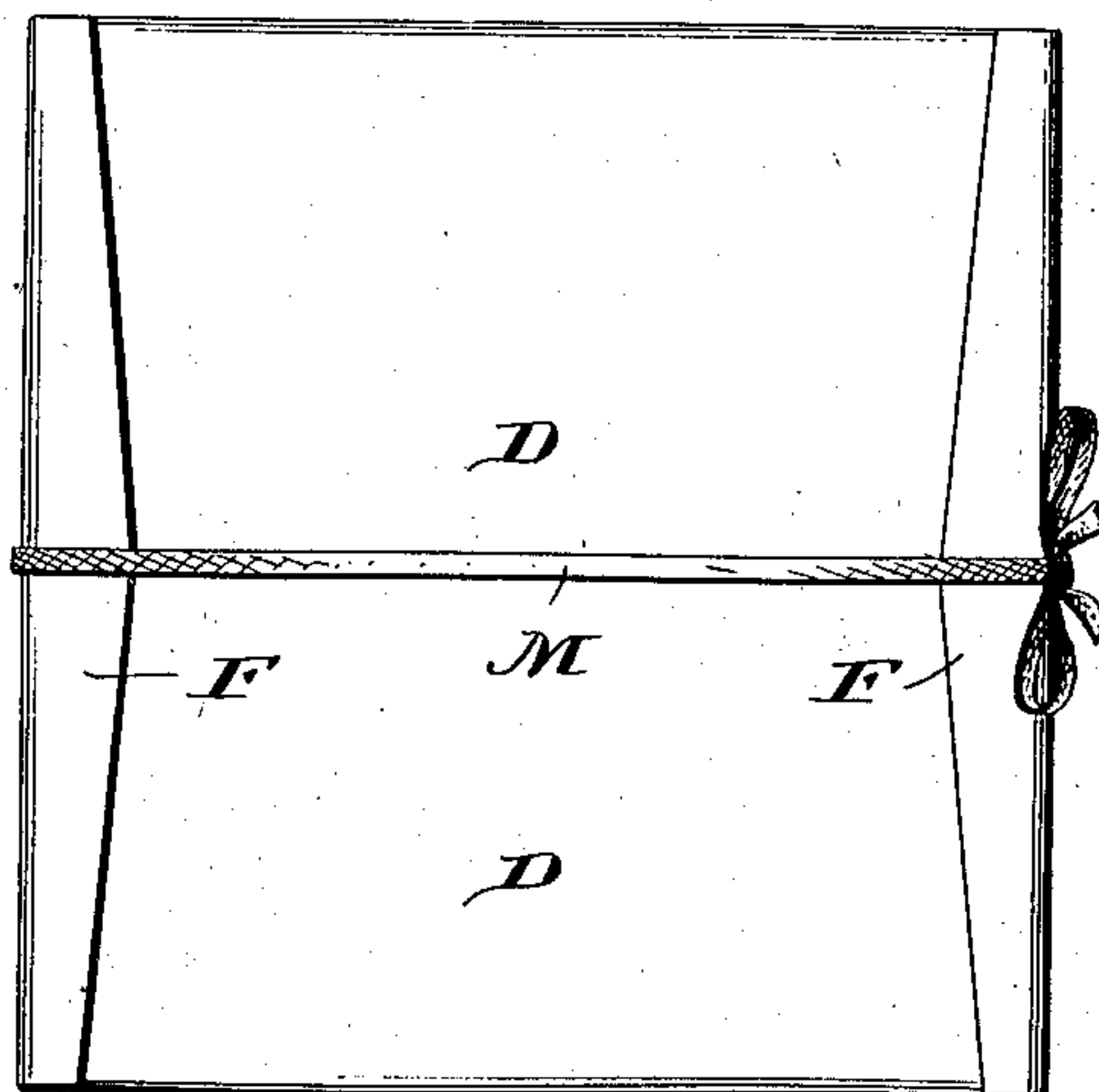


Fig. 7.



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3 SHEETS—SHEET 3.

Fig. 8.

