

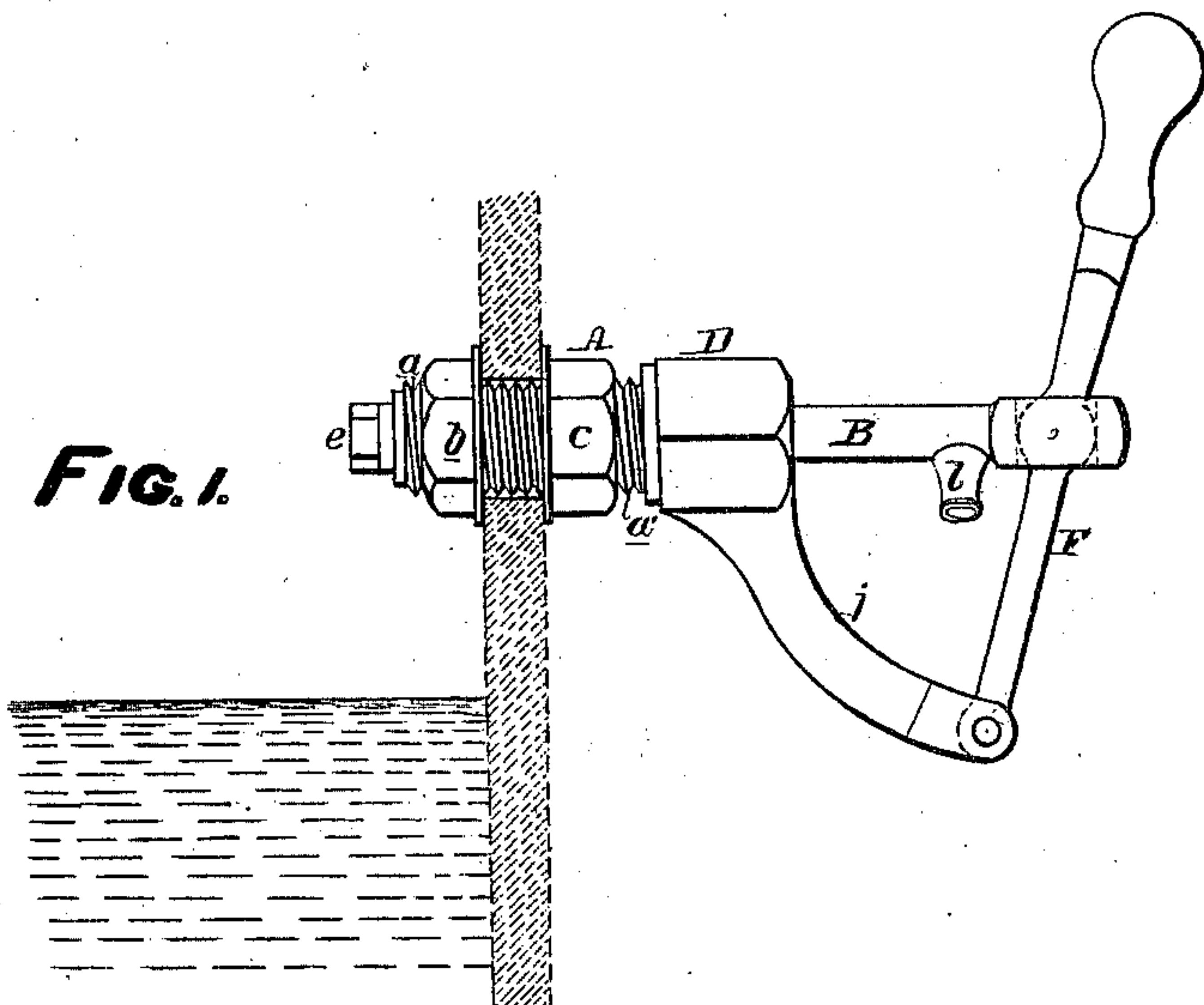
*S. Blackman,*

*Gage Cock.*

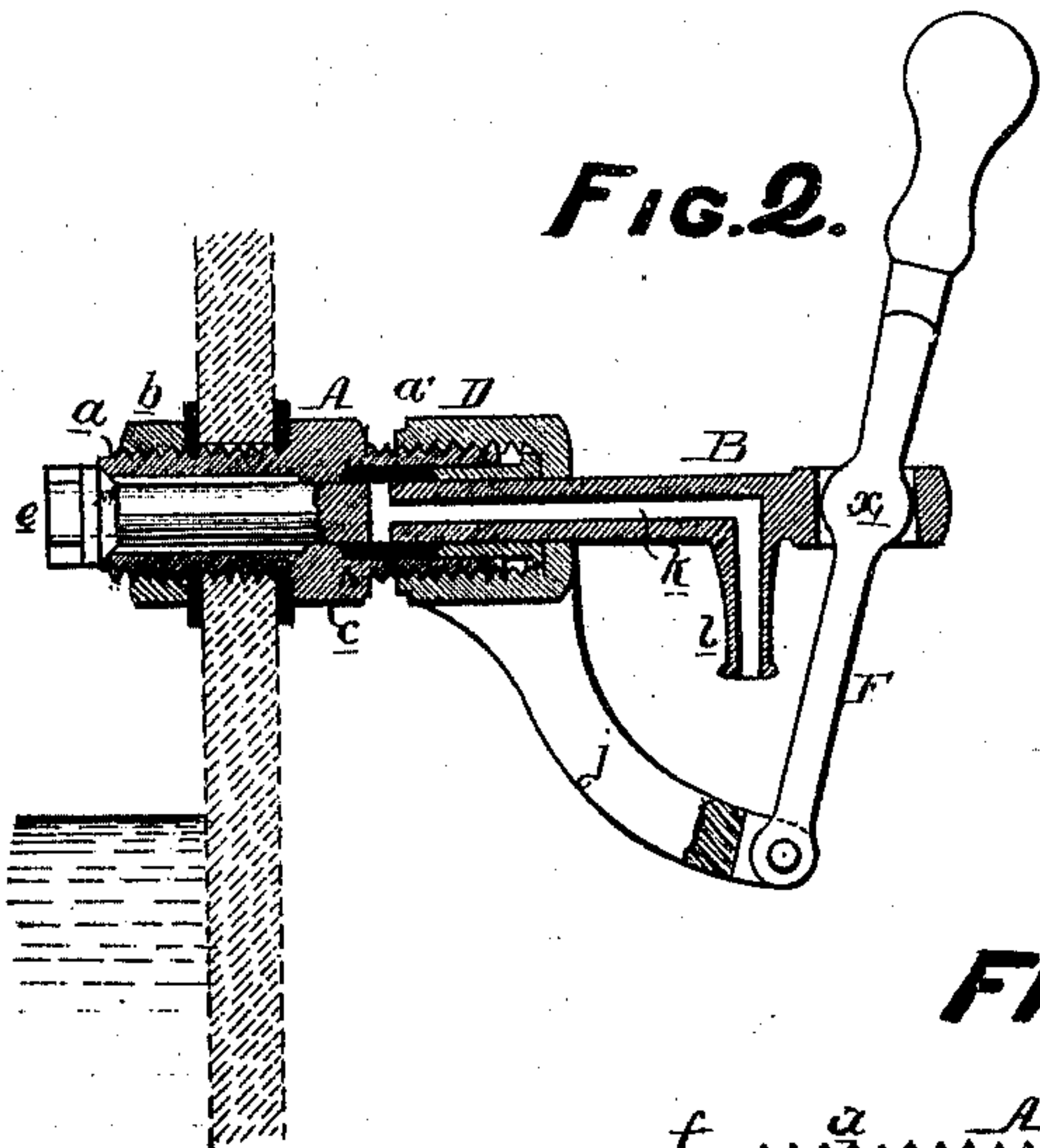
*No. 97,595.*

*Patented Dec. 7. 1869.*

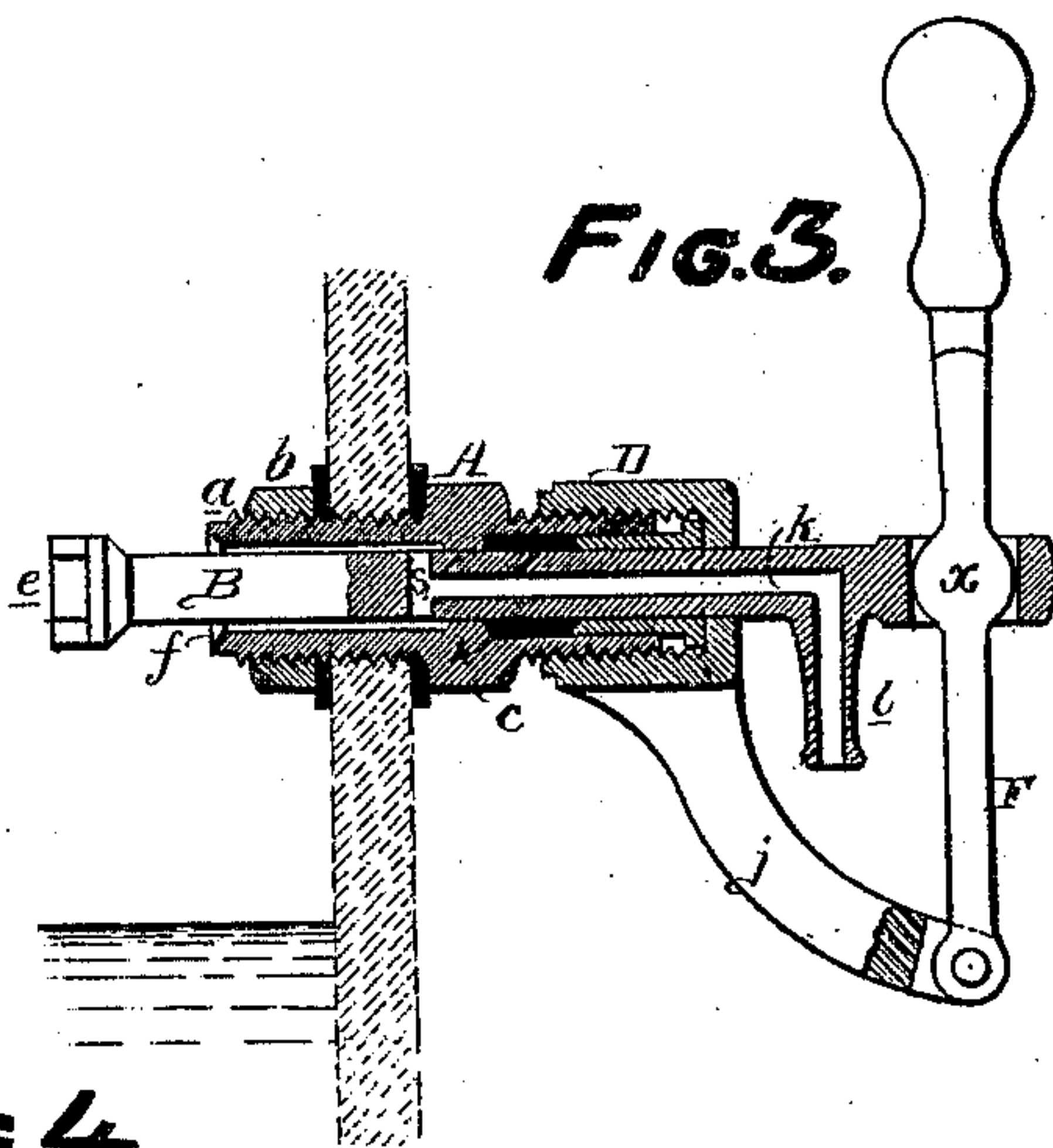
**FIG. 1.**



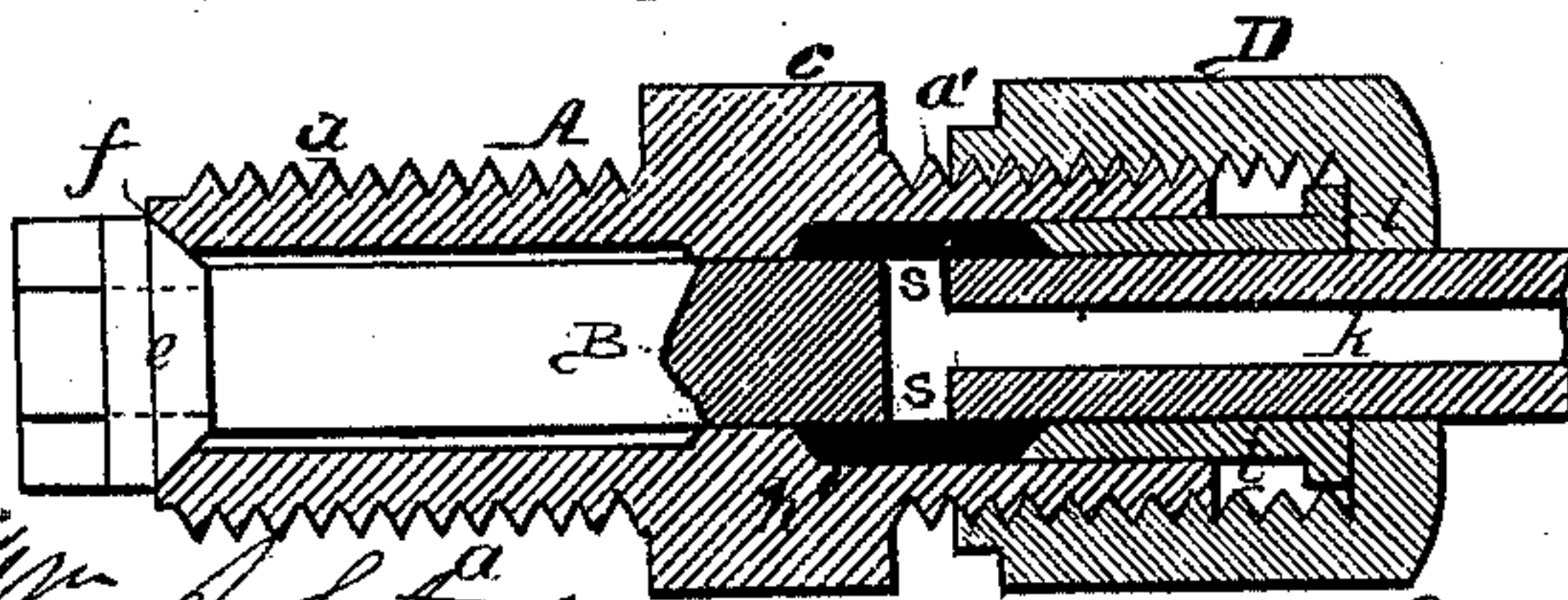
**FIG. 2.**



**FIG. 3.**



**FIG. 4.**



WITNESSES

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*By his Atty*  
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# United States Patent Office.

SAMUEL BLACKMAN, OF READNIG, PENNSYLVANIA.

Letters Patent No. 97,595, dated December 7, 1869.

## IMPROVEMENT IN STEAM-GAUGE COCKS.

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

I, SAMUEL BLACKMAN, of Reading, county of Berks, State of Pennsylvania, have invented an Improvement in Gauge-Cocks, of which the following is a specification.

### *Nature and Object of the Invention.*

My improved gauge-cock consists of a casing, adapted for application to a steam-boiler, in combination with a valve-rod, having certain passages, and operated by a lever, as fully described hereafter, so as to permit a free passage of the fluids without danger of the valve becoming clogged, or leaking when closed.

