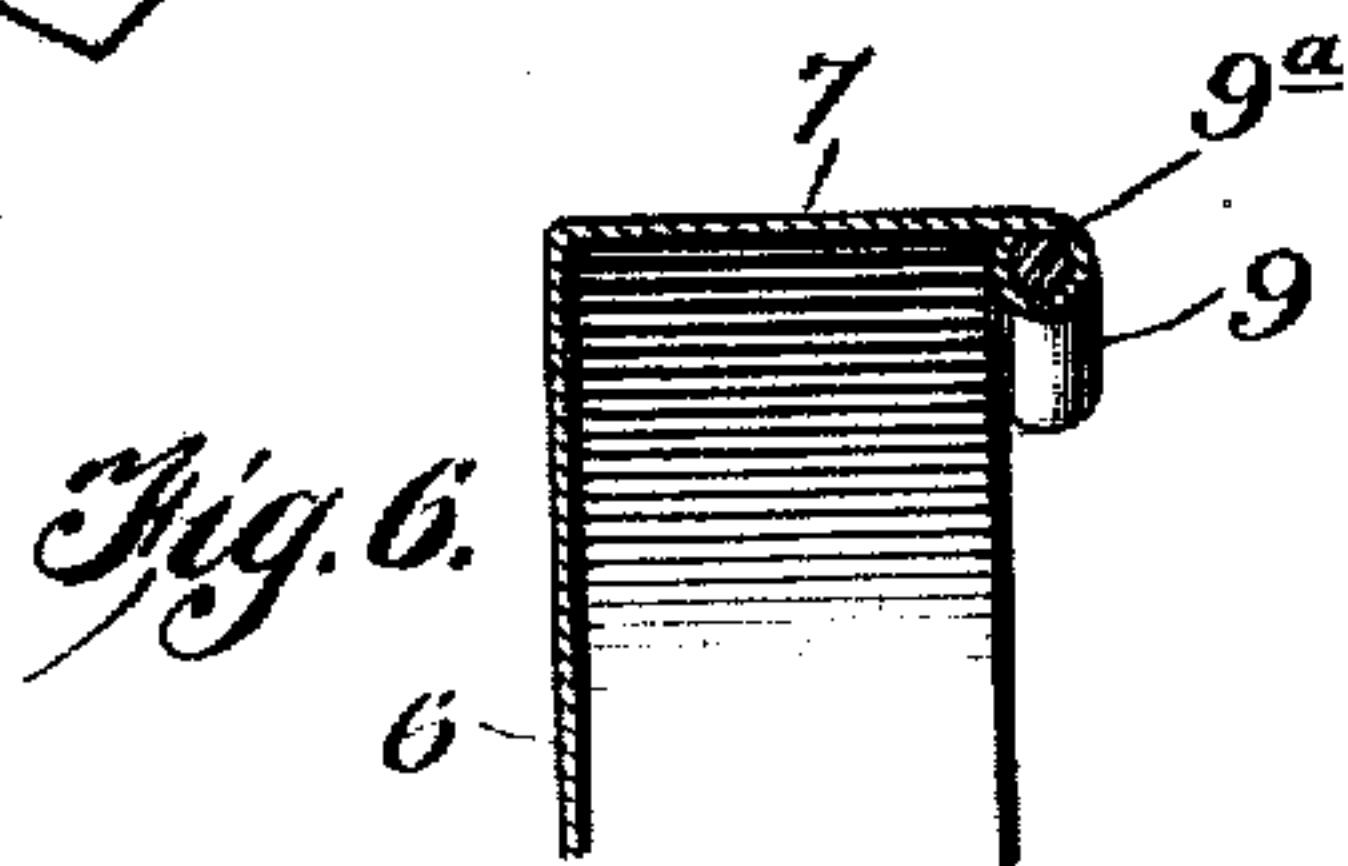