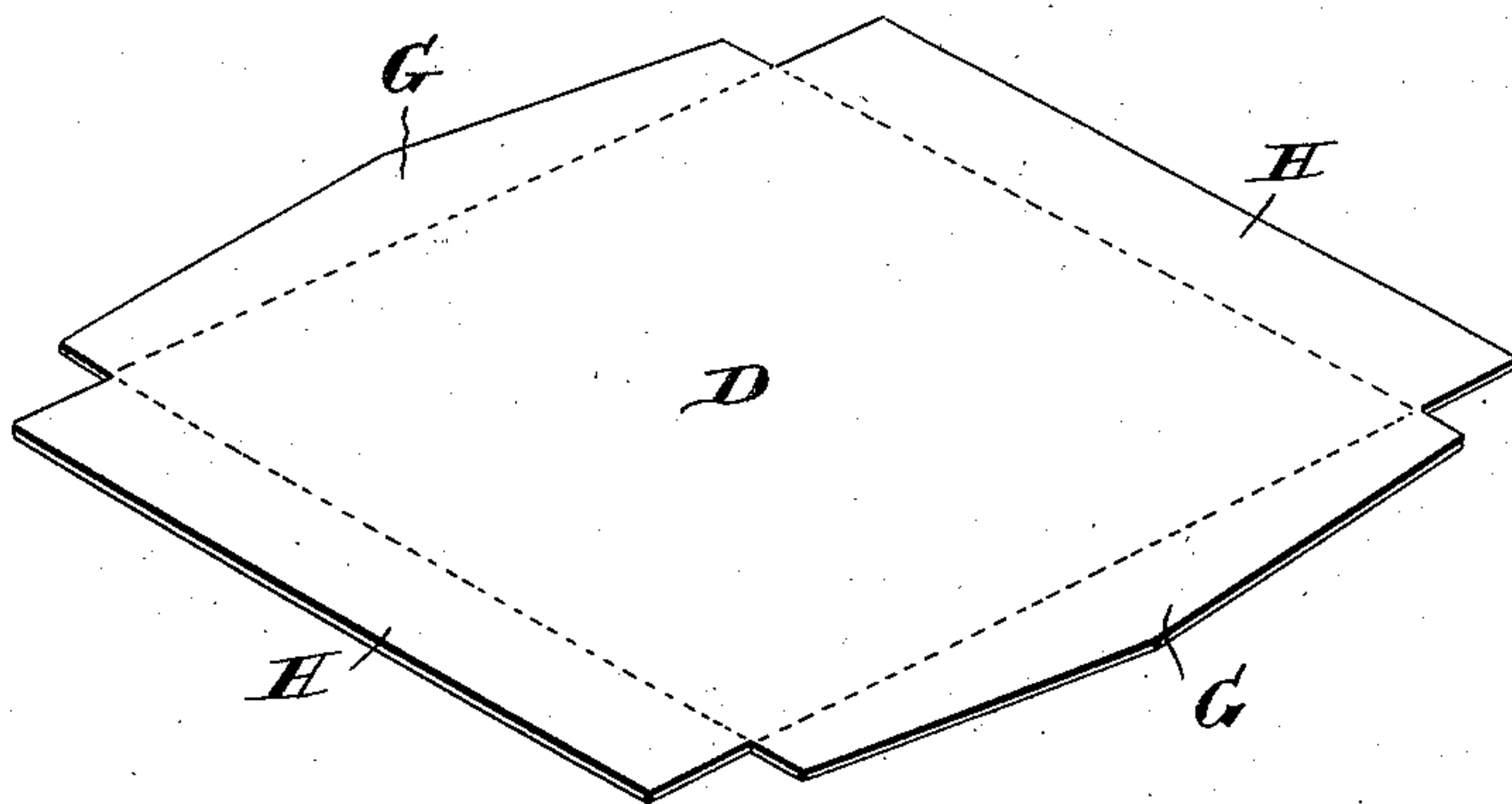
