J. HRIVNÁK & J. BATOS.

AUTOMATIC GAS VALVE.

APPLICATION FILED NOV. 26, 1909.

958,506. **Patented May 17, 1910.**

Fig. 1.

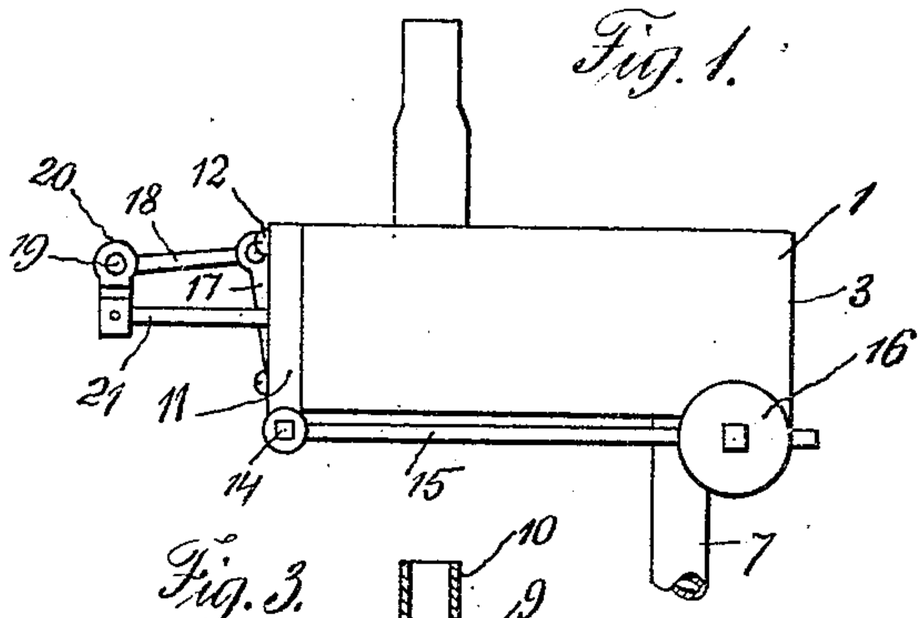


Fig. 2.

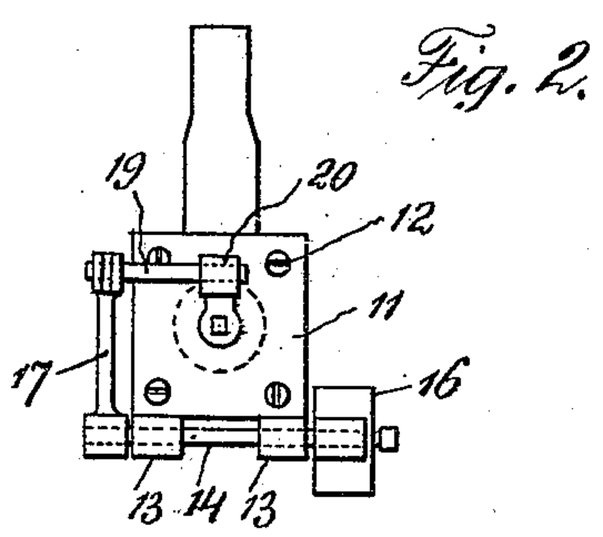


Fig. 3.

