

(No Model.)

H. F. WILSON.
LOCKING STOP COCK.

No. 448,702.

Patented Mar. 24, 1891.

Fig. 1.

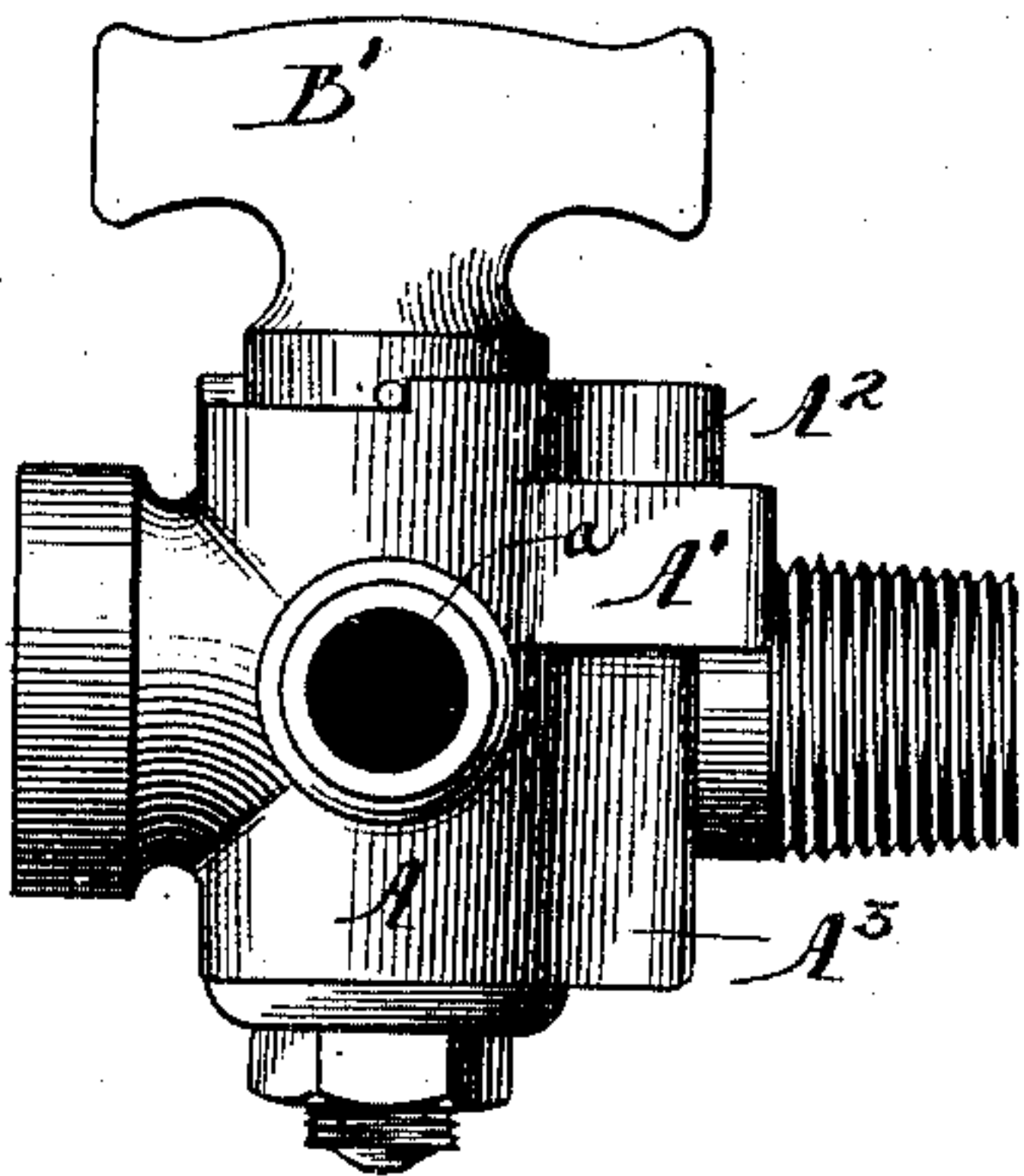


Fig. 2.

