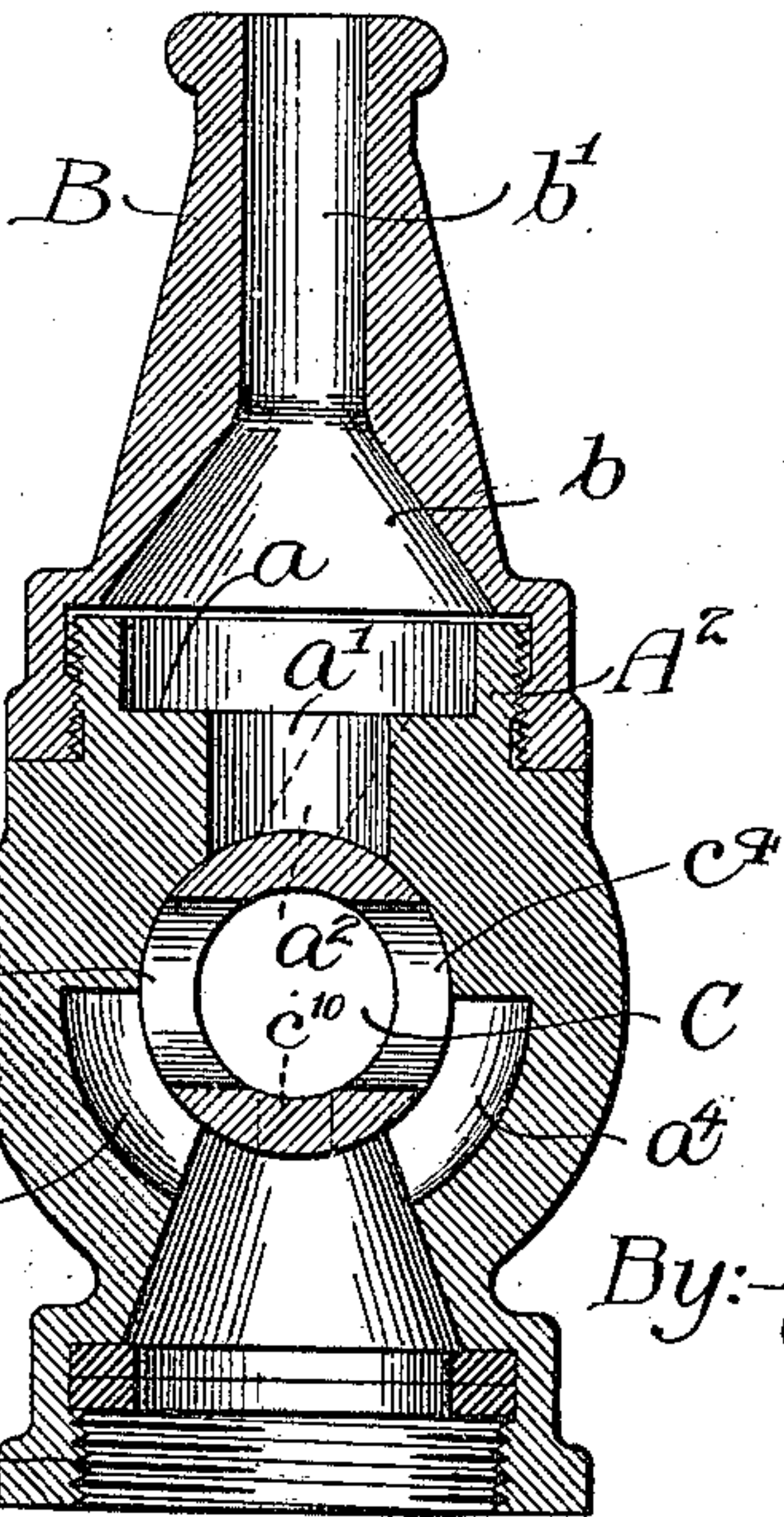
