

No. 640,182.

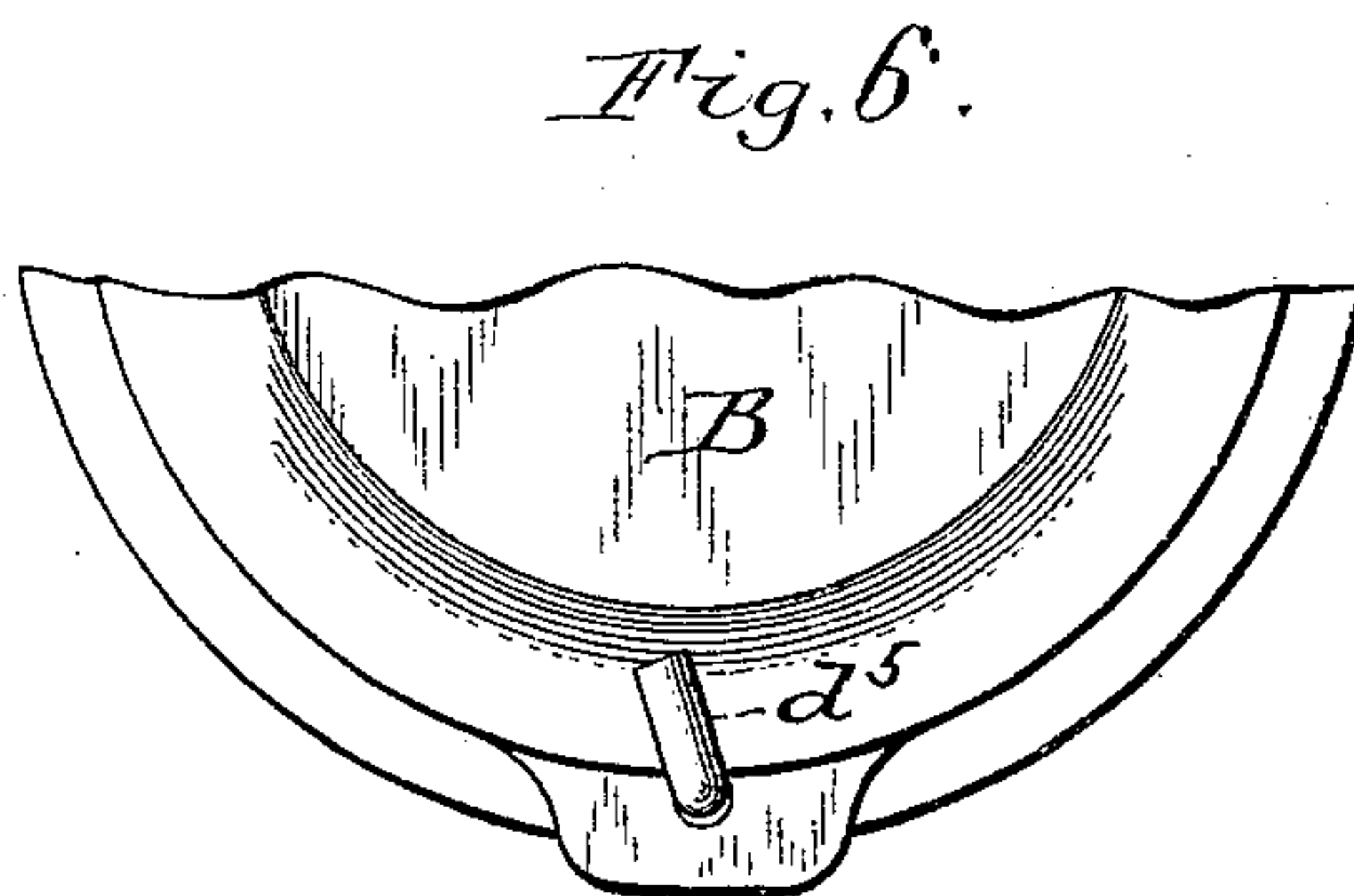
