No. 657,319. Patented Sept. 4, 1900.

W. H. RAWE.

STOP AND WASTE COCK.

(Application filed Mar. 24, 1900.)

(No Model.) 2 Sheets—Sheet 1.

FIG. 1.

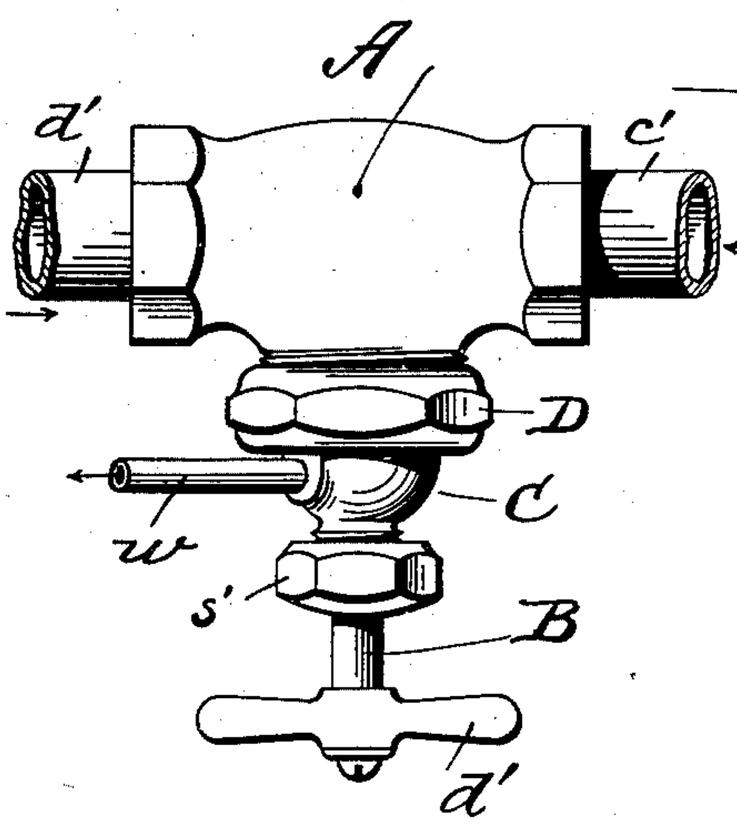
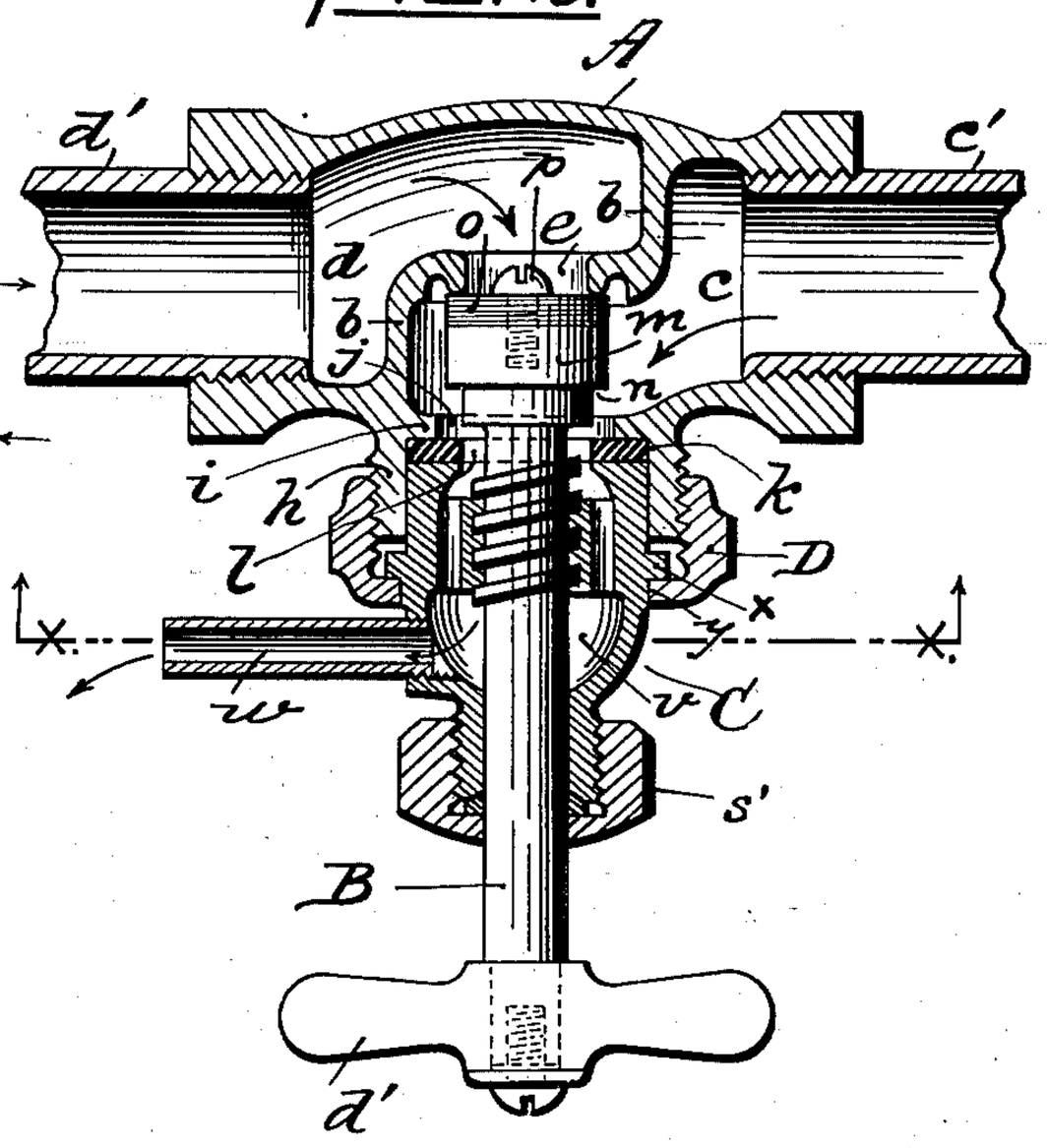


