

No. 816,338.

PATENTED MAR. 27, 1906.

J. C. KIMSEY.
PAPER BOX OR CONTAINER.
APPLICATION FILED OCT. 8, 1904.

2 SHEETS—SHEET 1.

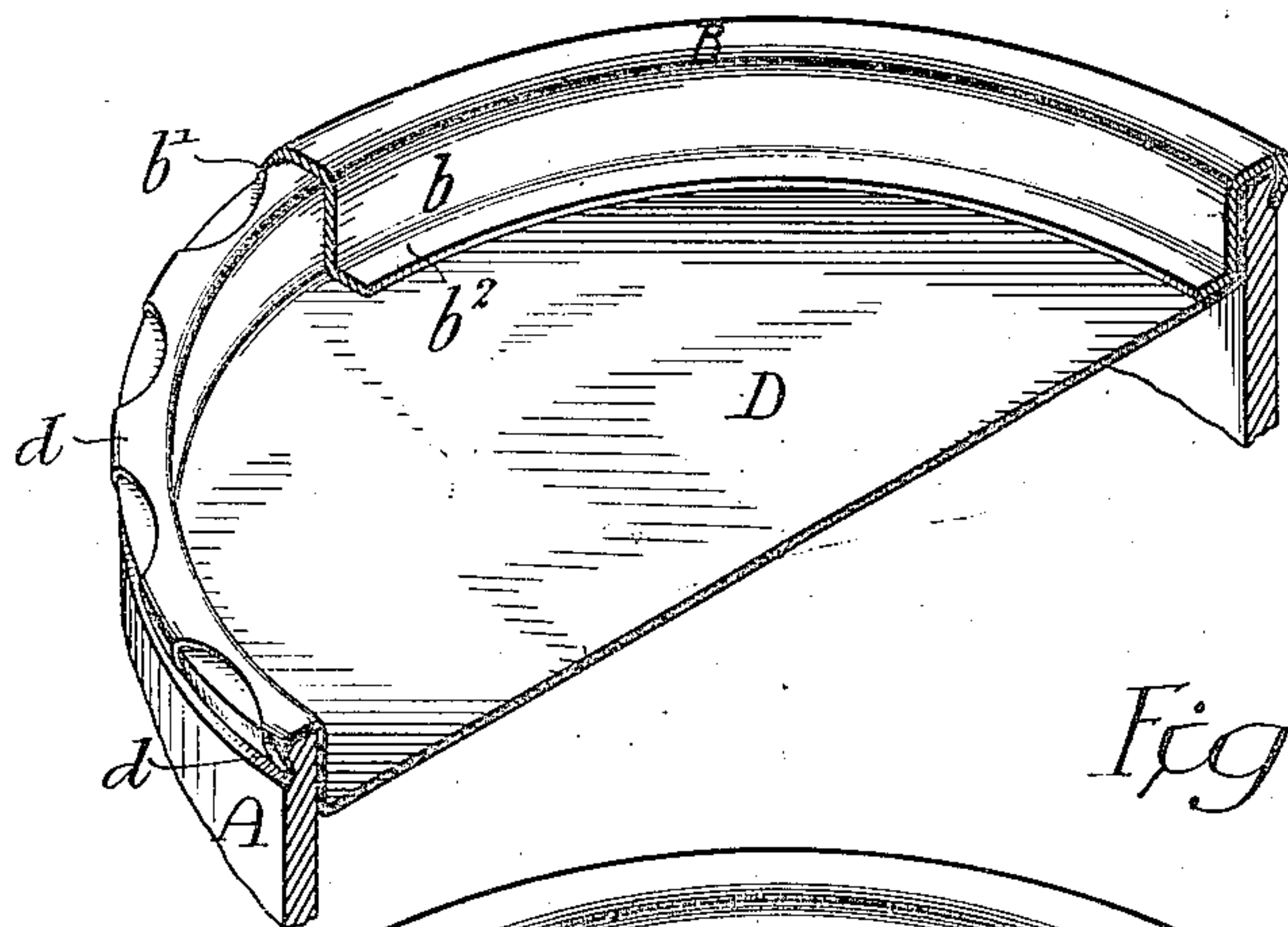


Fig. 1.

Fig. 2.

