No. 656,510. Patented Aug. 21, 1900.

C. L. BURGER.

IGNITING DEVICE FOR GAS BURNERS.

(Application filed May 13, 1899.)

(No Model.)

Fig. 1,

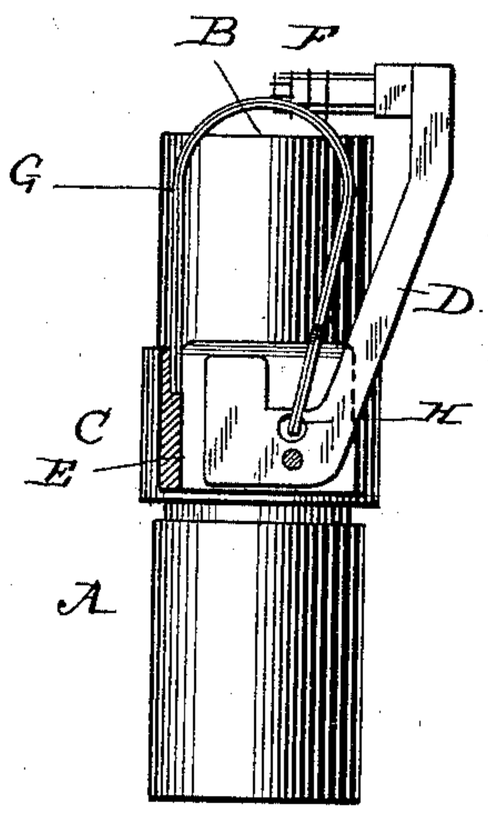

Fig. 2,

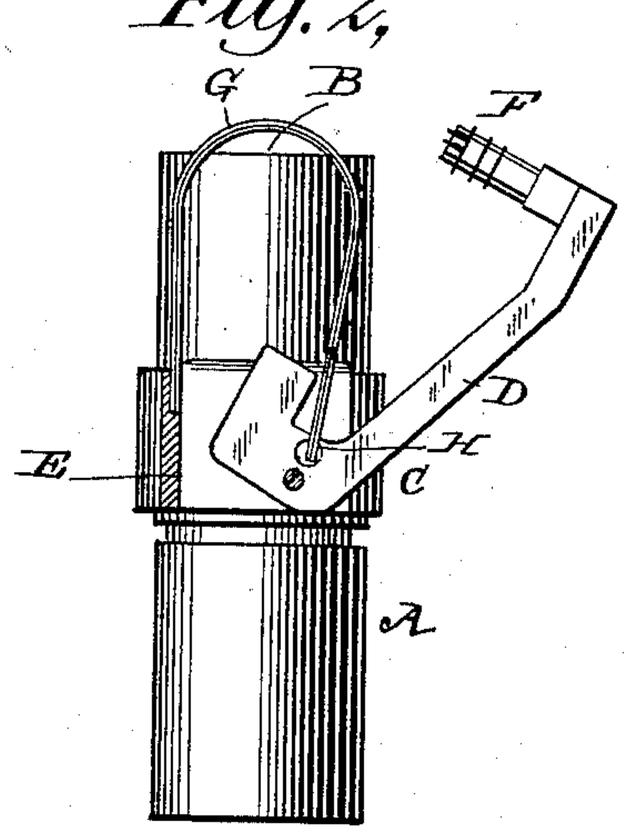

Fig. 3.

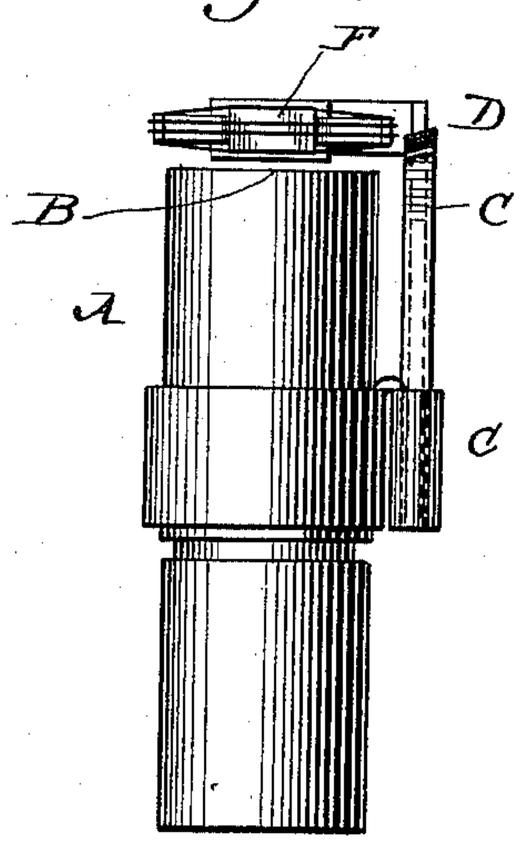

Fig. 4,

WITNESSES:

D. H. Hayford.

David C. Rode

INVENTOR

Clarence L. Burger

UNITED STATES PATENT OFFICE.

