(No Model.)

J. O'MEARA.

REGRINDING VALVES.

No. 266,639. Patented Oct. 31, 1882.

Fig 1.

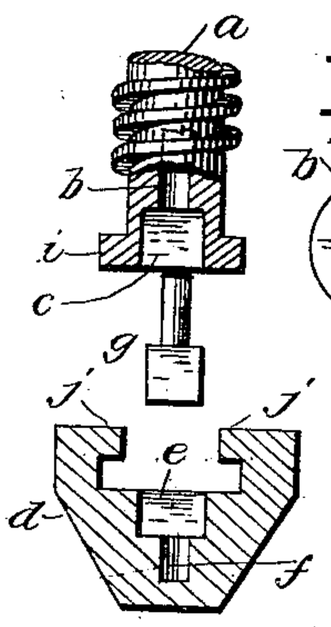


Fig 2.

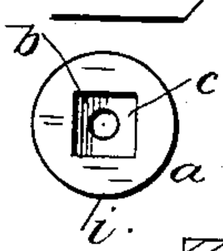


Fig 6.

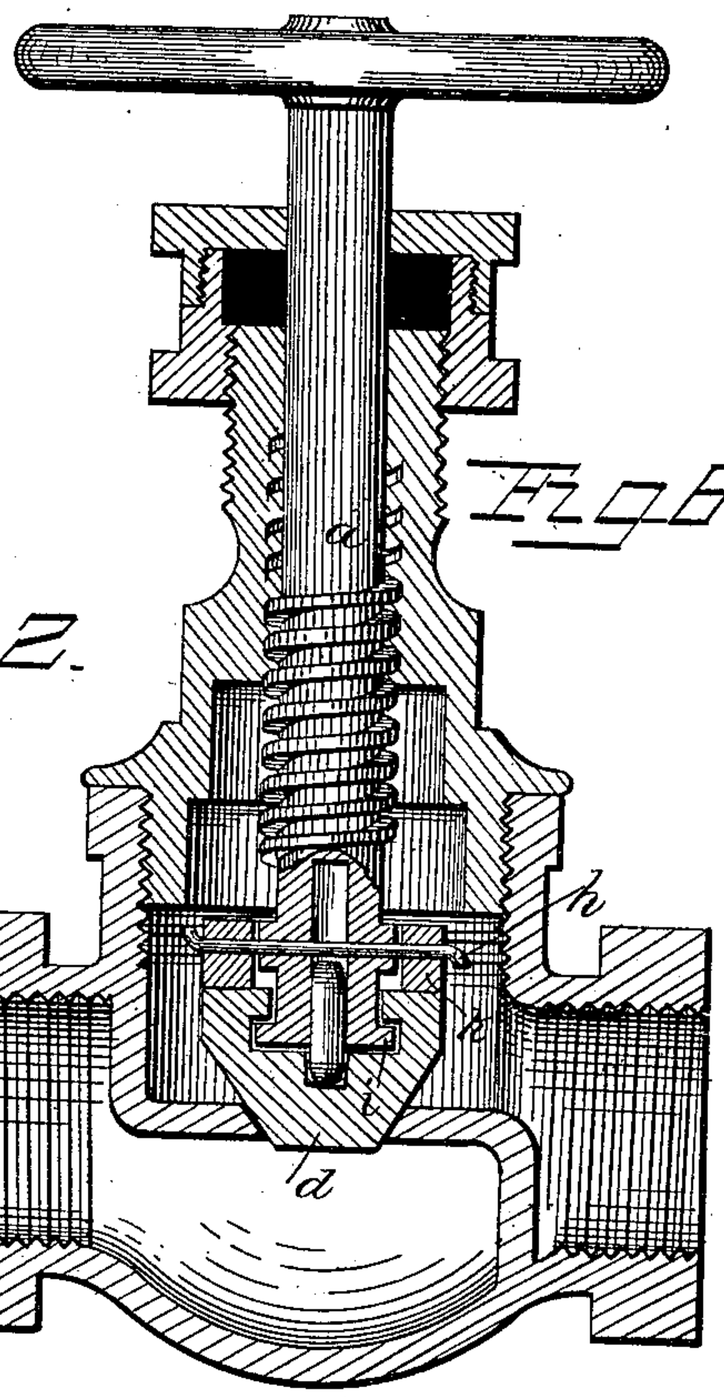


Fig 7.

