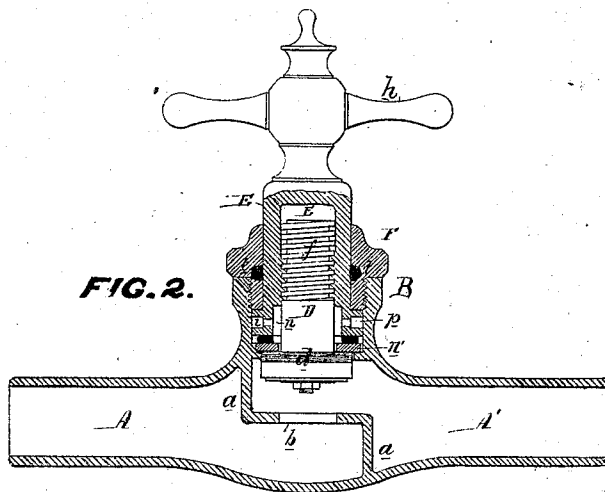
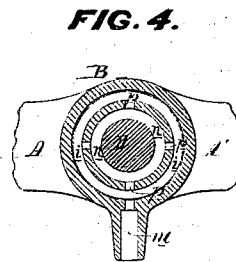
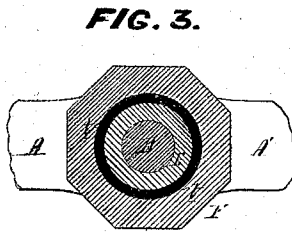
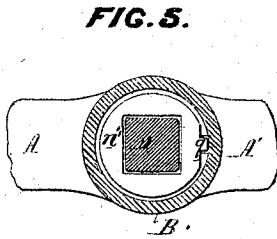
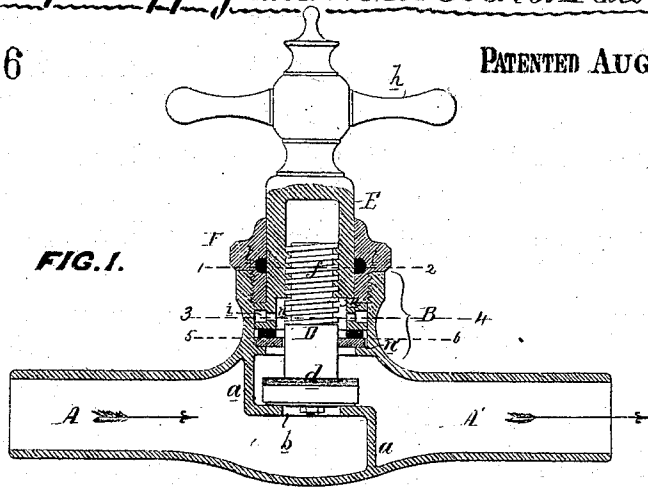


W.S. Cooper Assr. etc.,
Impd. Supply and Waste Cock or Faucet.

117606

PATENTED AUG 1 1871



Witnesses *Jno. B. Harding-*
Harry Smith

W. S. Cooper
by his Attys
Howson and Son

UNITED STATES PATENT OFFICE.

WILLIAM SAMUEL COOPER, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO
COOPER, JONES & CADBURY, OF SAME PLACE.

IMPROVEMENT IN SUPPLY AND WASTE-COCKS.

Specification forming part of Letters Patent No. 117,606, dated August 1, 1871.

To all whom it may concern:

Be it known that I, WILLIAM SAMUEL COOPER, of Philadelphia, county of Philadelphia, State of Pennsylvania, have invented an Improved Supply and Waste-Cock or Faucet, of which the following is a specification:

My invention consists of a supply-cock or faucet, constructed in the manner too fully described hereafter to need preliminary explanation, with the view of effectually disposing of the waste water after the valve of the cock is closed, and with the further object of preventing leakage.

Figure 1 is a longitudinal section of my improved supply and waste-cock or faucet, showing the valve depressed; Fig. 2, the same with its valve elevated; Fig. 3, a sectional plan on the line 1 2, Fig. 1; Fig. 4, a sectional plan on the line 3 4, Fig. 1; and Fig. 5, a sectional plan on the line 5 6.

The body of the faucet consists of an inlet-branch, A, and outlet-branch A', and the branch B for the reception of the valve. The inlet and outlet-branches are separated from each other by a partition, *a*, in which is an opening, *b*, closed by a valve, *d*, when the latter is depressed, as shown in Fig. 1. This valve is attached to or forms part of the valve-stem D, the upper threaded portion *f* of which is adapted to a nut, E, passing through the screw-cover F of the branch B and terminating above the same in a suitable handle, *h*, and below in a flange which fits snugly, but so as to turn freely, in the interior of the branch B, this flange having an annular groove, *i*, which communicates with the interior of a small waste-branch, *m*, Fig. 4, the groove being always in communication, through the openings *p*, with the recess *n* in the bottom of the nut. The plain portion of the stem D immediately above the valve is square, and passes through a square hole in a disk, *n'*, which rests on a ledge in the branch B, the disk being prevented from turning by its projection *q* fitting into a vertical groove in the said branch and the square hole in the disk, being somewhat larger than the square portion of the stem which passes through it. The nut E is held in place by the screw-cover F into an internal recess, in which is forced a packing, *t*, for embracing the nut, as shown in Figs. 1, 2, and 3.

When the valve is raised, as seen in Fig. 2,

there is a free passage for the fluid through the branch A, hole *b* in the partition *a*, and branch A', and the valve, bearing on the intermediate loose ring *n*, has compressed the loose annular packing against the lower end of the nut, (see Fig. 2,) thereby effectually preventing the fluid from rising in the branch B above the said packing and escaping through the waste-branch *m*. On depressing the valve, however, the waste water in the branch A' and the pipe connected to the same will pass between the ring or disk *n'* and the valve-stem, thence into the groove of the flange at the lower end of the nut, and thence through the waste-branch *m*. The tendency of the waste water to pass upward between the cylindrical nut and the cap is effectually prevented by the annular packing *t*, which is forced into the annular recess of the screw-cap before the nut is passed through the latter.

It should be understood that supply-cocks of this class are rarely arranged in the position shown in Fig. 1, the usual position being vertical, with the branch A' uppermost; or, if the cock is arranged horizontally, the waste-branch *m* should project downward, as shown in Fig. 4. In either case the waste water, on closing the valve, is effectually drained from the branch A' and from the pipe communicating therewith.

I claim—

1. The combination, in a supply and waste-cock, of a rotating nut, E, having at the lower end an annular recess, *n*, and open rings *i*, the waste-pipe *m* arranged as described, and a vertically-moving valve, *d*, between the stem of which and the casing is an annular passage through which, when the valve is closed, the water can flow directly from and through the casing around and above the valve, as specified.

2. The combination of the above and the loose ring or disk *n'* and the packing arranged between the same and the nut.

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

WM. S. COOPER.

Witnesses:

WM. A. STEEL,
F. B. RICHARDS.