No. 776,433. PATENTED NOV. 29, 1904.

V. H. SLINACK.

INCANDESCENT GAS LIGHT.

APPLICATION FILED JUNE 1, 1903.

NO MODEL.

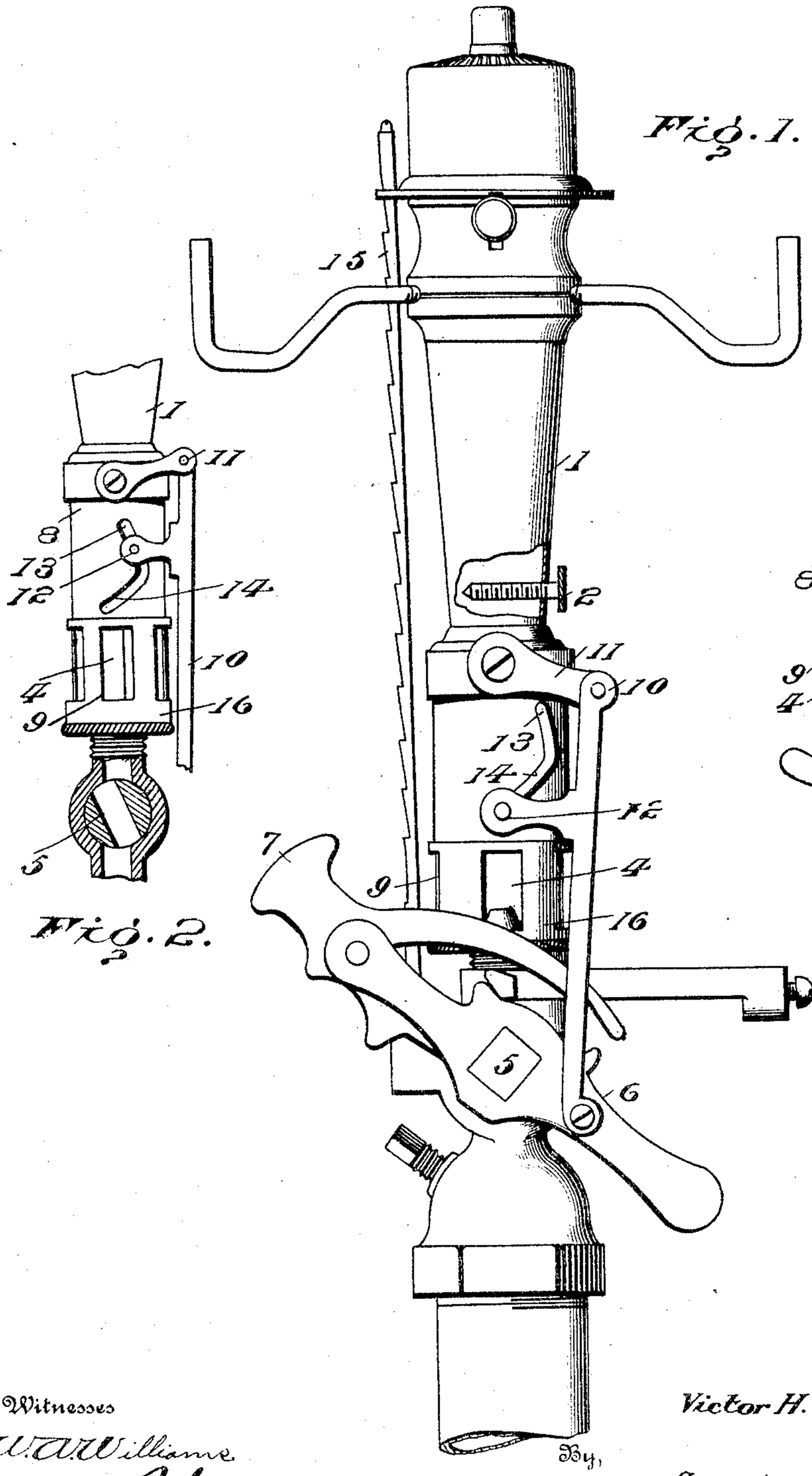

Fig. 1.

