

No. 637,822.

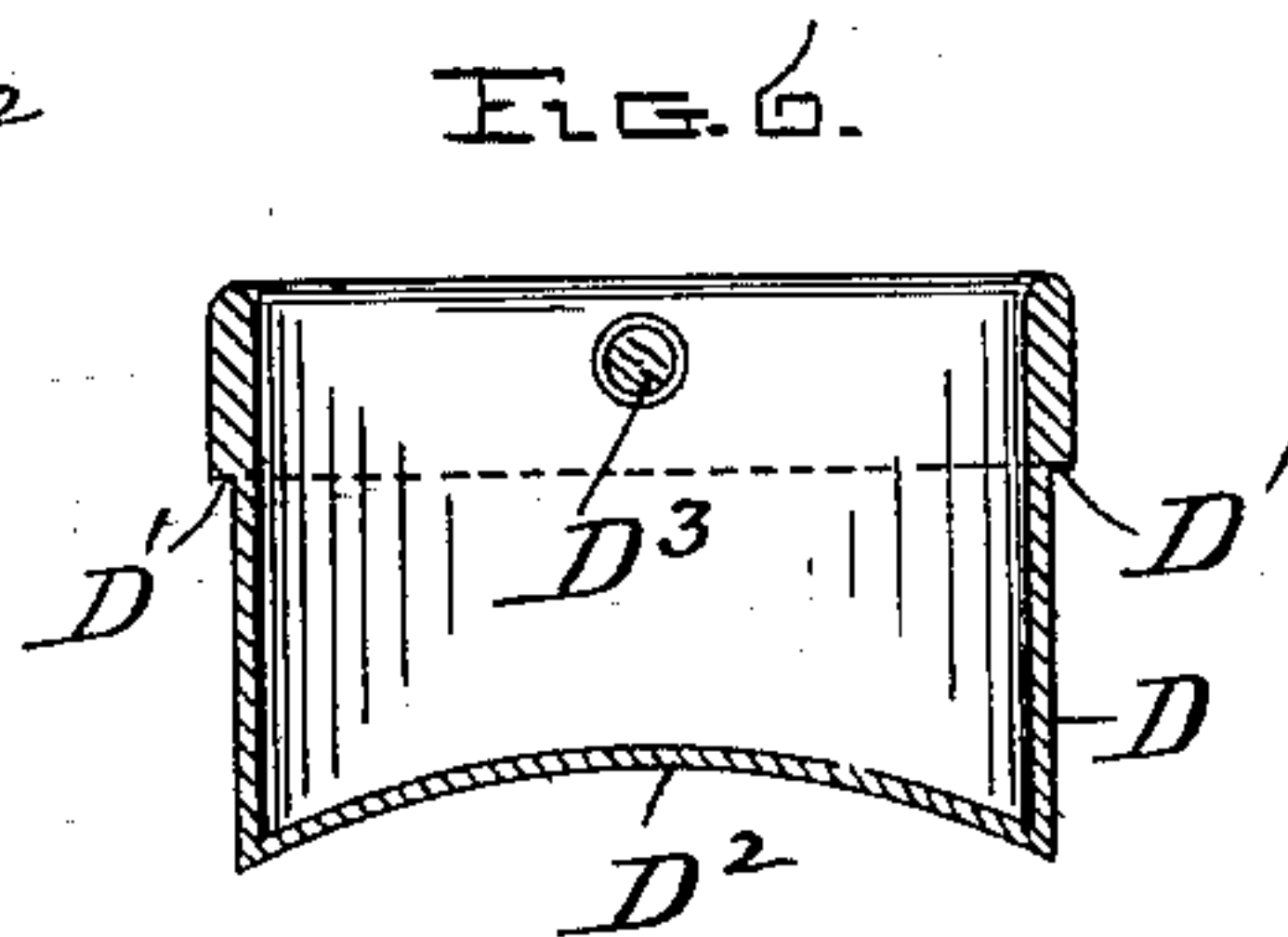
