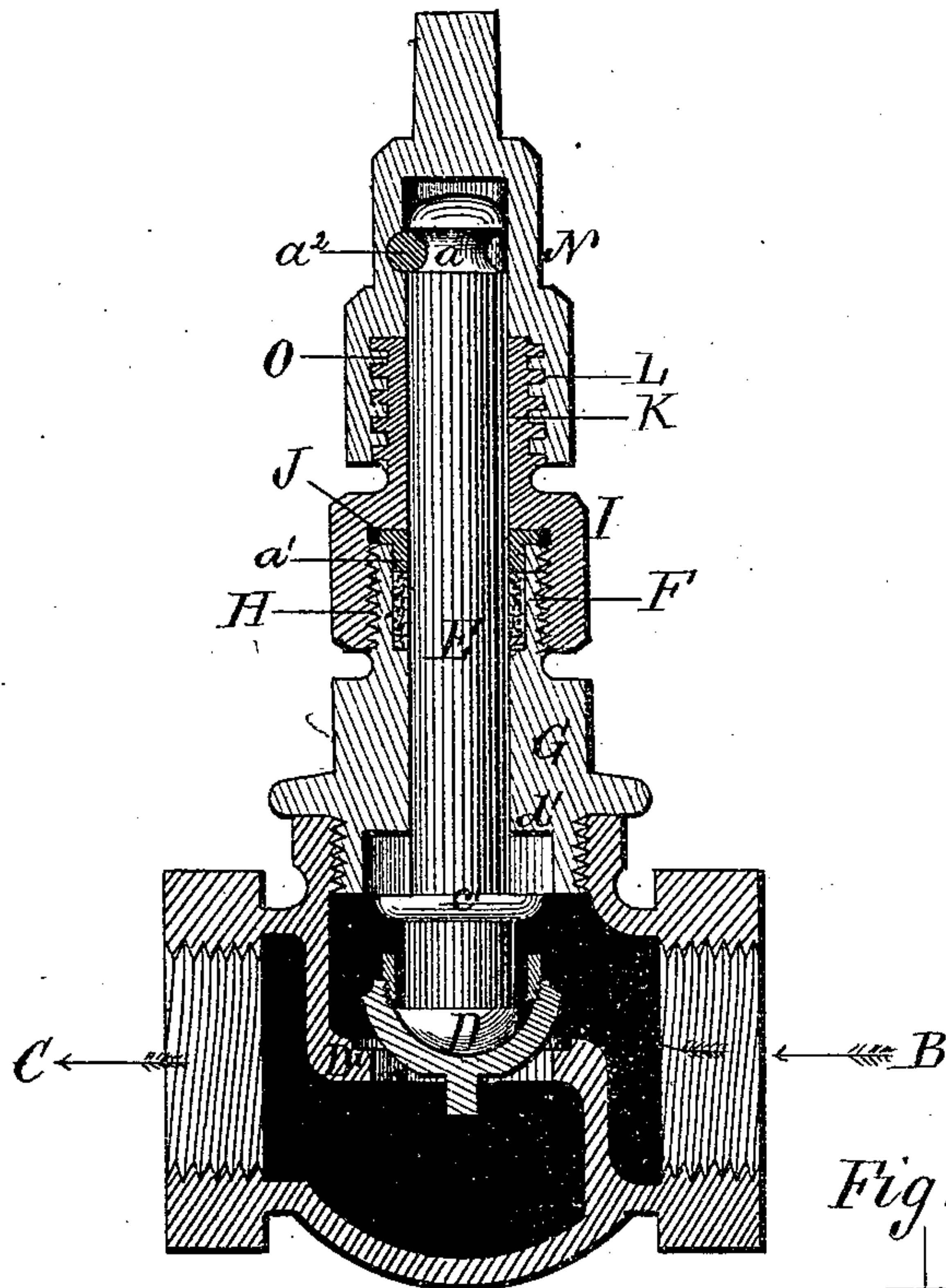


F. HASKELL.  
Globe-Valve.

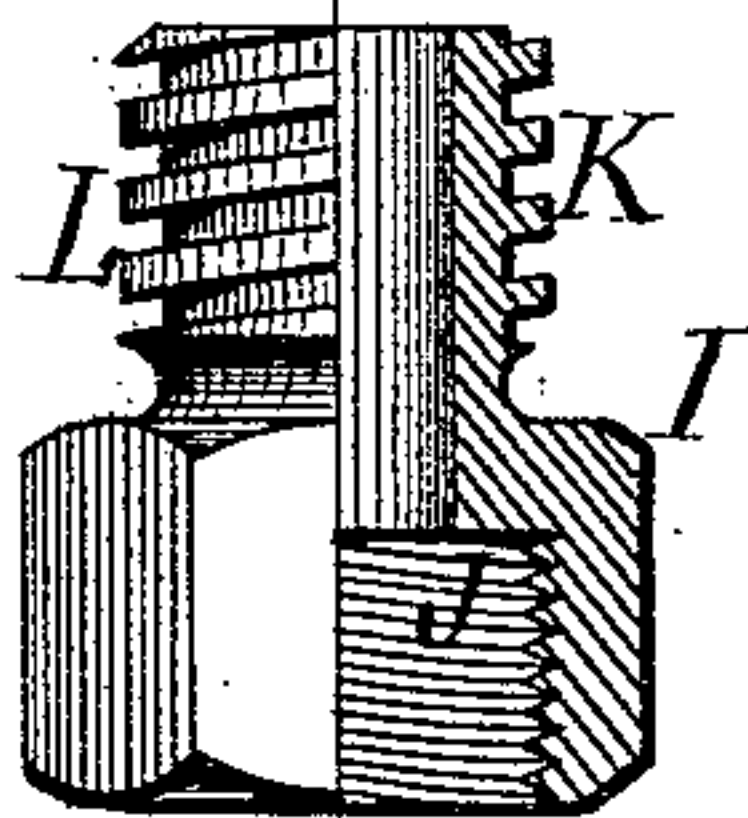
No. 217,847.

Patented July 22, 1879.