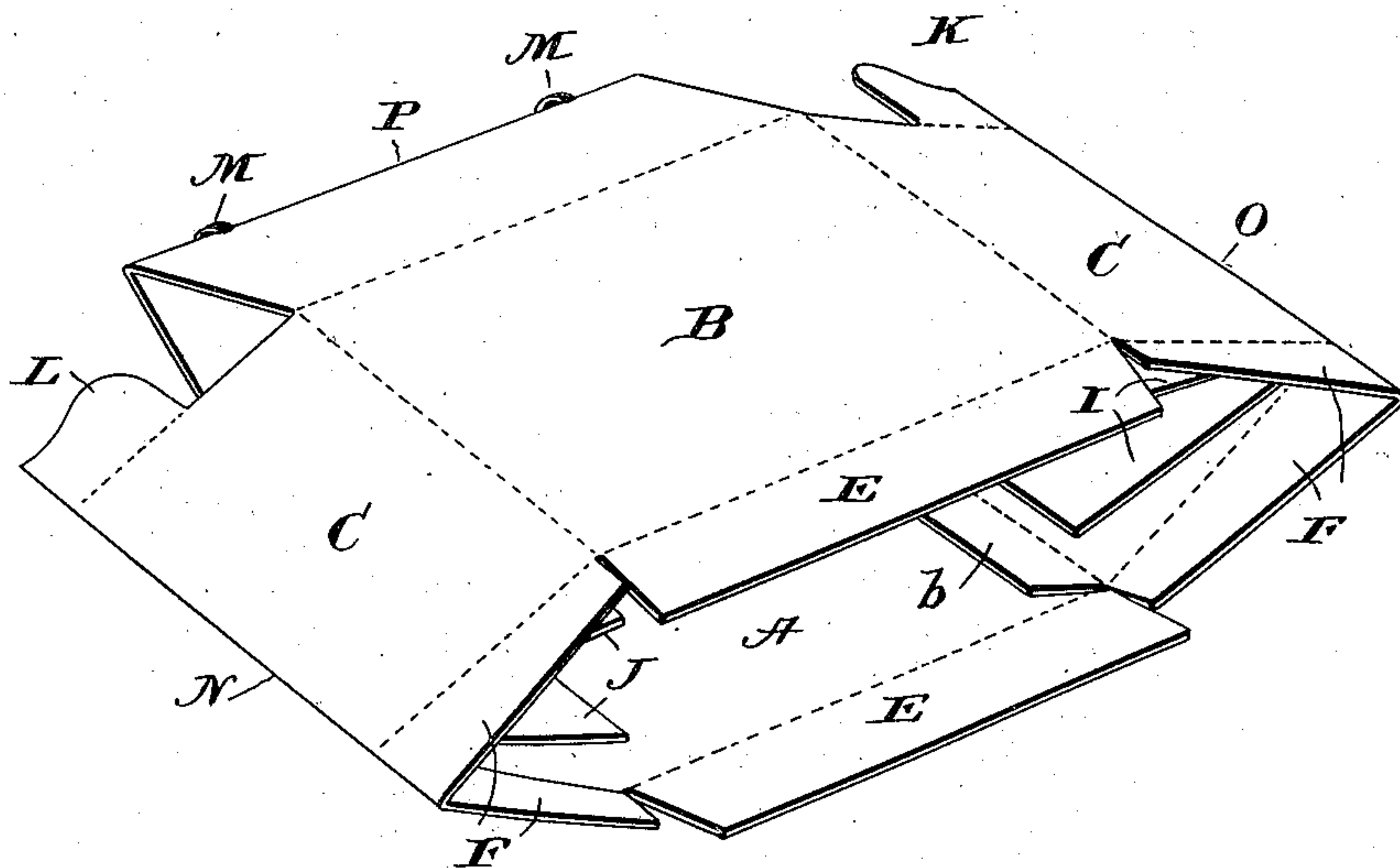


