

No. 671,678.

Patented Apr. 9, 1901.

H. J. KREBS.

PLUG COCK.

(Application filed Oct. 18, 1899.)

(No Model.)

FIG. 1.

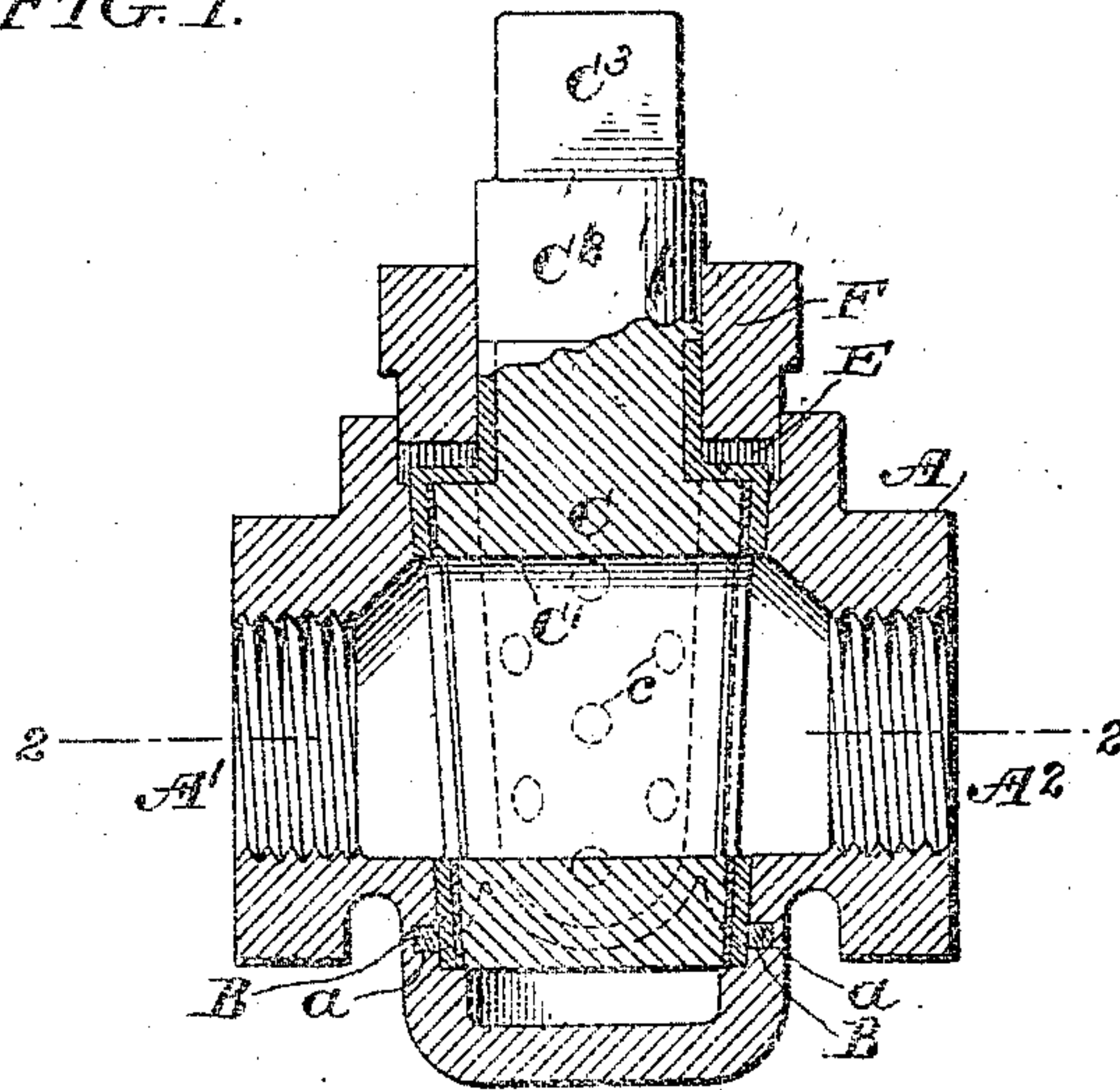


FIG. 2.

