

(No Model.)

2 Sheets—Sheet 1.

W. M. MIXER.

STOP COCK.

No. 308,975.

Patented Dec. 9, 1884.

Figure 1.

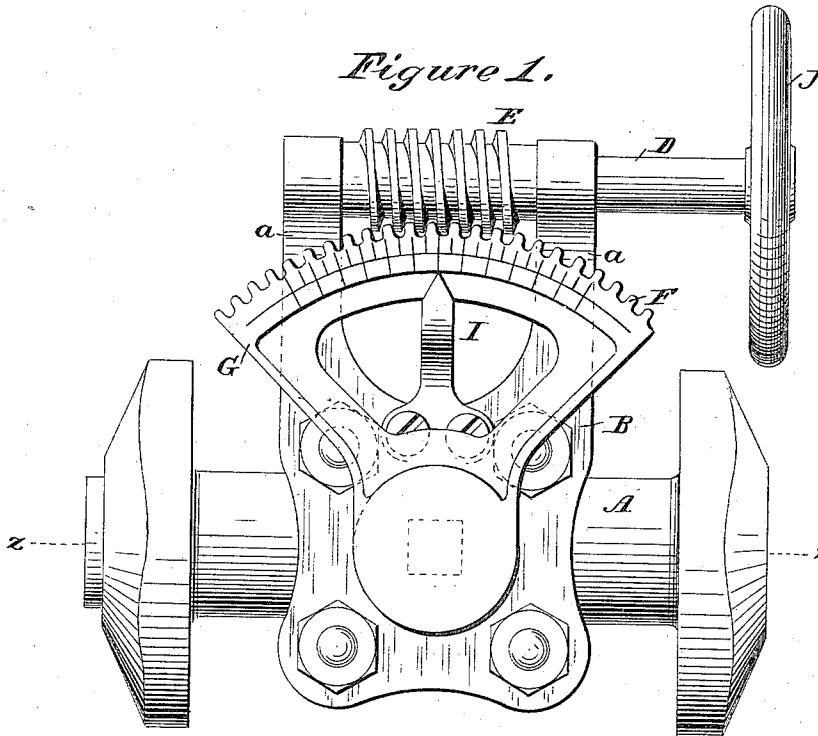
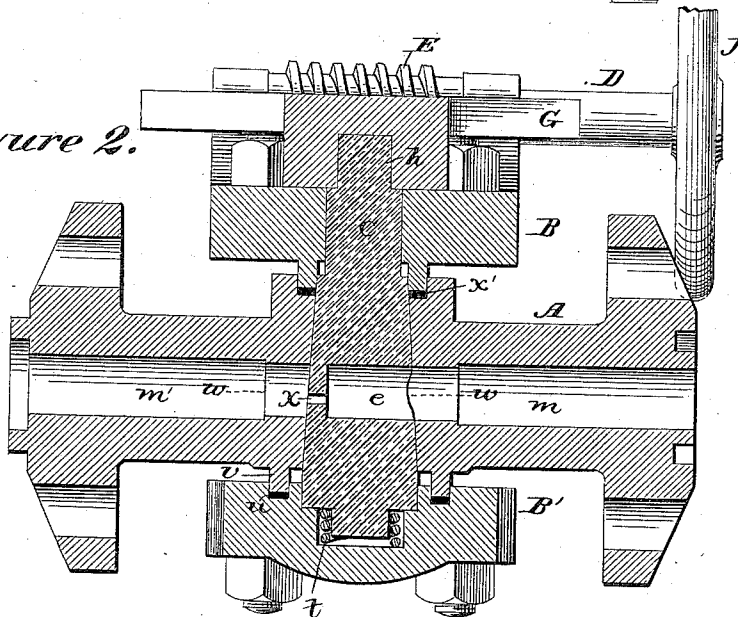


Figure 2.



Witnesses:

A. G. Farnmann.
Court. A. Cooper

Inventor.

Wm. M. Mixer
By Foster Sherman
att'y

(No Model.)

2 Sheets—Sheet 2.

W. M. MIXER.

STOP COCK.

No. 308,975.

Patented Dec. 9, 1884.

Figure 3.

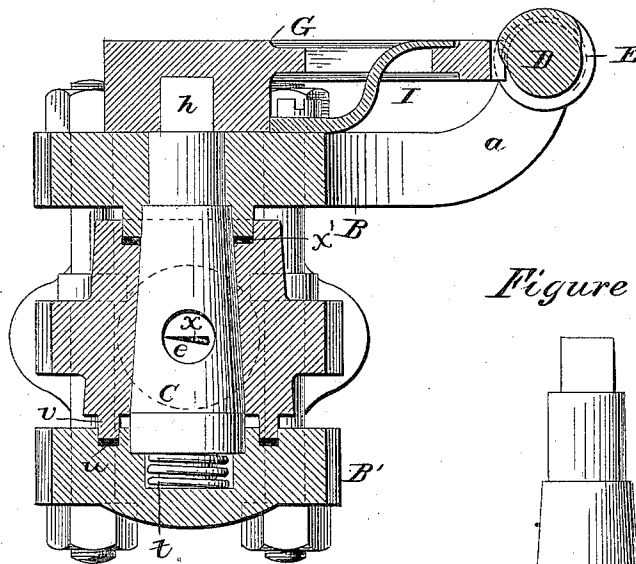


Figure 5.