CLARENCE LIVINGSTON BURGER, OF NEW YORK, N. Y.

IGNITING DEVICE FOR GAS-BURNERS.

SPECIFICATION forming part of Letters Patent No. 656,510, dated August 21, 1900.

Application filed May 13, 1899. Serial No. 716,641. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE LIVINGSTON BURGER, a citizen of the United States, residing in the city, county, and State of New York, have invented a new and useful Improvement in Igniting Devices for Gas-Burners; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention relates mainly to the kind of igniting devices for gas-burners illustrated, for example, in the United States Letters Patent to Sterne, dated August 23, 1898, No. 609,749, in which the igniter is movable to and from the gas-jet, so that after ignition of the jet the igniter will not be exposed to the injurious effects of the flame. The igniter may be normally held away from the jet by gravity or a spring and moved into igniting position by hand, as illustrated in the aforesaid Patent No. 609,749, or the igniter may be caused to move automatically to and from the flame by a thermostat in operative connection with the movable igniter.

The object of my invention is to provide a simple, efficient, and practical igniting device of the latter kind, and I attain this end by the means hereinafter described, and illustrated in the accompanying drawings, in which the same parts are designated by like letters in all the figures.

Figure 1 is an enlarged side view, partly in section, of an igniting device for gas-burners embodying my invention, showing igniter in igniting position. Fig. 2 is a similar view of the same, showing the igniter removed from the flame. Fig. 3 is an enlarged side view of the same, taken at right angles to that of Fig. 1. Fig. 4 is a detailed plan view of the collar or bracket, by which the igniting device is attached to the gas-burner.

In all the figures, A is a burner-tube or pillar having a jet-orifice B and may be a "union-jet," bat-wing, Bunsen, or other suitable form of burner.

C is a band, collar, or bracket fixed on the pillar A.

D is a lever or support pivoted in a slot, chamber, or guide E of the bracket C and carrying on its long upper arm an igniting-body or igniter E, which is here represented to be a wired igniting-head substantially as that described and claimed in the aforesaid Letters Patent No. 609,749. The igniting-body F is thus adapted to move from its igniting position at the jet to a position beyond the harmful influence of the ignited jet or flame. To hold the igniting-body F in igniting position when the gas is turned off, so that it will ignite the gas immediately when turned on, and to then cause the igniting-body to be withdrawn from the flame, I employ as a thermostat a thermostatic strip G, in operative connection with the lever D, carrying the igniting-body F, which is normally in igniting position, as shown in Fig. 1, so that when the gas is turned on it will be automatically lighted, and the expansion produced by the heat of the flame will then cause the igniting-body to move away from the flame before it is injuriously affected thereby. The thermostatic strip G is made of two united plies of metals of widely-different coefficients of expansion—for instance, German silver and steel—and may be in simple bow form, as shown, or formed with one or more coils between its ends to multiply the expansive effect. One end of the thermostatic strip G is by preference fixed to the bracket C and the other by a pivotal connection H to the igniting-lever D close to its pivot, so that the strip being heated by the gas flame its ends will tend to spring apart, and its free end will thus swing the igniting-lever D to a position as indicated in Fig. 2 and withdraw the igniter F from the flame. Reversely, when the gas is turned off or blown out the resulting differential contraction of the component metals of the strip will cause the igniter to be returned to the igniting position shown in Fig. 1. I discovered that by locating a portion, here the middle portion, of the double strip forming the thermostatic strip G close to the jet-orifice in the path of the lower side portion of the gas-jet and with its thin edge pointing approximately toward the jet-orifice the outward flow of the incandescent gaseous particles will not be materially impeded and the flame will not be distorted, while a quick heating of the thermostatic strip and outward throw of the igniting-lever is assured.

I claim as my invention—

1. In an igniting device for a gas-burner, the combination, with the bracket or bearing,

the igniting-body and the lever pivoted to said bearing to carry the igniting-body to and from the jet, of a composite thermostatic strip connected to swing by its flexure said pivoted lever and igniting-body to and from the jet.

2. In an igniting device for a gas-burner, the combination, with the bracket or bearing, the igniting-body and the lever pivoted to said bearing to carry the igniting-body to and from the jet, of a bent or curved composite thermostatic strip having one end fixed to said bearing, its free end connected to said lever, and a medial part in or near the jet.

In testimony whereof I have hereunto set my hand this 1st day of March, 1899.

CLARENCE LIVINGSTON BURGER.

In presence of—

LOUIS B. ADAMS,

DAVID G. RODE.