(No Model.) 3 Sheets—Sheet 1.

A. FYFE & T. RAWSON.

MULTI-WAY COCK.

No. 247,755. Patented Oct. 4, 1881.

Fig. 1

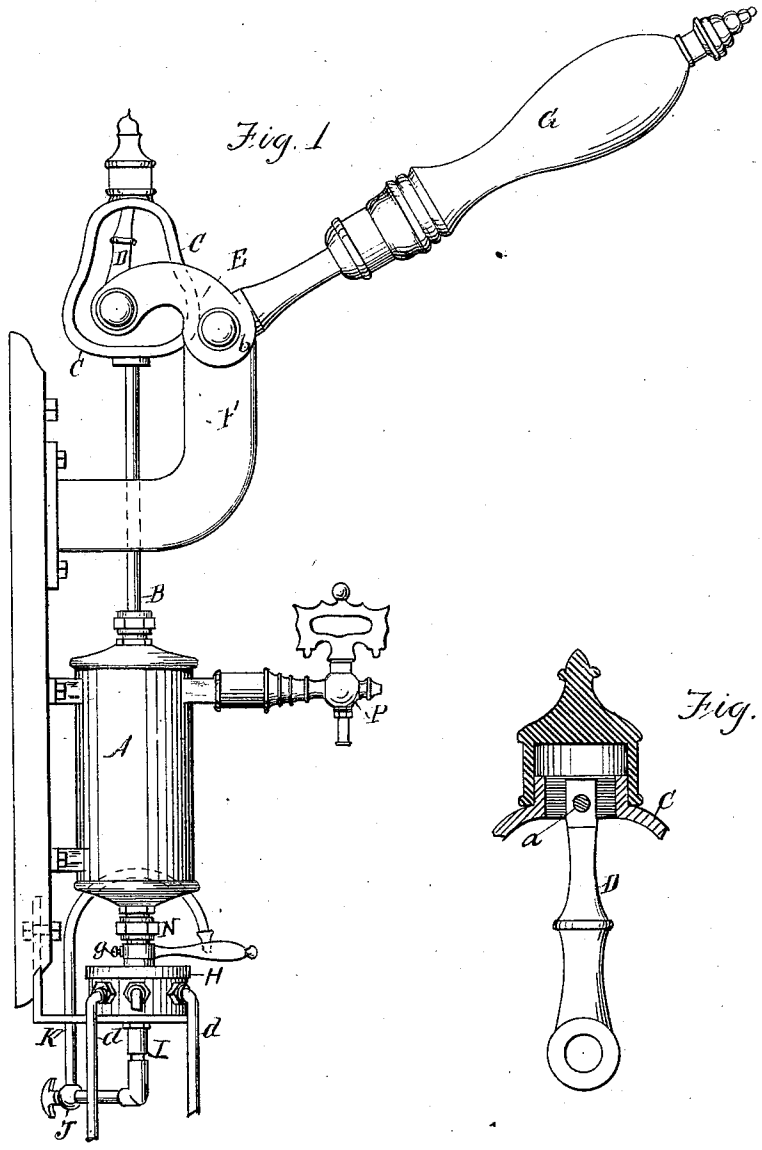


Fig. 2

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Stephen H. Westervelt

Inventors:
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(No Model.) 3 Sheets—Sheet 2.

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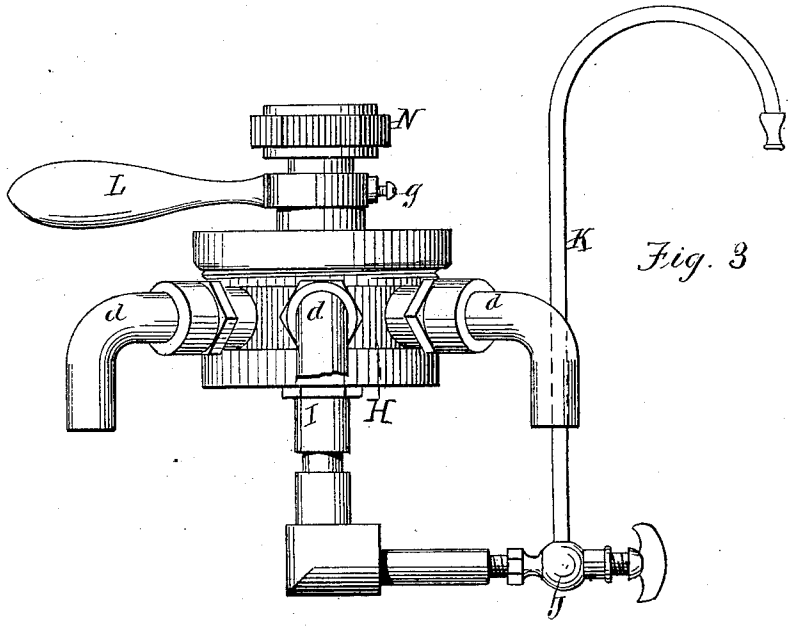


