No. 647,364. Patented Apr. 10, 1900.

H. R. BENNETT.

ELECTRICAL GAS LIGHTER.

(Application filed Feb. 9, 1899.)

(No Model.)

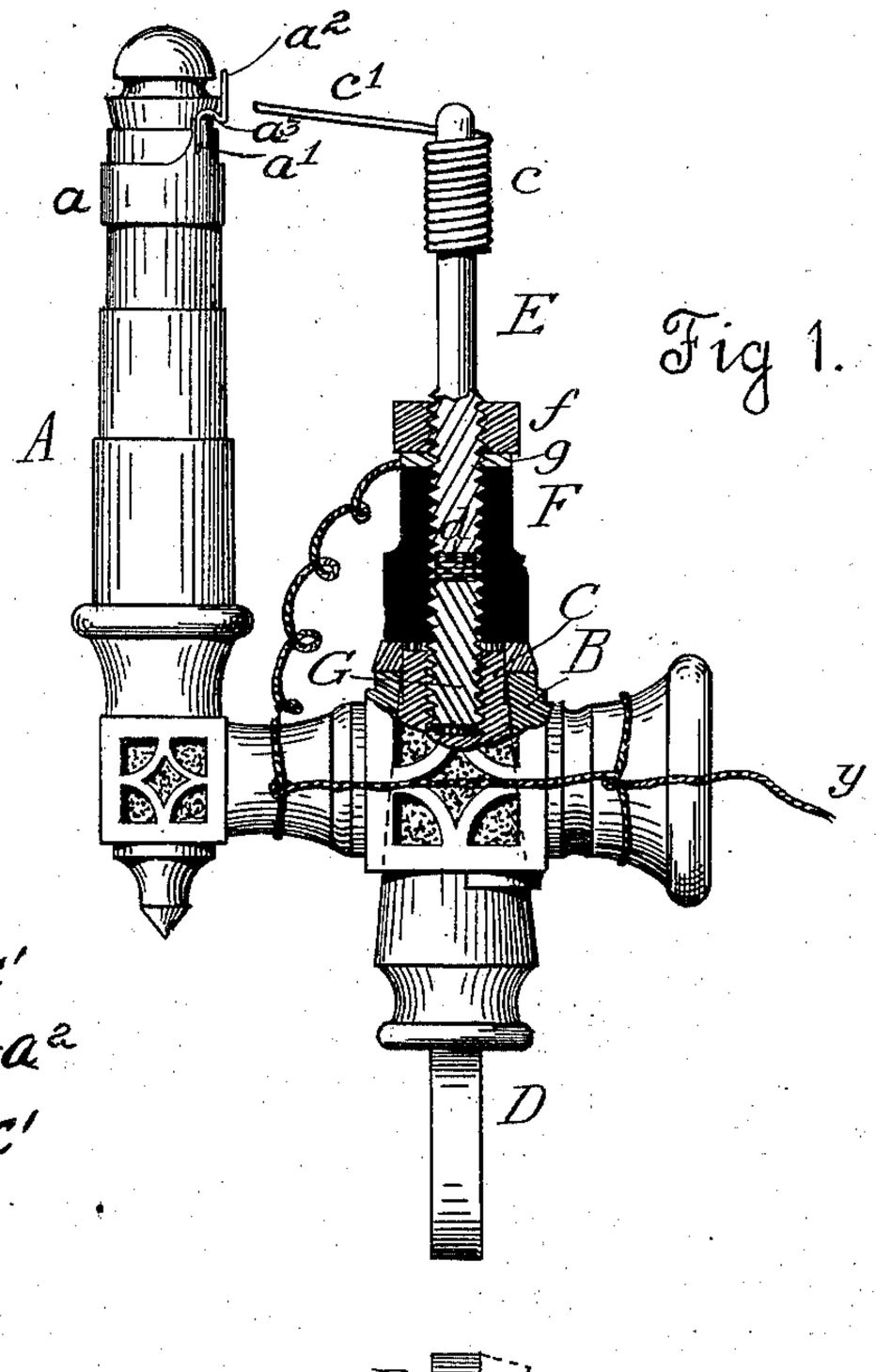

Fig 1.