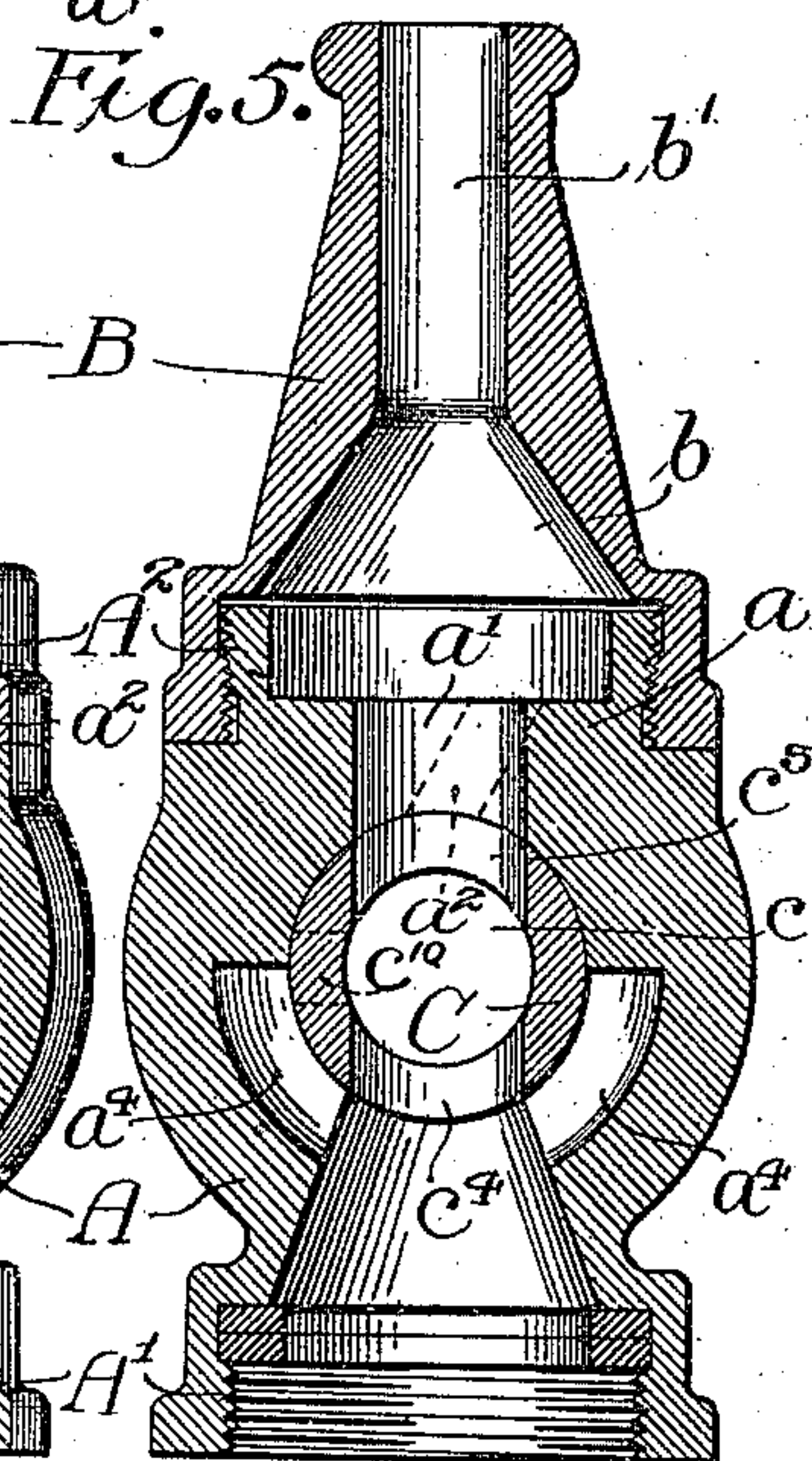