FIG. 2.



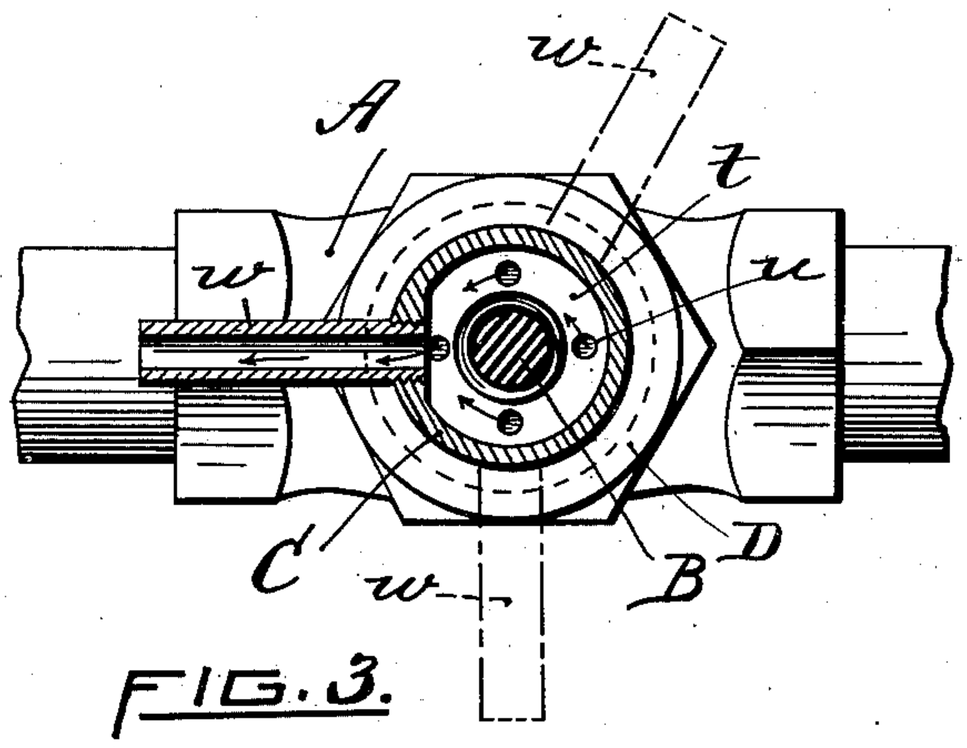


FIG. 3.