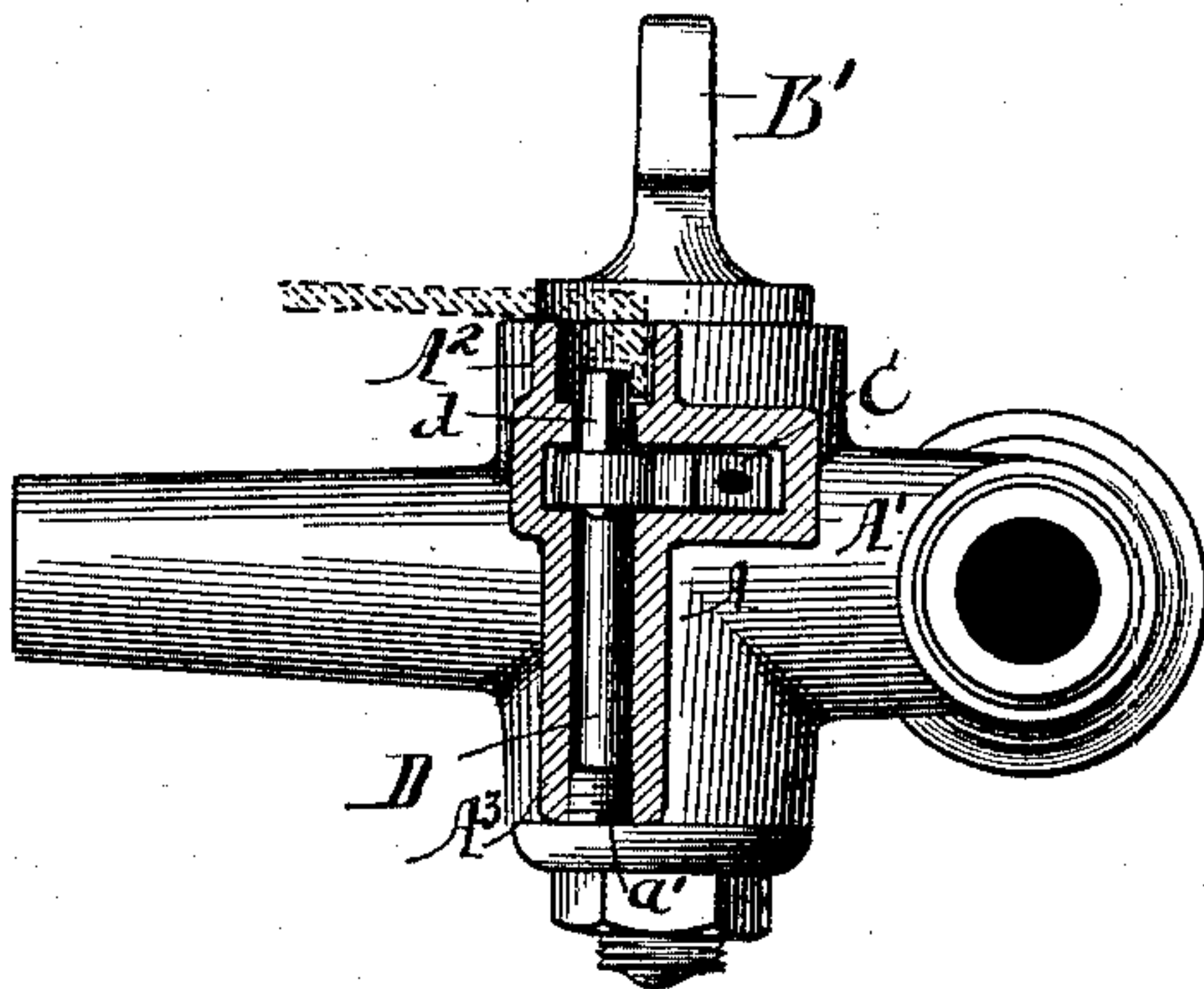


Fig. 3.

