

No. 692,293.

Patented Feb. 4, 1902.

C. A. JACOBY.
VALVE.

(Application filed July 27, 1901.)

(No Model.)

Fig. 1.

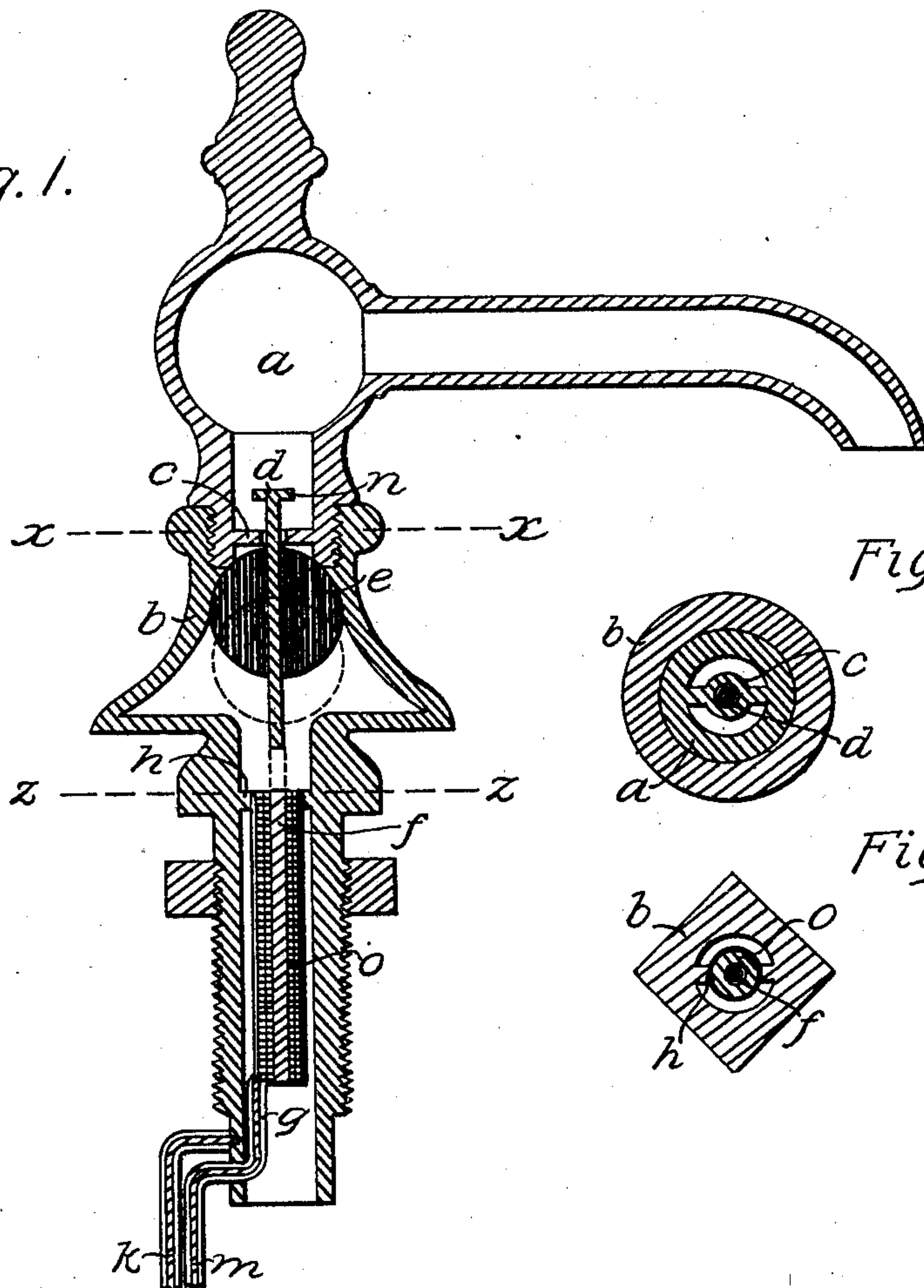


Fig. 2.