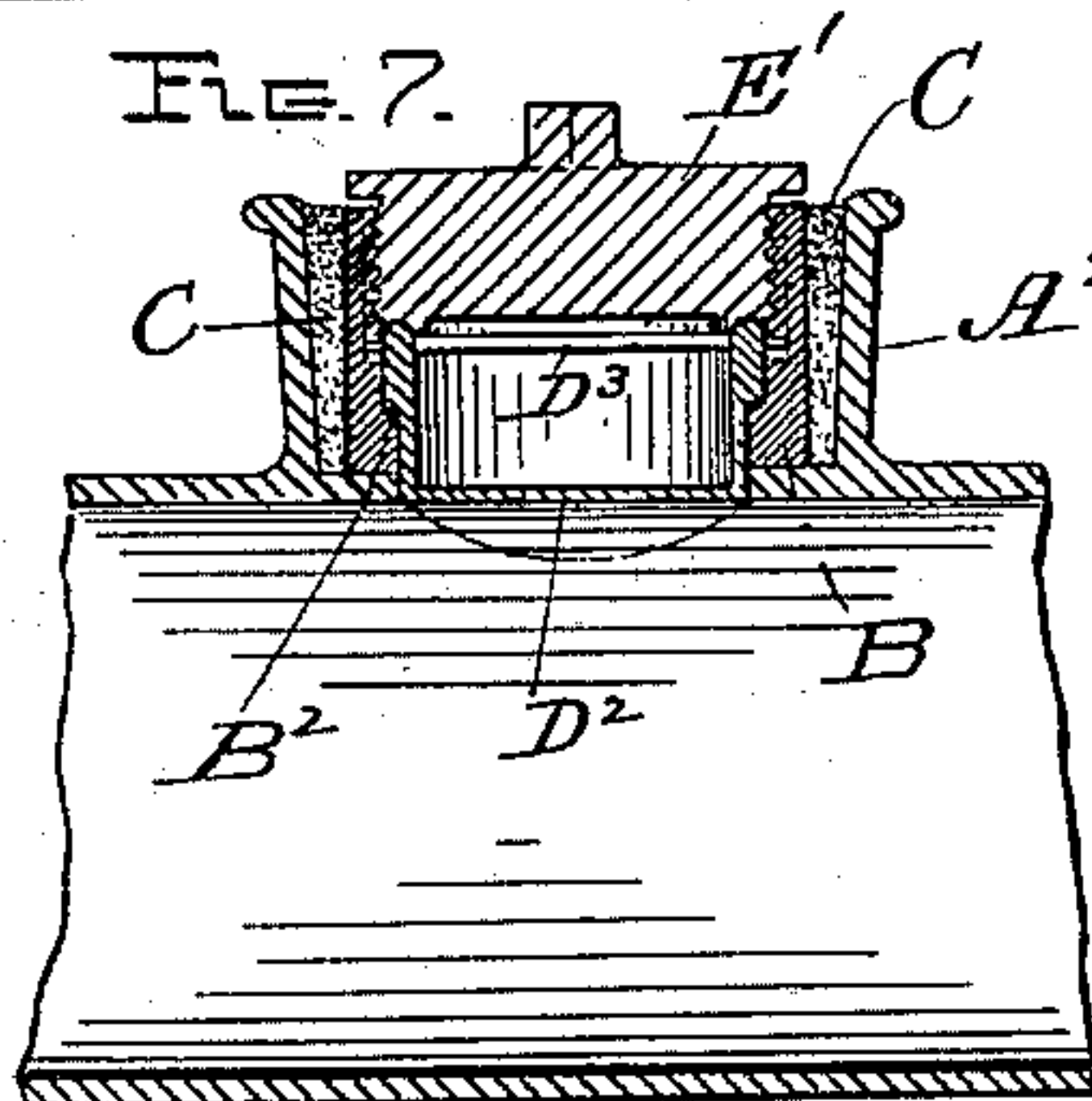
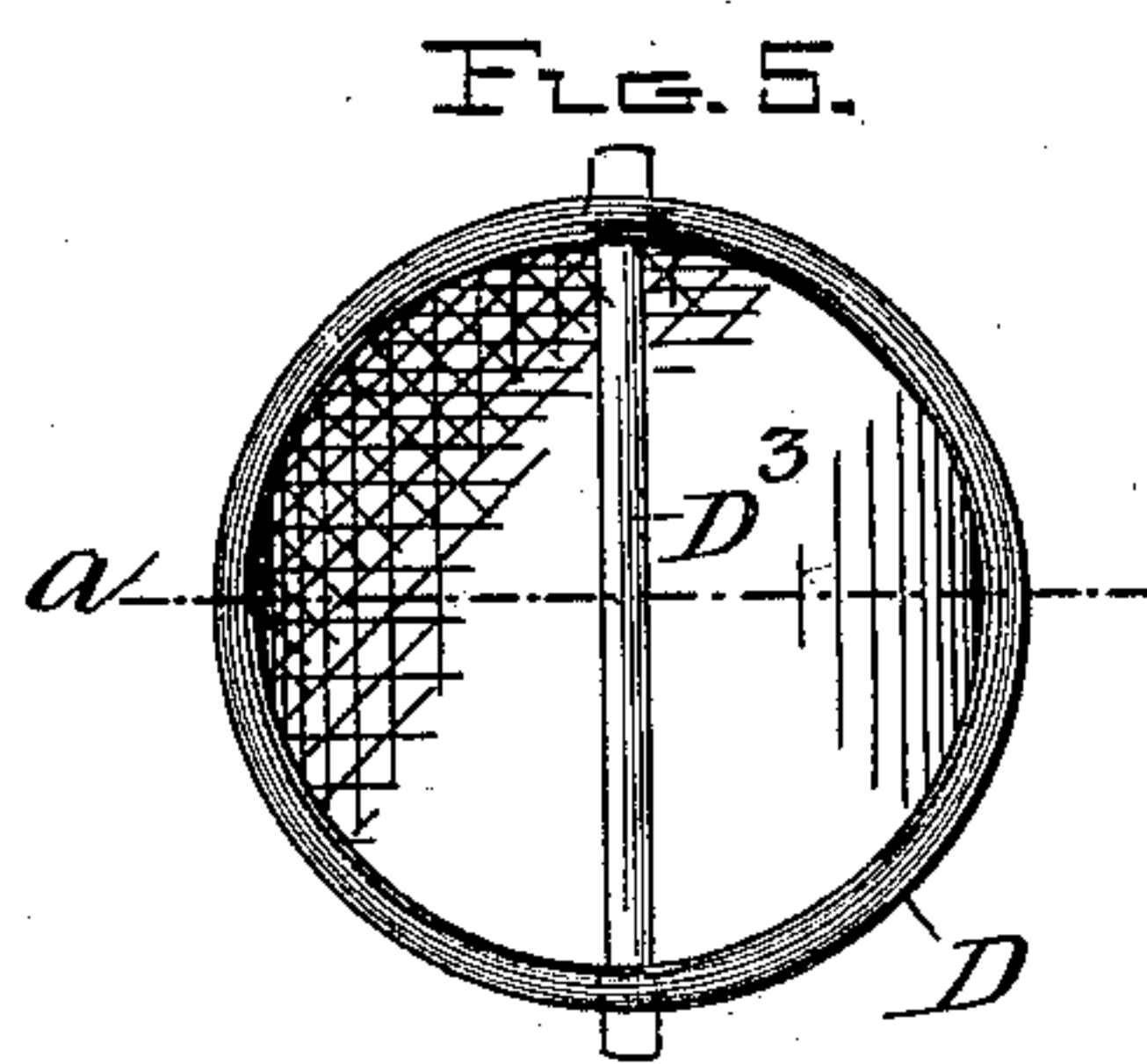