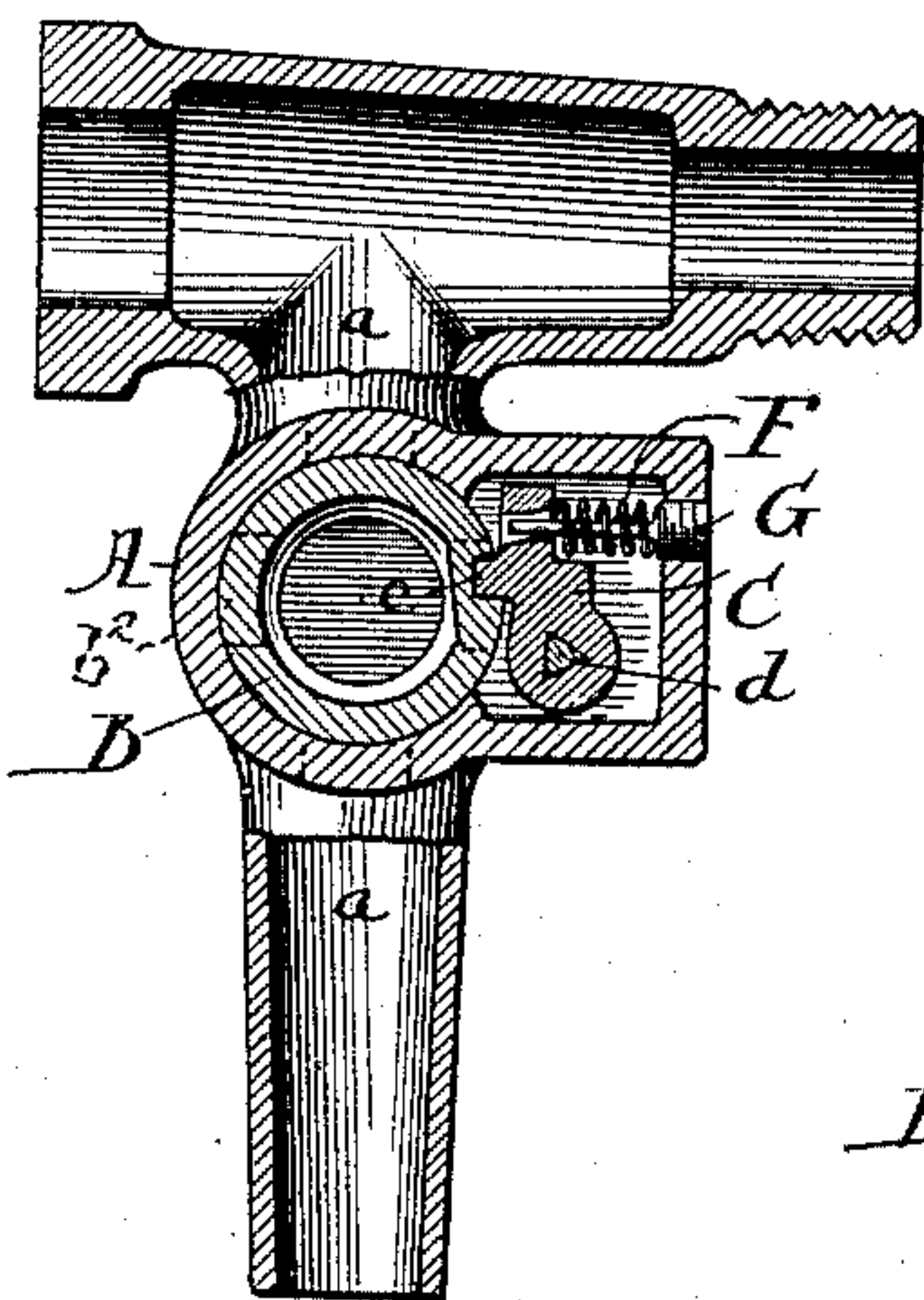


Fig. 5.