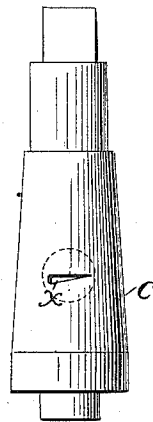
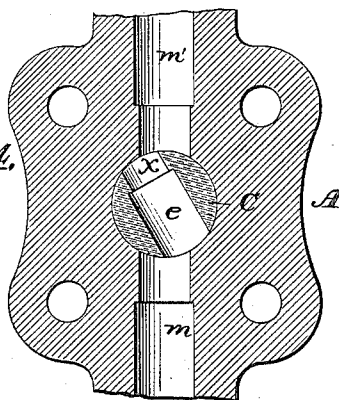


Figure 4.



Witnesses:
A. G. F. Farnsman.
Cont. a. Cooper.

Inventor:
Wm. M. Mixer,
By Joslin & Freeman
attys

UNITED STATES PATENT OFFICE.

WILLIAM M. MIXER, OF NEW YORK, ASSIGNOR TO MIXER & BYRNES, OF
BROOKLYN, N. Y.

STOP-COCK.

SPECIFICATION forming part of Letters Patent No. 308,975, dated December 9, 1884.

Application filed October 2, 1883. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM M. MIXER, a citizen of the United States, and a resident of the city of New York, county of New York, and State of New York, have invented certain new and useful Improvements in Stop-Cocks, of which the following is a specification.

My invention is a stop-cock especially adapted for use in ice-machines, gas-engines, and other apparatus where it is desirable to regulate with precision the flow of minute quantities of fluids and prevent the escape of gas around the plug. To this end I construct the cock as hereinafter fully described, and as illustrated in the accompanying drawings, in which—

Figure 1 is a front view of my improved stop-cock; Fig. 2, a longitudinal section. Fig. 3 is a transverse section; Fig. 4, a longitudinal section on the line *w w*, Fig. 2, showing the plug partly open; Fig. 5, a detached view of the plug.

The casing or body A, of any suitable shape, contains the longitudinal passage *m m'*, and is bored to receive a transverse tapering plug, C, fitted in the usual manner. A cap, B, clamped or bolted to the casing, is recessed to receive the large end of the plug or the key and a spring, *t*, that bears thereon, and tends to hold the plug in place, and carries an annular packing, *u*, in a recess receiving a bearing, *v*, on the casing. The plug-opening is in line with the channel in the casing, and for part of its length, *e*, corresponds in form and diameter with said channel, extending nearly but not quite to the opposite side of the plug, so as to leave a thin wall or web, in which is formed the other portion, *x*, of the opening, which portion is a narrow slot tapering from one end to the other and parallel to the channel *m m'*. This construction permits the regulation of the passage of fluid through the channel with the greatest nicety, as the plug may be turned so as to expose only the extreme contracted portion of the opening *x* for the passage of liquids or gas, while any additional rotary motion of the plug will but slightly increase the area of the passage in proportion to the extent of such movement. This construction also permits the ready discharge of any matter which may accumulate to obstruct the passage, the portion *e* of the opening constituting a chamber to receive such matter from the inlet *m* and holding the same until the position of the plug is reversed, when

the matter will be carried from the chamber *e* into the outlet-channel *m'*.

Any suitable devices may be employed for turning the plug; but to permit the same to be nicely adjusted and held into position after adjustment I employ a worm, E, toothed segment F, and pointer I, and graduate the segment, as shown in the drawings.

The worm E is upon a shaft, D, provided with a crank or hand-wheel, J, and supported by arms *a*, projecting from a plate, B, toothed to the casing, having an annular flange that bears upon a packing, *x*, and constitutes a follower, whereby the point between the small end of the plug and body or casing is effectively packed. The toothed segment is a substitute for the ordinary wrench, and is fitted to the angular end *h* of the plug or key C, gears with the worm, and is graduated opposite the free end of the pointer I, which is fastened at the opposite end to the plate B or casing. By turning the worm the plug may be revolved a very slight degree, so as to enlarge or reduce the liquid or gas passage as gradually as may be desired, and the worm serves to lock the plug in any position to which it is set.

It will be seen that the plate B and cap B' are each connected to the casing or body A by a packing, and are secured and held by bolts passing through both. This construction insures a tight joint around the valve, and hermetically seals it so as to prevent the escape of any fluid or gas around the plug, and at the same time the angular end of the plug is open for the wrench or segment.

I claim—

1. The combination of a casing, channel, and transverse plug having an inlet-chamber, *e*, at one side and a contracted exit-passage, *x*, at the opposite side, substantially as described.

2. The combination, with the casing having a channel, of the tapered plug having a chamber in one side and a contracted opening in the other, the plate and cap secured to the casing by air or gas tight joints, the segments secured to the end of the plug, and the worm and pointer, substantially as described.

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

WILLIAM M. MIXER.

Witnesses:

WM. A. POLLOCK,
GEO. H. EVANS.

Correction in Letters Patent No. 308,975.

It is hereby certified that in Letters Patent No. 308,975, granted December 9, 1884, upon the application of William M. Mixer, of New York, New York, for an improvement in "Stop-Cocks," the name of the assignee was written and printed "Mixer & Byrnes;" that said name should have been written and printed *Mixer & Byrnes Ice Machine Company*; and that the proper correction has been made in the files and records pertaining to the case in the Patent Office, and should be read in the Letters Patent to make it conform thereto.

Signed, countersigned, and sealed this 23d day of December, A. D. 1884.

[SEAL.]

Countersigned:

BENJ. BUTTERWORTH,

Commissioner of Patents.

M. L. JOSLYN,
Acting Secretary of the Interior.