C. BARR.

FAUCET.

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950,801.

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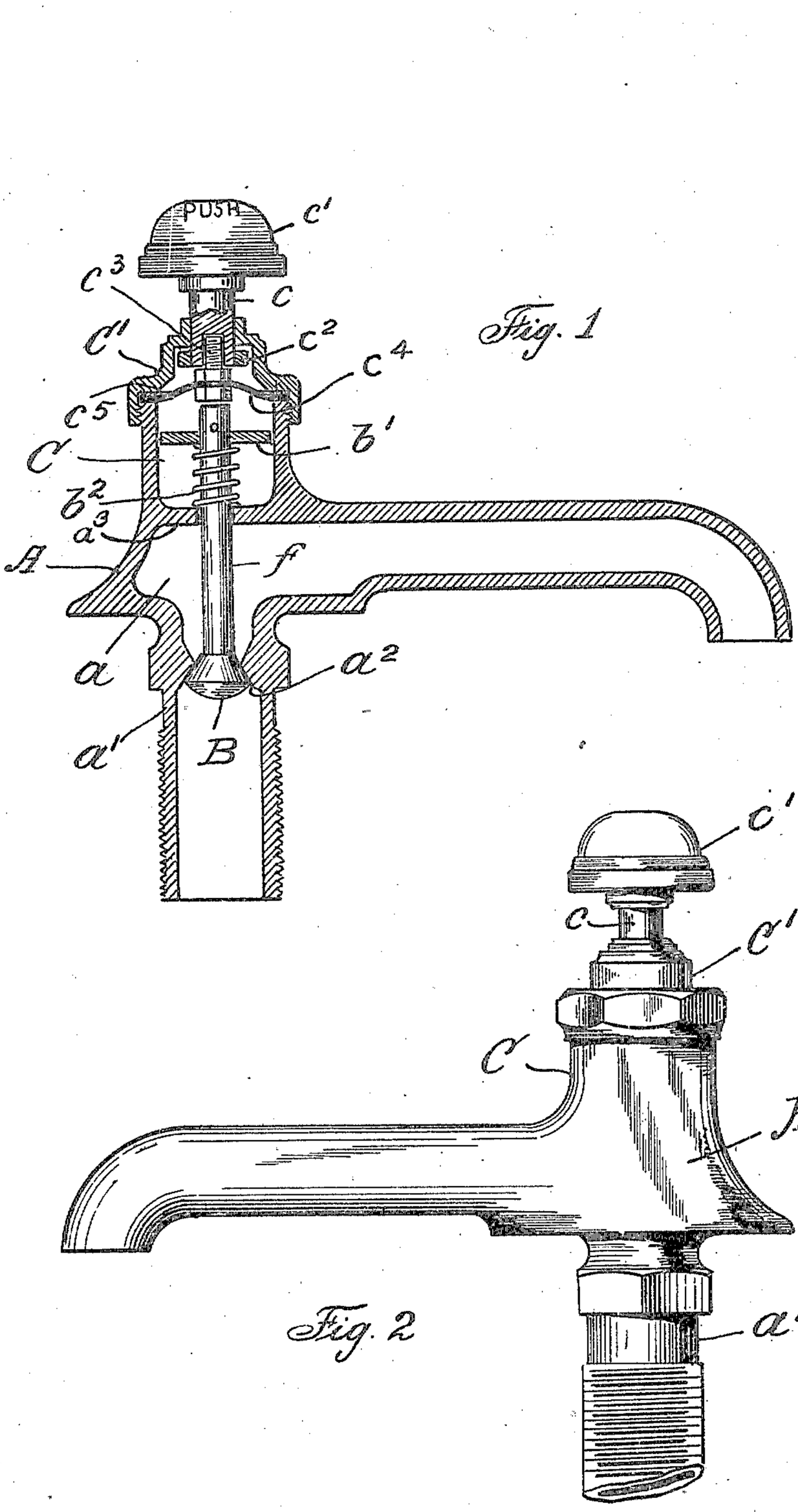

Fig. 1

Fig. 2

WITNESSES

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UNITED STATES PATENT OFFICE.

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FAUCET.

950,801. Specification of Letters Patent. Patented Mar. 1, 1910.

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To all whom it may concern:

Be it known that I, CARL BARR, a citizen of the United States, and residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Faucets, of which the following is a complete specification.

This invention relates to improvements in faucets and more particularly to a self closing faucet of that class having a fluid control for the closing movement of the valve.

The main objects of this invention are to greatly simplify the construction of self closing faucets, and to provide a faucet which is so constructed that when the parts governing the closing operation are removed for inspection or repair the valve will remain in closed position and prevent the fluid from escaping, and thereby avoid the necessity of removing the faucet from its connection or shutting off the fluid below the faucet.

