No. 667,737. Patented Feb. 12, 1901.

W. H. RAWE.

STOP AND WASTE COCK.

(Application filed June 7, 1900.)

(No Model.)

FIG. 1.

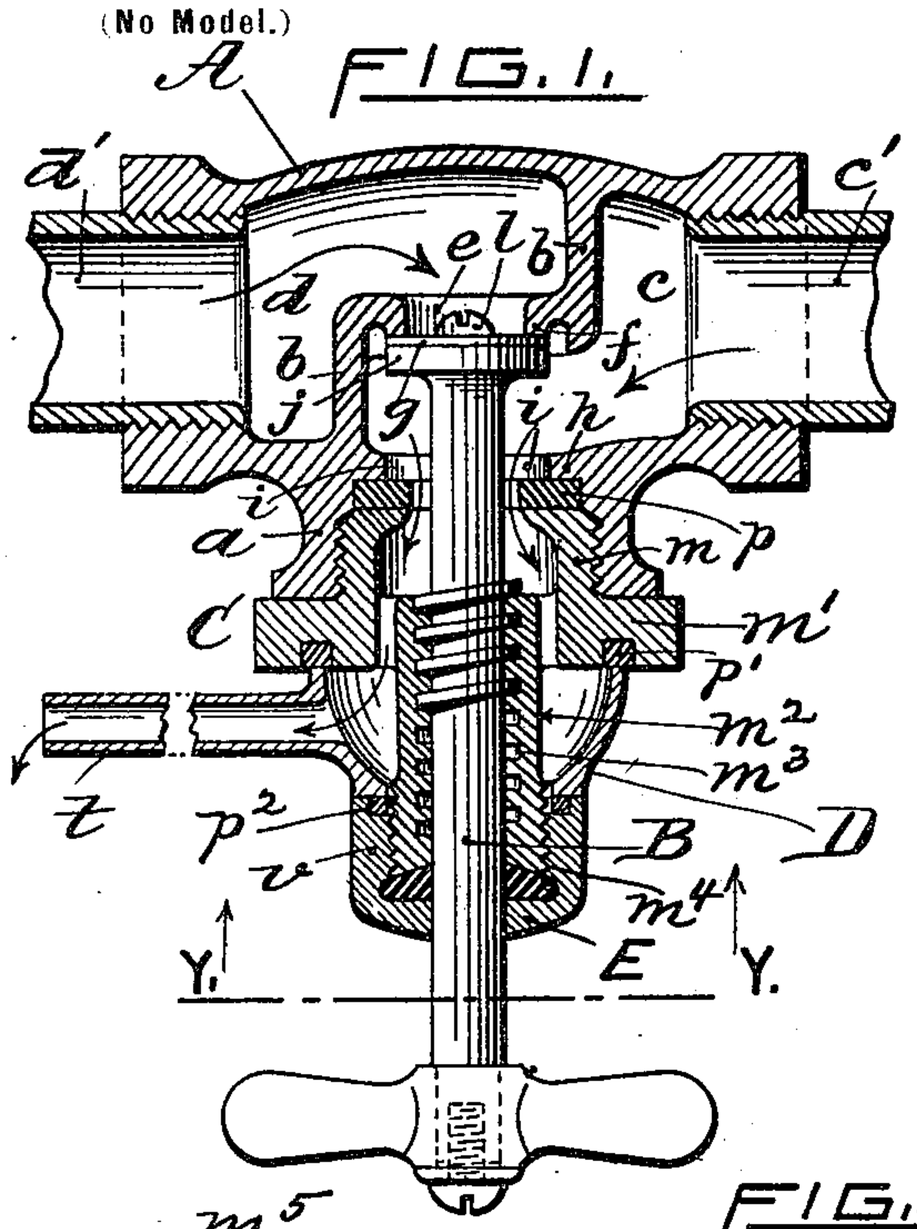


FIG. 2.

