

No. 731,690.

PATENTED JUNE 23, 1903.

E. J. KRAETZER.

JAR CLAMP.

APPLICATION FILED SEPT. 2, 1902.

NO MODEL.

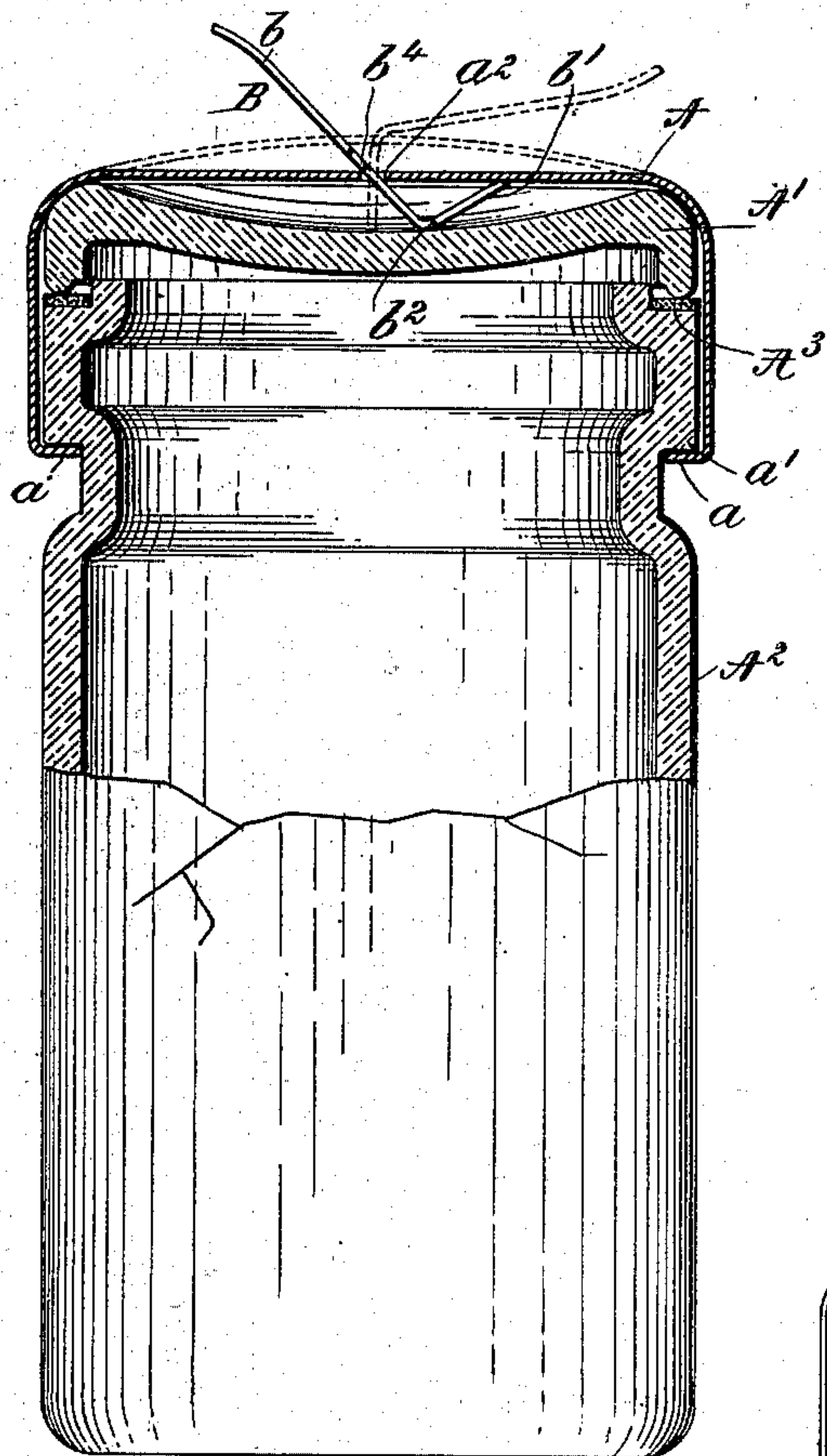


Fig. 1.