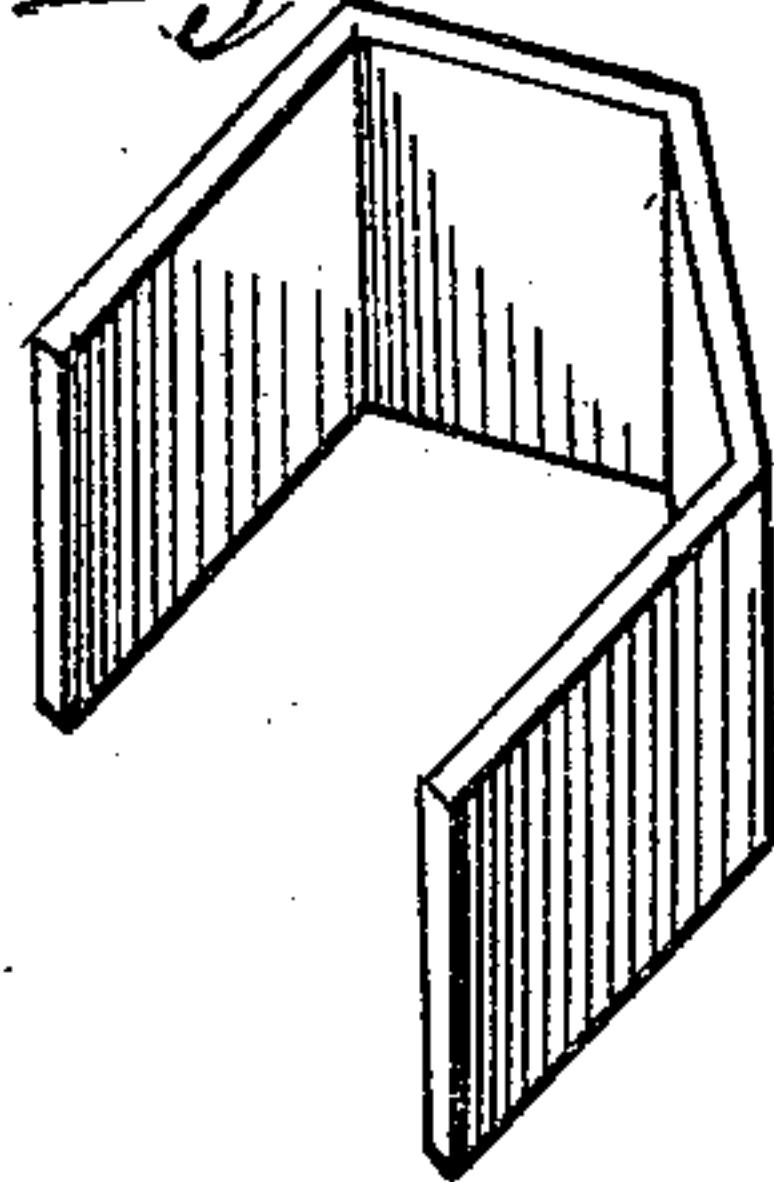
*Fig. 1.*



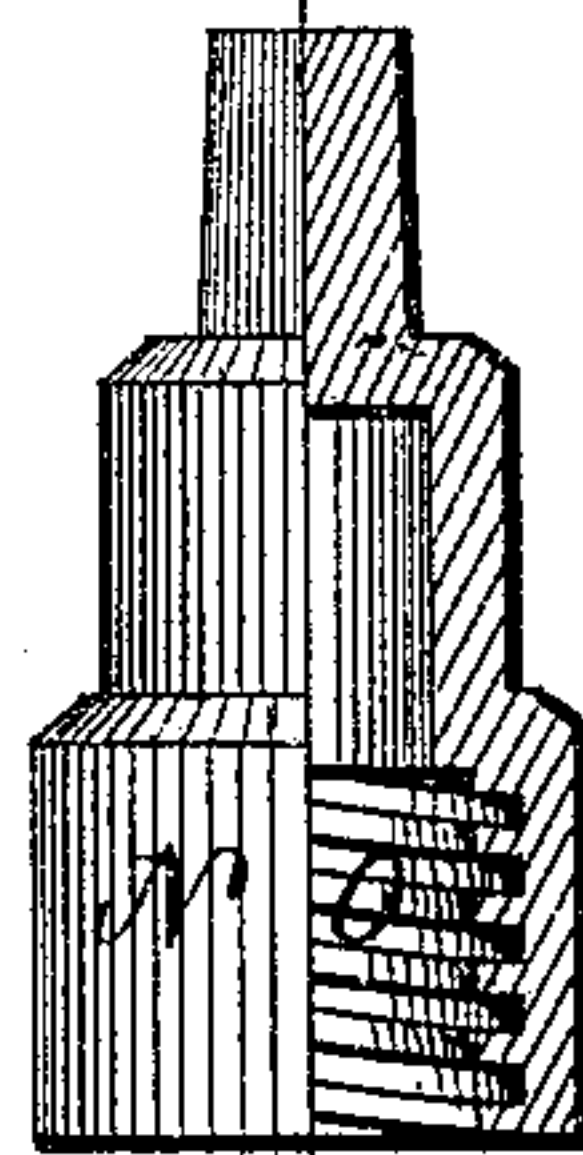
*Fig. 2.*



*Fig. 4.*



*Fig. 3.*



Witnesses.  
*J. Carpenter.*  
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Inventor  
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*J. Curtis. Atty.*



# UNITED STATES PATENT OFFICE.

FREEMAN HASKELL, OF CHELSEA, ASSIGNOR TO AMBROSE EASTMAN, OF BOSTON, MASSACHUSETTS.

## IMPROVEMENT IN GLOBE-VALVES.

Specification forming part of Letters Patent No. **217,847**, dated July 22, 1879; application filed November 14, 1878.

*To all whom it may concern:*

Be it known that I, FREEMAN HASKELL, of Chelsea, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Globe-Valves, of which the following is a specification.

My improvements relate to that kind of globe-valve in which the valve-operating stem has longitudinal movement without rotation.

The drawings accompanying this specification represent, in Figure 1, a vertical section of a globe-valve embodying my improvements. Fig. 2 in such drawings represents a sectional elevation of the tubular block; and Fig. 3, a like view of the screw-threaded cap, both of which will be duly explained.

