

C. J. CHRISTENSON.
VALVE.

APPLICATION FILED MAR. 25, 1908.

912,073.

Patented Feb. 9, 1909.

Fig. 1.

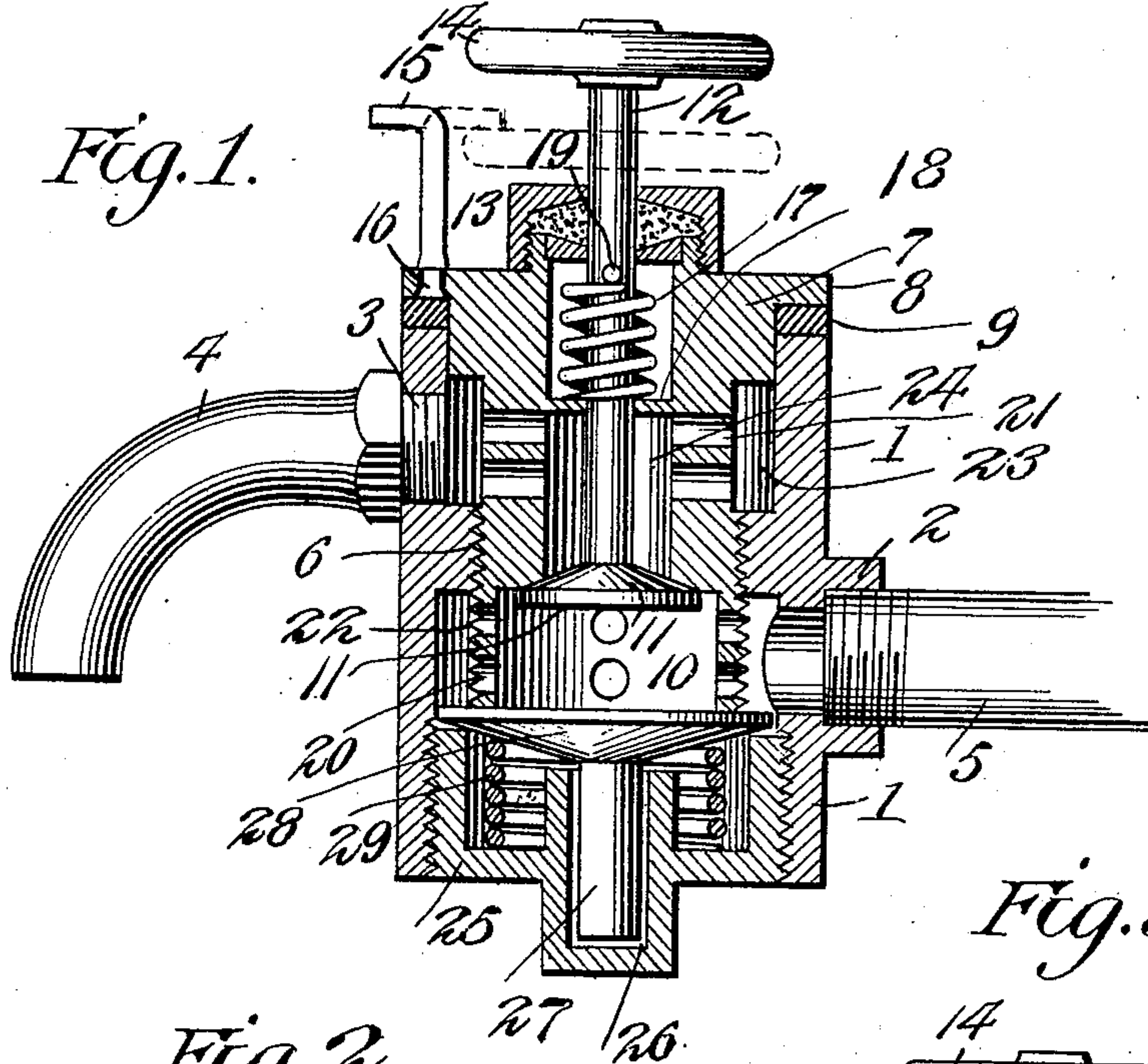


Fig. 2.

