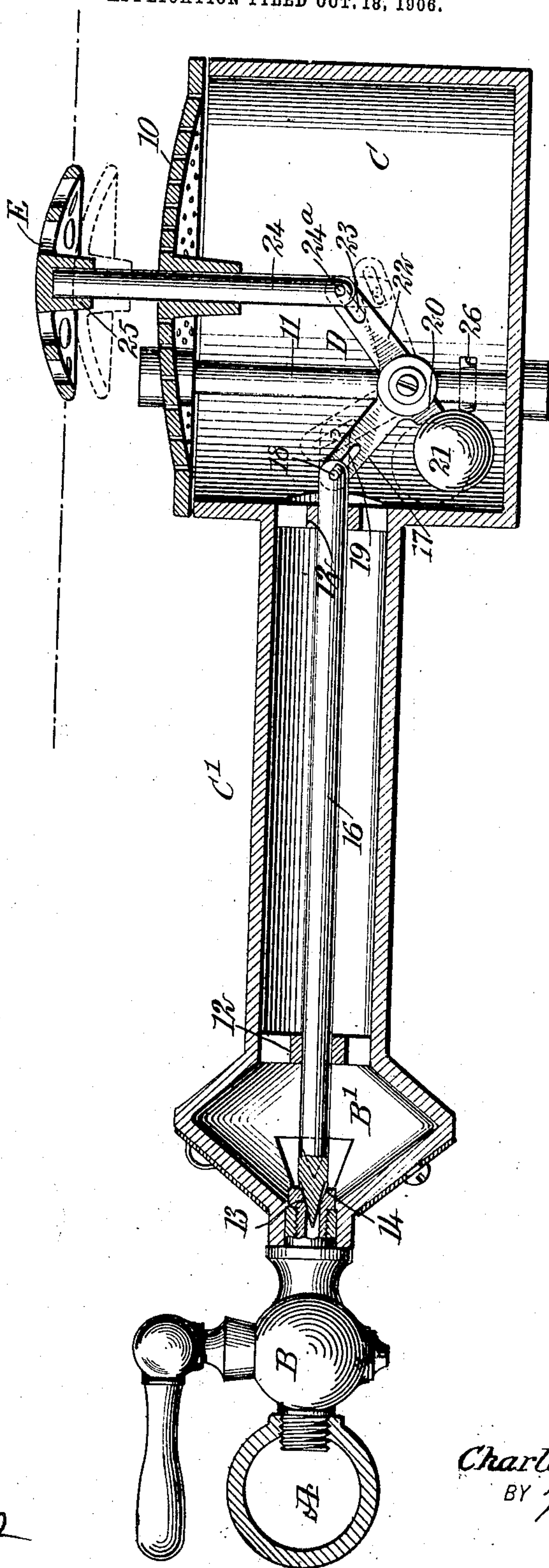


No. 860,459.

PATENTED JULY 16, 1907.

C. F. GAFFNEY.
GAS REGULATOR FOR BURNERS.
APPLICATION FILED OCT. 18, 1906.



WITNESSES

Geo. Maylor
Chas. F. Gaffney

INVENTOR
Charles F. Gaffney
BY *Mum & Co*
ATTORNEYS

UNITED STATES PATENT OFFICE.

CHARLES F. GAFFNEY, OF NEW YORK, N. Y.

GAS-REGULATOR FOR BURNERS.

No. 860,459.

Specification of Letters Patent.

Patented July 16, 1907.

Application filed October 18, 1906. Serial No. 339,485.

To all whom it may concern:

Be it known that I, CHARLES F. GAFFNEY, a citizen of the United States, and a resident of the city of New York, (borough of Manhattan,) in the county and State of New York, have invented a new and Improved Gas-Regulator for Burners, of which the following is a full, clear, and exact description.

My invention relates particularly to gas regulators for burners employed for heating and cooking purposes, and the object of the invention is to provide an attachment to such a burner, whereby when a vessel or object to be heated is placed over an opening in the stove above the burner a full head of gas will be automatically supplied to said burner, and whereby further upon the removal of such vessel or object from over said opening the supply of gas to the burner will be automatically reduced to a greater or lesser extent according to the set adjustment of the device, the supply cock being meanwhile open.

A further purpose of the invention is to provide an attachment of the character described that will be simple, durable, economic and not liable to get out of order, and which may be attached to any style of heating or cooking burner.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth and pointed out in the claims.

Reference is to be had to the accompanying drawing forming a part of this specification, in which is shown a longitudinal section through a burner and a sectional side elevation of the attachment applied thereto.

A represents a gas supply pipe provided with the usual stop cock B and a mixing chamber B'.

C represents the body of an ordinary cooking or heating burner provided with the customary perforated crown 10, shown held above the upper portion of the body by means of a bolt 11, and C' represents a supply tube which is in communication with the body C and the mixing chamber B', being provided with spiders 12 at points in its length.

Where the stop cock B enters the mixing chamber B' its outlet is rendered more or less conical, as is shown at 13, to form a seat for a valve 16. The valve 16 is a needle valve and has sliding movement in said spiders 12, the conical outer end of which valve is adapted to the conical seat 13 provided for it in the said stop cock B, as is illustrated; and the said conical end of the valve is provided with grooves 14, so that some gas will always escape when the stop cock B is open. It will be understood, however, that any approved support may be provided for the said valve.