In these drawings, A represents the case of a globe-valve, the inlet and outlet ports of such case being shown at B and C, respectively, where the valve is shown at D, its seat at D', and its stem at E, such valve-stem rising upward through the stuffing-box, which is shown at F as a pocket created in the upper part of a tubular block, G, the lower end of such block having a peripheral screw-thread to enter a female screw cut in the upper part of the valve-case.

In lieu of employing a male screw upon the valve-stem to operate in a female screw cut in the neck of the valve-case, as a means of raising and lowering the valve and stem in a spiral path, as heretofore, I proceed, as follows: Upon the upper part of the block G and outside of the pocket F, I cut a peripheral male screw-thread, H, and upon this thread I screw a tubular cap, I, having an internal annular shoulder or ledge, J, to screw down upon the stuffing in the box F, or upon a collet,  $a^1$ , placed over such stuffing, and a tubular neck, K, through which the valve-stem passes, a male screw-thread, L, being cut upon the outer periphery of such neck, upon which screw is screwed a cap or hub, N, having an internal peripheral screw-thread, O, to engage the said thread L. The upper end of the valve-stem is received within the bore of the cap or hub N, and is swiveled to such cap by a pin,  $a^2$ , screwed to the latter, and intercepting an annular groove,  $a$ , cut upon the periphery of the stem, or in any suitable manner which shall permit

of rotary motion of the cap and vertical movements only of the valve-stem.

It is obvious that upon turning the cap N in one direction it is elevated, and the valve-stem raised by it in a vertical path without twisting motion, while a reverse movement of the cap effects a lowering of the valve in like manner.

It will be seen that the packing of the stuffing-box is isolated from the screw which operates the valve-stem, and cannot be entangled with or affected by the latter. It will also be seen that I avoid the spiral twisting motion of the valve-stem, which tends to loosen and score the packing, and the packing consequently remains effective and uninjured for a great length of time.

By the employment of a smooth valve-stem, and operating such stem by an interiorly screw-threaded cap screwed upon the neck of the valve-case above the stuffing-box and swiveled to the stem, I am enabled to preserve the packing material and maintain steam-tight joints about the valve-stem.

I do not confine myself to the use of the channel or groove  $a$  and pin  $a^2$  as a means of swiveling the valve-stem and its operative cap N, as a set-screw may be employed, screwing through the cap and intercepting, by its inner end, the said groove. Various means may be adopted for connecting the cap with the valve-stem, whereby the cap may describe a spiral motion without imparting other than vertical motion to the valve-stem.

An auxiliary valve in the form of a collar,  $c'$ , is formed upon the valve-stem E a short distance above the valve proper, D, and this valve  $c'$  operates with a seat,  $d'$ , created in the lower part of the block G, the distance between the valve  $c'$  and its seat  $d'$  being such that, as the valve proper, D, is raised full open, the said valve  $c'$  closes upon said seat, and aids in preventing leakage of steam between the rod E and the bore of the said block G. The collar  $d'$  also constitutes, or may constitute, a stop to the elevation of the valve proper.

Though I have described my improvement as applicable to globe-valves, it is applicable with equal good results to valves of other construction in which the valve-stem passes through a stuffing-box.

In Fig. 4 of the drawings, I have represented a yoke, which I employ to prevent unscrewing of the block G as the cap I is raised. This yoke is slipped over opposite sides of the said block and cap, which are to be square or polygonal in cross-section and of equal size, and adapted to closely receive the yoke.

I claim as my invention, and desire to secure by Letters Patent of the United States, the following:

1. The tubular neck K, as screwing at bottom upon the neck of the valve-case, or an interposed collet, and confining the packing in place within the stuffing-box, and as provided

at its upper part with the outer peripheral screw-thread, L, to receive the cap N.

2. The tubular neck serving to cover and isolate the packing, in combination with the screw-threaded cap, engaging an exterior screw-thread on said tubular neck, and connected with the valve-stem in such manner as to move the same longitudinally but without rotation.

FREEMAN HASKELL.

Witnesses:

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AMBROSE EASTMAN.