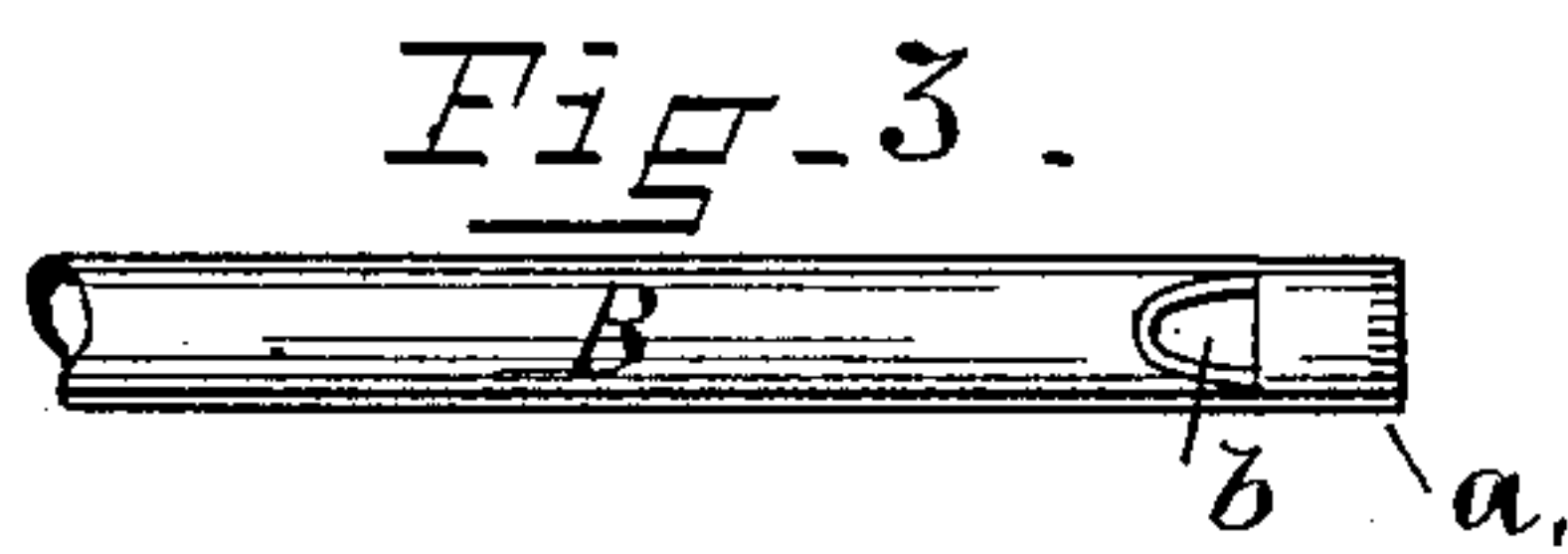
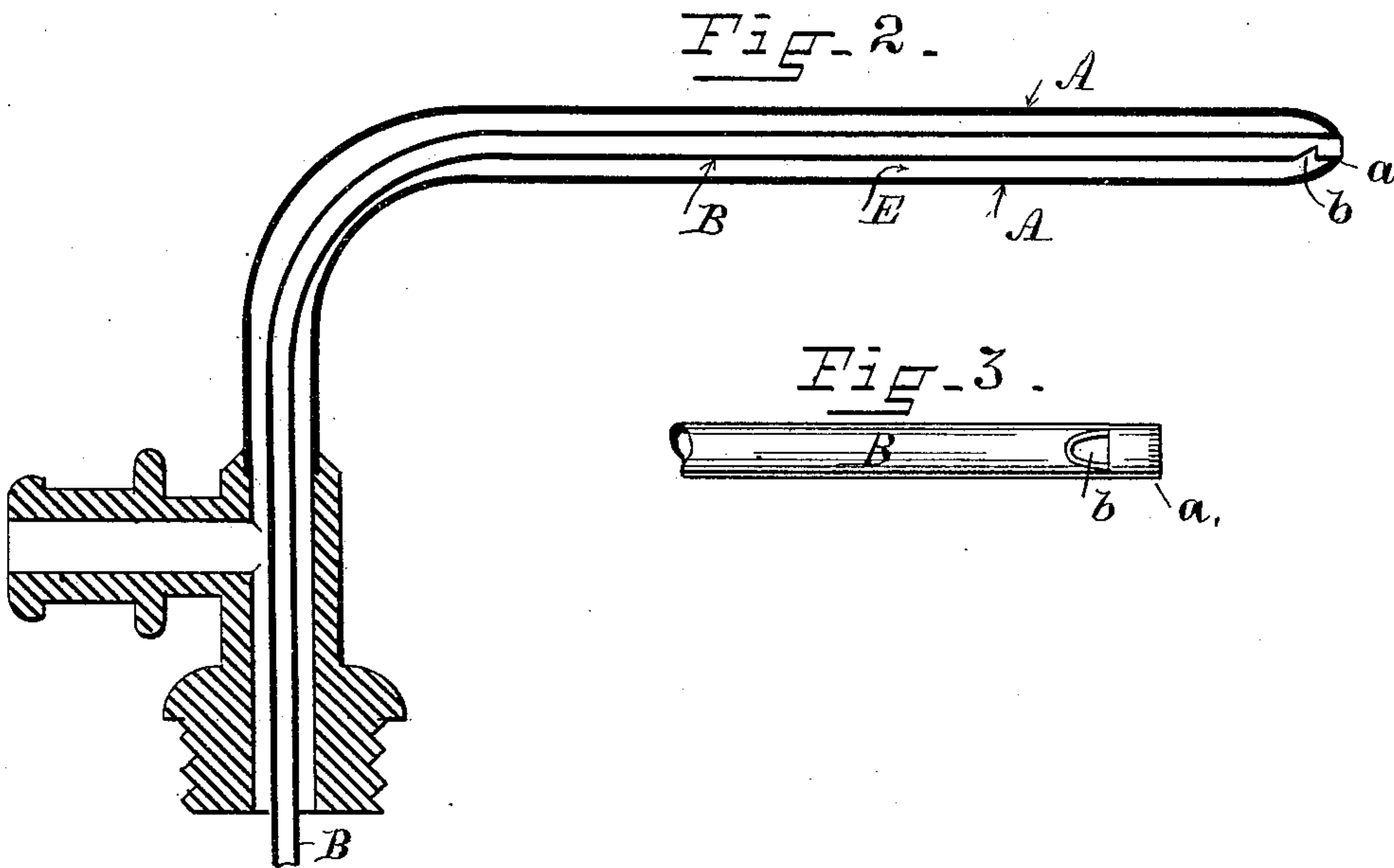