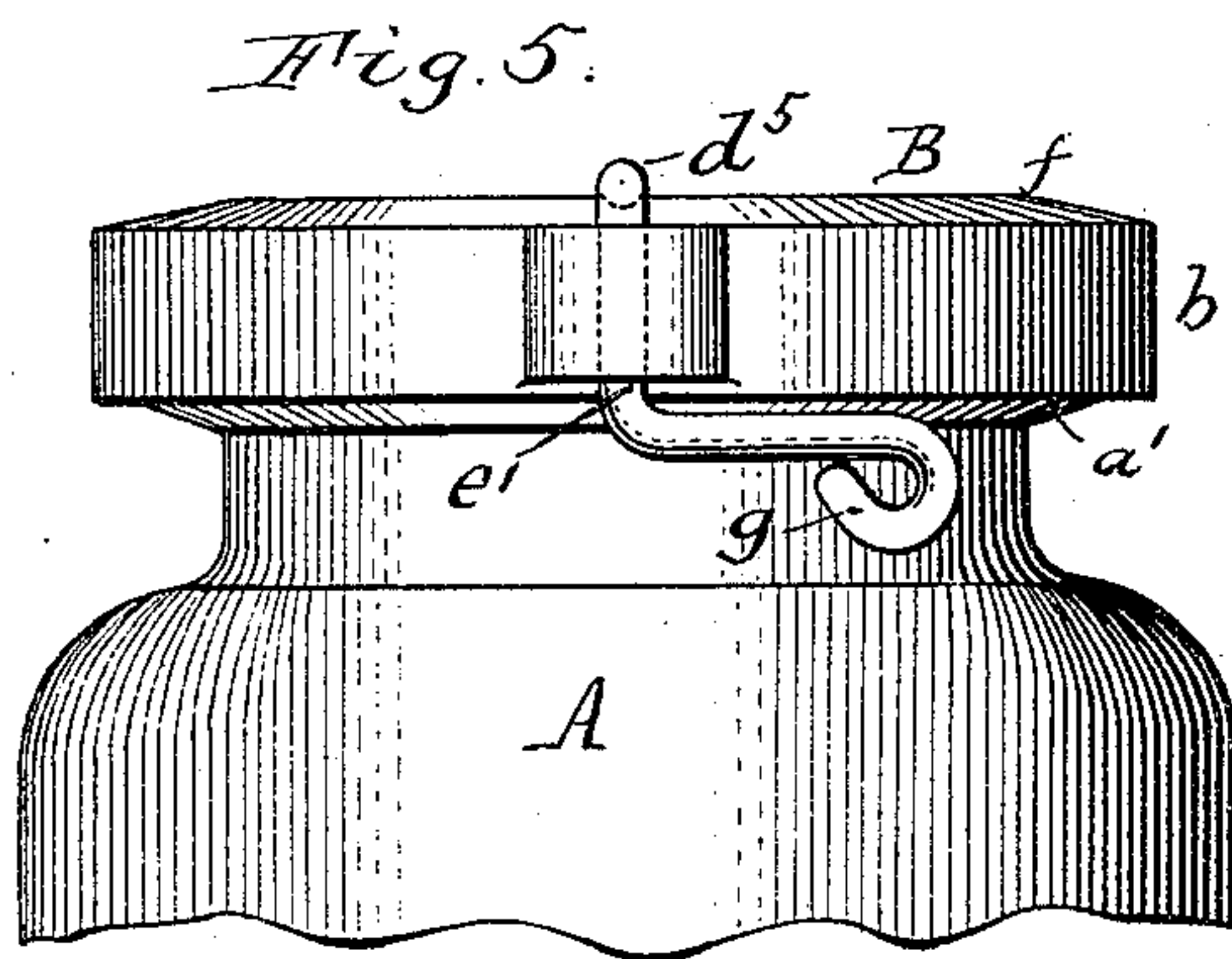