Fig. 2.

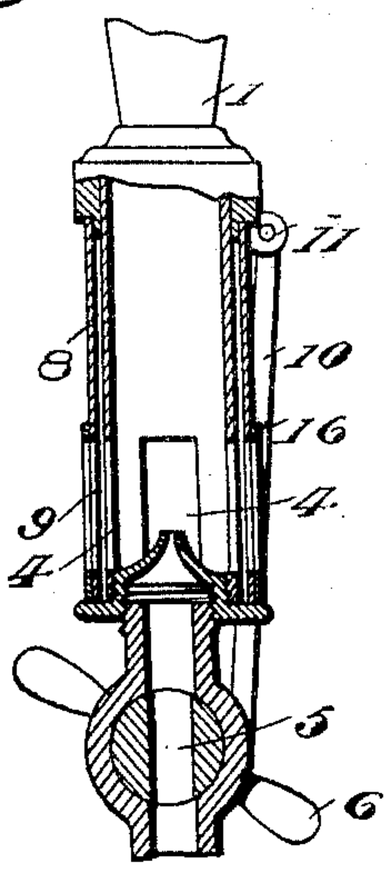

Fig. 3.

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No. 776,433. Patented November 29, 1904.

UNITED STATES PATENT OFFICE.

VICTOR H. SLINACK, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE PENNSYLVANIA GLOBE GAS LIGHT COMPANY, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

INCANDESCENT GAS-LIGHT.

SPECIFICATION forming part of Letters Patent No. 776,433, dated November 29, 1904.

Application filed June 1, 1903. Serial No. 159,554. (No model.)

To all whom it may concern:

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

Objects of the present invention are, first, to prevent flashing back and undue explosions when the gas is turned on and lighted, and, second, to prevent the ingress of insects when the gas is extinguished; and these objects are accomplished by closing the air-shutter when gas is turned off and by causing the opening of the shutter when gas is turned on in such a way that comparatively little air is admitted until the gas is lighted, or, more generally stated, by causing the opening of the plug-valve, which admits gas to be lighted to also open the air-shutter, as well as by the means hereinafter described and claimed.

The nature, characteristic features, and scope of my 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 an elevational view, partly in section, of an incandescent gas-light embodying features of the invention; and Figs. 2 and 3 are views, partly in section and partly in elevation, illustrating the relation of the movements of the parts of the device shown in Fig. 1.

In the drawings, 1 is the gas and air mixing tube, which is fitted with what is usually called a "gas-check." The radially-arranged screw 2 is an illustration of such a gas-check, and it constitutes the subject-matter of my application for a patent serially numbered 146,275. This gas and air mixing tube 1 is also provided with a burner 3 and with air-inlets 4.

5 is the plug-valve, which serves to turn the supply of gas onto the burner, so that it may be lighted, and off from the burner to extinguish it. It is shown as provided with an operating-lever 6, having an automatic locking-lever 7.

8 is a sleeve revolubly mounted on the burner and provided with openings 9, which may be alined with the openings 4 and with portions intermediate of these openings 9, which serve to wholly or partially close the openings 4.

10 is what may be called a "floating link," and it is pivoted at one of its ends to the lever 6 and at the other of its ends to a pivoted arm 11. This link is provided with a pin 12, which engages a groove in the sleeve. As shown, this groove is inclined; but its parts 13 and 14 are inclined at different angles for a purpose to be presently described.