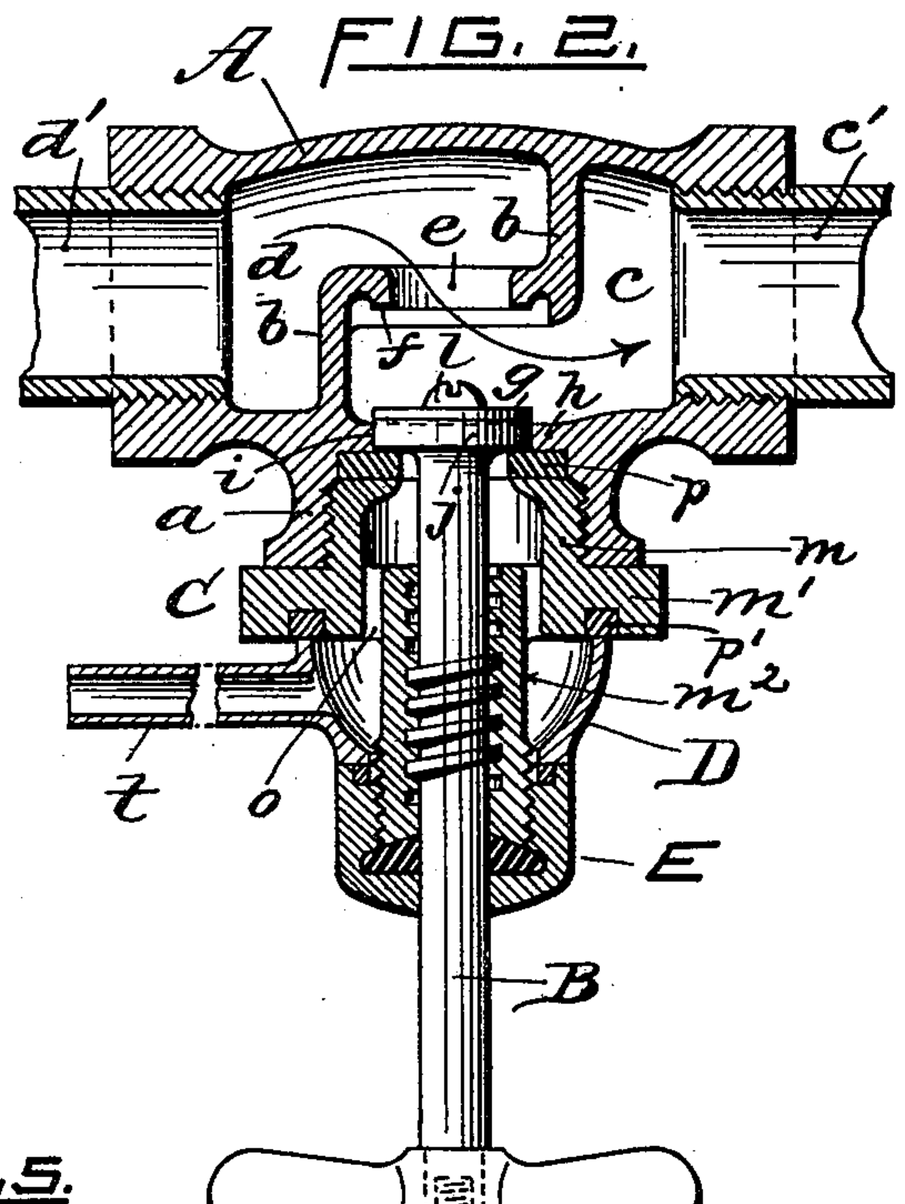


FIG. 5.

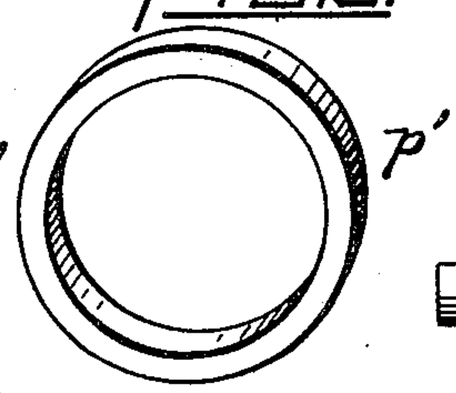


FIG. 3.

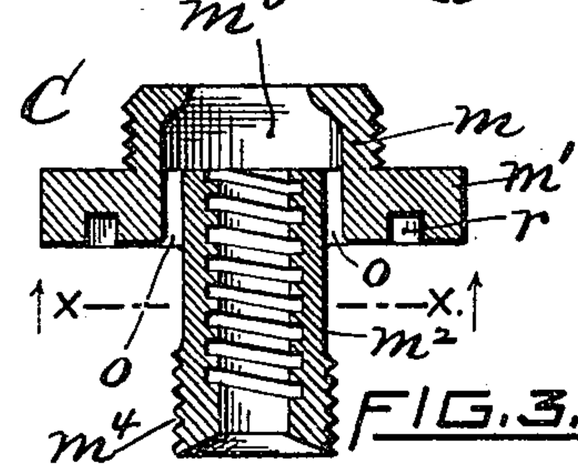


FIG. 6.

