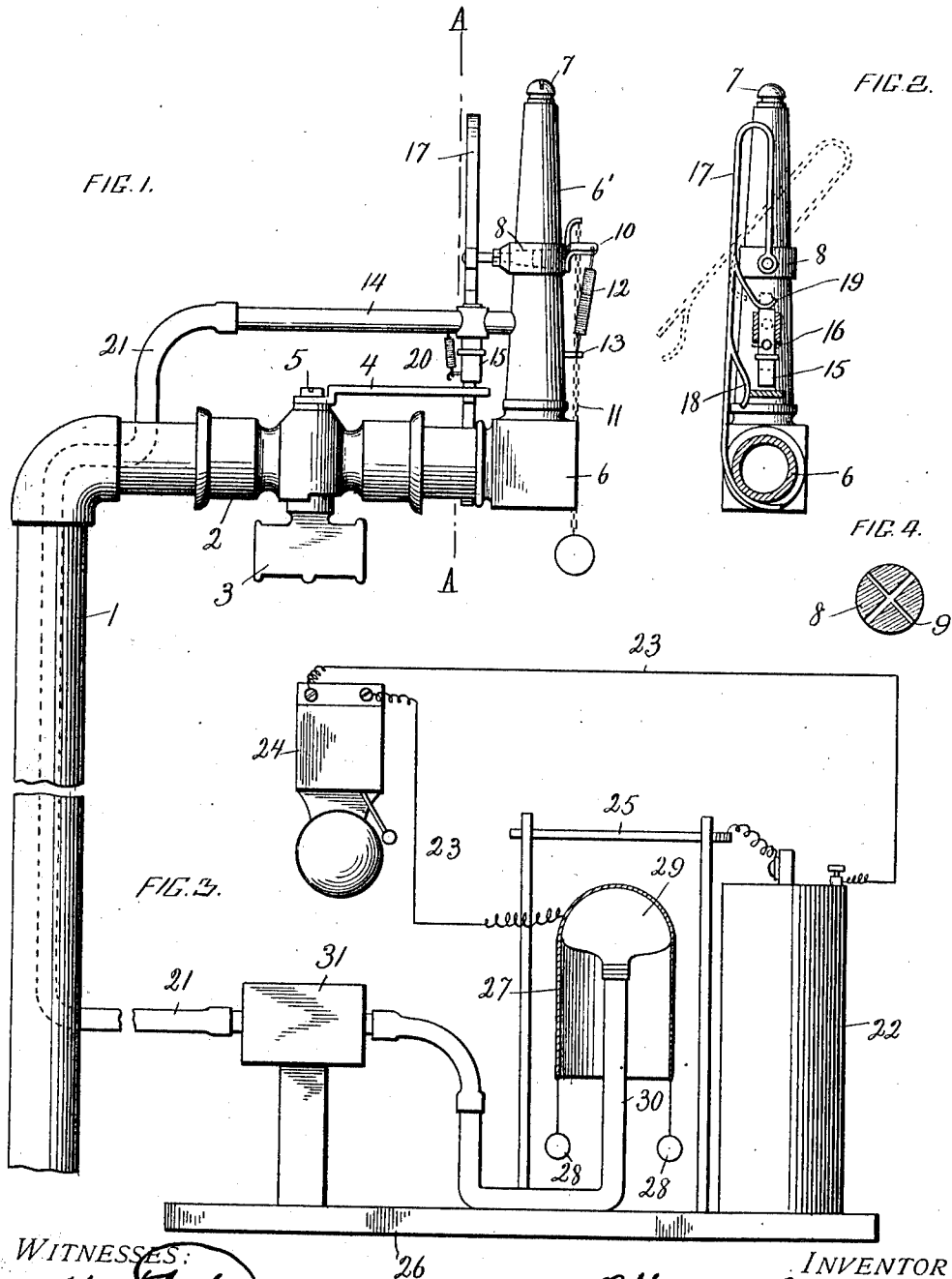


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 ESCAPING GAS ALARM.
 APPLICATION FILED MAR. 25, 1911.

1,061,598.

Patented May 13, 1913.



WITNESSES:

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ESCAPING-GAS ALARM.

1,061,598.

Specification of Letters Patent.

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Application filed March 25, 1911. Serial No. 616,928.

To all whom it may concern:

Be it known that I, OTTAVIO CASILLI, a subject of the King of Italy, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Escaping-Gas Alarms, of which the following is a specification.

My invention relates to improvements in safety attachments for gas burners and is designed most especially for use in connection with gas fixtures to give a warning and prevent the casualties resulting from open burners, both as regards destruction of property and loss of life by asphyxiation or otherwise.

The object of the invention is to provide a conducting pipe for conveying the escaping gas to an alarm located without the room in which the gas escapes from the burner.

Furthermore, the object of the invention is to provide a sensitive and certain means for sounding an alarm.

Finally the object of the invention is to provide a safety attachment secured on the burner of a gas fixture and provided with valves and a tube connected therewith for conducting the escaping gas to a small bag which becomes inflated by the escaping gas and forms an electric contact through which medium a bell is sounded.

With the above and other objects in view the invention consists in the details of construction and in the arrangement and combination of parts which hereinafter will be more particularly set forth and claimed.