Fig. 3

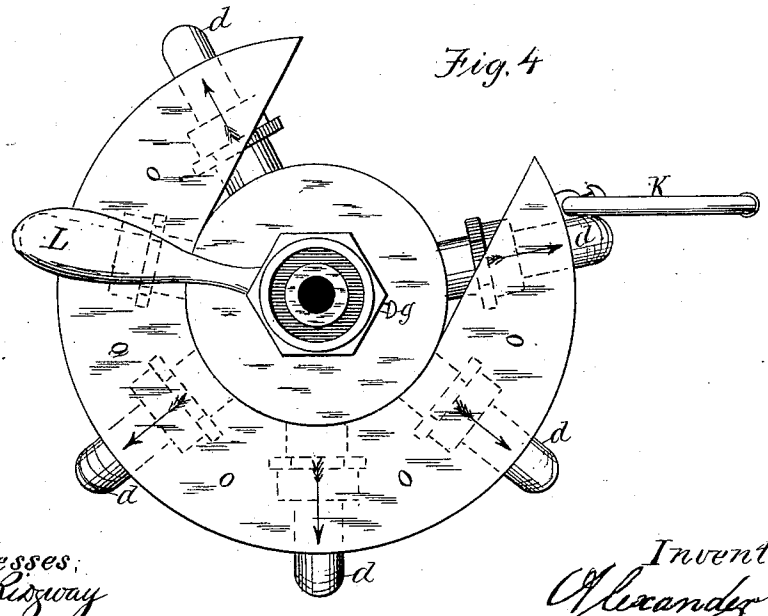


Fig. 4

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(No Model.) 3 Sheets—Sheet 3.

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MULTI-WAY COCK.

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Fig. 5

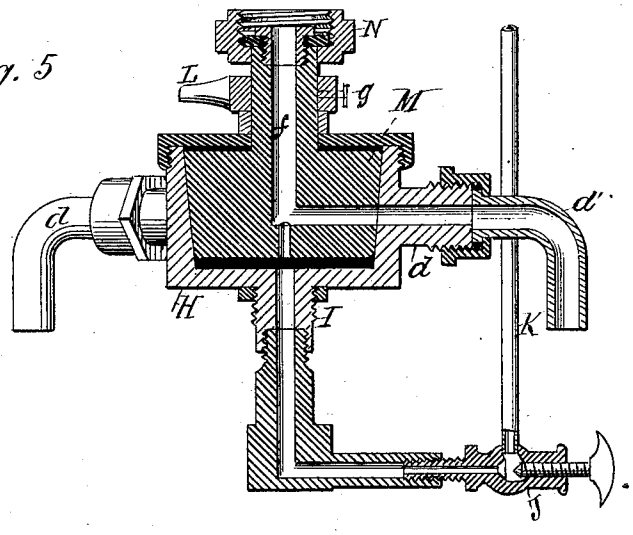
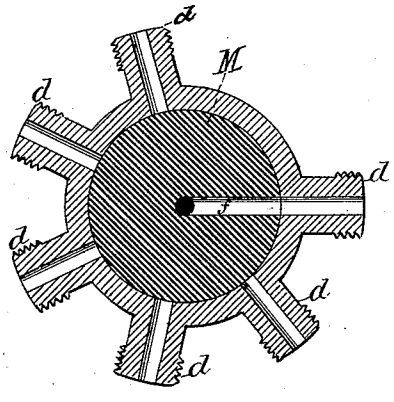


Fig. 6



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UNITED STATES PATENT OFFICE.

ALEXANDER FYFE AND THOMAS RAWSON, OF PATERSON, NEW JERSEY, ASSIGNORS OF ONE-THIRD TO WILL HAGUE, OF SAME PLACE.

MULTI-WAY COCK.

SPECIFICATION forming part of Letters Patent No. 247,755, dated October 4, 1881.

Application filed May 2, 1881. (No model.)

To all whom it may concern:

Be it known that we, ALEXANDER FYFE and THOMAS RAWSON, citizens of the United States of America, residing at Paterson, in the county of Passaic and State of New Jersey, have invented certain new and useful Improvements in Multi-Way Cocks; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to that class of pumps known as "beer" or "liquor" pumps; and it has for its object the pumping of several kinds of liquid from as many barrels through a single cock without leaving any of the last liquid in either the cock or the pump.

It consists in making the body of cock with as many branches or pipes as there are barrels or vessels to be pumped from, and to form the plug of said cock with one angular port or aperture, and that one adapted to communicate with the main supply-duct leading to the pump and to each one of the branches of the barrels independently—that is to say, the passage in the plug will register with any of the branches when it is turned to such branch; second, in combining with the said multi-way cock an air siphon-pipe, preferably connected to the bottom of the casing of the cock, and communicating centrally through the plug with the supply-duct of the pump, this air-duct siphon being controlled by a valve of any suitable construction, and in such manner that air may be admitted to any of the branches in communication with the pump, and also to the pump itself.