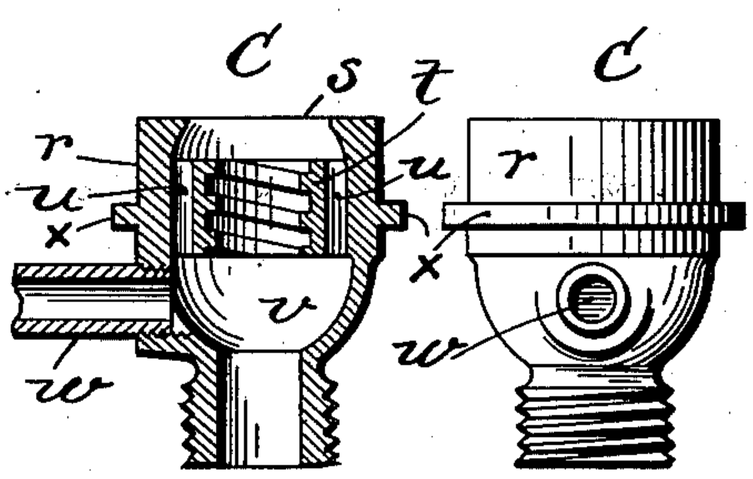


FIG. 5.

FIG. 4.

WITNESSES.

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No. 657,319. Patented Sept. 4, 1900.

W. H. RAWE.

STOP AND WASTE COCK.

(Application filed Mar. 24, 1900.)

(No Model.) 2 Sheets—Sheet 2.

