

No. 875,347.

PATENTED DEC. 31, 1907.

J. G. HARRIS & T. P. MATTIMORE.

AUTOMATIC STOP VALVE.

APPLICATION FILED JULY 13, 1907.

Fig. 1.

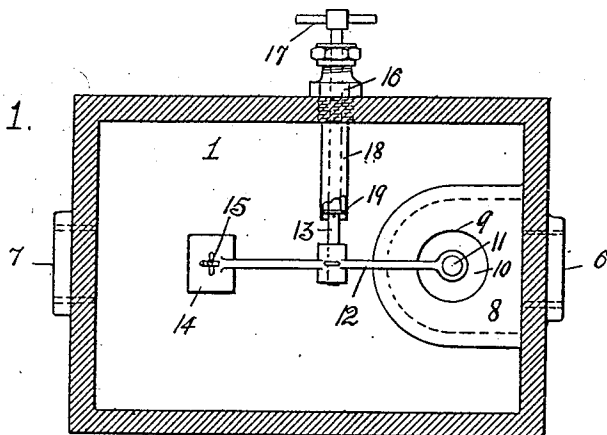


Fig. 2.

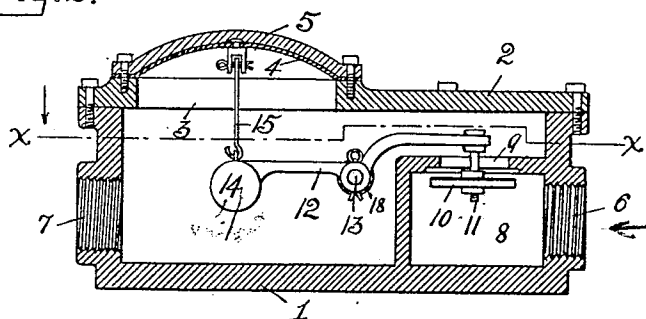
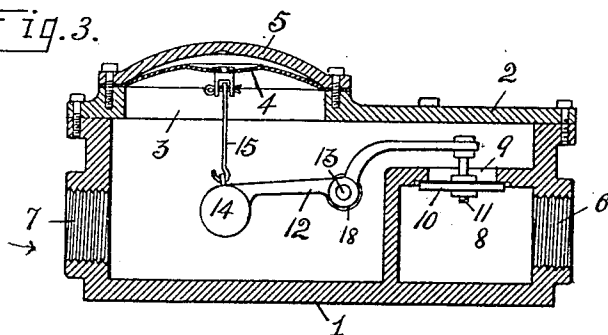


Fig. 3.



WITNESSES:

D. C. Walter
Hazel B. Kett

INVENTORS

J. G. Harris and
T. P. Mattimore,
By Owen & Owen
Their attys.

UNITED STATES PATENT OFFICE.

JOSEPH G. HARRIS AND TIMOTHY P. MATTIMORE, OF TOLEDO, OHIO.

AUTOMATIC STOP-VALVE.

No. 875,347.

Specification of Letters Patent.

Patented Dec. 31, 1907.

Application filed July 13, 1907. Serial No. 383,700.

To all whom it may concern:

Be it known that we, JOSEPH G. HARRIS and TIMOTHY P. MATTIMORE, citizens of the United States and residents of Toledo, in the county of Lucas and State of Ohio, have invented a certain new, and useful Automatic Stop-Valve; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

Our invention relates to fluid-pressure valves, and particularly to stop or cut-off valves for use in connection with natural or other gas lines for automatically closing the line when the flow of gas therein ceases, thus preventing the escape of gas from open jets and burners after the flow has again started.

The object of our invention is the provision of a simple and highly efficient device of this kind, which is of improved and simplified construction and obviates the objections heretofore encountered in the use of such valves, thus enhancing the practicability and commercial value thereof.

The invention is fully described in the following specification, and illustrated in the accompanying drawings, in which,—

Figure 1 is a horizontal section of the apparatus embodying the features of our invention taken on the dotted line *xx* in Fig. 2. Fig. 2 is a central vertical section thereof, with the valve in open position, and Fig. 3 is a similar view thereof with the valve closed.

