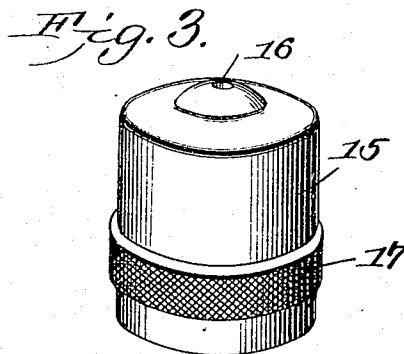
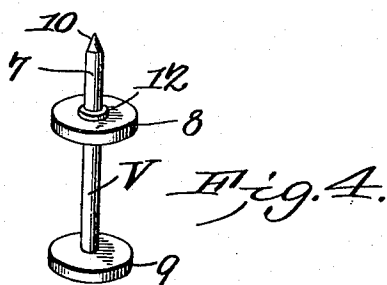
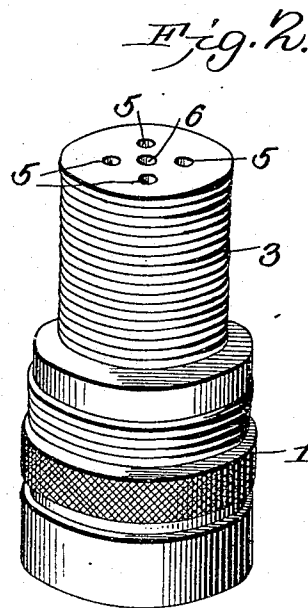
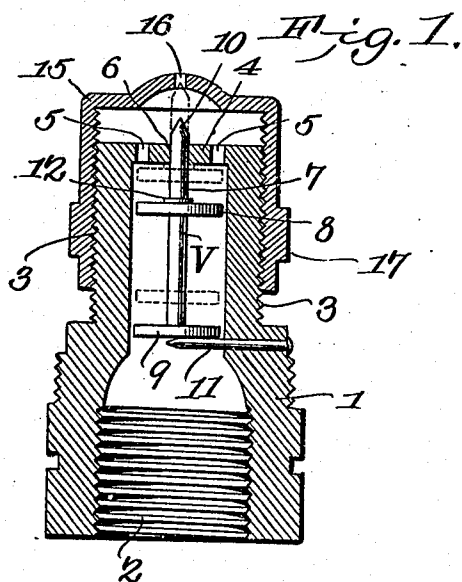


No. 835,221.

PATENTED NOV. 6, 1906.

S. W. HYATT.
PRESSURE REGULATOR FOR GAS BURNERS.
APPLICATION FILED FEB. 1, 1906.



WITNESSES:

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UNITED STATES PATENT OFFICE.

SAMUEL W. HYATT, OF COLUMBUS, OHIO.

PRESSURE-REGULATOR FOR GAS-BURNERS.

No. 835,221.

Specification of Letters Patent.

Patented Nov. 6, 1906.

Application filed February 1, 1906. Serial No. 299,016.

To all whom it may concern:

Be it known that I, SAMUEL W. HYATT, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented a new and useful Pressure-Regulator for Gas-Burners, of which the following is a specification.

This invention relates to gas-burners generally, and more especially to that class of burners which are employed in connection with incandescent mantles.

The principal object of the invention is to provide improved means whereby the flow of gas will be readily and accurately regulated automatically.

Other objects of the invention are to simplify and improve the construction and operation of this class of devices.

With these and other ends in view, which will readily appear as the nature of the invention is better understood, the same consists in the improved construction and novel arrangement and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the accompanying drawings has been illustrated a simple and preferred form of the invention, it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that changes, alterations, and modifications within the scope of the invention may be made when desired.

In the drawings, Figure 1 is a vertical sectional view showing a gas-burner constructed in accordance with the principles of the invention. Fig. 2 is a perspective view showing the burner with the regulating-cap detached. Fig. 3 is a perspective detail view showing the regulating-cap detached. Fig. 4 is a perspective detail view of the floating valve or regulating-valve detached from the burner.

Corresponding parts in the several figures are indicated throughout by similar characters of reference.