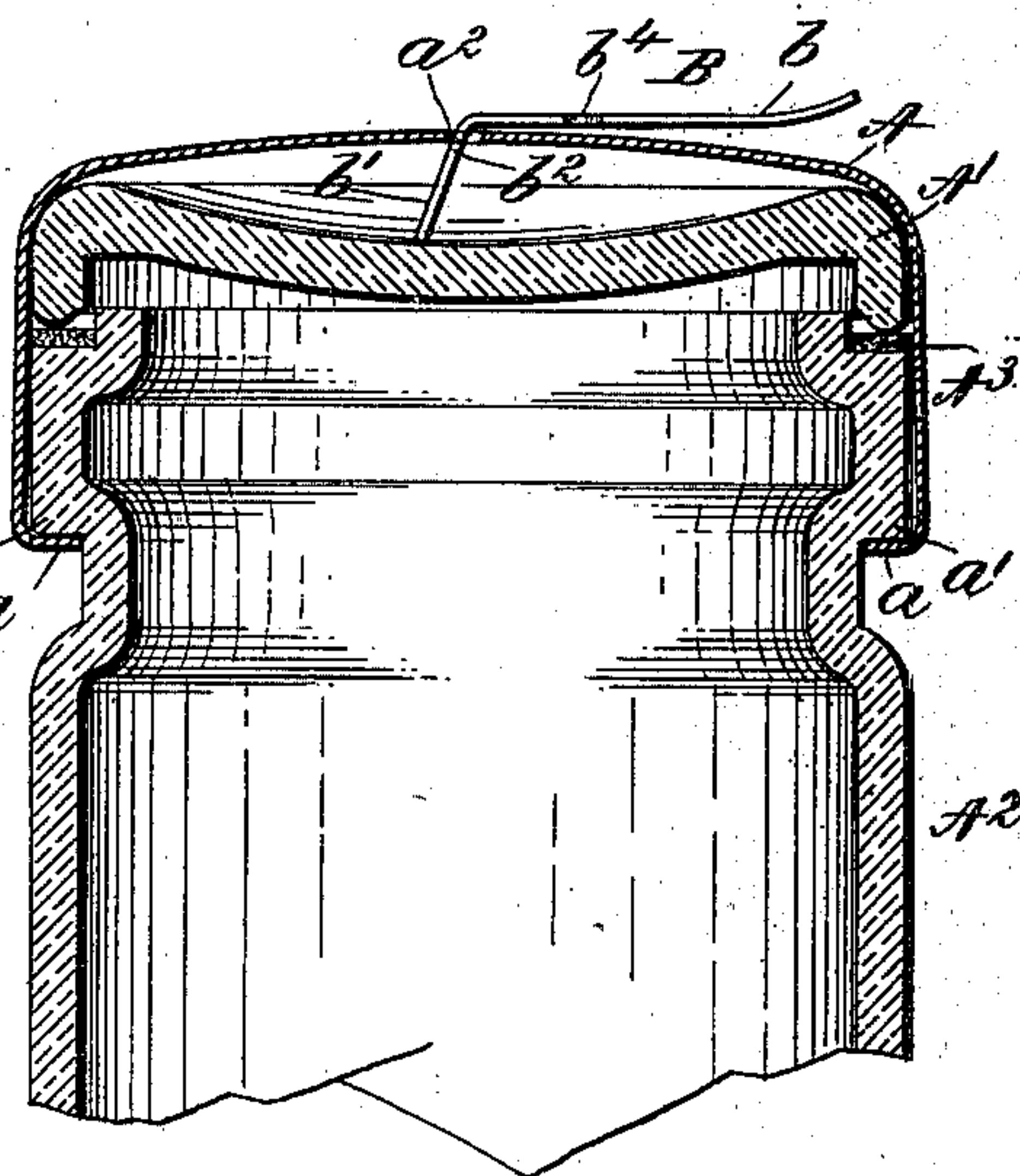


Fig. 2.

