June 16, 1925.

1,542,393

D. K. KARAMANOS

GAS BURNER

Filed Sept. 19, 1924

Fig. 1.

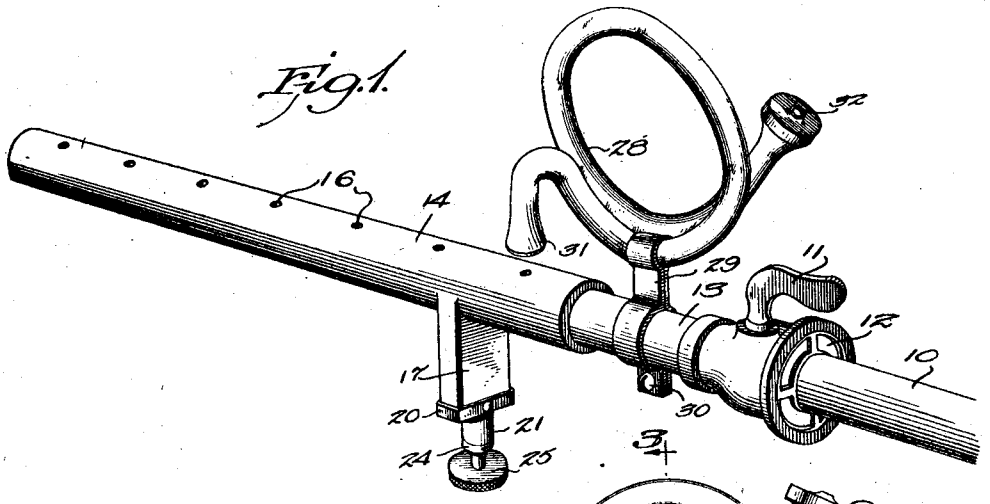


Fig. 2.

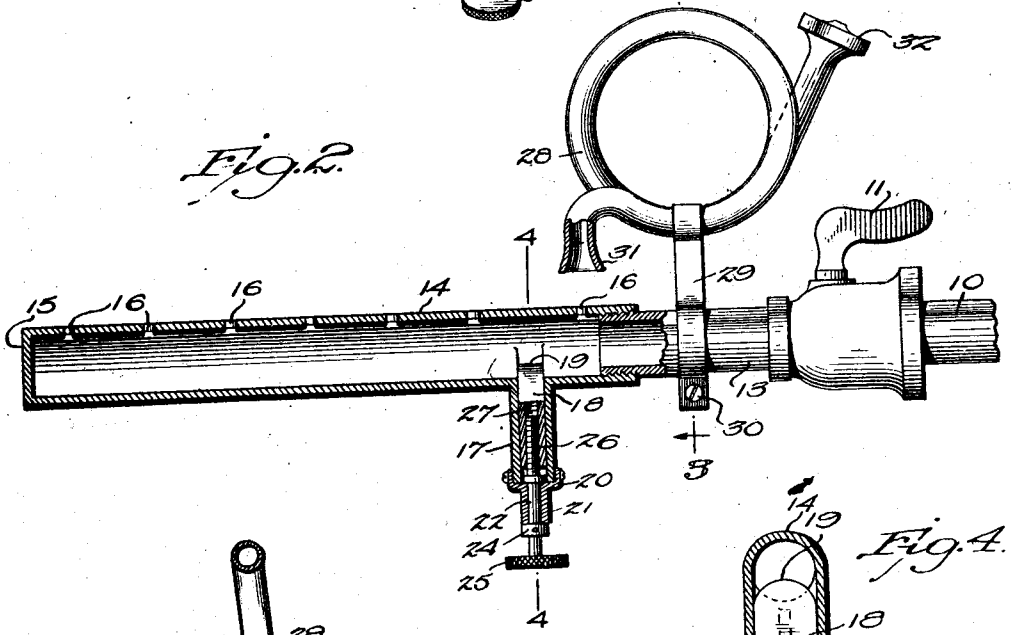


Fig. 3.

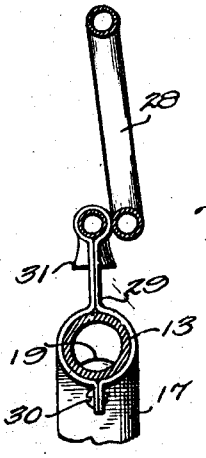
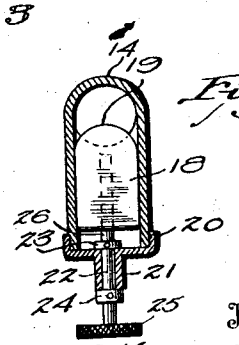


Fig. 4.



Inventor

Demetrios K. Karamanos

By

Attorney

Patented June 16, 1925. 1,542,393

UNITED STATES PATENT OFFICE.

DEMETRIOS K. KARAMANOS, OF JOLIET, ILLINOIS.

GAS BURNER.

Application filed September 19, 1924. Serial No. 738,686.

To all whom it may concern:

Be it known that I, DEMETRIOS K. KARAMANOS, a citizen of the United States, residing at Joliet, in the county of Will and State of Illinois, have invented certain new and useful Improvements in Gas Burners, of which the following is a specification.