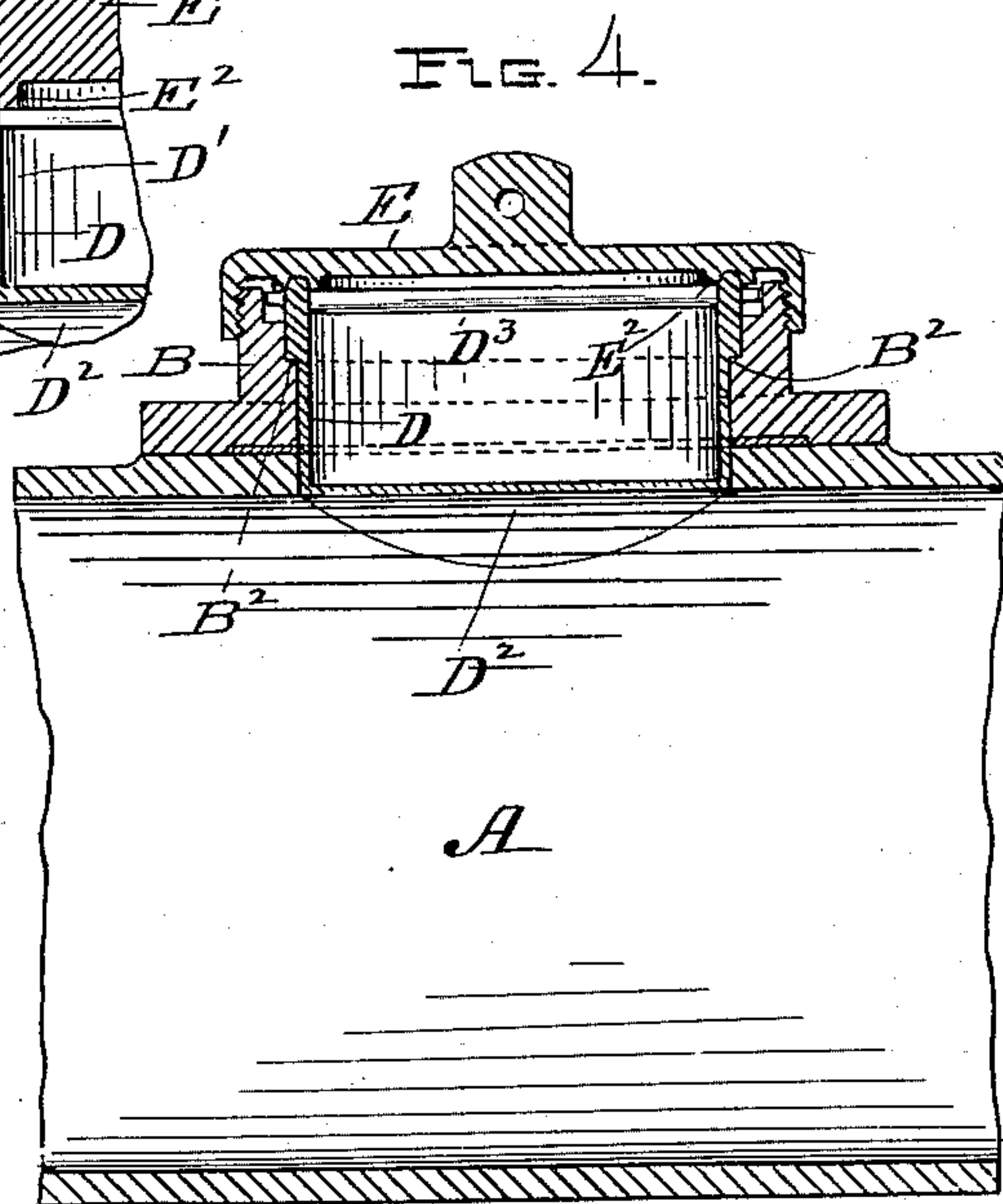