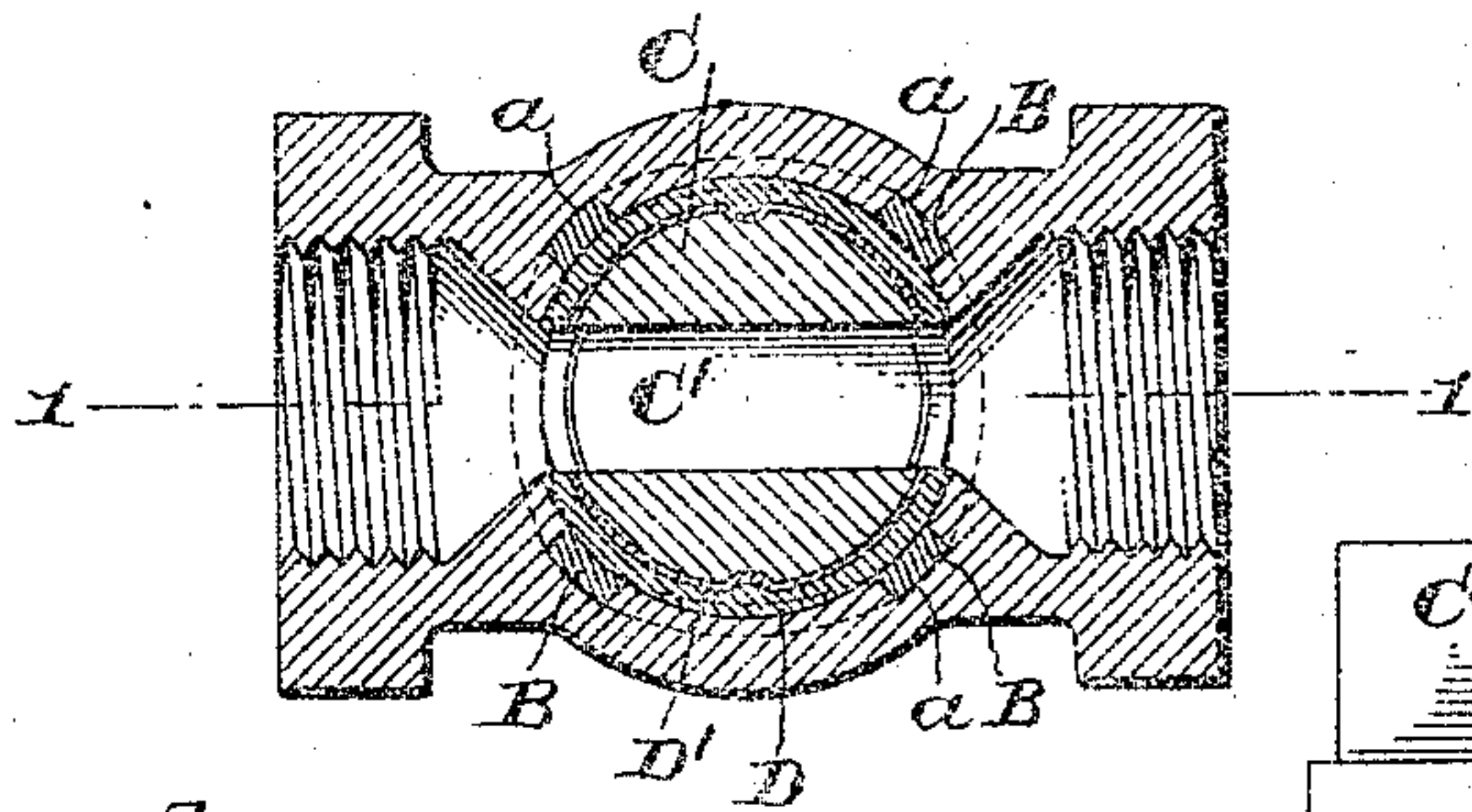


FIG. 3.

