

J. C. Chapman.

Stop Cock.

No 94,563. Patented Sept. 7, 1869.

Fig. 1.

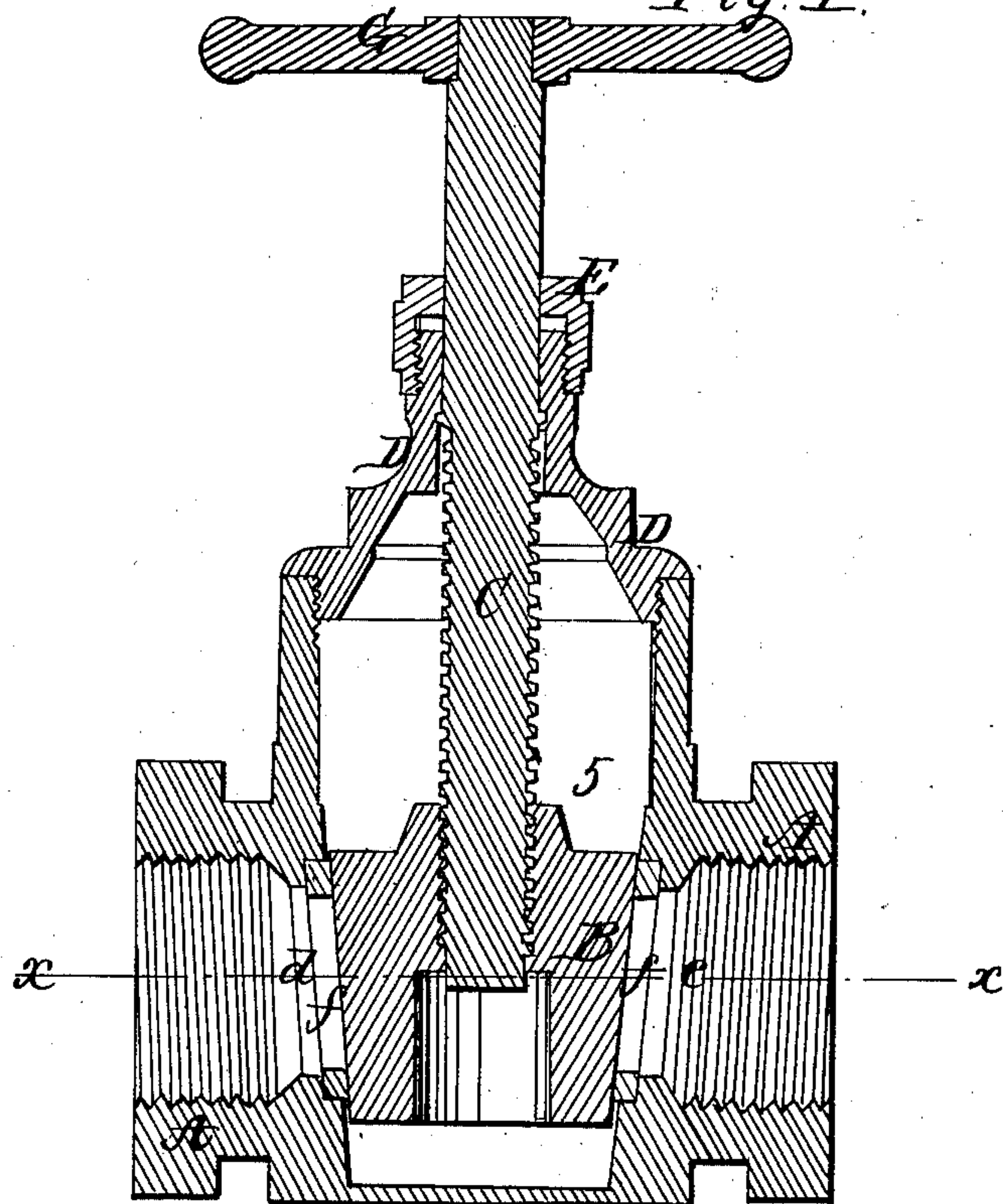