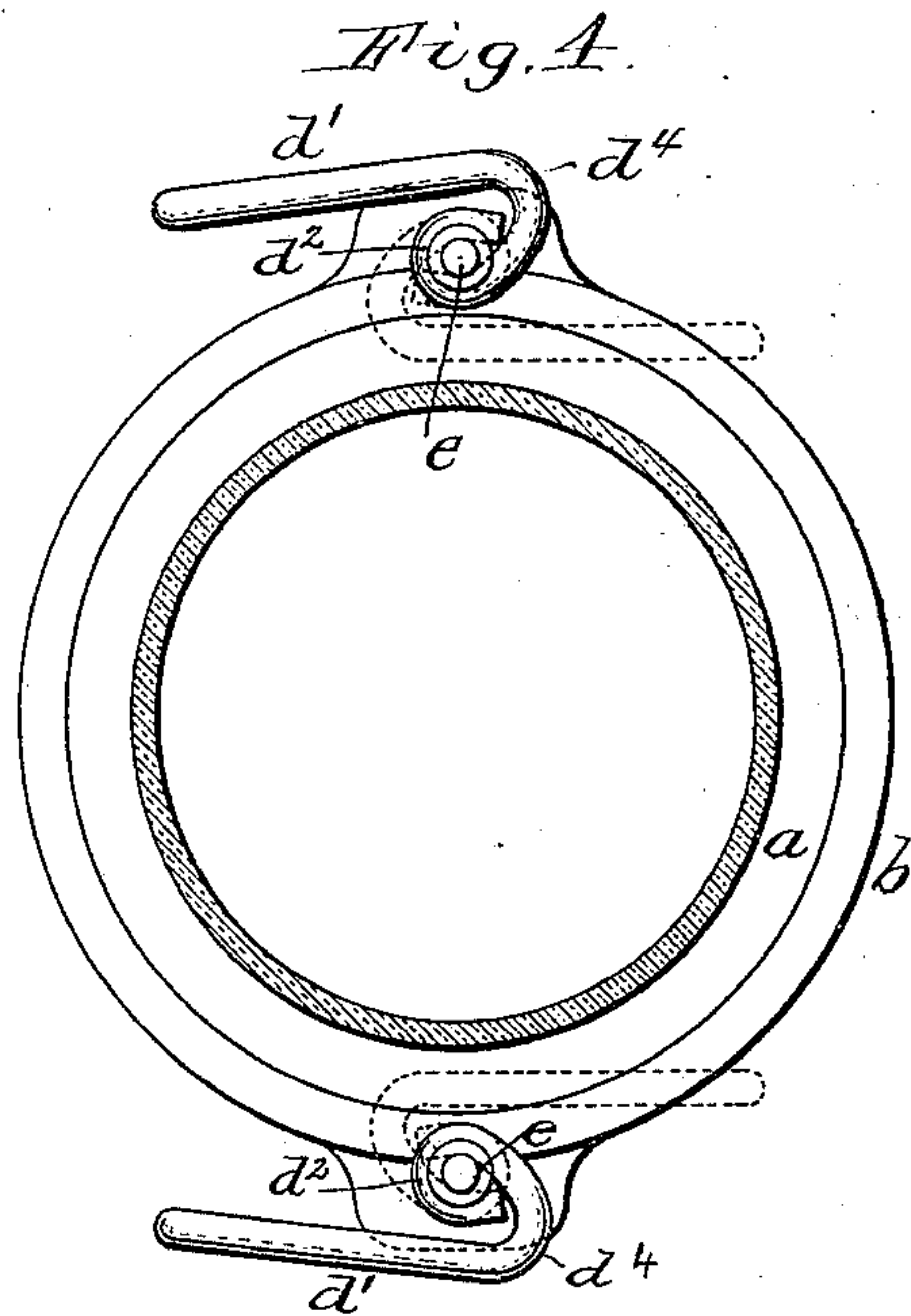