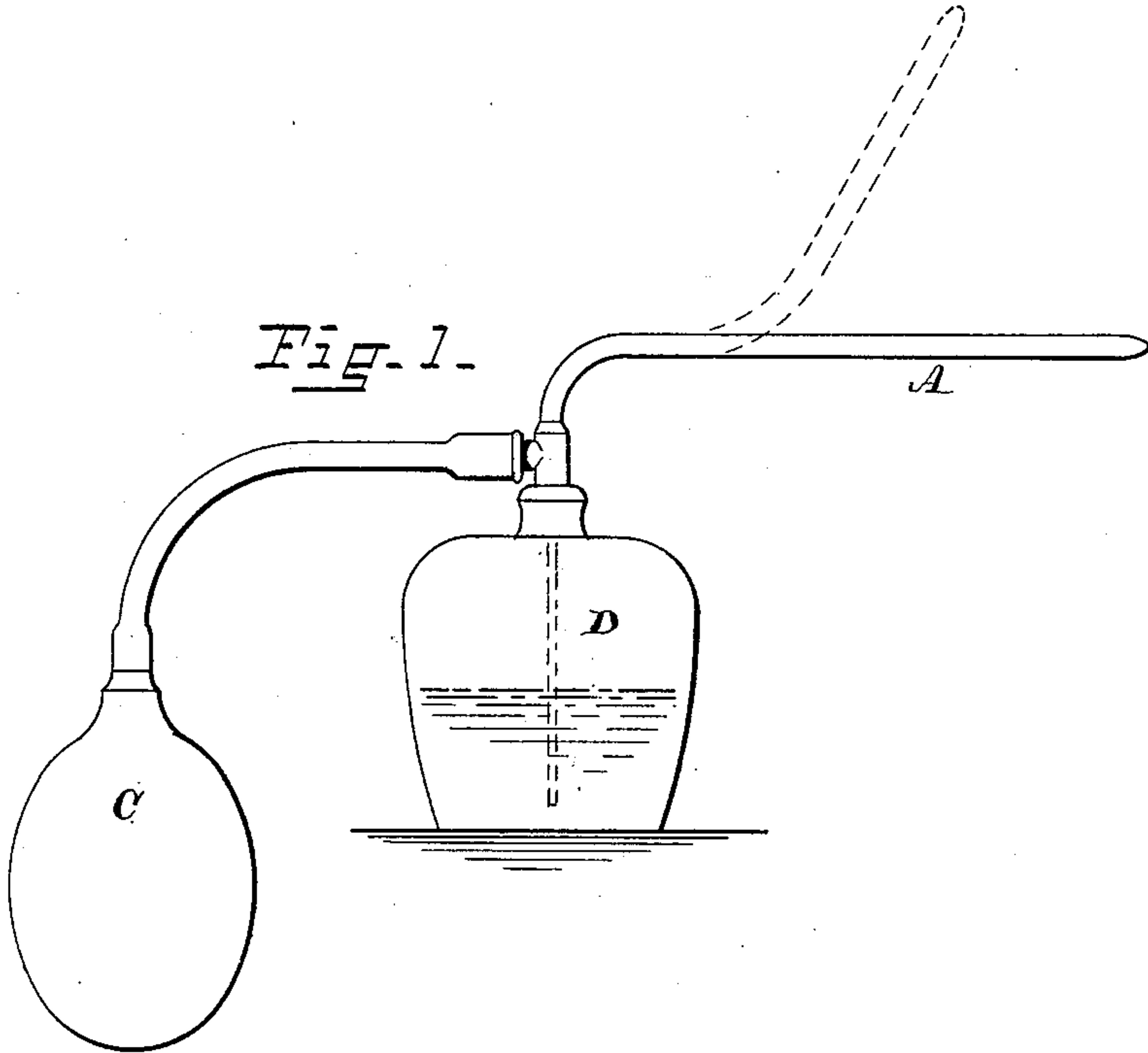


