(No Model.)

# M. D. L. SWANK, J. T. THORNLEY & J. A. AWALT.

## BALANCE GLOBE VALVE.

No. 265,178. Patented Sept. 26, 1882.

Fig. 1.

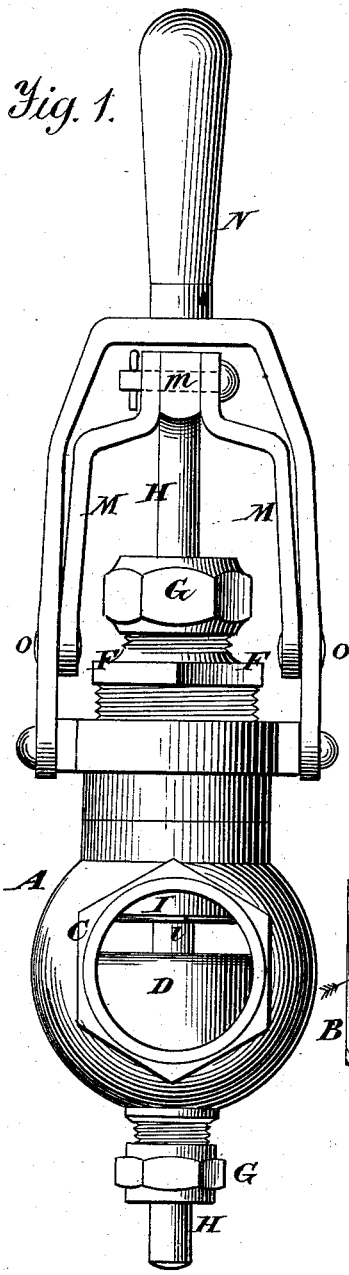



Fig. 3.

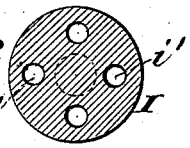
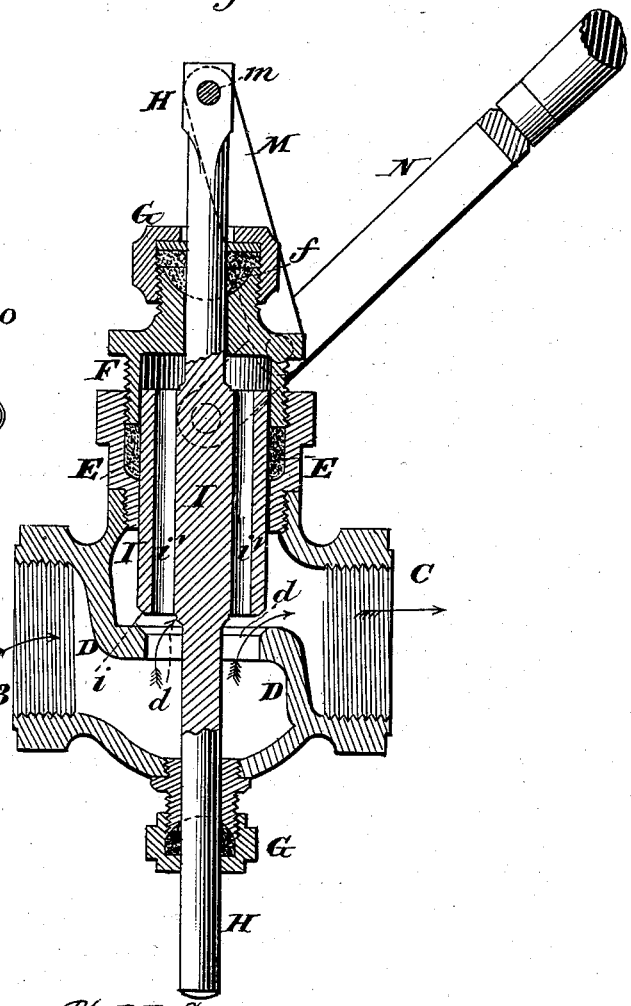



Fig. 2.




Witnesses.
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# UNITED STATES PATENT OFFICE.

MARQUIS D. L. SWANK, JASPER T. THORNLEY, AND JOHN A. AWALT, OF ANDERSON, INDIANA.

## BALANCE GLOBE-VALVE.

SPECIFICATION forming part of Letters Patent No. 265,178, dated September 26, 1882.

Application filed January 27, 1882. (No model.)

*To all whom it may concern:*

Be it known that we, MARQUIS D. L. SWANK, JASPER T. THORNLEY, and JOHN A. AWALT, citizens of the United States, residing at Anderson, in the county of Madison and State of Indiana, have invented certain new and useful Improvements in Balance Globe-Valves; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

Our invention relates to balance globe-valves adapted for service upon steam-engines and the like; and the novelty consists in the construction, arrangement, and adaptation of parts, as will be more fully hereinafter set forth, and specifically pointed out in the claim.

The object of the invention is to provide a device simple and efficient, having external operating means, by which the steam may be turned from the boiler to the cylinder at will, or shut off when it is desired to stop the engine; and to this end the invention consists essentially in the body-frame or casting having threaded inlet and outlet apertures, internally-threaded packing-chamber, which receives the valve-chamber cap, and means for attachment of a pitman, which connects with a handle and with the valve-stem. Curved arms in the globe-chamber furnish an inclined valve-seat, and longitudinal apertures through the valve serve to equalize the steam-pressure upon either end of the valve and allow its ready manipulation as desired.

The invention is fully illustrated in the accompanying drawings, in which Figure 1 is an elevation. Fig. 2 represents a central section, and Fig. 3 a detail.

To enable others skilled in the art to make and use the invention, I will describe the construction and mode of operation of the same, referring to said drawings by letter.

A represents the casting or body, having boiler-connection B, and connection with cylinder at C, from the interior of which curved arms D form a valve-seat, *d*, in the direction of the current. A packing-chamber, E, is formed in the body A, in which is secured by threaded connection a valve-cap, F, having annular packing-gland *f*, and to the cap F is similarly secured the guide-cap G, through which and proper packing the valve-stem H operates. The guide-cap G is duplicated, and the valve-stem extends through from top to bottom.

I represents the valve, having inclined portion *i* to correspond with the seat *d*, and also having longitudinal apertures *i'* entirely extending through the valve I, so as to equalize the pressure upon each end of said valve. When the valve is closed the packing in the chamber E prevents the escape of steam. Each of the caps G is properly packed steam-tight, and the gland *f* serves as a guide-bearing for the valve.

At *m* is loosely secured to the stem H a link, M, which in turn is similarly secured to a handle-frame, N, at *o*, said frame N being pivoted to the frame or casting A. When the handle N is raised the steam passes from the boiler to the cylinder, and when closed the passage of steam is entirely cut off. The duplicate caps G H form the packing-chambers above and below, and the pressure of steam is thus equalized, and the steam passing through bearings at each end insures that the valve will be properly guided to its seat without varying. When the valve is closed the packing in the chamber E prevents the escape of the steam.

What we claim as new is—

The balance globe-valve herein described, consisting of the body-casting A B C, having curved arms D and valve-seat *d*, the valve I *i*, having longitudinal apertures *i'*, and stem H, working at right angles to the direction of the current, the valve-cap F, having packing-gland *f*, the caps G, packing-chamber E, and operating means *m* M N, all arranged and combined to operate as and for the purposes set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

MARQUIS D. L. SWANK.
JASPER T. THORNLEY.
JOHN A. AWALT.

Witnesses:
WM. ROTH,
JOHN F. MCCLURE.