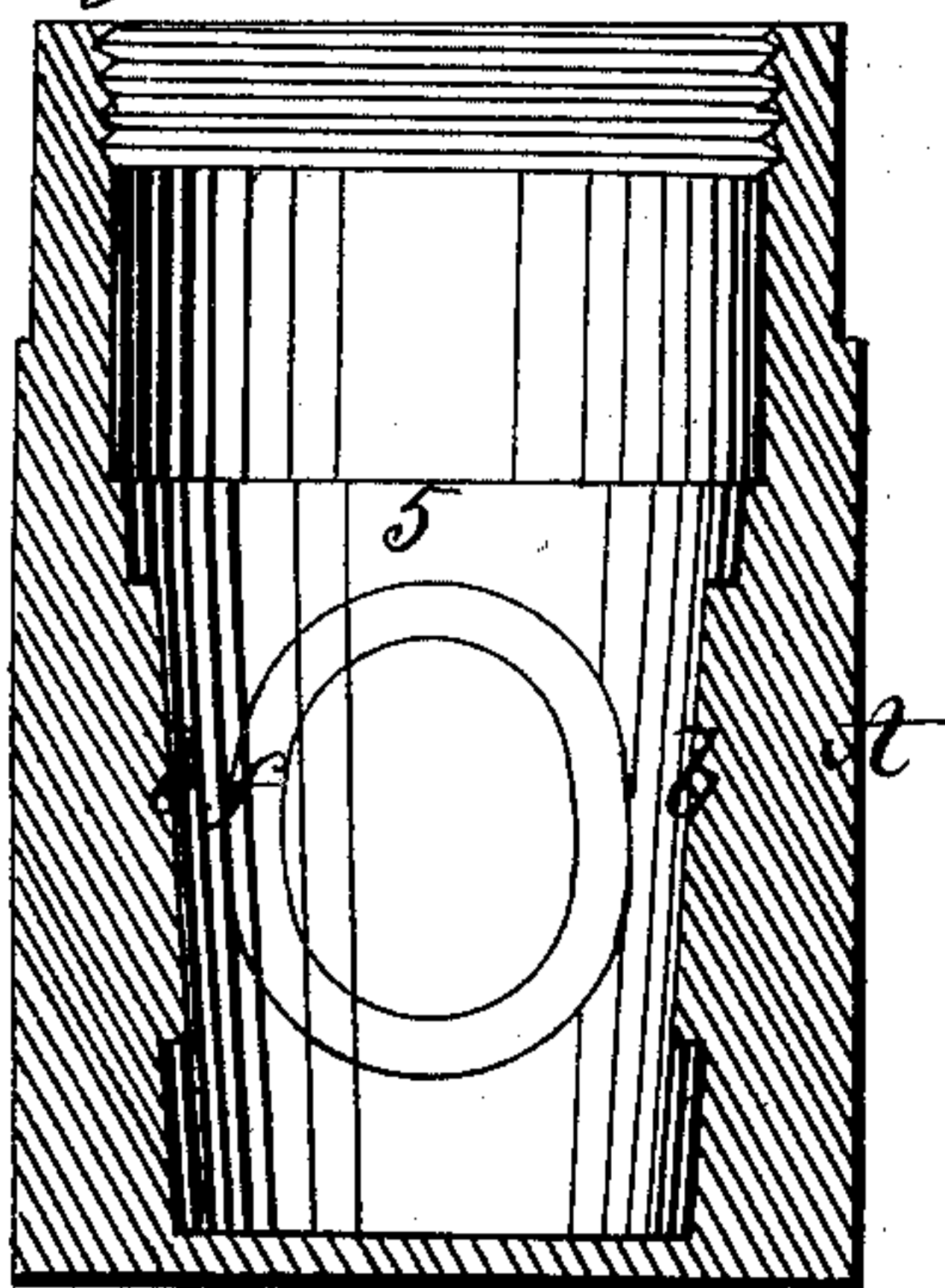
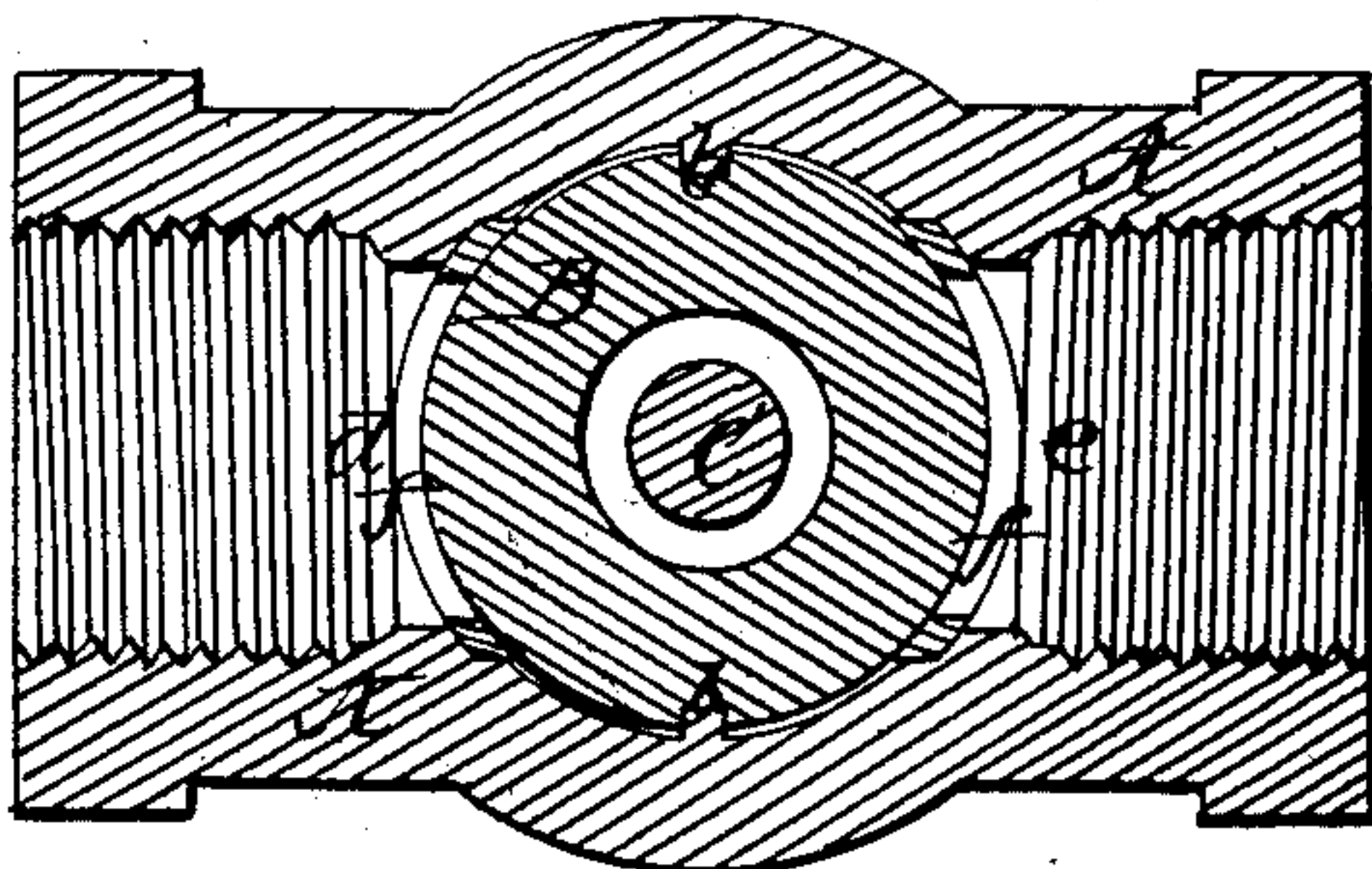