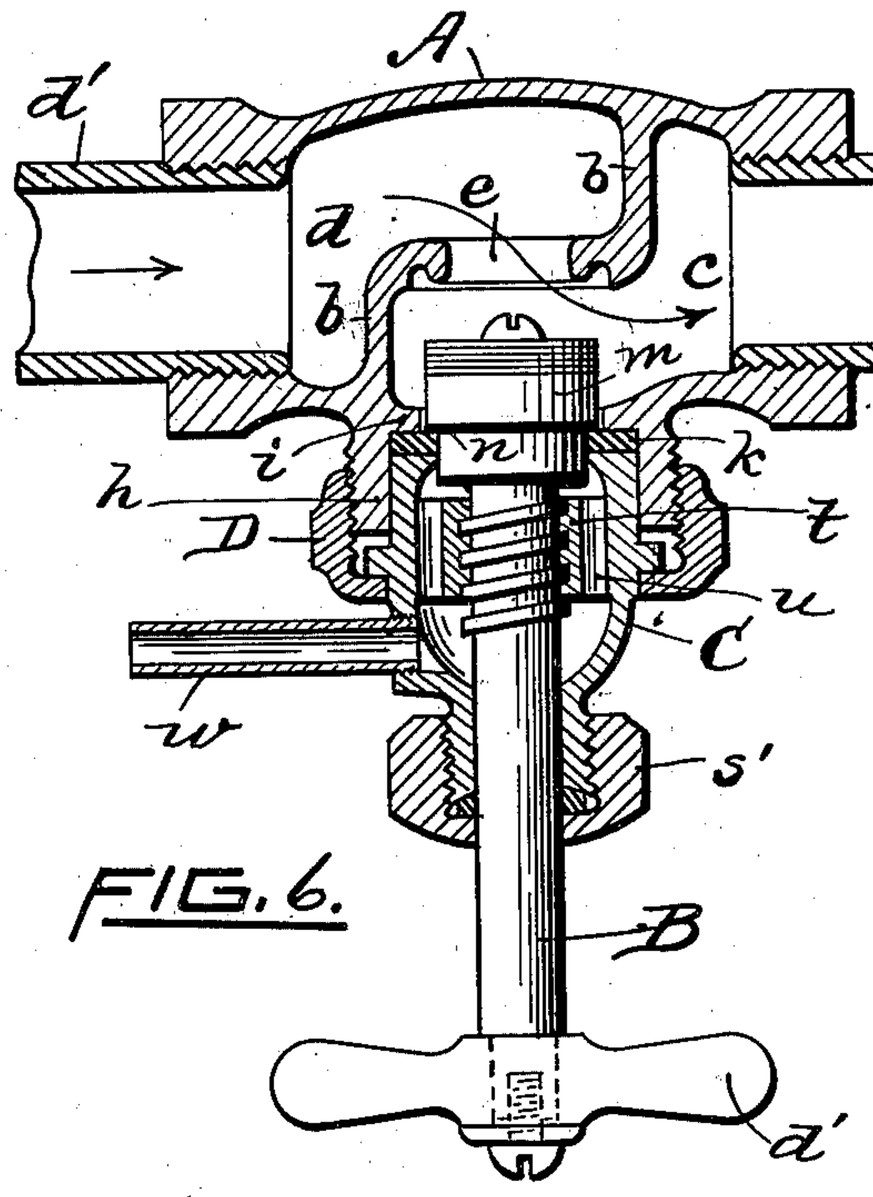

FIG. 6.

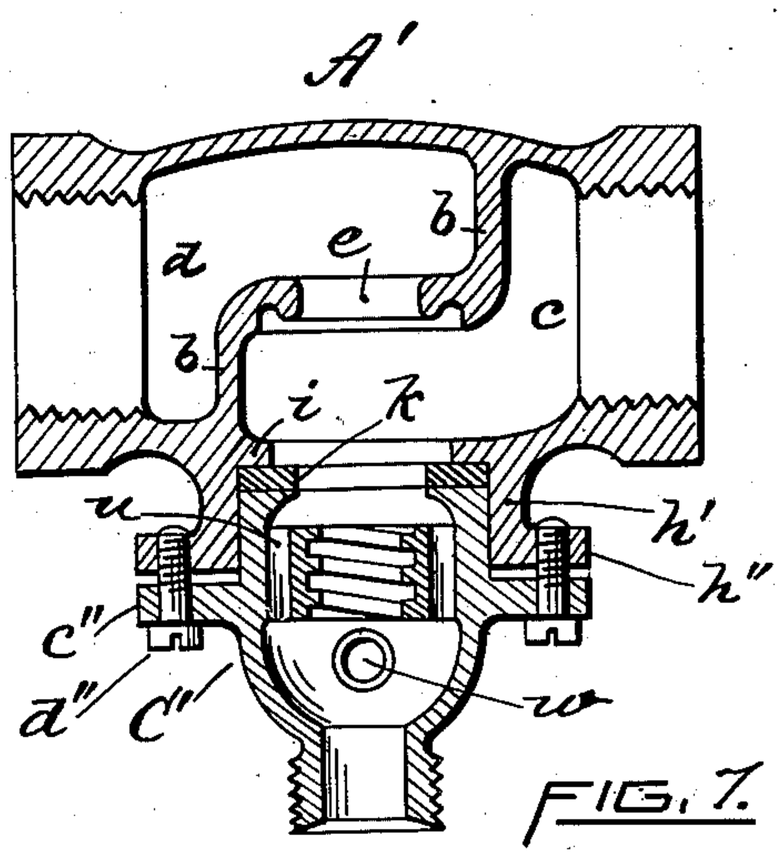

FIG. 7.

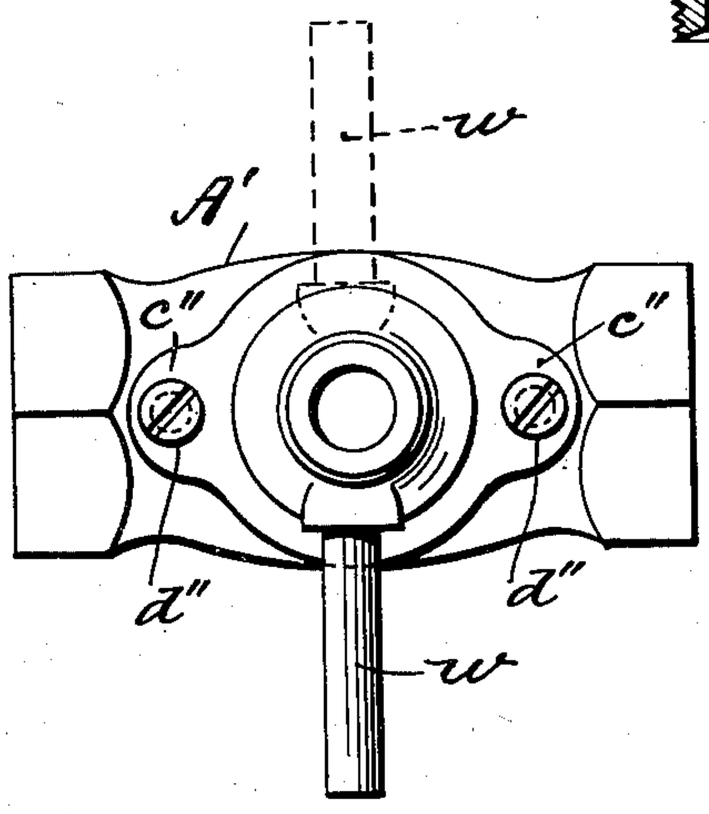

FIG. 8.