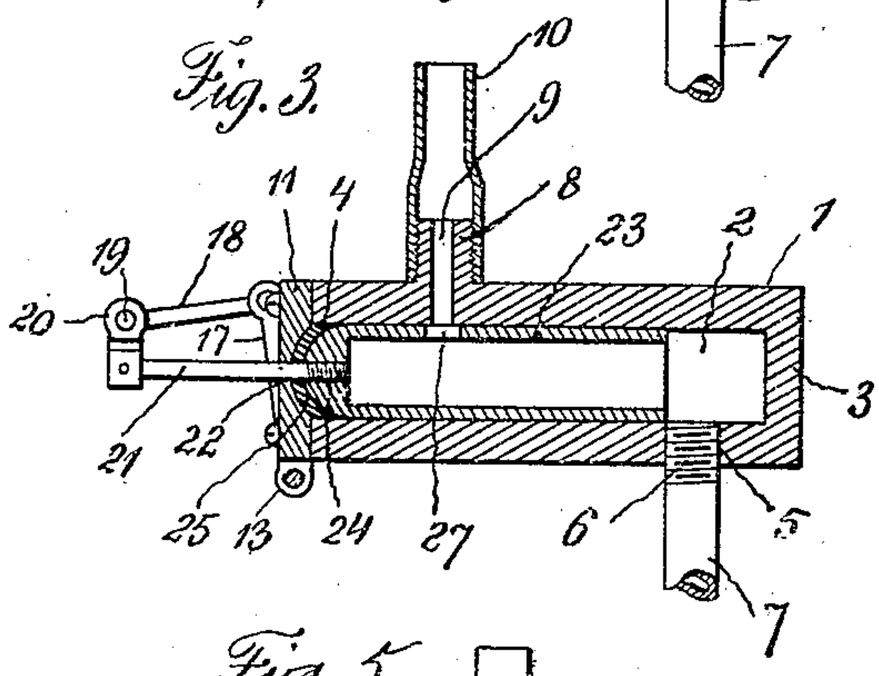


Fig. 4.

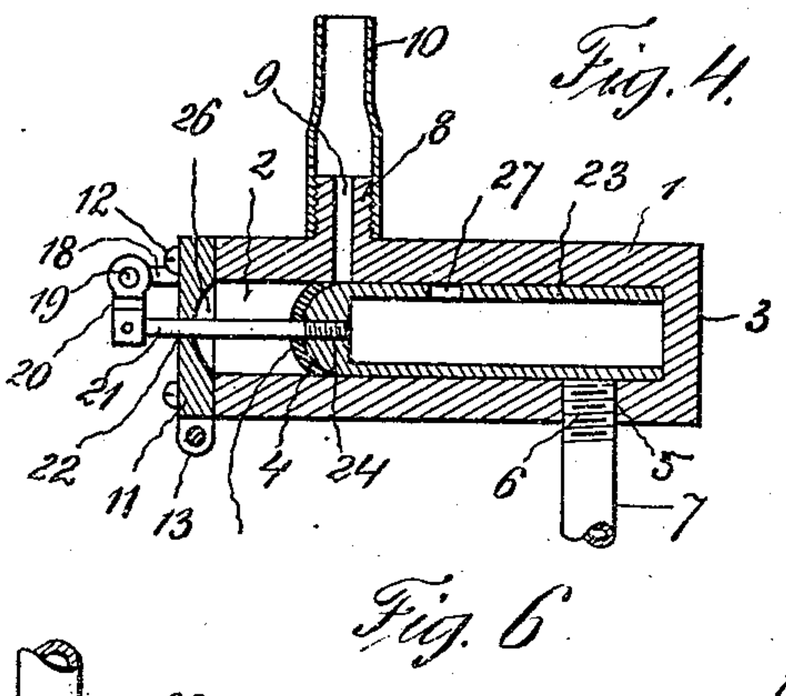


Fig. 5.

