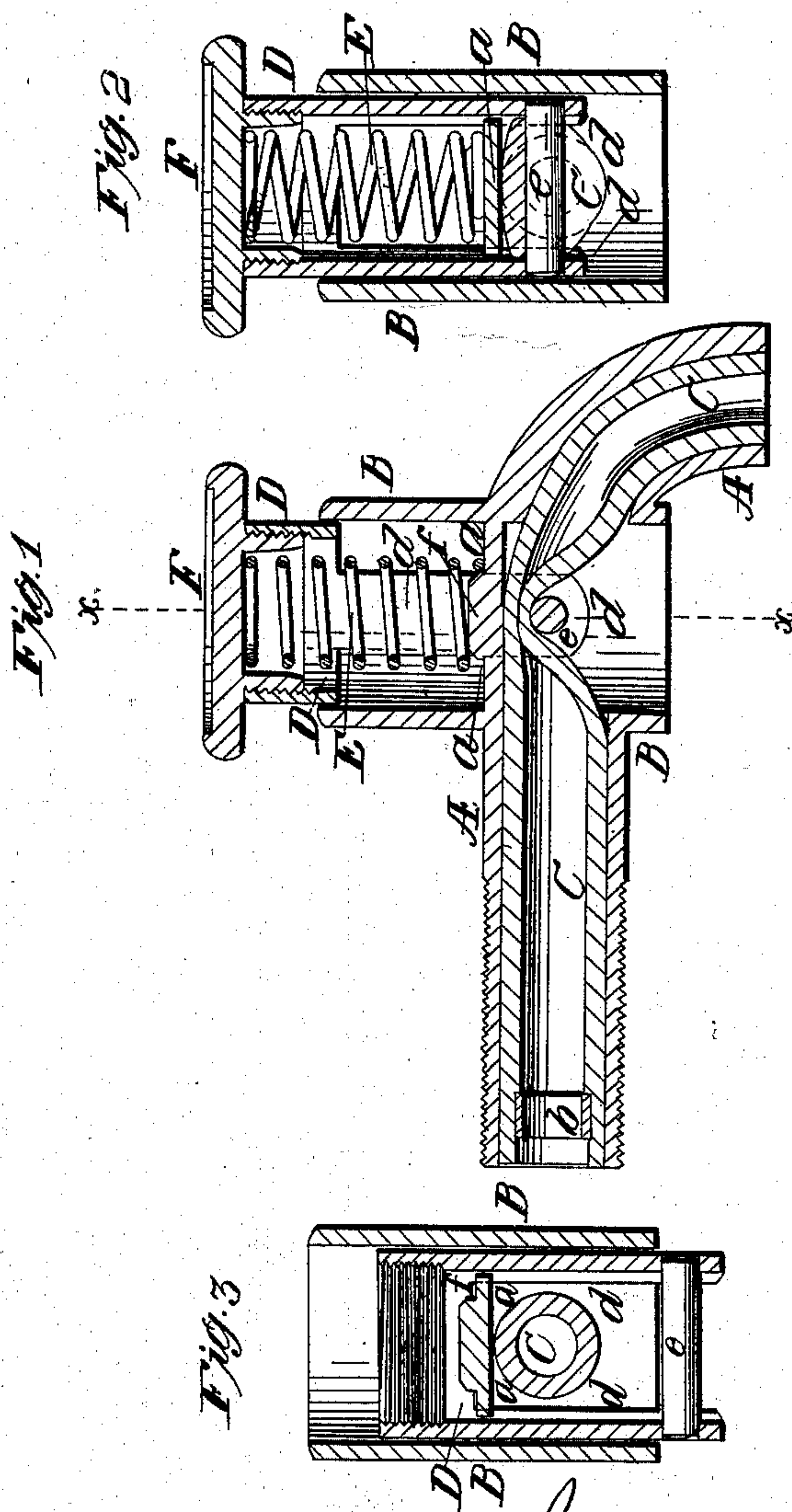


J. Matthers, Jr.,

Faucet,

N^o 48,421,

Patented June 27, 1865.



Witnesses:

J. H. Coombs
Geo. W. Reed

Inventor:

John Matthers Jr.

UNITED STATES PATENT OFFICE.

JOHN MATTHEWS, JR., OF NEW YORK, N. Y.

