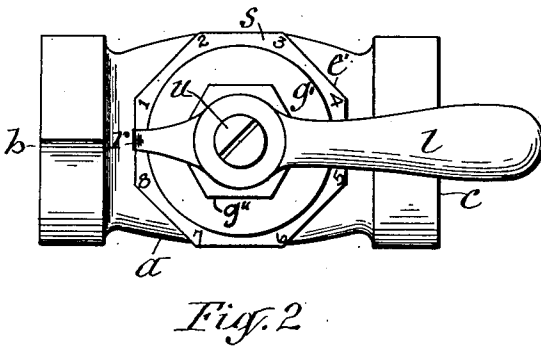
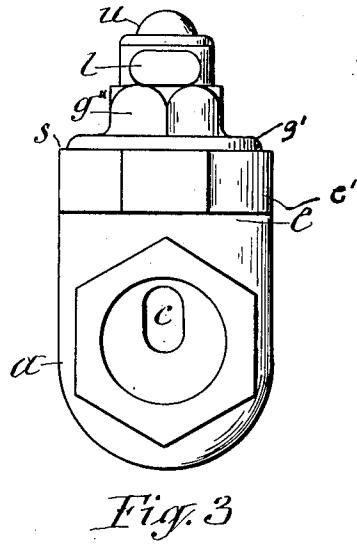
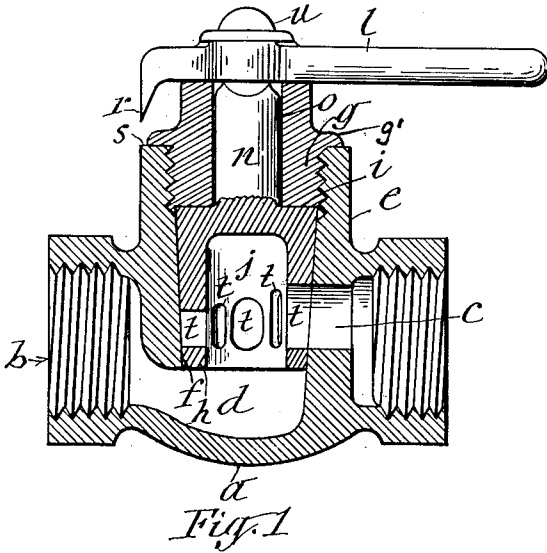


J. I. CAPPON.
 PRESSURE REGULATING VALVE.
 APPLICATION FILED JULY 28, 1908.

932,960.

Patented Aug. 31, 1909



WITNESSES.

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UNITED STATES PATENT OFFICE

JOHN I. CAPPON, OF SYRACUSE, NEW YORK.

PRESSURE-REGULATING VALVE.

932,960.

Specification of Letters Patent. Patented Aug. 31, 1909.

Application filed July 28, 1906. Serial No. 445,732.

To all whom it may concern:

Be it known that I, JOHN I. CAPPON, a citizen of the United States, and resident of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Pressure-Regulating Valves, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to the class of valves which are designed to be applied to pipes conducting either water or oil or gas or air.

The object of the invention is to provide a valve which shall be inexpensive in its construction, efficient in operation and adjustable to vary to a predetermined degree the passage of the substance through the pipe and thus regulate the pressure of said substance in its issue from the valve. And to that end the invention consists in the novel construction of the valve as hereinafter described and shown in the accompanying drawings, in which—

Figure 1. is a central longitudinal section of a valve embodying my invention; Fig. 2. is a top plan view of the same; and Fig. 3 is a face view of the discharge end of the valve.

a— denotes the valve-cage which is formed with the inlet *b*— and outlet *c*— arranged at diametrically opposite sides of the valve-cage. The interior of said valve-cage is formed with a central depression *d*— which communicates directly with the inlet *b*— above said depression, the valve-cage is formed with a tubular projection *e*— axially at right angles to the aforesaid inlet and outlet, and the upper end of the projection has an exterior wrench hold surface *e'*. The lower end portion of said projection extends partially into depressed portion *d*— and has its interior formed with a downwardly tapering valve seat *f*—.

The upper end portion of the projection *e*— is screw threaded internally and has screwed in it a tubular plug *g*—, which has an outwardly projecting annular flange *g'* adapted to seat on the top of the projection *e*.

h— represents the valve which is tapered corresponding to valve seat *f*—. The top of the valve is formed with an outwardly extending spindle *n*— and an annular shoulder *i*— surrounding said spindle and bearing on the inner or lower end

of the plug *g*— which holds the valve down closely to its seat *f*— and properly positioned when the flange *g'* is firmly seated engaging the projection *e*—. The plug *g*— has a wrench hold exterior surface *g''* above the annular flange *g'*.

The valve is formed with a central cavity *j*— extending through the bottom or inner end of the valve. The wall of this cavity is formed with a plurality of ports *t-t*— which are distributed circumferentially in the wall and are of varying sizes arranged progressively. The outlet *c*— of the cage is located above the depression *d*— to allow the ports, one at a time, to communicate with the said outlet.

l— represents a handle which is fastened, as at *u*—, to the upper end of the spindle *n*— formed on the upper end of the valve and passing through the cylindrical bore *o*— of the plug *g*— and bears upon the top of said plug. This handle has projecting from one end thereof a pointer *r*— which is disposed to traverse an index *s*— marked on the marginal portion of the top of the projection *e* as shown in Fig. 2 of the drawing. Said index consists of numerals distributed circumferentially around the top of the projection *e*, adjacent the flange *g'* of the plug *g*— and are in positions corresponding to the location of the different ports *t-t*— of the valve.

In using the described valve, the operator turns the valve *h*— by means of the handle *l*— which he leaves in a position which causes the pointer *r*— to register with the special numeral of the index *s*— indicating the position of the desired port *t*— registering with the outlet *c*— thus obtaining the desired volume of substance escaping from the valve and controlling the pressure of said substance on the pipe connected to the outlet of the valve-cage. It will be observed that the hollow valve *h*— receives the pressure of the substance in the interior of the valve and effectually relieves the valve-seat from said pressure, the upward impulse forcing the shoulder *i* against the plug *g*.

What I claim as my invention is:

A device of the class described comprising a valve cage formed with the inlet and outlet at opposite sides of the cage, a depression in the center of the cage communicating with the inlet, a tubular projection disposed

axially at right angles to said inlet and outlet and having its inner end portion extending into the aforesaid depression between the inlet and outlet, directing a partially obstructed passage therebetween, and formed with a tapered valve seat in its interior, and having the outer end portion thereof screw-threaded internally, and a wrench hold surface on the outside thereof a valve formed with a reduced outwardly extending spindle and having an annular shoulder, the interior of said valve being formed with a cavity extending through the inner end of the valve and communicating with the said depression, the wall of said cavity being provided with a plurality of ports of varying sizes progressively arranged, and distributed to communicate one at a time with said outlets, a tubular plug, said plug screw-threaded ex-

ternally and positioned in the outer end 20
portion of the said projection and bearing
on the shoulder of the valve, said plug pro-
vided with a laterally projecting annular
flange engaging the top of said projection, a
wrench hold surface upon said plug above 25
said flange, a handle secured to the outer
end of the spindle and contacting the top
of the plug and provided with an extension
forming a down-turned pointer, an index on
the top of the aforesaid projection circum- 30
ferentially arranged adjacent said flange,
and the passage of a fluid through said inlet
adapted to impel said valve from said seat
and toward said plug as fully set forth.

JOHN I. CAPPON.

Witnesses:

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