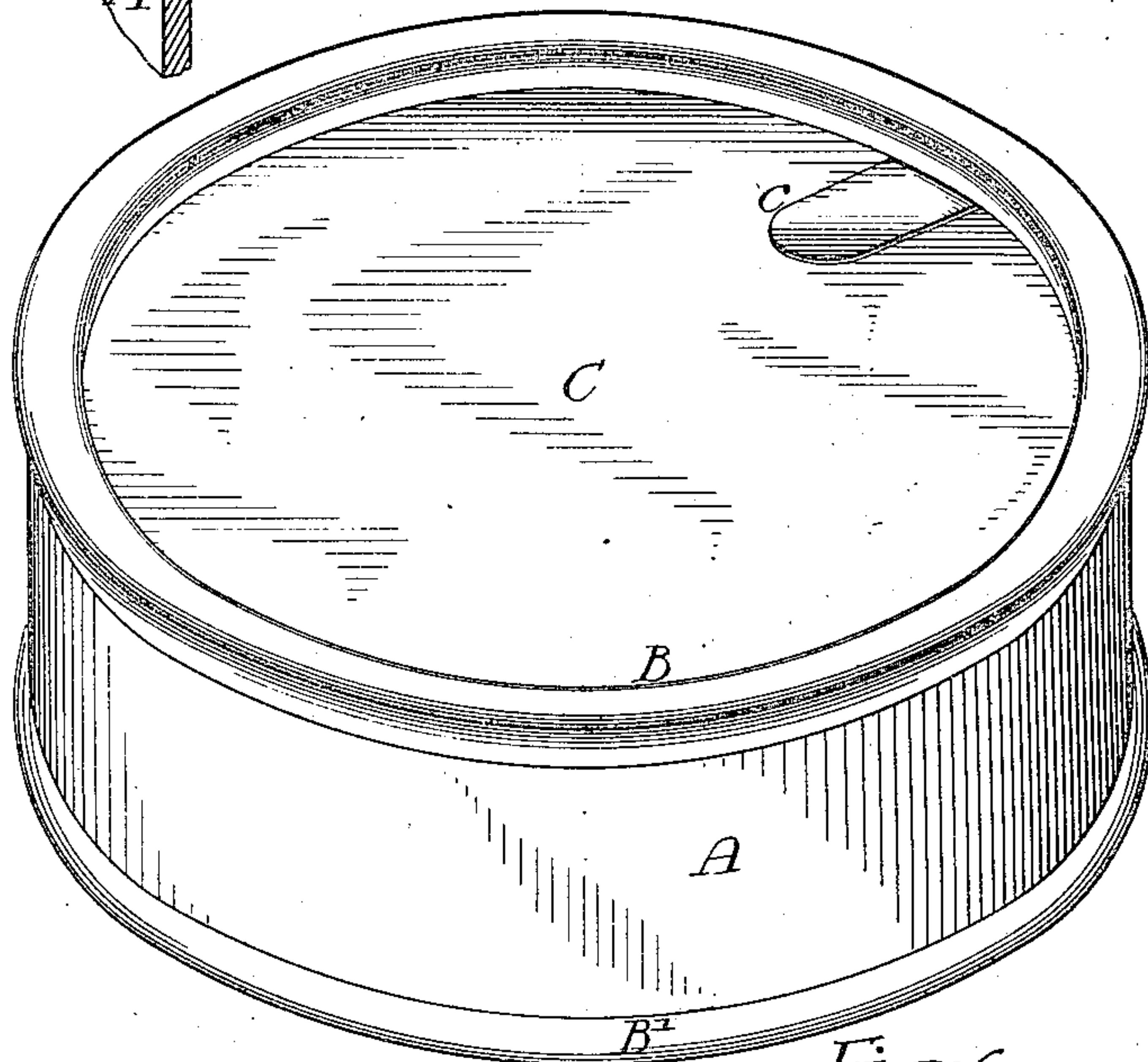