Referring now more particularly to the accompanying drawings, and to the letters of reference marked thereon, the letters of reference indicating like parts in all the figures, Figure 1 represents an elevation of our liquid-pump complete for operation, the beer and other liquid connections being broken off. Fig. 2 shows a longitudinal section through the head of the operating-piston mechanism, plainly showing the swivel or pivoted joint. Fig. 3 shows the multi-way cock complete, detached from the pump, and, as may be seen, is applicable to any pump for the same purpose as before referred to. Fig. 4 shows a plan view of the cock, illustrating six different branches, and also the guiding or index plate, indicating to where the handle should be turned to open its respective branches. Fig. 5 shows a vertical cross-section through the plug of the cock and one of its branches, air-duct, and central supply-pipe, and also the communicating angular duct, which connect severally with all the branches at different times. This figure plainly shows the air-inlet valve and siphon-pipe; and Fig. 6 shows a horizontal section through the valve-case, plug, and all the branches or ways.

A is the beer-pump, of any ordinary construction; B, the piston-rod; C, the yoke; D, the swivel-connection, pivoted in the head of the yoke C by a pin, *a*. This connection D is tapering, and has on its lower end a double boss, which forms bearings for double links E. The end connection, D, has also a hole through it, which forms a bearing for the reception of a pin, and the links E have corresponding holes, by which the said links and swivel-connections are secured together. The other ends, *b*, of links E are journaled on the end of a support, F. The holes in the links of this end are square, and also the hole through the handle G. The pin *c*, which fastens the links, handle, and support, is also square, except where it oscillates, so that when the handle is moved upward or downward it imparts motion to the links, the links in turn to the rod D, and it to the piston-rod through the yoke C.

It will be observed that the support F also serves for a guide to the piston-rod.

The pump-support, cocks, &c., are secured to a frame in the ordinary way, which frame may be fastened under the counter or in any such place, being the most convenient for ready attachment to the vessels from which the liquid is to be pumped.

The pump is provided with any of the approved draw-off cocks.

H, Sheet 2, Fig. 3, shows our multi-way cock; *d d d*, the various branches, each of which is

adapted to be attached to a barrel or vessel of different kinds of liquid, such as beer, ale, porter, and the like.

I is the central air-duct, which is adapted to communicate with any of the branches to which the cock may be turned. J is the air-duct cock, and is adapted to control the supply of air, and at such times as may be found necessary by the change from one branch to another, or may be used to give vent to any of the barrels by turning the cock to such barrel.

K is the air-siphon which supplies the air-duct.

L is the handle which operates the plug M.

Fig. 5, Sheet 3, shows the cock much plainer than any of the other figures, in which M indicates the plug having the central opening, *f*, extending to below the center, then turning to right angles to the circumference thereof, and communicating with one of the branches *d* and at the bottom with the air-duct I.

L shows the handle, which is secured to the neck of the plug by a set-screw, *g*, or by any other approved means; and N, the union or coupling by which the cock is attached to the pump.

The operation is as follows: The pump being put in motion, and beer being pumped into a glass or other vessel—say through branch *d'*, Fig. 5, and out through cock P, Fig. 1—then, say it is desired to draw a glass of porter, the cock J is opened, air rushes in through the duct I from siphon K, thence into the said branch *d'*, through which the beer was just drawn. The inrushing air forces any beer which may be left in the branch back to the barrel, which draws with it any beer which may be left in the pump, the piston first being pushed down, so that the valve in the piston may open, thus allowing the beer to escape. The vacuum formed in the barrel by the withdrawal of the beer greatly assists the air from the siphon in drawing the beer left in the branch back to the barrel. The plug M is now turned to the porter branch, and porter is drawn in the same way out of the same cock P, but, of course, out of a different branch and barrel, so that this operation is repeated over and over again, as often as it is found necessary to draw different kinds of liquor from different barrels. The well-known principle of the siphon, of course, operates the air-siphon in this case.

It is very evident that cocks of different construction can be made to operate like ours and embodying the same principle. We do not therefore desire to be confined to the exact construction shown, as we feel ourselves justly entitled to any modifications thereof without departing from the spirit of our invention.

We do not claim in this application the improvement in pumps herein shown and described, as we purpose making it the subject-matter of a separate application.

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

1. The combination, in a multi-way cock constructed with a casing provided with two or more branches, *d d d d*, adapted to receive couplings by which corresponding pipes may be connected, and having an air-opening in its lower side, and a plug, H, provided with an angular opening, said opening H being adapted, when said plug is turned, to register with the various branches *d*, and the pump and air-ducts, substantially as described and shown.

2. The multi-way cock the case of which is provided with openings *d*, and its plug with an angular port adapted to register with each of said openings independently, said plug also being adapted to receive air from and in combination with an air-siphon, the inlet of air from said siphon being controlled by a suitable valve in such manner that the beer or liquid remaining in the cock and branch is caused to flow back into the barrel from which it came, or through the cock P, at the pleasure of the operator, substantially as shown and set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

ALEXANDER FYFE.
THOMAS RAWSON.

Witnesses:
T. VAN IDERSTINE,
JOHN B. MASON