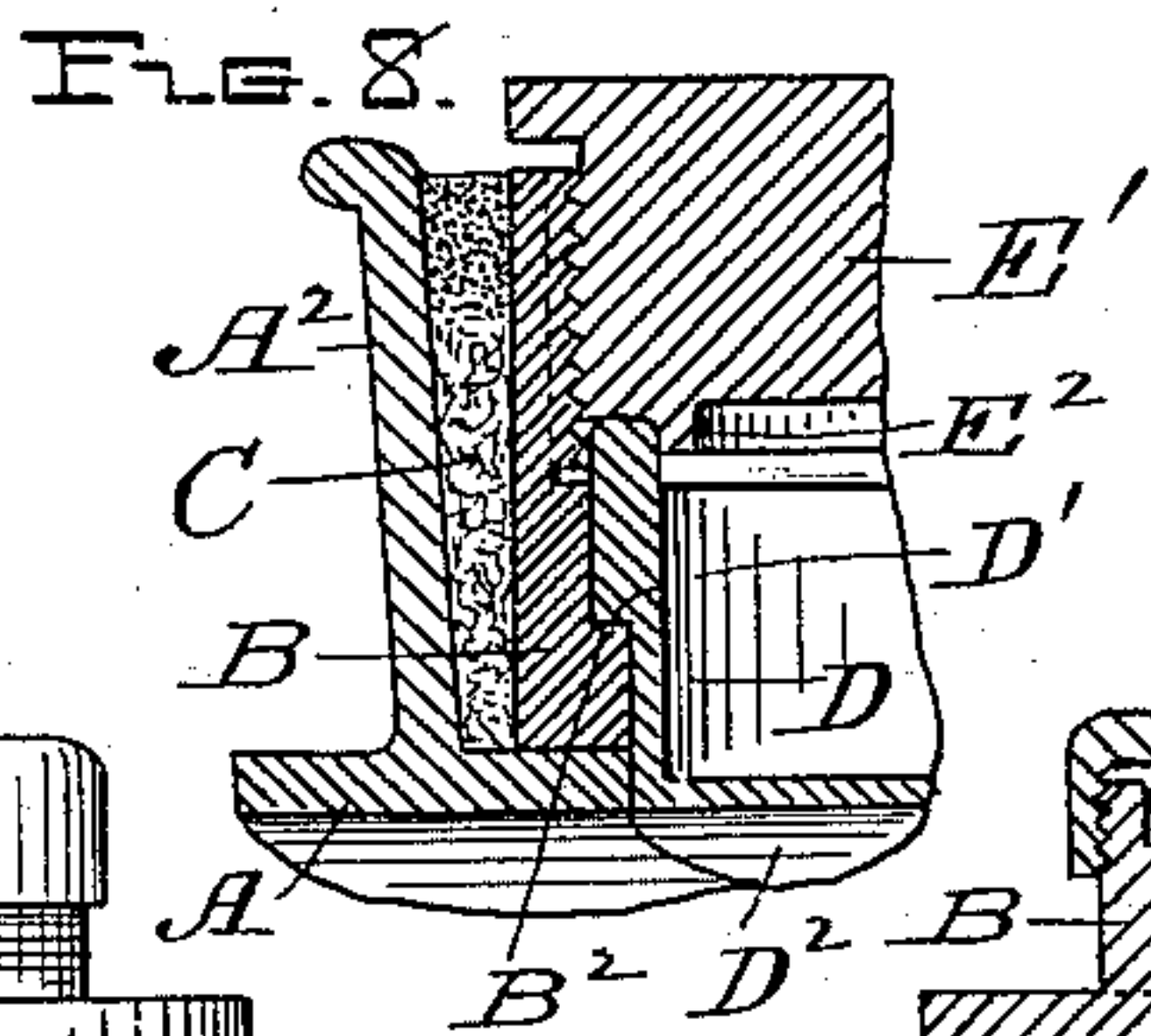
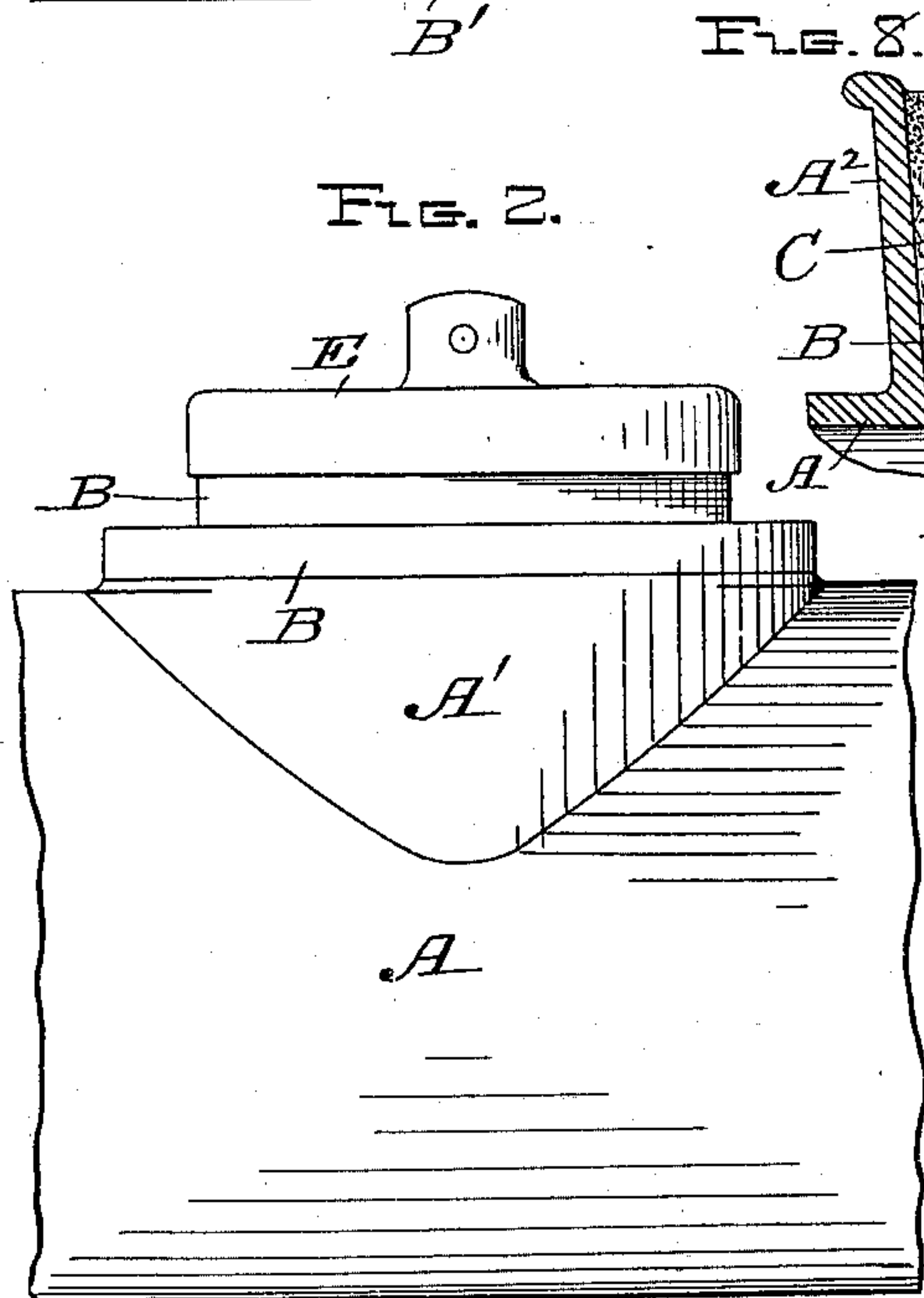
