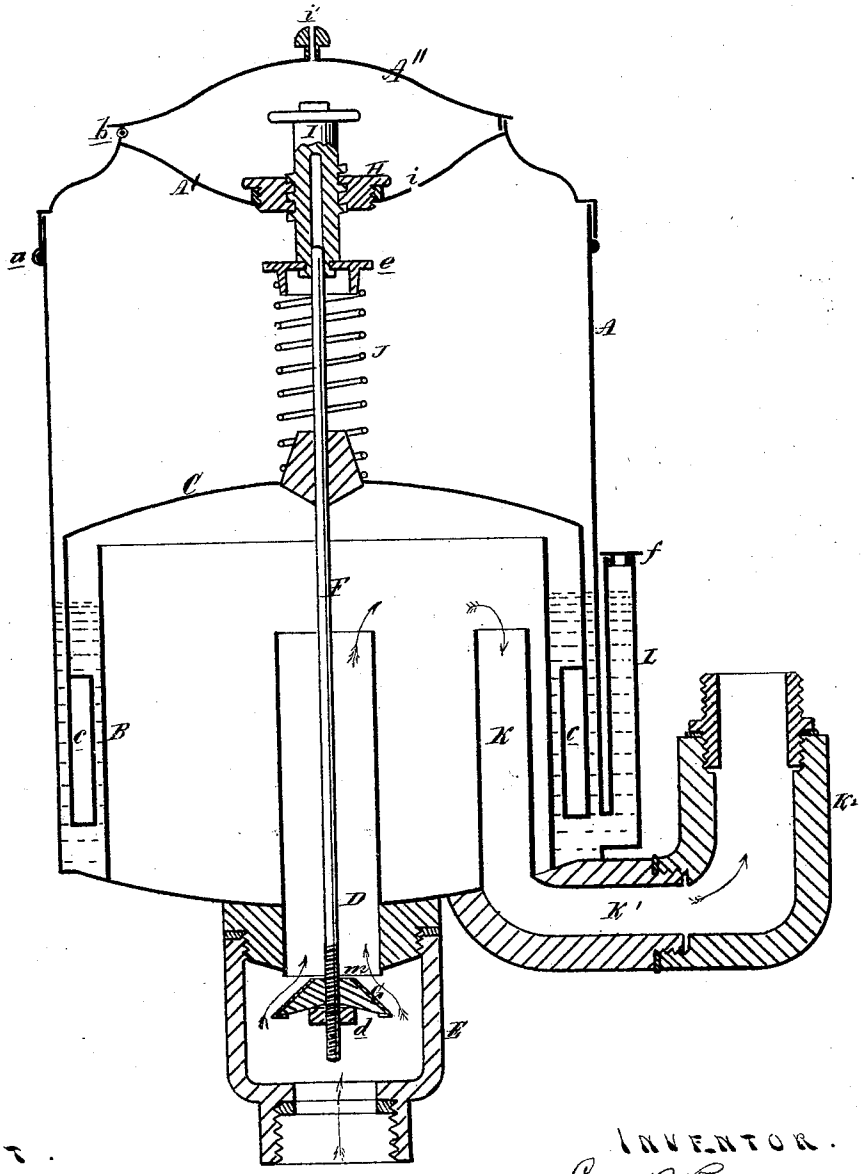
G. P. ROSE.

Gas-Regulators.

No. 149,069. Patented March 31, 1874.



ATTEST.
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UNITED STATES PATENT OFFICE.

GEORGE P. ROSE, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN GAS-REGULATORS.

Specification forming part of Letters Patent No. **149,069**, dated March 31, 1874; application filed August 11, 1873.

To all whom it may concern:

Be it known that I, GEORGE P. ROSE, of Chicago, in the county of Cook and State of Illinois, have invented an Improvement in Gas-Governors, of which the following is a specification:

This invention relates to an improvement in that class of regulators which are applied to the gas-service pipes of a building—generally at the meter—for the purpose of governing the flow of gas, and to deliver it to the burners at a uniform pressure, thereby avoiding the annoyance of insufficient light when the pressure may be low at certain hours, and the waste of gas by blowing at other times when the pressure in the mains is increased. The invention consists in the peculiar construction of the device, as more fully hereinafter set forth.

