

(No Model.)

J. M. REESE.  
STOP VALVE.

No. 546,189.

Patented Sept. 10, 1895.

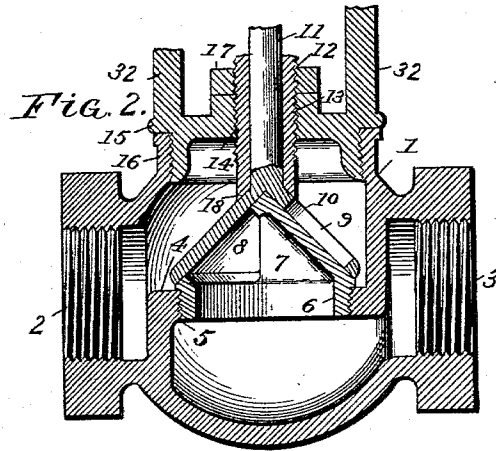
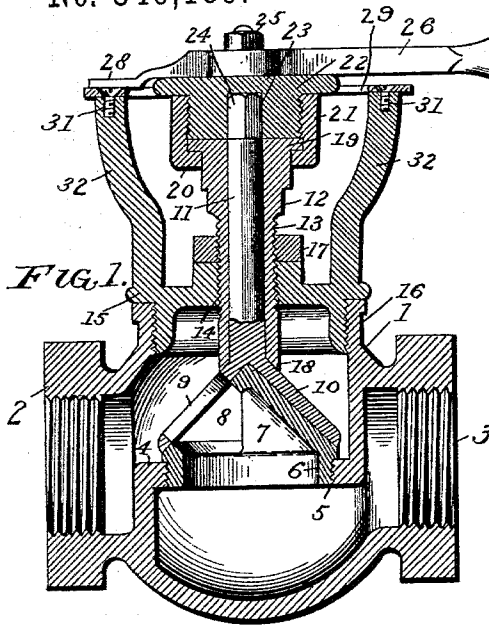


FIG. 3.

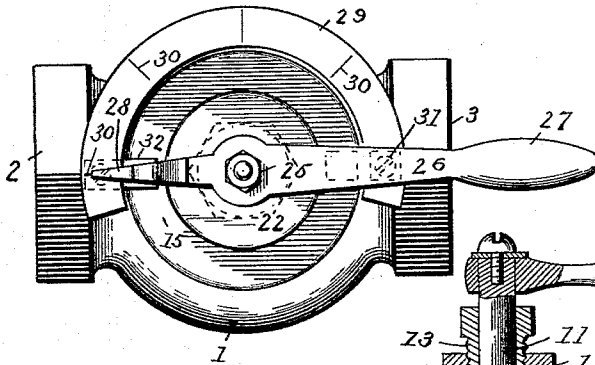


FIG. 4.

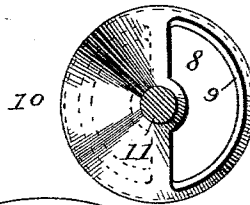
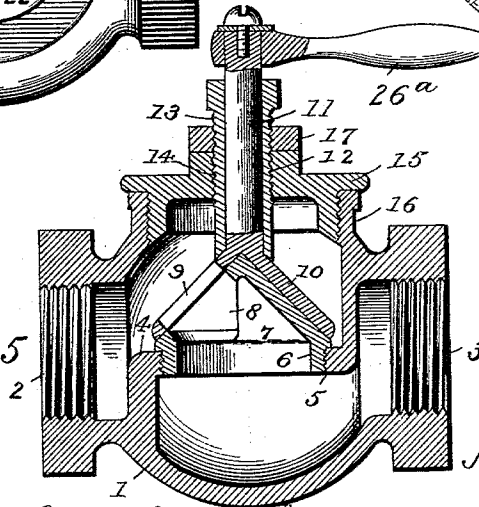


FIG. 5.



Inventor

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Witnesses

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By His Attorneys,

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# UNITED STATES PATENT OFFICE.

JOHN M. REESE, OF BLAKESLEE, ASSIGNOR OF ONE-HALF TO REUBEN EDWARDS, OF MINERS MILLS, PENNSYLVANIA.

## STOP-VALVE.

SPECIFICATION forming part of Letters Patent No. 546,189, dated September 10, 1895.

Application filed October 26, 1894. Serial No. 527,049. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN M. REESE, a citizen of the United States, residing at Blakeslee, in the county of Monroe and State of Pennsylvania, have invented a new and useful Stop-Valve, of which the following is a specification.

This invention relates to stop-valves, and it has for its object to provide a new and useful construction of valve of this character that is employed for cutting off and regulating the flow of steam, liquids, &c., through pipes.

To this end, therefore, the main and primary object of the present invention is to construct a stop-valve adapted for use in connection with pipes carrying extremely high pressures, while at the same time being so constructed as to require no special packing, which is a serious objection to the ordinary stop-valve in use; and the invention furthermore contemplates a construction of valve in which leakage around the valve-stem is entirely obviated.

With these and other objects in view which will readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts hereinafter more fully described, illustrated, and claimed.

In the drawings, Figure 1 is a vertical sectional view of a stop-valve constructed in accordance with this invention, the same being open. Fig. 2 is a similar view, showing the valve closed. Fig. 3 is a top plan view of the valve. Fig. 4 is a similar view of the valve and its seat. Fig. 5 is a view similar to Fig. 1, showing a modified construction of valve as used for ordinary pressures.