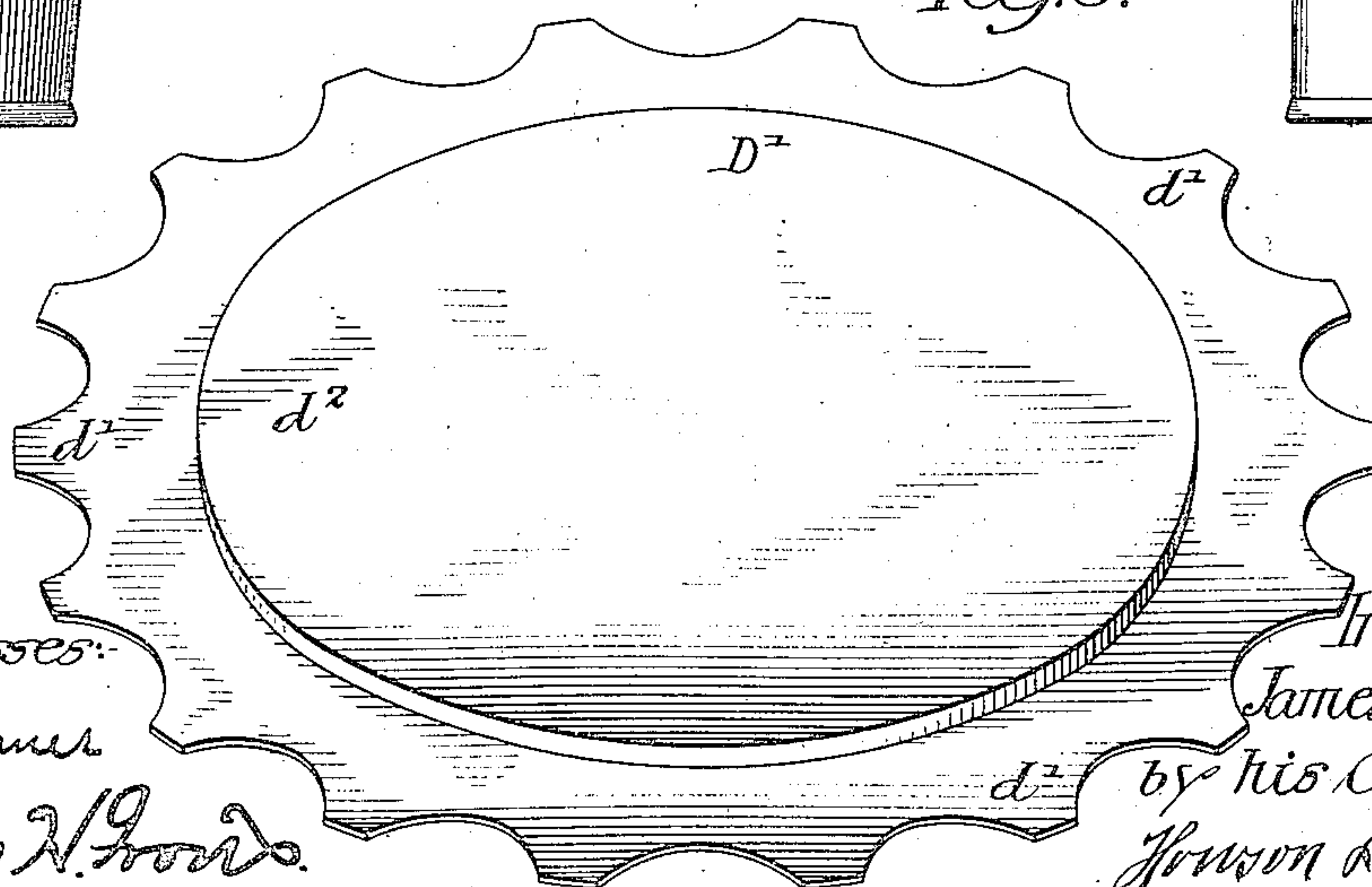
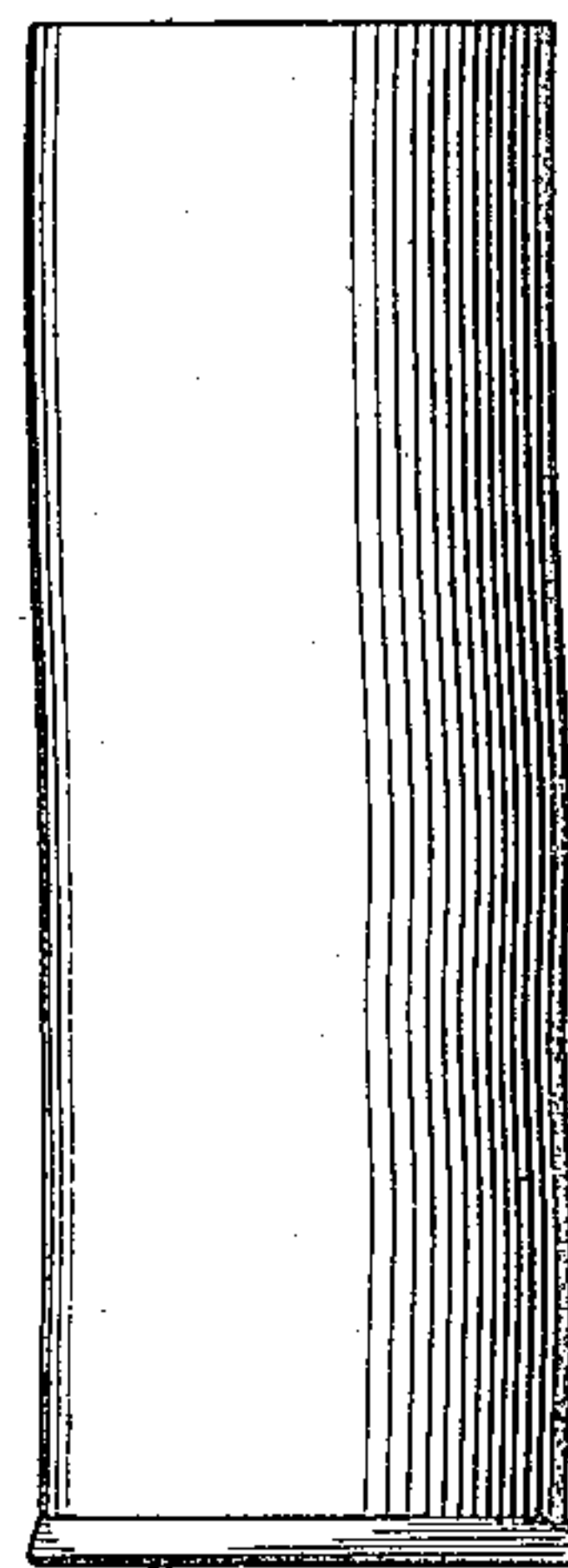
