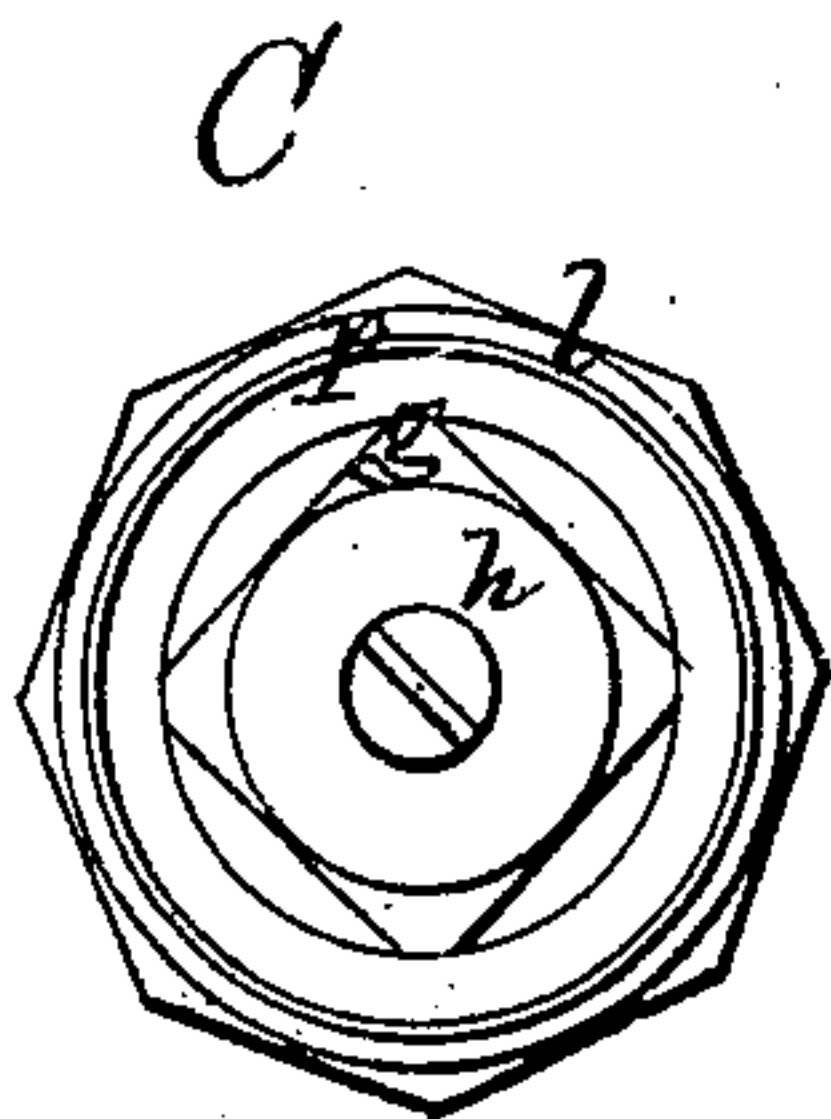
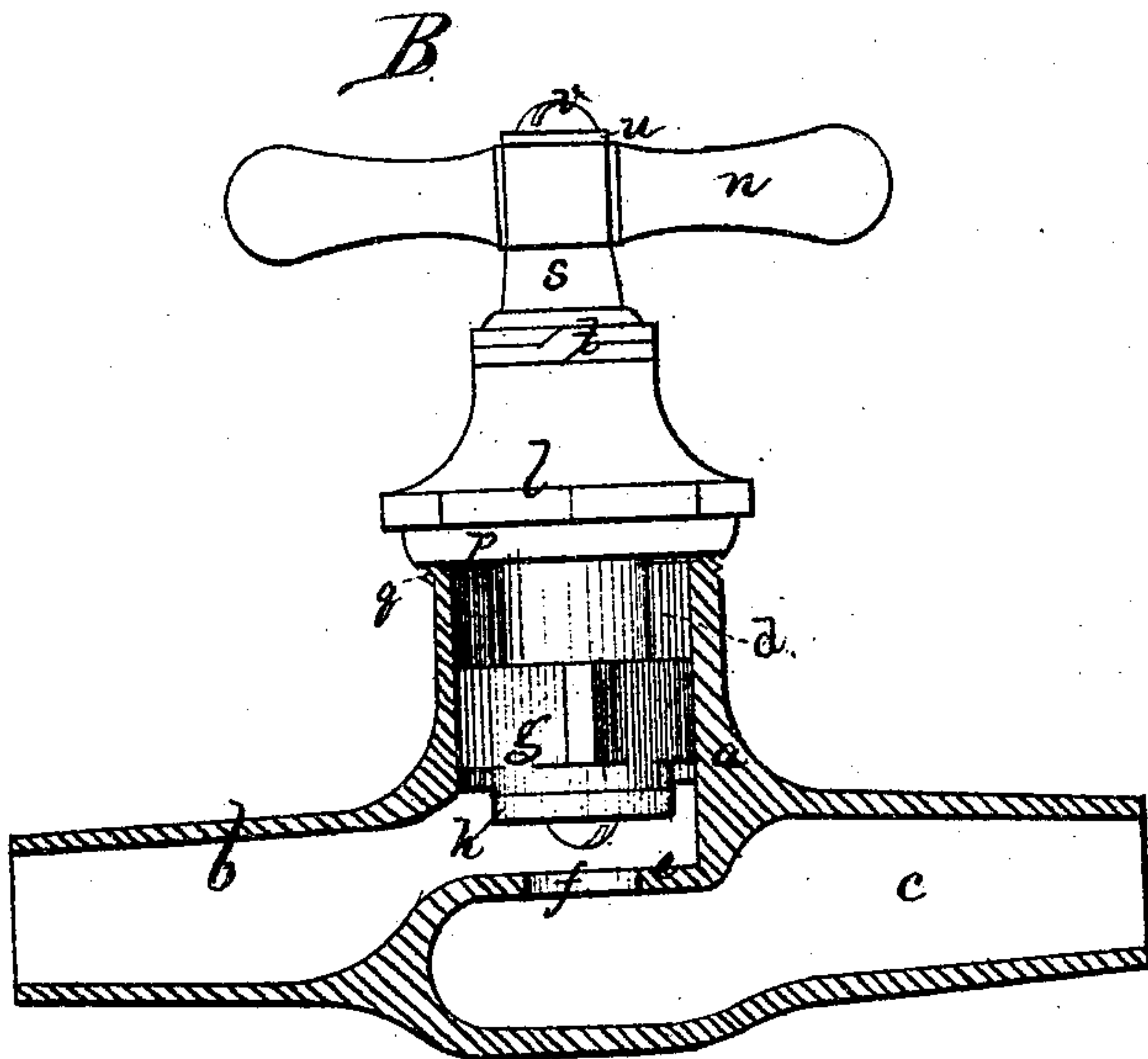
