W. S. BLAKE.

GLOBE-VALVE.

No. 182,015. Patented Sept. 12, 1876.

Fig. 1.

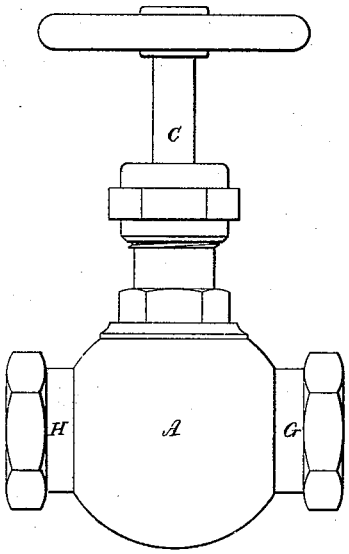
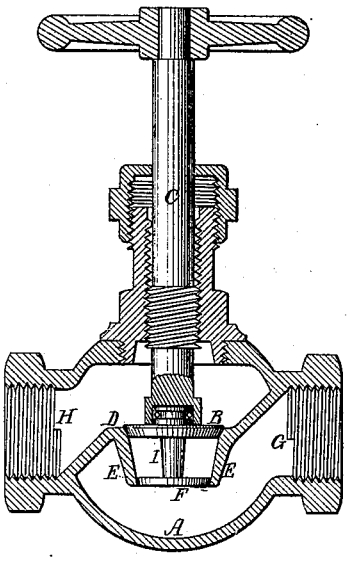


Fig. 2.



Witnesses.
S. N. Piper
L. N. Wallace

William S. Blake.
by his attorney.
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UNITED STATES PATENT OFFICE.

WILLIAM S. BLAKE, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN GLOBE-VALVES.

Specification forming part of Letters Patent No. **182,015**, dated September 12, 1876; application filed August 25, 1876.

To all whom it may concern:

Be it known that I, WILLIAM S. BLAKE, of Boston, of the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Globe-Valves; and do hereby declare the same to be fully described in the following specification, and represented in the accompanying drawings, of which—

Figure 1 is a side elevation, and Fig. 2 a longitudinal section, of a globe-valve provided with my invention, the purpose of which is to prevent the valve and its seat from being cut or worn by the steam, as it would be were such to rush between them at its initial pressure, my improvement effecting a reduction of the pressure just prior to the passage of the steam through the valve-seat opening.

In the drawings, A denotes the valve-case; B, the valve; C, the valve-stem; D, the valve-seat, and G the induct and H the educt of the case.

In carrying out my invention I combine, with the valve-seat D, a hollow conic frustum or mouth-piece, E, to extend down therefrom in manner as represented, and I arrange within such mouth-piece an auxiliary valve or disk, F, connected with the main valve B by a stem, I, all being as represented, or so that the opening between the auxiliary valve F and the inner surface of the frustum E, however the valve D may be raised off its seat, shall always be less in area than that of the opening between the said valve B and its seat. In other words, there is to be, under any degree of elevation of the valve B off its seat, a steam-passage between them somewhat larger in cross-section than that between the periphery of the disk F and the next adjacent surface of the frustum E. Under such circumstances, if we suppose the steam at its initial pressure to be passing from the induct G through the opening of the valve-seat, and thence to the educt H, and that the pressure of the steam in the latter is much less, the steam of higher pressure, before passing through the valve-seat, will, by the disk F and the frustum E, be reduced to the lower pressure, and at such will pass through the valve-seat without cutting or wearing it and the valve to any such extent as it would were it, at its normal pressure, to rush through the seat.

By means of the parts E and F the great cutting or wear of the steam is on them, if anywhere, and, consequently, by them the valve B and its seat D will be saved from wear and the leakage consequent thereto.

I claim as my invention—

A globe-valve provided with a hollow conic mouth-piece, E, and an auxiliary valve, F, arranged and combined with its valve-seat D and valve B, substantially as set forth, and for the purpose and to operate in manner as specified.

WILLIAM S. BLAKE.

Witnesses:
R. H. EDDY,
S. N. PIPER.