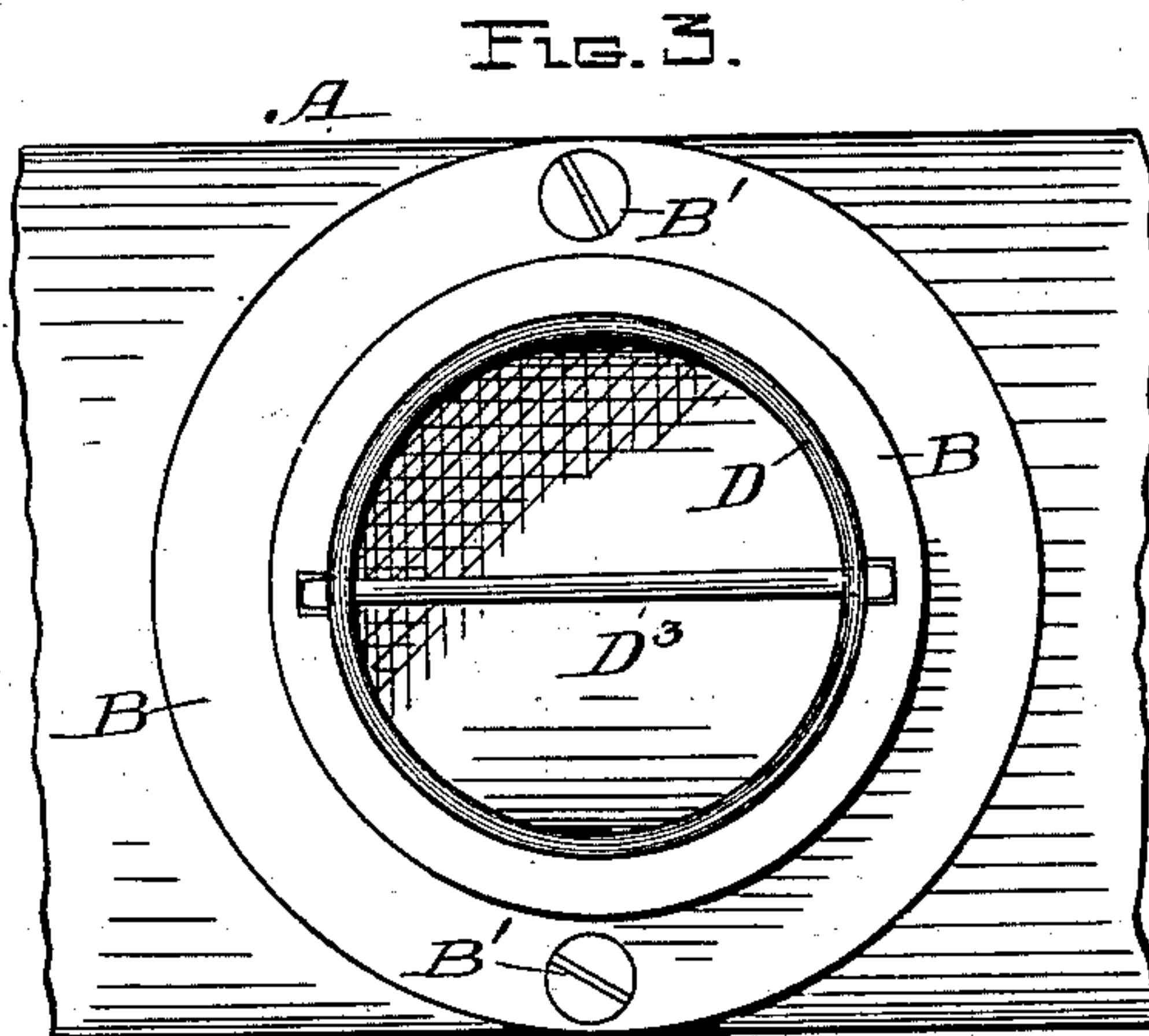
