P. CONNOLLY.

Operating Stop-Cock.

No. 215,883. Patented May 27, 1879.

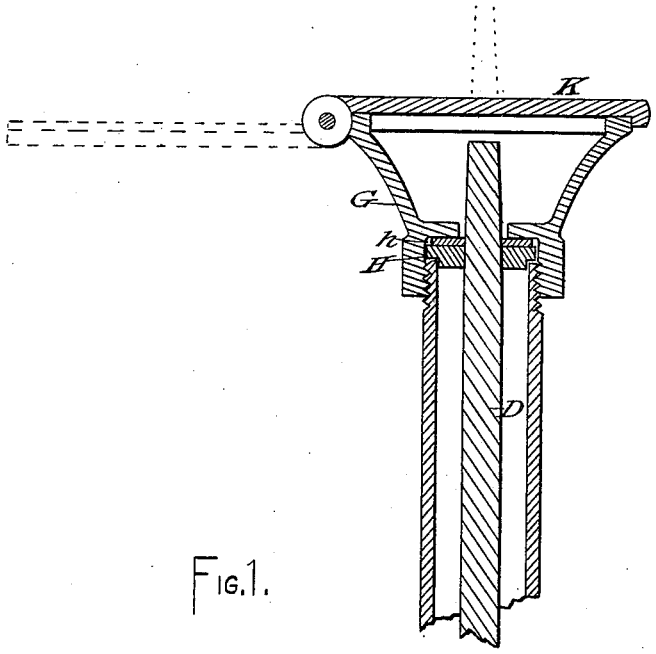
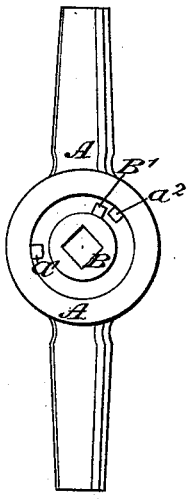
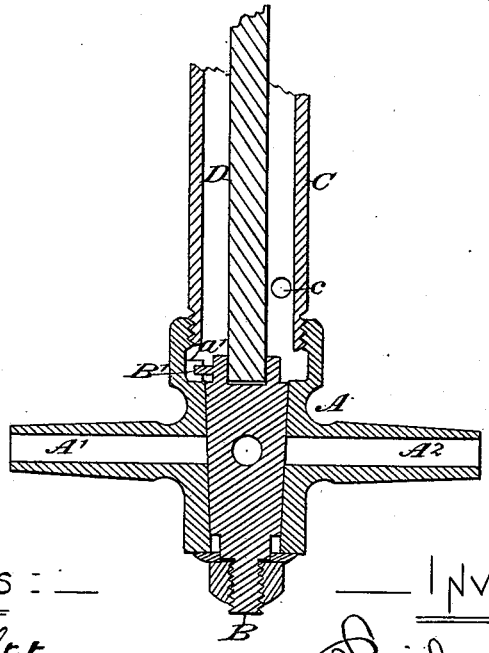


FIG. 1.

FIG. 2.





WITNESSES:

Charles C. Stetson

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INVENTOR:

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UNITED STATES PATENT OFFICE.

PATRICK CONNOLLY, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN OPERATING STOP-COCKS.

Specification forming part of Letters Patent No. **215,883**, dated May 27, 1879; application filed April 16, 1879.

To all whom it may concern:

Be it known that I, PATRICK CONNOLLY, of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements relating to Operating Stop-Cocks, of which the following is a specification.

My invention is adapted for operating cocks in water-pipes sunk in the earth, as for controlling at the curb-stone the supply for the house.

I have, in Letters Patent issued to me dated April 2, 1878, described a provision for arresting a cock at each extreme of the turning motion. This was done at the surface.

My present invention effects the arresting at a lower point entirely independent of any lost motion of the connection, and also guards against the chance of the operating-rod being withdrawn through mistake or mischief.

The accompanying drawings form a part of this specification, and represent what I consider the best means of carrying out the invention.

Figure 1 is a central vertical section. Fig. 2 is a plan view of the lower portion alone, the operating-rod and the tube and its connections which inclose the operating-rod being removed.

Similar letters of reference indicate like parts in the figures.

A^1 is the water-pipe leading from a street-main. (Not represented.) B is the plug of a stop-cock, fitting and turning in an ordinary manner within the body A, of cast-brass or other suitable material. A^2 is a continuation of the water-passage, leading to the house.

The material of the case or body A is enlarged at its upper end and formed with two stops, a^1 a^2, on the interior.

The plug B is formed with a stout arm, B′, which applies between the stops a^1 a^2, so that it strikes one of the stops at each limit of its turning motion.

C is an incasing-pipe leading up to the surface of the earth, and formed with an orifice, *c*, which allows any water leaking up from the plug B to escape into the earth.

The top of the pipe C is threaded on the exterior, and receives the cap-casting G, as represented.

The cap-casting G confines between itself and the smoothly-finished upper end of the pipe C a washer, H, upon the upper face of which may be fitted a soft leather facing, *h*, turning tightly and easily under the cap G when required.

D is the operating-rod. Its lower end matches in a corresponding square socket in the upper end of the plug B. The upper end of the rod D is also square in cross-section, but is tapered for a considerable distance, as indicated by dotted lines. The washer H has a corresponding square hole, and is driven down tightly on the taper of the rod D. The cap G is extended upward round the upper end of the rod and equipped with a cover, K.

In the use of my device, the cover K is lifted, and any suitable wrench being applied on the rod D to forcibly turn it the plug B may be turned to the proper extent. When the cock is full open the arm B′ strikes the stop a^1. When the cock is full closed the arm B′ strikes the stop a^2. Striking either stop effectually limits the motion. The plug is sure to be arrested in the correct position, irrespective of any looseness in the fit or any springing under the torsional strain of the rod D.

The washer H, fitted on the tapered upper end of D, being held down by the cap G, forbids the rod D to be pulled out, the screw-threads holding the cap G being fitted strongly, so that there is little risk of boys or other persons unscrewing it. The parts of the apparatus are secured against the introduction of foreign matter, and the rod is secure against being stolen or pulled out.

Any suitable provision may be employed for locking. I can leave the cover K free to turn, and apply a padlock and connection on the rod D in the manner shown in my patent dated July 23, 1878.

My box G offers this great advantage, that the frost has but little hold on it, because of its small size and its conical shape, which leaves the parts solidly in the ground, and little likely to be wrenched or raised by surface frost.

Modifications may be made in many of the details. I can have the main body of the rod D round or square, so long as the ends are

properly formed to engage with the plug and with a wrench respectively.

Some of the advantages of the invention may be secured by a fixed enlargement on the rod D, to be received under the cap G, to prevent the withdrawal of the rod D from above; but the construction shown in separate pieces is preferable, for the reason, among others, that the washer may by forcible means be shifted endwise on the rod D, as may be found necessary on trial to make a just sufficiently close fit under the cap G.

All the ordinary appliances may be used with my invention. I propose to provide the ordinary means of draining the water backward from the house when the cock is closed.

I claim as my invention—

1. The plug B, having an arm, B′, in combination with the case A, having internal stops a^1 a^2, pipe C, operating-rod D, and means G for holding down such rod, all arranged to serve as and for the purposes herein specified.

2. In combination with a plug, B, tube or case C, and cap G, the operating-rod D, having a tapered upper end, with the washer or enlargement H, fitted thereon, as herein specified.

In testimony whereof I have hereunto set my hand this 14th day of April, 1879, in the presence of two subscribing witnesses.

PATRICK CONNOLLY.

Witnesses:

W. COLBURN BROOKES,

E. B. BOLTON.