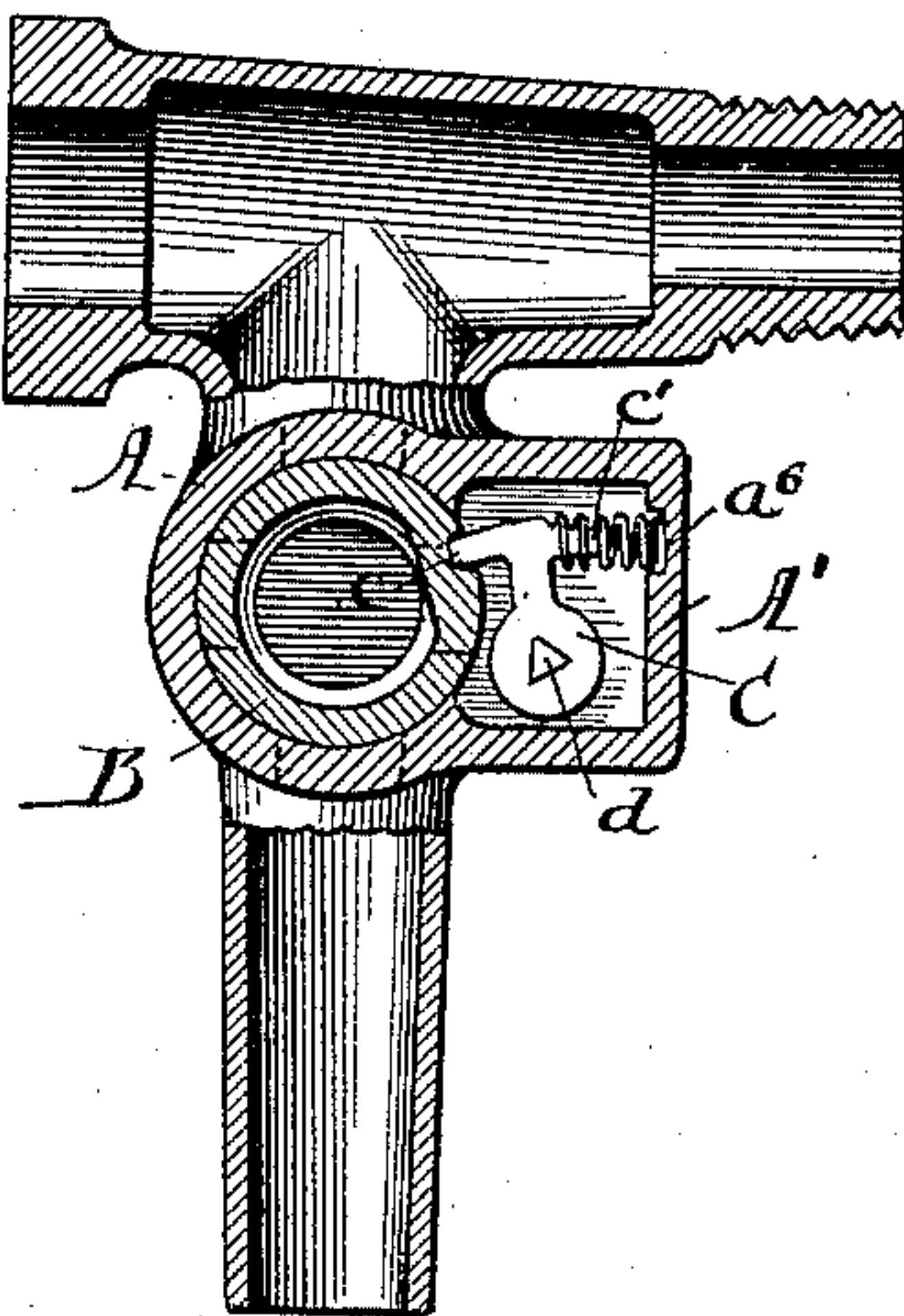


Fig. 4.

