

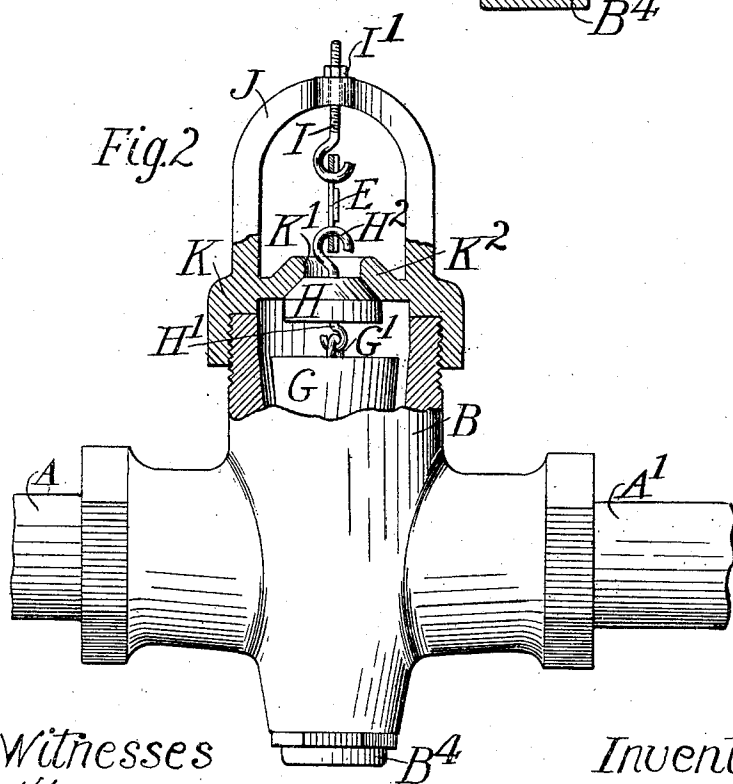
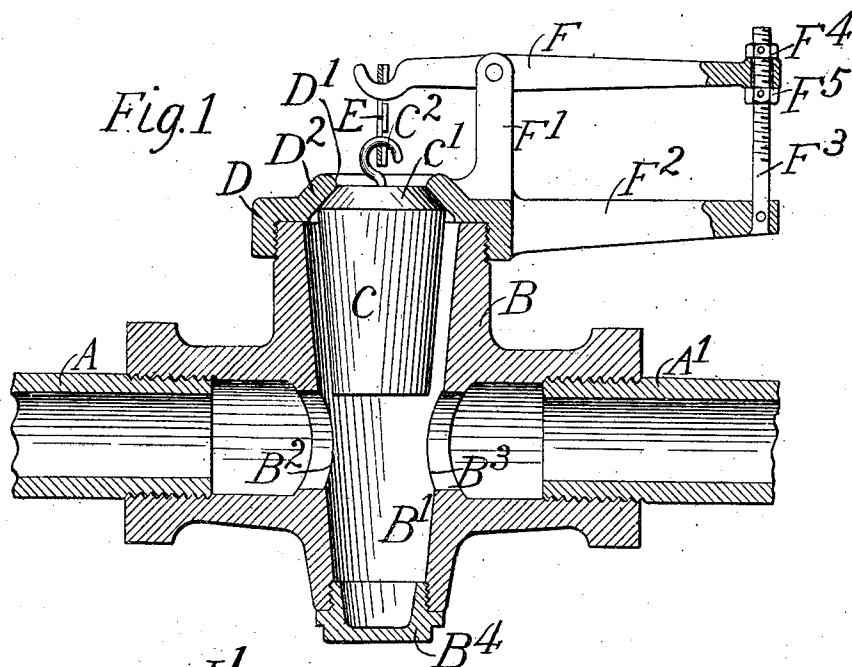
No. 830,719.

PATENTED SEPT. 11, 1906.

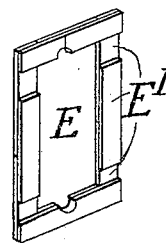
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AUTOMATIC SAFETY VALVE FOR GAS SUPPLY PIPES.

APPLICATION FILED AUG. 21, 1905.



*Fig. 3*



Witnesses  
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# UNITED STATES PATENT OFFICE.

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## AUTOMATIC SAFETY-VALVE FOR GAS-SUPPLY PIPES.

No. 830,719.

Specification of Letters Patent.

Patented Sept. 11, 1906.

Application filed August 21, 1905. Serial No. 275,055.

*To all whom it may concern:*

Be it known that I, ADOLPH W. JENCZEWSKY, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Automatic Safety-Valves for Gas-Supply Pipes; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to an automatically-acting or self-closing safety-valve intended to be applied to a supply-pipe for illuminating-gas at a point within a house or building and adapted to close the pipe against the passage of gas from the main in case a fire occurs within the said house or building.