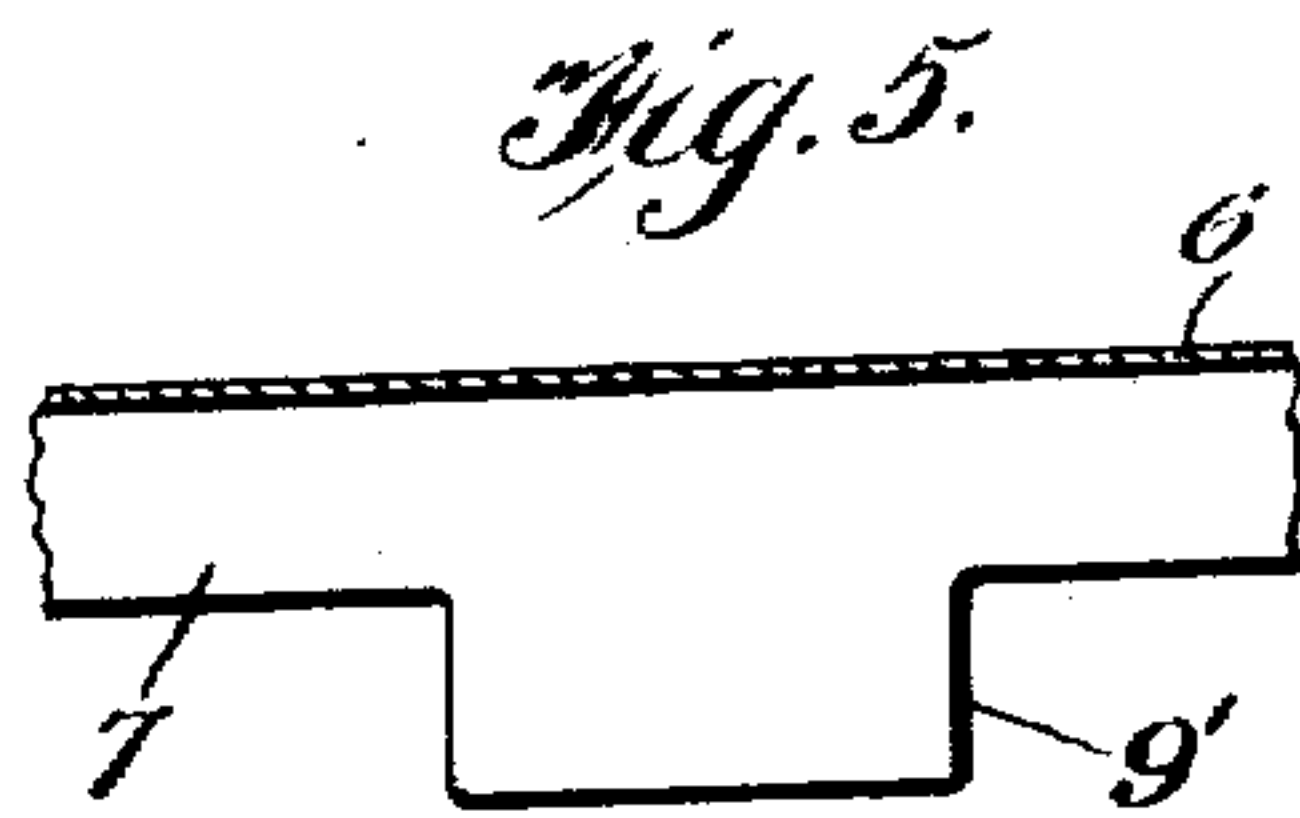