Fig. 9.



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UNITED STATES PATENT OFFICE.

FRANK H. HOUGLAND, OF NASHVILLE, TENNESSEE.

BOX.

SPECIFICATION forming part of Letters Patent No. 785,102, dated March 21, 1905.

Application filed May 3, 1904. Serial No. 206,120.

To all whom it may concern:

Be it known that I, FRANK H. HOUGLAND, a citizen of the United States, residing at Nashville, in the county of Davidson and State of Tennessee, have invented certain new and useful Improvements in Boxes, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to an improvement in boxes, preferably, though not essentially, made of light flexible material, such as paper, and has for its primary object the provision of a box of this character possessing certain structural characteristics which give the same a comparatively rigid formation when in use.

With the foregoing object in view a convenient embodiment of the invention embraces a box provided with reinforcing instrumentalities adjoining its top and bottom, said instrumentalities being free relative to adjacent portions of the box, whereby the box may be readily collapsed for the purpose of transportation and when not in use.

The novel details in the construction and arrangement of the several parts of the box will be apparent from the detailed description hereinafter, when read in connection with the accompanying drawings, forming part hereof, and wherein said embodiment of the invention is illustrated.

In the drawings, Figure 1 is a perspective view of the box as it appears when in use. Fig. 2 is a longitudinal sectional view on the line *xx* of Fig. 1. Fig. 3 is an enlarged view similar to Fig. 2 of the bottom portion of the box, the parts being slightly spread apart to indicate the manner in which the same fold. Fig. 4 is a horizontal sectional view taken on the line *yy* of Fig. 1 looking down upon the bottom of the box. Fig. 5 is a view similar to Fig. 4 on the line *zz* of Fig. 1 looking up into the interior of the top of the box. Fig. 6 is a bottom plan view, Fig. 7 is a top plan view, and Figs. 8 and 9 are perspective views of the top and bottom portions of the box, the latter illustrating the manner of collapsing said body.

Referring more specifically to the drawings, wherein like reference characters refer

to corresponding parts in the several views, 50 A designates the bottom of the box, B the sides thereof, and C the ends of the same, while D represents the top. The sides and ends are pasted together, as at *b*, to constitute a continuous rectangular body when the box 55 is in condition for use. At the upper edges of the sides oppositely-disposed flaps E are secured, and corresponding flaps F project from the upper edges of the ends C, these several flaps being free relative to one another and so arranged as to cooperate with similar flaps G G and H H, carried by the top D, the top being susceptible of ready removal from the body of the box, as shown in Fig. 8. The application of the top to the body will be 65 hereinafter referred to.

A supplemental bottom for the box is constituted by relatively large flaps I and J, arranged to be turned inwardly upon the inner surface of the bottom A and overlap, as at *j*, 70 Fig. 4. The flaps I and J are continuations of the ends C heretofore mentioned, and such flaps not only strengthen the bottom, but also the sides B, inasmuch as the side edges *i* of the former are arranged to abut the inner 75 faces of said sides. The ends C are strengthened and the bottom further reinforced through the medium of auxiliary flaps K and L, preferably cut from the flaps I and J and bent therefrom so as to underlie the bottom 80 A. (Probably best shown in Fig. 3.) While I have shown simply one flap underlying each end of the bottom A and preferably centrally thereof, it is obvious that a series of these flaps may be provided when found expedient. 85

In applying the cover to the body the side flaps E are bent inwardly into substantially a horizontal plane at right angles to the sides to which they are connected, and the cover is laid flat upon these flaps and with its flaps H 90 inserted within the body of the box between the ends of the flaps E and the inner surface of the ends C. Thereupon the flaps G of the top are bent down upon the sides B of the body, while the flaps F of the ends C are folded 95 down upon said top. To lock the several parts in their proper relations, as above defined, and maintain the box intact when in use, I provide

a tape or cord M, interlaced, as at *m*, with the bottom A of the box and with its opposite ends extending out through said bottom at points centrally of the flaps K and L, whereby
 5 said tape may be wrapped around said flaps, the ends of the box, and over the top D and overlying flaps F, whence the ends of the tape are tied together in any desirable manner.

From the disclosure herein made it will be
 10 seen that I have provided in an exceedingly simple structure a box which may be made of very light material, with resultant cheapness of production, while at the same time affording an article of marked efficiency, due prin-
 15 cipally to its rigidity when in use.

