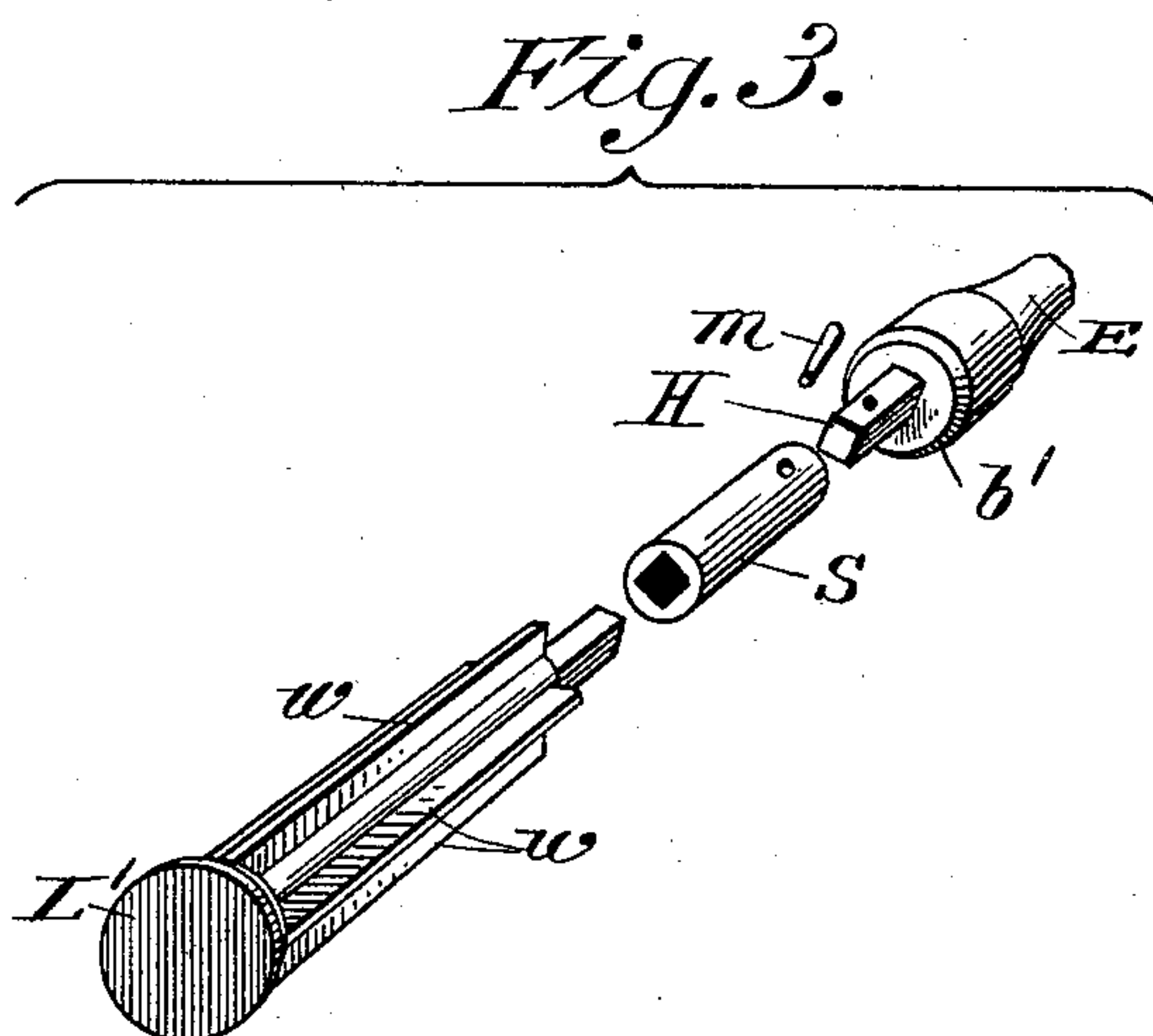
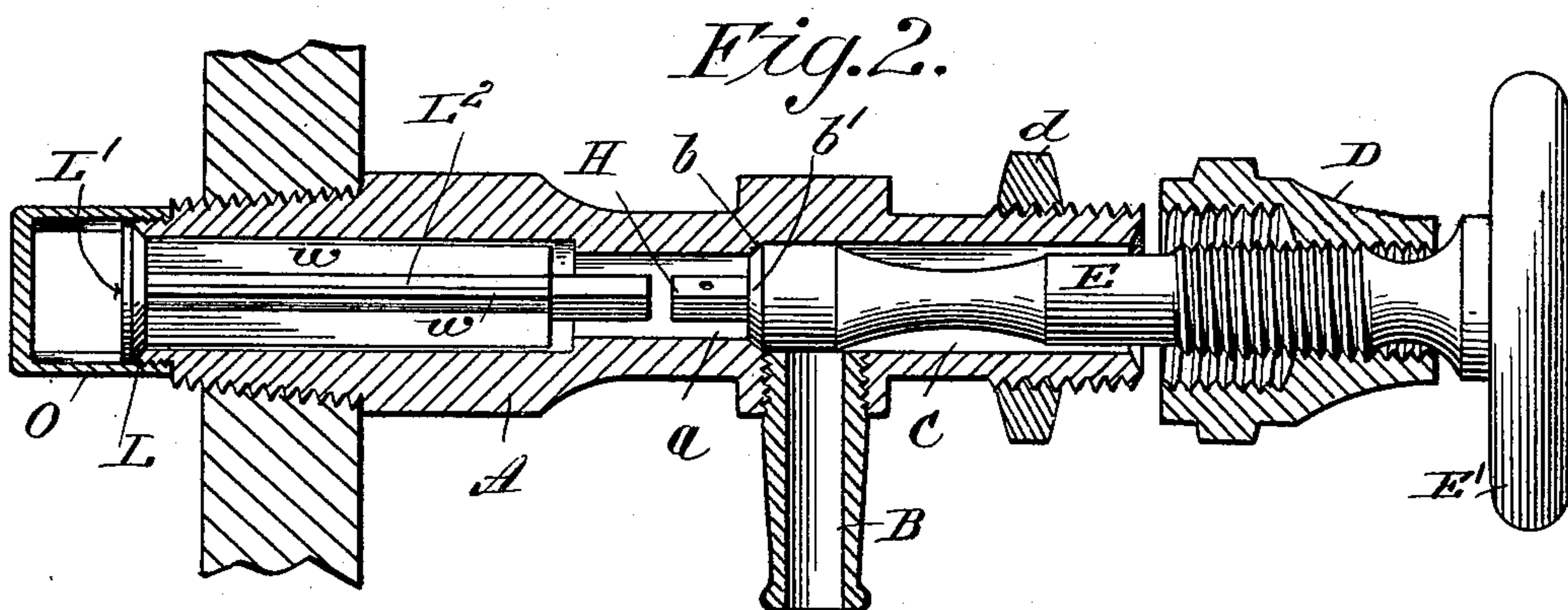
