

(No Model.)

J. T. HAYDEN.
VALVE INDICATOR.

No. 477,003.

Patented June 14, 1892.

Fig. 1.

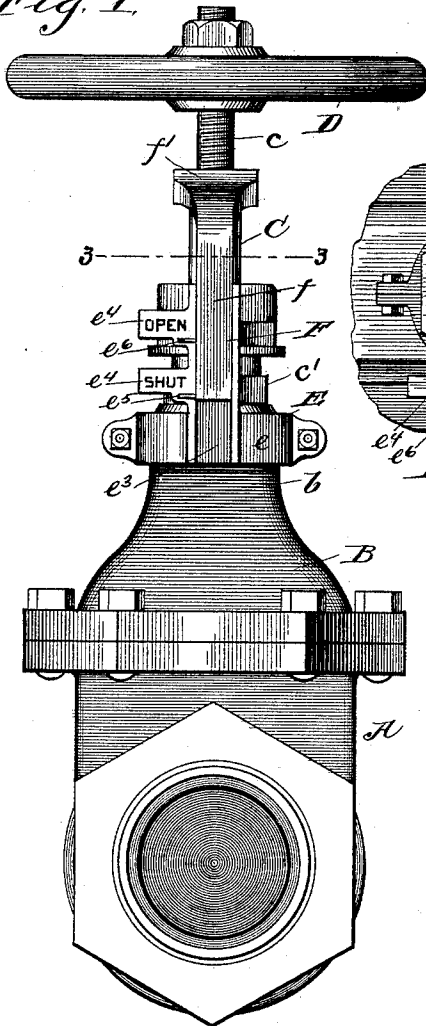


Fig. 2.

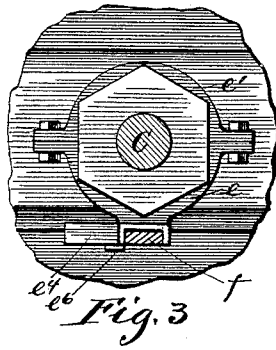
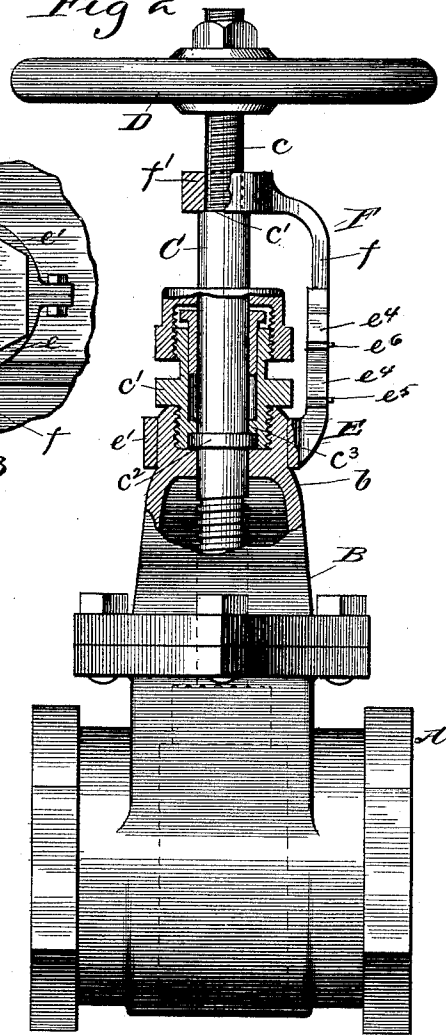


Fig. 3.

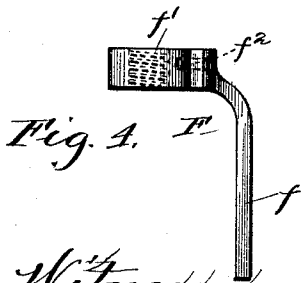


Fig. 4.

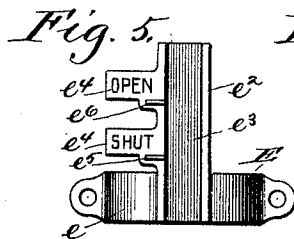


Fig. 5.

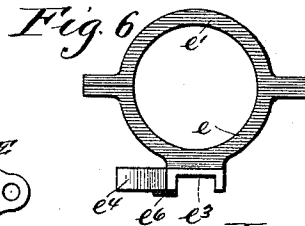


Fig. 6.

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UNITED STATES PATENT OFFICE.

JAMES T. HAYDEN, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE CRANE COMPANY, OF SAME PLACE.

VALVE-INDICATOR.

SPECIFICATION forming part of Letters Patent No. 477,003, dated June 14, 1892.

Application filed November 3, 1891. Serial No. 410,734. (No model.)

