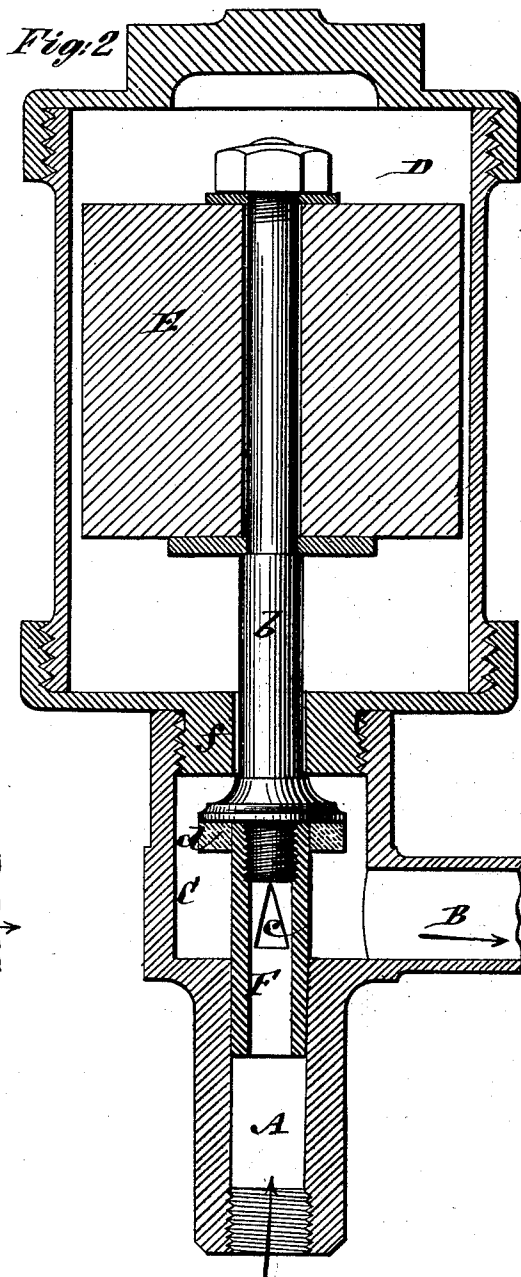
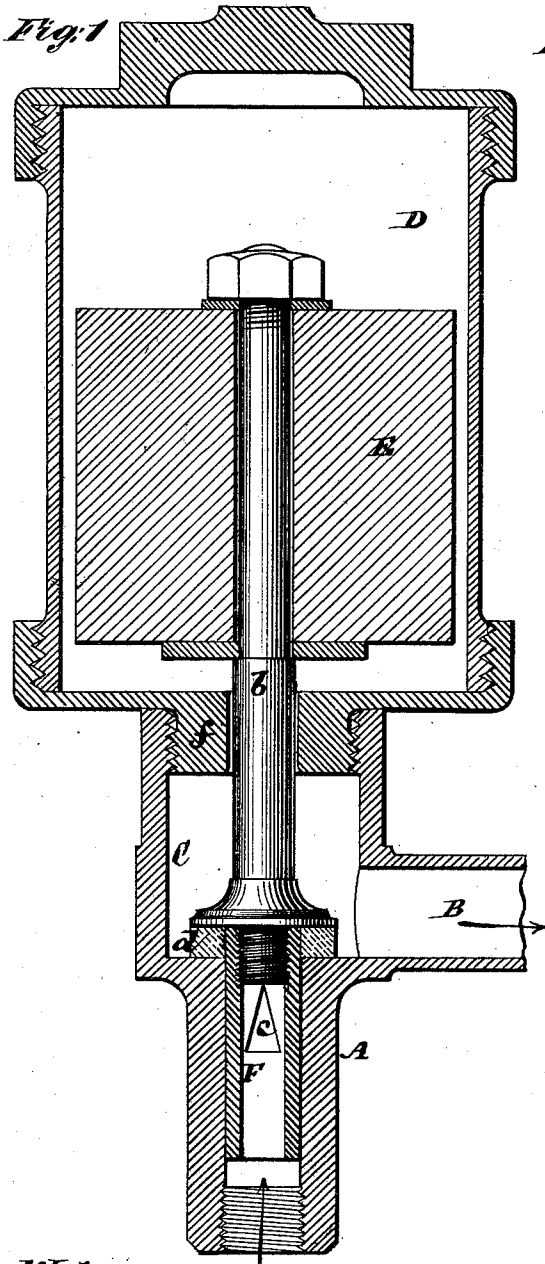


J. JONSON.
Pressure-Reducing Valves.

No. 156,165.

