No. 713,093. Patented Nov. 11, 1902.

G. H. GREGORY.

GAS REGULATOR.

(Application filed Nov. 19, 1901.)

(No Model.)

Fig. 1.

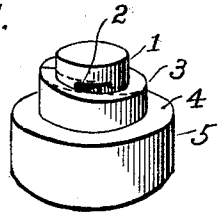


Fig. 2

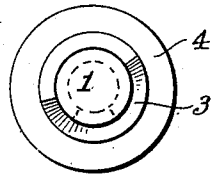


Fig. 3.

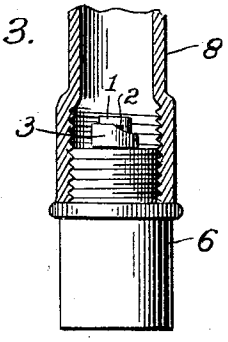


Fig. 4.

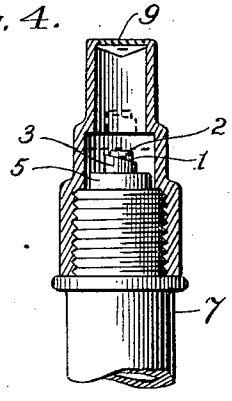


Fig. 5.

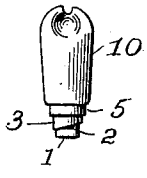


Fig. 6.

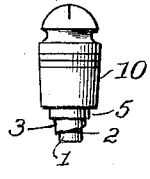


Fig. 9.

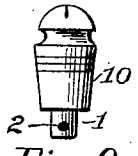


Fig. 7.

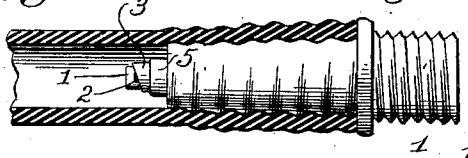
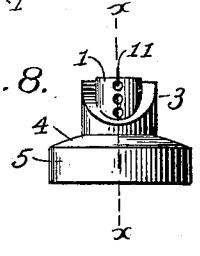


Fig. 8.



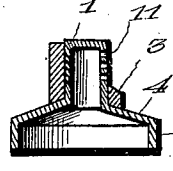


Fig. 8a.

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BY

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UNITED STATES PATENT OFFICE.

GEORGE H. GREGORY, OF NEW YORK, N. Y.

GAS-REGULATOR.

SPECIFICATION forming part of Letters Patent No. 713,093, dated November 11, 1902.

Application filed November 19, 1901. Serial No. 82,821. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. GREGORY, a citizen of the United States, residing at No. 63 West Ninety-sixth street, in the city, county, and State of New York, have invented a new and useful Improvement in Gas-Regulators, of which the following is a specification.

My invention relates to improvements in gas-regulating devices, more particularly applied to gas tips and burners, the object being to produce a simple and easily-adjusted check or means for reducing gas-pressure at or near the point of consumption.

My invention is fully shown in the accompanying drawings, in which—

Figure 1 is a perspective view of my improved check. Fig. 2 is a plan view of Fig. 1. Fig. 3 shows my check as part of a "burner-base," so called. Fig. 4 shows Fig. 1 loosely set on a base or gas-fitting. Fig. 5 shows my check set up into an "aluminium" tip. Fig. 6 shows my check set up in a "lava" or "steel" tip. Fig. 7 shows check in a gas-tube tip or nipple. Fig. 8 is a modification of Fig. 1, and Fig. 8ª is a transverse vertical sectional view taken on the line $x\,x$ of Fig. 8. Fig. 9 is a modification of Fig. 6.

Similar reference characters refer to corresponding parts in the several views.

A tubular neck 1, closed at one end, is provided with a single perforation 2 or a series of perforations 11, as shown in Fig. 8. A flat ring or band 3 is rotatively mounted on the neck, making a neat or close fit. The upper edge of the band is cut away in part, so that the band is wide at one point and narrow at another—that is to say, the incline and decline may be gradual, as shown in Figs. 1 and 2, or it may be notched out, as shown in Fig. 8, the object being that when the band is arbitrarily revolved on the neck the perforation will be either entirely exposed or entirely covered, or the band can be left in any position between these two extreme points, as will be fully explained in the operation.

