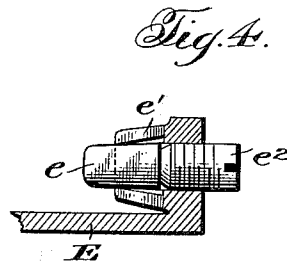
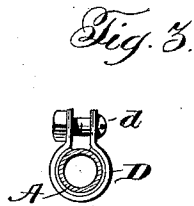
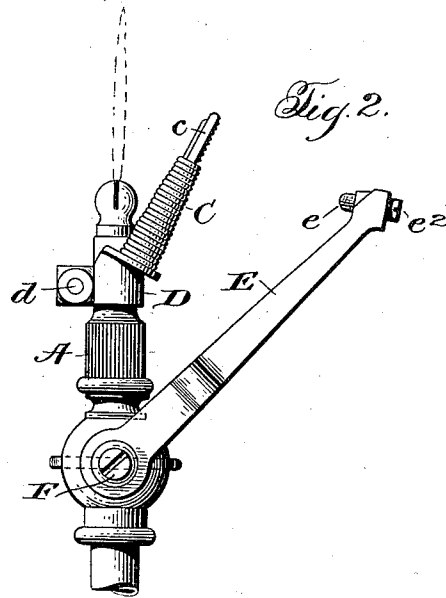
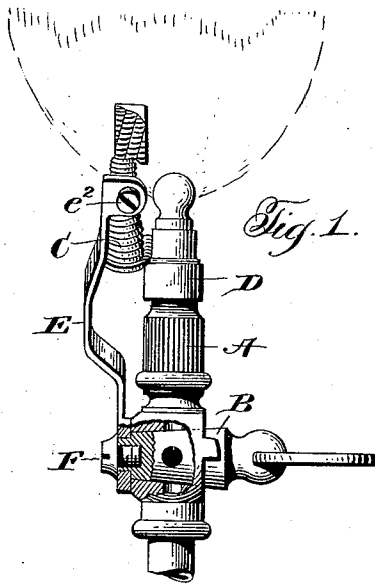


J. A. NELSON.
AUTOMATIC GAS LIGHTER.
APPLICATION FILED DEC. 15, 1911.

1,024,277.

Patented Apr. 23, 1912.



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UNITED STATES PATENT OFFICE.

JOHN A. NELSON, OF DAVENPORT, IOWA.

AUTOMATIC GAS-LIGHTER.

1,024,277.

Specification of Letters Patent.

Patented Apr. 23, 1912.

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To all whom it may concern:

Be it known that I, JOHN A. NELSON, citizen of the United States, residing at Davenport, in the county of Scott and State of Iowa, have invented certain new and useful Improvements in Automatic Gas-Lighters, of which the following is a specification.

This invention relates to an improvement in a gas lighting device.

One of the objects of the present invention is the provision of a gas lighter of a simple construction which may be readily attached to gas burners of any well known type.

A further object of the invention is the provision of an improved gas lighter which is operatively associated with the valve of the gas burner in such a manner that when said valve is actuated to permit the flow of gas to the burner, the lighter will be simultaneously actuated to cause the ignition of the gas at the burner.

Other objects of the invention will be apparent from the detailed description hereinafter, when read in connection with the accompanying drawings wherein a convenient embodiment of the invention is illustrated and wherein like characters refer to similar parts in the several views.

In the drawings: Figure 1 is a side elevation of a gas burner provided with the improved lighter; Fig. 2 is a rear elevation of the same; Fig. 3 is a cross section through the burner tube showing the manner of attaching the yieldable arm thereto; and Fig. 4 is a detailed view showing the manner of supporting the pencil of spark producing material.

Referring now more particularly to the drawings, A designates a gas burner of any well known type, the flow of gas to which is controlled by a valve or cock B which may be of any well known construction. In the embodiment of the invention illustrated in the accompanying drawings, a rotary plug valve is utilized for this purpose, one end of which is provided with a suitable handle *b* permitting manipulation thereof.

Secured to the burner A adjacent the upper portion thereof, is a yieldable arm C which is inclined outwardly away from the burner from the bottom to the top thereof and the upper end of which extends above the usual tip which is secured in the top of the gas burner. The yieldable arm C may

be of any suitable construction and in the form of the invention illustrated in the drawings, such arm is shown as formed of a coiled wire, the lower end of which is secured to a clip D which is adapted to embrace the burner A and to be rigidly clamped thereto by means of a suitable clamping bolt *d* which passes through the free ends of the clip D. The yieldable arm C is provided at its upper end with a plate or member *c*, and the face of the member which is farthest from the burner A is abraded or roughened for a purpose to be hereinafter more particularly set forth.

