

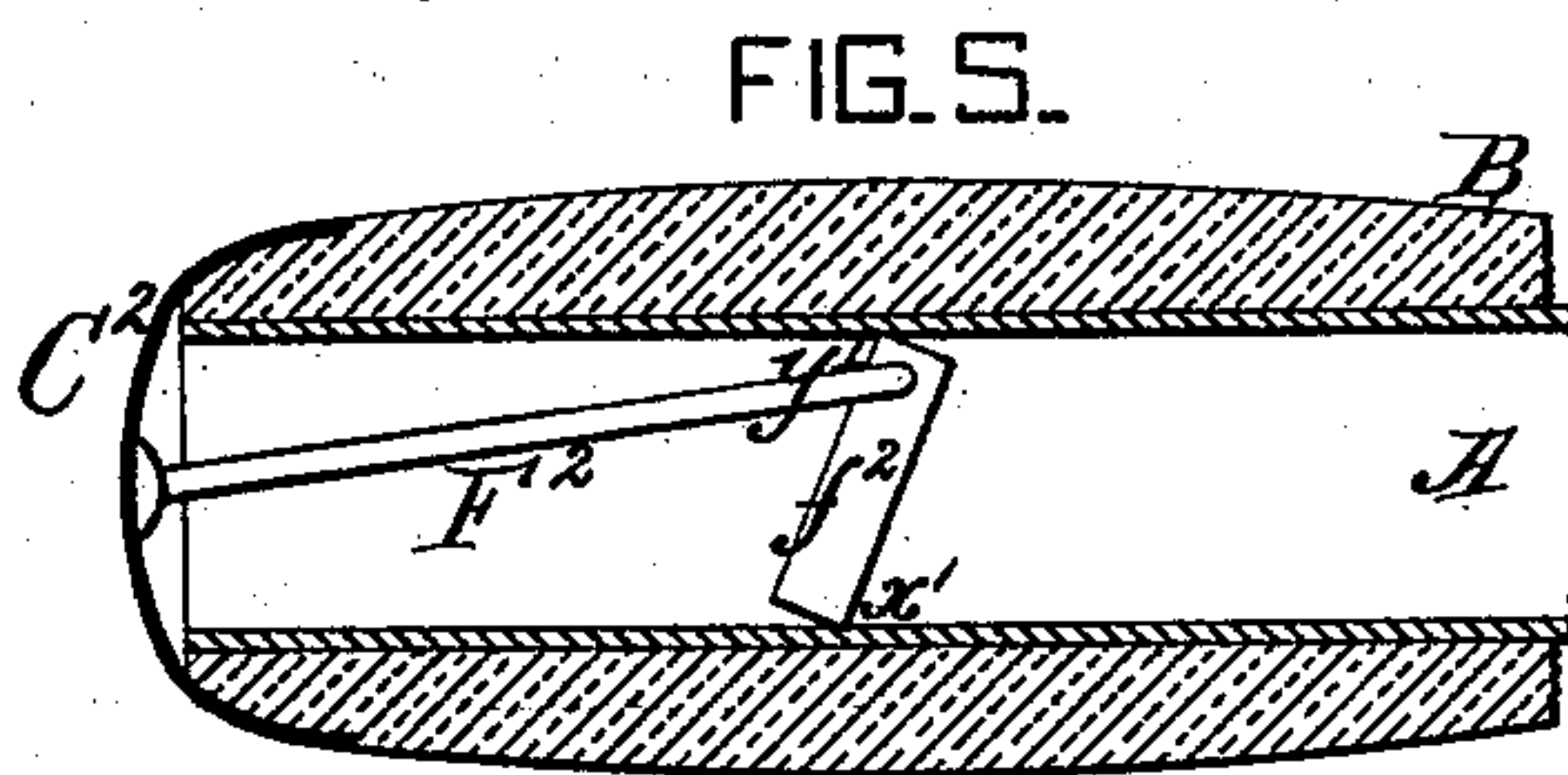
