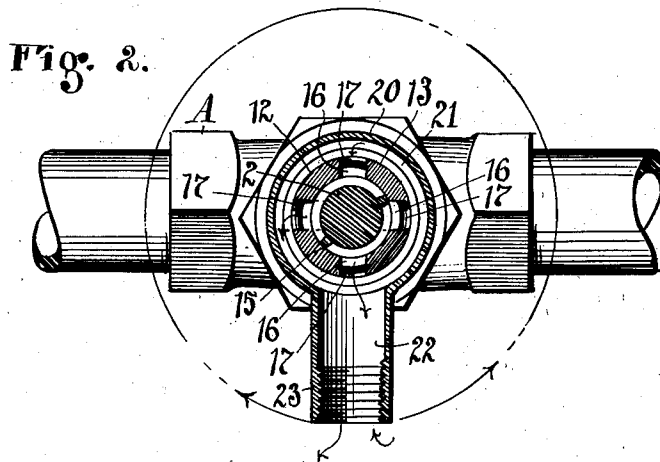
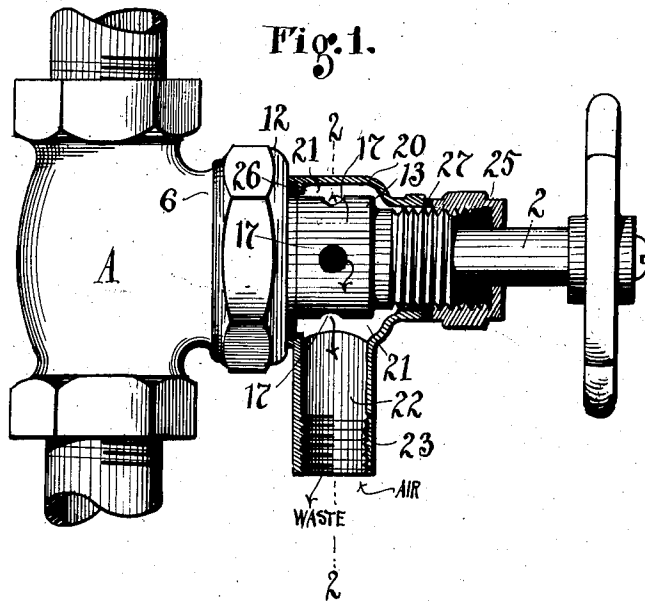


J. H. GLAUBER.
 STOP AND WASTE COCK OR VALVE.
 APPLICATION FILED SEPT. 22, 1908.

937,678.

Patented Oct. 19, 1909.
 3 SHEETS—SHEET 1.



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3 SHEETS—SHEET 2.

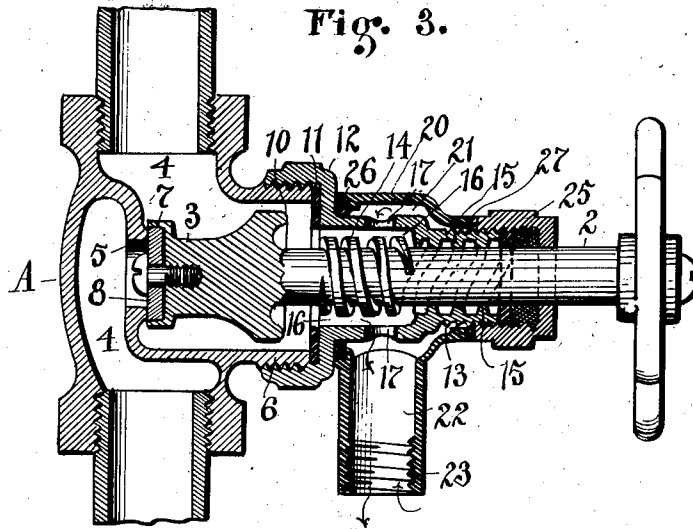


Fig. 4.

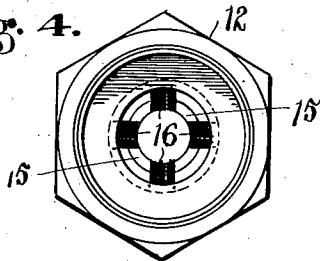


Fig. 5.