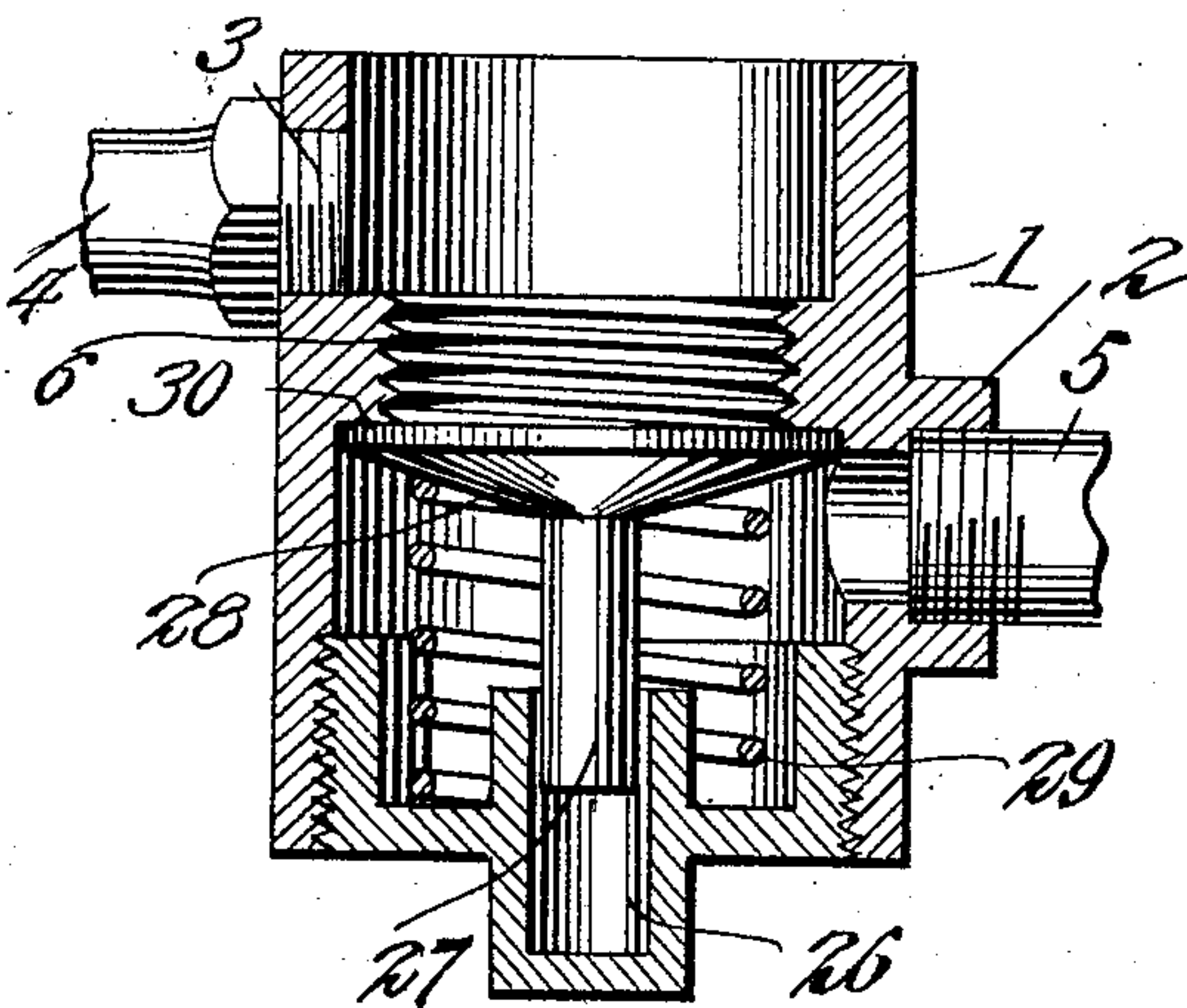