Secured to the valve B so as to oscillate therewith, is an upwardly extending arm E, the upper end of which is provided with a pencil *e* of spark producing alloy or other spark producing material which is so positioned on the arm that as said arm is swung, when the valve B is manipulated to permit the gas to flow to the burner A, it will be brought into engagement with the roughened or abraded face of the member *c* carried by the yieldable arm C. During the further movement of the valve B the yieldable arm C will be flexed a sufficient extent to bring the abrading member carried thereby substantially directly over the top of the burner and as the movement of the valve is continued, the spark producing pencil carried by the arm E will pass over the end of the abrading member carried by the yieldable arm C, thus permitting said arm to return to its normal position. As the spark producing pencil carried by the swinging arm E passes over the abrading member *c* carried by the yieldable arm C, a spark or shower of sparks will be emitted thus causing the ignition of the gas at the burner.

When the valve B is turned to cut off the flow of gas to the burner, the spark producing pencil carried by the swinging arm E will engage the unabraded side of the member *c* carried by the yieldable arm C and pass thereover, thus restoring the parts to positions insuring the lighting of the gas when the valve B is again actuated to permit gas to flow to the burner A.

The arm E may be secured in any suitable manner to the valve B so that it will oscillate therewith. In the embodiment of the invention illustrated in the drawings, I have shown the lower end of said arm overlying the small end of the valve B and secured

thereto by a suitable screw F; the arm and screw in this instance also serve as the means for securing the valve in its socket. The spark producing pencil *e* is conveniently secured to the swinging arm E in such a manner that it can be adjusted longitudinally as it wears. To this end, a socket *e'* is provided at the upper end of the arm E in which the spark producing pencil is frictionally held. The upper end of the socket *e'* has threaded therein a screw *e²* which bears upon the upper end of the spark producing pencil. From this construction it will be seen that as the pencil wears, it can, by adjusting the screw *e²*, be moved downwardly in its socket.

While a convenient embodiment of the invention is illustrated in the accompanying drawings, it will be understood that various changes may be made to the particular form and construction therein shown without departing from the spirit and scope of the invention as defined in the appended claims.

I claim:—

1. In a gas lighter, the combination with a gas burner, of a yieldable arm supported alongside of said gas burner, an abrading member carried by said yieldable arm, a swinging arm, and a spark producing member carried by said swinging arm and adapted upon movement thereof to engage the abrading member carried by said yieldable arm and upon continued movement of said swinging arm to flex said yieldable arm and pass over the abrading member thereof.

2. In a gas lighter, the combination with a gas burner, of a yieldable arm carried by said burner, said arm inclining outwardly away from the burner and the upper end thereof being provided with an abrading member, a swinging arm pivotally supported beneath said yieldable arm, and a spark producing member carried by said swinging arm and adapted upon movement of said arm to engage and pass over the abrading member carried by the yieldable arm.

3. In a gas lighter, the combination with a gas burner, of a yieldable arm, an abrading member carried by the upper portion of said yieldable arm and positioned adjacent the top of the burner, an oscillating valve controlling the flow of gas to said burner, an arm rigidly connected to said valve so as to oscillate therewith, and a spark producing member carried by said arm and adapted upon movement thereof to engage the abrading member carried by the yieldable arm and to bend the yieldable arm and pass over the abrading member thereof.

4. In a gas lighter, the combination with a gas burner, of a yieldable arm supported by the burner, said arm inclining outwardly from the bottom to the top thereof away from said burner, an abrading member carried by the upper end of said arm and positioned adjacent the top of the burner, a valve for the burner positioned below said yieldable arm, a swinging arm movable with said valve, and a spark producing member carried by said arm and adapted upon movement thereof to engage and pass over the abrading member carried by the yieldable arm.

5. In a gas lighter, the combination with a gas burner, a clip removably secured to said gas burner adjacent the top thereof, a yieldable arm carried by said clip and extending outwardly therefrom, an abrading member carried by said yieldable arm, a valve controlling the flow of fuel to said burner, and a member movable with said valve and provided with a spark producing material adapted upon movement of the valve to engage and traverse the abrading member carried by said yieldable arm.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN A. NELSON.

Witnesses:

W. G. SANDFORD,
G. E. LAU.