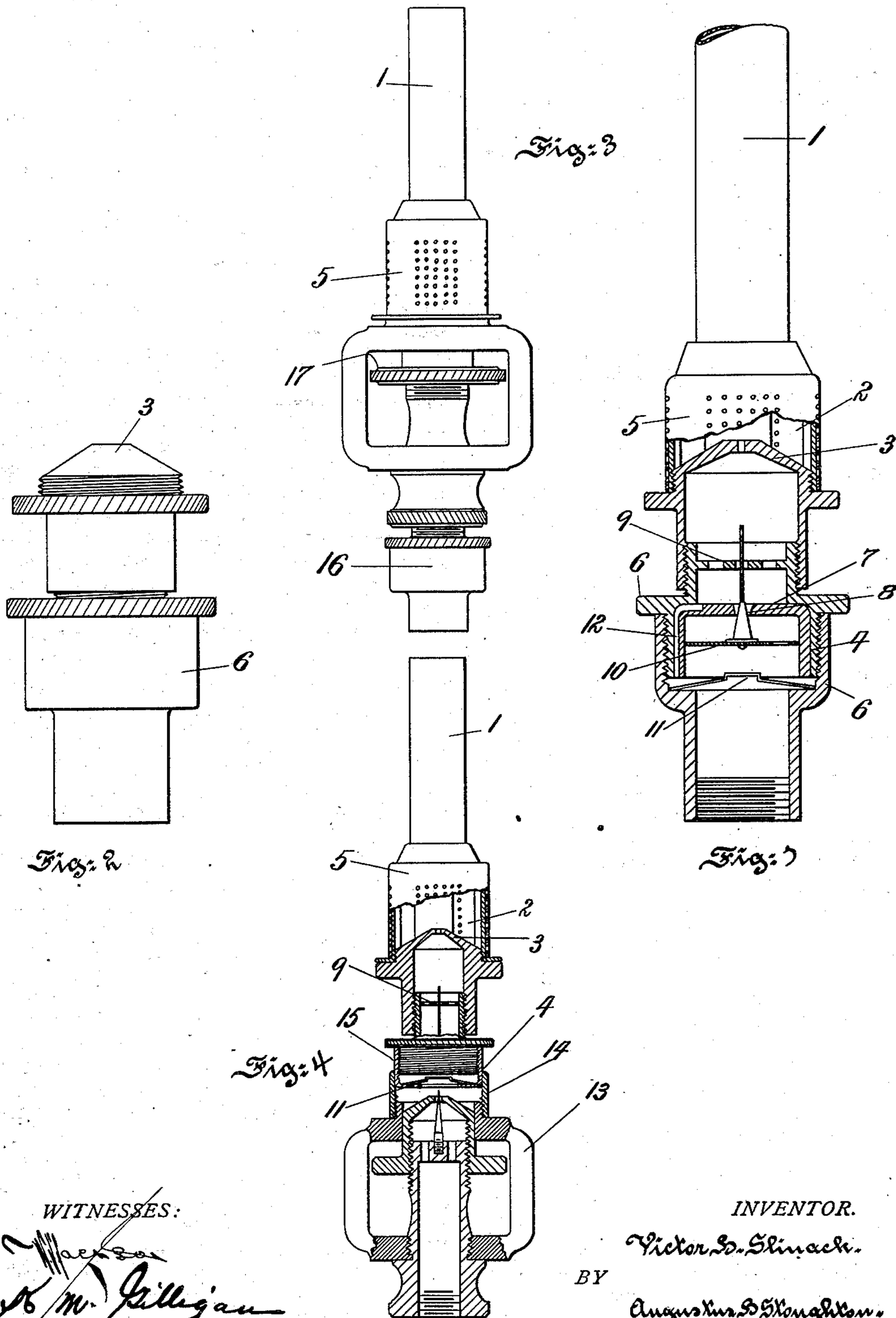


No. 748,225.

PATENTED DEC. 29, 1903.

V. H. SLINACK.  
INCANDESCENT GAS LIGHT.  
APPLICATION FILED DEC. 8, 1902.

NO MODEL.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## INCANDESCENT GAS-LIGHT.

SPECIFICATION forming part of Letters Patent No. 748,225, dated December 29, 1903.

Application filed December 8, 1902. Serial No. 134,462. (No model.)

*To all whom it may concern:*

Be it known that I, VICTOR H. SLINACK, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Incandescent Gas-Lights, of which the following is a specification.

It is one object of the present invention to provide for automatically regulating incandescent gas-lights to suit varying or different gas-pressures.

Another object of the invention is to provide for burning in a so-called "incandescent" gas-light a predetermined quantity of gas per unit of time regardless of the varying pressure in the mains; and to these and other ends hereinafter set forth the invention comprises the improvements to be presently described, and finally claimed.