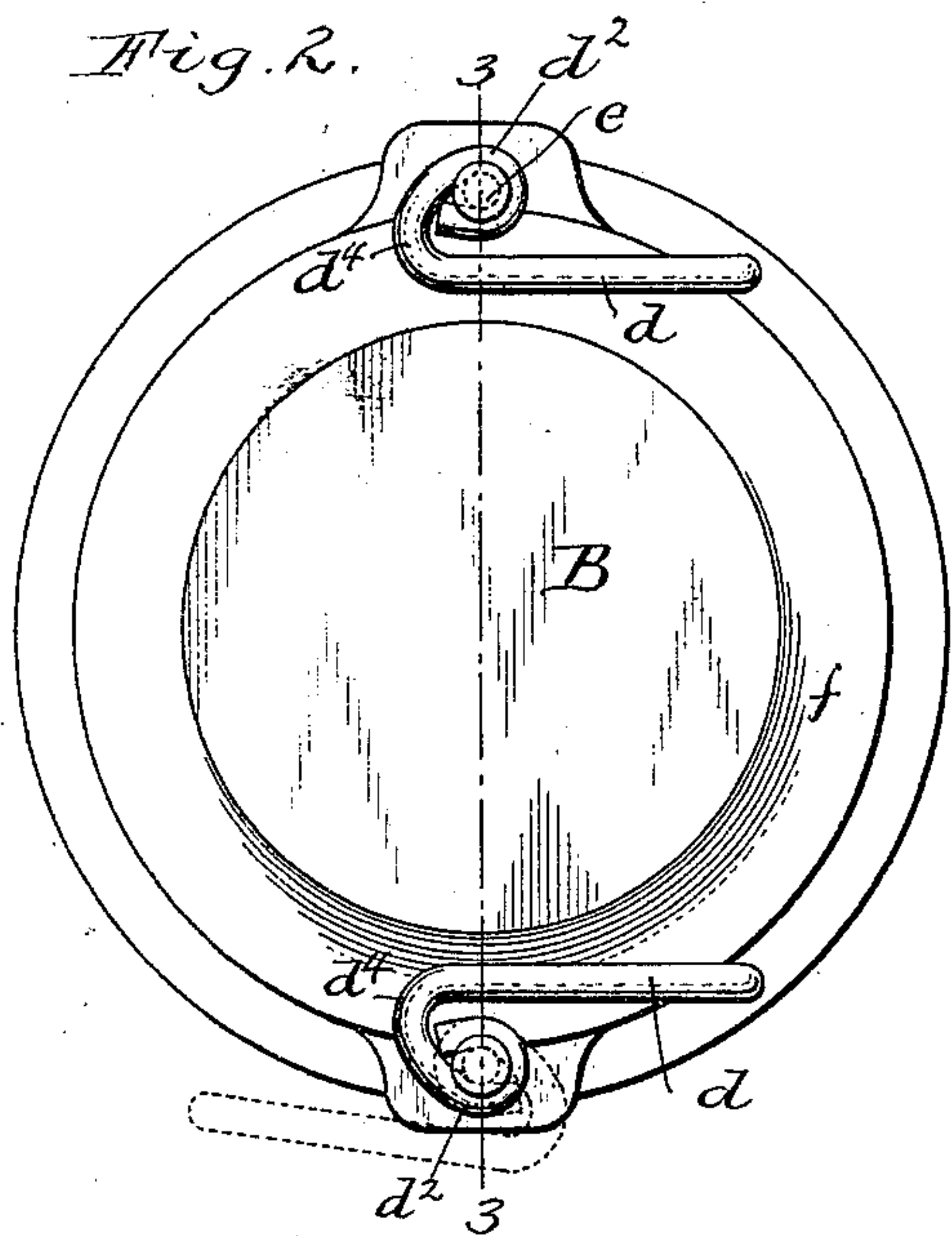