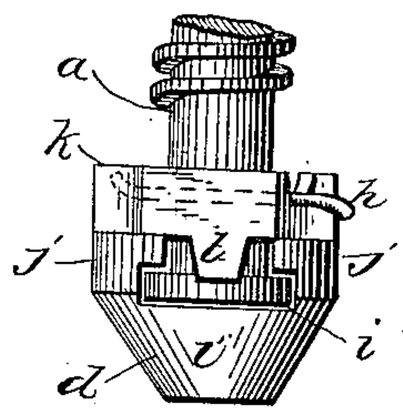


Fig 4.

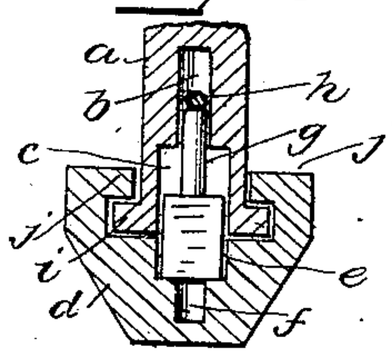


Fig 8.

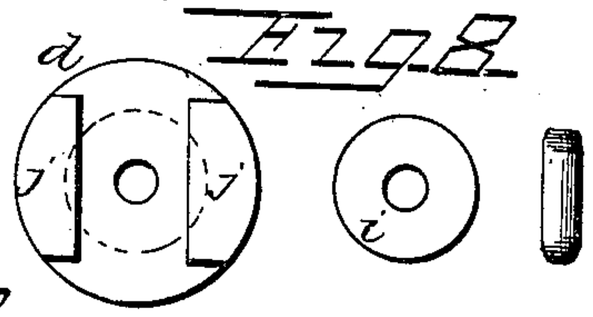


Fig 3.

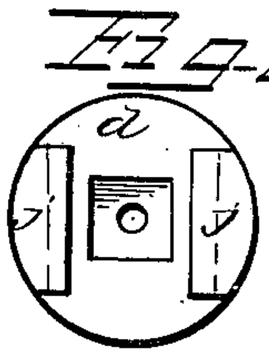


Fig 5.

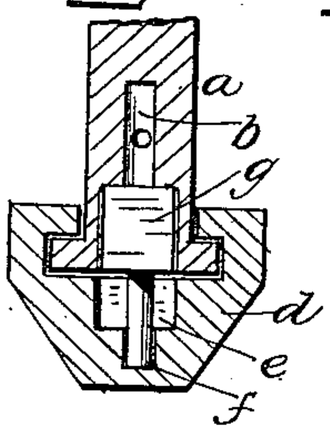


Fig 9.

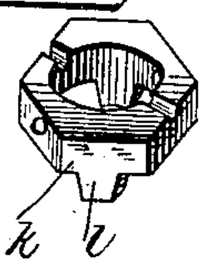
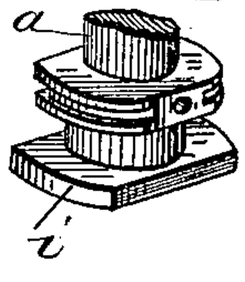


Fig 10.



Witnesses.
Franck L. Durand
Geo. N. Finckel

Inventor.
Jeremiah O'Meara,
by his attorney,
Wm. H. Finckel

N. PETERS. Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

JEREMIAH O'MEARA, OF NEW YORK, N. Y.

REGRINDING VALVES.

SPECIFICATION forming part of Letters Patent No. 266,639, dated October 31, 1882.

Application filed June 6, 1882. (No model.)