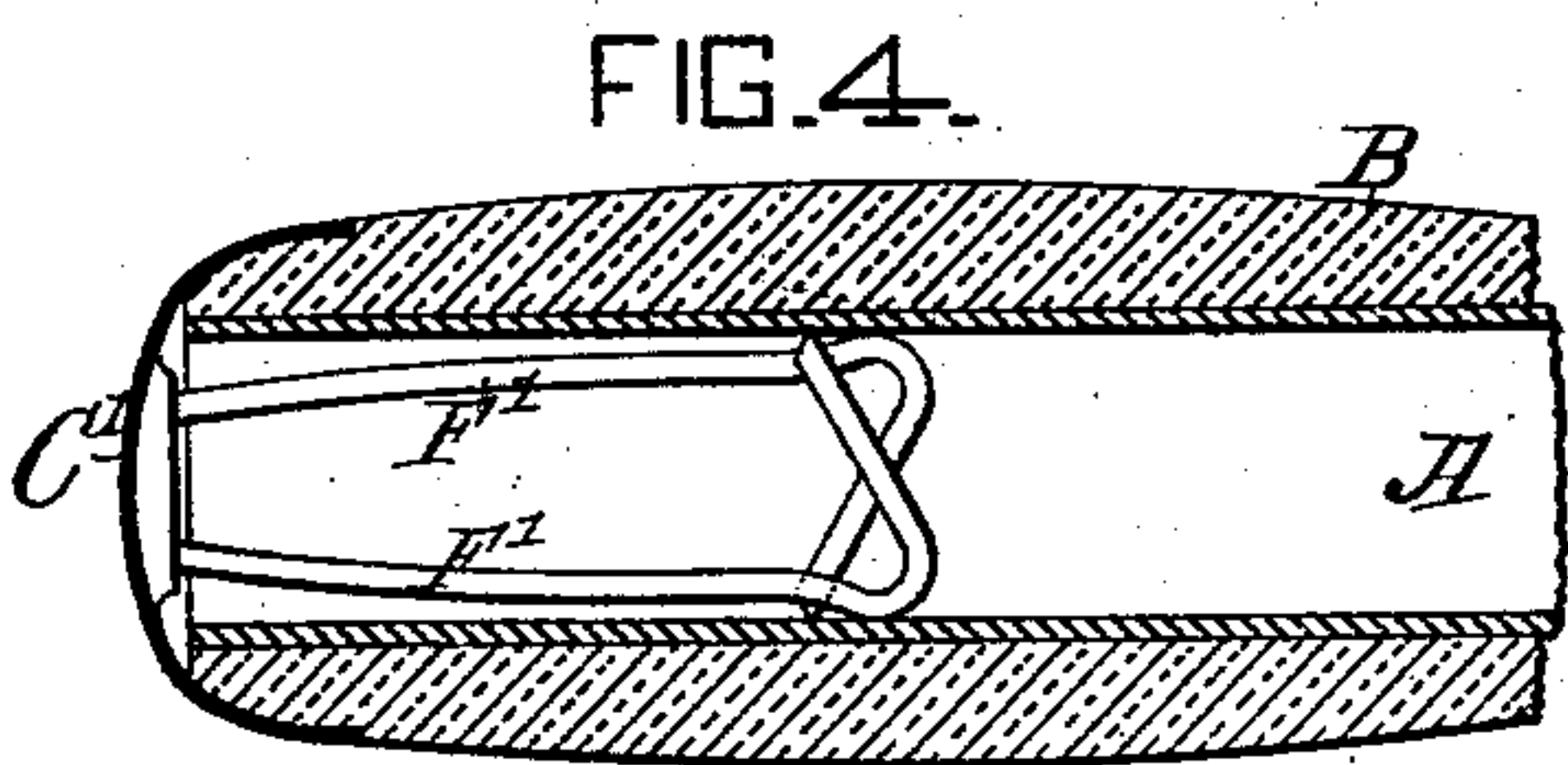
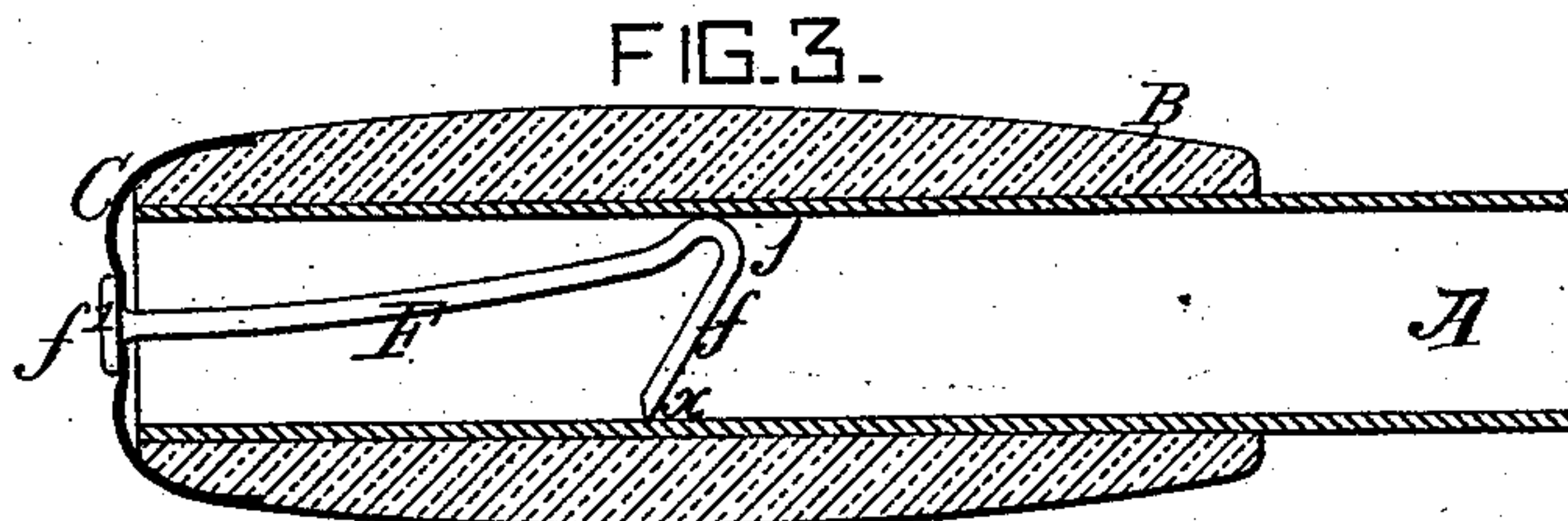