Owing to the fact that all of the flaps are free—that is, relative to the parts of the box which they respectively overlie or underlie—the box may be easily folded for transporta-
 20 tion or storage, it simply being necessary to remove the top D, fold the inner bottom flaps upwardly to the ends C, and draw said ends and flaps outwardly, Fig. 9, to fold the same along the vertical creases N and O therein,
 25 this action also folding the bottom A upwardly along a longitudinally-disposed crease P, it being understood that these creases are initially formed during the manufacture of the box by indenting, scoring, or perforating the
 30 material of which the box is composed.

I desire to state that in any future interpretation of the present invention it is not my intention to be restricted to anything men-
 35 tioned in the foregoing description or shown in the drawings, except in so far as the same may be specifically included in the hereto-appended claims, as it is apparent that minor changes and alterations in the various details may be made without departing from the spirit
 40 of the invention.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. A box of the character described comprising sides and ends, a single-piece bottom secured to the sides, and free at points between the ends of the same and the ends of the box, and a supplemental bottom comprising overlapping flaps secured to the ends of the box
 50 adjoining the open ends of the bottom and overlying said bottom.

2. A box of the character described provided with a bottom, sides and ends, and a supplemental bottom comprising oppositely-dis-
 55 posed flaps carried by the ends of the box and overlying the bottom thereof, in combination with auxiliary flaps underlying the end portions of said bottom, said flaps and the sides and ends of the box being formed of a single
 60 sheet of material.

3. A box of the character described provided with a bottom, sides and ends, and a supplemental bottom comprising oppositely-dis-
 posed flaps carried by the ends of the box and

overlying the bottom thereof, in combination 65 with auxiliary flaps cut from said first-mentioned flaps and underlying the end portions of said bottom.

4. A box of the character described provided with a bottom, sides and ends, and a sup- 70 plemental bottom comprising oppositely-disposed flaps carried by the ends of the box and overlying the bottom thereof, in combination with auxiliary flaps cut from said first-men-
 75 tioned flaps at points intermediate their side edges and underlying the end portions of said bottom.

5. A collapsible box of the character described formed with an attached bottom, sides and ends, and two series of free reinforcing- 80 flaps secured at one edge only the one series overlying and the other underlying said bottom.

6. A box of the character described provided with sides and ends, a single-piece bot- 85 tom secured to said sides and unattached at its ends, and oppositely-disposed reinforcing-flaps secured to the ends of the box adjoining the unattached ends of the bottom and overlying
 90 said bottom.

7. A collapsible box of the character described provided with a bottom, sides secured to said bottom and ends, and two series of normally free oppositely-disposed reinforcing- 95 flaps, one series overlying and the other series underlying said bottom.

8. A box of the character described provided with a bottom, sides and ends, said bot- 100 tom being creased longitudinally and said ends being correspondingly creased vertically, in combination with a supplemental bottom comprising oppositely-disposed flaps overlying the bottom of the box and arranged to be folded up to the ends of the box, said flaps
 105 being creased to correspond with the creasing of said ends whereby the box may be collapsed.

9. A box of the character described provided with a bottom, sides and ends, said bot- 110 tom being creased longitudinally and said ends being correspondingly creased vertically, in combination with reinforcing-flaps overlying the bottom of the box and arranged to be folded up to the ends of the box, said flaps
 115 being creased to correspond with the creasing of said ends whereby the box may be collapsed.

10. A box of the character described provided with a bottom, sides and ends, said bot- 120 tom being creased longitudinally and said ends being correspondingly creased vertically, in combination with reinforcing-flaps overlying and underlying the bottom of the box, the inner flaps being creased to correspond with the creasing of the ends of the box and ar-
 125 ranged to be folded up to said ends whereby the box may be collapsed.

11. A box of the character described formed

with a bottom, sides and ends, a supplemental bottom comprising oppositely-disposed flaps carried by the ends of the box and overlying the bottom thereof, said supplemental bottom being of substantially the same area as that of the bottom, and auxiliary flaps underlying the end portions of said bottom, in combination with a cover and a cord arranged to pass around said cover, the ends of the box and said auxiliary flaps.

12. A box of the character described provided with sides and ends having flaps at their upper edges, in combination with a top having downwardly-bent flaps at its edges, said flaps of the box and those of the top being arranged to alternately overlie and underlie the parts they adjoin and cooperate to secure the top in place and brace the sides and ends of the box.

