

E. STEIL.
 REGULATING DEVICE FOR THE FEED CONDUITS OF GAS BURNERS.
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965,045.

Patented July 19, 1910.

Fig. 1.

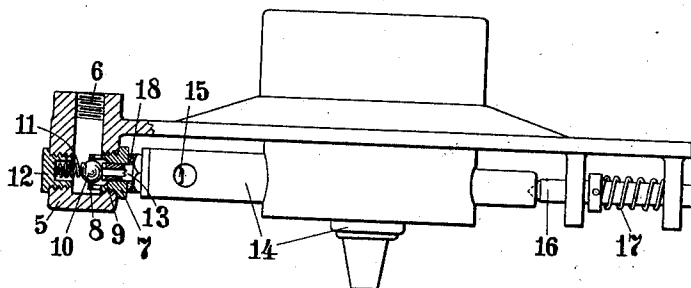
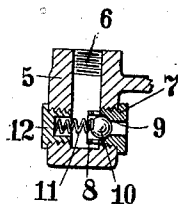


Fig. 2.



Witnesses:

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REGULATING DEVICE FOR THE FEED-CONDUITS OF GAS-BURNERS.

965,045.

Specification of Letters Patent.

Patented July 19, 1910.

Application filed August 21, 1909. Serial No. 513,928.

To all whom it may concern:

Be it known that I, EDMUND STEIL, a subject of the King of Prussia, residing at No. 14 an der Apostelkirche, Berlin, in Germany, have invented new and useful Improvements in Regulating Devices for the Feed-Conduits of Gas-Burners, of which the following is a specification.

This invention relates to inverted incandescent gas burners of any known construction in which the gas nozzle is removable, and it consists substantially in a self-closing regulating device arranged in the gas supply conduit and which will become operative as soon as the gas nozzle is removed from its seat, while, when the nozzle is replaced, the said device will be moved into its open position again by the latter.

A further object of the invention is a special connection of the said regulating device with a spring-actuated appliance for fixing the mixing tube and the gas nozzle attached thereto to the lamp, whereby the coöperation of the respective springs will produce certain useful results which will hereinafter be referred to.

An embodiment of the invention is represented in the accompanying drawing forming a part of this specification, and in which—

Figure 1 is a lamp in side elevation with the regulating device in section and in its open position, and Fig. 2 shows the latter part in its closed position.

Like numerals denote like parts in all figures of the drawing.

Referring to the drawing, a sleeve 7 or the like is screwed or in other manner attached from the inner side of the lamp in a boss 5 projecting downwardly from the lamp, to the channel or conduit 6 of which projection the gas pipe is connected. This sleeve continues in the channel 6 as a frequently transversely perforated socket 8, the concentric bore of which has a larger diameter than the bore of the exterior end of the sleeve 7, so that an annular shoulder or seat 9 is formed for a ball 10 guided in the wider bore, which ball forms the closing member of the valve and is pressed toward this seat 9 by a spring 11, located and guided in a cap 12 screwed into the boss 5 from the opposite side.

A tubular extension 13 of the nozzle 15,

having its free end slit, fits into the outer narrower part of the bore of the sleeve 7. The gas nozzle 15 is inserted and fixed in the mixing tube at its admission end, while the opposite end of the mixing tube is held by the point of a springpressed pin 16 and supported in this manner; it is simultaneously pressed toward the boss 5 by the spring 17, so that with the aid of a packing 18 inserted between the nozzle and the sleeve 7 a sure and tight connection is obtained.

The device operates as follows: In the closed position of the device (Fig. 2) the ball 10 is pressed closely upon the seat 9 by the spring 11, so that the gas pipe is closed at this place. If the tubular extension 13 of the nozzle is pushed into the bore of the sleeve 7, and the mixing tube is fixed to the lamp body by means of the locking device 16, 17 (Fig. 1), owing to the preponderating force of the spring 17 the ball is pressed inward against the pressure of the spring 11 and consequently lifted from the seat 9, whereupon gas can flow through the lateral perforations of the sleeve 7, 8, the slit and the bore of the extension 13, and the outlet-orifice of the nozzle. Since the spring 11 holds the ball continuously pressed against the extension 13, closing of the valve is at once effected again as soon as the mixing tube together with the nozzle is withdrawn. The arrangement of the counteracting springs has the advantage that when the locking device fractures or breaks down, or when the mixing tube is improperly inserted, the spring 11 operates and the lamp is stopped working.