In describing the invention in detail reference will be had to the accompanying drawing forming a part of this specification and in which—

Figure 1 is a view in elevation of a gas burner provided with my improvement. Fig. 2 is a view in elevation on the line A—A in Fig. 1. Fig. 3 is a view of the alarm, partly in section showing the inflated bag, and Fig. 4 is a cross section of the burner valve.

In the drawings, 1 indicates a gas piping to which is attached or threaded a stop-cock 2 of the ordinary construction having a turning plug 3. I secure on the upper end of the turning plug a lever 4 by a screw 5 threaded into the end of the plug. At the opposite end of the stop-cock is a bracket 6

which supports the burner 6' and tip 7. Intermediate the length of the burner tube I insert a turning plug 8 which is provided with two apertures 9—9 intersecting each other, as shown in Fig. 4, one of said apertures being of greater diameter than the other. On the outer end of the turning plug I secure a bell-crank lever 10 provided with a chain 11 secured to one end and at the opposite end a spiral spring 12. The opposite end of spiral spring is secured to a pin 13 formed on the burner tube. I also provide an extension tube 14 which intersects the burner tube below the plug 8. This tube extends a suitable distance parallel with the bracket. Inserted in the extension tube is a plug valve 15 having an aperture 16. On the end of the turning plug 8 I secure a U shaped arm 17 having a slightly curved outer end portion 18 against which the lever 4 rests when the burner is lighted. A spring arm 19 is secured to the U-shaped bracket and is of sufficient length to force the plug 15 downward into the tube until the aperture 16 is below the outer surface of the tube thereby closing the same, as shown in Fig. 2. When the burner is not in use the U-shaped bracket is in the position shown in dotted lines. In order that the plug 15 may be raised sufficiently to permit the aperture to register with the bore of the extension tube I provide a spring 20 which is secured at one end to the plug and at its opposite end to the extension tube. An ordinary rubber tubing 21 is attached to the outer end of the extension tube and it may be inserted through an aperture into the main gas pipe and thence conducted to any room or portion of the building away from the burner where it is desired to locate the alarm. The tube is shown in dotted lines within the gas pipe but it may be conducted along the outer surface of the pipe in any manner preferable to where it may be desired to locate the alarm.

The alarm comprises an ordinary electric battery 22, wires 23—23 and bell 24, a support 25 suitably secured on the base 26 and connected to one side of the alarm circuit immediately over a movable cup-shaped body 27 connected to one side of the alarm circuit and which I provide with weights 28—28. The cup-shaped body may be of metal or any other suitable conducting material. A balloon 29 is formed of some suit-

able thin material as rubber or oil silk which will retain a charge of gas the presence of which is to be detected. The balloon will rise and carry with it the cup-shaped body until it forms a contact with the support 25 and the bell will be sounded. The opening of the balloon is secured on the end of a tube 30 suitably connected to a small reservoir 31 to which the gas tube 21 is connected at the opposite side.

The operation of my device is as follows: The chain 11 on being pulled down will turn the U-shaped lever in the full-line position shown in Fig. 2, and the opening in the plug 8 will register with the opening in the burner and the arm 18 pressing over the end of the plug 15 and forcing it downward until the aperture 16 is below the outer surface of the extension tube. The valve 3 is turned to register with the pipe. The arm 4 is carried around by the turning of the plug until it seats against the end of the U-shaped bracket. When it is desired to turn off the gas the plug 3 on being turned to a closed position throws the U-shaped bracket out of engagement with the plug 15 and the plug is forced upward by the spring 20 until the hole 16 registers with the opening in the tube 14 and the tension of spring 12 is exerted against one end of the lever 10 and the small aperture of the valve is brought to register with the burner. It will be observed that if the plug 3 is not completely turned out of registration with the pipe, or if it is partially turned by accident, the gas escaping will be conducted through the extension tube and gas tubing to the balloon 29. The balloon will become inflated and raise up the cup-shaped member until it forms a contact with the support 23 having secured to its under side a contact plate and the bell will be sounded.

It is believed that my invention can be understood from the foregoing description of the same and of the manner in which it operates.

What I claim and desire to secure by Letters Patent is:

1. In a gas alarm, a burner provided with a tube communicating therewith and said burner having a valve intermediate the tip and junction of said tube with the burner, an approximately U-shaped lever secured to the outer end of the valve spindle, a plug valve in the tube having an opening, said plug valve being held with its opening out of registration with said tube by said U-shaped lever, when said first mentioned valve is open, means for holding said plug valve with its opening in registration with the tube, a reservoir communicating with said tube, an electric bell, an inflatable bag communicating with said reservoir and adapted to form a contact for the circuit of said bell, a lever secured to the spindle of the gas pipe valve and adapted to contact with the end of the U-shaped lever substantially as described.

2. In a gas alarm, a burner provided with a tube communicating therewith, a valve seated in said burner, said tube intersecting said burner below the valve, a plug valve seated in the tube, means for holding said valve in registration with said tube, an approximately U-shaped lever provided with a spring arm secured on the outer end of the burner valve, said plug valve being held with its opening out of registration with said tube by said U-shaped lever, when said first mentioned valve is open, an alarm comprising an electric bell and battery, a gas reservoir, a sack communicating with said reservoir and adapted to be inflated, and means carried by the sack for forming a contact.

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

OTTAVIO CASILLI.

Witnesses:

DOMENICO BARBIERE,
MICHELANGELO RAMAGLIA,
ROCCO REMONDELLI.