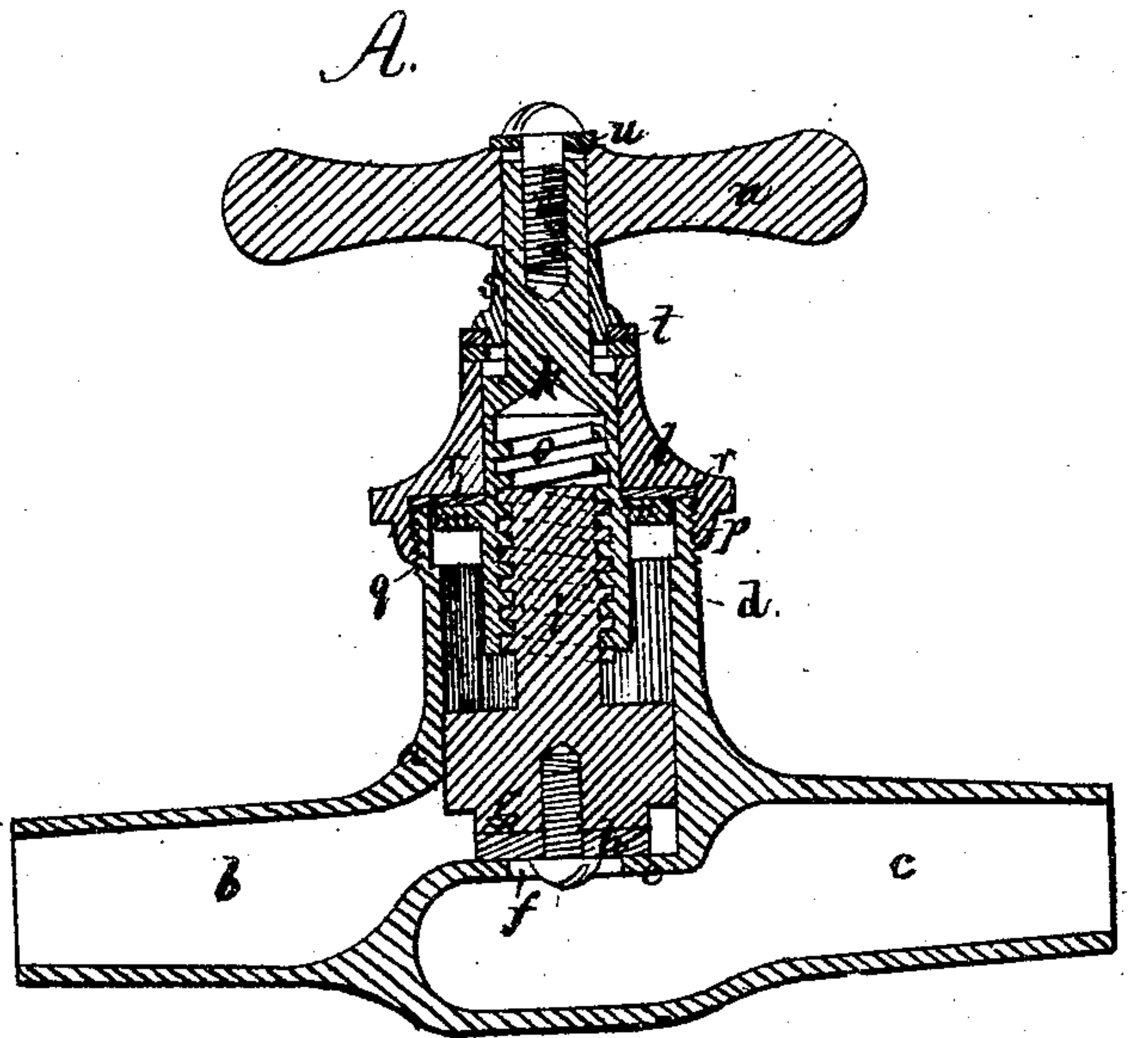