Referring to the accompanying drawings, 1 designates a globular valve-casing of the ordinary shape, provided with the opposite inlet and outlet necks 2 and 3, respectively, at the ends thereof, and with the intermediate horizontal valve-seat partition 4, located between the necks 2 and 3. The horizontal valve-seat partition 4 is provided with a threaded valve-opening 5 therein, that removably receives the exteriorly-threaded flange 6, projected from the lower edge of the conical valve-seat plate 7. The conical valve-seat plate 7 has the apex

thereof disposed above the valve-seat partition 4, and in one side the said conical valve-seat plate is provided with a semicircular port or opening 8, with which is adapted to register a similarly-shaped port or opening 9, formed in one side of the conical valve-plate 10. The conical valve-plate 10 is of identically the same shape as the valve-seat 7, and said valve-plate has its interior socket portion ground to snugly fit the exterior conical surface of the valve-seat plate 7, so as to form a perfectly tight joint therewith, while at the same time allowing the conical valve-plate to turn on the seat 7 to cover and uncover the port or opening 8 therein. The rotating conical valve 10, that works inside of the casing on top of the conical valve-seat, is formed on the lower inner end of the turning valve-stem 11, which stem is mounted to turn within the adjustable bearing-sleeve 12. The adjustable bearing-sleeve 12 is provided with an exteriorly-threaded portion 13 intermediate of its upper and lower ends, that is adapted to adjustably engage in the central threaded opening 14 of the casing bonnet or cap 15. The casing bonnet or cap 15 is exteriorly threaded and removably screws into the top interiorly-threaded casing-neck 16, projected from the top of the casing directly above the valve-seat therein and arranged to work on top of the bonnet or cap 15, and on the exteriorly-threaded portion 12 of the bearing-sleeve is a jam-nut 17, that serves to clamp the bearing-sleeve tight in any adjusted position. The vertically-adjustable bearing-sleeve 12 is provided with a lower beveled end 18, that registers with the exterior portion of the conical valve-plate 10 at the apex thereof, and the beveled lower end of said bearing-sleeve therefore serves as a bearing for the conical valve-plate, and it is simply necessary to maintain the bearing-sleeve properly adjusted to compensate for wear in order to hold the valve firmly to its seat and to provide practically steam and water tight joints without the use of any additional packing. The said bearing-sleeve 12 is provided with an upper flanged end 19, located above the bonnet or cap 15, and said upper flanged end 19 is engaged by the lower flanged end 20 of the interiorly-threaded coupling-nut 21, that is threaded on

the exteriorly-threaded socket-cap 22. The socket-cap 22 is provided in the under side thereof with a central squared socket 23, that fits on the upper squared end of the valve-stem 11, and fastened on top of the socket-cap 22, by means of a bolt or other suitable connection 25, is the operating-lever 26. The operating-lever 26 is provided at one end with a handle 27 and at its opposite end with a pointer 28, that plays over the top of a horizontally-arranged semicircular indicator-plate 29, that is provided with indicator-marks 30 thereon, to indicate the position of the valve at any point. The semicircular plate 30 is attached at its extremities, by means of the screws 31, to the upper ends of a pair of oppositely-located supporting posts or arms 32, preferably arising integrally from the upper side of the bonnet or cap 15 at diametrically-opposite points.

From the foregoing it will be obvious that the bearing-sleeve 12, combined with the coupling-nut connection 21 therewith, provide means for maintaining the parts of the valve properly adjusted to insure steam and water tight joints without the use of supplemental packing, and when it is desired to use the valve in connection with ordinary pressures the same is modified, as illustrated in Fig. 5 of the drawings, in which the socket-cap, the coupling-nut connection therewith, and the indicator arrangement are dispensed with and a handle-lever 26<sup>a</sup> attached directly to the upper end of the turning valve-stem 11.

Other changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

1. In a stop valve, the casing having an interior valve opening, a conical valve seat fitted within the valve opening and having its pointed apex disposed above the valve opening, a bonnet or cap arranged at the top of the casing above the valve seat and provided with

a central threaded opening, an exteriorly threaded bearing sleeve mounted for vertical adjustment in said central threaded opening and provided with a lower beveled end, and a turning valve stem mounted in the bearing sleeve and provided at its lower end with a conical valve plate snugly fitting the exterior conical surface of the valve seat, said lower beveled end of the bearing sleeve registering with the exterior portion of the valve plate at the apex thereof and holding said valve plate properly in position on top of the valve seat, substantially as set forth.

2. In a stop valve, the casing provided with an interior valve opening and a top neck arranged above the valve opening, a conical valve seat fitted within said valve opening, a bonnet or cap removably fitted in said top neck and provided with a central threaded opening and with a pair of diametrically opposite supporting posts or arms projected from the top thereof, a vertically adjustable and exteriorly threaded bearing sleeve mounted in said central threaded opening and provided with a lower beveled end and an upper flanged end, the turning valve stem mounted in said sleeve and provided at its lower end with a conical valve plate working on the valve seat, and with an upper squared end, an exteriorly threaded socket cap provided with a squared socket fitting the upper end of the valve stem, a flanged interiorly threaded coupling nut engaging the upper flanged end of the sleeve and said socket cap, an operating lever attached on top of said socket cap and provided at one end with a pointer, and a semi-circular indicator plate fitted on the upper ends of said supporting posts or arms under said pointer, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOHN M. REESE.

Witnesses:

A. L. LE GRAND,  
JOHN N. DAVISON.