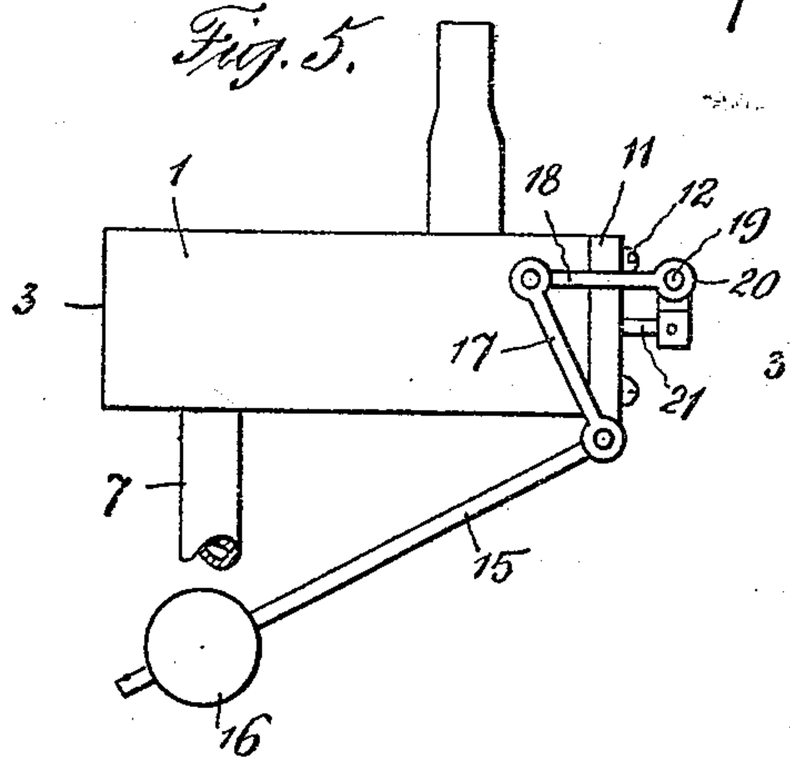
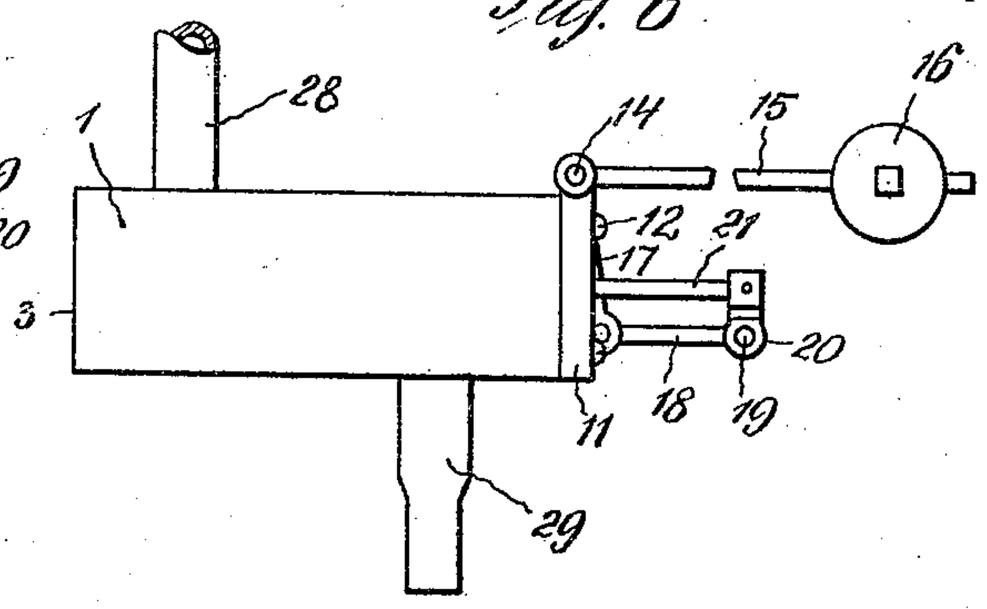


Fig. 6



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AUTOMATIC GAS-VALVE.

958,506. Specification of Letters Patent. **Patented May 17, 1910.**

Application filed November 26, 1909. Serial No. 529,944.

To all whom it may concern:

Be it known that we, JOHN HRIVNÁK and JOHN BATOS, subjects of the King of Hungary, residing at Blair Station, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Automatic Gas-Valves, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to automatic gas valves adapted to be used for safety purposes in connection with gas burners, particularly those of that type employed for illuminating purposes.