The invention consists in the matters hereinafter set forth, and more particularly pointed out in the appended claims.

In applying my invention I provide the gas-supply pipe within the cellar or basement of the building between the gas-meter and the point where the pipe enters the building with a valve having a movable part or closure so constructed that it has a tendency to assume a closed position either by force of gravity or by means of an actuating-spring, together with a support for the closure adapted to hold the valve normally in its open position and embracing a supporting member which is destructible by heat and is located outside of the valve-casing, and means for keeping normally closed the opening in the outer wall of the valve through which the support for the closure extends, the whole being so constructed and arranged that when the destructible supporting member is melted by heat or otherwise broken the valve-closure will be released and effect the closing of the valve.

As illustrated in the accompanying drawings, Figure 1 is a view in central longitudinal section of a valve embodying the preferred form of my invention. Fig. 2 is a view, partially in elevation and partially in central longitudinal section, of a valve embodying an alternative form of my invention. Fig. 3 is a perspective view of the preferred form of support, composed of strips of sheet-iron connected by fusible metal.

As shown in Fig. 1 of said drawings, illustrating the preferred embodiment of my in-

vention, A indicates a pipe leading into a building from a gas-main, A' a pipe leading to a gas-meter or to the supply-pipe, and B the valve-casing connecting the ends of the pipes A and A'. Said casing B has a vertically-arranged conical or tapered valve-chamber B', which extends transversely across the main passage through the valve-casing and is provided in its lower part with opposite lateral ports B<sup>2</sup> B<sup>3</sup>, constituting parts of said passage. The casing is closed at its bottom by a cap B<sup>4</sup>. Within said valve-chamber is located a conical valve-plug C, which is movable vertically in said chamber and when in its lower position fits the conical valve-seat formed by the lower part of the chamber and closes the ports B<sup>2</sup> B<sup>3</sup>. When the plug C is lifted to the upper part of the chamber, it stands above the said ports and permits the free passage of gas through the casing. To the tubular top of the valve-casing is attached a screw-cap D, having an annular opening D' surrounded by an inner conical downwardly-facing valve-seat D<sup>2</sup>. The valve-plug C is provided at its top with a conical surface C', adapted to fit against said seat D<sup>2</sup> when the said plug is held in its elevated position.

E indicates a supporting member which is destructible by heat. Said member E, Fig. 3, is shown as having the form of a ring or link made up of a number of separate strips of sheet metal E' connected by readily-fusible metal or other suitable fusible substance. The plug C is provided at its upper end with a hook C<sup>2</sup>, which engages the lower part of the supporting member E.

As shown in Fig. 1, F indicates a lever which is pivoted between its ends to a standard F', rising from the valve-casing and herein shown as attached to the cap D. Said lever is arranged horizontally, and one of its ends is engaged with the destructible supporting member E, for this purpose being located centrally over the valve-plug C. The opposite or outer end of said lever extends outwardly and has adjustable connection with the casing by means enabling the outer end of the lever to be drawn downwardly and the inner end thereof elevated, so as to bring upward strain or tension upon the connecting member, and thus hold the plug C with its upper end in tight or close engagement with the downwardly-facing seat D<sup>2</sup> of the cap D. The connection between the outer end of the lever and the valve-casing is shown as formed

by means of a horizontal arm  $F^2$ , formed on the cap D, and a screw-threaded rod  $F^3$ , which is secured at its lower end to the outer end of the arm  $F^2$  and which passes at its upper end through an aperture in the lever F. Said rod is provided above and below the lever with nuts  $F^4$   $F^5$ , the upper nut  $F^4$  acting on the upper surface of the lever to depress the same according to the amount of tension required upon the supporting member E, while the lower nut  $F^5$  serves merely to prevent the outer end of the lever being depressed and the connecting member E ruptured by accidental pressure upon the outer end of the lever.

In the modified form of construction embodying the main features of my invention illustrated in Fig. 2 the main valve-closure consists of a plug G, which operates in the same manner as the valve-plug C, heretofore described, to close the passage for gas through the valve-casing. In this instance a separate valve disk or plug H serves as a closure for the opening in the outer wall of the valve-casing. Said disk H is connected with the plug G by means of a loop  $G'$  on the plug and a hook  $H'$  on the disk. Said disk H is provided at its top with a hook  $H^2$ , which engages the lower part of a connecting member E, constructed in the same manner as hereinbefore described in connection with Figs. 1 and 3. In this instance, moreover, the devices for exerting upward or outward tension on the connecting member are constructed differently than those illustrated in Fig. 1, the same consisting of a yoke-piece J, connected at its ends with the top of the cap K, which closes the top of the valve-casing and of arch form at its upper part, together with an adjusting-screw I, having a hook at its lower end which engages the upper part of the said connecting member E and passing through a vertical aperture in the central part of the yoke, said adjusting-screw having a nut  $I'$  above the yoke by which the same may be drawn upwardly through the yoke and the desired tension thereby applied to the connecting member as necessary for drawing and holding the disk H closely and firmly against the downwardly-facing seat  $K^2$ , which surrounds the opening  $K'$  in the cap K.