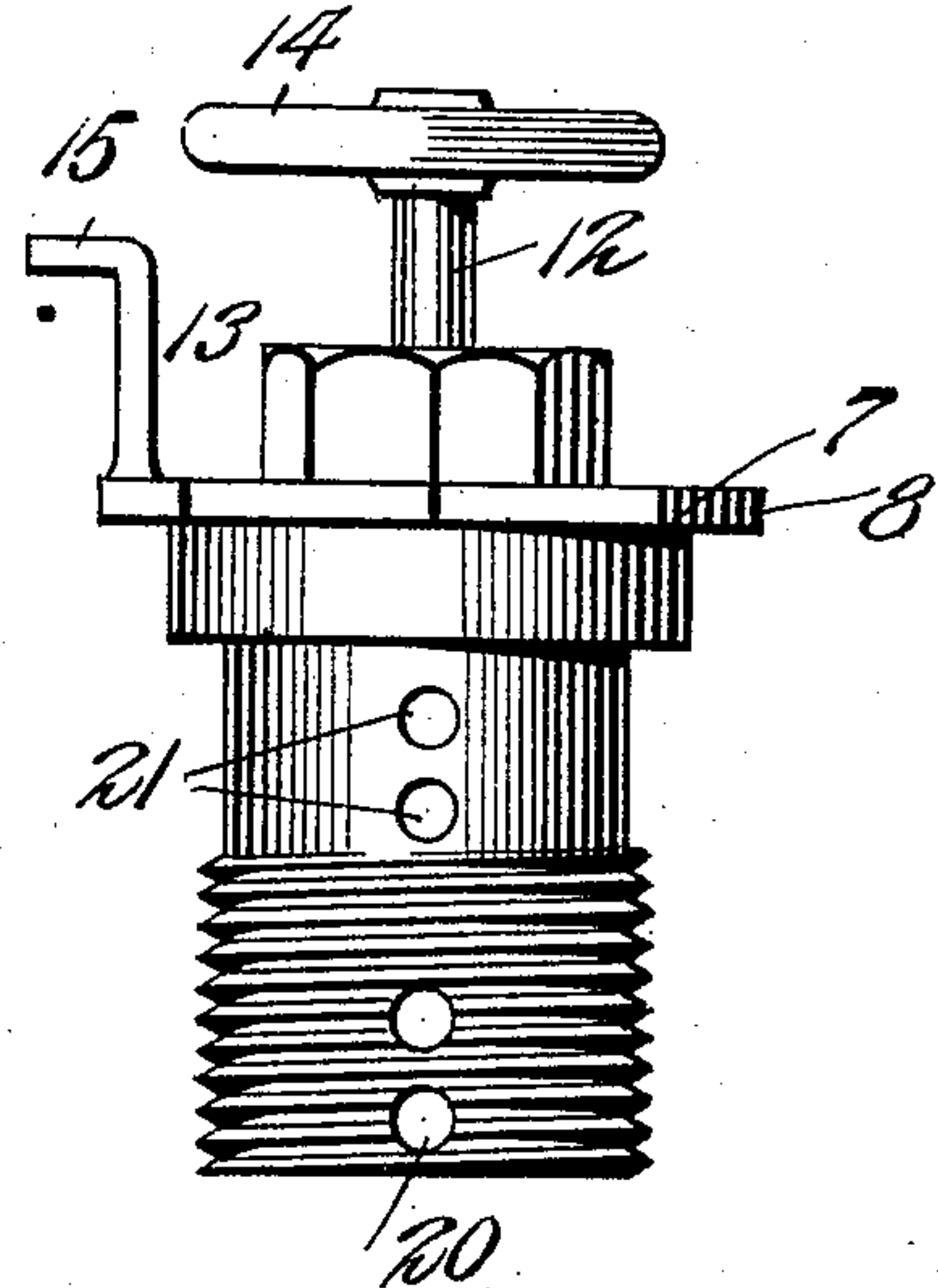