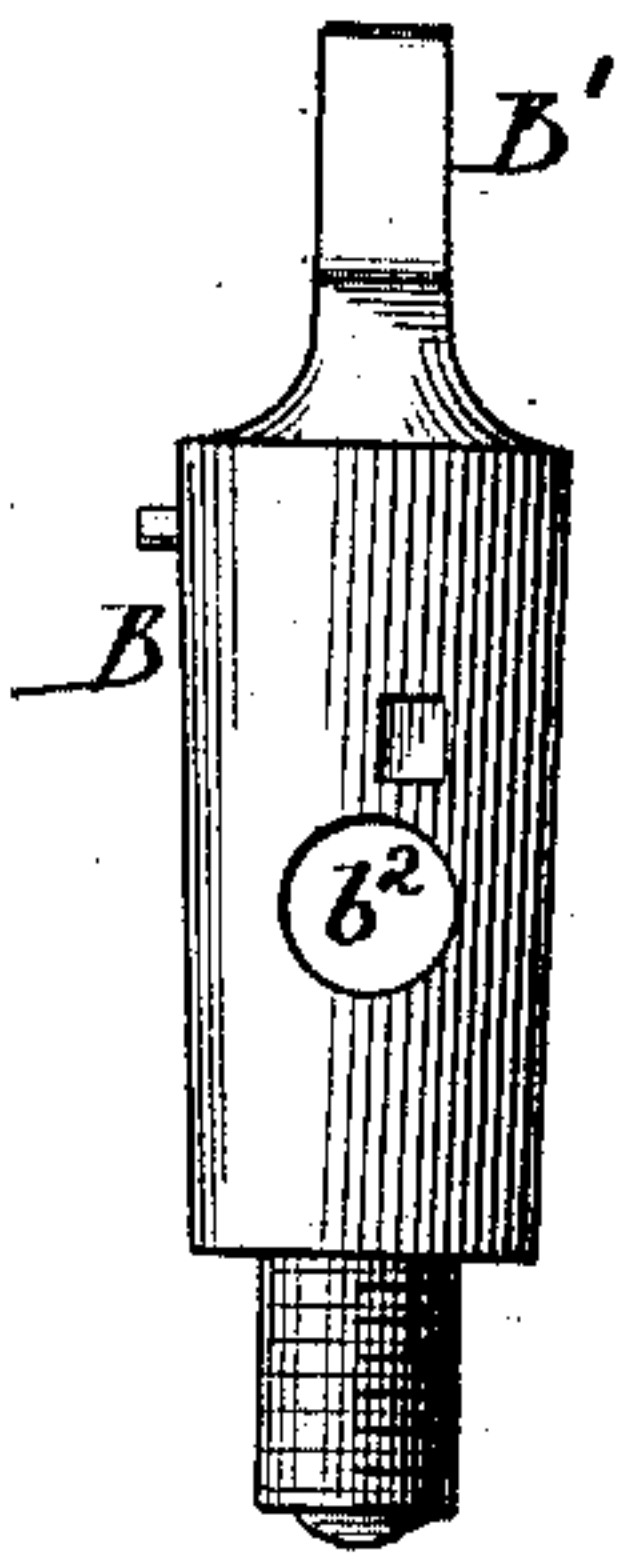
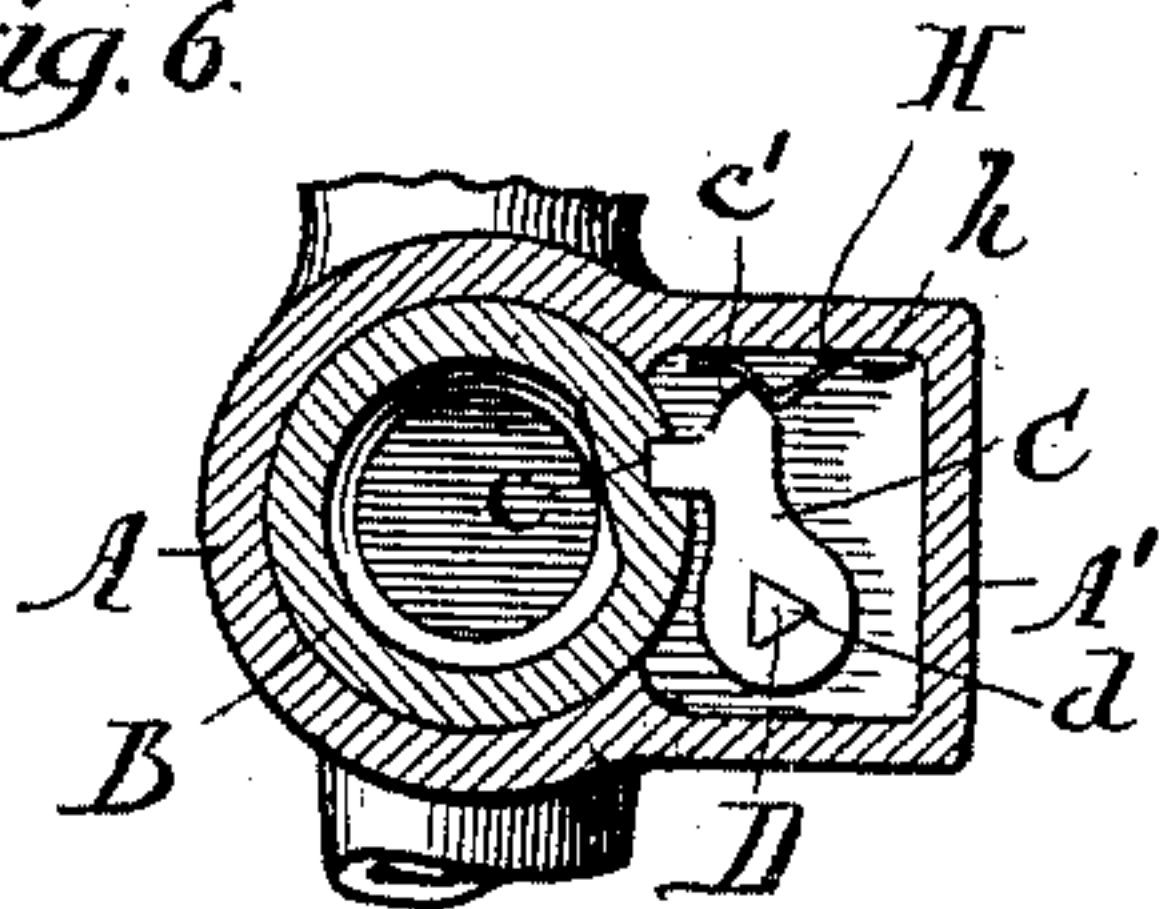