The burner-tube 1 is internally threaded at its lower end, as shown at 2, whereby it is adapted to be connected with or mounted upon a supply-pipe. (Not shown.) The upper portion of the burner-tube is externally threaded, as at 3, and the upper extremity of the tube has a closure 4, which is provided with a plurality of apertures 5 5, constituting ports for the passage of gas, and

with an additional aperture 6, through which the stem 7 of the floating valve V is guided.

The valve V includes a pair of disks 8 and 9, which are mounted upon and connected by the stem 7, which latter extends above the upper disk 8 and terminates in a needle-point 10. The disks 8 and 9 are of slightly less diameter than the upper portion of the burner tube, wherein the valve is mounted, the valve being confined and its movement in a downward direction limited by means of a pin or plug 11, inserted through the wall of the burner-tube. The valve-stem 7 is provided with a flange or collar 12, formed adjacent to the upper face of the upper disk 8, the object of said flange or collar being to prevent the disk 8 from contacting with the under side of the closure 4 and thus completely closing the ports 5.

The regulating-cap 15 is internally threaded so as to engage the externally-threaded upper end of the burner-tube, and said cap is provided with a port 16, alining with the valve-stem 7. The cap 15 has a milled rim 17 to enable it to be conveniently adjusted upon the burner-tube.

The valve V is normally seated upon the pin or plug 11. When gas is admitted at low pressure, it will pass around the disks 9 and 8 through the unobstructed ports 5 and through the port 16, which is likewise unobstructed, and on issuing from which it may be ignited. If the pressure is high, the valve will be flicked in an upward direction until the flange or collar 12 strikes the under side of the closure 4, thus causing the disk 8 to almost entirely obstruct the ports 5, and thus reducing the flow. At the same time the point of the valve-stem will partly enter into the port 16 of the regulating-cap, which latter has been previously adjusted to high pressure, thus obstructing the flow through said port 16 to the desired extent. The valve V will automatically adapt itself to fluctuations of the pressure while the gas is turned on, and an even and steady flow will thus be maintained, thus maintaining the light at an even degree of brilliancy and avoiding the ill effects upon the mantle caused by fluctuations in pressure.

When the burner is installed, the regulating-cap is adjusted to the highest possible degree of pressure—that is to say, in a position where while the flow of gas through the port 16 is limited when the pressure is at its

highest, it will not be entirely obstructed. The flange or collar 12 prevents the valve-disk 8 from entirely obstructing the flow through the ports 5, and it will thus be seen that even with an excessively high pressure it becomes impossible for the light to be extinguished, thus causing the gas to escape when under a reduction of pressure the valve drops to a lower position. This is considered an important and valuable feature of the present invention.

The improved pressure-regulator is simple in construction, easily installed, is safe and reliable in its operation, and is entirely automatic, requiring absolutely no attention subsequent to its installation.

Having thus described the invention, what is claimed is—

1. A burner-tube having an end closure provided with exit-ports and with a guide-aperture, a valve-stem extending through the guide-aperture and having a needle-point, disks upon the valve-stem fitting loosely in the burner-tube, and a collar upon the valve-stem adjacent to one of the disks and adapted to space said disk from the ported end closure.

2. A burner-tube having an end closure provided with exit-ports, a valve movable by fluid-pressure in the direction of said closure said valve having a stem guided through an aperture in the closure, and a collar upon the valve-stem adapted to engage the closure and to limit the movement of the valve.

3. A burner-tube having a closure provided with ports and with a guide-aperture, a valve in the burner-tube operable by fluid-pressure in the direction of the ports and having a stem extending through the guide-aperture, means for limiting the movement of the valve, and an exteriorly-disposed regulating-cap adjustably engaging the burner-tube and having a port adapted to be partially obstructed by the projecting portion of the valve-stem; said regulating-cap being movable to a valve-obstructing position.

4. A burner-tube having a closure provided with ports and with a guide-aperture, a valve in the burner-tube operable by fluid-pressure in the direction of the ports and having a stem extending through the guide-aperture, said valve including a pair of disks of less diameter than the burner-tube, means upon the valve-stem to prevent the valve from entirely obstructing the ports, a pin extending through the wall of the burner-tube to limit the movement of the valve away from the ports, and a cap adjustably engaging the burner-tube and having a port co-operating with the valve-stem to regulate the flow of fluid at high pressure.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

SAMUEL W. HYATT.

Witnesses:

FRED C. RECTOR,
THERESA CLAFLIN.