To all whom it may concern:

Be it known that I, JEREMIAH O'MEARA, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Regrinding Valves; and I do hereby 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 letters or figures of reference marked thereon, which form a part of this specification.

This invention has reference to means for admitting of the easy grinding of globe-valves and the like, and is specially applicable to valves attached to their spindles in the manner covered by my United States Letters Patent No. 240,755, dated April 26, 1881.

My invention herein consists in combining with the vertically-socketed stem or spindle and valve, connected by a vertical pin and retaining-wire, such as shown in said Letters Patent, movable means for locking the valve to its spindle, so as to prevent its rotation thereon, and thus permit the regrinding of the valve, which means are movable to facilitate the connection and disconnection of the valve and its stem, substantially as hereinafter specifically set forth and claimed.

In the accompanying drawings, in the several figures of which like parts are similarly designated, Figure 1 is a sectional view (vertical) of one form of my invention, the parts being disconnected. Fig. 2 is a bottom plan view of the end of the spindle. Fig. 3 is a top plan view of the valve. Fig. 4 is a vertical section of the stem, pin, and spindle of Fig. 1, connected for use in grinding the valve. Fig. 5 is a similar view of the said parts in position for rotation of the valve on its spindle. Fig. 6 is a vertical section of a globe-valve containing another form of regrinding means; Fig. 7, a side elevation of this device detached; Fig. 8, details in plan view of the valve, stem, and pin of the last valve; Fig. 9, a perspective view of the key or ring used in this last form; and Fig. 10 is a perspective view of the end of a valve-grinding stem.

In one form of my invention, Figs. 1 to 5, the valve stem or spindle *a* is provided with a longitudinal socket at its lower end, and this socket has a round portion, *b*, and an angular portion, *c*. The valve *d* or disk similarly has a socket, the outer portion or mouth, *e*, of which is angular, and the inner portion, *f*, of which is round. The connecting-pin *g* has one end round and the other end angular to correspond with and fit the similarly-shaped sockets of the stem and valve. The stem is pierced transversely to receive the retaining or locking wire *h*, and is connected with the valve, as by a flange, *i*, on its end engaging the overhanging lips *j j* on the valve, to prevent longitudinal displacement, and by the pin *g* and wire *h*, to prevent lateral displacement, this construction and mode of operation being substantially identical with that covered by my patent hereinbefore referred to. To lock the valve to its stem, so as to prevent its rotation thereupon, and thus permit grinding or refacing of the valve, the round end of the pin *g* is inserted in the round portion of the stem-socket, and when the valve and stem are connected and the wire *h* in place the angular end of the pin will project into the angular portions of the stem and valve-sockets, whereby the valve will be caused to positively rotate with the stem, as indicated in Fig. 4; but when the valve is to be free to rotate upon the stem independent of its rotation the angular end of the pin is arranged wholly within the angular portion of the stem-socket and its round end fitted in the round end of the valve-socket, whereby the pin will turn with the stem, but the valve will have entire independence and freedom of rotary motion, as indicated in Fig. 5. To apply this locking principle to the valves of my said patent now in use without change, I employ a ring or key, *k*, (see Figs. 6, 7, and 9,) adapted to fit about the valve-stem and to be locked thereto against rotation thereupon by the wire *h* (which is used to retain the pin in position) engaging transverse holes or notches in the ring or key to this end. This ring has lugs *l*, (one or two being used,) which depend therefrom to fit between the overhanging flanges *j j* of the valve or disk holder *d*, whereby as the ring is locked to the stem the lugs of the ring will lock the valve also to the stem, preventing the independent rotation of the said valve, and causing it to rotate positively with and be turned by the stem for

grinding purposes. In this form of my invention it will be understood that the valve or disk holder *d* and the stem *a* may be of any construction so long as they are adapted to be connected by the pin placed in sockets therein and retained by a locking-wire, as herein shown, and as covered by my patent named. When the valve is to be free to rotate upon the spindle, the key *k* is removed by taking out the wire, disconnecting the valve, and then slipping the ring off the spindle and replacing the valve.