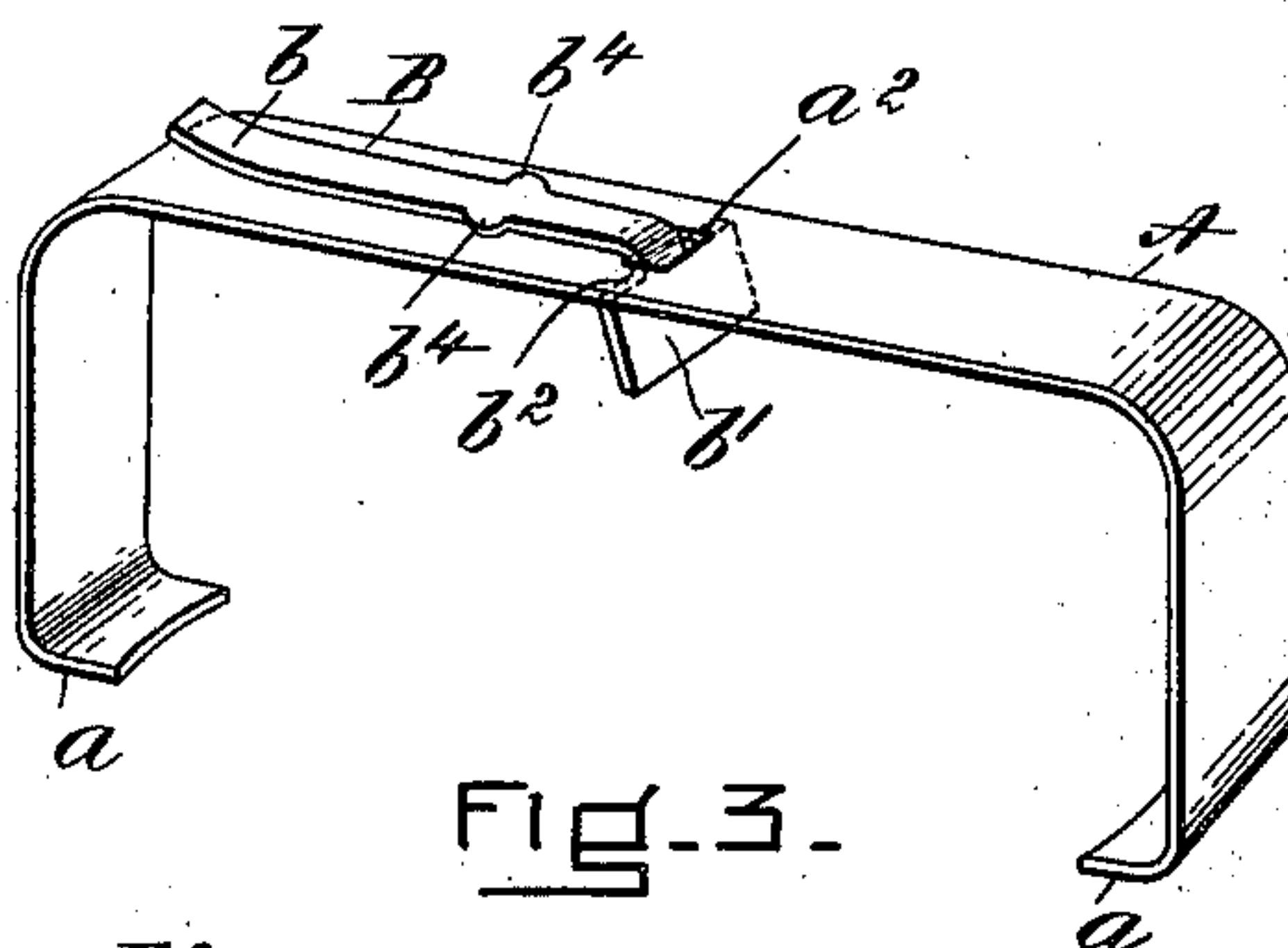


Fig. 3.

