

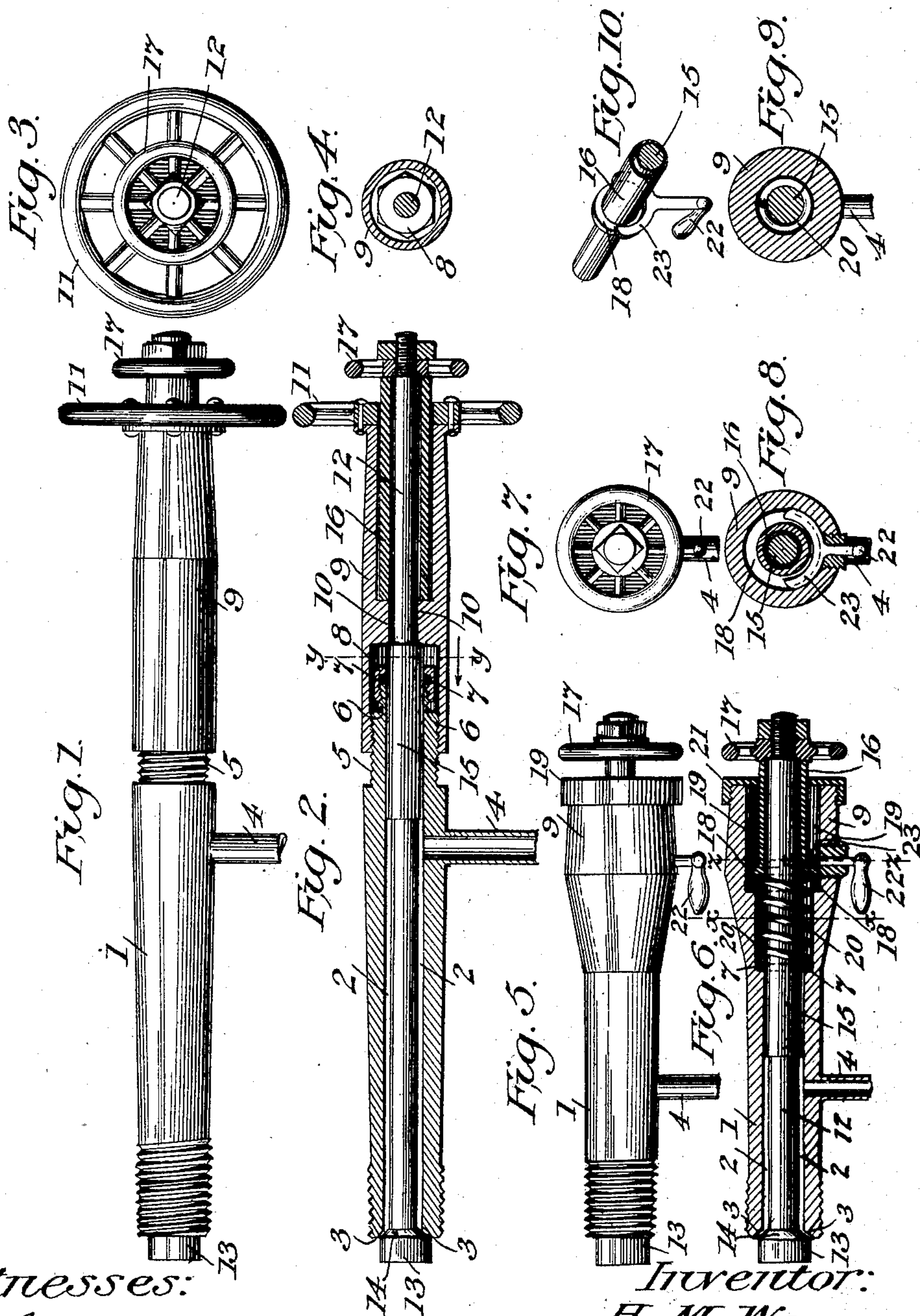
No. 719,539.

PATENTED FEB. 3, 1903.

H. M. WARE.
VALVE.

APPLICATION FILED APR. 16, 1902.

NO MODEL.



Witnesses:

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UNITED STATES PATENT OFFICE.

HENRY M. WARE, OF LEXINGTON, KENTUCKY.

VALVE.

SPECIFICATION forming part of Letters Patent No. 719,539, dated February 3, 1903.

Application filed April 16, 1902. Serial No. 103,239. (No model.)

To all whom it may concern:

Be it known that I, HENRY M. WARE, a citizen of the United States, residing at Lexington, in the county of Fayette and State of Kentucky, have invented new and useful Improvements in Valves, of which the following is a specification.

The object of my invention is the production of a valve which shall be simple in construction and composed of few parts, which can be easily repaired by the removal and substitution of a part, which shall be cheap in first cost and not liable to become deranged and inoperative, which shall have the valve-rod so disposed relative to the casing that the seats can be ground without disconnecting any of the parts, and which, withal, shall constitute a superior instrumentality for performing the requisite functions.

With this end in view my invention consists in certain novelties of construction and combinations of parts hereinafter set forth and claimed.

The accompanying drawings illustrate two examples of the physical embodiment of my invention constructed according to the best modes I have so far devised for the practical application of the principle.

Figure 1 is a plan view of the first example; Fig. 2, a longitudinal section; Fig. 3, an end view showing the hand-wheels; Fig. 4, a section on line *y y*. Fig. 5 is a plan view of the second example; Fig. 6, a longitudinal section; Fig. 7, an end view; Fig. 8, a section on line *z z*; Fig. 9, a section on line *x x*; Fig. 10, a view in perspective of the operating-lever, sleeve, and a part of the rod.