The invention consists of the matters hereinafter described in the specification and more fully pointed out and defined in the appended claims.

In the drawings: Figure 1 is a vertical section of a faucet embodying this invention. Fig. 2 is a side elevation of the same.

As shown in said drawings: A indicates a faucet body having a fluid chamber a therein, and beneath said chamber and opening thereinto is a threaded tube section a' adapted to be connected with the source of fluid supply. Adjacent the opening from said tube section into said chamber is a valve seat a^2, and a valve closure B is adapted to seat thereagainst and open outwardly from said chamber. The valve stem f extends upwardly through the top a^3 of said chamber into a controlling cylinder C which is formed on the upper portion of the body, and a piston b' is rigidly secured thereon and fits loosely in said cylinder so that fluid may pass around the same. Mounted on said stem between said piston and the top a^3 of the fluid chamber is a coiled spring b^2 adapted to normally hold the valve closure against its seat and thereby prevent the passage of fluid therepast. Removably secured on the top of said cylinder is an apertured head or cap C′, and extending therethrough is a pushrod c which is in axial alinement with said stem. On the outer end of said stem is a push button c' and on the inner end thereof is a flange c^2 adapted to limit the outward movement of said rod. Secured in the inner end of said rod is a bolt c^3, and secured to the inner end of said bolt is a flexible diaphragm c^4 of any preferred material, such as rubber or metal. The edge of said diaphragm rests on the top of said cylinder and a washer c^5 is placed on said edge and is held in close contact therewith by means of the cap C′.

The operation is as follows: When the push rod is depressed or forced into the cylinder the inner end of the bolt c^3 contacts with the end of said valve stem and forces the valve closure away from its seat. When the valve is held open, fluid may pass into the cylinder about the stem and pass around the piston into the space next to said diaphragm. When the push rod is released the diaphragm forces it back to normal position, and the spring b^2 acting on the piston b' closes the valve, but its closing is retarded by the passage of the fluid back past the piston b'. The diaphragm effectively closes the cylinder, and inasmuch as the valve is held against its seat by the spring, the cap and the diaphragm may be removed without shutting off the fluid below the faucet.

Obviously a faucet constructed in accordance with this invention affords a very simple construction and one in which the valve controlling mechanism is removed from the path of the fluid. Obviously also many details of form and construction may be varied without departing from the principles of my invention.

I claim as my invention:

1. The combination with means affording a fluid chamber, of a valve controlling the admission of fluid thereto, a cylinder adjacent said chamber, and adapted to receive fluid therefrom, a piston in said cylinder adapted to control the closing of said valve, a diaphragm across said cylinder adapted to be moved independently of said piston, and means thereon adapted to open said valve.

2. The combination with a faucet body of a valve therein, a cylinder on said body and adapted to receive fluid therefrom, a stem on said valve extending into and terminating in said cylinder, means on said stem adapted to normally close the valve, a piston on the stem adapted to retard the closing of the valve, a pushrod extending into said cyl-

inder, and a flexible diaphragm connected therewith and adapted to move upwardly independently of the piston.

3. The combination with a faucet body of a valve controlling the passage therethrough, a cylinder on said body, a flexible diaphragm therein and providing a closed partition across the same, fluid controlled means beneath said diaphragm adapted to control the closing of the valve independently of the movement of said diaphragm, and means connected with said diaphragm adapted to open the valve.

4. The combination with a faucet body of a valve controlling the passage therethrough, a cylinder on said body and adapted to receive fluid from said passage, a stem on said valve extending into and terminating in said cylinder, a piston on said stem fitting loosely in said cylinder, a spring on the stem acting normally to hold the valve in closed position, a flexible diaphragm extending across said cylinder above said stem and out of contact therewith, and a push rod slidably mounted in said cylinder in axial alinement with said stem and connected to said diaphragm, said diaphragm being adapted to return to normal position independently of said piston.

5. The combination with a valve body having a fluid chamber therein, of a valve seat at the entrance to said chamber, a valve closure therefor, a stem on said closure extending into and terminating in said cylinder, a piston on said stem, a spring on said stem engaging said piston and the bottom of said cylinder, a flexible diaphragm in said cylinder and out of engagement with said stem, and means thereon adapted to operate said valve.

6. The combination with a faucet body having a fluid chamber therein, a valve controlling the entrance to said chamber, a cylinder on said body and adapted to receive fluid from said chamber, a cap on said cylinder, a diaphragm engaged between said cap and cylinder, a stem on the valve extending into said cylinder and terminating beneath said diaphragm, a piston on said stem, a spring beneath the same adapted to normally hold the valve in closed position, and a push rod for said stem slidably engaged in said cap and connected to said diaphragm.

In testimony whereof I have hereunto subscribed my name in the presence of two witnesses.

CARL BARR.

Witnesses:
T. W. NEEVMAN,
A. J. MILLER.