

W. Dalziel,

Stop Cock.

No. 111,518.

Patented Feb. 7. 1871.

Fig. 1.

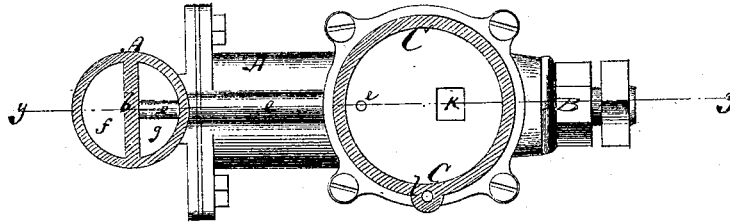


Fig. 2.

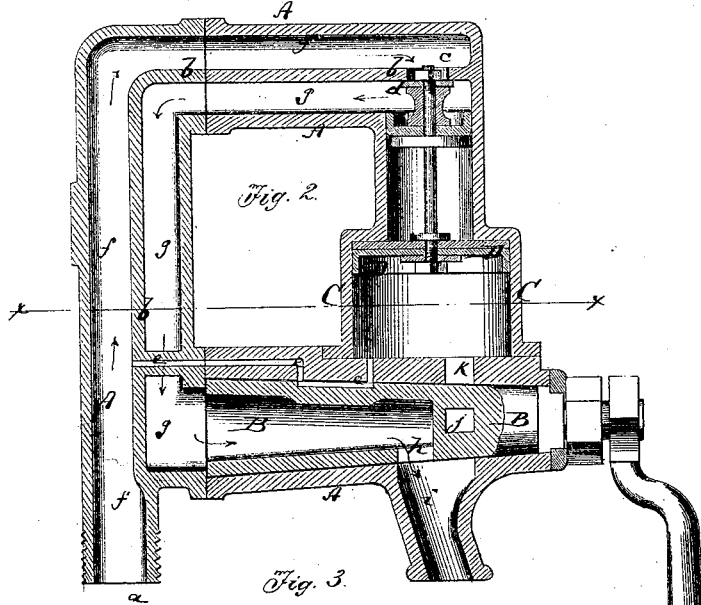
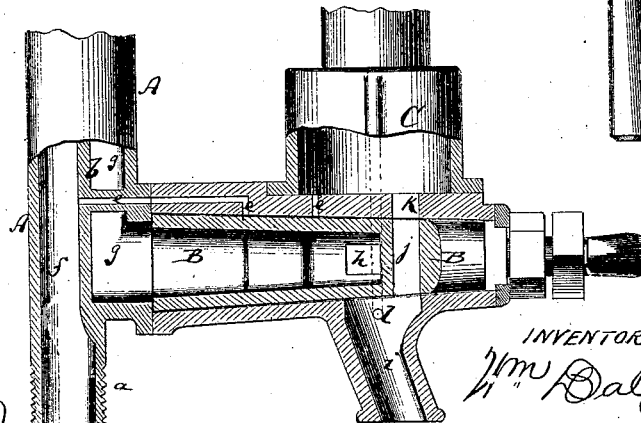


Fig. 3.



WITNESSES.

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WILLIAM DALZIEL, OF NEW YORK, N. Y.

Letters Patent No. 111,518, dated February 7, 1871.

IMPROVEMENT IN SELF-CLOSING COCKS.

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, WILLIAM DALZIEL, of the city of New York, in the county and State of New York, have invented a new and improved Self-closing Cock; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

Figure 1 represents a horizontal section of my improved self-closing cock, the plane of section being indicated by the line *x x*, fig. 2.

Figure 2 is a vertical longitudinal section of the same taken on the plane of the line *y y*, fig. 1.

Figure 3 is a detail vertical sectional view showing the parts in a different position.

Similar letters of reference indicate corresponding parts.

This invention has for its object to prevent the waste of water or other liquid drawn from reservoirs or other limited supply.

The invention consists in providing the cock through which such liquid is drawn with a self-acting apparatus, whereby, after a certain quantity of the liquid has been drawn, the cock will invariably be closed.

The closing apparatus consists of a piston, which is gradually raised by the liquid, and carries a valve, whereby the discharge is ultimately stopped.

By the use of this invention the waste of water is not only prevented, but also the injury to buildings occasioned by carelessly leaving open the cocks.

A in the drawing represents the stationary pipe or conduit of the cock.

B is the movable cock.

The pipe A is, at *a*, connected with the water-supply pipe, and contains a partition, *b*, which has an aperture, *c*, near its outer end, the said aperture serving to connect the chambers or channels that are formed by the partition *b*.

C is a cylinder arranged under the upper arm of the pipe A and above the outer part of the cock B.

The cylinder C contains a piston, D, which, on its stem, carries a valve, *d*, for closing the aperture *c*.

A small pipe, *e*, leads from the outer channel, *f*, of the pipe A, into the lower part of the cylinder.

The cock B is open at its inner end to receive water from the inner channel *g* of the pipe A, and has a

discharge-opening, *h*, whereby it communicates with the nozzle *i*.

The front part of the cock is solid, *i. e.*, not continued tubular, and contains a transverse orifice, *j*, for drawing water from the cylinder C, which has an opening, K, in its bottom.

The water from the supply-pipe passes up in the channel *f*, through the orifice *c*, down the channel *g*, and into the cock B, being conducted into the nozzle if said cock is turned open, as in fig. 2. At the same time water passes slowly into the cylinder C through the pipe *e*, and raises the piston until the same finally closes the orifice *c*, stopping the further discharge of water. No more water can therefore be drawn than the cylinder C will allow, *i. e.*, whenever the cylinder is filled the pipe will be certainly closed.

The valve can next be turned to discharge the water from the cylinder through the openings K and *j*, as in fig. 3, when the valve will again be opened.

L is an air-pipe connecting the upper part of the cylinder with the nozzle. It serves to carry off the air while the piston is raised, and to let it in when the same descends.

Having thus described my invention,

I claim as new and desire to secure by Letters Patent—

1. The cock, provided with a piston and valve, which are operated by a small portion of the liquid passing through the cock for automatically closing the same, as set forth.

2. the pipe A, divided by a partition, *b*, into two channels, *f* and *g*, that are connected by an aperture, *c*, which can be closed by a valve, substantially as herein shown and described.

3. The pipe *e*, leading from the main pipe A to the cylinder C, for conducting water to the piston which closes the valve, as set forth.

4. The cock B, constructed with two sets of openings, one for discharging water from the pipe A, and one for emptying the cylinder C, substantially as herein shown and described.

The above specification of my invention signed by me this 2d day of August, 1870.

WILLIAM DALZIEL.

Witnesses:

GEO. W. MABEE,
T. B. MOSHER.