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

CHRIS J. CHRISTENSON, OF KELLOGG, IOWA.

VALVE.

No. 912,073.

Specification of Letters Patent.

Patented Feb. 9, 1909.

Application filed March 25, 1908. Serial No. 423,230.

To all whom it may concern:

Be it known that I, CHRIS J. CHRISTENSON, a citizen of the United States of America, residing at Kellogg, in the county of Jasper and State of Iowa, have invented new and useful Improvements in Valves, of which the following is a specification.

This invention relates to valves, the object of the invention being to provide a valve embodying a construction by means of which the main valve proper may be removed from the valve casing without leaving the valve casing open, the flow of liquid or fluid through the valve being cut off by means of an auxiliary valve which takes the place of the main valve when the latter is removed.

With the above and other objects in view, the invention consists in the novel construction, combination and arrangement of parts as herein fully described, illustrated and claimed.

In the accompanying drawings:—Figure 1 is a vertical diametrical section through a valve embodying the present invention. Fig. 2 is a similar view taken through the valve casing with the main valve removed. Fig. 3 is a side elevation of the main valve holder.

Referring to the drawing, 1 designates the valve casing which is provided with the inlet 2 and outlet 3, the latter being shown as communicating with a nozzle 4, and the former having in communication therewith an inlet pipe 5.

The casing 1 is provided with an internally threaded shoulder 6 to receive the main valve holder 7 which is externally screw threaded and screwed into the casing 1 as clearly shown in Fig. 1, said holder being further provided with a head flange 8 between which and the top edge of the casing there is placed a gasket 9 to form a tight joint. The lower end of the holder is recessed to form a valve chamber 10 in which operates the main valve 11 having a stem 12 which extends upward through the holder and passes through a stuffing box 13 at the upper end thereof, said stem being provided at its upper end with an operating handle 14 by means of which the valve 11 may be pressed downward and unseated, 15 designating an L-shaped handle lock which has a swiveled connection at 16 with the valve casing and is adapted to be turned into and out of the path of movement of

the handle 14 and lock said handle in the dotted line position shown in Fig. 1 with the valve 11 open.

The valve 11 is held normally closed as shown in Fig. 1 by means of a spring 17 located in a recess in the upper portion of the holder and interposed between a shoulder 18 and a pin or shoulder 19 in the valve stem 12. The main valve holder is further provided with inlet ports 20 in the form of holes bored through the sides thereof and outlet ports 21 also bored through the sides thereof at a higher elevation. The inlet ports 20 communicate with an annular inlet chamber 22 in the valve casing 1 while the outlet ports 21 communicate with an annular outlet chamber 23 in said casing, the outlet ports also communicating with the central chamber 24 in the main valve holder as clearly seen in Fig. 1.

The lower end of the valve casing 1 is internally threaded as shown to receive an auxiliary valve holder 25 having a central recess 26 in which works the stem 27 of the auxiliary valve 28, the latter being movable up and down in the inlet chamber 22 and normally resting against and being held depressed by the bottom edge of the main valve holder 7 as seen in Fig. 1. Arranged beneath the auxiliary valve 28 is a coiled expansive spring 29 the force of which is exerted to raise the auxiliary valve and seat the same against a shoulder or auxiliary valve seat 30 when the main valve and its holder are removed from the casing as shown in Fig. 2.

From the foregoing description, it will be seen that when the main valve and its holder are in place, the auxiliary valve 28 is held depressed in an inactive position as shown in Fig. 1. When, however, it is necessary to remove the main valve and its holder in the act of removing said parts, the spring 29 raises the auxiliary valve or seats the same against the shoulder 30 thus cutting off communication between the inlet and outlet orifices of the casing. This enables the main valve and its holder to be removed, cleaned or repaired and replaced without loss of the liquid or fluid, the supply of which is controlled by the valve as a whole.

Having thus described the invention, what is claimed as new, is:—

A valve of the class described comprising a valve casing provided with an inlet chamber, a main valve holder removably mounted

in said casing and provided with a valve
seat, an outlet chamber, and a central cham-
ber having ports arranged at opposite sides
of the valve seat and communicating with
5 the inlet and outlet chambers, said valve
holder being formed with a spring-receiving
cavity, a valve closing spring arranged in
said cavity, a main valve carried by the
holder, a valve operating stem, and a yield-
10 ingly supported auxiliary valve arranged
opposite the main valve and normally held

inactive by the main valve holder, the aux-
iliary valve being adapted to close the open-
ing in the main valve seat when released by
the withdrawal of the valve holder. 15

In testimony whereof I affix my signature
in presence of two witnesses.

CHRIS J. CHRISTENSON.

Witnesses:

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