The accompanying drawing represents my improved governor in vertical section, wherein—

A represents a sheet-metal cylindrical case provided with a closed bottom and a sunken top, A^1, which may be hinged thereto, as shown at *a*. Above the recess in the top a cap, A^2, is hinged thereto at *b*. From the bottom of the case or shell A rises a concentric chamber, B, open at the top, which may be termed a receiver, which is inclosed by a loosely-fitted inverted cylinder, C, closed at the top, and whose lower part is fitted with an annular air-chamber, *c*, to increase its buoyancy. D is an inlet-pipe, made of non-corrosive metal, and provided with a seat, *m*, rising through the center of the bottom of the case A nearly to the top of the chamber B. Its lower end is surrounded by a collar, to which is screwed a coupling, E, into whose lower end the delivery or outlet pipe from the gas-meter may be screwed. F is a valve-stem passing through and secured in the axis of the cylinder or float C, its lower end being screw-threaded to receive a leather-covered valve, G, which may be further secured by a jam-nut, *d*. The coupling E forms a chamber large enough to allow this valve to play freely, and by unscrewing it from the case the position of the valve upon its stem may be regulated or adjusted. In the center of the sunken top A′ is a nut, H, through which is threaded a temper-screw, I, whose lower end is hollow, and receives the upper end of the valve-stem, for which it forms a guide in its vertical movements. On the lower end of the screw is a flanged disk, *e*, which rotates freely thereon, and whose flange is inserted in the upper convolution of a spiral spring, *j*, whose lower end embraces the hub of the float through which the valve-stem passes. By means of the screw the downward pressure of the spring upon the float may be adjusted. K is an outlet or delivery pipe entering the bottom of the casing A, within the receiver, where it rises to the plane of the inlet-pipe. Outside the casing it terminates in an elbow, K^1, to which is screwed an ell, K^2, which may be turned to any angle to receive the coupling of the service-pipe. L is a filling-pipe, entering the casing A at one side, near the bottom, and rises nearly to the height of the receiver, being closed at the top by a screw-cap, *f*. This cap should be removed, and glycerine, in preference to any other fluid, poured in until it rises in the annular space between the casing and receiver nearly to the top of the filling-pipe, which should then be closed, the cylindrical wall of the float resting in the fluid. The latter forms a liquid seal to arrest the outflow of gas from the receiver and float, except through the outlet-pipe. The tension of the spring should be adjusted, preferably, by a blowing burner in the building, until a flame of the desired size is obtained, after which, if the pressure in the street-mains decreases, the spring will press down the float and remove the valve farther from the lower end of the inlet-pipe, and thereby allow a larger volume of gas to flow into the service-pipe. When the gas-pressure increases it raises the float and partially closes the valve, and thus insures a steady and uniform pressure in the service-pipes. More or less light may be obtained by adjusting the tension of the spring. To prevent the forming of an air-cushion above the float, a small aperture, *i*, is made in the sunken top, A^1, and a similar one, *i′*, in the cap, A^2. The latter may be secured by a padlock to prevent any tampering with the adjusting-screw. If the top A^1 be hinged to the casing, the filling-pipe may be dispensed with. Glycerine is used in preference to water, alcohol, or other

fluids, as it does not evaporate or freeze in severe weather, nor does it change under the chemical action of the gas. The outlet-pipe is a siphon or trap which arrests the back-flow of the drips or condensation from the service-pipe into the receiver, the drips, if any collect, being readily removed by unscrewing the angle or ell K^2 from the outlet-pipe.

What I claim as my invention, and desire to secure by Letters Patent, is—

A gas-regulator, consisting of the casing A A^1 A^2, receiver B, float C, inlet-pipe D, outlet-pipe K, chambered coupling E, valve-stem F, valve G, nut H, temper-screw I, spring J, and filling-pipe L, substantially as and for the purpose set forth.

GEO. P. ROSE.

Witnesses:
THEO. S. DAY,
A. F. DUNLOP.