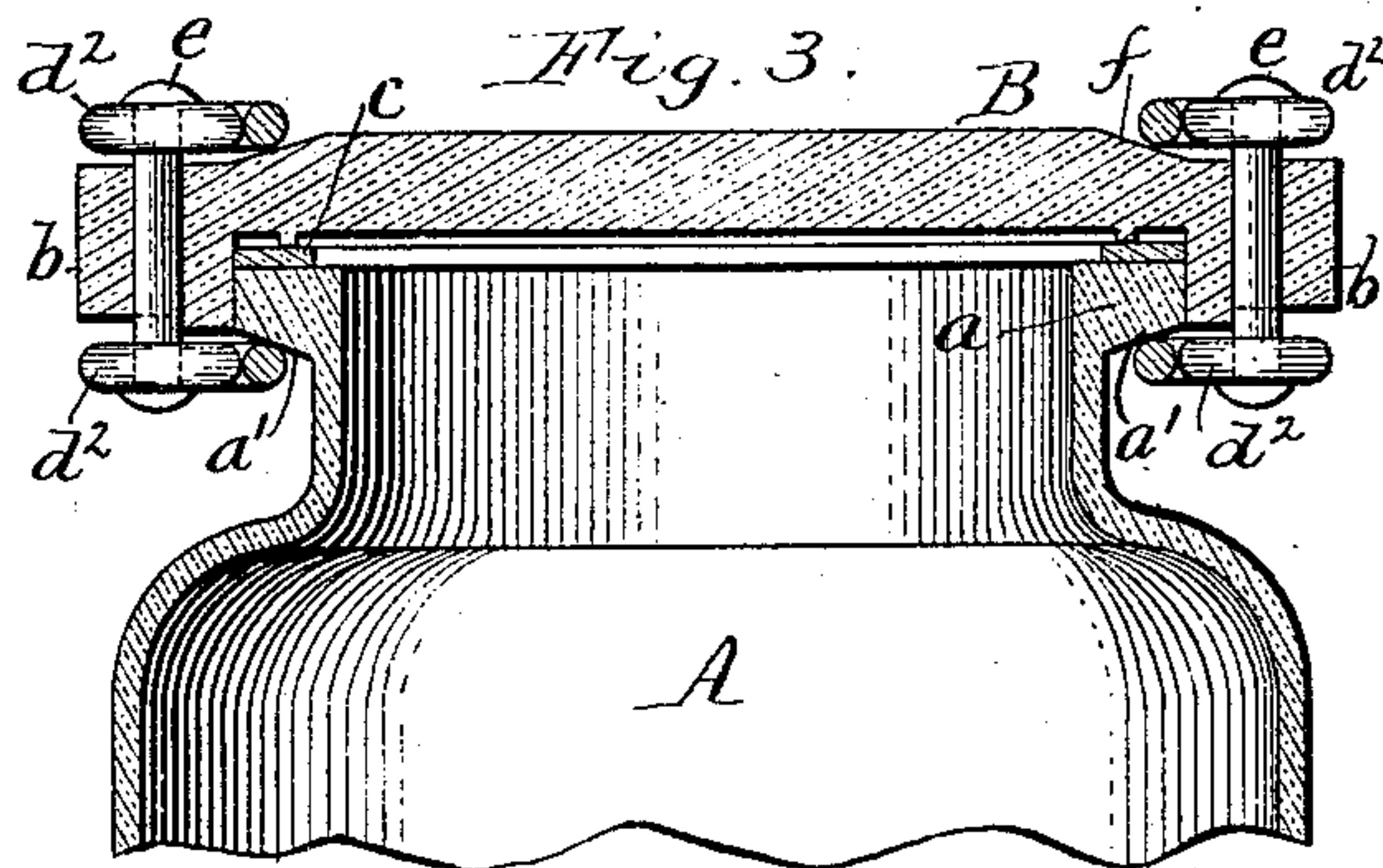