A three-armed lever D is located within the body C of the burner, being pivoted at the junction of its members on the connecting bolt 11 of said burner, or any convenient support; and the arm or member 17 that extends upward and in direction of the tube C', or at

an angle to the two other arms of the lever, is provided with a slot 19. The outer end of the needle valve 16 is pivotally connected with said arm 17 by means of a pin 18 passed through the heel of said valve and through the said slot 19 in the said lever arm 17 as is clearly shown.

The arm 20 of the lever D that normally extends downward and inward, is provided with a weight 21, and the arm 22 of said lever that extends normally upward and outward is provided with a longitudinal slot 23. The lower end of a stem 24 is connected with the lever arm 22 by means of a pin 24^a passed through said stem and the slot 23 of the lever arm 22. The stem 24 extends up through a central opening in the perforated crown 10 and is free to slide in said opening; and at the upper end of said stem 24 a cap E is secured in any approved manner, as for example by providing the cap with a socket 25 into which the stem 24 enters. The cap E is of less dimensions than the crown 10 of the burner and is usually circular and convexed at its upper face. Furthermore, said cap is provided with apertures so as to permit the passage of heat from the said burner through the said cap to the opening in the stove beneath which said cap is located.

Normally the weight 21 of the lever D is in the lower position shown by full lines, and the cap E extends up through the opening in the stove; and at such time the needle valve 16 will have closed the outlet of the pipe A to such an extent that the supply of gas to the burner will be just sufficient, for example, to maintain a feeble flame; but the moment that the vessel or other object is placed over the stove opening above the burner, the cap E is forced down to the position shown by dotted lines in the drawing, which is just below the top of the stove, and at this time the weighted end of the lever D is raised and the needle valve 16 is drawn from its seat 13, permitting a full supply of gas to be admitted to the burner.

The amount of gas to be supplied to the burner when the attachment is in its normal position, is governed by means of a screw 26, or its equivalent, which is passed through the connecting bolt 11, or other support for the lever D, to an engagement with the weight 21, so that the weight 21 can be normally held more or less in an upper position, so as to normally permit more or less gas to escape from the gas pipe A when the burner is not in use.

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

1. A gas burner, comprising a burner body, a mixing chamber, a stop cock connected with the mixing chamber and having a valve seat in its outlet, a tube connecting the mixing chamber with the body of the burner and provided with spiders, an armed and weighted lever pivoted in the burner body, a needle valve sliding in the spiders of the said tube and adapted to be seated in the valve seat of the stop cock, said needle valve being loosely pivoted to

one of the arms of the lever, a stem sliding in the crown of the burner and loosely pivoted to another arm of said lever, and a cap on the outer end of the stem.

5 2. A gas burner, comprising a burner body, a mixing
chamber, a stop cock connected with the mixing chamber
and having a valve seat in its outlet, a tube connecting
the mixing chamber with the burner body, a three armed
lever pivoted in the burner body, one of the arms being
weighted and the other two slotted, a needle valve having
10 sliding and guided movement in the said tube and adapted
to be seated in the seat of the stop cock, said needle valve
being pivoted to one of the arms of the lever by a pin
passing through the slot of the arm, a stem mounted to
slide in the crown of the burner and having its inner end
15 pivoted to another arm of said lever by a pin passing
through the slot of the arm, and a cap on the upper end of
the stem.

3. A gas burner, comprising a burner body, a mixing
chamber having a valve seat in its inlet, a tube connect-
20 ing the mixing chamber with the burner body, a three
armed lever pivoted in the burner body, one of the arms
being weighted, a needle valve having sliding and guided
movement in the said tube and adapted to be seated in
valve seat of the mixing chamber, said valve having
25 grooves in its conical end and pivotally connected with
one of the arms of the lever, a stem sliding in the crown

of the burner body and having its inner end pivotally con-
nected with another arm of the said lever, and a cap on
the outer end of the stem.

4. A gas burner, comprising a burner proper, a valve 30
mounted to slide in the burner and adapted to be seated
in the gas supply for the burner, a three armed lever piv-
oted in the burner and with one arm of which the valve is
loosely pivoted, a weight carried by the second arm, a
stem sliding in the crown of the burner body and its inner 35
end loosely pivoted to the third arm of the said lever, and
a cap on the outer end of the stem.

5. In a gas burner for heating or cooking purposes, a
needle valve slidably mounted and adapted to be seated in
the gas supply pipe for the burner, a three-arm lever piv- 40
oted in said burner, a pivotal connection between one arm
of the lever and said valve, a weight carried by the second
arm of the lever below the valve, a stem pivotally con-
nected with the third arm of the lever and extending
through the top of the burner, being capable of movement 45
therein, and a cap at the outer end of the said stem.

In testimony whereof I have signed my name to this
specification in the presence of two subscribing witnesses.

CHARLES F. GAFFNEY.

Witnesses:

J. FRED. ACKER,
JNO. M. RITTER.