The primary object of our invention is to provide a small gas valve that can be easily located upon a gas fixture, chandelier or bracket and automatically actuated by a reduction in the pressure of gas to close the gas supply pipe and prevent the escape of gas or the asphyxiation of persons by escaping gas.

Another object of this invention is to provide a valve for gas lines that will be automatically actuated by a slight reduction in the pressure of gas, to close the gas supply pipe and prevent its escape.

A still further object of this invention is to accomplish the above results by a valve that is simple in construction, durable, inexpensive to manufacture, easy to install, efficient in its use, and meritorious as a life saving device.

These and such other objects as may hereinafter appear are attained by a device that not only aims to save gas, but the lives of many persons that would otherwise be in danger by the escape of gas from a gas supply pipe not equipped with an automatic shut off valve.

It is a well known fact that due to the bursting of a gas main, a large leakage in the main, a draft extinguishing a gas burner or lamp, or the temporary shutting off of the gas supply by the company, will extinguish the burner or lamp flame, and if a person is not prepared to immediately light the burner or lamp when the gas is turned on, the gas will escape, and of a night time in sleeping apartments will undoubtedly asphyxiate persons sleeping in the apartments.

With this understanding of the objects of our invention, reference will now be had to the drawing forming a part of this specification, wherein there are illustrated the preferred embodiments of the invention; but it is to be understood that the structural elements thereof can be varied or changed without departing from the spirit and scope of the invention.

In the drawing:—Figure 1 is a side elevation of our improved valve as designed for an ordinary burner or lamp, Fig. 2 is an end view of the same, Fig. 3 is a longitudinal sectional view of the valve, showing the valve in an open position, Fig. 4 is a similar view showing the valve in a closed position, Fig. 5 is an elevation of the valve showing the opposite side from that shown in Fig. 1 and further showing the weighted lever in a lowered position, and Fig. 6 is a side elevation of the valve as designed for an inverted burner or lamp, showing the valve in an open position.

In the accompanying drawings the reference numeral 1 denotes a small oblong metallic body, rectangular in cross section and provided with a longitudinal cylindrical bore 2, with one end of the bore closed, as at 3 while the opposite end is open, as at 4. One side of the body adjacent to one end thereof is provided with an opening 5 communicating with the bore 2, said opening having the walls thereof threaded to receive the threaded end 6 of a gas supply pipe 7, this pipe representing an upright pipe as carried by a gas fixture. The opposite side of the body adjacent to the opposite end is provided with an exteriorly threaded nipple 8 having a longitudinal bore 9 communicating with the bore 2, and screwed upon this nipple is a tubular gas jet or lamp support 10.

The open end 4 of the body 3 is closed by a rectangular plate 11, which is detachably connected to the body 3 by screw or bolts 12. The lower edge of the plate 11 is provided with depending bearings 13 and journaled in said bearings is a rock shaft 14 having the ends thereof protruding beyond the sides of

the body 1. Upon one end of the rock shaft 14 is mounted a lever 15 having the outer end thereof provided with an adjustable weight 16. The lever 15 extends toward the forward end of the body 1. The opposite end of the rock shaft 14 is provided with a crank arm 17 and pivotally connected to the outer end of the crank arm is a link 18, which is pivotally connected to a transverse pin 19 having one end thereof mounted in a sleeve 20, carried by the outer end of a piston rod 21. The piston rod 21 extends through a central opening 22 provided therefor in the plate 11 and upon the inner end of said piston rod is mounted a tubular piston 23, said piston having one end thereof closed by a bullet shaped head 24 in which the inner end of the piston rod 21 is secured. The piston rod can be secured by screw threads or any other well known means of fastening. Mounted upon the bullet shaped head 24 is a resilient cap or gasket 25 adapted to cushion the seating of the piston and establish a non-leakable connection between the piston and the valve body, and the inner side of the plate 11 is provided with a cavity 26 corresponding in diameter to the bore 2, said cavity being provided to receive the cap 25 and the bullet shaped head of the tubular piston.