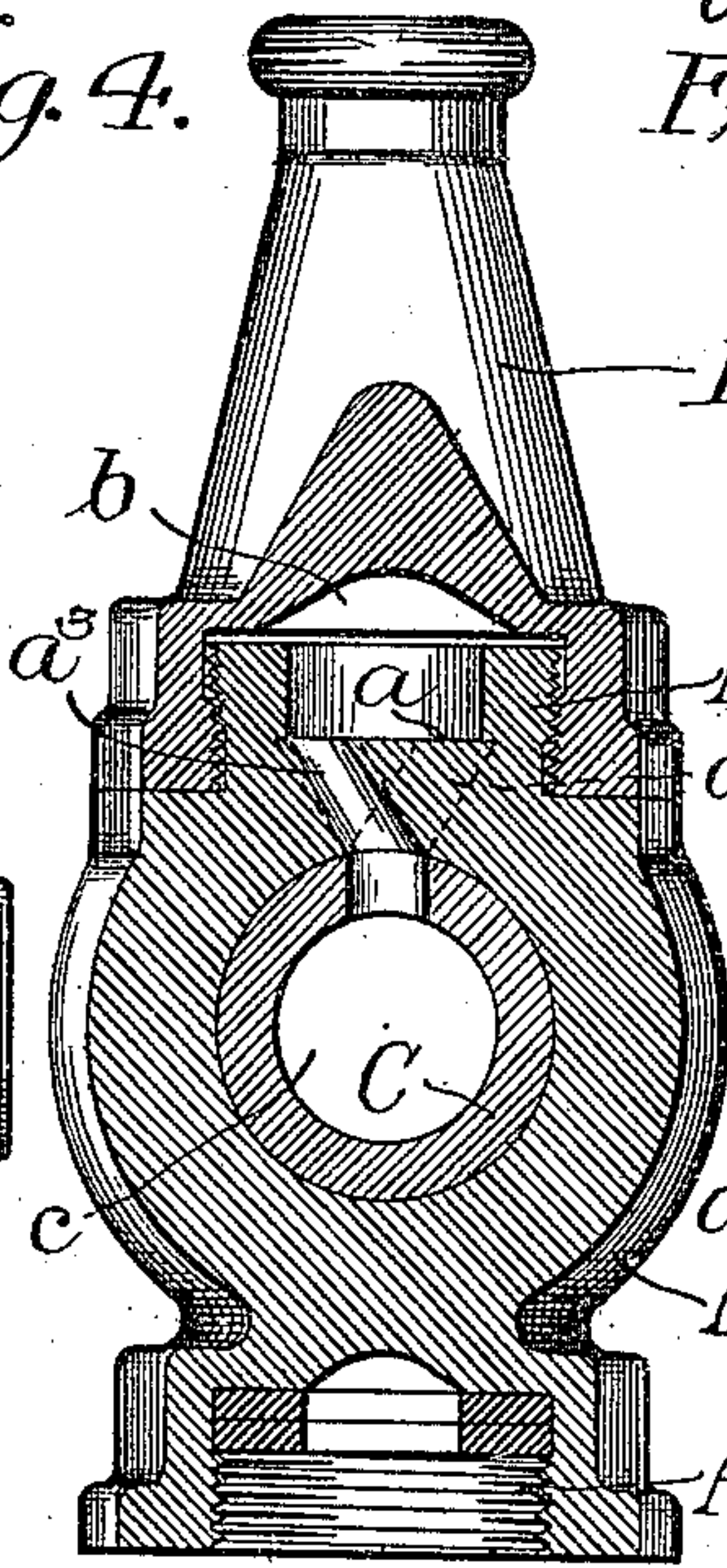
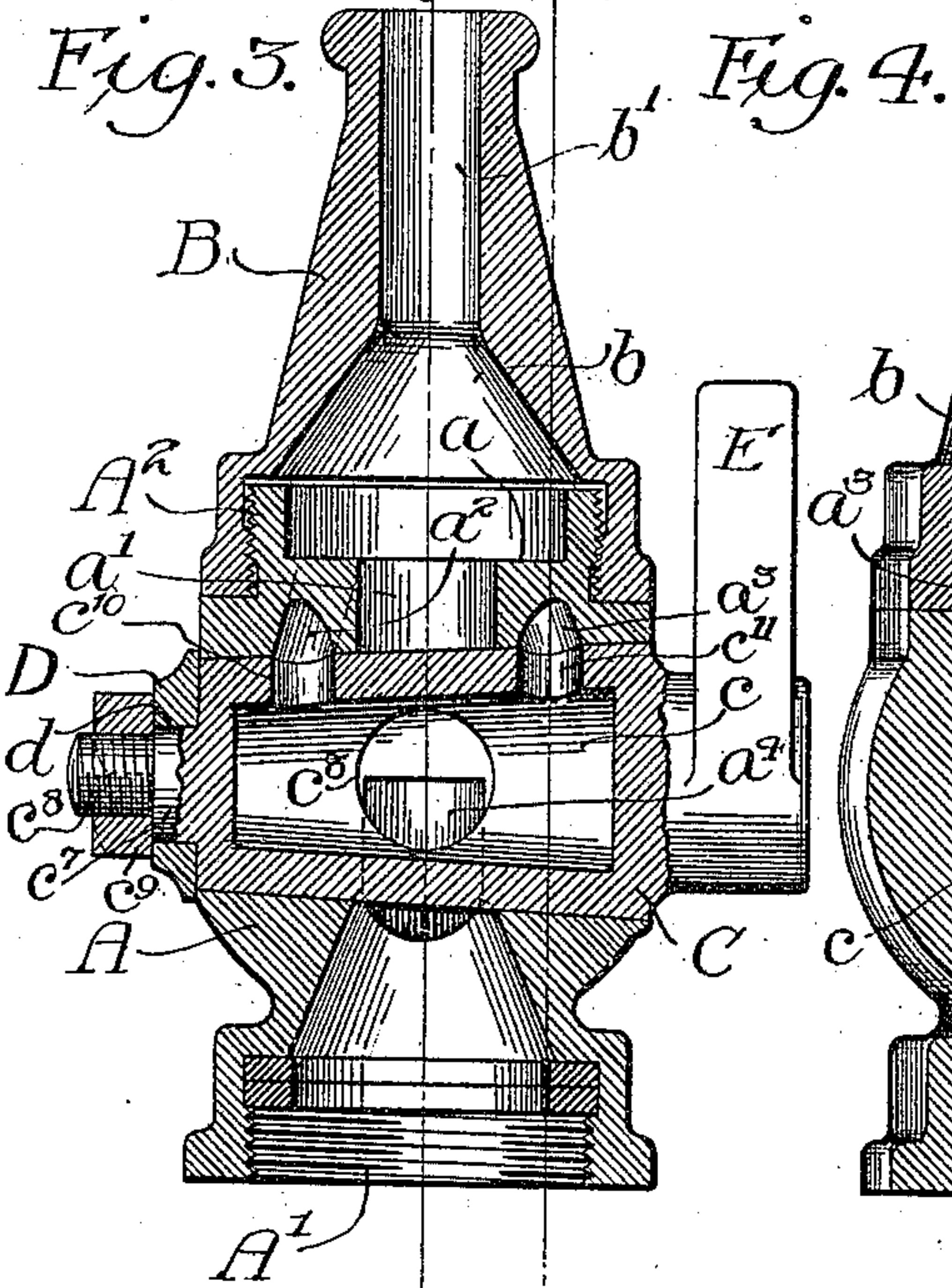