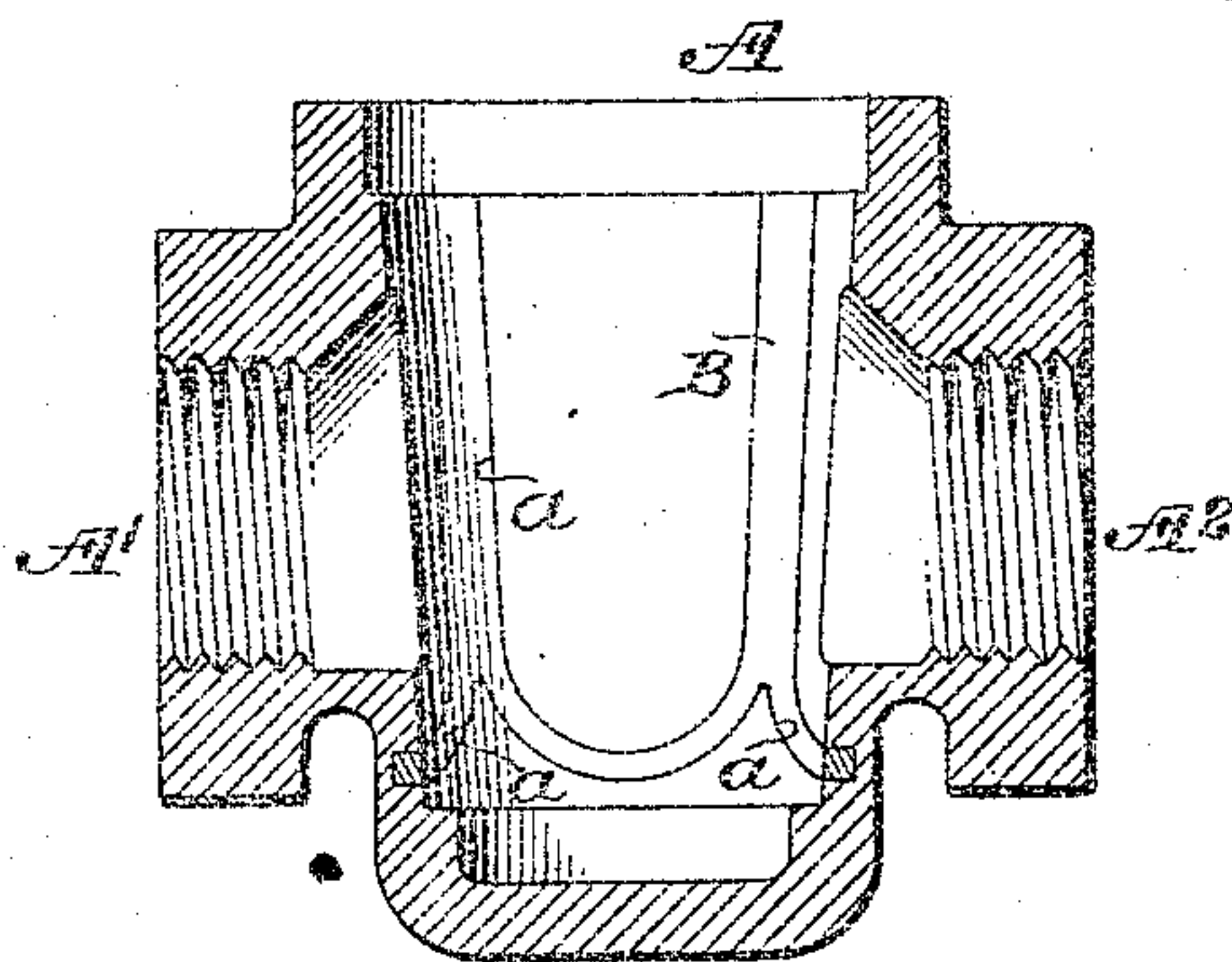