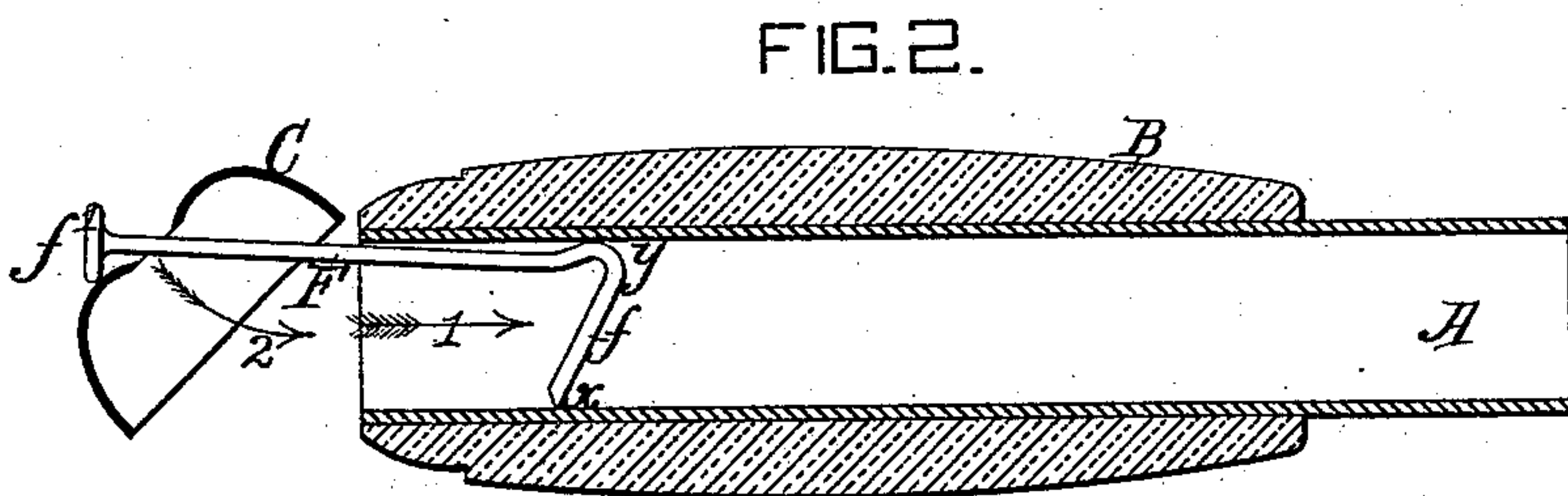