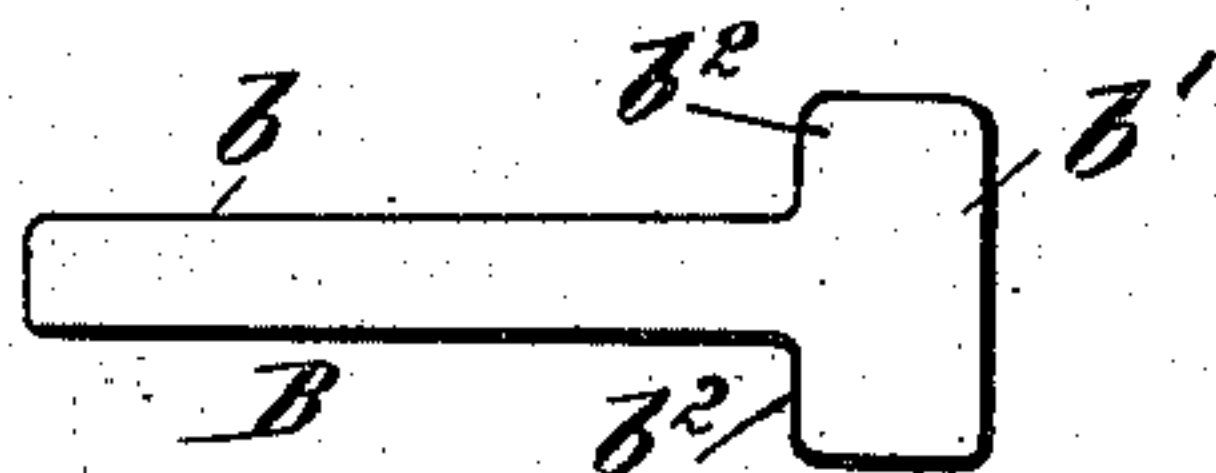


Fig. 4.