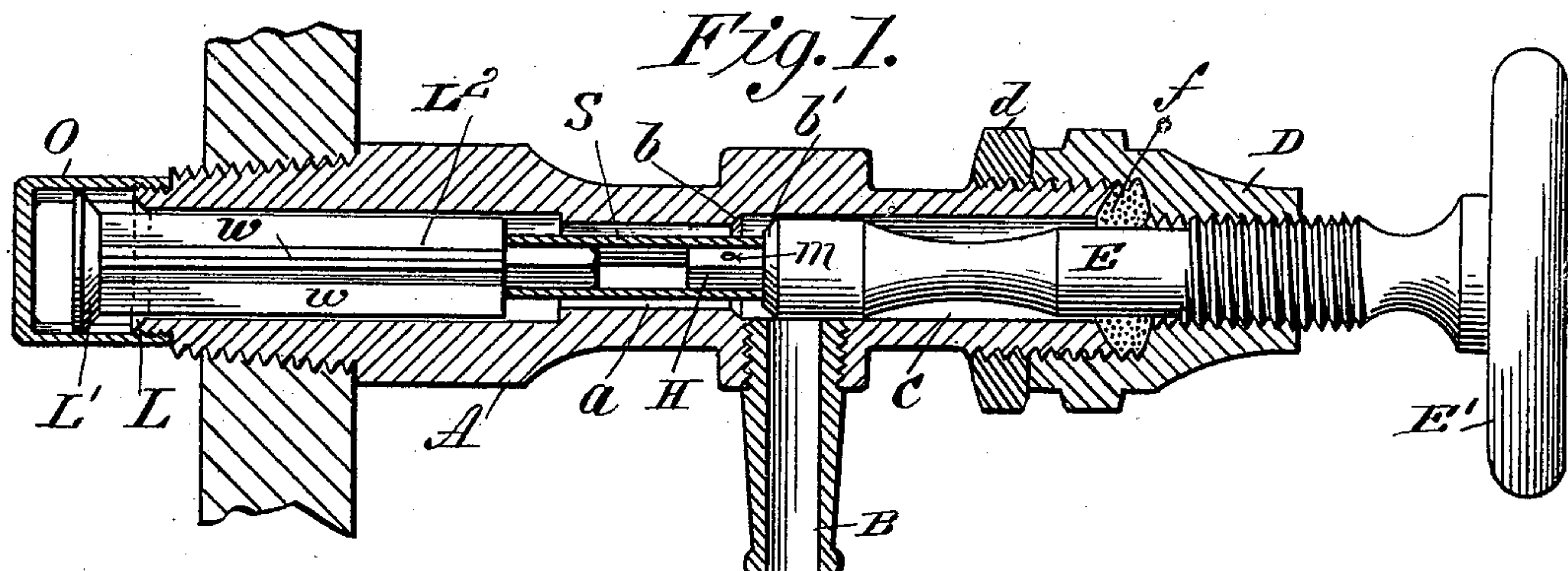