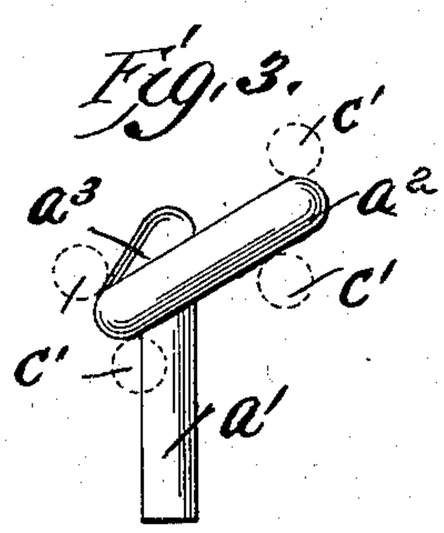

Fig. 3.

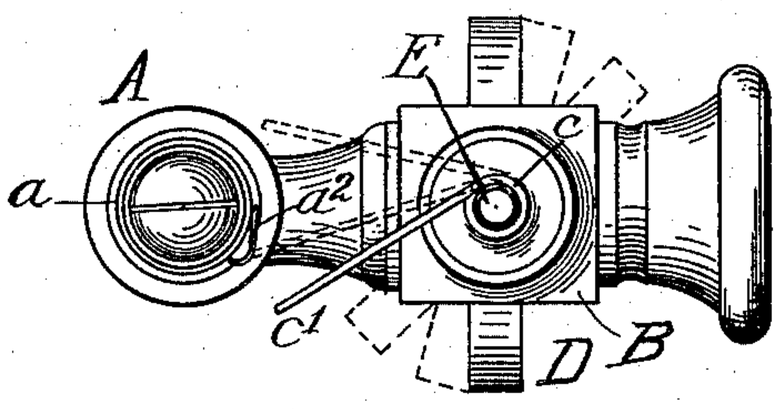

Fig 2.

Witnesses
Louis Goldberg
Miles M. McIntosh

Harry R. Bennett
Inventor

By his Attorneys Spear & Seely

UNITED STATES PATENT OFFICE.

HARRY R. BENNETT, OF SAN FRANCISCO, CALIFORNIA.

ELECTRICAL GAS-LIGHTER.

SPECIFICATION forming part of Letters Patent No. 647,364, dated April 10, 1900.

Application filed February 9, 1899. Serial No. 705,012. (No model.)

To all whom it may concern:

Be it known that I, HARRY R. BENNETT, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Electrical Gas-Lighters, of which the following is a specification.

My invention relates to electrical attachments for gas-lighting; and my object is to produce an exceedingly simple and cheap construction, readily applied to any burner, and which will be automatic in operation when actuated by the simple turning on of the gas by the ordinary gas-cock.

Speaking generally, my apparatus comprises two terminal contacts, one carried by the burner adjacent to its discharging-orifice and the other by the gas-cock. Separate electrical conductors include these terminals in an open circuit with a battery and spark-coil. The circuit is closed by the act of turning on the gas and is then broken by a continuation of the movement, so that a spark is produced at the time when a sufficient volume of gas is being discharged to be ignited. I dispense with chains or like connections ordinarily employed for causing and breaking the contact and use only the ordinary gas-cock, thus making an exceedingly cheap and simple construction.

I have illustrated my invention in the accompanying drawings, in connection with which this specification should be read.

Figure 1 is a side elevation of a gas-burner with my lighting attachment in position, the gas-valve being partly broken away to show a vertical section of the connection to and insulation of one of the terminal contacts. Fig. 2 is a plan view. Fig. 3 is a detail view illustrating the action of the contacts, the different positions of the movable or swinging contact being indicated in dotted lines.