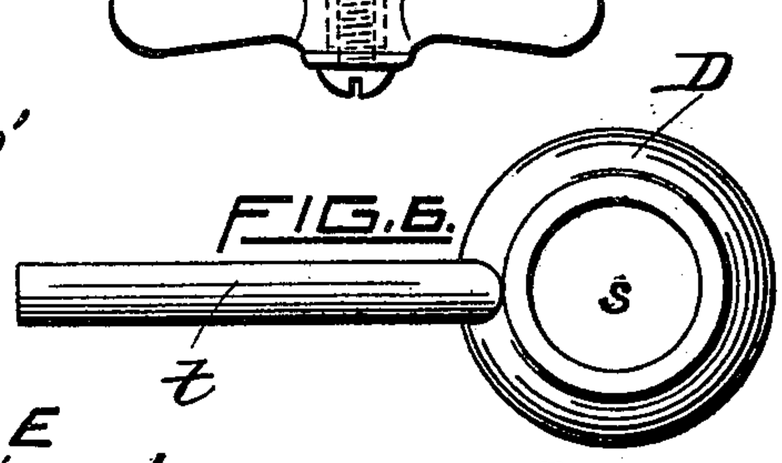


FIG. 4.

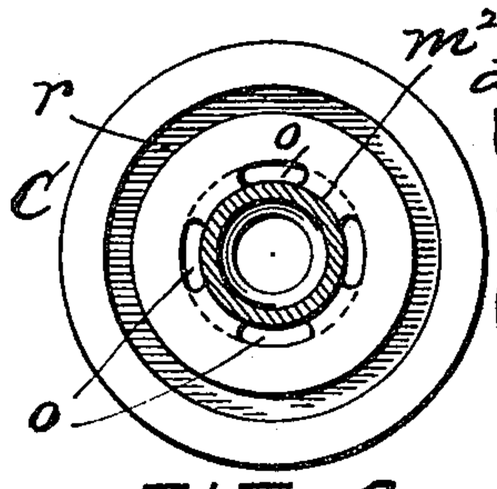


FIG. 7.

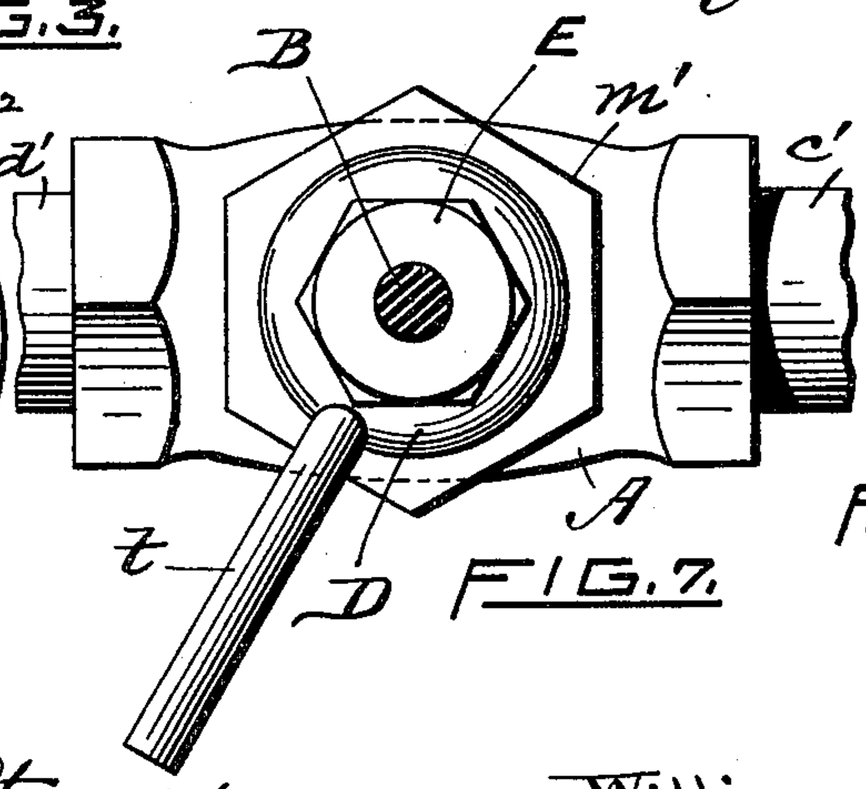
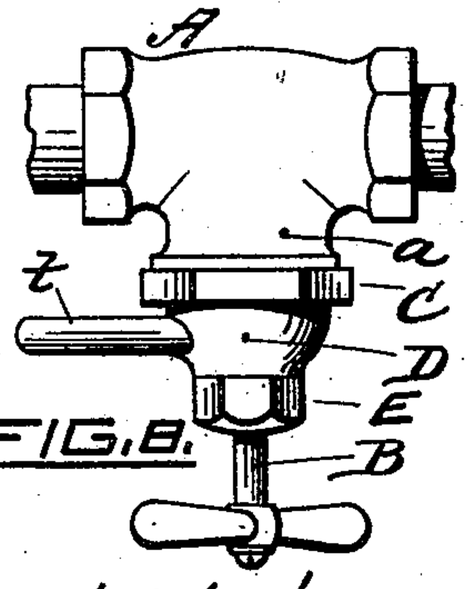