(No Model.)

J. STROMVALL.  
GAGE COCK.

No. 585,133.

Patented June 22, 1897.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

JOHN STROMVALL, OF SPRINGFIELD, MASSACHUSETTS.

## GAGE-COCK.

SPECIFICATION forming part of Letters Patent No. 585,133, dated June 22, 1897.

Application filed April 24, 1897. Serial No. 633,600. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN STROMVALL, a citizen of the United States, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Gage-Cocks, of which the following is a specification.

This invention relates to gage-cocks for steam-boilers, the object being to provide an improved gage-cock of this class in which the body of the cock has two valve-seats, one for the valve at the inner end of the body and one for the spindle within the spindle-passage in the body; and the invention consists in the peculiar construction and arrangement of the several parts of the valve, all as hereinafter fully described, and more particularly pointed out in the claims.

In the drawings forming part of this specification, Figure 1 is a longitudinal section of a gage-cock constructed according to my invention. Fig. 2 is a view similar to Fig. 1, but with the connection uniting the stems of the two valves removed. Fig. 3 is a perspective view of the two valves and the connection by which their stems are united, the parts being shown in separated relations.

Referring to the drawings, A represents the body of a gage-cock having the usual tapered extremity for screwing into the boiler and the usual outlet B, communicating with the spindle-passage C in the body of the cock. Said spindle-passage is contracted at *a*, and at the outer end of said contracted part is formed the valve-seat *b*.

A cap D is provided of the usual construction, screwing onto the outer extremity of the body A, and a check-nut *d* serves to lock said cap in any desired position. Suitable packing *f* is provided between the end of the body and the end of the threaded counterbore in the cap, as usual.

A suitably-threaded opening through the cap from the end of the counterbore outward receives the correspondingly-threaded spindle E, provided with the hand-wheel E'. The end of the spindle E within the body of the gage-cock is provided with a square projection H and a valve *b'*, adapted to fit the seat *b*.

The end of the body A which projects into the boiler is provided with a valve-seat L and a valve L', adapted to fit it. Said valve is

provided with a long stem L<sup>2</sup>, the inner end of which is squared to correspond with the squared part H of the spindle, the sides of said squared portions of the valve-stem and spindle lying in the same planes.

Four wings *w* are cast integral with said valve-stem L<sup>2</sup>, lengthwise therewith, for supporting the said valve-stem L<sup>2</sup> in the passage C through the body of the cock.

It will be observed that the squared ends of the valve-stem L<sup>2</sup> and the spindle E lie within the contracted part *a* of the spindle-passage C and are there united by the sleeve S, which is of smaller diameter than said part *a* of the passage C, sufficient space being allowed between the exterior of said sleeve and the interior diameter of said part *a* for the passage of steam from the boiler outward through the cock to the outlet B. The said connecting-sleeve S is provided with squared sockets in each end for the reception of the squared ends of the valve-stem L<sup>2</sup> and the squared end of the spindle E, and a positive connection between the latter and said sleeve is effected by a pin *m*, fitting closely a hole bored through the end of said sleeve and said squared end on the spindle E. Said sleeve is of such length that when in its proper position it holds the valve L' away from its seat L in the inner end of the body A, and the spindle can be screwed out far enough to open the valve *b'* for the purpose of operating the gage-cock without permitting the valve L' to close. (See Fig. 1.) However, should it be desirable to grind the valve *b'* on its seat the cap D is removed from the body A and the spindle E is pulled out from the passage C, the sleeve S disengaging from the end of the valve-stem L<sup>2</sup>, the valve L closing immediately by the pressure of the steam behind it. After withdrawing the spindle from the passage C the pin *m* is driven out and the sleeve S removed. The spindle is then returned to its position within the passage C, when the valve can be ground without disturbing the valve L', as there is no connection between the adjoining ends of the spindle E and valve-stem L<sup>2</sup>. After grinding the valve *b'* the sleeve S is then replaced on the end of the spindle and the latter replaced in the passage C, where connection is made with the end of the valve-stem L<sup>2</sup>, as described.

A cage O of ordinary construction is screwed



onto the inner end of the gage-cock for preventing the valve L' from being accidentally pushed through into the boiler.

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

1. In a gage-cock having a spindle-passage therethrough and a suitable outlet communicating with said passage, two valve-seats in said passage between the said outlet and the inner end of said gage-cock, a spindle provided with a suitable valve for one of said valve-seats, an independently-moving valve for the other of said valve-seats, and a removable connection for uniting said spindle and said independently-moving valve, whereby the latter is normally held away from its seat, combined with means for moving said spindle longitudinally in said passage for operating

the other of said valves, substantially as described. 20

2. In a gage-cock having a spindle-passage therethrough and a suitable outlet communicating therewith, two valve-seats in said passage between said outlet and the inner end thereof, a spindle made in two parts each of which is provided with a suitable valve, a removable connection for uniting the two parts of said spindle whereby one of said valves is normally held away from its seat, combined with means for moving said spindle longitudinally in said passage for operating the other of said valves, substantially as described. 25 30

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Witnesses:

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