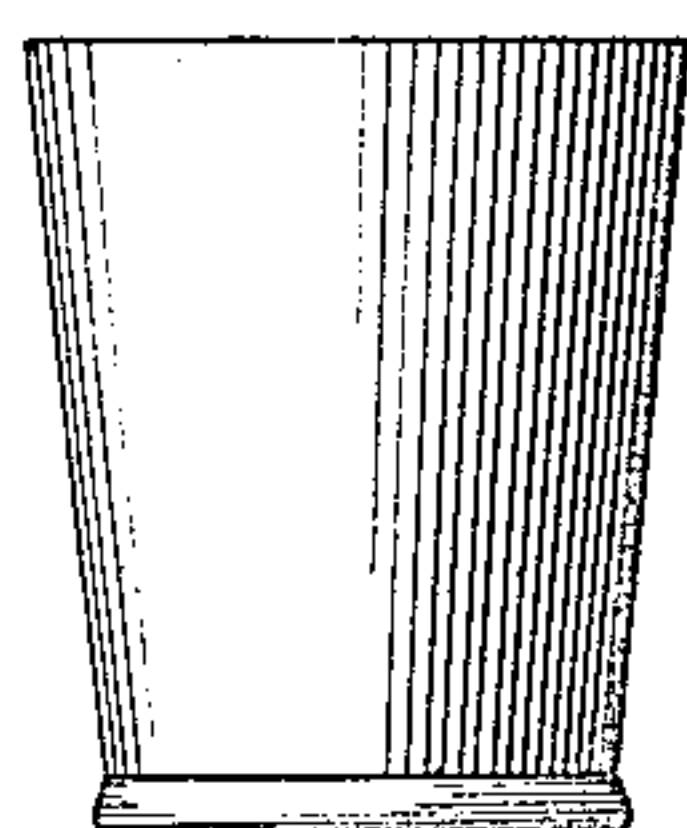