FIG. 8.



WITNESSES.

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STOP AND WASTE COCK.

SPECIFICATION forming part of Letters Patent No. 667,737, dated February 12, 1901.

Application filed June 7, 1900. Serial No. 19,443. (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. 92 North Main street, 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 stop and waste cocks which have to be arranged in various positions and of that class having a waste-port adjustably combined with the valve and case, so that the discharge of waste water may be applied in any direction.

My invention consists in the combination with a 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 circular flanged hub integral with the valve-case and having an interior circular flange, the axis of which is in alinement with the axis of the valve-seat, said hub screw-threaded upon its interior surface, a cylindrical sleeve-nut mounted in the screw-threaded opening of the said hub and having a centrally-projecting portion provided with a screw-threaded opening to receive the thread of the valve-stem, said sleeve-nut having an exterior screw-thread at the extremity of its projecting portion, a series of longitudinal openings through the said sleeve-nut at prescribed distances around the projecting portion of the same, a swiveled cap surrounding the projecting portion of said sleeve-nut and inclosing the said series of openings, said cap having a waste-tube integral therewith, and a collar surrounding the valve-stem and screw-threaded upon its interior surface to engage the threaded end of the projecting portion of said sleeve-nut, with packing-rings interposed between the aforesaid parts, as hereinafter described and claimed.

Referring to the drawings, Figure 1 represents a sectional view of the waste-cock, showing the valve closed and the waste open. Fig. 2 is a similar view showing the valve open and the waste closed. Fig. 3 is a central sectional view of the sleeve-nut. Fig. 4 is a cross-sectional view of the sleeve-nut, taken in line $x\,x$ of Fig. 3. Fig. 5 is a perspective view of the packing-ring for the sleeve-nut. Fig. 6 is a front elevation of the swiveled cap and its waste-tube. Fig. 7 is a cross-sectional view of the waste-cock, taken in line $y\,y$ of Fig. 1. Fig. 8 is an elevation of the waste-cock on a reduced scale.

Similar letters refer to similar parts in the different figures of the drawings.

A denotes the shell or valve-case, having a water way or 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. f is an annular valve-seat surrounding the opening e, against which the circular valve-disk g rests in closing the said opening. This valve-case has a circular flanged hub a integral therewith and provided with an interior screw-threaded surface, said hub having an interior annular flange h provided with a circular opening i, the axis of which is in alinement with the axis of the valve-seat.

p is a packing-ring which is made to rest against the flange h and is provided with a circular opening of a lesser diameter than the opening of said flange.

B is the valve-rod, having an enlarged screw-threaded section extending outwardly from the location of the packing-ring p and having an enlarged circular head j integral with its inner end thereof, adapted to fit the opening in the flange h of the hub when the valve is open. (See Fig. 2.)

g is the valve-disk, secured upon the enlargement j of the valve-rod by a screw l.

C represents a cylindrical sleeve-nut constructed in the form as illustrated in Figs. 3 and 4, having a circular flanged inner portion m and provided with an exterior screw-threaded surface to engage the screw-thread of the hub a. This sleeve-nut has an enlarged flanged head m' with an outer projecting portion m^2, provided with a centrally-screw-threaded opening m^3 to engage with the threaded section of the valve-stem. Said projecting portion of the sleeve-nut is provided with an exterior screw-thread m^4. A series of openings o extend through the flanged head m' at prescribed distances apart

from each other to form water-passages communicating from the inner chamber m^5 of the said sleeve-nut.

p' is a packing-ring which is made to fit in a circular groove r, formed in the face of the flanged head m' of the sleeve-nut.