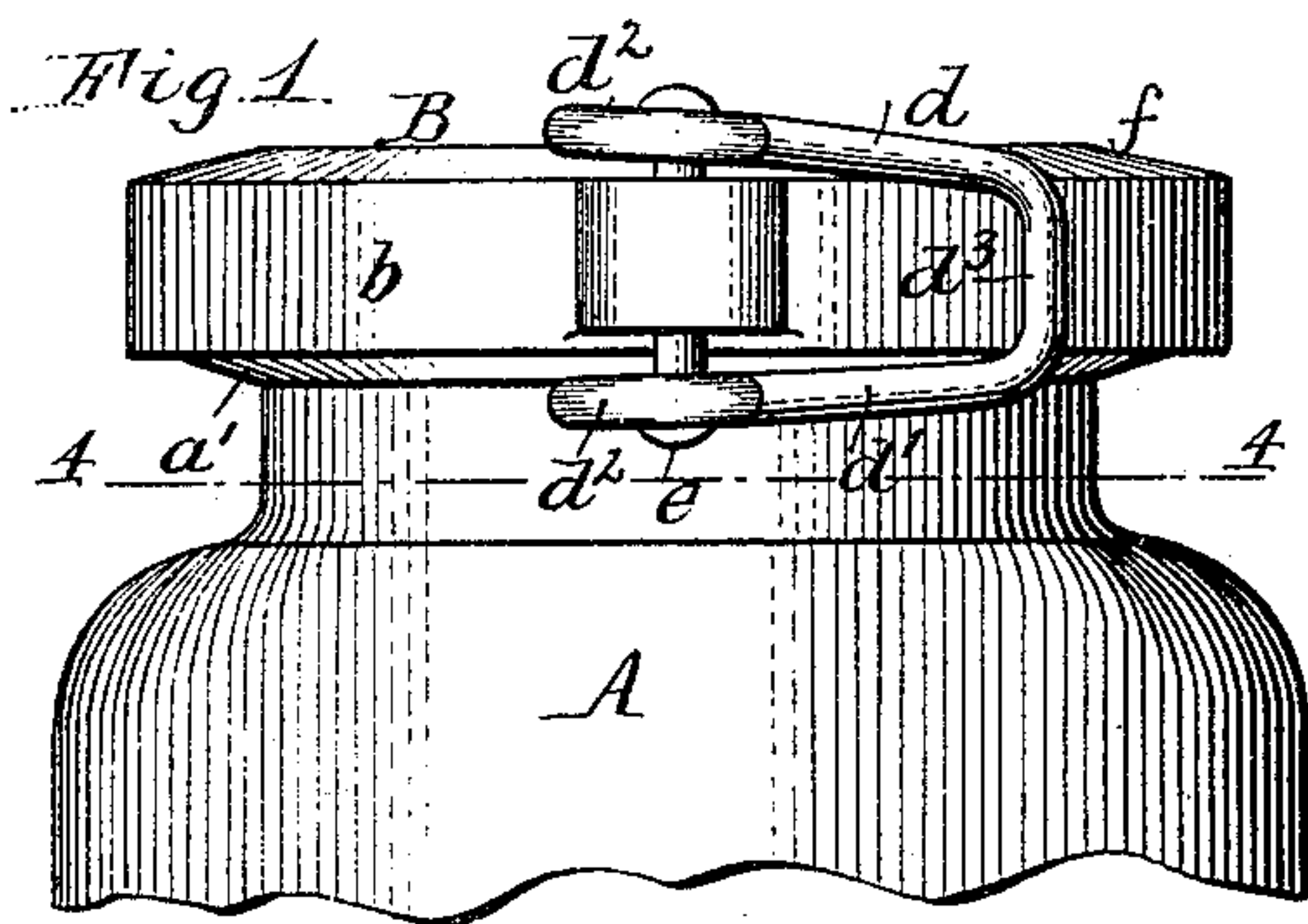
Patented Jan. 2, 1900.