This invention relates to gas burners and more particularly to a burner signal adapted to be actuated if the burner becomes extinguished through any cause.

An important object of the invention is to provide a burner provided with a novel form of signal adapted to be actuated if the burner is extinguished due to any cause, such as when the gas pressure decreases to a point where the blaze will become extinguished.

A further object of the invention is to provide a novel signal of the above mentioned character adapted to be actuated by the flow of gas through one aperture of a burner, means being provided for maintaining a sufficient pressure at the signal operating aperture to insure the operation of the signal.

Other objects and advantages of the invention will become apparent during the course of the following description.

In the drawings I have shown one embodiment of the invention. In this showing:

Figure 1 is a perspective view of the burner showing the signal attached,

Figure 2 is a central, vertical, sectional view through the device, parts being shown in elevation,

Figure 3 is a section taken on line 3—3 of Figure 2, and,

Figure 4 is a similar view taken on line 4—4 of Figure 2.

Referring to the drawings, the numeral 10 designates a supply pipe connected to a suitable source of gas supply connected with a control valve 11 having apertures 12 in the casing thereof to admit air which becomes mixed with the gas in the usual manner. An outlet pipe 13 is connected between the valve 11 and a burner 14.

As shown, the burner 14 comprises a substantially cylindrical body portion connected at one end with the outlet pipe 13, the opposite end being closed as at 15. The burner is provided preferably in its upper portion with a series of alined burner openings 16. As shown in Figures 1 and 2, the burner 14 is provided with a depending portion 17 which is preferably arranged between the first and second apertures 16 at the inner end of the burner. As shown in Figure 4, the depending portion 17 is hollow and is of a width equal to the inside diameter of the burner 14. A gate valve 18 is mounted to reciprocate in the extension 17 and is provided with a substantially semi-cylindrical upper end 19 corresponding in shape with the upper half of the burner pipe 14. The extension 17 is provided with a cap 20 having a depending sleeve 21 in which is rotatably mounted a valve stem 22. Contacting with the inner face of the cap 20 is a collar 23 preferably formed integral with the stem 22 while a second collar 24 is secured to the stem 22 in contact with the lower end of the sleeve 21. The stem 22 is provided with a suitable operating handle or knob 25. The upper end of the stem 22 is screw threaded as at 26 for reception within the screw threaded opening 27 of the valve 18. It will be apparent that the stem 22 does not partake of any vertical movement when the handle 25 is rotated, but rotation of the handle causes vertical movement of the valve 18 within the extension 17.

The numeral 28 designates a pipe preferably coiled as shown in Figures 1 and 2. A supporting member 29 encircles a portion of the pipe 28 at the upper end of the supporting member while the lower end of the latter encircles the pipe 13. A screw or similar fastening element 30 is provided for rigidly securing the supporting member 29 to the pipe 13. The lower end of the pipe 28 is flared outwardly as at 31 and is arranged directly over the inner burner aperture 16. The opposite or upper end of the pipe 28 is provided with a whistle 32 of any suitable type.

The operation of the device is as follows:

Gas is admitted into the burner pipe 14 by operating the valve 11 in the usual manner. The valve 18 is then adjusted vertically to partially close the pipe 14 so that a greater pressure will be maintained in the pipe 14 adjacent the innermost opening 16. If for any reason the gas pressure decreases to such an extent that the flames become extinguished, the gas passing through the inner opening 16 will flow upwardly into the flared end 31 of the pipe 28 and around the coil of the latter to blow the whistle 32 to sound a warning signal. I have found

that the provision of the valve 18 for regulating the pressure in the inner end of the pipe 14 provides at all times sufficient pressure for blowing the whistle 32. It has been found, however, that the whistle 32 will not blow to sound a signal as long as the burner is properly operating.

It is to be understood that the form of my invention herewith shown and described is to be taken as a preferred example of the same, and that various changes in the shape, size and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claims.

Having thus described my invention, I claim:

1. A device of the character described comprising a burner pipe provided with a series of apertures, a control valve for controlling flow of gas into one end of said pipe, a pressure regulating valve arranged outwardly of the aperture nearest said control valve, a pipe having its lower end arranged over said last named aperture, and a signal carried by the opposite end of said pipe and adapted to be actuated when the flame of the burner is extinguished while said control valve is open.

2. A device of the character described comprising a burner pipe provided with a series of apertures, a control valve for controlling flow of gas into one end of said pipe, a pressure regulating valve arranged outwardly of the aperture nearest said control valve, a coiled pipe arranged over said burner pipe and having one end flared and arranged over said last named aperture, and a whistle carried by the opposite end of said coiled pipe and adapted to be actuated when the flame of the burner is extinguished while said control valve is open.

3. A device of the character described comprising a burner pipe provided with a series of apertures, a valve for controlling flow of gas into one end of said pipe, a pipe having an end arranged over the aperture nearest said control valve, and a signal carried by the opposite end of said pipe and adapted to be actuated when the flame of the burner is extinguished while said control valve is open.

In testimony whereof I affix my signature.

DEMETRIOS K. KARAMANOS.