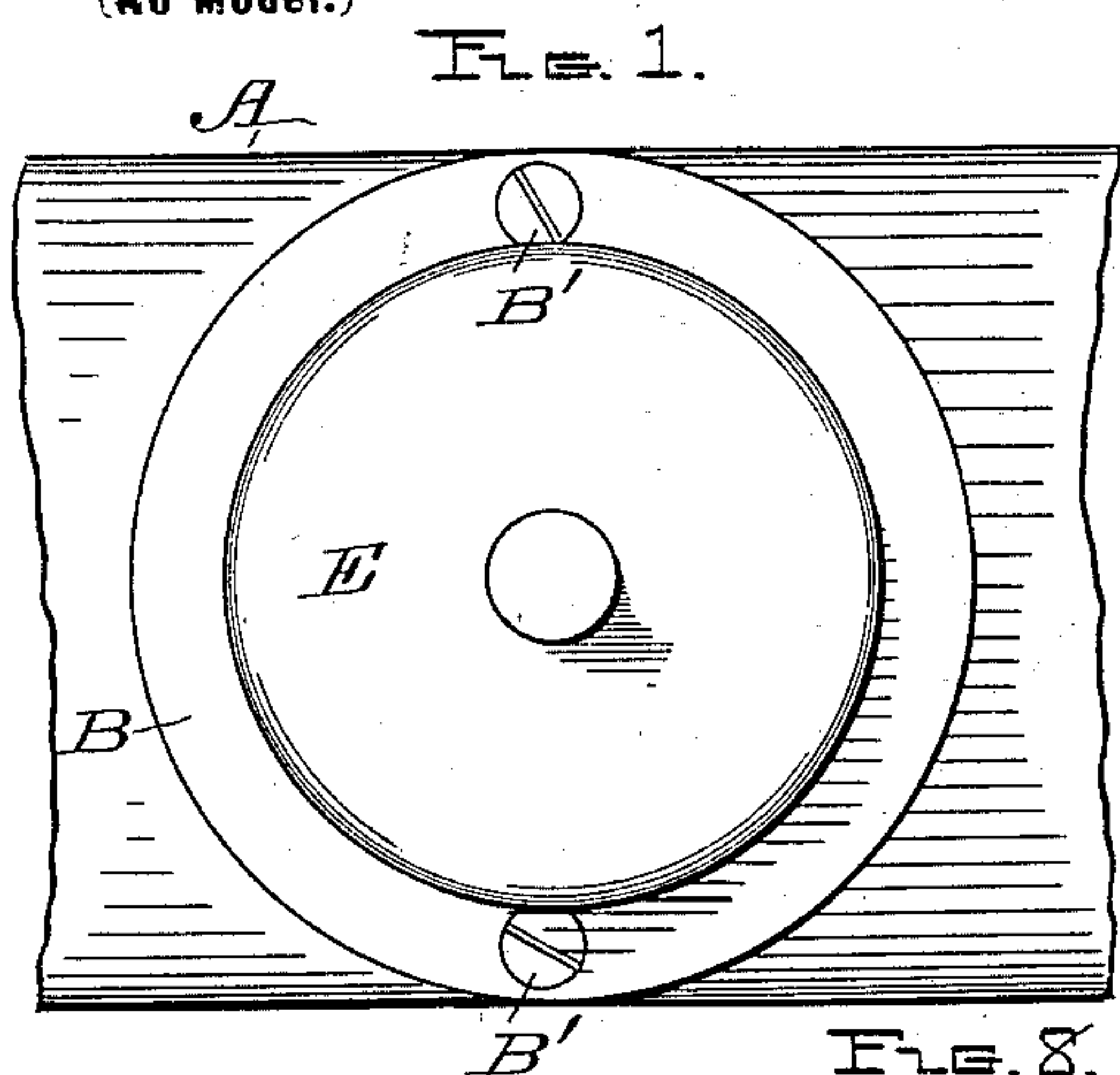
Patented Nov. 28, 1899.