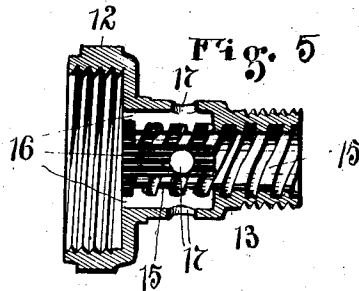
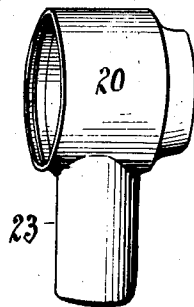


Fig. 6.



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 3 SHEETS—SHEET 3.

Fig. 7.

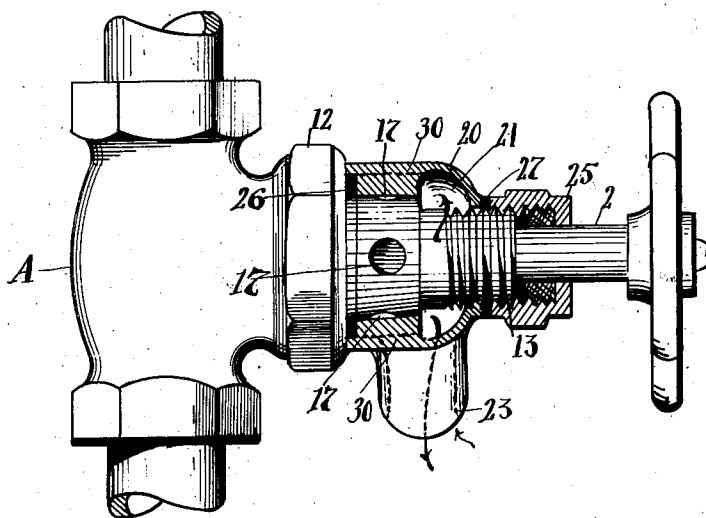
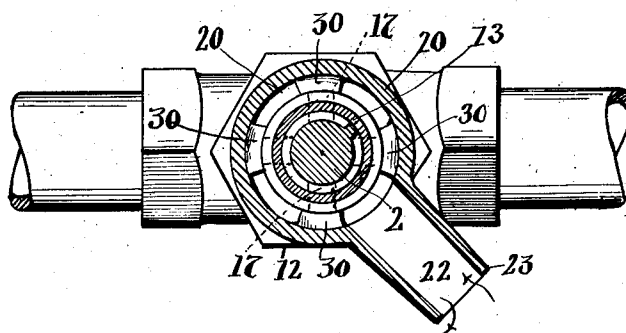


Fig. 8.



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UNITED STATES PATENT OFFICE.

JOSEPH H. GLAUBER, OF CLEVELAND, OHIO.

STOP AND WASTE COCK OR VALVE.

937,878.

Specification of Letters Patent.

Patented Oct. 19, 1909.

Application filed September 22, 1908. Serial No. 654,152.

To all whom it may concern:

Be it known that I, JOSEPH H. GLAUBER, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Stop and Waste Cocks or Valves, and do declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to stop and waste cocks or valves, and is an improvement therein embodying several novel features of construction, all substantially as shown and described and more particularly pointed out in the claims.

One object of the invention is found in the construction adapting the cock to have a free and full waste for rapid drainage, and another object is embodied in the means adapting the cock to be installed in various vertical and horizontal positions, and either as a right or left hand cock.

A further object is to provide a cock adapted to have a free vent to facilitate drainage regardless of the position of installation of the cock.

A still further object is to prevent splashing and a jet discharge of the water during drainage.

In the accompanying drawings, Figure 1 is a side elevation of my improved cock with the rotatable waste jacket and cap nut in section, and showing the cock installed in a vertical position. Fig. 2 is a cross sectional view on line 2—2, Fig. 1, but showing the parts differently related and as would appear when the cock was installed in a horizontal position. Fig. 3 is a central sectional view of the cock and its parts except the valve stem. Fig. 4 is an end view of the bonnet, and Fig. 5 is a sectional view thereof. Fig. 6 is a perspective view of the waste jacket. Fig. 7 is a side view of a cock with a sectional view of a rotatable waste jacket constructed with shoulders to cut off the waste, and Fig. 8 is a cross section thereof through said jacket.