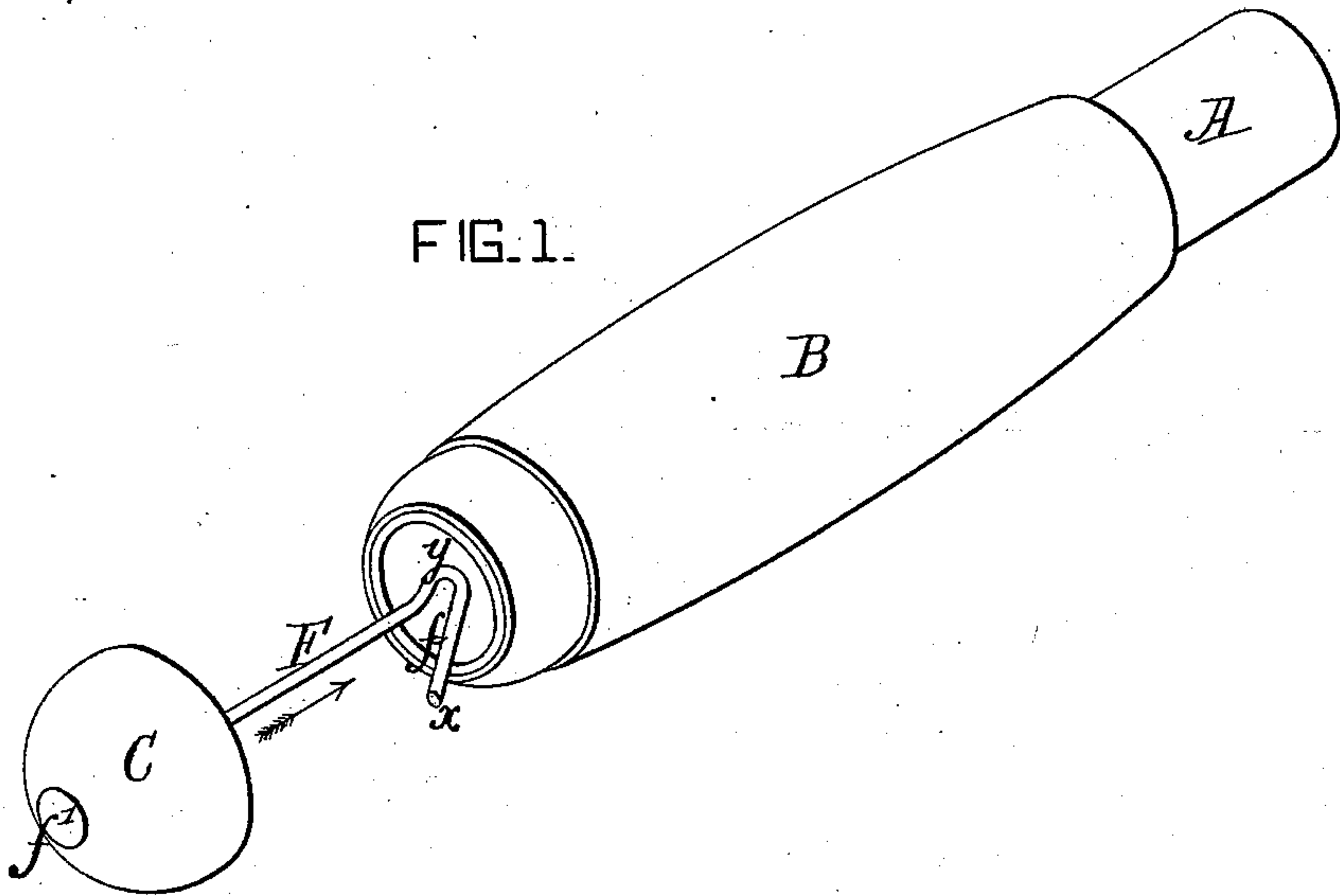
(No Model.)