D. Wellington,

Cock.

No. 102341.

Patented Apr. 26. 1870.



Witnesses.
J. B. Kiddle.
L. H. Latimer.

D. Wellington
by his attys.
Crosby, Halsted & Gould.

United States Patent Office.

DARIUS WELLINGTON, OF BOSTON, MASSACHUSETTS.

Letters Patent No. 102,341, dated April 26, 1870.

IMPROVEMENT IN FAUCETS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern.

Be it known that I, DARIUS WELLINGTON, of Boston, in the county of Suffolk and State of Massachusetts, have invented an improved Valve-Cock or Faucet; and I do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

The invention relates particularly to the construction of that class of valve-cocks or faucets, each of which has a reciprocating valve which is forced down against the valve-seat, or drawn up therefrom, by the rotation of a screw-threaded spindle, which spindle rotates without endwise movement, while the valve reciprocates without rotative movement.

Heretofore these valves have generally been chambered or formed with nut-threads, which construction is objectionable.

In my faucets or valve-cocks, I make the valve solid and square or prismatic, in cross section, and with a screw cast with it, and extending up from its top into the main spindle, which is made tubular, and with a nut-thread, with which the thread on the valve-spindle works, rotation of the valve spindle by means of the handle upon the end thereof, forcing the screw and its valve down toward the seat, or up therefrom, in accordance with the direction of rotation of the handle.

This construction constitutes the first part of my invention.

The valve-spindle is formed with a flange, which fits and slides in the cylindrical part of the chamber of the faucet, and around the top of the faucet is a screw-thread, over which the cap screws, the main spindle passing through the cap.

Within this cap is a flexible washer or packing ring, made slightly larger in diameter than the inner diameter of the cap, or so as to fit closely to the cap-ring, and also with a center-hole slightly smaller than the spindle, so as to hug closely to the spindle.