Fig. 6.

Fig. 8.

Fig. 7.



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2 SHEETS—SHEET 2.

Fig. 3.

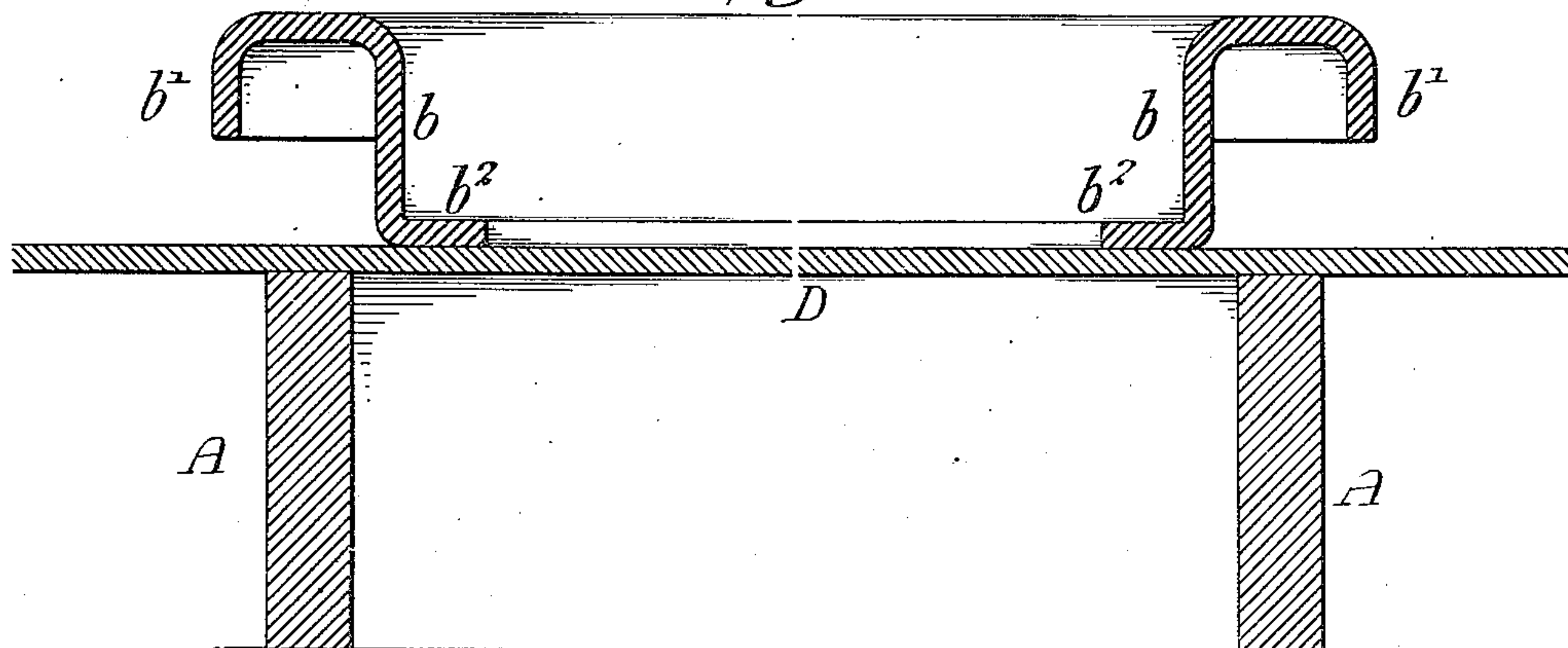


Fig. 4.