I. P. DOOLITTLE.

COVER FASTENING FOR FRUIT JARS OR SIMILAR VESSELS.

(Application filed Mar. 31, 1899.)

(No Model.)



Witnesses:
Henry L. Deck.
Chas. F. Burkhardt.

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UNITED STATES PATENT OFFICE.

IRVIN P. DOOLITTLE, OF TORONTO, CANADA.

COVER-FASTENING FOR FRUIT-JARS OR SIMILAR VESSELS.

SPECIFICATION forming part of Letters Patent No. 640,182, dated January 2, 1900.

Application filed March 31, 1899. Serial No. 711,297. (No model.)

To all whom it may concern:

Be it known that I, IRVIN P. DOOLITTLE, a citizen of the United States, residing at Toronto, in the county of York, in the Province of Ontario, Dominion of Canada, have invented new and useful Improvements in Cover-Fasteners for Fruit-Jars or Similar Vessels, (for which I have obtained a patent in Canada, No. 61,416, bearing date October 17, 1898,) of which the following is a specification.

This invention relates to the locks or fastenings employed for clamping the covers of fruit-jars and the stoppers of bottles in place, and more particularly to a fastening of this kind designed for use in connection with a cap which fits over the mouth of a bottle or jar.

The object of my invention is the provision of a simple and inexpensive locking device of this character which firmly and reliably clamps the cover to the jar, so as to produce a tight joint or seal and which can at the same time be easily unlocked for releasing the cover.

In the accompanying drawings, Figure 1 is a fragmentary side elevation of a jar provided with my improved fastening. Fig. 2 is a top plan view thereof. Fig. 3 is a vertical section in line 3 3, Fig. 2. Fig. 4 is a horizontal section in line 4 4, Fig. 1, looking upwardly, showing the cover unlocked. Fig. 5 is a side elevation of a modified construction of the fastening. Fig. 6 is a fragmentary top plan view thereof.

Like letters of reference refer to like parts in the several figures.

A is a jar, bottle, or similar vessel which is provided at or near its upper end with a rim or outwardly-projecting flange *a*, and B is the cap or cover of the jar, having a depending flange *b*, which fits snugly over the rim of the jar. A rubber packing ring or gasket *c* is interposed between the under side of the cap and the flat upper surface of the rim *a*, as shown. The cap is removably fastened to the jar by a pair of locking devices preferably arranged at diametrically opposite sides of the cover, as shown in Figs. 2 and 4, and each is composed of a pair of horizontally-swinging arms or levers *d d'*, arranged one above the other and mounted at their inner ends upon an upright pivot-pin or rivet *e*, which passes through a perforated lug or ear projecting

from the edge of the cap. The inner portions of the arms *d d'* terminate in eyes *d²*, which encircle the pivot-pin *e* and which are retained therein by heading or upsetting the ends of the pin, and the free outer ends of the arms are connected by an upright bar *d³*, which serves as a thumb-piece for locking and releasing the arms. The eyes of the locking-arms are offset or arranged eccentrically on the outer sides of the arms in the locked position of the latter, as shown in Figs. 1, 2, and 3, so that when the fastenings are swung inwardly to this position the inner portions of the arms and the inner sides of their eyes engage under the rim *a* of the jar and retain the cover thereon, while when the arms are swung outwardly to the position shown by dotted lines in Fig. 2 and by full lines in Fig. 4 the arms and their eyes clear the jar-rim and release the cover. As shown in the drawings, the bends *d⁴* at the junction of the arms *d'* and eyes *d²* extend inwardly a sufficient distance to engage under the rim of the jar in the locked position of the arms. The two arms *d d'*, their eyes *d²*, and the connecting-bar *d³* are preferably bent from a single piece of comparatively heavy wire.

In order to cause the locking-arms to tightly clamp the cap upon the jar, the under side of the jar-rim is inclined or beveled, as shown at *a'*, so that in locking the fastenings their lower arms are wedged or sprung downwardly by the beveled face of the rim, thereby firmly drawing the cap down upon the upper flat face of the rim and compressing the packing-ring *c* and forming a reliable seal. In order to render this clamping action more effective, the cap is provided on its upper side near its edge with a beveled or outwardly-sloping face *f*, over which the upper arm *d* of each locking device rides in locking the cover. The pivot-pins of the arms *d d'* are preferably free to slide vertically in their openings in the cap, and in swinging the arms inwardly for clamping the cap the upper arms by riding up the beveled face of the cap tend to draw the pivot-pins upwardly, thereby causing the lower arms to bind more tightly against the beveled face of the jar-rim.