Fig. 2.



Witnesses,
W. J. Cambridge
L. E. Patchetter.

Fig. 3.



Inventor,
John C. Chapman

United States Patent Office.

JOHN C. CHAPMAN, OF CAMBRIDGEPORT, MASSACHUSETTS.

Letters Patent No. 94,563, dated September 7, 1869.

IMPROVEMENT IN STOP-COCKS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JOHN C. CHAPMAN, of Cambridgeport, in the county of Middlesex, and State of Massachusetts, have invented an Improved Valve or Stop-Cock, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a central longitudinal section through my improved valve or stop-cock.

Figure 2 is a section through the centre of the shell of the same.

Figure 3 is a transverse section through the valve, on the line *x x* of fig. 1.

My invention has for its object to improve the construction of valves or stop-cocks, so that the grinding, hitherto required to render them tight, may be dispensed with, whereby I am enabled to produce a superior article at a much less cost than heretofore; and

My invention consists in a conical or wedge-shaped plug, which slides within a shell, having its inlet and outlet-openings seated or surrounded with a packing of Babbitt or soft metal, against which the plug is forced when the valve is closed.

To enable others skilled in the art to understand and use my invention, I will proceed to describe the manner in which I have carried it out.

In the said drawings, *A* is the body or shell of the valve, having a straight unobstructed passage through it, which is closed by a tapering or conical plug, *B*, which slides within the portion 5 of the shell.

This plug *B* is advanced and withdrawn by a screw-shaft, *C*, which passes through it, the outer portion of the shaft, above the screw-thread, passing through the cap *D* and stuffing-box *E*, and carrying, at its extremity, a hand-wheel, *G*, by which it is revolved.

b are ribs or projections on the interior of the shell, which fit into grooves in the plug *B*, and prevent it from turning while being moved by the screw-shaft *C*.

Around the inlet and outlet-openings *d e*, on the

interior of the shell *A*, are recesses, which are filled with Babbitt or other soft metal, *f*, so as to form seats or packing, against which the conical plug *B* is forced, the soft metal yielding, and conforming exactly to the shape of the plug, and thereby insuring a perfectly tight joint, without the necessity of grinding the bearing-surfaces, as has been heretofore necessary in a stop-cock provided with a plug and a straight unobstructed passage, and consequently I am enabled to furnish a simple and reliable stop-cock or valve at a greatly reduced cost.

It will be seen, that in the above-described stop-cock there is no liability of leakage being caused by the wear of the plug, for the latter being tapering or conical, is always forced tightly against the soft metal packing, which adapts itself to its form and the inequalities of its surface, so as always to insure a tight joint when the valve is closed.

The plug is, however, exposed to very little wear, as it leaves the soft metal seats as soon as it commences to be withdrawn to open the valve.

Instead of the sliding plug *B* being operated by a screw, as above described, it may be moved by means of a lever attached to the spindle *C*. This latter method would be found well adapted for gas-cocks.

In lieu of the plug *B* being made in the form of a frustum of a cone, it may be constructed in the form of a wedge, the shape of the interior of the shell being made to conform thereto.

Claim.

What I claim as my invention, and desire to secure by Letters Patent, is—

The tapering plug *B*, applied to and sliding within the shell *A*, in combination with the Babbitt or soft metal seats or packing *f*, at the inlet and outlet-openings *d e*, substantially as described.

JOHN C. CHAPMAN.

Witnesses:

P. E. TESCHEMACHER,
W. J. CAMBRIDGE.