When my check is slipped up in a pillar or base and held in position by close contact with the inner wall, I prefer to draw it up of sheet metal, as shown in Fig. 1, the neck 1, annular shoulder 4, and annular flange 5 being of one piece. The neck is perforated or slotted and the band 3 is set down to the shoulder 4. When used as part of a burner-base, Fig. 3, I draw up the base-shell of sheet metal or turn the same out of brass rod on a monitor or suitable lathe, the neck being an integral part of the base-body 6.

When my improved check is used as a float or disk regulator in a gas-burner, I place the same loosely on an ordinary flat base or fixture nipple 7 and screw the burner 8 in place. When the gas is turned on, the check or float rises and cuts off the gas gradually. If the pressure is excessive, the float rises until the shoulder 4 touches the shoulder in the gas-burner, when the gas previously going around the neck is shut off and a predetermined quantity passes through the perforation 2 into the burner above the check to its exit at the tip 9. Dotted lines in Fig. 4 show disk or float raised up by the pressure. When the excessive pressure is cut off or reduced in the street-mains or otherwise, the check falls back into its normal position.

Figs. 5 and 6 show my check inverted and placed directly in the opening of a gas-tip 10.

Fig. 7 shows check placed in a gas-hose nipple near a gas-stove, portable or other gas appliance.

Fig. 8 is a modification of my invention, showing the band 3 notched and a series of perforations 11. These holes may be all of one size, so that a stated quantity of gas will pass through each opening at a given pressure, or they may vary in sizes—for instance, the upper hole may pass one foot under two-inch pressure, the second hole two feet, another hole three feet, and so on. A consumer can set the band 3 on the neck 1 at such a point that he can approximate the actual consumption of gas of the particular burner in which the check is used.

Such being the construction, the operation is as follows: The rotating band is set at any point on the neck, so that part of the perforation is left uncovered. It is then placed in a pillar or receptacle, and the gas is turned on and lighted. If the jet is too small, the gas is turned off at the key, the band 3 is turned slightly so as to expose more of the perforation, and the result is noticed again. If the jet is too large, the band is turned so

as to cover up more of the perforation until the desired light or quantity of gas to be passed is had. In this manner the check can be regulated to pass any given volume of gas to the tip or burner outlet, thus reducing or increasing the flow of gas by adjusting the band, which acts as a "cut-off," no tools being required in making the adjustment.

The check is easily applied to existing gas-burners by a consumer, and it is entirely within his own province as to what quantity of gas he cares to consume for illumination or cooking purposes.

When used by gas companies in street-lamps or other places where a positively predetermined quantity of gas is to be used—as, for instance, contracts for street-lighting—I find that the band may be dispensed with when check is used in a tip, so as to avoid any possible disarrangement and alteration in the fixed consumption. In such cases I pierce the tubular neck with only one hole of a suited diameter to pass a given quantity of gas. The open end of the check is then pushed or forced up a short distance into the tip, the perforated end extending therefrom in a pendent position, as shown in Fig. 9. The tip and check are then inserted in the pillar or street-lamp tube ready for use.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. As a new article of manufacture, a gas-regulator independent of its support and consisting of an integral tubular neck provided with an aperture and an annular flange detachably held in the support, and a band mounted for rotation on the neck and having a varying width, substantially as described.

2. An adjustable gas-pressure check, consisting of an integral tubular neck and an annular flange, the flange adapted to detachably hold the check within its support, and a band rotatively mounted on the neck and cut away at its upper edge around one side whereby opposite sides of the band are of different widths, as and for the purpose set forth.

3. An adjustable gas-pressure check consisting of a tubular perforated neck integral with an annular flange, and a band resting on the flange and rotatable on the neck to control the discharge through the aperture in the neck, the said band being cut away at its upper edge around one side whereby opposite sides of the band are of different widths, as and for the purpose described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 12th day of November, 1901.

GEORGE H. GREGORY.

Witnesses:
ALFRED STEINER,
GUSTAV A. HEIDENFELDER.