WITNESSES.

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UNITED STATES PATENT OFFICE.

WILLIAM H. RAWE, OF PAWTUCKET, RHODE ISLAND.

STOP AND WASTE COCK.

SPECIFICATION forming part of Letters Patent No. 657,319, dated September 4, 1900.

Application filed March 24, 1900. Serial No. 10,091. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. RAWE, a citizen of the United States of America, residing at No. 56 Central avenue, in the city of Pawtucket, county of Providence, and State of Rhode Island, have invented certain new and useful Improvements in Stop and Waste Cocks, of which the following is a specification.

My invention relates to that class of stop and waste cocks in which the valve opens and closes by the reciprocating movement of the stem.

It consists in the combination, with the valve-case inclosing a water-passage and having a partition dividing said water-passage, said partition having a circular opening, a valve-seat surrounding said opening, a hub centrally located on said valve-case and screw-threaded upon its exterior surface and having an interior flange, the axis of which is in alinement with the axis of the circular opening in said partition, of a cylindrical sleeve-nut mounted in said hub and having an exterior annular flange, said sleeve-nut having an interior enlargement provided with a centrally-screw-threaded opening, a series of longitudinal openings extending through the enlargement of said sleeve-nut and communicating with an outer inclosed chamber thereof, an outlet-pipe communicating with said chamber, a packing-ring interposed between the interior flange of said hub of the valve-case and the inner end of said sleeve-nut, a reciprocating valve-rod having an exterior screw-threaded portion to engage with the screw-threaded opening of said sleeve-nut, a valve-disk carried by said valve-rod, with a cap having a central circular aperture of a diameter to receive the annular flange of said sleeve-nut and its circumferential flange screw-threaded on the inside to engage with the screw-threaded end of the hub of said valve-case, as hereinafter described and claimed.

Referring to the drawings, Figure 1 represents a top plan elevation of the waste-cock. Fig. 2 is an enlarged central section of the same, showing the valve closed and the waste opened. Fig. 3 is a cross-sectional view taken in line $x\,x$ of Fig. 2. Fig. 4 is an elevation of the sleeve-nut. Fig. 5 is a central sectional view of the same. Fig. 6 is a central section of the waste-cock, showing the valve open and the waste closed. Fig. 7 represents a central section of the waste-cock in a modified form. Fig. 8 is a front end elevation of the same.

Like letters of reference indicate corresponding parts in the different figures of the drawings.

A designates the body or valve-case, having a water-passage divided by a partition b into two parts c and d, respectively. The partition b is provided with a circular opening e, forming a communication between the parts c and d of the water-passage.

Surrounding the opening e is an annular valve-seat f, against which the circular valve-disk o rests in closing the said opening e.

The valve-case A has a centrally-located hub h, tubular in form and screw-threaded upon its exterior surface. This hub has an interior flange i, provided with a circular opening j.

k is a packing-ring which fits the bore of the hub h and rests against the flange i and is provided with a circular opening l of a lesser diameter than the opening of the said flange.

B is the valve-rod, having an enlarged screw-threaded section which extends outwardly from the relative position of the packing-ring k, the inner portion of said rod having a cylindrical enlargement m of a diameter to fit the opening of the flange i of the hub h. This enlarged portion of the valve-rod is turned down at the outer extremity to the diameter of the opening in the packing-ring and forming a shoulder n, which abuts the inner surface of the said packing-ring when the valve is open.

o is the valve-disk, secured upon the end of the valve-rod by the screw p.