It is to be observed in connection with the two forms of the invention illustrated in Figs. 1 and 2 that, as shown in Fig. 2, the closure (the disk H) for the opening in the outer wall of the casing is made as a part or piece separate from the main valve-closure, but is permanently connected therewith, so that the two parts move together, while in the construction shown in Fig. 1 the upper part of the valve-plug C, which is provided with a conical surface adapted to fit the downwardly-facing seat surrounding the opening in the outer wall of the casing, constitutes, in

effect, the closure for the said opening, while the lower part of said plug constitutes the main closure for the valve. It follows, therefore, that the two forms of device illustrated correspond generally in structure and produce the same general results, notwithstanding the fact that in the form shown in Fig. 1 the main closure and the closure for the opening in the outer wall of the valve-casing are made integral or in one piece, while in the form of the device shown in Fig. 2 the main valve-closure and the closure for the said opening in the outer wall of the casing are made in two separate pieces permanently linked or connected together.

I claim as my invention—

1. The combination with a valve-casing having an opening in its outer wall surrounded by an inwardly-facing conical seat, of a movable valve-closure in said casing, a movable closure member for said opening having a conical surface adapted to fit said seat and connected with the valve-closure, said movable closure member forming a part of the outer wall of the casing and means for holding the valve-closure in its open position and the said closure member against its seat, embracing a supporting member, destructible by heat, which is connected with the outer face of the closure member, and means on the valve-casing connected with the outer end of the supported member for applying tension to the latter.

2. The combination with a valve-casing having an opening in its outer wall surrounded by an inwardly-facing conical seat, of a movable valve-closure in said casing, a movable closure member for said opening having a conical surface adapted to fit said seat and connected with the valve-closure, said movable closure member forming a part of the outer wall of the casing, and means for holding the valve-closure in its open position and the said closure member against its seat, embracing a destructible supporting member having the form of a ring or link made or built up of a plurality of pieces of metal joined to each other by solder or the like, said ring or link being connected with the outer face of the closure member, and means on the valve-casing connected with the outer end of said ring or link for applying tension to the latter.

3. The combination with a valve-casing having an opening in its outer wall surrounded by an inwardly-facing conical seat, of a movable valve-closure in said casing, a movable closure member for said opening having a conical surface adapted to fit said seat and connected with the valve-closure, said movable closure member forming a part of the outer wall of the casing and means for holding the said valve-closure in its open position and the said closure member against its seat, embracing a destructible supporting member having the form of a ring or link which is con-

5 nected with the outer face of the closure member, and means for applying tension to said ring or link embracing a lever pivoted to the valve-casing with its inner end engaged with the outer end of the ring or link, and an adjustable connection between said lever and valve-casing.

10 4. The combination with a valve-casing having an opening in its outer wall surrounded by an inwardly-facing conical seat, of a movable valve-closure in said casing, a movable closure member for said opening having a conical surface adapted to fit said seat and connected with the valve-closure, said movable closure member forming a part of the outer wall of the casing, and means for holding the said valve-closure in its open position and the said closure member against its seat, embracing a destructible supporting member having the form of a ring or link which is connected with the outer face of the closure member, and means for applying tension to said ring or link embracing a lever pivoted to the valve-casing with its inner end engaged with the outer end of the ring or link, and an adjustable connection between said lever and

valve-casing embracing a screw-threaded rod provided with a nut.

30 5. The combination with a valve-casing having an opening in its outer wall surrounded by an inwardly-facing conical seat, of a movable valve-closure in said casing, the outer end of which is adapted to fill and close said opening and is provided with a conical bearing-surface adapted to fit against said inwardly-facing seat, and means for holding the valve-closure in its open position and in contact with the seat, embracing a supporting member, destructible by heat, which is connected with the outer end of the closure, and means on the valve-casing connected with the outer end of the supporting member for applying tension to the latter.

40 In testimony that I claim the foregoing as my invention I affix my signature, in presence of two witnesses, this 11th day of August, A. D. 1905.

ADOLPH W. JENCZEWSKY.

Witnesses:

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G. R. VILKINS.