J. J. PHELAN.

CLEAN-OUT FOR SEWER PIPES OR TRAPS.

(Application filed Jan. 18, 1899.)

(No Model.)



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UNITED STATES PATENT OFFICE.

JOHN J. PHELAN, OF WORCESTER, MASSACHUSETTS.

CLEAN-OUT FOR SEWER PIPES OR TRAPS.

SPECIFICATION forming part of Letters Patent No. 637,822, dated November 28, 1899.

Application filed January 18, 1899. Serial No. 702,507. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. PHELAN, of the city and county of Worcester, in the State of Massachusetts, have invented certain new and useful Improvements in Clean-Outs for Sewer Pipes or Traps; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming a part of this specification, and in which—

Figure 1 represents a plan of a piece of sewer-pipe with my improved clean-out applied thereto. Fig. 2 is a side view thereof. Fig. 3 is a similar view to that shown in Fig. 1 with the cap of the clean-out removed. Fig. 4 is a central longitudinal section through said pipe and clean-out. Fig. 5 is a plan of a special-shaped removable cup adapted to be placed in said clean-out, as and for the purpose hereinafter described. Fig. 6 is a central vertical section through said removable cup, taken on line *a*, Fig. 5. Fig. 7 represents, upon a smaller scale than the other figures, a similar view to Fig. 4, showing modifications in the construction of the clean-out, which will also be hereinafter described; and Fig. 8 is an enlarged sectional view of part of Fig. 7.

The purpose of my invention is mainly to provide a clean-out for sewer pipes and traps and similar plumbing-fixtures which may be made water and sewer-gas tight without the use of leather, rubber, and similar packings and by which when all the parts are assembled or placed in position for use a smooth inner surface flush with the inside face of the pipe or trap may be obtained to prevent sewage-matter collecting at said clean-out.