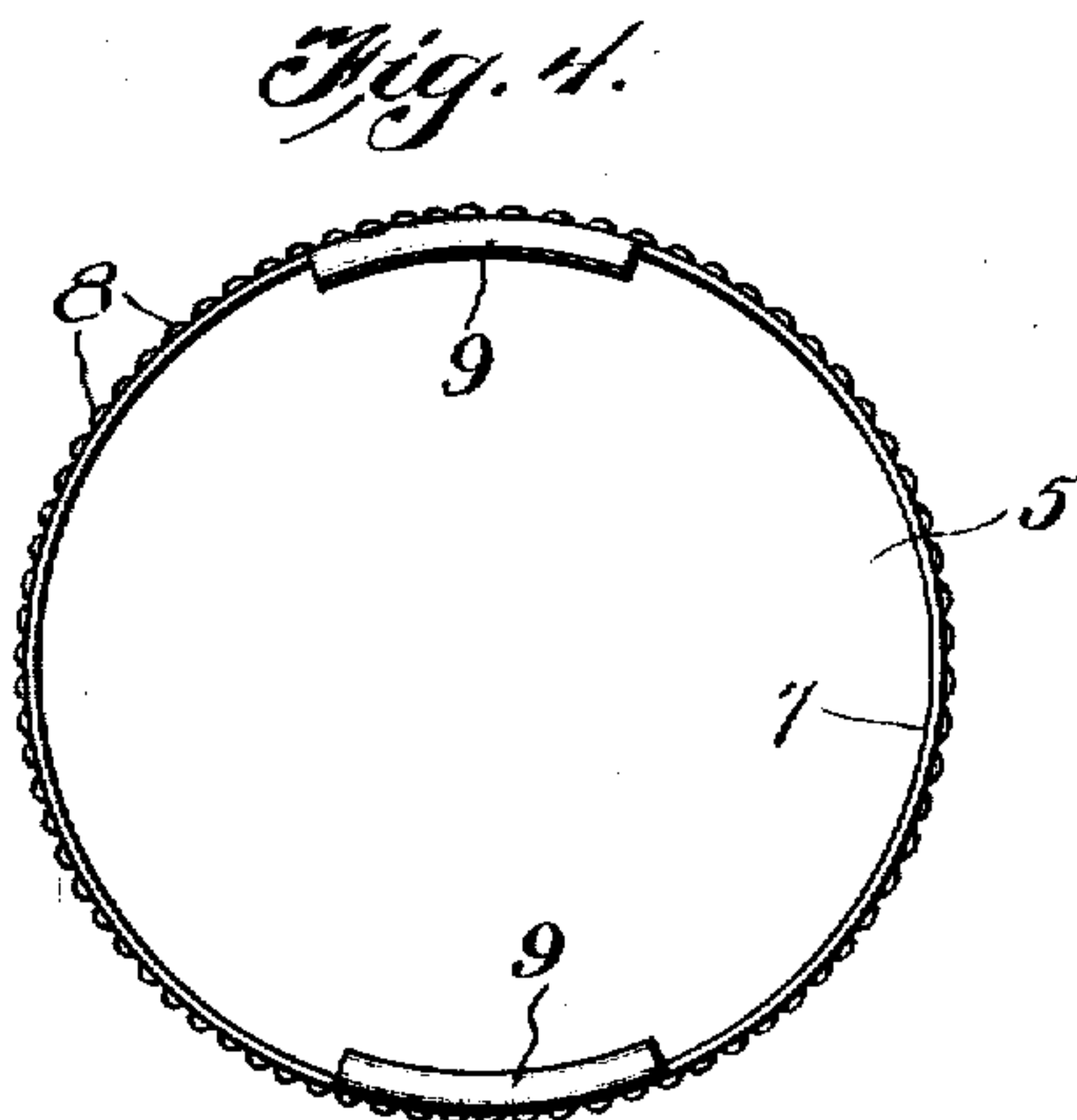
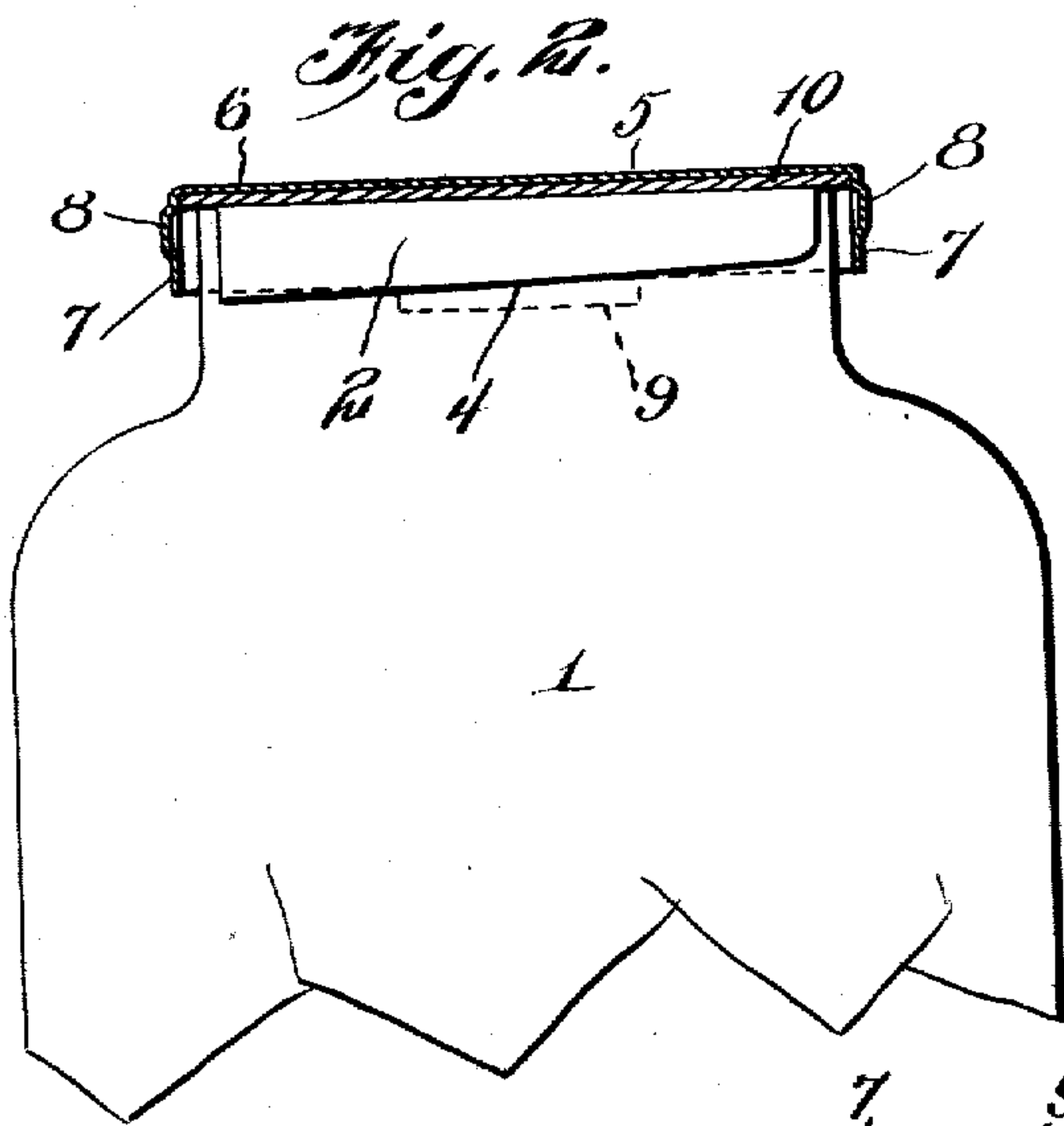