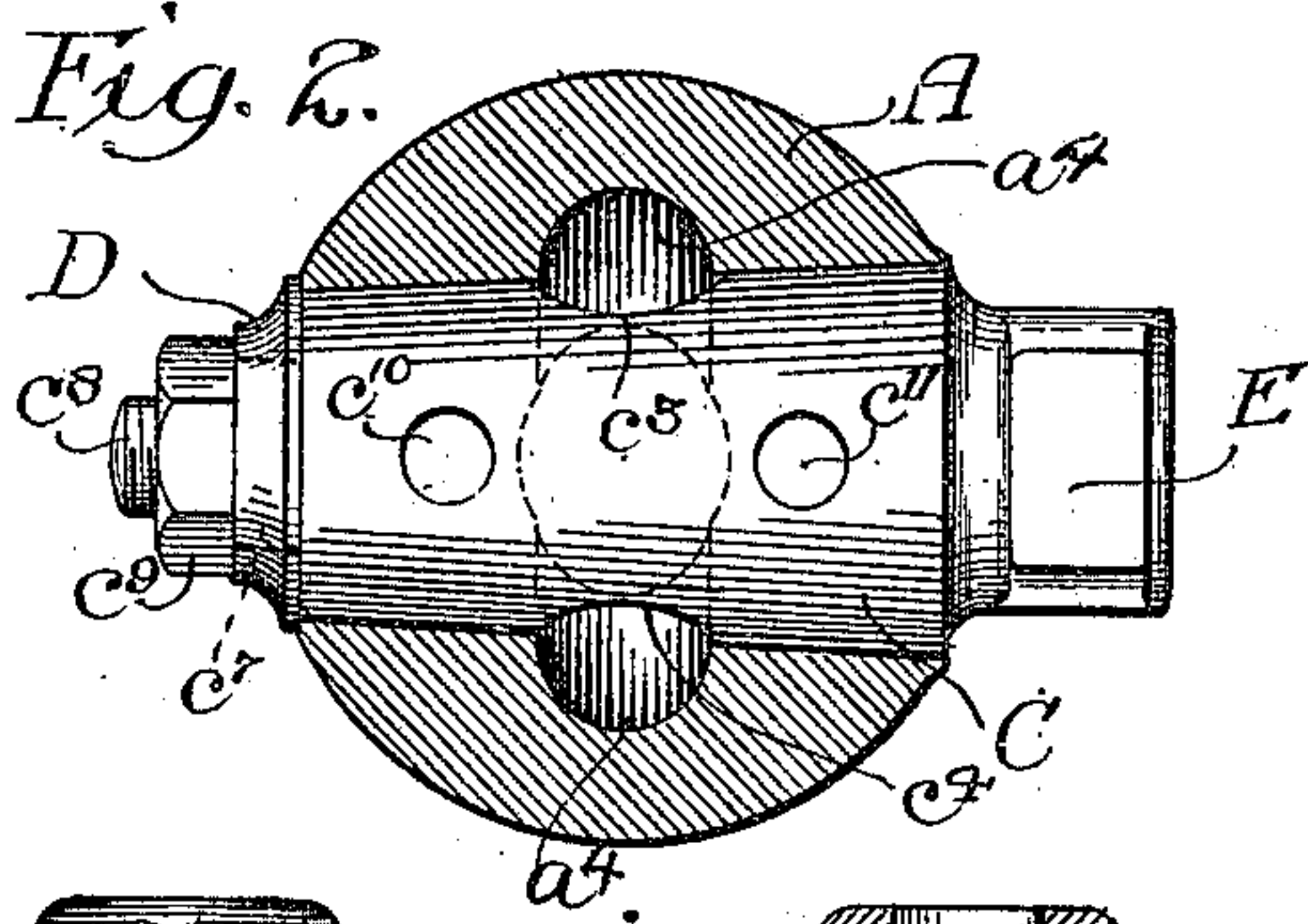