Said invention consists in combining with the hub of the pipe or trap a ring or collar permanently fastened thereto and having threads formed on its outer end, also having an annular internal shoulder near its inner end, and a removable cup, made of lead or similar soft pliable material, adapted to fit in said ring or collar, having its bottom or inner end closed and concave in shape to correspond to the shape of the inside surface of the pipe or trap, and also provided with an external annular shoulder adapted to rest against the aforesaid internal shoulder on the ring or collar and a closure adapted to be screwed to

the outer end of said ring or collar and to bear at its inner end against the outer end of the aforesaid pliable removable cup to form a tight joint between the aforesaid shoulders, as and for the purpose hereinafter more fully set forth.

To enable others skilled in the art to which my invention appertains to better understand the nature and purpose thereof, I will now proceed to describe it more in detail.

In the drawings, A represents a piece of sewer-pipe having a hub A' thereon.

B is the ring or collar previously alluded to, which may be fastened to a flat hub by means of screws B', as is shown in Figs. 1 to 4, inclusive, or by calking it into a projecting hub A² by means of lead and oakum C, as is shown in Figs. 7 and 8, in like manner to calking any iron pipe into a hub, as in ordinary plumbing. Within said ring or collar is fitted a removable cup-shaped part D, and outside thereof is screwed to the outer end of the ring or collar, against the outer end of said cup, the screw-cap E. The latter may be made with internal threads and the ring or collar with external threads, so that said cap may be screwed over the outside end of the ring or collar, as is shown in Fig. 4, or said ring or collar may be provided with internal threads and an externally-threaded cap or plug E' used, as is shown in Figs. 7 and 8. The same result, as will be seen, may be obtained by both constructions, and I therefore do not limit myself to either. The ring or collar B is provided near its inner end with an annular internal shoulder B², and upon the cup D is formed a corresponding annular external shoulder D', which is adapted to bear against said shoulder B² when the parts are fitted together, as is shown in Figs. 4, 7, and 8. Said cup D is in practice made of lead or similar soft pliable material, so that when the cap E or plug E' is screwed against the outer end thereof, as previously described, a tight joint is produced between said shoulders, which will effectually prevent the escape of water or sewer-gas at said point, said operation causing the lead to be pressed against the iron surface of the ring or collar, and thereby, owing to its soft pliable nature, which permits it to conform to said iron sur-

face, producing a perfectly tight joint between the parts, as aforesaid, without the use of any of the well-known packings—such as leather, rubber, &c.—commonly employed at such points in plumbing-fixtures.

The lead cup D is made with a tight curved bottom D², (see Fig. 6,) which conforms to the inner curved surface of the pipe and is made flush therewith, as is shown in Fig. 4, so that when fitted in said pipe a continuous tight passage is produced, as smooth as though said pipe were not provided with a clean-out. Therefore the possibility of lodgment of sewage-matter, as is common with clean-outs as ordinarily constructed, is entirely obviated.

When it is desired to reach the inside of the pipe for any purpose, it is simply necessary to unscrew the cap, remove the cup, and afterward replace the parts in their former positions. For convenience in removing said cup it may be provided with a transverse pin D³ across its upper end, as is shown in the drawings, or any other suitable device employed whereby it may be conveniently lifted out.

It is preferable in practice to provide the cap E or plug E' with an annular rim E² at one or both sides of where it bears on the outer end of the head-cup D to reinforce or hold said cup from spreading or "squashing" out laterally at said end.

Although I have shown the clean-out as being applied to a pipe, it will be understood that I do not limit myself thereto, as it is intended to be used in practice on traps or any other plumbing-fixtures requiring access to the interior thereof.

Having described my invention, what I

claim therein as new, and desire to secure by Letters Patent, is—

1. The combination with the hub of a pipe, trap, or other plumbing-fixture, of a clean-out comprising the ring or collar B threaded at its outer end and provided with an annular, internal shoulder B²; the cup D made of soft, pliable material and having a tight bottom or inner end conforming to the shape of the inside of the pipe or other fixture and flush therewith, also having an annular, external shoulder adapted to bear against the aforesaid shoulder on the ring or collar B and a closure adapted to be screwed to the outer end of said ring or collar against the outer end of said cup D, substantially as and for the purpose set forth.

2. The combination with the hub of a pipe, trap or other plumbing-fixture, of a clean-out comprising the ring or collar B, threaded at its outer end and provided with an annular, internal shoulder B²; the cup D made of soft, pliable material and having a tight bottom or inner end conforming to the shape of the inside of the pipe or other fixture and flush therewith, also having an annular external shoulder adapted to bear against the aforesaid shoulder on the ring or collar B, and a closure adapted to be screwed to the outer end of said ring or collar against the outer end of said cup D and provided upon its inner side with means for holding the outer end of the cup D in position laterally, substantially as and for the purpose set forth.

JOHN J. PHELAN.

Witnesses:

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