

Peter E. Malmström and Paul Summer:

Imp^d Stop Cock.

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PATENTED JUL 25 1871

Fig: 1.

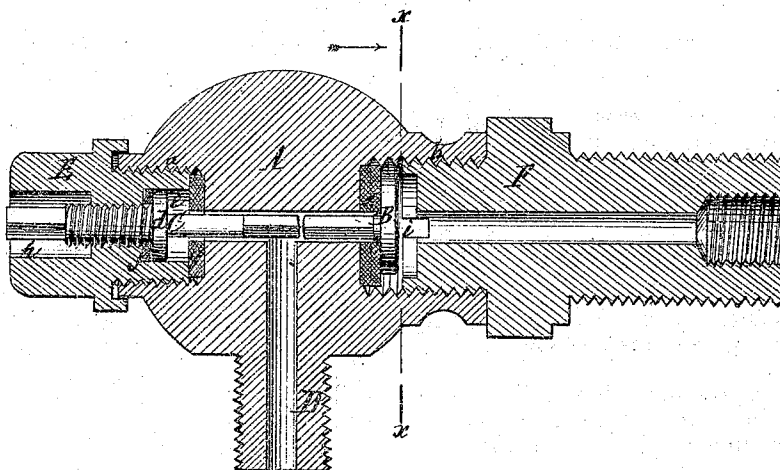
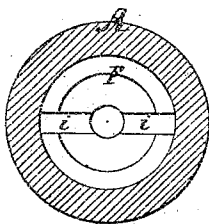


Fig: 2.



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UNITED STATES PATENT OFFICE.

PETER E. MALMSTRÖM AND PAUL DUMMER, OF NEW YORK, N. Y.

IMPROVEMENT IN STOP-COCKS.

Specification forming part of Letters Patent No. 117,438, dated July 25, 1871.

To all whom it may concern:

Be it known that we, PETER E. MALMSTRÖM and PAUL DUMMER, both of the city, county, and State of New York, have invented a new and useful Improvement in Stop-Cocks; and we do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which drawing—

Figure 1 represents a longitudinal section of this invention. Fig. 2 is a transverse section of the same, the line *x x*, Fig. 1, indicating the plane of section.

Similar letters indicate corresponding parts.

This invention relates to a stop-cock provided with a loose valve, which is forced up against its seat by the pressure of the liquid or fluid acting against its back, while it can be forced off from its seat either by the pressure of a fluid or liquid acting on its face or by the action of a screw-spindle. Said screw-spindle is provided with a double packing, one in front and the other behind a collar on the spindle, in such a manner that leakage of the fluid or liquid past the thread of the screw-spindle is effectually prevented, whether said spindle is screwed in or out. The head of the spindle is situated in the interior of a protecting-cap, which prevents injury to the spindle from articles striking against it, and which also prevents, to a certain extent, that no unauthorized person shall meddle with the stop-cock.

In the drawing, A designates the shell of our stop-cock, which is bored out to receive the stem of the valve B, and also the shank of the screw-spindle, and which is provided with internal screw-threads *a b* in its ends and with a spout, D, in its side, said spout communicating with the bore of the shell, as shown in Fig. 1. The valve B is placed loosely into the shell A and it closes up against a seat, *c*, formed in the said shell and provided with suitable packing to enable the valve to close up tight by a comparatively small pressure. The screw-thread *a*, in one end of the shell A, is intended to receive a plug, E, which is bored out and tapped to receive the screw-spindle C. The screw-thread on this spindle is by preference left-handed, so that by turning the same from right to left said spindle

will move in, and, by striking the stem of the valve, force the same off from its seat, and by turning the screw-spindle from left to right the valve is allowed to close. On the screw-spindle C, inside of the screw-thread, is formed a collar, *d*, which moves in a chamber, *e*, formed in the inner end of the plug E, and provided with packing-disks *f g* at both ends, so that, when the spindle C is screwed back to the position shown in Fig. 1, the collar *d* will bear against the packing-disk *f*; and leakage past the screw-thread is prevented, and, if the spindle C is turned in so as to open the valve, the collar *d* bears against the packing-disk *g*, and no fluid or liquid is allowed to escape except through the spout D. The outer end of the plug E is bored out to form a cup, *h*, which incloses the head of the screw-spindle, so that the same is protected against injury from being struck accidentally; and, furthermore, the screw-spindle can only be operated by a particular wrench or key, and the valve cannot be opened except by persons provided with such key. The screw-thread *b* in the shell A is intended to receive a nipple, F, which forms the connection between said shell and the reservoir or fountain to which the stop-cock is to be attached.

If our stop-cock is to be used on soda-water fountains, the spout D is provided with an external screw-thread, by means of which it can be connected to a vessel containing carbonic-acid gas under pressure, and if this connection is opened the pressure of the gas opens the valve B and the gas passes into the fountain. In order to prevent the valve, on being forced open by the gas, from closing the passage through the nipple F, the inner end of said nipple is provided with a notch or recess, *i*, which prevents the valve from shutting off the passage through the nipple.

Our valve or stop-cock is intended particularly for soda-water fountains where it is desirable to have a valve that opens by the pressure of the gas, as above stated, so that the water contained in the fountain can be readily impregnated with carbonic-acid gas, the valve being so arranged that it closes automatically so soon as the pressure against its back exceeds that against its face. When the water in the fountain has been impregnated with carbonic-acid gas to the desired extent the spout D is disconnected from the gas-vessel and our stop-cock serves to draw off the contents of the fountain.

What we claim as new, and desire to secure by Letters Patent, is—

1. A stop-cock, composed of a shell A, loose valve B, screw-spindle C, spout D, nipple F, and plug E, all combined and arranged substantially in the manner herein shown and described.

2. The collar *d* of the screw-spindle C, arranged within the seat *e*, combined and operating in connection with the packing-disks *f g*, plug E, and shell A, substantially as and for the purpose set forth.

3. The recess *i* in the inner end of the nipple F to operate in combination with the loose valve B, as described.

This specification signed by us this 17th day of June, 1871.

P. E. MALMSTRÖM.
PAUL DUMMER.

Witnesses:

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C. WAHLERS.