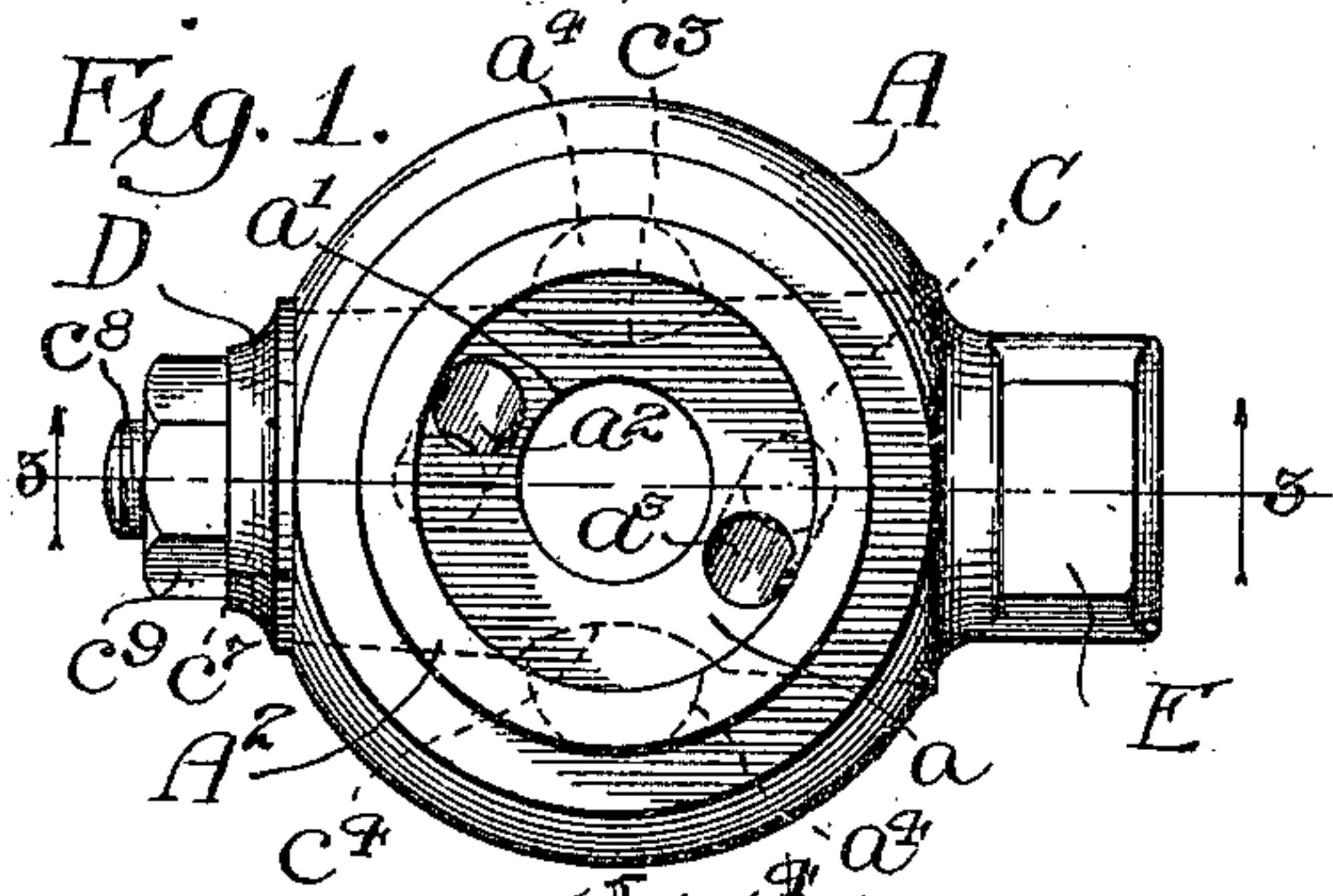


