

UNITED STATES PATENT OFFICE.

JOSEPH N. REYNOLDS, OF ANITA, IOWA.

SAFETY DEVICE FOR GAS-BURNERS.

No. 880,097.

Specification of Letters Patent.

Patented Feb. 25, 1908.

Application filed March 30, 1907. Serial No. 365,560.

To all whom it may concern:

Be it known that I, JOSEPH N. REYNOLDS, citizen of the United States, residing at Anita, in the county of Cass and State of Iowa, have invented certain new and useful Improvements in Safety Devices for Gas-Burners, of which the following is a specification.

One of the most prevalent causes of accidental asphyxiation arises from a person believing that he has turned the ordinary stop-cock of a gas burner fully off to shut off the supply of gas, when such is not the case, and the primary object of my invention is to provide means whereby it will be impossible for the gas to be accidentally left on after the manually operable stop-cock has been turned with the intention of shutting off the flow of gas, no matter how desultory such intention or attempt may be.

With this main object in view and with other subsidiary objects in view as will more fully appear as the description proceeds, the invention consists in certain constructions, arrangements and combinations of parts which I shall now hereinafter fully describe and then point out the novel features in the appended claims.

For a full understanding of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a perspective view of my improved safety gas burner, the cocks being shown held in their open positions; Fig. 2 is a side elevation of the device, the gas cocks being shown closed; and, Fig. 3 is a plan view of the parts in the position shown in Fig. 1.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

Referring to the drawing, the numeral 1 designates a gas bracket embodying the improvements of my invention, 2 the burner tube and 3 the manually operable stop-cock provided with the usual handle 3^a. The bracket 1 is provided with an automatically acting stop-cock 4 which in the present instance is in the form of a plug valve of ordinary construction, except as hereinafter noted. The said stop-cock 4 is provided at one end with two oppositely extending arms

5 and 6, the upper arm 5 carrying a latch plate 7 and being formed with an eye 8 in which one end of a coiled compression spring 9 is hinged. The other end of this spring is connected to a collar 10 which encircles the bracket in the rear of the valve 4 and which may be held at different points along the said bracket by means of a set screw, in order to hold the spring at the desired tension.

11 designates a stop in the form of a bar projecting from the collar 12 which encircles the bracket just in the rear of the stop-cock 4 and which projects outwardly so as to engage the arm 5 and limit the movement of the stop-cock in one direction, to wit: in a position where it will shut off the supply of gas.

The manually operable stop cock 3 carries a finger 13 which projects upwardly and outwardly therefrom and which is provided with an offset or lateral extremity 13^a designed for engagement with the latch plate 7.

In the practical operation of a gas burner provided with the improvements of my invention, the supply of gas is normally closed by means of the automatic stop-cock 4; no matter in what position the manually operable stop-cock 3 may be placed. To turn on the gas, the manually operable stop-cock 3 is turned, and the arm 6 (which constitutes a handle for the stop-cock 4, and which may be of any desired design and construction) is pulled upon to turn the automatic stop-cock 4 against the tension of the spring 9 and the latch plate 7 is caused to engage with the lateral extremity 13^a of the finger 13. When so engaged, the manually operable stop-cock 3 is fully open, and the automatic cock 4 may be held either fully open or at different adjustments so as to permit the flow of different volumes of gas, according to the height of flame desired. For this purpose, the said latch plate 7 is formed with a series of stepped notches 14, any one of which may be engaged by the finger 13 in an evident manner.

In the manufacture, the bracket 1 may consist of a section 1^a in which the two valves are embodied so that such section may be screwed into or otherwise connected to the stationary section 1^b of the bracket and the collars 10 and 12 applied to the last named section at the proper points.

From the foregoing description in connection with the accompanying drawing, it is evident that the automatically acting stop-cock 4 may be held open at different degrees,

by the engagement of its latch plate with the finger 13 on the manually operable stop-cock 3. Whenever the manual stop cock 3 is turned, it is evident that the finger 13 will be disengaged from the latch plate 7 which will permit the stop-cock 4 to be pulled to the closed position by the spring 9 and thus shut off the gas, no matter whether the stop cock 3 has been fully closed or not. It will thus be seen that I have provided a sure means for preventing an accidental flow of gas.

In the preferred arrangement of the parts, the automatic stop-cock 4 has its axis at right angles to the other stop cock 3 and the latch plate 7 swings in a vertical plane for engagement with and disengagement from the extremity 13^a of the finger 3 which swings in a horizontal plane.

Having thus described the invention, what is claimed as new is:

1. In a gas bracket, the combination of a manually operable stop-cock, and an automatic stop-cock, both of them being of the turning plug variety, means for coupling said stop-cocks together to hold them with their plugs in an open position, said coupling means being susceptible to adjustment whereby the one plug may be held either fully or partially open, and means for automatically closing the automatic stop-cock upon the uncoupling of the two cocks.

2. In a gas bracket, the combination of a manually operable stop-cock, and an automatic stop-cock, both of them being of the turning plug variety, means for coupling said stop-cocks together to hold them in an open position, said coupling means being susceptible to adjustment whereby to hold the automatic stop cock at different positions, and means for automatically closing the automatic stop-cock upon the uncoupling of the two cocks.

3. In a gas bracket, the combination of a manual stop-cock, an automatic stop-cock, a

spring normally holding said automatic stop cock closed, a finger carried by said manually operable stop-cock and provided with a lateral extremity, and a latch plate carried by the automatic stop-cock and adapted to swing towards said extremity and be engaged thereby, as and for the purpose set forth.

4. In a gas bracket, the combination of two stop-cocks mounted to turn about axes at right angles to each other, a finger carried by one of said stop-cocks, and movable therewith, a latch plate carried by the other stop-cock and arranged for engagement with said finger, and a spring connected to said last named stop-cock and adapted to turn the same to the closed position.

5. In a gas bracket, the combination of two stop-cocks, a latch plate carried by one of said stop-cocks, and provided with a series of notches, a finger carried by the other stop-cock and adapted for locking engagement in any of the notches of the latch plate, and means for automatically turning the first named stop-cock to the closed position.

6. In a gas bracket, the combination of two stop cocks, a latch plate carried by one of said stop cocks, an arm projecting from said stop-cock and to which said latch plate is directly connected, a spring connected to said arm, a collar encircling the bracket and secured to said spring, the spring being adapted to turn said stop-cock to the closed position, a stop adapted to engage with said arm when the stop-cock is closed, and a finger carried by the other stop-cock and adapted to engage said latch plate.

In testimony whereof I affix my signature in presence of two witnesses.

JOSEPH N. REYNOLDS. [L. s.]

Witnesses:

H. T. CAMPBELL,
J. C. JENKINS.