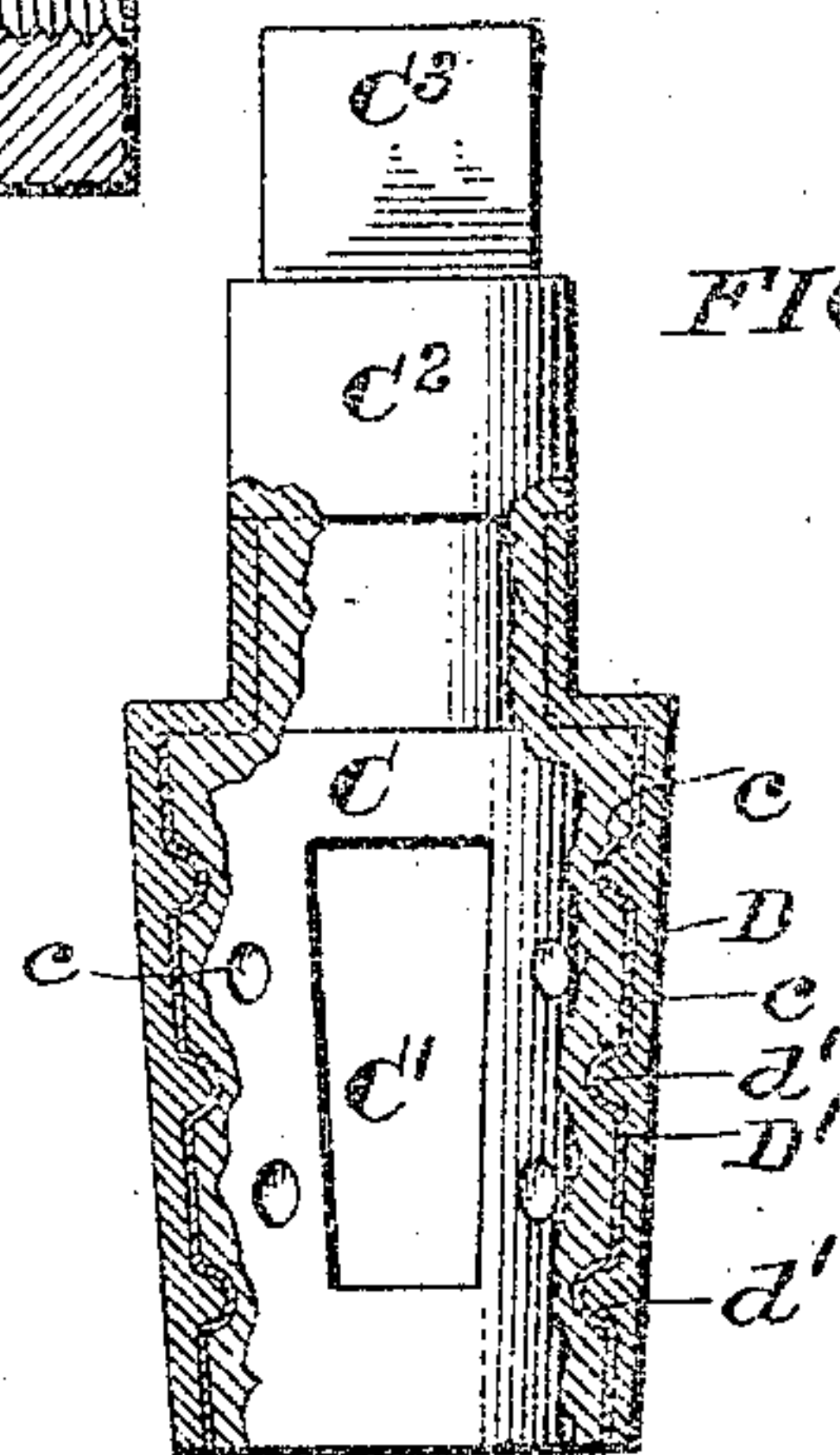