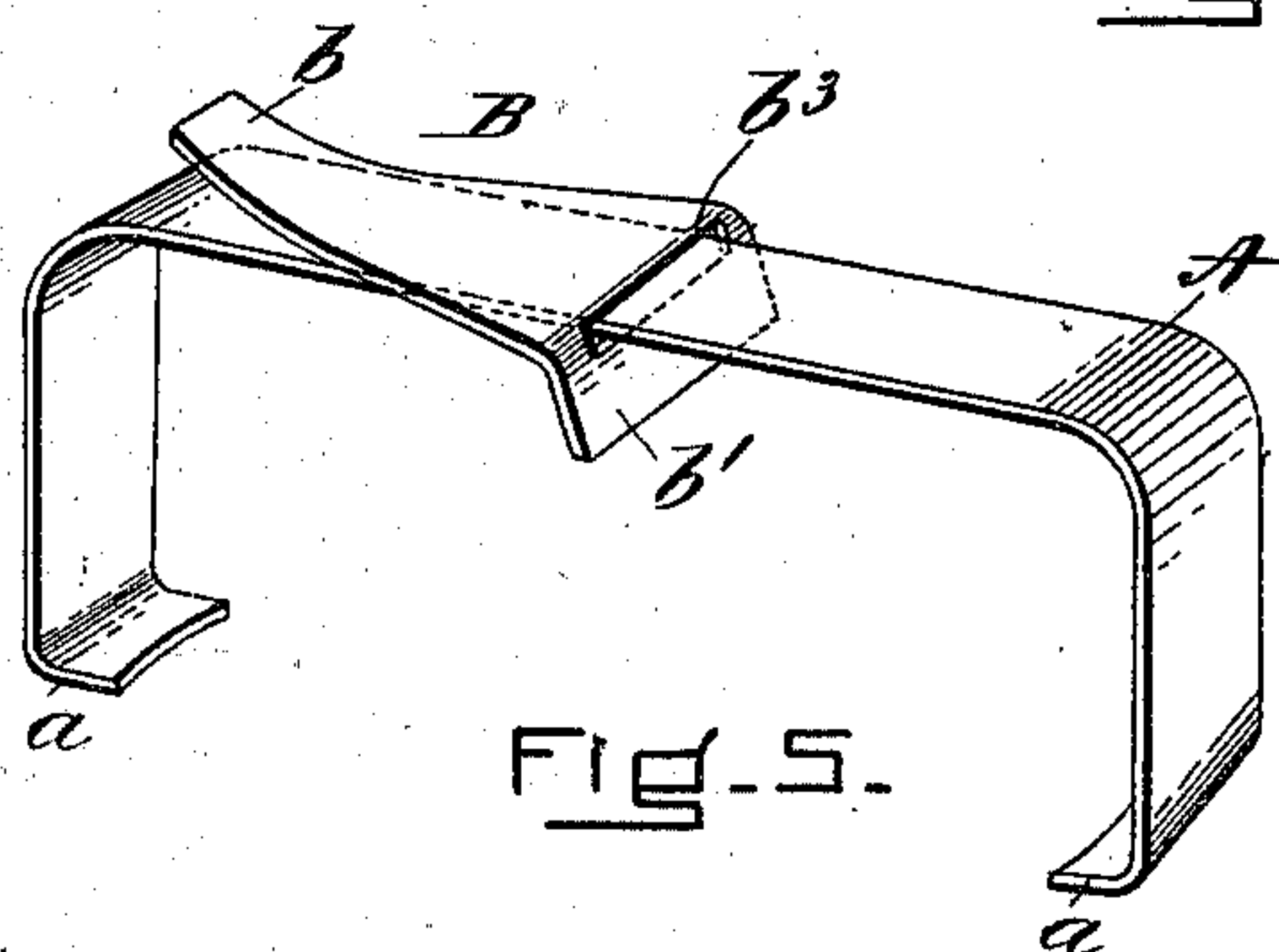


Fig. 5.

WITNESSES:

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# UNITED STATES PATENT OFFICE.

EDWIN J. KRAETZER, OF SOMERVILLE, MASSACHUSETTS.

## JAR-CLAMP.

SPECIFICATION forming part of Letters Patent No. 731,690, dated June 23, 1903.

Application filed September 2, 1902. Serial No. 121,742. (No model.)

*To all whom it may concern:*

Be it known that I, EDWIN J. KRAETZER, a citizen of the United States, residing at Somerville, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Jar-Clamps, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in explaining its nature.

My invention relates to an improved clamp for securing the covers of fruit or like jars where a hermetic seal is desired to be obtained.

The object of my invention is to devise a means more simple in construction and operation than those which have heretofore been made and less expensive to manufacture. Accordingly I have devised a means the construction and operation of which can best be seen and understood by detailed description, with reference to the drawings, wherein—

Figure 1 is a vertical cross-section of the jar and cover, showing my device in unlocked placement. Fig. 2 shows the same in locked placement. Fig. 3 shows the clamping device in detailed combination. Fig. 4 shows a blank from which a bent lever is obtained. Fig. 5 shows a modified means of combination, of which reference will hereinafter be made.

Referring to the drawings, A represents a strap which when placed in position extends transversely across the cover A' of the jar A<sup>2</sup> and turns down at either side to make attachment with the neck of the jar by the flanged ends *a a* turning in beneath the annular rim *a'*, formed thereon.

The strap A is preferably turned to fit close in and around the cover of the jar, and its flanged ends hug the neck of the jar tightly, so that preparatory to the cover being clamped down the strap would be sufficient to hold the cover in place, although its fit is such that it can be easily slipped on or off the jar by a sliding lateral movement. The strap is made of some suitable metal which retains its shape well and is possessed of more or less resisting resiliency.

