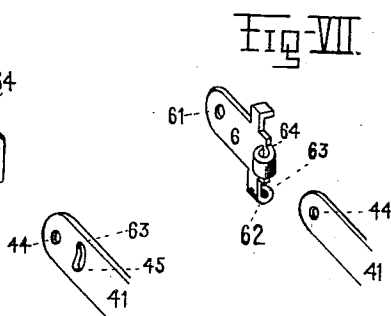
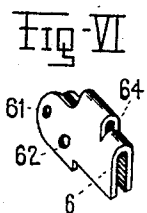
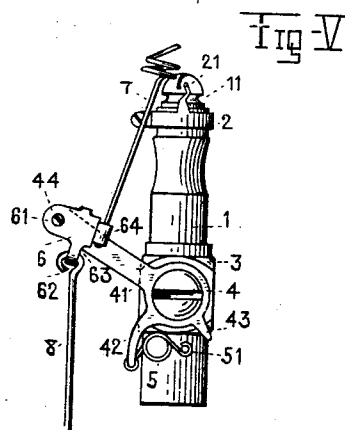
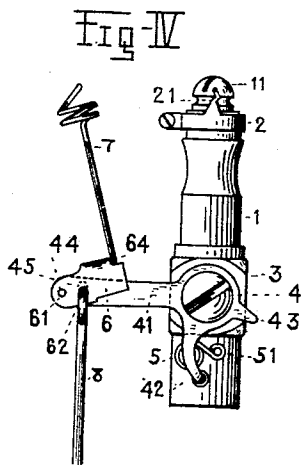
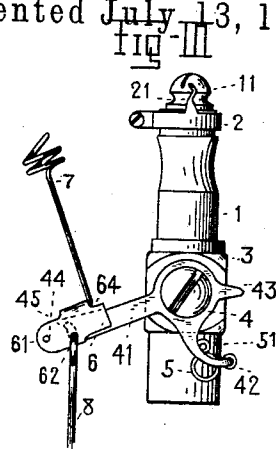
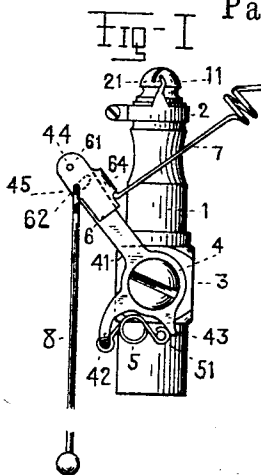
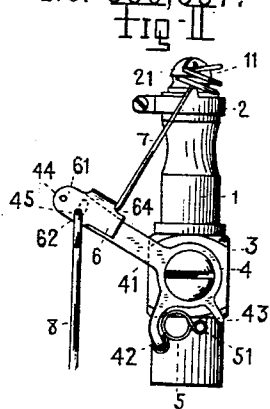


(No Model.)

F. RHIND.
ELECTRIC GAS LIGHTER.

No. 586,537.

Patented July 13, 1897.



WITNESSES:

James R. Coe
C. R. Ayres.

Frank Rhind
INVENTOR

BY Geo. H. Cooper
ATTORNEY

UNITED STATES PATENT OFFICE.

FRANK RHIND, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR TO THE
BRIDGEPORT BRASS COMPANY, OF SAME PLACE.

ELECTRIC GAS-LIGHTER.

SPECIFICATION forming part of Letters Patent No. 586,537, dated July 13, 1897.

Application filed May 17, 1897. Serial No. 636,993. (No model.)

To all whom it may concern:

Be it known that I, FRANK RHIND, a citizen of the United States, residing at Bridgeport, Connecticut, have invented a new and useful Improvement in Electric Gas-Lighters; of which the following is a specification.

My invention relates to that class of gas-lighters in which by the act of turning on the gas at a burner an electric connection is made and broken and a spark produced near the point of gas emission. It is intended to simplify and cheapen such lighting devices, and particularly to prevent the making and breaking of the circuit when the gas is turned off.

In the accompanying drawings, Figures I, II, III, IV, and V are elevations of a gas-burner showing my device in various positions, Fig. V also showing a slight modification. Figs. VI and VII show two modifications of parts of my device on a larger scale and detached from the rest.

1 designates a gas-burner provided with a tip 11; 2, an insulated band formed with point 21; 3, a gas-cock; 4, a lever provided with arms 41 and 42 and lug 43, arm 41 being perforated at 44 and 45; 5, a spring pivotally secured to the burner at 51; 6, a button pivoted at 61 to the arm 41 and provided with an aperture 62, a stop 63, and clip 64; 7, a contact-wire; 8, a pendant.