C represents a sleeve-nut of the form as shown in Figs. 4 and 5, having one end portion r mounted in the hub h and adjoining the packing-ring. This sleeve-nut has an exterior flange x. The inner end of the sleeve-nut is provided with an opening s, corresponding in size and location with the opening in the packing-ring. This sleeve has an inner wall t surrounding its circular flange and integral therewith, and said wall is pro-

vided with a screw-threaded opening and forms a nut to receive the screw-thread of the valve-rod. This wall is further provided with a series of longitudinal openings *u*, extending through from either side thereof, said openings communicating with the chamber *v*, which is tapped to receive a waste-tube *w*, adapted to discharge the waste water in the place desired to receive it.

D is a cap or flange-union for securing the sleeve-nut in any desired position upon the waste-cock, said cap having a central circular opening *y* of a diameter to receive the exterior flange *x* of the said sleeve-nut, and its circumferential flange screw-threaded on the inside to engage with the screw-threaded end of the hub *h* of the valve-case.

In referring to Fig. 2, which shows the valve closed, it will be observed that the enlargement of the valve-rod is constructed so that its outer shoulder extends inwardly from the face of the packing-ring, which allows of a clearance-space for the waste water to flow through from the pipe *c'* and passing through the openings *u* of the sleeve-nut and into the waste-tube *w*, from whence it is deposited in a receptacle to receive it. I use a coarse pitch of screw-thread on the valve-rod, which when turned by the handle *d'* gives a quick, reciprocating movement, whereby the shoulder *n* of the enlargement of said valve-rod is brought to bear against the surface of the packing-ring, (see Fig. 6,) and thus preventing the force of water to escape through the waste-tube *w*.

The sleeve-nut C extends outwardly from the waste-chamber *v* and surrounds the valve-rod to receive a stuffing-box *s'*.

This arrangement of parts for a stop and waste cock forms a construction that is very simple, compact, and durable and possessing the advantage of having no spring to operate and weaken through lapse of time. Should the waste-cock require a packing-ring, by simply unscrewing the flange-union D and drawing out together the valve-rod and sleeve-nut a new ring can be very readily drawn over the valve and down upon the face of the sleeve-nut, after which the said parts are inserted in the hub of the waste-cock and the sleeve-nut turned to such position that its waste-tube will discharge its water in the direction required. The flange-union is then screwed up tight and firmly securing the sleeve-nut in place.

In Figs. 7 and 8 I illustrate a modified construction of my invention by which the sleeve-nut can be made adjustable to a half-turn upon the hub of the valve-case, said sleeve having a projecting ear *c''* integral upon either side thereof and conforming in size and location with ears *h''* of the hub *h'* of the valve-case, the ears *h''* having screw-threaded openings to receive the adjusting-screws *d''*, which pass through openings in the ears of the sleeve.

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

1. In combination with a valve-case of a stop and waste cock, having a circular flanged hub integral therewith and provided with an exterior-screw-threaded surface, said hub having an interior flange, the axis of which is in alinement with the axis of the valve-seat, of a cylindrical sleeve-nut C mounted in said hub and having an exterior annular flange *x* of a lesser diameter than the diameter of the hub, said sleeve having an interior wall *t* provided with a centrally-screw-threaded opening, a series of longitudinal openings *u* in said wall and communicating with an outer chamber *v* in said sleeve, an outlet-pipe *w* communicating with said chamber, a packing-ring *k* interposed between the interior flange of the hub of said valve-case and the inner face of said sleeve-nut, a valve-rod B having an exterior-screw-threaded portion to engage with the screw-threaded opening in said sleeve-nut, said valve-rod having a circular enlargement *m* provided with a shoulder *n* adapted to bear against the face of said packing-ring when the valve is open, a valve-disk carried by said valve-rod, with a cap D having a central circular opening of a diameter to receive the exterior annular flange of said sleeve-nut, and its circumferential flange screw-threaded on the inside to engage with the screw-threaded end of the hub of the valve-case, as shown and described.

2. In a stop and waste cock, a valve-case having a circular flanged hub with an interior circular flange the axis of which is in alinement with the axis of the valve-seat, a sleeve-nut mounted in the aperture of said hub of the valve-case and provided with a waste-outlet as described, a packing-ring interposed between said sleeve-nut and the interior flange of said hub, and adapted, in coöperation with the valve, to close the waste-outlet, with means for securing said sleeve-nut to the hub of said valve-case, as shown and described.

Signed by me at Providence, Rhode Island, this 23d day of March, 1900.

WILLIAM H. RAWE.

Witnesses:
W. L. HODGMAN,
AUGUSTA S. MEREWETHER.