Fig. 6.



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UNITED STATES PATENT OFFICE.

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LOCKING STOP-COCK.

SPECIFICATION forming part of Letters Patent No. 448,702, dated March 24, 1891.

Application filed December 5, 1890. Serial No. 373,677. (No model.)

To all whom it may concern:

Be it known that I, HENRY F. WILSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Locking Stop - Cocks or Valves, of which the following is hereby declared to be a full, clear, and exact description sufficient to enable others skilled in the art to which such invention appertains to make and use the same.

My present invention has for its object to provide an improved construction of locking stop-cock or valve; and to this end my invention consists in the novel features of construction hereinafter described, illustrated in the accompanying drawings, and particularly defined in the claims at the end of this specification.

Figure 1 is a view in side elevation of a locking stop-cock embodying my invention. Fig. 2 is a view in vertical section through the extensions of the valve-casing. Fig. 3 is a view in horizontal section through the extension A' of the valve-casing and through the plug. Fig. 4 is a detail view of the plug. Fig. 5 is a view similar to Fig. 3, but showing a somewhat modified form of the invention. Fig. 6 is a view similar to Figs. 3 and 5, showing a further modified form of the invention.

A designates that portion of the valve-body within which the plug B is contained, this plug being retained within the body by means of a suitable nut *b* and washer *b'*, that set about the reduced and threaded end of the plug, as well understood in the art. Through the body A leads the usual channel or opening *a*, and the body of the plug B is furnished with the usual openings *b²*, which, when brought coincident with the channel *a*, will afford free passage for gas or liquid through the valve. The body A is formed with a chambered extension or enlargement A', that opens into that part of the chamber of the valve-body in which plug B is held. Within this chamber A is set a latch C, fixed upon a stem D, that passes upward through the chamber A and through the upper and lower extensions A² and A³ of such chamber. The chamber A³ is formed with an opening from end to end, and through this opening will be passed the

stem D, the upper triangular portion *d* of this stem passing through a corresponding triangular or irregular hole formed in the latch C. A screw-plug *a'* is preferably placed in the bottom of the chamber A³ in order to hold the stem D in place, and it is obvious that by means of this stem, the upper end of which projects into the chamber or extension A², the latch C will be retained against displacement. This latch C is provided with a lug *c*, adapted to enter a corresponding seat formed in the plug B, so that when the plug has been turned to proper position to cut off the flow of gas or liquid through the valve the lug *c* will enter the corresponding seat in the plug B and lock the plug, so that it cannot be again opened until the latch and plug are disengaged. A spring F bears upon the free end of the latch C and serves to force this latch normally toward the plug B, so as to cause the lug *c* of the latch to surely enter the seat in the plug when the plug has been sufficiently turned to cut off the supply of gas or liquid. In the form of my invention illustrated in Fig. 3 the spring F is shown as a coiled spring and is carried upon a stem or rod G, that is inserted through the threaded opening in the extension A' and through a hole in the end of the latch C, the outer end of this stem or rod G being enlarged and threaded, so as to fill the opening when the stem has been brought to the proper position for use.