The bends *d⁴* of the eyes *d²*, in conjunction with the beveled faces of the jar-rim and the cover, have a cam-like action in locking the

cover to the jar by which the cover is tightly clamped upon the rim of the jar. As the arms d are constructed of wire and connected at their outer ends by the bar d^3 , they have
 5 a certain amount of elasticity, which permits their eyes d^2 and cam-bends d^4 to spring farther apart as they are forced upon the beveled faces of the cover and the jar-rim and whereby they firmly grip these surfaces and
 10 effect a tight and reliable closure of the cover. As shown, the pivots e of the clips project a sufficient distance above and below the lugs of the cover to permit of this action of the eyes and bends.

15 As a modification of my improved locking means a lip or comparatively short upper arm d^5 may be substituted for the long upper arm of the first-described construction and the pivot e' be formed in one piece with this lip
 20 and the lower arm, as shown in Figs. 5 and 6. In this case the lower arm is preferably formed at its free end with an enlargement or thumb-piece g by doubling the wire, as shown. In this modified construction when the cap of
 25 the jar is locked the arm d^5 bears upon the beveled margin of the cap and the lower arm engages under the beveled rim of the jar, as in the construction first described.

It is obvious that my improved locking device is applicable to the caps or stoppers of
 30 bottles and similar vessels as well as jars.

I claim as my invention—

1. The combination with a jar or similar vessel provided at its upper end with a projecting rim, of a cap or cover, and horizontally-swinging clips or fastenings pivoted by vertical pins to diametrically opposite sides of the cover and each composed of a pair of horizontal clamping-arms applied to the upper and lower ends of said pivot-pin and arranged to engage over the marginal portion of the cover and under said jar-rim, respectively, when the fastening is turned inwardly to its locking position, substantially as set forth.

45 2. The combination with a jar or similar vessel provided at its upper end with a projecting rim having a beveled under side, of a cap or cover provided on its upper side with a beveled marginal face, and a fastening applied to the cover and consisting of an upright pivot carried by the marginal portion of the cover and a pair of connected horizontally-swinging arms provided at their inner ends with eyes which encircle the projecting
 50 upper and lower ends of said pivot and adjacent to said eyes with offset or eccentric bends which are forced up on the beveled faces of the cover and jar-rim, inclosing the fastening and which clear said faces in the open position of the fastening, substantially as set forth.

60 as set forth.

3. The combination with a jar or similar vessel provided at or near its upper end with a projecting rim having a beveled under side, of a cap or cover provided on its upper side
 65 with a beveled or outwardly-inclined face, and a fastening applied to the cover and consisting of an upright pivot capable of sliding vertically on the cover, and upper and lower locking-arms applied to said pivot above and below the cover and adapted to bear against the beveled surface of the cover and the jar-rim, respectively, substantially as set forth.

4. The combination with a jar or similar vessel provided at its upper end with a projecting rim, of a cap or cover and a fastening applied to the cover and consisting of an upright pivot carried by the marginal portion of the cover and projecting above and below the same and a pair of horizontally-swinging
 75 arms provided at their inner ends with offset eyes which encircle the projecting portions of said pivot and an upright bar connecting the outer portions of said arms, said eyes being adapted to bear against the upper side of the
 80 cover and the under side of the jar-rim, respectively, and the arms with their eyes and connecting-bar being bent from a single length of wire, substantially as set forth.

5. The combination with a jar or similar vessel provided at or near its upper end with a projecting rim having a beveled under side, of a cap or cover provided on its upper side with a beveled or outwardly-inclined face, and a fastening applied to the cover and consisting of a pair of horizontally-swinging arms mounted on a vertical pivot carried by the cover and adapted to engage against the beveled faces of the cover and the jar-rim, each of said arms being provided at its inner end
 90 with an eye or enlargement which encircles said pivot and the outer ends of the arms being connected by an upright bar forming a thumb-piece, substantially as set forth.

Witness my hand this 23d day of March, 1899.

IRVIN P. DOOLITTLE.

Witnesses:

CARL F. GEYER,
 JNO. J. BONNER.