A represents an ordinary jet or gas-burner, having the valve-chamber B, the usual conical valve C, and the gas-cock D, connected to the valve. Near the burner-orifice is mounted an adjustable metallic collar *a*, which carries one of the contacts, the latter being preferably a short piece of platinum wire. This contact-wire is bent so as to form two straight portions a' a^2, connected by a compound curve a^3. The end a' is secured to the collar *a*, while the straight part a^2 forms the actual contact. The contact can be adjusted to any necessary extent either by moving the collar up or down or by turning it upon the burner. The other contact is a wire spring *c*, which may be of platinum, German silver, or any suitable material and which is coiled upon a shaft E and terminates in a spring-arm c', which projects toward the burner-contact. The shaft E has a screw-threaded end, which is tapped into a sleeve F, of hard rubber or other insulating material. The sleeve is connected to the gas-valve by the screw-stem G, which is insulated from the shaft E, as by the leather washer *d*. A nut *f* and washer *g* hold these parts together. It is evident that the turning of the gas-cock will also turn the shaft E and move the contact carried by the latter. The contact c' is also rendered adjustable both laterally and vertically by loosening the nut *f* and turning the shaft E slightly for lateral adjustment and to a greater extent for vertical adjustment.

One circuit-wire from a battery and spark-coil (not shown) is attached to the gas-pipe in any convenient place, so as to be connected with the terminal on the burner. The other wire *y* is carried to the burner and (being of course insulated from it) is connected to the shaft E by being clamped in contact with it by the nut *f* and washer *g*.

The contact on the burner having been properly adjusted lies in the path of the spring-terminal c'. When the gas-cock is turned to open the valve, a contact is made between the terminals, as shown in dotted lines in Fig. 2. A continuation of the turning movement opens the valve sufficiently to permit a flow of gas. This causes the contact c' to slide upwardly upon the free end a^2 and over its end, after which it springs downwardly and outwardly away from the flame, breaking the circuit at the terminals, throwing a spark across the path of the gas, and consequently igniting the latter. When the gas is turned off, contact c' slides downwardly upon the opposite side of part a^2 and past its curved lower end, resuming its normal

position when the gas has been turned completely off.

The device can be easily attached to any ordinary burner, and the simplicity of its construction and small number of its parts make it exceedingly cheap to make either as a complete article of manufacture or as a part of a gas-burner.

I do not limit myself to the specific construction shown and described, as I desire to avail myself of such modifications and equivalents as fall properly within the spirit of my invention.

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

1. In an electrical gas-lighter and in combination, a gas-burner or jet having a contact attached to it, a gas-cock, a stem secured to the said cock and carrying an insulating-sleeve, a shaft adjustable in said sleeve and axially in line therewith, and a spring-contact mounted on said shaft.

2. In combination with a gas-cock and valve, a stem, a shaft carrying a contact, an insulating-sleeve in which said stem and shaft are both embedded, and an insulating-washer interposed between the adjacent ends of said stem and shaft.

3. In combination with a support, a terminal contact consisting of two substantially-straight ends, one of which is attached to the support while the other is free, such straight portions being connected by a compound-curved portion, and the whole rigidly attached to the support, said straight and curved portions arranged in such a manner that a contact-arm swinging in opposite directions in a horizontal plane will slide up the upper side of the free straight end and down the lower side of the same end.

4. In combination with the gas-burner carrying a contact, a gas-cock, a stem connected to the cock, a shaft carrying a second contact and an insulating-sleeve connecting the said shaft and stem, said shaft and stem being both in line with the axis of the cock.

In testimony whereof I have affixed my signature, in presence of two witnesses, this 1st day of February, 1899.

HARRY R. BENNETT.

Witnesses:

L. W. SEELY,

LOUIS GOLDBERG.