HOSE NOZZLE.

APPLICATION FILED SEPT. 1, 1909.

963,136.

Patented July 5, 1910.



Witnesses:-

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UNITED STATES PATENT OFFICE.

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HOSE-NOZZLE.

963,136.

Specification of Letters Patent.

Patented July 5, 1910.

Application filed September 1, 1909. Serial No. 515,735.

To all whom it may concern:

Be it known that I, HENRY GIBBS, a citizen of the United States, and a resident of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Hose-Nozzles, of which I do declare the following to be a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

The present invention has for its object to provide an improved construction of hose nozzle, whereby a stream of water may be discharged from the nozzle, either as a solid stream or in spray-like form.

The invention consists in the features of improvement hereinafter described, illustrated in the accompanying drawings and particularly pointed out in the claims at the end of this specification.

Figure 1 is a plan view of the nozzle with the cap removed. Fig. 2 is a view in horizontal section through the valve casing at the center of the valve. Fig. 3 is a view in central vertical section on line 3—3 of Fig. 1. Fig. 4 is a view in vertical section on line 4—4 of Fig. 3. Fig. 5 is a view in vertical section on line 5—5 of Fig. 3, but with valve in different position. Fig. 6 is a view in central vertical, transverse cross section.

A designates the valve casing of my improved hose nozzle. As shown, there is formed integral with this valve casing an annular portion A' that is interiorly threaded to receive the correspondingly threaded portion of the hose coupling or pipe. At an opposite point of the valve casing and preferably integral therewith is formed an exteriorly threaded flange A² over which will fit the discharge cap or spout B of the nozzle. When the threaded end of the discharge cap B is in engagement with the flange A², the end of this cap will set against a shoulder at the base of said flange, thereby insuring a water-tight joint between the parts. The interior of the discharge cap B is formed with a conical chamber b from the apex of which a discharge channel b' leads through the cap B. Within a diaphragm a of the valve casing is formed a central, straight discharge port or channel a' and at opposite sides of this discharge port are formed the supplemental inclined channels a² and a³, these several ports and channels communicating with that part of

the interior of the valve casing that receives the valve C. Two inclined discharge channels are shown, this being the preferable construction, but a single channel might be used with less beneficial results without departing from the intended scope of my invention. Extending partly around the interior of the valve casing is formed a channel a⁴ which communicates with the induction chamber of the casing.