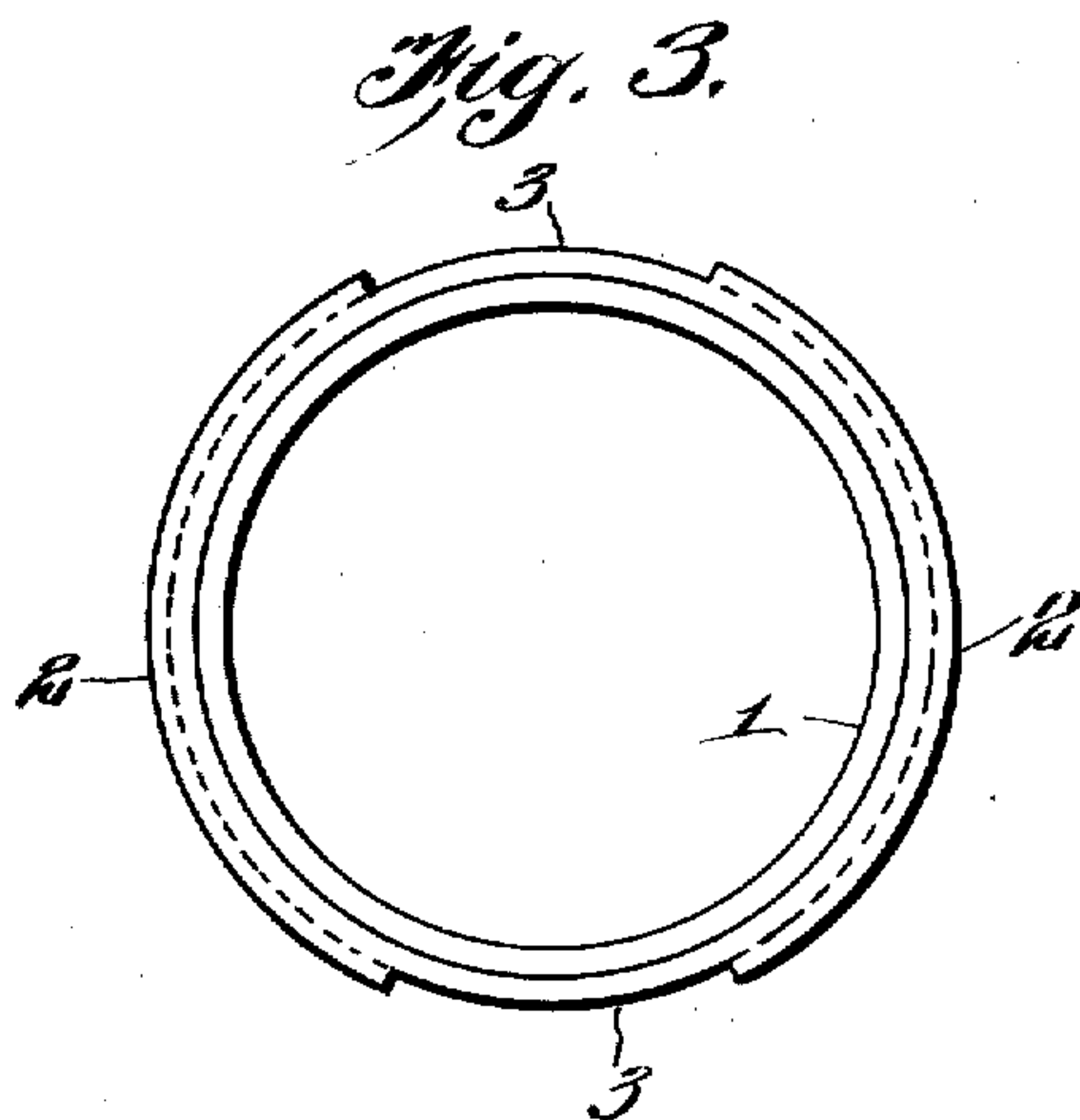