J. A. WEAVER, Jr.

DEVICE FOR SECURING CAPS OR HEADS TO TUBULAR ARTICLES.

No. 552,159.

Patented Dec. 31, 1895.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOSEPH A. WEAVER, JR., OF NEW YORK, N. Y.

DEVICE FOR SECURING CAPS OR HEADS TO TUBULAR ARTICLES.

SPECIFICATION forming part of Letters Patent No. 552,159, dated December 31, 1895.

Application filed March 27, 1895. Serial No. 543,332. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH A. WEAVER, Jr., a citizen of the United States, and a resident of New York city, New York county, New York, have invented an Improved Device for Securing Caps or Heads to Tubular Articles, of which the following is a specification.

The object of my invention is to provide a simple but secure means for fastening caps or heads to tubular articles—such, for instance, as the caps on the handle ends of the handle-bars of cycles.

In the accompanying drawings, Figure 1 is a perspective view illustrating my invention as applied to the securing of a cap on the handle end of a cycle handle-bar. Fig. 2 is a longitudinal section illustrating the mode of applying the cap and fastener. Fig. 3 is a similar view showing the cap and fastener in place. Figs. 4 and 5 are views of modifications.

Although I have illustrated and will hereinafter describe my invention as more particularly applied to the securing of cycle handle-caps, it should be understood at the outset that it may be applied to various other uses.

Referring to the drawings, A is the metal tube of the handle-bar. B is the handle of cork or other suitable material to be secured on the end of the handle-bar, and C is a suitable metal cap to be fitted over the ends of the tubular bar and handle B. This cap is used both as a matter of ornament or finish and as a retainer for the handle-piece B. Ordinarily this cap is secured in place by means of a screw passed through a central hole in the cap into a wooden plug driven into the end of the tubular handle-bar. In practice, however, these wooden plugs become loose from shrinkage and drop out or the screws work loose, so that the caps and handles are not securely fastened by such means.

I provide a securing-stem F to engage with the interior of the tube in such a manner that the more one tries to pull the cap off the more securely does it become fastened. This securing-stem F, which at its outer end is to be connected to the cap, has at its inner end a foot-piece *f* at an acute angle to the body of the stem F and of such a size in relation to the diameter of the tube that the heel *y* of the foot-piece will bear against the interior of the

tube at one side, while the free end or toe *x*, which is sharpened, engages with the opposite side of the tube, as shown in the drawings. The securing-stem F may conveniently be made either wholly of wire, as shown in Figs. 1 to 4, or partly of wire, as shown in the modification, Fig. 5. In this latter case the body of the stem F² is of wire, and to the outer end of it is fixedly secured an angular foot-piece *f*² of steel, affording a heel *y*' to bear against the interior of the tube on one side, while a sharp toe *x*' engages with the tube on the other side. The outer end of the stem may be detachably connected to the cap C, as by passing the stem through a central hole in the cap and providing a head or shoulder *f*' to engage with the latter, as illustrated in Figs. 1, 2, and 3, or the stem may be fixedly secured, as by soldering, to the cap, as shown in the modifications, Figs. 4 and 5.

In the modification, Fig. 4, I have shown a construction in which the securing-stem has been duplicated at F' F' for greater security or holding power. The body of the stem F should, in any case, have some elasticity or spring in it.

The manner of applying this fastening device is as simple as its construction, and will be clearly understood by reference to the drawings, particularly Figs. 1, 2, and 3. The stem with its acute-angled foot-piece having been joined to the cap, either fixedly or detachably, the stem F is simply pushed into the tube foot first, as illustrated in Figs. 1 and 2, in the direction of the arrow 1, until by the time the cap has been brought to its seat over the end of the handle the outer or cap end of the stem will at the same time have been drawn from the side of the tube in the direction of the arrow 2, Fig. 2, to a central position, as shown in Fig. 3, thus causing the sharpened toe *x* of the foot-piece to dig to a slight but sufficient extent into the metal of the tube by reason of the angular position of the foot-piece and the bearing of the heel *y* against the opposite side of the tube. It will be evident that the more one tries to pull off the cap C the more will the sharp toe *x* tend to dig into the metal of the tube and hold the cap in place.

I claim as my invention—

1. A device for securing caps or heads to

tubular articles, consisting of an elastic stem having in one piece with or fixedly secured to it a foot piece at an acute-angle to the stem, the heel of the foot piece being adapted to
5 bear against the interior of the tube on one side while the toe engages the opposite side, substantially as described.

2. The combination of a tube and cap piece with an elastic securing stem connected to
10 the cap at its outer end and having at its inner end a foot piece in one piece therewith or fixedly secured thereto with a heel to bear against the interior of the tube on one side and a toe to engage with the opposite side,
15 substantially as described.

3. A device for securing caps or heads to

tubular articles, consisting of a spring stem having in one therewith or fixedly secured thereto at one end a head and at the other a foot piece at an acute angle to the stem, the
20 heel of the foot piece being adapted to bear against the interior of the tube on one side, while the toe engages the opposite side, substantially as described.

In testimony whereof I have signed my
25 name to this specification in the presence of two subscribing witnesses.

JOSEPH A. WEAVER, JR.

Witnesses:

EDITH J. GRISWOLD,
HUBERT HOWSON.