Although a seat-valve of any construction is the most suitable and simplest embodiment of the invention, other known shut-off devices may also be employed for the purpose in view.

This self-closing device has many advantages in use. It is no longer necessary to close a tap at another, perhaps distant place when the nozzle is to be cleaned or changed. If the insertion of a nozzle is overlooked, a large quantity of gas can nevertheless not escape from the relatively large orifice of the conduit, and inattention of the attendant can therefore cause no material damage nor danger.

I have described a construction being an embodiment of the principle, but obviously

the invention may be performed in many other ways. I, therefore, do not wish to be limited to the device shown for illustration purposes, but—

5 What I broadly claim as my invention, and desire to secure by Letters Patent, is—

1. In a device of the character specified, the combination with a valve controlling the flow of gas, of a spring normally pressing the valve to its seat, a detachable nozzle
10 having an extension for moving the valve against the resistance of the spring when said nozzle is in place, and separate spring locking means acting upon the nozzle and
15 pressing it toward the valve.

2. In a regulating device for the feed conduit of inverted gas burners, the combination with the conduit of a valve located therein, the same being normally automatically closed, of a nozzle having an extension adapted to project into the conduit and to open the valve when the nozzle is in place, means capable of holding the nozzle in place, and a spring locking device acting upon
25 said means, thereby pressing the nozzle toward the gas conduit.

3. In a device of the character specified, the combination with an automatically closing valve controlling the flow of gas, of a detachable nozzle having an extension capable of opening the valve when said nozzle is in place, a mixing tube attached to the said nozzle, and separate locking means adapted to support the mixing tube in place
35 and pressing it toward the nozzle.

4. In a regulating device for the feed conduit of inverted gas burners, the combination with a laterally perforated sleeve fixed in the gas conduit, of a seat provided
40 in the sleeve, a ball movable in the sleeve, a spring adapted to press the ball toward the seat, and a gas nozzle fixed in the said sleeve and capable of engaging with the ball and moving it in its open position, when
45 fixed in place.

5. In a regulating device for the feed conduit of inverted gas burners, the combination with a self-closing shutting-off device located in the said conduit, of a gas nozzle
50 removably attached to the said conduit and capable of engaging with the said shutting-

off device, so as to control the same, a mixing tube joined to the nozzle, and means for fixing the mixing tube and the nozzle in place.

6. In a regulating device for the feed conduit of inverted gas burners, the combination with a spring-loaded shutting-off device located in the said conduit, of a gas nozzle removably attached to the said conduit, and spring actuated locking means adapted to fix the nozzle in place.

7. In a regulating device for the feed conduit of inverted gas burners, the combination with an automatic shutting-off device situated in the said conduit, of a gas nozzle removably attached to the said conduit, a washer inserted between the nozzle and the conduit, a mixing tube joined to the nozzle, and locking means adapted to fix the nozzle and the mixing tube in place and to press them toward the conduit, thereby producing a tight fit between the conduit and the nozzle.

8. In a regulating device for the feed conduit of inverted gas burners, the combination with a spring-loaded shutting-off device located in the said conduit, of a gas nozzle attached to the conduit with a gas tight fit, and spring-actuated locking means capable of pressing the nozzle onto the conduit, the springs of the shutting-off device and of the locking device acting oppositely to each other.

9. In a device of the character specified, the combination with lamp frame, a gas conduit provided therein, an automatically closing valve located in the said conduit, a detachable nozzle having an extension adapted to open the valve when the nozzle is in place, a mixing tube engaged with the nozzle, and separate means provided on the frame, capable of supporting the mixing tube, thereby pressing the nozzle toward the gas conduit.

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

EDMUND STEIL.

Witnesses:

WOLDEMAR HAUPT,
HENRY HASPER.