No. 618,792. Patented Jan. 31, 1899.

J. FLOCKHART & D. F. KEOGH.

STOP AND WASTE COCK.

(Application filed June 27, 1898.)

(No Model.)

Fig. 1.

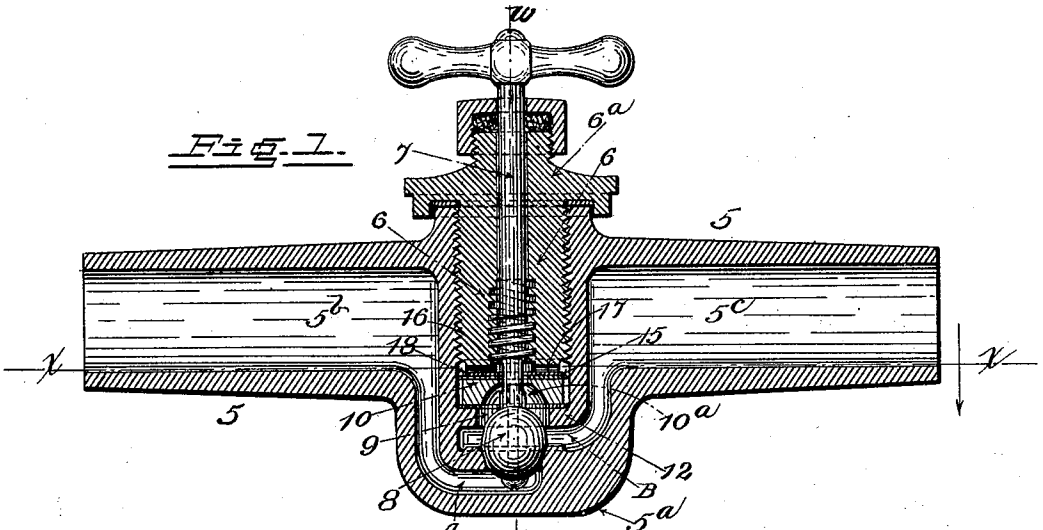


Fig. 2.

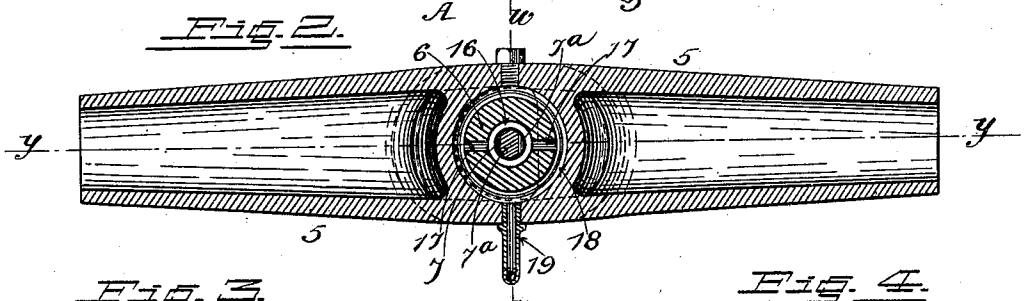


Fig. 3.

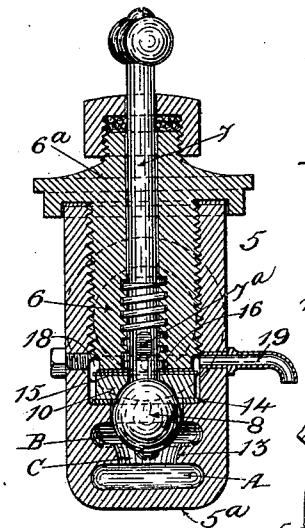
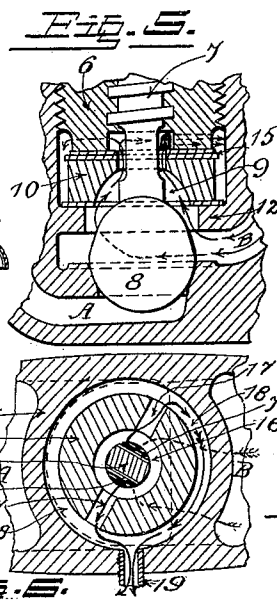


Fig. 5.



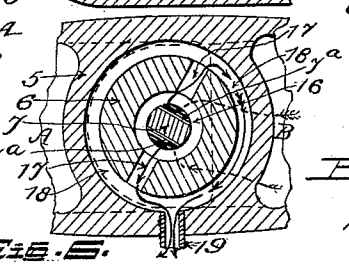
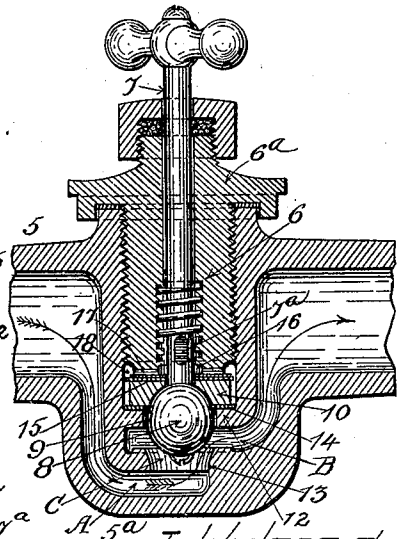


Fig. 6.

Fig. 4.