IMPROVEMENT IN FAUCETS.

Specification forming part of Letters Patent No. 48,421, dated June 27, 1865.

To all whom it may concern:

Be it known that I, JOHN MATTHEWS, JR., of No. 437 First avenue, in the city, county, and State of New York, have invented a new useful Improvement in Self-Closing Cocks and Faucets; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a central longitudinal vertical section of a faucet constructed according to my invention. Fig. 2 is a transverse section of the same in the plane indicated by the line *xx* in Fig. 2. Fig. 3 is a transverse section in the same plane as Fig. 2, representing the faucet with the cap-piece of the stopper and the closing-spring removed.

Similar letters of reference indicate corresponding parts in the several figures.

This invention is more especially designed for cocks and faucets which are to be used for sirups or such other liquids as are injuriously affected by contact with the metal; but it may be used advantageously for almost all kinds of liquids. The passage of the cock or faucet is lined or fitted with a tube of vulcanized india-rubber or other suitable elastic or flexible material which can be closed by compression; and a stopper is so applied in the place of the ordinary plug or spigot and controlled by a spring as to compress the said tube and close its passage until the said tube is relieved of its pressure by the pressure of the hand or of any suitable device applied to operate in a direction the reverse of the said spring.

To enable others skilled in the art to construct cocks and faucets according to my invention, I will proceed to describe it by the aid of the drawings.

A B is the shell, made of a form substantially similar to that of an ordinary faucet or stop-cock—that is to say, with a longitudinal passage, A, and with a transverse or vertical socket, B, which is like that commonly provided for the reception of the plug or spigot, except that it is cylindrical and has cast or otherwise provided in it above the passage A a diaphragm,

a. This socket B requires no boring out, as it can be sufficiently well formed by coring. C is the tube of india-rubber which forms a lining to the passage A. This tube may be secured in place by being made large enough and drawn tightly into the passage A; but I have represented it as secured at one end by the insertion of a metal thimble, *b*, Fig. 1, tightly into it.

D *d d e* is the stopper, made in two pieces, one piece of which, D *d d*, consists of a hollow cylinder, D, fitted loosely to the upper part of the socket B, and having two attached legs, *d d*, which pass through slots in the diaphragm *a*, on opposite sides of the tube C, and the other piece consists simply of a pin loosely inserted through holes in the lower parts of the legs *d d* under the tube C.

E is the compression-spring, of spiral construction, its lower end fitted to a teat, *f*, on the top of the diaphragm *a*, which forms a bearing for the said spring, and its upper end fitting snugly within and pressing upward against the head of a cap, F, which is screwed into the top of the stopper. The upward pressure of the spring F against the cap presses the stopper upward and presses the pin *e* against the tube A in such manner as to compress and flatten the said tube against the diaphragm *a* (in such manner shown in Figs. 1 and 2) as to close the passage of the said tube, and hence the cock or faucet is always kept closed until the stopper is depressed by pressure applied by the hand or by other means on the top of the cap F.

In the depression of the stopper to open the cock or faucet the stopper is prevented from descending far enough to let the pin *e* pass below the bottom of the socket B by the head of the cap F coming in contact with the top of the socket B, and hence the said pin is always kept in place by being confined within the socket.

When it is desired to take out the stopper and spring for repair or for any other purpose, the cap F is unscrewed and removed, and the stopper then drops down to the position shown in Fig. 3, which brings the pin *e* below the socket and permits its withdrawal from the

holes in the legs *d d*. When the pin has been withdrawn the stopper can be withdrawn from the socket B in an upward direction.

To put the parts together, the stopper is dropped into the upper mouth of the socket B to the position shown in Fig. 3, the pin *e* inserted through the legs *d d*, the spring E put into the stopper, and the cap F screwed into the socket. The spring E then draws the stopper up to the position shown in Figs. 1 and 2.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In combination with a flexible lining-tube, C, applied within the passage of a cock or faucet,

a stopper, the operation of which is so controlled by a spring as to compress and close the said tube C automatically, substantially as herein specified.

2. The combination of the flexible lining-tube C, stopper D *d d e*, fixed diaphragm *a*, spring E, and cap F, the whole applied in relation to each other and to a cock or faucet to operate substantially as herein specified.

JOHN MATTHEWS, JR.

Witnesses:

J. W. COOMBS,

G. W. REED.