Referring to both examples, the numeral 1 indicates the lower portion of the valve-casing with threaded end; 2, a central passage through the casing; 3, the beveled valve-seat; 4, the fluid-delivery pipe; 5, in Figs. 1 and 2, the threaded surface adjacent the upper end of the lower portion of the valve-casing; 6, in the same figures, the threaded end of the casing; 7, the packing; 8, a threaded packing nut or gland; 9, the outer portion of the valve-casing, threaded internally at the end in the first example; 10, an inwardly-projecting portion on the inner surface; 11, a hand-wheel; 12, a valve-rod; 13, the enlarged end of the rod located at the end of the valve-cas-

ing; 14, a beveled seat; 15, an enlarged portion of the rod; 16, a sleeve on the rod, and 17 a hand-wheel rigidly secured on the end of the rod.

In the second example, 18 is a flange on the sleeve; 19, the enlarged bore or passage at the outer end of the valve-casing; 20, a coiled spring; 21, a threaded cap; 22, an operating-lever projecting through the casing, and 23 designates the arms of the operating-lever.

The methods of operating the two examples are substantially identical.

In the first example when it is desired to open the valve the hand-wheel 11 is rotated toward the right, which causes the inwardly-projecting portion 10 to engage the enlarged portion 15 of the rod and advance the same, opening up a passage between the beveled seats 3 and 14. When the hand-wheel is revolved toward the left, the projecting portion 10 engages the sleeve 16 and advancing the rod closes the valve.

In the second example the valve may be opened by pressure upon the hand-wheel 17 or by rocking the lever 22, as is obvious, the spring closing the valve when the wheel or lever is released.

In both examples the packing 7 prevents the fluid from passing to the upper portion of the valve, and when the valve is in use the fluid-pressure upon the enlarged end of the rod seats the valve and prevents leakage.

Should the valve-seats become worn or should dirt or other foreign substances become interposed between the seats, the rod can be revolved by means of the hand-wheel 17 and the seats ground or the foreign substance expelled, and both can readily be accomplished without removal or displacement of any part of the valve.

Through the foregoing description, taken in connection with the drawings, it is clear that I have produced a valve which fulfils all the conditions set forth as the purpose and object of my invention.

It will of course be understood that in practice changes in size and shape and modification may be introduced at the will of the manufacturer without constituting a substantial departure.

What I claim, and desire to secure by Letters Patent, is—

1. The combination in a valve of a casing exteriorly threaded at the end provided with a central passage, a fluid-delivery pipe 4, and a beveled seat 3; a valve-rod having a beveled seat 14 at the end; a removable sleeve 16 at the opposite end of the rod, and a hand-wheel 17 on the rod, and means adapted to engage the sleeve 16 for moving the rod longitudinally relative to the casing; said rod being loose within the casing and provided with means for rotating the same whereby the seats may be ground or foreign substance expelled from between the seats.

2. The combination in a valve, of a casing exteriorly threaded at the end having a central passage, a fluid-delivery opening, and a seat at the end; a valve-rod having a seat at one end and a removable sleeve 16 at the other end; a hand-wheel on the rod; a packing located above the fluid-delivery opening; and means in operative connection with the end of sleeve 16 for moving the rod longitudinally of the casing; said rod being loose within the casing and provided with means for rotating the same within the casing and grinding the valve-seats without the displacement of any part of the valve.

3. The combination in a valve, of a casing exteriorly threaded at the end having a central passage, a fluid-delivery opening, and a valve-seat at the end; a valve-rod having a seat matching the seat of the casing; a hand-wheel on the rod; a loose sleeve 16 on the rod confined in position by the hand-wheel; a packing located above the fluid-delivery opening; and means located at the end of the sleeve 16 and engaging the same for reciprocating the valve-rod longitudinally of the casing; said rod having means for positively holding the seats in frictional contact and being loose within the casing so that it can be re-

volved relative to the casing without the displacement of any part of the valve.

4. The combination in a valve, of a casing exteriorly threaded at the end having a central passage, a fluid-delivery opening, and a beveled seat at the end; a valve-rod having a beveled seat matching the seat of the casing; a packing located above the delivery-opening; a sleeve upon the rod; a hand-wheel engaging the rod and sleeve; and means for engaging the sleeve for moving the rod longitudinally of the casing; said rod being loose within the casing and adapted to be revolved therein whereby the valve-seats may be ground and foreign substance expelled.

5. The combination in a valve, of a casing exteriorly threaded at the end having a central passage, a fluid-delivery opening, and a beveled seat at the end; a valve-rod with a beveled seat matching the seat at the end of the casing; a sleeve held in place by a hand-wheel; means engaging the sleeve for positively holding the valve-seats in frictional contact; and means engaging the sleeve for moving said rod longitudinally of the casing and said rod being loose within the casing whereby it may be revolved therein.

6. The combination in a valve, of a casing 1 having a seat; a rod 2 having a seat; a casing 9 united to the casing 1 by screw-threads; a hand-wheel 11 on casing 9; a hand-wheel on rod 2; and a sleeve 16; said rod having an enlarged portion 15 and said casing 9 having means engaging the said portion 15 of the rod and the sleeve; in substance as set forth.

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

HENRY M. WARE.

Witnesses:

T. L. CASSELL,
WILL APPLETON.