

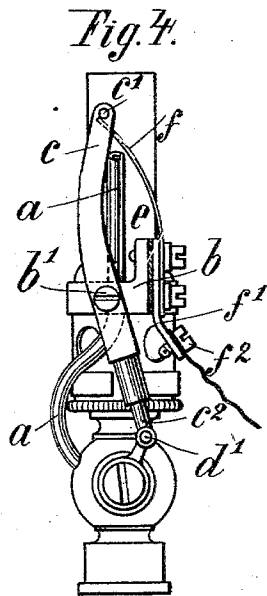
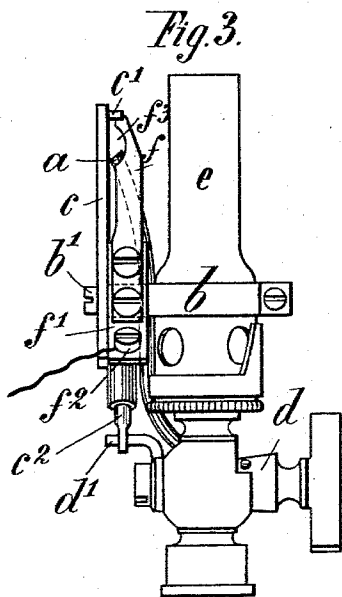
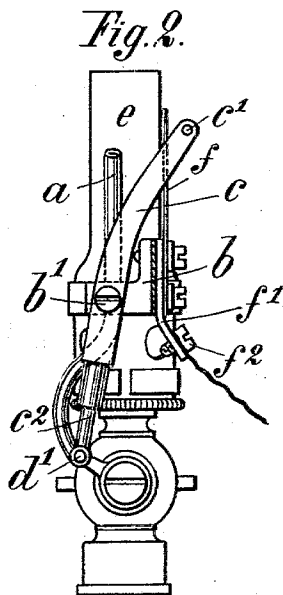
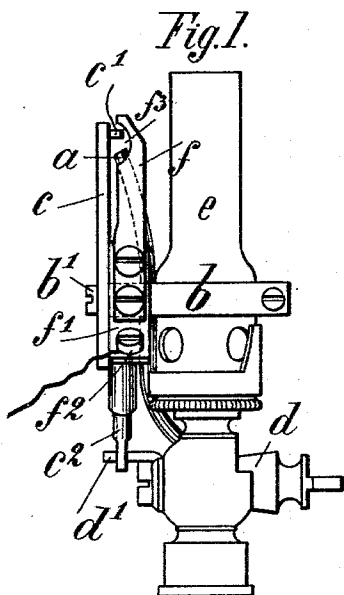
(No Model.)

G. F. KRIEGER.

ELECTRIC IGNITING DEVICE FOR GAS BURNERS.

No. 571,769.

Patented Nov. 24, 1896.



Witnessed,

C. S. Ober,

[Signature]

Inventor,
Gottfried Ferdinand Krieger.

By *[Signature]*
att'y

UNITED STATES PATENT OFFICE.

GOTTFRIED FERDINAND KRIEGER, OF KIEL, GERMANY.

ELECTRIC IGNITING DEVICE FOR GAS-BURNERS.

SPECIFICATION forming part of Letters Patent No. 571,769, dated November 24, 1896.

Application filed May 4, 1896. Serial No. 590,188. (No model.)

To all whom it may concern:

Be it known that I, GOTTFRIED FERDINAND KRIEGER, a subject of the German Emperor, and a resident of Kiel, in the German Empire, have invented certain new and useful Improvements in Electric Igniting Devices for Gas-Burners, of which the following is a specification.

My invention relates to an improved electric igniting device for gas-burners, especially those of the incandescent type. The said device is characterized by a particular arrangement of contacts and by the fact that it can be manufactured separately in the workshop and can be applied to burners of various kinds and sizes without necessitating any constructional modification of the burners themselves, provided that the burners possess the small auxiliary igniting-tube already existing in many burners. Moreover, all of the more delicate parts of the device are remote from the igniting-flame.

The object of my invention is to procure a simple, cheap, and reliable igniting device.

In the accompanying drawings I have shown how my invention may be conveniently and advantageously carried into practice.

Figures 1 and 2 represent side elevations of the igniting device, taken at right angles to each other. Figs. 3 and 4 are similar views showing the different parts of the igniting device in their operative position.