Referring to the drawings, 1 designates the box or casing member of our invention, which is shown as being rectangular in shape, but may be of any other suitable shape, and as having a removable cover 2 bolted or otherwise suitably secured thereto. The cover 2 is provided at one end thereof with an opening 3, which is primarily covered by a diaphragm 4 that is held to the cover and has its outward movement limited by a metallic lid 5. This lid is bolted to the cover 2 and has its inner surface concaved to permit the diaphragm to have a limited outward movement when pressure is applied to the inner side thereof, as shown in Fig. 2.

The box or incasing-member 1 is provided at opposite sides thereof with the inlet and outlet openings 6 and 7, respectively, the

former of which opens into a valve-chamber 8 formed within the box. This chamber is of less height than the box 1 and has its top provided with an opening 9 leading into the interior of the box 1, which opening is intended to be closed by a valve 10 seating against the inner margin thereof. The valve 10 has its stem 11 projecting outwardly through the opening 9 and attached to one arm of a horizontally-disposed lever 12, which lever is fulcrumed to the inner end of a shaft 13. The other arm of the lever 12, which is projected beneath the diaphragm 4, is provided at its end with a weight 14 and is connected by a link 15 to the center of said diaphragm, said link being of suitable length to cause the valve to stand open when the diaphragm is completely raised, as shown in Fig. 2. The shaft 13 projects through a stuffing-box 16 in one side of the box or member 1 and has its outer end provided with a suitable head or finger-grip 17 to facilitate a turning thereof. The sleeve 18 forming a part of the stuffing-box is preferably projected a distance within the box or member 1 and has its inner end closed around the shaft 13 by a washer or stuffing-member 19. This washer is preferably of leather, felt or other suitable non-corrosive material, as it is found that where metal is used the action of the gas thereon will cause it to corrode and become locked to the sleeve and shaft, thus preventing a relative turning thereof. It is apparent from the above that the shaft 13 is manually turned to effect an opening of the valve, and is maintained in such position by the outward pressure against the diaphragm 4 of the gas admitted to the box or member 1 from the valve-chamber 8, thus counteracting the action of the weight at the end of the lever 12. Should the flow of gas through the box 1 be stopped the outward pressure on the diaphragm is relieved and the valve 10 is automatically seated by the gravity action of the weighted end of the lever.

We wish it to be understood that we do not desire to be limited to the exact arrangement and construction shown and described, as obvious modifications will be apparent to a person skilled in the art.

Having thus described our invention, what we claim as new and desire to secure by Letters Patent, is,—

1. In combination, a casing having an internal valve-chamber provided in its top with a port opening into the chamber formed by

the casing, said casing having an inlet opening leading into the valve-chamber and an outlet opening leading from the other chamber, a valve intended to close the outlet port 5 in the valve-chamber and having its stem projected outwardly therethrough, a lever fulcrumed within the casing and having an end weighted and its other end attached to the valve stem, a diaphragm disposed above 10 the weighted end of the lever and connected thereto whereby an outward pressure on the diaphragm effects a raising of the weighted end of the lever and an opening of the valve, and a shaft carrying the lever and having 15 its outer end projected through the casing to adapt a turning of the shaft to oscillate the lever.

2. In combination, a box-like member having an outlet port, a removable cover 20 provided with an opening, a lid for said opening having its inner surface concaved, a dia-

phragm held across the opening by the lid and having its outward movement limited by the lid, a valve-chamber in one end of said member having inlet and outlet openings, 25 the outlet opening being in its top, an internal valve for closing said outlet opening, a lever fulcrumed within the member and having one end weighted and connected to the diaphragm and its other end attached to the 30 valve-stem, and means operative from without the member for manually turning the lever, substantially as described.

In testimony whereof we have hereunto signed our names to this specification in the 35 presence of two subscribing witnesses.

JOSEPH G. HARRIS.
TIMOTHY P. MATTIMORE.

Witnesses:

C. W. OWEN,
A. W. REISER.