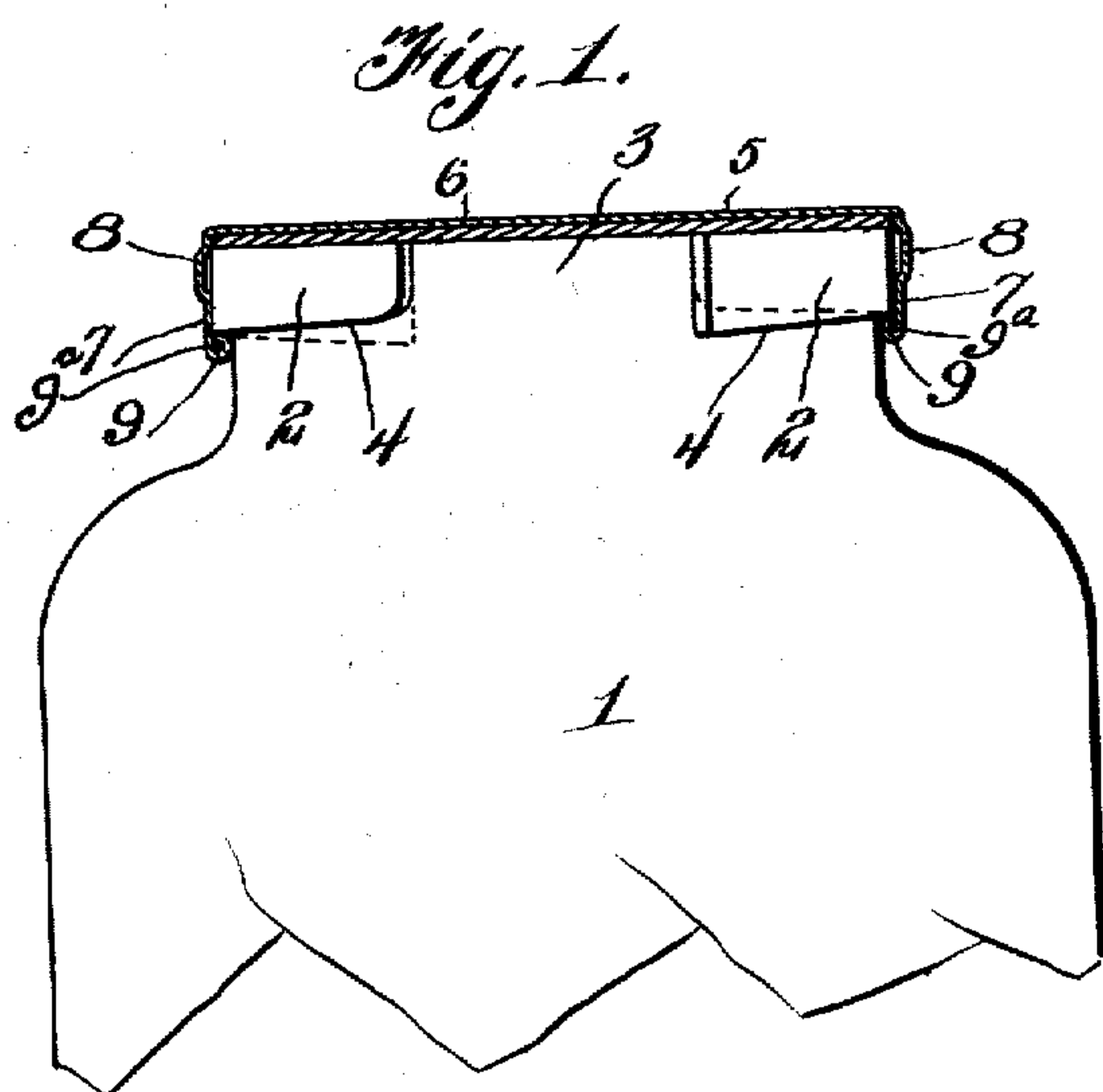