The tubular piston is adapted to communicate with the bore 2, and said piston has the upper side thereof provided with a port 27 adapted to register with the bore 9 of the nipple and establish communication between the bore 2 and the jet 10.

The pressure of gas entering the bore 2 from the gas supply pipe 7 is adapted to retain the tubular piston in the position shown in Fig. 3 of the drawing, with the port 27 registering with the lower end of the bore 9, thus providing a clear passage for gas from the pipe 7 to the jet 10. Should the gas be shut off or the pressure decreased, the weight 16 is adapted to rock the shaft 14 and through the medium of the crank 17, arm 19 and piston rod 21, move the tubular piston 23 toward the closed end 3 of the body 2, thus closing the lower end of the bore 9 and the upper end of the gas inlet pipe 7, as shown in Fig. 4 of the drawing. This is accomplished by adjusting the weight 16 whereby a normal pressure of gas will overcome the tendency of the weight to move the tubular piston from the position shown in Fig. 3 of the drawing to that shown in Fig. 4 of the drawing, and the weight can be easily adjusted whereby a very small reduction in the pressure of gas will immediately actuate the valve and shut off the supply of gas until the valve has been manually reset.

The construction shown in Fig. 6 of the drawing has been designed for an inverted lamp or burner, the gas supply entering the valve through the pipe 28 and leaving the valve by the depending jet 29. It will be observed that the same elements are used as heretofore described but that they are slightly rearranged whereby the weighted lever 15 will properly operate to close the valve when the gas is shut off or the pressure thereof reduced.

Having now described our invention what we claim as new, is:—

1. In an automatic gas valve, a valve body adapted to be supported by a gas supply pipe, said body having a bore formed therein communicating with the gas supply pipe, a nipple carried by said body and adapted to communicate with said bore, a tubular piston slidably mounted in the bore of said body and provided with a port adapted to register with said nipple and establish communication between said nipple and said gas supply pipe, means located exteriorly of said valve body and adapted to move said piston upon a reduction in the pressure of gas admitted to said valve body, said means including a piston rod connecting with said piston, a rock shaft indirectly connected to said piston rod, and a weighted lever for rocking said shaft.

2. In a gas valve, the combination with a gas supply pipe, of a valve body adapted to be carried thereby, said body having a bore formed therein and adapted to communicate with said gas supply pipe, a nipple carried by said valve body, a tubular piston slidably mounted in the bore of said valve body and provided with a port adapted to register with said nipple and establish communication between said nipple and said gas supply pipe, a detachable plate carried by one end of said body, a piston rod extending through said plate and connecting with said tubular piston, and means carried by said plate and adapted to move said piston rod upon a reduction in the pressure of gas entering said body.

3. In a gas valve, the combination with a gas supply pipe, of a valve body adapted to be carried thereby, said body having a bore formed therein and adapted to communicate with said gas supply pipe, a nipple carried by said valve body, a tubular piston slidably mounted in the bore of said valve body and provided with a port adapted to register with said nipple and establish communication between said nipple and said gas supply pipe, a detachable plate carried by one end of said body, a piston rod extending through said plate and connecting with said tubular piston, means carried by said plate and adapted to move said piston rod upon a re-

duction in the pressure of the gas entering said body, said means including a rock shaft carried by one edge of said plate, a crank mounted upon one end of said rock shaft and adapted to connect with said piston, and a weighted lever mounted upon the opposite end of said rock shaft.

In testimony whereof we affix our signatures in the presence of two witnesses.

JOHN HRIVNÁK.
JOHN BATOS.

Witnesses:
SAMUEL GLICK,
SAM KRELL.