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UNITED STATES PATENT OFFICE.

JAMES FLOCKHART AND DENNIS F. KEOGH, OF DENVER, COLORADO.

STOP AND WASTE COCK.

SPECIFICATION forming part of Letters Patent No. 618,792, dated January 31, 1899.

Application filed June 27, 1898. Serial No. 684,592. (No model.)

To all whom it may concern:

Be it known that we, JAMES FLOCKHART and DENNIS F. KEOGH, citizens of the United States of America, residing at Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Stop and Waste Cocks; and we do 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 the letters and figures of reference marked thereon, which form a part of this specification.

Our invention relates to improvements in stop and waste cocks, our object being to provide a device of this character which shall be simple in construction, economical in cost, reliable, durable, and efficient in use; and to these ends the invention consists of the features hereinafter described and claimed, all of which will be fully understood by reference to the accompanying drawings, in which is illustrated an embodiment thereof.

In the drawings, Figure 1 is a vertical longitudinal section taken through our improved construction. Fig. 2 is a section taken on the line *x x*, Fig. 1, looking in the direction of the arrow. Fig. 3 is a section taken on the line *w w*, Figs. 1 and 2. Fig. 4 is a section taken on the line *y y*, Fig. 2. Figs. 5 and 6 are fragmentary views illustrating the course of the waste or drainage water.

Similar reference characters indicating corresponding parts in the views, let the numeral 5 designate a casing provided with a downward swell or projection 5^a, located between the two parts 5^b and 5^c of the main chamber of the casing, but in a lower plane. The center of the casing above this projection is bored out and tapped to receive a screw-plug 6, which is provided with a cap 6^a. Through a suitable opening formed in this plug is inserted a stem 7, which is provided with a threaded portion engaging threads formed in the plug. The threads of the stem are coarse to make the movement rapid in opening and closing the valve. To the lower extremity of the stem is attached a valve 8, which, as shown in the drawings, has the shape of a slightly-elongated ball. The opening 9 in the casing below the plug 6 will be termed the "valve-chamber." In this chamber is located a disk 10, provided with an opening through which the stem passes. This disk rests on a ledge or shoulder 12, surrounding the central portion of the valve-chamber. In the lower surface of this disk is formed a concave seat 10^a for the upper portion of the valve. In the bottom of the projection 5^a of the casing is formed a seat 13 for the lower portion of the valve, which is adapted to vibrate between these two seats. The under surface of the disk 10 engages a washer 14, while between the plug 6 and the disk is located a washer 15. The plug is screwed down tight on the disk and holds the latter securely in place.

The compartments 5^b and 5^c of the casing-chamber communicate with each other by way of two channels A and B, formed in the projection 5^a of the casing. These channels occupy different planes, one being located above the other. They communicate with each other by means of an opening C, surrounded by the valve-seat 13. Hence when the valve occupies its lower seat communication between the parts 5^b and 5^c of the casing-chamber is cut off, while when the valve occupies its higher seat the water passes freely from one channel to the other.

The valve-stem is cut away on two opposite sides, as shown at 7^a, to permit the waste or drainage water to pass freely through the disk 10 and around the stem when the valve occupies its lower seat. In the bottom of the plug 6 is formed a circular recess 16 around the valve-stem, from which lead two channels 17 to a circular exterior groove 18, formed around the bottom of the plug. From this groove leads the discharge-spout 19 for the waste or drainage water.

When our improved construction is in use, the normal position of the valve 8 is that shown in Figs. 3 and 4, allowing the water to pass freely from the compartment 5^b to the compartment 5^c on its way through the pipes of the system. When for any reason it is desired to cut off the water for the purpose of draining the pipes in the house, the stem 7 is turned sufficiently to move the valve 8 downward to its seat 13, thus cutting off communication between the compartments 5^b and

5[c] and allowing the waste water from above in the system to pass through the compartment 5[c] and thence upward through the valve-chamber above the valve, thence through the opening in the disk 10, around the part 7[a] of the stem to the circular recess 16, thence by way of the channels 17 to the groove 18, and thence out of the discharge-spout 19.

Having thus described our invention, what we claim is--

1. The combination with a stop and waste cock, of a casing having a projection extending below its body portion, the casing being bored above to form a chamber, a plug screwed into said chamber, a valve-chamber being formed below the plug, a stem passed through the plug and projecting into the valve-chamber, a valve attached to said stem which is provided with a screw-thread engaging threads in the plug, a main passage for the water being formed below the valve, and a waste-passage above the valve, two seats being formed between which the valve is adapted to vibrate, the arrangement being such that when the valve engages the lower seat, the main water-passage is closed and the waste-passage open, while when the valve engages the upper seat, the main passage is open and the waste-passage closed.

2. In a stop and waste cock, the combination of a casing inclosing a valve-chamber connected with the main waterway, a waste-way being formed leading from said chamber, a screw-stem projecting into the valve-chamber, a valve attached to said stem, two seats being provided at the extremities of the valve-chamber between which the valve is adapted to vibrate according as its screw-stem is turned in the one direction or the other, the arrangement being such that when the valve engages one seat, the main passage is closed and the waste-passage opened, and when the valve engages the other seat, the main passage is opened and the waste-passage closed.

In testimony whereof we affix our signatures in presence of two witnesses.

JAMES FLOCKHART.
DENNIS F. KEOGH.

Witnesses:
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