The nature, characteristic features, and scope of the invention will be more fully understood from the following description, taken in connection with the accompanying drawings, forming part hereof, and in which—

Figure 1 is a view, principally in central section, illustrating means embodying features of the invention. Fig. 2 is a side view of a portion of the means shown in Fig. 1. Fig. 3 is a side view of means embodying a modification of the invention; and Fig. 4 is a view principally in central section, illustrating means embodying another modification of the invention.

In the drawings, 1 is a Bunsen tube having air-inlets 2 near its base. 3 is a jet-producer operatively arranged in respect to said air-inlets. 4 is an automatic pressure-regulator located beneath said jet-producer. As shown in the drawings with particular reference to Fig. 1, the Bunsen tube is shown as provided at its base with a rotatable air-shutter 5, which when present serves to regulate the size of the air-inlets 2, and the jet-producer comprises a diaphragm provided with a jet-orifice of fixed size. Beneath this diaphragm and within the casing which carries it is a chamber with which directly communicates the orifice of the pressure-regulator, whose size is varied in response to changing gas-pressure in the

mains. The changing-orifice of the pressure-regulator serves to control the flow from the mains into the chamber, so that the latter receives a substantially uniform quantity of gas, which keeps it full of gas at such pressure that it does discharge through the jet-orifice in the form of a substantially uniform jet. The chamber operates to equalize pressure, and thus tend to uniformity of the jet. The Bunsen tube is unobstructed at its top, even though equipped with the ordinary burner-head, and provided with air-inlets at its base, so that there is practically no back pressure in it. Thus the gas which traverses the variable outlet of the pressure-regulator is equalized in the chamber and finally discharged through a jet-orifice in the form of a uniform jet.

The automatic pressure-regulator, with which excellent results have been produced and which seems to be the best known to me for the purpose, is chosen for illustration, and, as illustrated, it consists of a two-part housing 6, containing a suitable inverted cup-shaped lining 7, provided with a port 8 and also a spider 9. A piston 10 works in the cup-shaped lining 7 and carries a plug-shaped valve that coöperates with the port 8 and of which the spindle is guided by the spider 9. There is also a crosswise-ranging bridge-piece 11, which serves as a stop for the piston 10. Around the plug-valve and port there is a by-pass 12, which serves the purpose of admitting enough gas to properly support combustion even when the pressure is so high that the port 8 is closed by its valve. Under normal conditions of pressure the piston rests on the stop 11, and since the piston is provided with an opening, as shown, gas passes through that opening and through the port 8. As the pressure rises the piston is lifted upward, and its valve serves to diminish the extent of the opening at the port 8. In this way the supply of gas is automatically kept substantially constant regardless of differences in pressure on the mains.

Referring to Fig. 4, the modification there shown comprises the provision beneath the pressure-regulator of a manually-operated needle-valve 13. In this instance the top of



the needle-valve 13 is provided with a seat 14, with which the housing 15 of the regulator is detachably connected.

The construction of the modification shown in Fig. 3 is the same as shown in Fig. 4, with the exception that the regulator 16 is placed beneath the manual needle-valve 17. The object of providing the manually-operated needle-valve below the automatic regulator in Fig. 3 or above it in Fig. 4 is that in case the automatic regulator should get out of order it is possible to detach it and apply the Bunsen tube to the manual needle-valve and in that way insure a good light, the presence of which in many instances is essential, particularly in street-lighting.

It will be obvious to those skilled in the art to which the invention relates that modifications may be made in details without departing from the spirit thereof. Hence I do not limit myself to the precise construction and arrangement of parts hereinabove set forth, and illustrated in the accompanying drawings; but,

Having thus described the nature and objects of the invention, what I claim as new, and desire to secure by Letters Patent, is—

1. Means for automatically regulating incandescent gas-lights to suit varying gas pressures which comprise the combination of

a pressure-regulator having provisions for automatically adjusting the size of an opening in response to changing gas-pressure, a diaphragm having a jet-orifice of unchanging size, a single unobstructed chamber interposed between the opening and orifice, and a Bunsen tube having air-inlets at its base and unobstructed at its top and receiving a substantially uniform jet from the jet-orifice.

2. Means for automatically regulating incandescent gas-lights to suit varying gas pressures which comprise the combination of a pressure-regulator having provisions for automatically adjusting the size of an opening in response to changing gas-pressure, a single unobstructed chamber receiving regulated flow from said opening, a diaphragm having a jet-orifice of unchanging size communicating with said chamber, a Bunsen tube having air-inlets at its base and unobstructed at its top and receiving a substantially uniform jet from the jet-orifice, and a by-pass around the regulator, substantially as described.

In testimony whereof I have hereunto signed my name.

VICTOR H. SLINACK.

In presence of—

K. M. GILLIGAN,  
WM. J. JACKSON.