### *Description of the Accompanying Drawing.*

Figure 1 is an exterior view of my improved gauge-cock;

Figures 2 and 3, longitudinal sections, showing the moving parts in different positions; and

Figure 4, an enlarged sectional view of a portion of fig. 2.

### *General Description.*

The body of the cock consists of a tubular casing, A, the screw-stem *a* of which projects through an opening in the head of a boiler, (shown by dotted lines,) and is securely attached to the same by a nut, *b*, suitable packing being employed to insure a tight joint.

The casing A has also a screw-stem, *a'*, and an enlargement, *c*, which is of a hexagonal or other suitable form, to receive a wrench.

B is a rod, (partly solid and partly tubular, as explained hereafter,) which passes through the interior of the casing A, and through a cap, D, screwed on to the stem *a'*, the said rod having on its inner end, within the boiler, a valve, *e*, which is adapted to a seat, *f*, formed at the end of the stem *a*.

The rod B also passes through a mass of packing, *h*, contained in a stuffing-box formed within the casing A, which prevents leakage round the rod B, a follower, *i*, being forced against the packing by the screw-cap D.

F is a lever, hinged to an arm, *j*, on the cap D, and arranged to pass through an opening in the outer end of the rod B, so that the lever forms a convenient medium for moving the rod B to and fro in the casing A.

Extending part way through the rod B, is a central longitudinal passage, *k*, communicating, at its outer end, with a nozzle, *l*; and at the inner end of the said passage, are one or more transverse openings, *s*, which, when the rod is moved inward, as shown in fig. 3, communicate with the interior of the casing A, which is enlarged from the valve-seat to a point near the stuffing-box, so that when the latter is moved to the position shown in fig. 3, steam or water can pass through the annular space between the rod and casing into the discharge-nozzle *l*.

To close the cock, all that is necessary is to slide the rod B outward by means of the operating-lever F, until the opening or openings *s*, leading to the discharge-orifice, are covered by the packing *h*. (See figs. 2 and 4.)

By thus using the packing as a medium for cutting off all communication between the interior of the boiler and the discharge-orifice, all leakage is effectually prevented—an important point, as dependence cannot always be placed on the efficacy of the valve *e* for this purpose, the valve being relied upon only for the purpose of preventing the outward escape of steam or water, when it becomes necessary to repack the stuffing-box, when there is a pressure of steam within the boiler.

I do not claim broadly a steam-valve, closed by the force of the internal pressure, nor a hollow rod, receiving and discharging the fluid, as shown; but

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

The casing A, adapted for application to a boiler, having a valve-seat at its inner end, and a packing, *h*, in combination with the sliding rod B, its valve *e*, and passages *b* and *k*, and with the lever F, connected to a projection on the casing, and operating as set forth.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

SAMUEL BLACKMAN.

Witnesses:

J. S. WOOTTEN,  
H. R. LAUCKS.