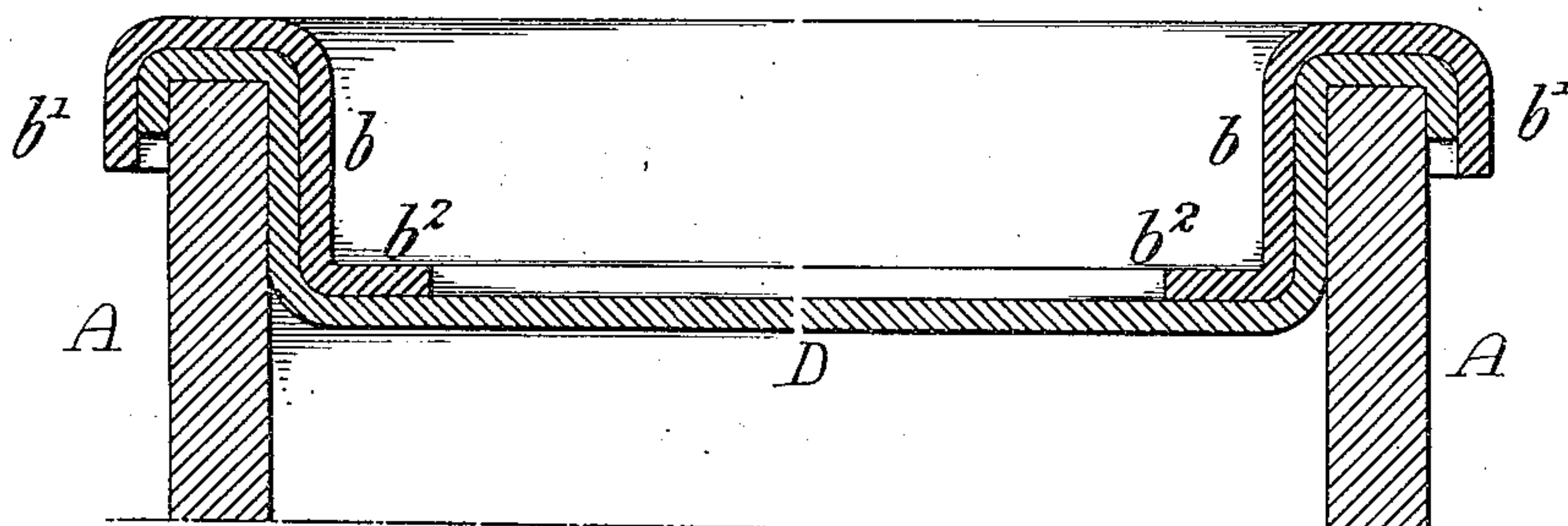
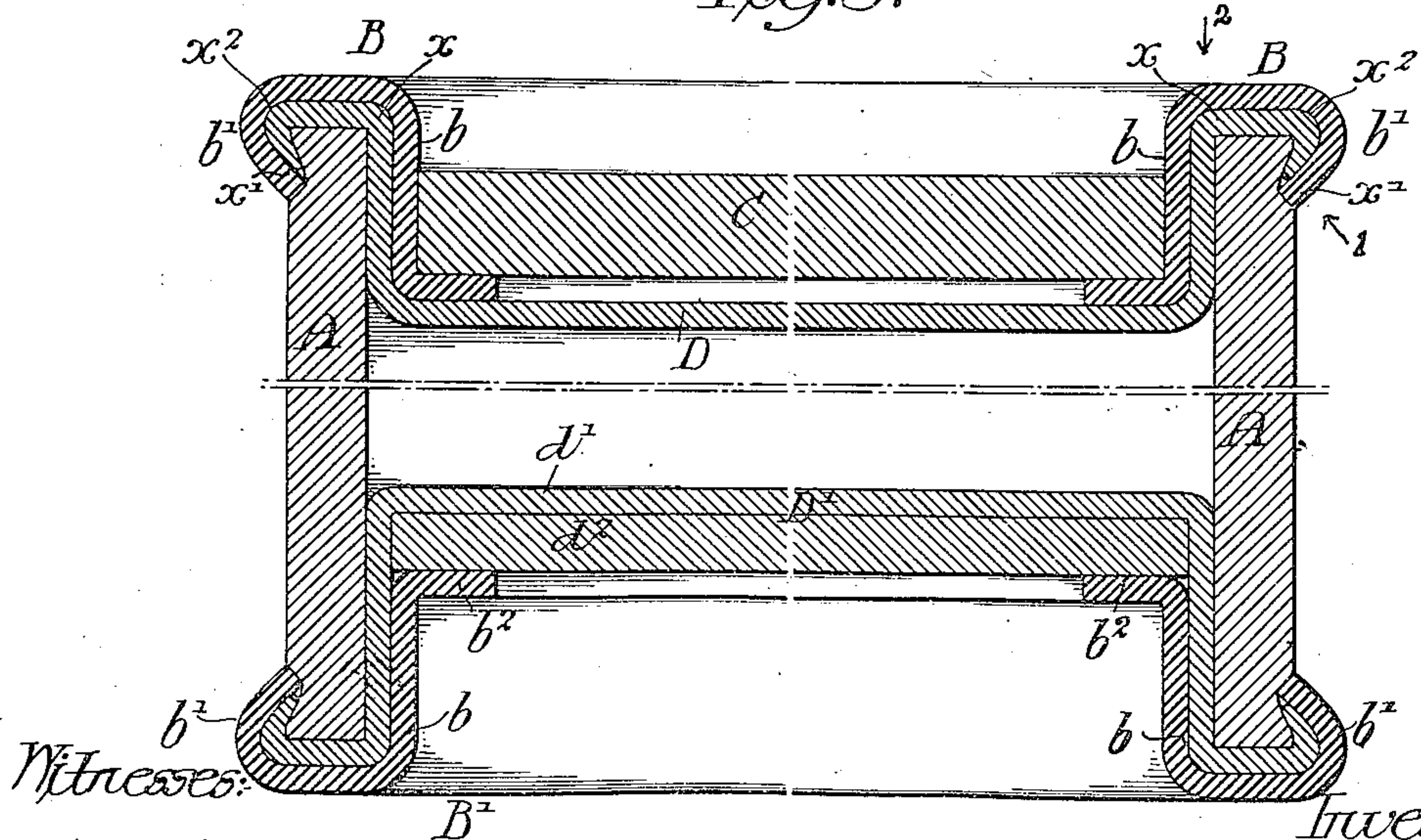


Fig. 5.



