

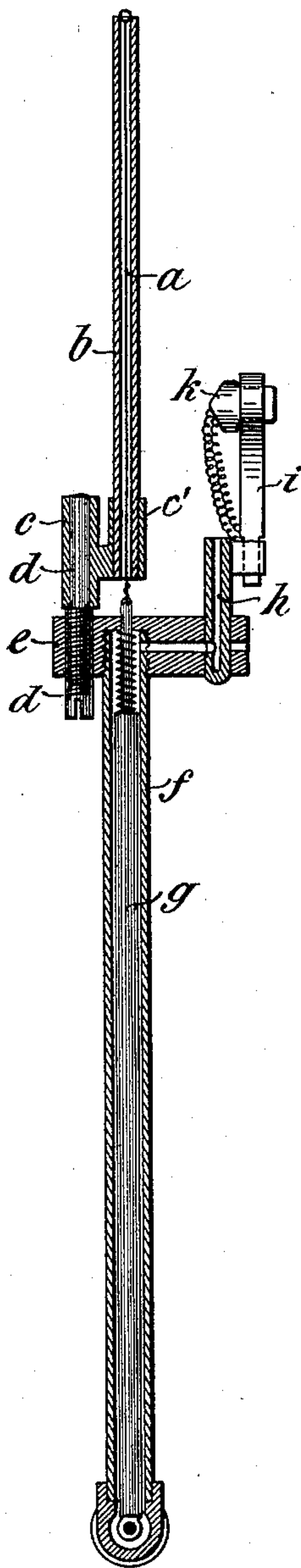
No. 613,058.

Patented Oct. 25, 1898.

H. BORCHARDT.
AUTOMATIC LIGHTING DEVICE FOR GAS BURNERS.

(Application filed Mar. 18, 1898.)

(No Model.)



Witnesses:
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UNITED STATES PATENT OFFICE.

HUGO BORCHARDT, OF BERLIN, GERMANY.

AUTOMATIC LIGHTING DEVICE FOR GAS-BURNERS.

SPECIFICATION forming part of Letters Patent No. 613,058, dated October 25, 1898.

Application filed March 18, 1898. Serial No. 674,333. (No model.)

To all whom it may concern:

Be it known that I, HUGO BORCHARDT, mechanical engineer, a citizen of the United States of America, residing at Berlin, in the Kingdom of Prussia and Empire of Germany, have invented certain new and useful Improvements in Automatic Gas-Lighting Devices; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Automatic gas-lighting devices in which the opening and closing of the gas-valve is effected by means of an expansion-wire heated from a jet-flame possess the disadvantage of the wire becoming carbonized after a time through being in direct contact with the burning gas, and perhaps also in other ways becomes damaged and therefore requires frequent regulation as to tension. In order to obviate this defect, I provide an arrangement whereby the expansion-wire is inclosed in an insulating-carrier of porcelain, biscuit, clay, or other suitable material, and is thereby protected from the injurious action of the burning gas.

The accompanying drawing is a vertical section of parts representing my invention applied to an automatic gas-lighting device of the character shown and described in my specification of Letters Patent No. 594,376, dated November 30, 1897.

Referring to the drawing, *a* represents the expansion-wire, inclosed in a porcelain carrier *b* and secured at the upper end thereof. This carrier *b* is fixed in a sleeve *c'*, carried by a sleeve *c*, supported on the end of a screw-threaded pin *d*, which by screwing through the bracket *e* enables said sleeve *c'* to be raised and lowered in order to regulate the tension of the expansion-wire *a*. The bracket *e* also carries the lighting-burner, which is lighted, as is well known, by means of a platinum sponge *k*, secured to a carrier *i*. The expansion-wire *a* is connected at its lower end to a spring-controlled rod *g*, located in the tube *f*, and this rod *g* actuates the gas-valve in the manner described in the specification hereinbefore referred to.

When at rest, the cold platinum wire *a* is

contracted and holds the rod *g* in its raised position, thereby holding the main gas-valve closed and cutting off the supply of gas from the main gas-burner. When a supply of gas is admitted to the tube through an auxiliary valve, (not shown,) it passes out of the igniting-burner *h* and is ignited automatically by the platinum sponge *k*. The heat of this lighting-flame is communicated to the wire *a* through the shield or casing *b* without the wire being touched by the flame. When the wire *a* becomes hot, it expands and lowers the rod *g*, which permits the main gas-valve to open and supply the main gas-burner with gas, which is ignited by the aforesaid lighting-flame.

The parts hereinbefore described and not shown in the drawing are of any approved construction.

What I claim is—

1. In a gas-lighting device, the combination, with a platinum wire for normally holding the main valve of a main gas-burner in its closed position; of a lighting-burner arranged in proximity to the said wire, means for automatically igniting the gas which issues from the lighting-burner, and a non-metallic shield interposed between the lighting-burner and the said wire, whereby said wire is heated by the lighting-flame without being exposed to contact with it, substantially as set forth.

2. In a gas-lighting device, the combination, with a platinum wire for normally holding the main valve of a main gas-burner in its closed position, and a tubular non-metallic shield which both supports and guards the said wire; of a lighting-burner arranged in proximity to the said shield, and means for automatically igniting the gas which issues from the lighting-burner, the flame from the said lighting-burner operating to heat the said wire through the said shield without coming in contact with the said wire, substantially as set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

HUGO BORCHARDT.

Witnesses:

HENRY HASPER,
CHAS. H. DAY.