The valve or cock A as shown, is of the compression style of cock having a threaded valve stem 2 and valve 3 adapted to close main water passage 4 at the centrally located seat 5 opposite tubular neck 6 through which the waste water finds its exit. The invention is not necessarily limited to this

particular style or class of cock, but any kind of valve construction may be used for opening and closing the main valve, and the types of valves include regular compression valves, straight-way valves, or the so-called Fuller valves.

In detail, stem 2 is materially reduced in diameter compared with valve 3, which is in reality a double valve in that its recessed end 7 has a compressible washer 8 adapted to close upon seat 5 when stem 2 is rotated and screwed in one direction, and in that it is provided with an annular shoulder 10 adapted to seat against a flat washer 11 when stem 2 is screwed in the reverse direction. Washer 11 is of fiber, lead or other suitable material and not only serves as a seat for waste valve portion 10 but is also of utility as a gasket between bonnet 12 and neck 6 when said bonnet is screwed in place thereon. Stem 2 has a quick thread 14 which engages corresponding threads 15 running substantially the full length of reduced extension 13 of bonnet 12, see Fig. 5. A series of four grooves or slots 16 divide said threads longitudinally of bonnet 12 from its inner cap end to about midway of extension 13. Grooves 16 are preferably deeper than the threads to provide a free outlet for the waste water when waste valve 10 is open, the water finding further free outlet through the several radially placed openings 17 in the sides of the bonnet extension. A series of such longitudinal and radial passages also have their utility for venting purposes as well as for wasting purposes. Thus, when water is wasting, all said passages do not become water exits, but one at least, the upper one, becomes an air channel through which air is admitted to vent the water pipe for the free discharge of the waste. A series of such waste and vent openings permits the cock to be installed with either of its sides up or reversed end to end when arranged on a horizontal pipe, and also permits it to be installed in a vertical position, or at an angle, and without any adjustment or change of relation of the bonnet to the cock. In brief, the cock becomes self-draining by reason of this construction, regardless of the manner in which the cock is installed, following usual practices.

Now proceeding, a further novel feature of my invention consists in providing bonnet 12 with a cylindrical jacket or guard having an inner annular air and waste water

space 21 opposite openings 17. This jacket has a single opening 22 in its side, which extends through boss or spout 23 integral with the jacket and wherewith screw engagement may be made with sewer sink connections, if desired. The area of jacket space 21 and the area of opening 22 is relatively equal to or even greater than the combined areas of the several waste openings 17 to permit the free inlet of air and the free outlet of drain simultaneously.

Jacket 20 and its single opening 22 may be regarded as a receiver adapted to control the discharge of waste water from all the openings 17 in the bonnet, and obviously, the bonnet may have as many openings or holes 17 as may be deemed desirable for any given size of cock or given purpose. In the construction shown I might possibly use only two openings in the bonnet, but prefer to use four in order that a liberal amount of air may be taken in for vent and that a liberal amount of waste may escape, thereby assuring rapid and complete drainage. Where such drainage is effected rapidly there is not the slightest danger of the waste freezing in the service pipes. A series of waste openings in the bonnet, wasting simultaneously, is therefore of great advantage for many reasons. From one point of view, a series of waste openings would be objectionable if the waste were permitted to jet radially from the bonnet at different points, because the splashing discharge, if uncontrolled, would spread over too large an area, and also wet the operator in opening and closing operations. The use of a jacket, is therefore, of manifest advantage, and this jacket may be fixed about said bonnet instead of rotatable. But it is preferably rotatable so that the single waste outlet therefrom may be directed at any angle or to any position in respect to the cock, thereby making the cock serviceable for either right hand or left hand positions. In this way the inlet or pressure side of the cock may be on the right or the left side when installed on a horizontal line of pipe or the operating handle may be on the right or the left side of the cock when it is installed on a vertical line of pipe. In any event, jacket 20 and its waste spout 23 may be rotated to discharge in any direction as desired, all without disturbing set relations of the bonnet and valve stem parts. However, the use of a rotatable waste jacket 20 for the bonnet is not necessarily limited to a cock having a plurality of waste openings in the bonnet as shown, but is also adapted to a cock having a single waste outlet in the bonnet, thus adapting this kind of cock to be placed in either right or left hand positions by rotation of the jacket as desired. But, by embodying two or more radial openings 17 in the bonnet and locating them at different angles to one another,

one opening will always be on a higher plane than the other opening or openings and become a vent without any change in or rotation of the bonnet, and regardless of whether the cock is installed on a vertical line of pipe or face downward on a line of horizontal pipe, or whether the cock may be in right or left hand positions.

