

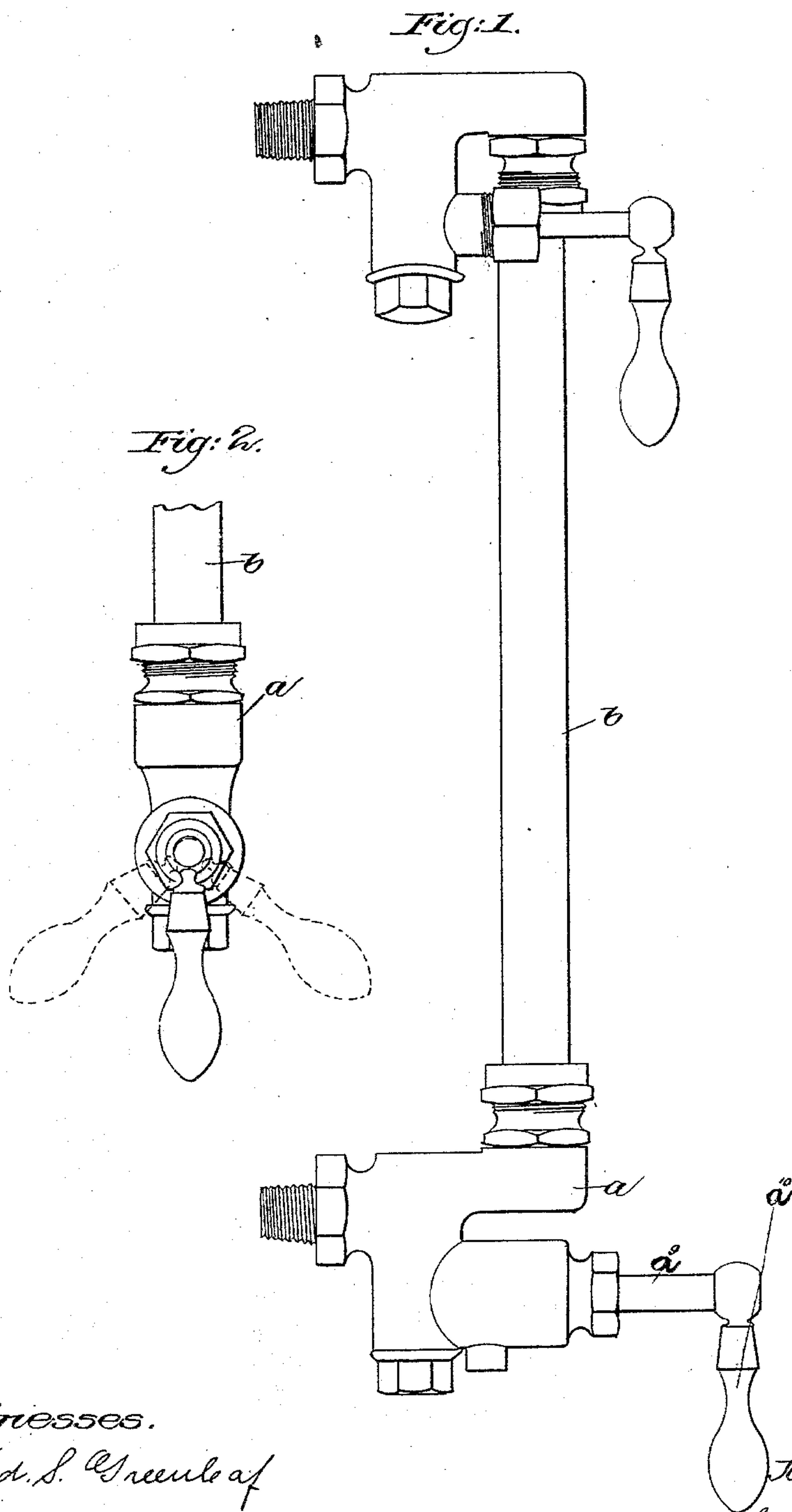
(No Model.)

2 Sheets—Sheet 1.

J. G. BLOUNT.
WATER GAGE.

No. 401,326.

Patented Apr. 16, 1889.



Witnesses.
Fred. S. Greene of
Frederick L. Emery.

Inventor.
John G. Blount.
by Lemmy Gregory
Attys.