FIG. 4.



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UNITED STATES PATENT OFFICE.

HENRIK J. KREBS, OF WILMINGTON, DELAWARE.

PLUG-COCK.

SPECIFICATION forming part of Letters Patent No. 671,678, dated April 9, 1901.

Application filed October 18, 1899. Serial No. 733,963. (No model.)

To all whom it may concern:

Be it known that I, HENRIK J. KREBS, a citizen of the United States of America, residing in Wilmington, in the county of Newcastle, in the State of Delaware, have invented a new and Improved Plug-Cock, of which the following is a true and exact description, reference being had to the accompanying drawings, which form a part thereof.

My invention relates to the construction of plug-cocks, and particularly to such cocks as are used in conduits for liquids which are apt to have an injurious effect upon the metal of the cock, the object of my invention being to provide a cock having an outer surface of material adapted to resist corrosion, and also and more particularly to provide a cock at once efficient and of exceedingly cheap construction.

My cocks, it should be mentioned, are particularly designed for use in cock-casings having elastic bearing-faces for the cock, enabling me to adapt my improved plug-cocks for use without any machining, which of course greatly decreases their cost.

Generally speaking, my invention consists in forming the core or central part of a plug-cock of iron or other strong metal and providing it with an outer surface of a more fusible metal, preferably of the character known as "Babbitt" metal, united to the cock proper by casting. This coating of fusible and resistant metal can be given a bearing-surface sufficiently accurate for use in a casing having elastic bearing-surfaces in the mold in which it is cast.

In order to insure a perfect union between the core and the surface metals, I prefer to form the surface of the core of the plug with indentations which afford an anchorage for the metal cast around it to form the surface, and I have also found it advantageous and decidedly advisable to coat the core of the plug first with tin and then cast the fusible metal forming the outer surface around the tin-coated core, so as to make a union by fusion both with the tin and the core.

Reference being now had to the drawings in which my invention is illustrated, Figure 1 is a vertical section through the plug and plug-casing, taken as on the section-line 1 1 of Fig. 2. Fig. 2 is a cross-section taken as on the

line 2 2 of Fig. 1. Fig. 3 is a separate view of the plug-casing, taken on the same section as shown in Fig. 1; and Fig. 4 is a view of the plug, partly in section.

A indicates the plug-casing, having inlet and outlet openings, as indicated at A' and A². The plug-casing is, as shown, provided with channels *a* and *a*, &c., for the reception of elastic packing, which may conveniently be of asbestos packing.

B indicates the elastic packing, secured in the groove *a*.

C is the plug, formed with a passage-way C leading through it, a stem C², and a squared extension C³. The body of the plug is formed with indentations or cavities, as indicated at *c*.

D' indicates the coating of tin with which I prefer to cover the plug preparatory to casting around it. The outer bearing-surface D, is made of a metal more fusible than the body of the plug C and is united to it by fusion, entering the cavities *c* and forming a series of anchors *d'*, which counteract any tendency in the outer metal casing to break away from the central plug.

While with metals such as are used for making the body of the plug a sufficiently smooth surface cannot be secured by casting, but with the more fusible metal forming the coating D' a surface sufficiently smooth and accurate to work in connection with an elastic packing B can readily be secured and the plug finished ready for use without any machining.

E, Fig. 1, is a packing-ring, and F a gland.

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

1. A rotary valve-plug formed of a strong cast metal having an outer covering of a more fusible metal cast around it, said cast metallic covering having a mold-finished outer surface.

2. A rotary valve-plug formed of a strong cast metal with indentations *c* in its surface and having an outer covering of a more fusible metal cast around it.

3. A rotary valve-plug formed of a strong cast metal having a layer of tin on its outer surface and a covering of a metal more fusible than the plug proper united to the tin and through it to the plug by fusion.

4. A rotary valve-plug formed of a strong cast metal with indentations *c* in its surface

and having a layer of tin on its outer surface and a covering of a metal more fusible than the plug proper united to the tin and through it to the plug by fusion.

5. A rotary valve-casing having channels formed in it and packed with elastic packing material in combination with a valve-plug formed of a strong cast metal, having an outer

covering of a more fusible metal cast around it said cast-metal covering having a mold-finished surface working in contact with the elastic packing.

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Witnesses:

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