The valve C is formed with a chamber c in diametrically opposite points of which are formed the ports c³ and c⁴, the function of which will presently appear, said chamber having also supplemental ports c¹⁰ and c¹¹.

The exterior of the valve C is ground to fit the transverse bore of the valve chamber and at one end of the valve is formed a stem c⁷ over which sets a retaining ring D. This ring D is preferably formed with a flat portion d to engage a correspondingly flat portion of the stem c⁷ and the stem c⁷ is formed with a reduced threaded portion c⁸ over which will set a retaining nut c⁹ that will engage the outer face of the ring D. The opposite end of the valve C is shown as provided with an operating handle E, this handle being preferably cast integral with the body of the valve.

By reference to Fig. 5 of the drawings, it will be seen that when the several parts are in position for use as there shown, the channel a⁴ will partially encircle the valve C. When the ports c³ and c⁴ of the valve are in the position shown in Fig. 5 of the drawings, the water will pass directly through the valve casing and the valves and into and through the discharge cap B, issuing from the discharge cap as a solid stream. If now it is desired to cause the water to issue from the discharge cap in the form of spray, or as a broken stream, the valve C will be turned to the position shown in Fig. 3 of the drawings, at which time the ports c¹⁰ and c¹¹ of the valve will be brought coincident with the inclined ports a² and a³ in the diaphragm a of the valve casing. When the valve C is in this last described position water will pass through the channel a⁴ at each side of the valve C and into the ports c³ and c⁴ of the valve, and entering the chamber of the valve C, the water will pass through the supplemental ports c¹⁰ and c¹¹ and through the diagonal channels a² and a³

into the conical chamber of the discharge cap B. A swirling motion will thus be given to the water within the cap B so that the water will issue from the central orifice of such discharge cap in the form of a wide-spread spray or broken stream. When it is desired to altogether cut off the supply of water through the nozzle the valve C will be turned to the position shown in Fig. 6 of the drawings at which time all the ports α' and α^2 and α^3 will be closed by the valve.

While I have described what I regard as the preferred form of my invention, I wish it distinctly understood that the details of construction above set out may be varied within wide limits and that features of the invention may be employed without its adoption as an entirety.

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

1. A nozzle of the character described comprising a casing having a valve chamber and a diaphragm at the discharge side of said chamber provided with a central straight channel and with an inclined channel at one side of said central channel, said channels terminating at the outer face of said diaphragm, a discharge spout provided with a conical chamber having a central discharge channel and extending across said diaphragm and a valve within said casing centrally ported to direct the passage of water through the central port of said diaphragm and having a port at one side of the center to coincide with the inclined port of the diaphragm.

2. A nozzle of the character described comprising a casing having a valve chamber and a diaphragm at the discharge side of said chamber provided with a central straight channel and with an inclined channel at one side of said central channel, and having a central channel at the admission side of said valve chamber, a discharge spout

having at its base a conical chamber and having a central straight discharge channel arranged opposite the straight channel of said diaphragm and a valve within said valve chamber having central ports to coincide with the central admission of said casing and having at one side of its center a discharge port adapted to coincide with the inclined channel of said diaphragm.

3. A nozzle of the character described comprising a casing having a valve chamber and a diaphragm at the discharge side of said chamber provided with a central straight channel and with inclined channels at the opposite sides of said central channel, said channels terminating at the outer face of said diaphragm, a discharge spout having at its inner end a broad conical chamber and having a central straight discharge channel and a hollow valve the walls whereof are provided with oppositely disposed central ports and with supplemental ports adjacent its end, said supplemental ports being arranged at substantially right angles to said central ports.

4. A nozzle of the character described comprising a casing having a valve chamber and a diaphragm at the discharge side of said chamber provided with a central straight channel and with an inclined channel at one side of said central channel and having at the opposite side of said valve chamber a central admission port and segmental channels extending from said admission port at opposite sides of said valve chamber and a chambered valve, the walls whereof are provided with centrally arranged and oppositely disposed ports and with supplemental ports arranged at substantially right angles to said central ports.

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