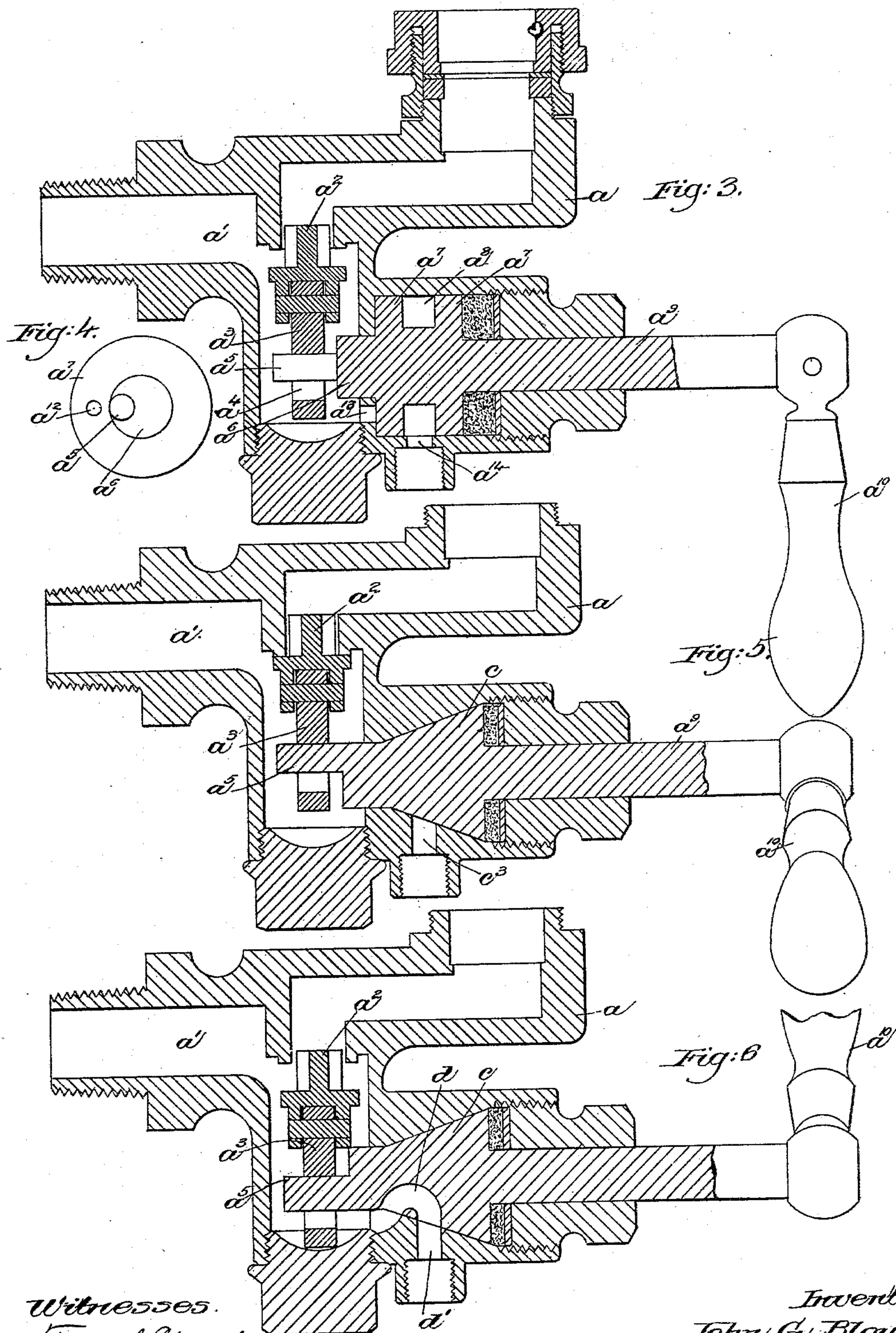
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UNITED STATES PATENT OFFICE.

JOHN G. BLOUNT, OF BOSTON, MASSACHUSETTS.

WATER-GAGE.

SPECIFICATION forming part of Letters Patent No. 401,326, dated April 16, 1889.

Application filed May 22, 1888. Serial No. 274,639. (No model.)

To all whom it may concern:

Be it known that I, JOHN G. BLOUNT, of Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Water-Gages, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object to improve the construction of water-gages.

In accordance with this invention, the valve at the upper end of the gage is adapted to be manipulated by a rotatable valve-stem, it being arranged to serve as a check-valve when the valve-stem is in one position, and may be held positively against or away from its seat when the valve-stem is in other positions. The valve at the lower end of the gage is arranged to perform substantially the same functions as the valve at the top of the gage, and in addition thereto to open a blow-off port when the valve-stem is in a certain position.

Figure 1 shows in side elevation a water-gage embodying this invention; Fig. 2, an end view of valve at the lower end of the water-gage; Fig. 3, a vertical section of the valve at the lower end of the water-gage; Fig. 4, a detail to be referred to; Figs. 5 and 6, vertical sections of modified forms of valves.

The valve-case *a* at the lower end of the water-gage is of suitable shape to contain the operating parts, to be described.

