L. J. HAYDEN.

GAS SAVING ATTACHMENT FOR GAS METERS.

APPLICATION FILED FEB. 21, 1910.

987,719. Patented Mar. 28, 1911.

Fig: 1.

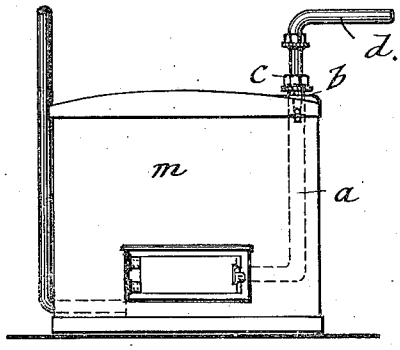


Fig: 2.

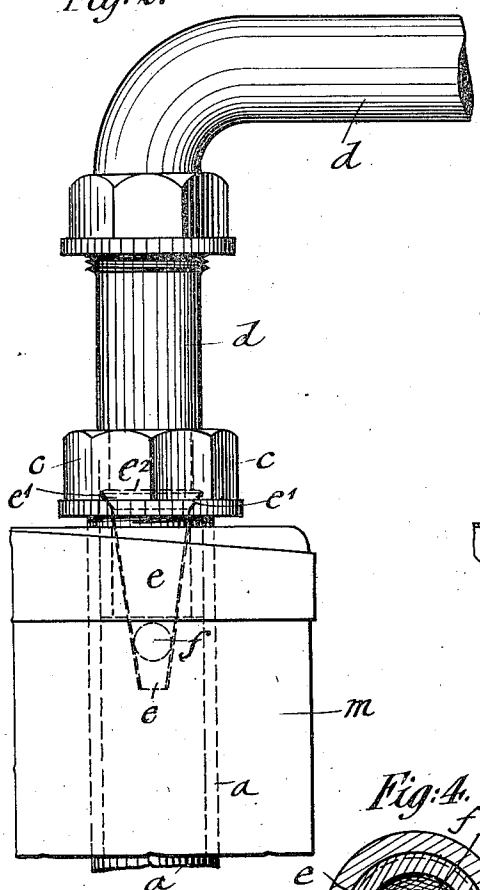


Fig: 3.

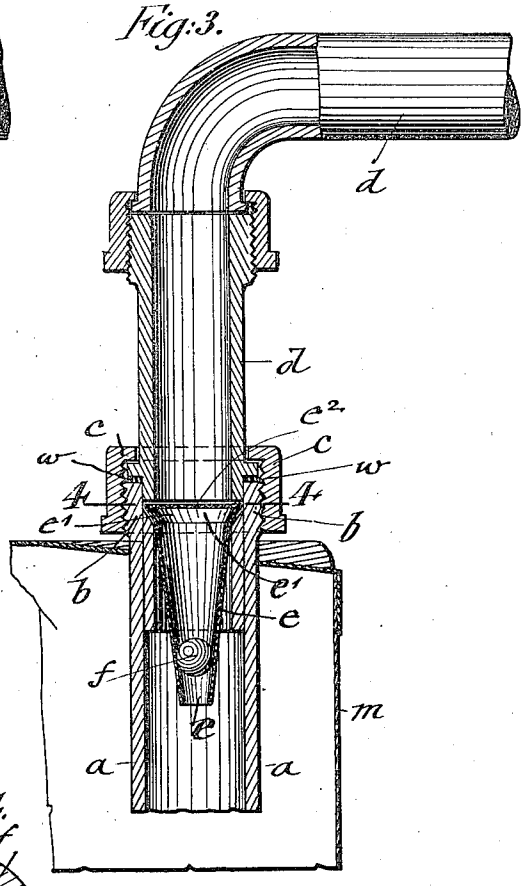
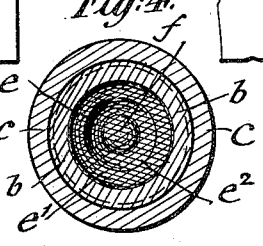


Fig: 4.



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GAS-SAVING ATTACHMENT FOR GAS-METERS.

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Application filed February 21, 1910. Serial No. 545,039.

To all whom it may concern:

Be it known that I, LESTER J. HAYDEN, a citizen of the United States of America, residing in Passaic, in the county of Passaic and State of New Jersey, have invented certain new and useful Improvements in Gas-Saving Attachments for Gas-Meters, of which the following is a specification.

This invention relates to an improved gas-saving attachment for gas-meters.