It is evident from the construction and placement of the strap A and with a relative

reference that if a wedgeable piece be inserted between the cover and the strap the cover would be held tightly pressed or clamped down upon the jar or rather against the interposed rubber washer A<sup>3</sup>, and this pressure would be measured by the yielding resilient stress of the band if the wedged piece be interposed with sufficient force to overcome its rigidity. I have provided, therefore, for holding the cover clamped down and for utilizing the yielding resiliency of the strap by means of the bent lever B, which comprises the power-arm *b* and lever-arm *b'*, bent to have an obtuse angular relationship to each other. The lever is fulcrumed against the strap at or near its center, while the end of the lever-arm bears against the cover. This bearing of the lever is obtained and its fulcrumed placement maintained by the power-arm *b* being formed to pass through the slot *a*<sup>2</sup>, cut in the strap at or near the center of its transverse extension, and so that the lever-arm made broader will bear against the strap with shoulders *b*<sup>2</sup> at either side of the slot, which bearing of the shoulders *b*<sup>2</sup> enables the lever to become fixed, fulcrumed against the strap, and turning at this point as a center the lever-arm *b'*, actuated by the power-arm, wipes along the top surfacing of the cover, made smooth and preferably concaved to receive it, and in this connection I wish it to be observed that I prefer to have the lever-arm wipe directly along the smooth surfacing of the cover itself instead of along some interposed piece, as might be done. This movement of the lever-arm results in its bearing against the cover of the jar with a considerable degree of pressure, for by reference to Fig. 1 it will be seen that the space between the upper surfacing of the cover and the strap is somewhat shorter than the length of the lever-arm, and as the length of this arm remains constant and being turned by the power-arm from the point of fulcrumage as a center the arc prescribed would bring the end of the arm to bear and wipe with a relatively increasing degree of intensity along the cover and until the lever-arm occupies the position shown in the dotted lines of Fig. 1 or that corresponding with a perpendicular alinement between the strap and the cover. In other words, the arm *b'* is drawn by the



power-arm  $b$ , wedged between the strap and the cover of the jar, the shoulders  $b^2$  thereof bearing up against the strap, while the lower edge bears against the cover. This action of the lever-arm is possible by reason of the resiliency of the strap, which springs sufficiently to permit of the wedging insertion and so that the pressure of the lever-arm against the cover becomes and is practically measured by the resilient stress of the strap, which is of a constant but yielding kind of pressure.

Not only is the lever-arm drawn in so that it becomes wedged between the cover and the springing strap, but it becomes locked in place. This is obtained, primarily, from the obtuse angular jointure of the lever to the power-arm, for after the lever-arm has been drawn to the position shown in the dotted lines of Fig. 1, which marks the center of its movement—that is, relatively to the jar-cover—it is moved past such center to the position shown relatively in Fig. 2, where it is represented as locked in place.

Now after the lever has passed the center, as before described, it begins to hold an angular placement relatively to the cover against which it bears, and with the surfacing of the cover made comparatively smooth and with the resilient stress of the arm bearing down upon the lever-arm the tendency would be for it to slip, and so become displaced. This tendency, however, is taken advantage of, and the arm  $b'$  becomes locked in place by the power-arm being snapped down to bear against the upper surfacing of the strap, its angular jointure to the lever-arm being such that it will contact with the strap, and so retain the bearing-arm  $b'$  of the lever locked at the point of desired placement. The release of the wedged lever-arm  $b'$ , and so the unclamping of the cover, is obtained simply by reversing the arm  $b$ , and in this connection my preference is to make the arm as thin as possible to lie flat against the upper surfacing of the strap, so that in order to reverse it a thin blade might be inserted. The power-arm may be of any sufficient length, and it may have, as represented, a turned finger end if such is deemed desirable.

The bent lever is preferably made of sheet metal. The extreme simplicity of its formation is best seen from its blank form, (shown in Fig. 4,) the lever-arm being somewhat wider than the power-arm. This provides the shoulders  $b^2$ , which fulcrum against the strap, while the power-arm thrust through the slotted opening therein holds the lever in place, as before explained. This construction is preferable by reason of its simplicity and aptitude; but the construction may well be varied without departing from the essence of my invention, as may be seen, for example, in the modified construction shown in Fig. 5, where the lever-arm  $b'$  is held fulcrumed against the strap to be turned by the power-arm  $b$  by having a slot  $b^3$  cut at the point of angular jointure through which the strap

passes. This necessitates of the bent lever being made very wide relatively to its length, and the construction, while not so desirable as that before made mention of, contains the spirit of my invention, especially since a modified means is shown for so uniting the lever with the strap that it will form therewith its own fulcrumage or point of pivotal turning without supplementary part.