D is a cap of a hemispherical form, having a centrally circular opening s, adapted to be mounted upon the projecting portion m^2 of the sleeve-nut and with its largest end face resting against the packing-ring p', as shown in Figs. 1 and 2, and is designed to form a chamber inclosing the water-passages o of the sleeve-nut, said cap having a waste-tube t integral therewith and communicating with the chamber thereof.

E indicates a check-nut having a central circular aperture of a diameter to receive the valve-stem and its circular flange v screw-threaded on the inside to engage with the screw-threaded end m^4 of the sleeve-nut. This check-nut has a circular recess formed upon its inner face, within which is located a packing-ring p^2.

The operation of my improved waste-cock is as follows: Assuming the cock to be arranged in a horizontal, vertical, or other position and with the valve closed, as illustrated in Fig. 1, the waste as it passes from the pipe c' will surround the valve-stem beneath the enlarged head j thereof and continue through the water-passages, as indicated in the arrow direction, and passing through the waste-tube t of the cap D, which is revolved to any degree to discharge the water in a place to receive it, and as the check-nut E is screwed up firmly upon the sleeve-nut it compresses the packing-rings p' and p^2, preventing leakage and also securing the waste-tube in position. In opening the cock the valve-stem having a coarse pitch of thread will quickly withdraw the enlarged head j upon the face of the packing-ring p and close off the water from the waste-tube, the water passing from the supply-pipe d' to the pipe c', as indicated in the arrow direction in Fig. 2. This construction of a stop and waste cock has the advantage of having no spring to weaken and get out of order.

My device being all brass with the exception of the packing-rings is very readily adjusted, as when the packing-rings become worn by tightening the sleeve-nut and check-nut, respectively, compresses and spreads the said rings, so as to be as good as new.

Having described my invention, what I claim is—

1. In combination with a valve-case, of a stop and waste cock, having a partition dividing a water-passage, said partition having a circular opening, a circular flanged hub integral with said valve-case and provided with an interior screw-threaded surface, said hub having an interior annular flange the axis of which is in alinement with the axis of the valve-seat, a packing-ring in said hub adjoining said annular flange, a sleeve-nut having a circular flanged end provided with an exterior screw-thread to engage with the screw-threaded hub of said valve-case, said sleeve-nut having an enlarged head m' with an outwardly-projecting portion m^2 provided with an exterior screw-thread m^4 at the extremity thereof and a central screw-threaded opening to engage the screw-thread of the valve-stem, a series of longitudinal openings o extending through the enlarged head of said sleeve-nut and communicating with the inner circular chamber m^5 thereof, said head provided with a central circular groove surrounding said series of openings, with a packing-ring p' in said groove, a circular flanged cap D mounted upon the projecting portion of said sleeve-nut and bearing against the last-aforesaid packing-ring, said cap having a waste-tube integral therewith and communicating with the chamber thereof, with a check-nut E having a central circular aperture of a diameter to receive the valve-stem and its circular flange v screw-threaded on the inside to engage with the screw-threaded end m^4 of the sleeve-nut, said nut provided with a circular recess to receive a packing-ring p^2, adapted to impinge against the waste-cap D and hold the same in position, as shown and for the purpose specified.

2. In combination with the valve-case A having a circular flanged hub a provided with an interior screw-threaded surface with an interior flange h, a packing-ring p in said hub adjoining said annular flange and provided with a central circular opening, the cylindrical sleeve-nut C mounted in the said hub as shown, and having an enlarged head m' provided with a series of openings o, and a central screw-threaded opening, a circular groove r in the head of said sleeve-nut and surrounding said series of openings o, a packing-ring p' in said groove, with the valve-stem B mounted in said sleeve-nut and provided with an exterior screw-thread to engage with the threaded portion m^2 of said sleeve-nut, said valve-stem having an enlarged circular head j integral with the inner end thereof adapted to bear against the packing-ring p in closing the waste, the cap D mounted upon said sleeve-nut and having a waste-tube t integral therewith, with the check-nut E having a packing-ring p^2, said nut adapted to engage upon the sleeve-nut and secure the said cap in any degree of rotation, as shown and described.

Signed by me at Providence, Rhode Island, this 6th day of June, 1900.

WILLIAM H. RAWE.

Witnesses:
CHARLES F. STEARNS,
VICTOR DE LA BARRE.