O. BECHER.
BOTTLE AND JAR CLOSURE.
APPLICATION FILED APR. 4, 1908.

Patented May 18, 1909.

922,244.



Witnesses

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UNITED STATES PATENT OFFICE.

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BOTTLE AND JAR CLOSURE.

No. 922,244.

Specification of Letters Patent.

Patented May 18, 1909.

Application filed April 4, 1908. Serial No. 425,238.

To all whom it may concern:

Be it known that I, OTTO BECHER, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented new and useful Improvements in Bottle or Jar Closures, of which the following is a specification.

This invention relates to improvements in bottle or jar closures of that type in which the bottle or jar is formed with two or more spaced shoulders having inclined lower edges for use in connection with a closure cap provided with a corresponding number of lugs or projections adapted to bind against the inclined edges of the shoulders to secure the cap in position.

The primary object of the present invention is to provide a novel construction of cap in which the locking members thereon are formed by primary integral extensions from the flange of the cap, which are rolled in the form of beads to engage the inclined edges of the shoulders, thus providing locking members which may be conveniently formed and which are of maximum strength to withstand the strain imposed thereon when the cap is turned tightly into wedging engagement with the inclined surfaces of the shoulders.

The invention consists of the features of construction, combination and arrangement of parts hereinafter fully described and claimed, reference being had to the accompanying drawing, in which:—

Figure 1 is a side elevation of the upper portion of a bottle or jar with the cap applied thereto, the cap appearing in section. Fig. 2 is a similar view at right angles to that shown in Fig. 1. Fig. 3 is a top plan view of the neck of the bottle or jar. Fig. 4 is a bottom plan view of the cap. Fig. 5 is a fragmentary section through the cap showing one of the lips or extensions prior to its formation into the locking bead. Fig. 6 is a section through the cap on an enlarged scale, showing in detail the form of the bead.

Referring to the drawing, the numeral 1 indicates the upper portion of a bottle, jar, or other suitable receptacle, which may be of any desired form. The neck or extreme upper end of said receptacle is formed with two or more external shoulders 2, separated by intervening spaces 3, each of said shoulders having an inclined lower edge 4, such edges inclining inwardly and downwardly in

the same general direction around the neck of the bottle.

The cap 5 is formed of sheet metal and is generally of the ordinary shape, having a crown portion 6 and a depending flange 7, which latter may be formed around its circumference with a series of integral projections 8 to provide a milled or serrated gripping surface to enable it to be securely grasped and readily turned in opposite directions for application and removal.