As described, the bent lever is of separable attachment to that of the strap, this with particular reference to the main construction, where the power-arm is thrust through the slot in the strap. This separableness of the bent lever while possessing the advantage of a simplicity of combination with the strap might become displaced when the parts are separated from the jar; but any trouble of this account I have anticipated by bosses  $b^4$ , which are shown in Fig. 3 struck along the sides of the arm  $b$  and which may be turned out after the arm has been thrust through the strap.

The advantages of the invention arise from its extreme simplicity, from the ease with which the parts are put into operating combination, from the efficiency of their operation, from the peculiar but effective method of obtaining the locked placement of the lever-arm, and perhaps more essentially from the simple and cheap way in which a very useful article can be manufactured.

Having thus fully described my invention, I claim and desire to secure by Letters Patent of the United States—

1. A jar having a cover, a strap turned to fit closely over the said cover and secured to the body or neck of the jar, in combination with a bent lever the power-arm of which has placement to turn above said strap, while the lever-arm, held fulcrumed up against its under surface, has placement to turn between it and the cover of the jar, and means for so forming said lever and self-combining it with the said strap that its arms will have the relative placement aforesaid, and the lever-arm be held to fulcrum up against the under surface of said strap, so that when actuated by the power-arm, and turning from its said point of fulcrumage, it may be interposed wedge-like between the cover and the strap, and so may hold the cover pressed down, substantially as described.

2. A jar having a cover, a strap turned to fit closely over the said cover and secured to the body or neck of the jar, in combination with a bent lever the power-arm of which has placement to turn above said strap, while the lever-arm held fulcrumed up against its under surface, has placement to turn between it and the cover of the jar, and means for so forming the said lever and self-combining it with said strap, that its arms will have relative placement to turn as aforesaid, and the power-arm bent relatively to the lever-arm may, when sufficiently turned, contact with the said strap and so may hold the lever-arm



in a wedged locked placement between strap and the cover, substantially as described.

3. A jar having a cover and provided with a strap turned to fit closely over the said cover, and secured at its ends to the body or neck of the jar, in combination with a bent lever, the lever-arm of which, fulcrumed against said strap, when actuated by the power-arm is adapted to wipe and bear along the upper surfacing of said cover, means for obtaining said fulcrumage, comprising an opening cut through the said strap through which the power-arm extends, and the lever-arm brought to contact therewith, and means for so forming said lever that its power-arm bent relatively to the lever-arm may be turned to contact with the strap and so may hold the lever-arm in a wedged, locked placement between the strap and the cover, substantially as described.

4. A jar having a cover and a strap of resisting resiliency turned to fit closely over the said cover, and secured at its flanged ends to the body or neck of the jar, in combination with a bent lever B of relatively thin metal plate, having the power-arm  $b$  and lever-arm  $b'$ , provided with shoulders  $b^2$ , and a slotted opening  $a^2$ , cut through said strap through which said power-arm extends and by which the lever-arm may be brought to contact therewith along its shoulder portions

for a point of fulcrumage, as and for the purposes set forth.

5. A jar having a cover and a strap of resisting resiliency turned to fit closely over the said cover, and secured at its flanged ends to the body or neck of the jar, in combination with a bent lever B of relatively thin metal plate, having the power-arm  $b$  and lever-arm  $b'$ , provided with shoulders  $b^2$ , and a slotted opening  $a^2$ , cut through said strap through which said power-arm extends and by which the lever-arm may be brought to contact therewith along its shoulder portions for a point of fulcrumage, and bosses or the like for retaining said strap and lever in permanent combination, substantially as and for the purposes set forth.

6. A jar having a cover, a strap of resisting resiliency turned to fit closely over the said cover and secured to the body or neck of the jar, in combination with a bent lever so formed and so uniting with said jar that it will form its own fulcrumage therewith, or point of pivotal turning, whereby the cover of the jar may be pressed down, and means for so combining and uniting said lever with said strap, substantially as described.

EDWIN J. KRAETZER.

Witnesses:

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