In use the plug-valve 5 is turned so as to admit gas, which may be lighted at the burner—for example, by means of the climbing lighter 15. As the gas is thus admitted the link 10, operating by its pin 12, serves to turn the sleeve 8, and thus to bring its openings 9 into alinement with the openings 4, or, in other words, to open the air-shutter. Since the inclination of the part 13 is comparatively slight, as shown in the drawings, the air-shutter is opened comparatively little, while the plug-valve is opened comparatively wide. The effect of this is to present to the burner a preponderance of gas over air at the time of lighting and in respect to the ordinary mixture of gas and air. This is important, because such a mixture lights without undue explosion, due to what is called "flashing back" or other causes, and the absence of such explosive lighting tends to prolong the life of the mantle, and of course when the light has flashed back it does not properly heat the mantle. The final opening of the plug-valve 5 occurs after the burner is lighted, and during the small motion necessary to effect it the pin 12 traverses the portion 14 of the groove, and the latter causes the sleeve to be turned rapidly. Thus in the best embodiment of the invention the air-shutter is opened slightly and admits comparatively little air until after the supply of gas has been lighted, whereupon it opens rapidly and admits sufficient air to establish the normal mixture. When the plug-valve is turned so as to

extinguish the burner by cutting off its supply of gas, the pin 12 operates to turn the sleeve and close the openings 4. This prevents the ingress of insects when the burner is not lighted, which is of course advantageous in outdoor lighting. The movements of the sleeve 8 are not intended to regulate the normal mixture of air and gas which is supplied after the burner has been lighted. This result is accomplished by means of the part 2 and of the second sleeve 16, carried upon the sleeve 8 and itself provided with openings which may be adjusted so as to more or less coincide with the openings 9, and therefore change their effective size. This sleeve 16 when once adjusted to produce the proper mixture for supplying the lighted burner is not interfered with by the movements of the sleeve 8.

The described device is adapted to employ high-pressure gas and to produce high candle-power, so that its construction is quite different from ordinary low-candle-power low-pressure burners. The openings in the cap 3 are comparatively large, which is advantageous, because they do not tend to clog, since objects and particles drawn into the mixing-tube by the suction of the high-pressure gas pass through them. Since these openings are large, there would be danger when the climbing lighter is employed of flash-backs; but the described control of the admission of air in relation to gas at the time of ignition prevents their occurrence. The described burner is universal in that it may be employed on any make or pressure of gas.

It will be obvious to those skilled in the art to which my invention appertains that modifications may be made in detail 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 my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In an incandescent gas-light the combination of a plug-valve for turning on and off the gas, a rotatable air-shutter, and a link pivotally connected with the plug-operating lever and engaging an inclined groove in the shutter, substantially as described.

2. In an incandescent gas-light the combination of a plug-valve having operating-levers, a link pivotally connected with the lever, a rotatable air-shutter, and a pin-and-inclined-groove connection between the link and air-shutter, substantially as described.

3. In an incandescent gas-light the combination of a plug-valve for turning on and off the gas, an air-shutter, means connected with the air-shutter and plug-valve for opening the former when the latter is turned on and for closing it when the latter is turned off, and means independent of said mechanism for permitting of manual adjustments of the gas and air mixture, substantially as described.

4. In an incandescent gas-light the combination of a plug for turning on and off the gas, an air-shutter, and differential mechanism operatively connected with the valve and shutter whereby when the valve is opened the opening of the shutter lags so that the supply of air is limited until after the gas is lighted thus avoiding flashing back and undue explosions.

5. In an incandescent gas-light the combination of a plug-valve for turning on and off the gas, a rotatable sleeve constituting part of the air-shutter, and a pin and a groove of irregular inclination interposed between the two to impart differential motion to the sleeve, substantially as described.

6. A high-pressure and high-candle-power universal burner comprising the combination of an air and gas mixing tube have comparatively large ignition-openings at its top and air-openings at its base, a climbing lighter to which gas is momentarily admitted to light the burner, and means for restricting the admission of air in relation to the admission of gas while the climbing lighter is in operation whereby flash-backs are obviated, substantially as described.

In testimony whereof I have hereunto signed my name.

VICTOR H. SLINACK.

Witnesses:
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