From the foregoing description it will be seen that when the parts are in the position illustrated in Fig. 3 the plug B of the valve will be locked, so that it cannot be moved by merely turning the handle B', as the lug *c* of the latch C is in firm engagement with the corresponding notch or seat in the plug. Consequently the flow of gas or liquid through the valve is effectively prevented. If now it is desired to unlock the plug B, so as to permit the flow of gas or liquid, it is only necessary to insert through the hole in the top of the chamber A² a suitable key (indicated by dotted lines in Fig. 2) adapted to fit the triangular or irregular end *e'* of the stem D, and by means of this key to turn backward the latch C until its notch is out of the seat in the plug B, after which the plug B may be turned by means of its handle B'. It is ob-

vious that as the backward movement of the latch C is effected against the force of the spring F, this spring, as soon as the pressure thereon is released, will force forward the latch C until its lug *c* rides against the face of the plug B in readiness to again enter the notch or seat of the plug when the supply of gas or liquid is cut off.

The construction of valve as above described is a very simple and effective one, as the extensions A' , A^2 , and A^3 can be conveniently cast in one piece with the body A of the valve, and by reason of the opening between the chamber A' and the interior of the valve-body A the latch C and the spring F can be readily inserted within the chamber A' , where the latch will be held by means of the stem D. My improved construction, while affording a very simple and effective form of locking stop-cock, can be so cheaply and easily made as to render it especially desirable upon this account.

In the form of my invention illustrated in Fig. 5 the construction of the parts is the same as that hereinbefore illustrated, with the exception that instead of providing the stem G the spring F has one of its ends held within a recess a^6 of the chamber A' , while its opposite end sets over a projecting portion c' , that is formed upon the rear side of the outer end of the latch C.

In Fig. 6 of the drawings is illustrated a further modified form of my invention. In this form the construction of the valve-body, the plug, and the latch is substantially the same as that illustrated in Figs. 1, 2, and 3 of the drawings, with the exception that the latch C is preferably provided with a rounded or double-inclined end c' , that will bear upon the curved spring II, one end of which is attached, as at *h*, to the wall of the chamber A' , while the opposite end is free. From this construction it will be seen that with this form of my invention the spring II will serve to hold the latch C either in open or closed position, since when the latch is in the position shown in Fig. 5 the pressure of the spring II upon the end of the latch will tend to force the end c' of the latch into engagement with the notch of the plug B. If now the latch be turned backward by a suitable key engaging with the end of the spindle D, as before de-

scribed, the spring II will be compressed until the end c' of the latch passes upon the opposite or rear side of the curved portion of the spring, and will there be held by the action of the spring bearing upon the inclined end of the latch.

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

1. A locking stop-cock the body A of which is provided with an extension A' , cast in one piece therewith, and having a chamber that communicates with the usual opening of the body A, that receives the plug B, a pivoted latch C, of a size adapting it to be passed through the plug-opening and into the body of said extension A' , said latch being provided with a lug *c*, a stem D for said latch, whereby it may be turned, and a plug B, provided with a seat or notch to receive the lug of the latch C, substantially as described.

2. A locking stop-cock the body A of which is provided with a chamber or extension A' , cast in one piece therewith, communicating with the usual opening in the body A, that receives the plug B, a pivoted latch C, of a size adapting it to be passed through the plug-opening and into the body of said chamber A' and provided with a suitable lug *c*, a plug B, provided with a seat or notch for said lug *c*, a stem D, passing through said latch, and a spring held within said chamber for normally pressing upon said latch, substantially as described.

3. A locking stop-cock the body A of which is provided with an extension A' , the chamber whereof communicates with the usual opening of the body A, that receives the plug B, and provided also with a perforated extension A^3 , a latch C within said extension A' and having a lug *c*, a stem D, extending through said extensions A' and A^3 and through the latch C, said stem being provided with an irregular end, a spring located within the extension A' and bearing upon the outer end of the latch C, and a plug B, provided with a seat or notch to receive the lug of the latch, substantially as described.

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