13. A box of the character described provided with sides and ends having flaps at their upper edges, in combination with a detached top having downwardly-bent flaps at its edges, said flaps of the box and those of the top being arranged to alternately overlie and underlie the parts they adjoin and cooperate to secure the top in place and brace the sides and ends of the box.

14. A box of the character described comprising sides and ends, a single-piece bottom secured to the sides, and a supplemental bottom comprising flaps secured to the lower portion of the ends of the box and overlying said bottom.

15. A box of the character described provided with a body portion having a flap at its upper edge, and a top having several flaps at the edges thereof bent downwardly at substantially right angles to said top, the flaps of the top being arranged one to fold down within the box and another to fold upon the outer surface of the body and the flap of the body being arranged to fold down upon the top.

16. A box of the character described provided with a body portion having a flap at its upper edge and another flap independent of said first-mentioned flap, and a top having a flap at one edge thereof bent downwardly at substantially right angles to said top, the flap of the top being arranged to fold down upon the outer surface of the body and the flaps of the body being arranged the one to underlie the top and the other to overlie the same.

17. A box of the character described provided with a body portion having four flaps at its upper edge, and a top having a corresponding number of flaps bent downwardly at substantially right angles to said top, two of the flaps of the body being arranged to underlie the top and two to overlie the same, and two of the flaps of the top being arranged to project into the body of the box and two to fold down upon the outer surface thereof.

18. A box of the character described provided with a bottom, sides and ends, a supplemental bottom comprising oppositely-disposed flaps carried by the ends of the box and overlying the bottom thereof, and auxiliary flaps underlying the end portions of said bottom, in combination with a top having flaps arranged to fold down upon the ends of the box, and a cord arranged to pass around said cover and its flaps, the ends of the box and said auxiliary flaps.

19. A box of the character described provided with a body portion having a flap at its upper edge, and a top having a flap at one edge thereof, the flap of the top being arranged to fold down upon the interior of the box and the flap of the body being arranged to fold down upon the upper surface of the top.

20. A box of the character described provided with a bottom, sides and ends, the bottom being secured to the sides and free at its ends, and reinforcing-flaps underlying the end portions of said bottom, in combination with a top having flaps arranged to fold down upon the ends of the box, and one or more flaps bent down within the box, and a cord arranged to pass around said cover and its flaps, the ends of the box and said reinforcing-flaps.

21. A box of the character described provided with sides and ends, flaps at all upper edges of the box, and a top having downwardly-bent flaps at all its edges, said flaps of the top and those of the box cooperating to secure the top in place and brace the sides and ends of the box, one or more of the flaps of the top being bent down on the inside of the box.

22. A box of the character described provided with sides and ends, and flaps at all upper edges of the box, in combination with a top having flaps at all its edges adapted to bend downwardly, said flaps of the top and those of the box being arranged to cooperate to secure the top in place and brace the sides and ends of the box, and one or more of the flaps of the top being arranged to be folded down on the inside of the box.

23. A collapsible box of the character described provided with a bottom, sides secured to said bottom and ends, and integral reinforcing-flaps overlying and underlying said bottom at the same edge thereof, both of said flaps being carried by one end of the box.

24. A collapsible box of the character described provided with a bottom, sides and ends, said bottom being free at its ends, and reinforcing-flaps overlying and underlying said bottom at said free ends thereof and at both ends of the box.

25. A collapsible box of the character described provided with a bottom, sides and ends, said bottom being secured to the sides and free at its ends, and oppositely-disposed flaps carried by the ends of the box and overlying the

bottom thereof, in combination with auxiliary flaps underlying the end portions of said bottom.

26. A box of the character described provided with a bottom, sides and ends, said bottom being secured to the sides and free at its ends, and two series of normally free oppositely-disposed reinforcing-flaps integral with

the ends of the box, one series overlying and the other series underlying said bottom. 10

In testimony whereof I affix my signature in presence of two witnesses.

FRANK H. HOUGLAND.

Witnesses:

B. F. BLANKRUSH,

H. C. FROST.