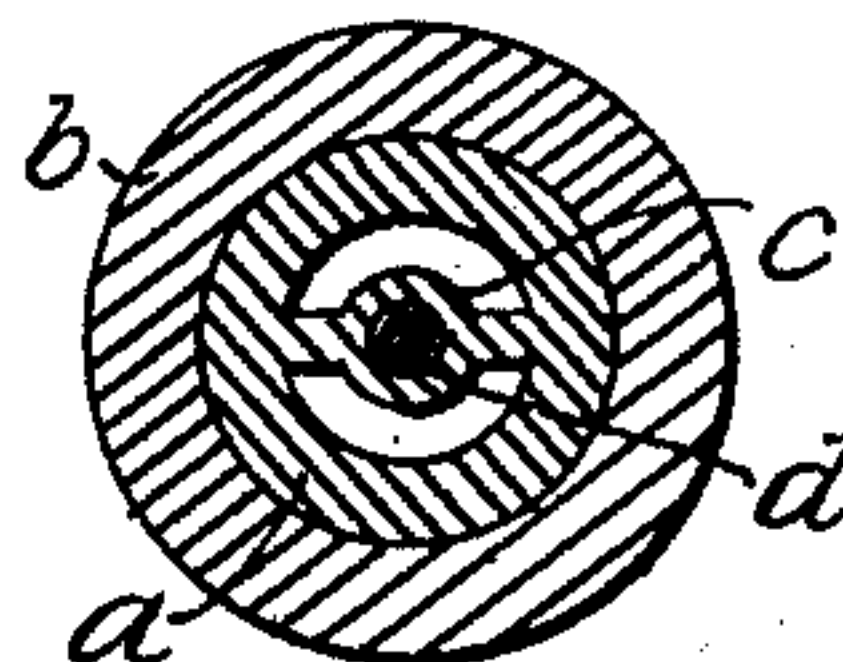
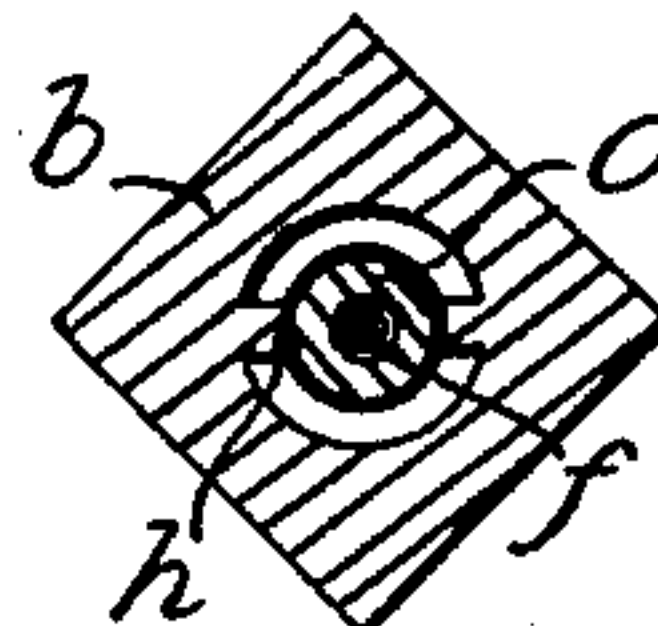


Fig. 3.



WITNESSES:

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CHARLES A. JACOBY, OF WATERLOO, IOWA.

VALVE.

SPECIFICATION forming part of Letters Patent No. 692,293, dated February 4, 1902.

Application filed July 27, 1901. Serial No. 69,901. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. JACOBY, a citizen of the United States of America, and a resident of the city of Waterloo, Blackhawk county, Iowa, have invented certain new and useful Improvements in Valves, of which the following is a specification.

My invention relates to improvements in valves; and the object of my improvement is to provide a valve adapted to be opened by the action of magnetism upon its spindle and to be closed when the electrical circuit through it is broken by the water-head against it. I attain this object by the means illustrated in the accompanying drawings, in which—

Figure 1 is a vertical section of a valve equipped with my improvement. Fig. 2 is a horizontal section of the same on the dotted line shown at $x x$ in Fig. 1, and Fig. 3 is a horizontal section of the same on the dotted line shown at $z z$ in Fig. 1.

Similar letters refer to similar parts throughout the several views.

The drawings represent a cock and faucet of a common type, the upper part a being detachable from the part b . A ball-valve e , having a metallic spindle d passed vertically through it, is placed in the chamber in the part b , the upper end of the spindle d passing through a retaining-ring c . The upper end of the spindle d has a collar n , placed there to keep it from dropping through the retaining-ring c . An electromagnet f , having its coil o connected to the wire m , is fixed within the interior of the tube under the chamber in the part b and is supported by the studs h , the upper end of said coil being connected to one of said studs h . This electromagnet f , as well as the conducting-wire m , is insulated from the walls of the tube by means of any suitable packing g . A wire k is tapped into the lower part of the tube for the completion of a circuit through it. A circuit may be established within the valve, through the wires m and k , by means of an intermediate source of electrical power, and the circuit therein may be broken by means of any suitable device therefor. Water admitted under head to the chamber b buoys up the ball e , causing it to engage the seat at the upper part of the chamber, closing it.

When by means of the use of a push-button or other device a current of electricity enters and magnetizes the core f , the spindle d is attracted toward the core, is drawn downward until the lower end of the spindle contacts with the face of the core, and the collar on upper end of spindle contacts with the retaining-ring c . The circuit is thus established through the shell of the valve-chamber and wire k , and as the ball e by its movement downward has left a passage open at the top of the chamber b the water is free to flow until the circuit is broken by releasing the pressure on the push-button. The flow of the water through the valve is thus easily controlled by means of the electrical circuit being established or broken at any distance at which it is desired to place the circuit-breaker.

It is obvious that this method of controlling a valve may be used with any valve of a type similar to that described, as well as in that shown, and still be within the scope of the principle of my invention.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A valve consisting of a valve-chamber, a ball-valve movable within said chamber, and mounted upon an armature-spindle having a collar at its upper end and slidable within a retaining-ring, an electromagnet within said valve-chamber, insulated therefrom, means for establishing and breaking a circuit through said electromagnet and including a source of electrical power, as and for the purpose set forth.

2. A valve consisting of a valve-chamber formed of separable parts a and b , a ball-valve e mounted on a spindle d having a collar n , retaining-ring c , an insulated electromagnet f , and conducting-wires k and m , substantially as shown and described.

Signed at Waterloo, Iowa, this 24th day of July, 1901.

CHARLES A. JACOBY.

Witnesses:

E. E. WALSH,
GEO. R. TURNER.