Similar letters refer to similar parts throughout the similar views.

To a bracket or clip *b*, carried by the burner-tube *e*, a two-armed lever *c* is pivoted at *b'*. Into the top extremity of this lever a small steel pin *c'* is screwed, and into the tubular lower extremity a sliding pin or plunger *c²* is inserted, the outer extremity of which pin or plunger engages with an arm *d'*, arranged on the plug *d* of the gas-cock. Further, a spring *f*, insulated from the burner-tube *e* and extending in the direction of the aforesaid lever *c*, is fixed to a plate *f'* on the bracket *b* aforesaid. This plate *f'* is by means of screws *f²* connected to one pole of a source of electricity, whose other pole is connected to the metallic gas-burner tube *e*, which is placed into the circuit.

The before-described parts can, as above mentioned, be made separately. The bracket

b is placed around the burner-tube *e*, the arm *d'* is fixed on the plug *d* of the cock, and the sliding pin or plunger *c²* is connected to the said arm *d'* on the one hand and is inserted in the tubular extremity of the lever *c* on the other hand. The constituent parts are so mounted together relatively to one another, to the plug of the cock, and to the igniting-tube *a*, which latter is located in an opening or suitable slot of the bracket *b*, that the pin *c'* at the upper end of the lever *c*, while the cock is being opened and the lever thus turned around its axis *b'*, engages or comes in contact with the upper extremity of the spring *f* and carries it over the orifice of the igniting-tube *a* by bending the spring *f*. (See Figs. 3 and 4.) Gas then flows into the igniting-tube *a* and to the burner, and the pin *c'* of the lever *c* then releases the spring *f* by sliding over the extremity of the spring, which then moves back rapidly and breaks the circuit which was closed by the contact of the lever-pin *c'* with the spring *f*. This circuit includes an electromagnet. The electric spark produced above the igniting-tube *a* ignites the gas leaving the said tube, and the small flame thus produced then instantly ignites the gas discharged from the burner-tube *e* and is subsequently extinguished, since by the further opening movement of the cock the further supply of gas to the igniting-tube *a* is cut off. The spring *f* never comes in contact with the igniting-flame, and consequently wears but very little.

When the cock is turned back to its closing position, the pin *c'* of the lever *c* comes in contact with the extremity of the spring *f* on the other side and bends the spring in the opposite direction. The said pin *c'* during this operation slides upon the spring in a downward direction until it comes opposite a notch *f³* in the spring *f*, whereupon the latter, being thus liberated, returns to its normal position, and the contact-making pin *c'* is thus brought back to the other side of the spring *f*.

The oscillating movement of the lever *c* is produced by the small sliding pin or plunger *c²*, the lower extremity of which is moved by the arm *d'* of the rotating plug *d* of the cock, while the said sliding pin or piston *c²* is caused to slide to and fro in the tubular extremity of the lever *c*. The employment of this link

c^2 between the plug d of the gas-cock and the lever c and the use of the bracket b allow of an easy adaptation of the device to burners with various lengths of cock, since the bracket b can be fastened at a variable height on the burner.

The above-described igniting device is applicable to gas-burners in which the longitudinal axis of the casing of the cock lies in a straight line with the axis of the burner as well as to such burners in which these axes are inclined to one another.

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

1. An electric igniting attachment for gas-burners consisting essentially of a clip or strap adapted to be secured to the burner, a spring and a two-armed rock-lever, respectively secured to and pivoted on said strap, one of the arms of said lever provided with a suitable contact adapted to impinge upon the spring and flex the same and having its other arm constructed telescopically and adapted for

connection with the plug of a gas-cock substantially as and for the purpose set forth.

2. An electric igniting attachment for gas-burners consisting essentially of a clip or strap adapted to be secured to the burner, a spring provided at its free end with a recess or cut-away portion f^3 and a two-armed rock-lever respectively secured to and pivoted on said strap one of the arms of said lever provided with a suitable contact adapted to impinge upon the spring and flex the same and having its other arm constructed telescopically and adapted for connection with the plug of a gas-cock substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 20th day of April, 1896.

GOTTFRIED FERDINAND KRIEGER.

Witnesses:

FRIEDRICH SUHR,
HERMANN SCHLICHTING.