The valve-case *a* (see Fig. 3) has a passage through it, as *a'*, which is obstructed or controlled by a valve, *a²*, attached to a link, *a³*, by which it is moved toward and from its seat. The link *a³* has an elongated opening through it, as at *a⁴*, which receives a pin, *a⁵*, attached eccentrically to a hub or boss, *a⁶*. The hub or boss is circular, and has two annular flanges, *a⁷*, arranged to present a groove or space, *a⁸*, between them. The hub or boss *a⁶* is attached to or formed integral with a stem, *a⁹*, having its bearing in any suitable bearing-nut or stuffing-box. A hand-piece, *a¹⁰*, is attached to the stem *a⁹*, by which the stem is rotated. It will be seen that when the valve-stem *a⁹* is in one position—such, for instance, as when the hand-piece *a¹⁰* occupies the left-hand dotted-line position, Fig. 2—the

valve *a²* will be held firmly against its seat. When the valve-stem *a⁹* is in another—as, for instance, its intermediate position, as shown by full lines, Fig. 2, and also Fig. 3—the valve *a²* is moved from its seat a short distance, and by the slot *a⁴* the valve is susceptible of a free movement toward and from its seat by pressure or by exhaust, and at such time said valve serves as a check-valve. When the valve-stem *a⁹* is in another or its last position, as shown by dotted lines, Fig. 2, (the hand-piece *a¹⁰* at such time being moved to its extreme position toward the right,) the valve *a²* will be held from its seat so that it cannot be moved toward or against its seat by pressure or exhaust. The three positions may be best obtained when the pin *a⁵* is on one or its other dead-center or upon the quarter.

The flange *a⁷* of the hub *a⁶* has a hole, *a¹²*, through it, which, when the hub is in a certain position, registers with a port, *a¹³*, in one wall of the valve-case, and when the parts are so moved as to register a free and unobstructed passage is presented from the interior of the valve-case through the port *a¹³*, port *a¹²*, groove or passage *a⁸*, and port *a¹⁴*. This passage will be used as a blow-off. The valve at the upper end of the water-gage may be constructed substantially as herein shown, the valve-case being somewhat differently shaped in order that the valve *a²* and its operating parts may be substantially as before described and the passage through it differently shaped, although the upper valve-case and valve are not designed to have a blow-off.

When the water-gage is attached to a boiler or tank, the hand-pieces *a¹⁰* are set so that the valves *a²* shall operate as check-valves, and if for any reason the glass tube *b* should be broken the valves will close against their seats and obstruct the passage through the valve-cases. The hand-pieces may be thereafter turned slightly to hold the valves against their seats positively while a new tube is being placed in position. It will thus be seen that by manipulating the valves by hand-pieces *a¹⁰* all the functions required for operating, repairing, or testing the water-gage will be properly performed.

Referring to Fig. 5, instead of employing a hub *a⁶*, having flanges *a⁷* and the annular

groove or space a^8 , a tapering hub, c , is provided, to which is attached eccentrically the pin a^5 . In this instance the hub c has a groove or port, (not shown,) which, when the hub is in a certain position, registers with a port (not shown) in one wall of the valve-case, and also with a port, c^3 .

In Fig. 6 the hub c has a port, d , through it, which registers with a port, d' , when it is desired to blow off.

The operation of the valves shown in Figs. 5 and 6 is substantially the same throughout as that shown in Fig. 3. Instead of the valve a^2 herein shown a valve of any other suitable construction having a ground or other joint may be employed.

I claim—

1. In a water-gage, the valve-case a , having the passage through it formed with but one communicating port, the valve to control said port, combined with the link a^3 , loosely connected thereto, eccentric-stud a^5 , engaging therewith, and the rotatable valve-stem a^9 , substantially as described.

2. In a water-gage, the valve-case a , having the passage through it, and the movable valve, as a^2 , within said case, and the rotatable stem a^9 , combined with a hub partially rotated by the stem, having a port or passage through it and controlling a port into the chamber formed within the valve-case to serve as a blow-off, substantially as described.

3. In a water-gage, the valve-case a , having

the entire passage through it formed with but one connecting port or orifice, and the valve, as a^2 , combined with a rotatable stem, the eccentric-stud thereon, and the slotted link loosely connecting said valve and stem, by which the valve a^2 may be moved positively toward or from its seat, and may also be held at an intermediate position to serve as a check-valve, and the hand-piece a^{10} , by which the said stem is semi-oscillated, substantially as described.

4. In a water-gage, the valve-case a , having a passage through it, a valve controlling said passage, combined with a slotted link, a^3 , loosely connected with the said valve, and the stem for moving the link, substantially as described.

5. In a water-gage, the valve-case a , having the passage through it, and a single connecting - port therein, the valve a^2 for said port, and the blow-off passage or port, combined with the oscillating valve-stem for simultaneously moving the valve a^2 and for controlling the blow-off port or passage, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN G. BLOUNT.

Witnesses:

BERNICE J. NOYES,
F. L. EMERY.