In the example of my invention shown in Figs. I, II, III, IV, and VI of the drawings the gas-burner, which may of course be of any desired form or construction, is shown as an ordinary pillar 1, provided with a tip 11 of lava or other material. Encircling the upper end of the pillar 1 is a band 2, insulated from the pillar as by a ring of steatite or the like. The band 2, as shown, has a point 21 adjacent to the slot in the tip 11. To the band 2 and to the pillar 1 are attached the ends of insulated wires which pass to the opposite poles of an ordinary open-circuit battery. As this part of the device is well known and forms no part of my invention, I have not encumbered the drawings therewith. To the gas-cock 3 of the pillar 1 is attached a lever 4, having a main arm 41, a spring-arm 42, and a lug 43. Pivotally attached to the arm 41 at 44 is the button 6. In a clip 64 of the button 6 is secured the bent end of the contact-

wire 7, which is provided near its upper end with a spring-coil. As shown, the button 6 is of inverted-U shape in cross-section, so that it embraces the lever-arm 41. Both sides of the button 6 are perforated at 62 to receive the eye of a pendant 8, which also passes through a slot 45 in the arm 41. The upper end of the slot 45 serves as a stop 63, the use of which will hereinafter appear. A spring 5, essentially C-shaped, although shown as coiled once upon itself, is pivotally secured at one end to a pin 51 on the pillar 1 and at its other end to the bent end of the arm 42 of the lever 4. The lug 43 is adapted to strike against the pin 51 to limit the rotation of the lever 4.

The operation of my device will be readily understood from an inspection of the drawings.

Fig. I shows the device with the gas cut off and the electric circuit open. When it is desired to light the gas, the operator pulls down on the pendant 8, which acts to turn the cock 3 and to bring the upper end of the wire 7 into contact with the point 21; as shown in Fig. II. This closes the circuit, of which, as already explained, the point 21 and wire 7 are the terminals. The further movement of the lever 4 and wire 8 breaks the circuit and produces a spark at the point of gas emission, thus lighting the gas. While the gas is in use the device remains in the position shown in Fig. III, the spring 5 acting to retain the lever 4 either in the closed or open position; as shown. When the gas is extinguished, the operation of raising the pendant 8 acts to rotate the button 6 on its pivot 61, as shown in Fig. IV. When the eye of the pendant strikes the stop 63, the lever 4 begins to be acted upon, thereby cutting off the flow of gas. The partial rotation of the button 6 changes the path of movement of the end of the contact-wire 7, so that in its closing movement it does not touch the point 21, *vide* Fig. V. It is obvious that in this way one-half of the battery-power is saved, as the circuit is made and broken only once each time that the gas is used.

In Figs. V and VII I have shown modification of the button 6 in which it is made flat and in which the wall of the aperture 62 forms

the stop 63 to limit the rotation of the button on the arm 41. It is clear that the operation of the device will not be changed by this alteration. In fact I have introduced this slight change in construction merely to indicate that mechanical alterations may be made in my device without departing from my invention. I have endeavored to reduce the parts of the device both in number and weight to produce a cheap and serviceable article.

What I claim as my invention, and desire to secure by Letters Patent of the United States, is as follows:

1. In an electric gas-lighter in combination, a stationary electric terminal, a gas-cock, an operating-lever on said cock, a button pivotally attached at or near the end of said lever, a contact-arm secured to said button, a handle or pendant connected with said button and said lever and adapted to operate said cock through said lever and to rotate said button on said lever so that said contact-arm may be brought into contact with said stationary terminal during the opening of said cock and be carried back through a different path so as to avoid contact with said terminal during the

closing of said cock and a spring pivotally attached to said lever and adapted to hold said cock either in its closed or open position, substantially as described.

2. In an electric gas-lighter in combination, a stationary electric terminal, a gas-cock, an operating-lever on said cock, a button pivotally attached at or near the end of said lever, a wire contact-arm formed with a spring-coil secured to said button, a handle or pendant connected with said button and said lever and adapted to operate said cock through said lever and to rotate said button on said lever so that said contact-arm may be brought into contact with said stationary terminal during the opening of said cock and be carried back through a different path so as to avoid contact with said terminal during the closing of said cock and a spring pivotally attached to said lever and adapted to hold said cock either in its closed or open position, substantially as described.

FRANK RHIND.

Witnesses:

GEO. L. COOPER,
C. R. AYRES.

It is hereby certified that Letters Patent No. 586,537, granted July 13, 1897, upon the application of Frank Rhind, of Bridgeport, Connecticut, for an improvement in "Electric Gas-Lighters," was erroneously issued to The Bridgeport Brass Company, as owner of the entire interest in said invention; that said Letters Patent should have been issued to the inventor, *Frank Rhind and The Bridgeport Brass Company*, jointly, said The Bridgeport Brass Company being the assignee of one-half interest only in said patent, as shown by the record of assignments in this Office; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 27th day of July, A. D. 1897.

[SEAL.]

WEBSTER DAVIS,
Assistant Secretary of the Interior.

Countersigned:

BENJ. BUTTERWORTH,
Commissioner of Patents.