Gas-pressure regulating valves were arranged heretofore in connection with gas-meters in the service pipe, but these were either too expensive for general use or they did not function satisfactorily for regulating gas-pressure and producing a saving of gas. Furthermore for regulating the pressure of and saving gas, valves were arranged in the pillars of the individual burners, but this again was objectionable as every burner had to be provided with such valves, which was inconvenient and expensive.

The object of this invention is to arrange a gas-pressure regulating device located permanently in the service-pipe of the meter in such a manner that the device is placed in position by simply unscrewing the coupling between the meter and the service-pipe and inserting the regulating device; and for this purpose the invention consists of a gas-regulating valve inserted into the outlet pipe of the gas-meter and comprising a conically-tapering body open at both ends and provided with an outwardly-bent circumferential flange at its upper end, and a ball-valve in said conically-tapering body, the upper flanged end of the body being preferably covered by a screen for retaining the ball-valve, seated in the outlet-pipe of the meter and held in position thereon by means of the coupling.

In the accompanying drawing, Figure 1 represents a front-elevation of a gas-meter with my improved gas-saving device located in the outlet-pipe of the meter, Fig. 2 represents a front-view thereof, Fig. 3 a vertical central section through the outlet-pipe of the gas-meter and the gas-regulating device, drawn on a larger scale, and Fig. 4 is a horizontal section on line 4, 4, Fig. 3, showing the gas-pressure regulating and saving device in plan-view.

Similar letters of reference indicate corresponding parts throughout the several figures.

Referring to the drawing, *m* represents a gas-meter of the well-known construction, *a* the outlet-pipe of the same, and *b* the exteriorly-threaded nipple at the upper end of the outlet-pipe by which the connection with the service-pipe *d* is made in the usual manner by means of a coupling *c* screwed over the exteriorly-threaded nipple and a washer *w* interposed between the same and the nipple, as shown in Fig. 3. The pressure-regulating and gas-saving device is inserted into the nipple *b* and is composed of a conically-flaring body *e*, which is open at the upper and lower ends, and provided at the upper end with an outwardly-flaring circumferential flange e^1 that is seated on a seat in the nipple below the washer *w*. In the conically-flaring body *e* is placed a ball-valve *f*. The conically-flaring body *e* is preferably made of galvanized sheet-metal. The body *e* is preferably covered at its upper end by means of a screen e^2 of wire-gauze which is bent at its edge over the outwardly-flaring flange e^1 of the conically-tapering body *e* or any other device may be attached to the upper end for the purpose of retaining the ball-valve in the conical body *e* and preventing the escape and loss of the same.

The gas-regulating and saving device for gas-meters is placed in position in the nipple of the outlet-pipe by disconnecting the coupling from said pipe and then dropping it in position into the nipple, as shown in Figs. 2 and 3. The service-pipe is then connected again with the nipple by means of the coupling. The gas-pressure regulating and saving device is operated automatically when the lights are turned on by the passing of the gas through the lower smaller end of the conical body into the same and lifting the ball-valve by the pressure of the gas so as to permit the passage of the gas around the valve into the service-pipe and to the burners. The lifting of the ball-valve reduces the gas-pressure and regulates the supply of gas to the service pipe. In addition to the lifting of the ball-valve, a reduction of pressure is also obtained by the passage of the gas from the larger cross-sectional area of the exit-pipe *a* into the smaller cross-sectional area of the lower end

of the conical body *e*; while as soon as the gas passes into the conical body the pressure of the gas is regulated by the play of the ball-valve and thereby the flow of gas diminished.

The gas-saving and regulating device has the advantage that it can be supplied at a very low price to the users of gas, that any one can insert the same without difficulty into the outlet-pipe of the meter at its connection with the service pipe and that it functions in a reliable manner under varying gas-pressures, so that a considerable saving in gas is obtained.

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

In a gas-regulating and saving device for gas meters, the combination, with the exteriorly threaded outlet-pipe of the gas-meter, of an upwardly and outwardly beveled sleeve in the upper part of the outlet pipe forming a beveled seat near the upper end of said pipe, a downwardly tapering conical body open at both ends and disposed in said pipe, and having an outwardly flaring flange at its upper end seated on said beveled seat, a ball-valve in said conical body, a gauze screen resting across the upper edge of said flaring flange, below the upper edge of the outlet pipe, a service pipe extending into the outlet pipe, and having an outwardly projecting flange resting on said outlet pipe, and a coupling screwed on the threaded end of the outlet pipe and engaging said projecting flange.

In testimony, that I claim the foregoing as my invention, I have signed my name in presence of two subscribing witnesses.

LESTER J. HAYDEN.

Witnesses:
PAUL GOEPEL,
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