To all whom it may concern:

Be it known that I, JAMES T. HAYDEN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Valve-Indicators, which is fully set forth in the following specification, reference being had to the accompanying drawings, in which—

10 Figure 1 represents a front elevation of a valve-case and valve-stem with my improvement applied thereto; Fig. 2, a side elevation of the same; Fig. 3, a plan section taken on the line 3 3 of Fig. 1; Fig. 4, a side elevation
15 of the indicating-side detached; Fig. 5, a front elevation of the indicator-bracket detached, and Fig. 6 a plan view of the same.

My invention relates to a device for indicating the position of a valve and is applicable to all valves the stems of which have no longitudinal movement in adjusting the valve.

20 I will describe in detail the construction and operation of a device wherein I have embodied my invention in one practical form, and
25 will then point out more definitely in claim the improvements which I believe to be new and wish to secure by Letters Patent.

In the drawings, A represents a valve-case, which may be of any ordinary construction.
30 The top of this case is closed by a usual cap or cover B, down through which the stem C of the valve passes to operate the valve, which is threaded on the lower end of the stem and seated in any usual manner. The cap B is tapering and terminates in a neck *b*, considerably smaller than the bottom of the cap, through which the valve-stem passes. Any ordinary packing nuts or rings or other suitable devices for giving the valve-stem a tight
35 joint may be employed, and need not be described here. The upper end of the valve-stem C has a threaded section *c*, somewhat smaller than the main portion of the stem, so as to provide a shoulder *c'*. A hand-wheel D or any other suitable device for turning the
40 stem is fixed upon the upper end thereof. The stem is also provided with a collar *c''*, which is held within the neck of the cap by a flange *c'''* on a nut C', so as to prevent the stem from rising as it is turned.

An indicator-bracket E is mounted on the

cap B and fastened to the neck thereof. In order to easily accomplish this, the bracket is made in two pieces, one portion terminating in a half-collar *e* and the other portion *e'* being a simple corresponding half-collar, which with the former constitutes a complete collar surrounding the neck of the cap when applied thereto and fastened thereon by bolts passing through ears, as seen in Figs. 1 and 2. An arm *e''* projects at right angles from the half-collar *e*, so that when applied to the cap, as described, this arm will stand vertically or parallel with the valve-stem, as seen in Figs. 1 and 2. The arm is provided with a groove *e'''* upon its outer face running its entire length and at one side has two projecting lugs or tablets *e''''*, arranged one above the other. The lower one is provided with a short rib *e'''''* and the upper one with a similar rib *e''''''*. A bar F is constructed to fit the groove in this bracket and to be connected to the valve-stem, so as to be moved up and down thereon to make an indicating bar or arm. For this purpose this piece is constructed with a straight portion or bar *f*, adapted to fit the groove in the bracket and to slide back and forth therein. One end of this bar is bent over at right angles to the main portion thereof, and this bent part is formed into a collar *f'*, which is internally threaded, so as to be turned upon the threaded section at the upper end of the valve-stem. Preferably the collar is turned down upon the shoulder on the valve-stem, and it will be seen that the arm F will necessarily be raised and lowered as the valve-stem is turned, on account of the thread in the collar *f'*. The bracket E is applied to the cap B in position to receive the arm F within its groove, as seen in Fig. 1, so that the former will move back and forth in the latter as the valve-stem is turned. The length of the arm F is determined, so that when the valve is completely closed its lower end will about register with the lower rib *e'''''*; but when the valve is fully opened will register with the upper rib *e''''''*. It is obvious then that the relative position of the lower end of the sliding bar, in connection with these two indicating ribs or points, will always determine the position of the valve.

For convenience and ready indication the lower and upper tablets may be marked, re-

spectively, "Shut" and "Open," as seen in the drawings. The arm F may be made separate from its collar, if desired, in which case it is fastened to the latter by a small screw-bolt f^2 , as seen in Fig. 4 of the drawings, or the two parts may be made in one piece, as seen in Figs. 1 and 2.

The device may be applied on any side of the valve-case, and may be changed from one side to another of the same case by simply loosening the bolts of the bracket-collar slightly and turning the whole device around into the position desired. This feature of adjustability is quite desirable, as sometimes the indication should be on one side of the case and sometimes upon another for ready sight. The device is also easily applied to or detached from the valve-case, and may be applied to any case of an ordinary and well-known construction. The position of the valve being indicated by the relation of the lower end of the sliding bar to the indicating-points, there can be no mistake, as these parts are always exposed to view and there is no necessity for the indicating words suggested above. They may be

added simply for convenience. The indicating-points may be provided in a different manner, if desired. For instance, a finger may be put upon the slide and indicating-marks on the bracket to correspond therewith, and other slight modifications in details of construction may be made in different applications of the device in different locations and on valves differing somewhat in construction.

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

In a valve-indicator, the case-cap B, in combination with the indicator-bracket E, having two-part collar $e e'$, applied to said cap and adjustable around it, the valve-stem C, and the indicating-arm F, arranged to slide in said bracket, connected to and adjustable around said valve-stem, whereby the indicator may be adjusted from one side of the valve-stem to another, substantially as described.

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Witnesses:

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