The spindle-hole through the cap is made large enough for the passage of the main part of the spindle, but at and adjacent to the top of the cap the spindle is made smaller than the cap-hole, and between the top of the cap and the handle are a spring and a sleeve, so arranged that by rotation of a screw at the top of the spindle, the spindle may be drawn upward to compress the flexible washer more or less tightly against the under surface of the cap, also forcing the washer or packing-ring inwardly against the spindle at the center, thereby tightening the joint around the spindle; this method of tightening the joint between the spindle and cap constituting part of my invention.

The drawings represent a valve-cock or faucet embodying my improvements.

A shows a sectional elevation of the same.

B shows the valve in elevation, and the body of the faucet in section.

C is a bottom view of the valve and cap.

a denotes the body of the faucet, made with two tubes, *b c*, leading from the valve-chamber *d*, either of which tubes may form the inlet, and the other the outlet passage.

Between the two tubes, or between the chamber *d* and tube *c*, is the valve-seat or partition *e*, having through it the valve-opening *f*, the valve *g* shutting down upon this seat and closing the valve-passage, as seen at A, or rising from said seat, to allow flow of water through the valve-opening, as seen at B, the valve-face being provided with a suitable packing-disk, *h*.

From the top of the valve, a screw, *i*, extends, the screw and valve being made in one piece, as seen at A.

The main or valve-operating spindle is seen at *k*, said spindle extending through the cap *l*, and rotating axially therein, the spindle being kept from upward movement by a flange, *m*, and from downward movement by devices intervening between the handle *n*, attached to the top of the spindle, and the top of the cap.

This spindle is made tubular, and has a nut-thread, *o*, extending up into it, as seen at A, this thread corresponding with the thread on the screw *i*, so that by rotating the handle, the screw *i* is raised or lowered, and the valve *g* thereby lifted from or forced against the valve-seat.

The cap *l* has a nut-threaded ring or flange, *p*, which screws down over a screw-thread, *q*, cut around the upper part of the faucet-cylinder, to attach the cap to the faucet.

Over the flange *m* of the faucet-spindle is placed a flexible washer or packing-ring, *r*, fitting against the spindle, and extending over the edge of the faucet-cylinder, so that when the cap is screwed down, the edge of the washer is compressed between the cap and the top of the faucet, as seen at A, thereby making a tight joint between the cap and the faucet-chamber, and if the spindle-flange be pressed upwardly, it will tighten the joint around the spindle, or between the spindle and the cap. I therefore so construct and apply the spindle that the washer may be compressed between the spindle-flange and the bottom of the caps, as follows:

The spindle above the cap is made of the same diameter as the spindle-hole through the cap, a distance of about the length of the spindle-hole, but above it is made smaller in diameter. Now by placing the washer between the flange and the cap, the spindle is carried down, as seen at A, leaving a space through which the spindle can play upwardly.

Around the small part of the spindle, and between the cap *l* and the handle *n*, I place a ring or sleeve, *s*, resting at bottom upon the top of the cap, or upon an interposed spring, *t*, the handle resting upon the top of the sleeve.

The handle extends above the top of the spindle, a metal washer, *u*, resting upon the top of the handle, and a screw, *v*, passing through this washer and into the handle, as seen at A.

It will readily be seen that, by turning the screw, the valve-spindle may be raised by the screw, and the rise of the spindle will compress the washer between the flange and the cap, thereby enabling the joint between the spindle and cap to be made more or less tight, as circumstances may require.

The valve is made square or prismatic, in section, as seen at C, and fits loosely and slides between corresponding walls of the valve-chamber, this formation

preventing the valve from rotation, and dispensing with the employment of feathers or projections and grooves for this purpose.

By casting the screw-spindle and valve in one piece, all expense of fitting and connecting them together is obviated, as well as liability of the parts to loosen and become inoperative or imperfectly operative.

I claim, in combination with the flexible washer *r* and the valve-spindle *k*, having a flange, *m*, that packs the washer against the cap, the screw *v*, washer *u*, handle *n*, sleeve *s*, and spring *t*, when the spindle is so formed, and the sleeve *s* so arranged, that by turning up the screw *v* the flange is tightened against the washer *r*, substantially as described.

DARIUS WELLINGTON.

Witnesses:

FRANCIS GOULD,
J. B. CROSBY.