Patented Oct. 20, 1874.



Witnesses:

Richard Ryan
Fred Haynes

Julius Jonson
By his Attorneys
Brown & Allen

UNITED STATES PATENT OFFICE.

JULIUS JONSON, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF HIS RIGHT
TO EDWARD H. TRACY, OF SAME PLACE.

IMPROVEMENT IN PRESSURE-REDUCING VALVES.

Specification forming part of Letters Patent No. **156,165**, dated October 20, 1874; application filed
April 6, 1874.

To all whom it may concern :

Be it known that I, JULIUS JONSON, of the city, county, and State of New York, have invented an Improvement in Pressure-Reducing Valves, of which the following is a specification:

This invention relates to the supply of water to buildings and other places at a reduced pressure to that of the initial force in the main or general supply pipe; and consists in a novel apparatus for such purpose, in which a controlling weight, operating in conjunction with the pressure, is used to automatically actuate a regulating valve to insure the discharge from said apparatus at a given and reduced pressure.

In the accompanying drawing, Figures 1 and 2 represent similar sectional elevations of my improved apparatus in its extreme open and closed positions.

A is the supply-pipe or inlet of the apparatus, to which the water is admitted from the main or general supply pipe at a superior pressure; and B is the outlet or discharge through which the water is delivered at a reduced pressure. This inlet and outlet are both branches of or from the valve-box or connection C, which has mounted on it a close water-chamber, D, containing a weight, E, which serves as a load, by a connecting-stem, b, to a hollow valve, F, or continuation of the stem b arranged to enter the inlet A, and having one or more side discharge-apertures, c, preferably of reducing area in an upward direction, to insure a gradual opening and closing of the discharge, and such valve being furthermore provided at its top or above the delivery-openings c with a rubber or other close-fitting face or packing, d, which sits down on the top of the supply-pipe A when the valve F is closed. The stem b, connecting the weight E with the valve F, passes freely or loosely through a guide, f, at the base of the chamber D, so that water is free to leak or pass around the stem between the valve-box or the connection C and the chamber D.

In the operation of the apparatus, supposing the parts to be in the position represented in Fig. 1 when the valve is closed, then the weight E, aided by the pressure in the chamber D of the water, keeps the valve closed—that is, when there is no draft on the outlet B, such water entering the chamber D by leakage through the guide f when the valve is open, and acting on the top of the weight or so much of it rather as is equal to the area of the valve when the latter is closed, the weight E only bearing a limited proportion to the superior pressure on the under side of the valve. When draft is made on the outlet B, then, the drain being first felt on the top of the valve and in the chamber D, the pressure is sufficiently reduced above the valve to allow the latter to open, and the weight E regulates the amount of opening to give any desired reduced pressure at the outlet B, as compared with the inlet A. Upon again shutting off the draft at the outlet B, water will, for a short while, continue to flow through the valve into the chamber D, till a sufficient pressure, in addition to the weight E, is accumulated therein to close the valve.

Fig. 2 represents the valve as fully open. When fully closed, as in Fig. 1, no water can pass the soft disk or packing d, and thus the apparatus is kept in a tight and operating condition.

I claim—

The combination of the upper chamber D, in water communication, with the valve-box or connection C below the regulating weight E, the valve-stem b, the valve F, having its delivery opening or openings below a close upper valve face or packing, d, the inlet A, and outlet B, substantially as and for the purpose herein set forth.

JULIUS JONSON.

Witnesses:

M. RYAN,
FRED. HAYNES.