(No Model.)

# G. W. LAWTON.

## PRESSURE REGULATOR.

No. 347,118. Patented Aug. 10, 1886.

Fig. 1.

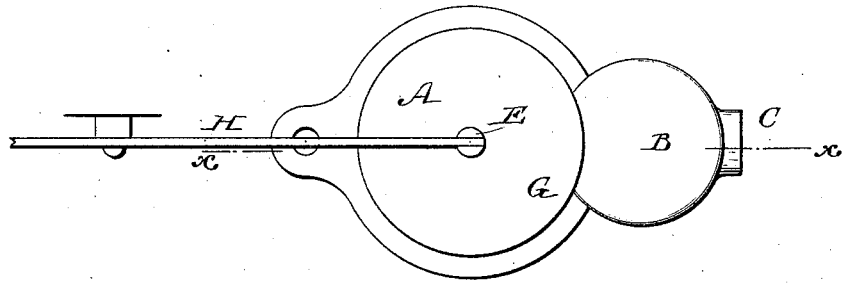
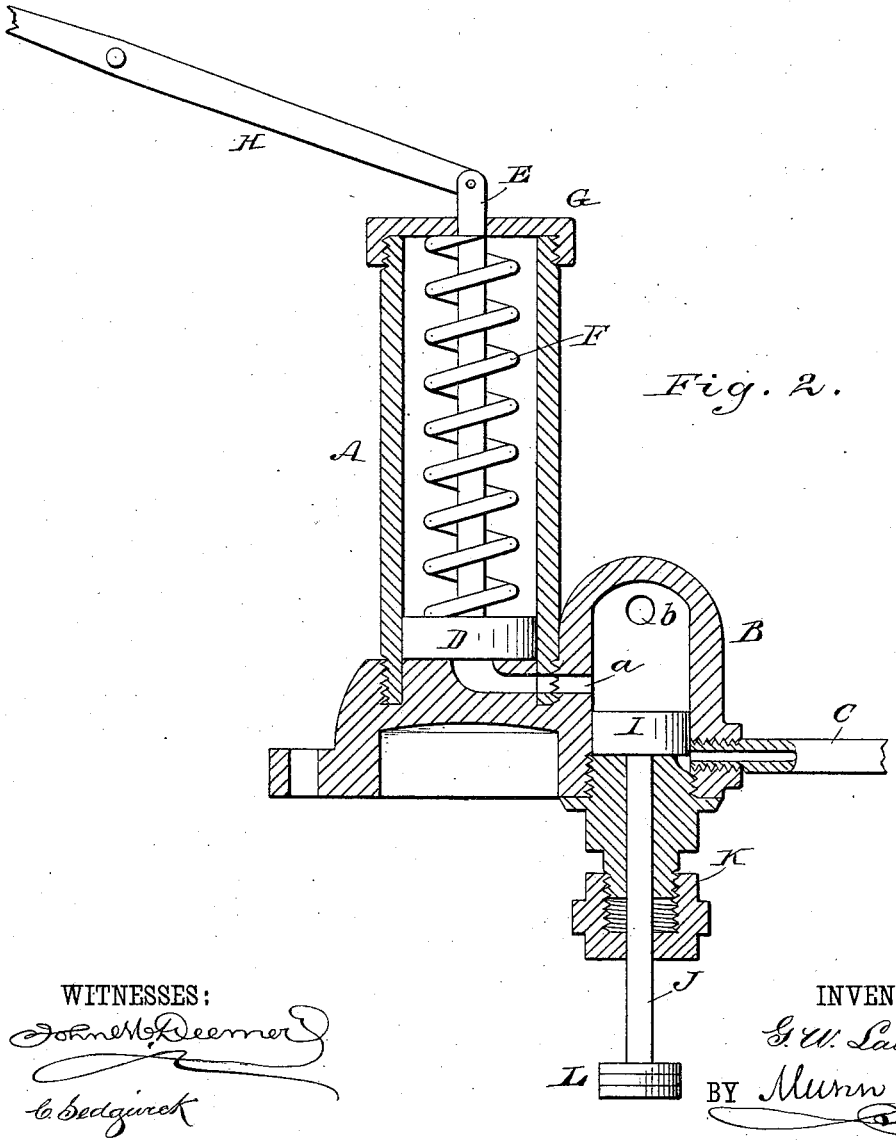



Fig. 2.




WITNESSES:

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# UNITED STATES PATENT OFFICE.

GEORGE W. LAWTON, OF NEW YORK, N. Y.

## PRESSURE-REGULATOR.

SPECIFICATION forming part of Letters Patent No. 347,118, dated August 10, 1886.

Application filed March 9, 1886. Serial No. 194,567. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE W. LAWTON, of the city, county, and State of New York, have invented a new and Improved Pressure-Regulator, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in both the figures.

Figure 1 is a plan view of my new and improved pressure-regulator, and Fig. 2 is a sectional elevation of the same.

The invention will first be described in connection with the drawings, and then pointed out in the claim.

A represents a main piston-cylinder, and B a valve-chamber connected therewith by the port *a*. The valve-chamber B is connected by the pipe C to a reservoir, boiler, or conduit in which pressure of water, air, steam, or gas is maintained. Above the port *a* is formed in the valve-chamber B the outlet-port *b* to the open air.

In the main cylinder A is fitted the piston-head D, to which is connected the piston-rod E, on which is placed the coiled spring F, which acts between the piston-head D and the cap-plate G of the cylinder A. The piston-rod E is to be connected by a lever, H, or other suitable connection, to the let-off valve, damper, or other pressure-reducing device, to operate the same when the piston-head D is forced upward in the main cylinder A.

In the valve-chamber B is fitted the valve or piston I, provided with the valve-stem J, which passes through the stuffing-box K, and has the weights L attached to its lower end, to hold the valve I at the bottom of the valve-chamber, except when the pressure in the reservoir or conduit rises above the required point. When the pressure rises above the required point, the valve I will be lifted by the pressure of water, steam, air, or gas entering the pipe C, and will pass the port *a*, whereupon the water, air, steam, or gas will enter the main cylinder A, and lift the piston D and piston-rod E against the pressure of the spring F. The movement of the rod E will open the let-off cock, or open the damper, or operate any pressure-reducing device to which it may be attached, by lever H, which will cause a reduction of pressure in the main reservoir or conduit, whereupon the valve I will be lowered by the weights L in the valve-chamber B to its original position, ready for operation again when the pressure shall rise above the required point. The piston I in its downward movement in passing the port *a* opens the escape for the main cylinder A through the openings *a b*, so that the spring F will react and force the piston D and rod E downward to their original position.

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

The combination, with the main cylinder A and the valve-chamber B, having a connecting-port, *a*, and an exhaust-port, *b*, above port *a*, of the piston D in the cylinder A, the piston-rod E, means for forcing the piston downward, the weighted valve I in chamber B, and the pipe C, entering the chamber B below the valve I, the valve in its normal position being below the port *a*, whereby when the pressure in the chamber B ceases the valve will fall, and the fluid in the cylinder A be forced out by the piston D through the ports *a b*, substantially as set forth.

GEORGE W. LAWTON.

Witnesses:
EDWD. M. CLARK,
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