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UNITED STATES PATENT OFFICE.

JAMES C. KIMSEY, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO
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PAPER BOX OR CONTAINER.

No. 816,338.

Specification of Letters Patent.

Patented March 27, 1906.

Application filed October 8, 1904. Serial No. 227,677.

To all whom it may concern:

Be it known that I, JAMES C. KIMSEY, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Paper Boxes or Containers, of which the following is a specification.

My invention relates to certain improvements in paper boxes or containers in which a metallic ring is used to secure the head or closure to the body of the box.

The objects of my invention are to provide a simple and effective means for firmly attaching the head or closure to the body of the box, to use a plain body without ribs or flanges at either end, to provide a suitable support for the head of the box, which support forms the closure when the head is broken, and to so shape the closure that the ring can be attached more firmly to the body of the box. These objects I attain in the following manner, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of one form of my improved box. Fig. 2 is a sectional perspective view illustrating one feature of my invention. Figs. 3, 4, and 5 are views showing different steps in securing the head or closure to the body of the box, the figures being enlarged to more clearly illustrate the invention. Fig. 6 is a perspective view of the lower head or bottom of the box detached. Fig. 7 is a view of a paper tumbler made in accordance with my invention, and Fig. 8 is a view of a paper bottle made in accordance with my invention.

A is the body of the box, made in the present instance from a single sheet of paper rolled on a suitable form and pasted so that the laps are firmly secured together, forming usually a three-ply body; but the number of plies or thicknesses of paper will depend upon the size of the box and for what use it is intended. The body is usually cut from a long tube, the cut making the sharp corners. (Illustrated in the drawings.)

B is a metallic ring for securing the head or closure to the body of the box. This ring has a straight inner flange b and a shorter outer flange b' . At the end of the inner flange is a rim b^2 , which not only strengthens the ring, but forms a broad support for the closure and a seat for the removable cover.

D is the head or closure of the box, made of comparatively thin paper, celluloid, or other suitable material which can be readily flanged without breaking when being applied to the body of the box, and I scallop the edge to form projections d , which extend over the edge of the body, leaving spaces for the metallic ring to come in direct contact with the body and to hollow the head to more readily conform to the body, as shown in Fig. 2.

C is a thick supplementary cover which is forced into the ring B until it seats itself on the rim b^2 . This cover is held in place by friction and acts as a support for the fragile head or closure D against pressure of the contents of the box and as a protector against outside pressure and also forms a removable cover when the closure D is broken or cut to gain access to the contents of the box.

The ring B, head D, and cover C usually form the top or cover section of the box. The head D' of the bottom is secured to the body A by a ring B' , similar to the ring B, and is clenched in the same manner; but in place of providing a detachable support C, I preferably make the bottom head in two sections, one secured to the other by pasting or in any other suitable manner, as shown in Fig. 6. By this means the section d' , that overlaps the body portion, can be made of thin and pliable paper, while the other section d^2 can be made of stiff cardboard, if necessary. The ring B' secures both sections in place, as clearly illustrated in Fig. 5, the heavier section d^2 being mounted between the member b^2 of the ring and the section d' .

In assembling the box I first make the body portion in the manner set forth, the body being plain, without ribs or flanges at either end, as shown in Fig. 3. The bottom head D' is placed in position, the thin portion overlapping the end of the body. The ring B' is then applied, forcing the head into the box and forming a flange on the head between the inner flange b of the ring and the inner surface of the body, the outer edge of the head lapping over the end of the body and clamped thereto by the outer flange of the ring B' , which is embedded in the outer wall of the body, as shown in Fig. 5. After the box is filled the top head D is placed in position, as shown in Fig. 3, its edge overlapping the end of the body A. The ring B is then applied;

forcing the head D into the box, as shown in Fig. 4, forming a flange on the head, which is held between the inner flange b of the ring and the inner surface of the body A, while a portion of the head D extends over the end of the body and laps onto the outer surface, as shown in said Fig. 4, inside the outer flange b' of the ring, which when crimped and embedded in the body, as illustrated in Fig. 5, firmly holds the head to the body and makes an airtight seal not only at the corner x , but at x' , as the pressure to embed the flange b' is in the direction of the arrows 1 and 2, Fig. 5. The inner flange is straight, conforming to the inner wall of the body, and when the parts are assembled a simple plunger is used as a support for the ring and its inner flange, so as to keep the flange straight, as there is no crimping of this inner flange to distort the body and no elaborate mechanism necessary.