(No Model.)

W. A. TURNER.
ATOMIZER.

No. 335,550.

Patented Feb. 2, 1886.



WITNESSES:

Geo. H. Abbott
Frank P. Millard

INVENTOR:
William A. Turner

UNITED STATES PATENT OFFICE.

WILLIAM A. TURNER, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR TO
THE MILLARD MANUFACTURING COMPANY, OF SAME PLACE.

ATOMIZER.

SPECIFICATION forming part of Letters Patent No. 335,550, dated February 2, 1886.

Application filed July 20, 1885. Serial No. 172,132. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. TURNER, a citizen of the United States, residing in Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Atomizers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

The objects of this invention are, first, to simplify and lessen the cost of construction of the atomizer discharge-tube, and, second, to prevent the disarrangement of parts and consequent failure of the atomizer to spray when the discharge-tube is bent.

In the drawings, Figure 1 is a view of an atomizer. Fig. 2 is an enlarged sectional view of atomizer discharge-tube. Fig. 3 is a still further enlarged view of the inner tube.

Similar letters refer to similar parts throughout the several views.

In this form of an atomizer, known as the "continuous spray," by compressing the bulb Cair is forced into the bottle D and the annular chamber E between the inner and outer tubes, B and A. The air in the annular chamber E rushes out through the slit *b* in the tube B, creating a partial vacuum in said tube, which the liquid aided by the air-pressure in the bottle D rises to fill, and combining with the escaping air is vaporized.

As heretofore constructed the inner tube, B, has been centered in the outer tube, A, by means of a bushing or sleeve soldered on the end of the tube B and fitting loosely in the tube A, the end of the inner tube being notched to allow the passage of air. The tube B would then be pushed into the tube A until the notched inner tube on its end came in

contact with the conical end of the tube A, thus bringing the hole in the tube B nearly coincident with a hole in the end of tube A. The tube B is then soldered to the screw-cap. This process is expensive, as skilled labor must be employed, and the tubes are liable to get out of adjustment.

It is often desirable to bend the tubes after the atomizer is finished to adapt it to various medical uses. With any of the tubes as previously constructed the adjustment would be altered and the atomizer spoiled. In my improved atomizer the inner tube, B, has a cut, *b*, made near one end. It is then inserted in the outer tube, A, the tip of which has been spun over conically to receive and hold it, and soldered, screwed in, spun over, or otherwise rigidly secured at *a*. The cut being just inside the tube A, this may be done before either tube is bent. They then may be bent at will, and no displacement can take place that will affect the working of the atomizer. This construction is simple, strong, and cannot be got out of order. As the inner tube, B, passes out at the end of the outer tube, a fine wire may be pushed entirely through it to remove any obstruction.

The cut *b* may be made as shown, or any means of admitting air to the inner tube near the discharge end will serve the same purpose.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

In an atomizer, the combination, with the outer tube, A, of the inner tube, B, provided with the cut *b* near the discharge end, said tubes being united at their ends, substantially as described.

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

WILLIAM A. TURNER.

Witnesses:

FRANK P. MILLARD,
GEO. H. ABBOTT.