The flange 7 of the cap is provided at its lower edge with inwardly extending locking projections 9 equal in number to the shoulders 2 and adapted to engage the inclined surfaces 4 thereof. The said locking projections are so relatively arranged as to be brought into alinement with the recesses 3 between the ends of the shoulders, so as to allow the cap to be slipped down upon the neck with its flange surrounding the same and inclosing the shoulders, whereby upon rotating the cap to the right the locking projections will ride upon and bind or wedge against the inclined surfaces of the shoulders, thereby drawing the usual sealing disk 10 closely down against the upper end of the neck and locking the cap securely in applied position. Upon turning the cap to the left to bring the projections 9 into alinement with the recesses, the cap may be removed in the usual manner.

In accordance with my invention the locking projections 9 are formed integral with the flange of the cap by initially providing said flange with depending lips or extensions 9', as shown in Fig. 5, which lips or extensions are turned or rolled inwardly or upwardly into the form of a bead, as shown in Fig. 6, within which is inclosed a circular reinforcing wire 9" to render the bead non-resilient and provide a bead of maximum strength. As shown, the beads thus provided upon the flange of the cap lie upon the inner side of the flange with their lower surfaces substantially flush with the lower edge thereof and their upper surfaces formed to squarely engage the inclined edges 4 of the shoulders.

In order to tightly seal bottles and jars of certain kinds, it is necessary to have the beads or locking projections bind with great force against the inclined lower edges of the shoulders 2, in order to draw the top of the cap and the sealing disk down close upon the

mouth of the bottle or jar. When a tight binding action of this character is set up, the pressure upon the beads tends to cause the beads to be forced open or the top of the cap to buckle through the transmitted strain from the flange. This objectionable tendency of the beads to be forced open or to yield unduly and prevent the desired tight closure of the cap is liable to occur on account of the thinness of the metal necessarily employed, and, of course, such tendency would be increased were the beads loosely rolled or unreinforced, or rolled so that their free edges would simply contact with the body of the flange or lip so that said free edge would be subject to unrestricted depression under the pressure of its wedging engagement with the inclined surface of the shoulder on the neck. A portion of this objection is avoided in the present structure by rendering each bead non-resilient by arranging the stiffening wire therein, so as to materially restrict or prevent depression of the bead as a whole, as well as the free edge thereof, and this wire also stiffens the adjacent portion of the flange of the cap to assist it in withstanding the compressing strain. This action is further promoted by turning the free edge of the bead downward into the V-shaped space or crevice between the outer vertical body portion of the lip and the upper outer surface of the stiffening wire, as clearly shown in Fig. 6, so that the binding pressure falling on said free edge of the bead will force the same more firmly into said space and contract the bead so that it will more firmly embrace the wire and thus be prevented from springing or yielding under such pressure. The integral projections 8 are also made of some material length, so that they will reinforce the flange between the beads and crown of the cap and thus prevent any tendency of the crown to buckle or the flange to extend and permit the beads to unfold under severe pressure. I am aware that it has heretofore

been proposed to employ rolled locking beads and to vertically corrugate the flange of the cap, but I believe that I am the first to construct and reinforce the beads in the manner described and to employ vertical projections or corrugations on the flange above the beads to coact with the latter in the manner set forth.

It will be seen from the foregoing description that a cap of simple construction is provided in which the locking projections are of greater length than ordinary to increase the frictional engagement between the cap and shoulders, and that by forming such projection in the manner described they are effectually adapted to withstand the strain falling thereon from their wedging engagement with the shoulders. It will be obvious that the caps with the straight lips thereon may be readily struck up through the action of a die, and the beads then formed by coiling the lips in any convenient manner.

Having thus fully described the invention, what is claimed as new is:—

A bottle having external shoulders spaced apart a like distance and oppositely inclined at their lower edges, in combination with a sheet metal closure therefor having a flange to encircle the shouldered portion of the bottle, and having lips pendent from said flange, and inwardly rolled and circumferentially curved to form locking projections to engage the inclined edges of said shoulders, and longitudinally curved reinforcements filling the rolled lips to render them rigid and to clamp the edge portions of the lips between said reinforcements and the inclined edges of said shoulders.

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

OTTO BECHER.

Witnesses:

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