By making the outer flange less in depth than the inner flange I am enabled to crimp the outer flange, so as to force it into the body of the box in a diagonal line, as indicated by the arrow 1, Fig. 5, the top and inner edge of the ring acting as supports for the yielding material of the body A and the flexible material of the closure D, which are forced by the pressure on the outer flange of the ring against the inner corner x of the ring, insuring a tight joint at this point as well as at the points x' and x^2 .

I use a head with a scalloped or notched edge, as shown in Figs. 1 and 6, and so proportion the head that the projections d will overlap the end of the body portion A, as shown in Fig. 2, leaving spaces for the metallic ring to come in direct contact with the body portion. Thus the outer flange of the ring engages the extensions of the head or closure, as well as the body portion, and the ring will hold more firmly than where a solid sheet of material intervenes between the ring and the body of the box. Furthermore, by using the scalloped or notched head I can make the head of heavier paper than would be possible where the head was plain, and the body of the box can be made of lighter material, as it does not have to withstand the crushing strain incident to forcing a plain head or closure down onto the body of the box. This scalloped-edged closure is particularly adapted for use where the closure is to be applied to the body of the box after the boxes have been packed by persons who are not familiar with the manufacture of paper receptacles.

After the ring has been attached by embedding its outer flange into the body of the box the supporting-cover C is forced into the ring while it rests upon the portion b^2 . This cover is a neat fit, so that it will not work loose, and it is provided with a tab c , by which it can be withdrawn when necessary. This cover C acts as a support for the thin head D,

yet does not come in direct contact with it, being separated by the portion b^2 of the ring.

In some instances when it is desired to fill the box from the bottom the top head is placed in position first, and after the box is filled the bottom is secured.

The box is usually sent from the factory with one head in place and the other head loose and which is placed in position by the packer of the box, suitable tools being provided for the ready application of the head to the box.

While I have shown in the main figures a container having both bottom and top heads, it will be understood that the invention may be carried out in connection with a container only having one head, such as the paper tumbler shown in Fig. 7, or the paper bottle shown in Fig. 8.

I claim as my invention—

1. The combination of a body portion of yielding material, a closure having a notched edge overlying the outer edge of the body portion, and a ring having an outer flange adapted to be embedded in the body portion for confining the notched-edge closure to the body of the box, substantially as described.

2. The combination in a box, of a body of yielding material, a closure greater in diameter than the body and having a notched edge which overlaps the end of the body, a ring retaining the closure against the body portion, said ring having an outer flange engaging the overlapping projections of the closure and embedded with said projections in the yielding body, whereby said flange of the ring comes in direct contact with the body between the projections, substantially as described.

3. The combination in a box, of a body portion, a closure having a notched edge and greater in diameter than the body portion, said closure being heavier at the center than at the edges, the central portion of the closure being less in diameter than the body, and means for attaching the notched thin portion of the closure to the body portion.

4. The combination in a box, of a body portion, a closure consisting of two members secured together, one member being greater in diameter than the body portion of the box, the other member being less in diameter than the body portion, the member of greater diameter having a notched edge, with a metallic ring having inner and outer flanges by which the notched member of the said closure is confined to the body portion of the box, the member of less diameter being held between the ring and the member of greater diameter.

5. The combination in a box of a body of yielding material, a closure greater in diameter than the body and having a notched edge which overlaps the end of the body, a ring having a long inner flange retaining the closure against the inner wall of the body,

and a short outer flange engaging the pro-
jections of the closure and embedded with
said projections in the yielding body whereby
the outer flange of the ring comes in direct
5 contact with the body, substantially as de-
scribed.

In testimony whereof I have signed my

name to this specification in the presence of
two subscribing witnesses.

JAMES C. KIMSEY.

Witnesses:

WILL. A. BARR,
Jos. H. KLEIN.