Jacket 20 when sleeved over bonnet 12, is securely held in place by stuffing-box nut 25 for valve stem 2. Packing rings 26 and 27 are also used at either end of jacket 20 to make a water tight joint, although as a matter of fact, these packing rings may be omitted. Nut 25 can be tightened to lock jacket 20 against rotation, but no such tight fit is ordinarily required, the jacket being only sufficiently engaged thereby to frictionally hold it in any set position and being rotatable at will.

If desired, the jacket may be constructed with shoulders 30 to register with openings 17 to close them temporarily during turning on and off operations of the valve, see Figs. 7 and 8. It will be understood that there is a brief interval when the pressure side of the cock is open to the waste and with a modified construction of the jacket or bonnet a slight turn of the jacket might be utilized to close the waste temporarily, and then again opened when the main valve is seated to cut off the pressure. Other modifications, not materially affecting the scope and purpose of the invention might be made, such as, making the jacket 20 and stuffing box nut 25 in one piece instead of separately as shown, and in making the jacket and bonnet in one piece and rotatably mounting the same upon the cock, and in providing neck 6 with an interior thread instead of an exterior thread. Obviously, an annular groove or channel may be provided in bonnet 12 and covered by a jacket to produce the annular space now formed in the jacket, and the term "receiver" applies to both arrangements. This general arrangement including my rotatable jacket may also be applied to advantage on valves having bottom drains, that is, wherein the waste is located on the bottom of the cock, and the invention is therefore, not limited to the specific form and type of valve herein shown and described.

What I claim is:—

1. A cock or valve having waste and vent openings, in combination with a waste receiver opposite said openings having a discharge opening of greater area than said combined waste openings.

2. A cock or valve having a bonnet with a series of waste openings, combined with a rotatable jacket sleeved over said bonnet and having a discharge outlet of greater area than the combined area of the waste openings in said bonnet.

3. A cock or valve having a plurality of waste and vent openings adapted to facilitate speedy drainage, in combination with a waste receiver mounted opposite said waste openings and having a relatively large discharge opening adapted to take in air and discharge waste waters simultaneously.

4. A cock or valve having a series of radially arranged waste and vent openings, combined with a rotatable receiving jacket encircling said openings and provided with a large spout adapted to take in air for venting purposes and freely distribute the waste.

5. A cock or valve having a main water passage and a waste passage and a double valve therefor, a side neck and a bonnet thereon adapted to support said valve, and said bonnet having a plurality of radial openings for waste and vent purposes, in combination with a rotatable jacket sleeved upon said bonnet and having an annular air and water space and a spout of larger waste area than all said waste openings in use, whereby said cock may be set in different positions and maintain a vent at the cock to waste freely at different points as may be predetermined.

6. A cock or valve having a waste opening and a distributing receiver for the waste adapted to be set at different angles relatively to the cock, whereby the cock may be installed in various operative positions, and said receiver and cock being constructed to cut off the waste when the pressure side of the cock is open to the waste.

7. A cock or valve having a plurality of openings adapted for both vent and waste

purposes, in combination with a distributing receiver for the waste adapted to provide an air intake for the vent and provided with means adapted to close said openings during opening or closing movements of the valve.

8. A cock or valve having a series of waste and vent openings, combined with a rotatable receiving and distributing member mounted opposite said openings and shoulders on said member to close said openings when said member is rotated to predetermined positions.

9. A cock or valve having a main valve and waste valve and an operative screw stem therefor, combined with a bonnet having waste openings therein, and a cylindrical receiver and discharge spout rotatably mounted about said bonnet and constructed with cut-off portions arranged to close said openings by rotating said receiver, whereby wasting is prevented during operations of the screw stem.

10. A cock or valve having a threaded bonnet and a threaded valve stem mounted therein, said bonnet having a series of grooves longitudinally thereof and radial openings leading therefrom, and a combined cylindrical waste distributing jacket and waste cut-off rotatably mounted upon said bonnet.

In testimony whereof I sign this specification in the presence of two witnesses.

JOSEPH H. GLAUBER.

Witnesses:

E. M. FISHER,
F. C. MUSSUN.