Still another form of my invention is shown in Fig. 10; and it consists simply in making larger and squaring the flange *i* of the spindle, which, slipping under the lips *j j*, cannot turn thereunder, but positively turns the valve.

In these several forms of regrinding devices I prefer to so proportion the screw of the spindle and the height of the bonnet from the valve-seat or diaphragm as that it shall require but two turns of the bonnet into the valve-shell in order to permit the stem-screw to run free of the bonnet-thread, so that the stem and valve can be rotated without opening the valve, thereby interfering as little as possible with the operation of the apparatus in which the valve to be ground is used.

When the squared-end stem is used, and by constant service its flange no longer acts in regrinding the valve, the valve may be locked to the stem by a ring such as shown in Figs. 6, 7, and 9.

A squared-end stem may be employed generally for regrinding the valves or disks of a number of valves, and one such may be found sufficient for a single establishment.

What I claim is—

1. The combination, with a socketed valve stem or spindle, a socketed valve or disk adapted to be connected thereto, a pin in said socketed stem and valve to prevent lateral displacement thereof, and a wire to retain the pin, of means to lock the valve to its spindle or stem, to cause said valve to be positively rotated by the turning of the stem to regrind the valve, substantially as described.

2. A connected socketed valve-stem and valve, a pin, and a pin-retaining wire to prevent lateral displacement of the valve, but at the same time affording freedom of rotation to the valve on its stem, combined with a device held to the stem against independent rotation, and adapted to engage the valve to lock it to the stem, and thereby positively cause it to rotate with the stem to enable the regrinding of the valve, substantially as shown and described.

3. The combination, with a socketed valve stem or spindle, a socketed valve or disk adapted to be connected thereto, a pin in said socketed stem and valve to prevent lateral displacement thereof, and a wire to retain the pin, of means connected with or forming part of the spindle to lock the valve to its spindle or stem, to cause said valve to be positively rotated by the turning of the stem to regrind the valve, substantially as described.

4. A valve and its spindle, each provided with a socket having angular and round portions, combined with a pin adapted to fit in such sockets, substantially as specified.

5. A valve and its spindle, each provided with a socket having angular and round portions, combined with a pin adapted to fit in such sockets, and a wire to retain the pin in place, substantially as specified.

6. A valve and its spindle, each provided with a socket having angular and round portions, combined with a pin having corresponding angular and round portions to engage said sockets, to either lock the valve to the spindle to cause the two to turn together for grinding the valve, or to permit the valve to turn upon the spindle for ordinary operation, substantially as described.

7. A flanged spindle having a longitudinal socket made with a round portion and a communicating angular portion, and a valve provided with lips to engage said flanged spindle, and having a similarly-constructed socket, combined with a pin having a round portion and a square portion to fit in said sockets, substantially as and for the purpose described.

8. A valve and its spindle, each provided with a socket having angular and round portions adapted to be brought into alignment, combined with a pin having one end angular and the other round, and adapted to lock the valve and spindle together by the engagement of its angular portion with the angular portions of the sockets of the spindle and valve, substantially as and for the purpose described.

9. A valve and its spindle, each provided with a socket having angular and round portions adapted to be brought into alignment, combined with a pin having one end angular and the other round, and adapted to permit the free and independent rotation of the valve upon its spindle by the engagement of its angular end solely with the angular part of the spindle-socket, while its round end rests in the round portion of the valve-socket, substantially as described.

10. In a valve, the shell, a bonnet adapted to be screwed thereinto and threaded internally to receive a threaded spindle, combined with such threaded spindle and the valve or plug thereto attached, constructed and arranged substantially as shown and described, whereby by running the bonnet into the shell the distance of about two threads the spindle may be run down through the bonnet, so as to become detached from its threads to thus be rotatable free of the bonnet to grind the valve, as specified.

In testimony whereof I affix my signature in presence of two witnesses.

JEREMIAH O'MEARA.

Witnesses:
DANIEL J. MURPHY,
JULIUS FRICKE.