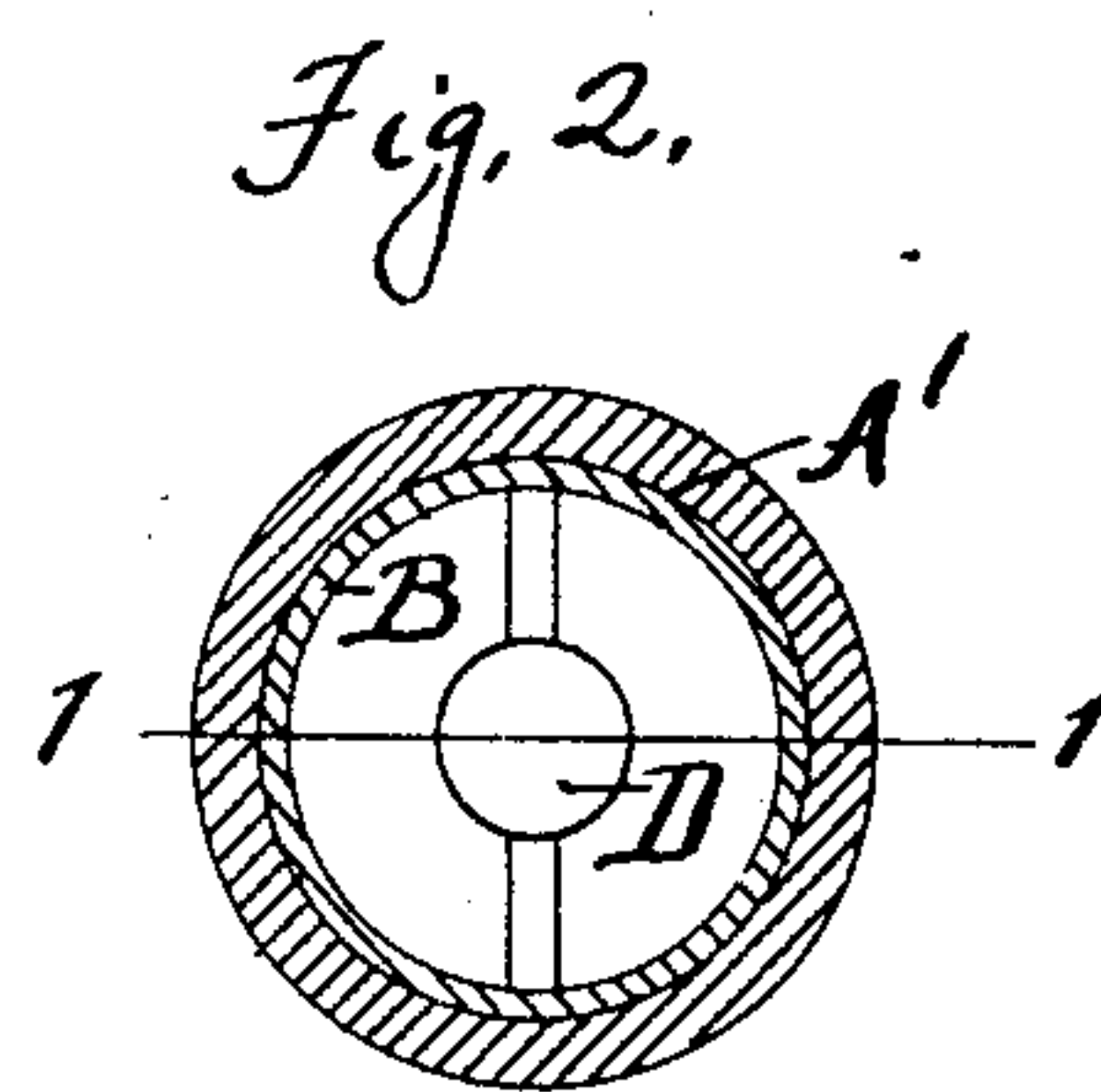
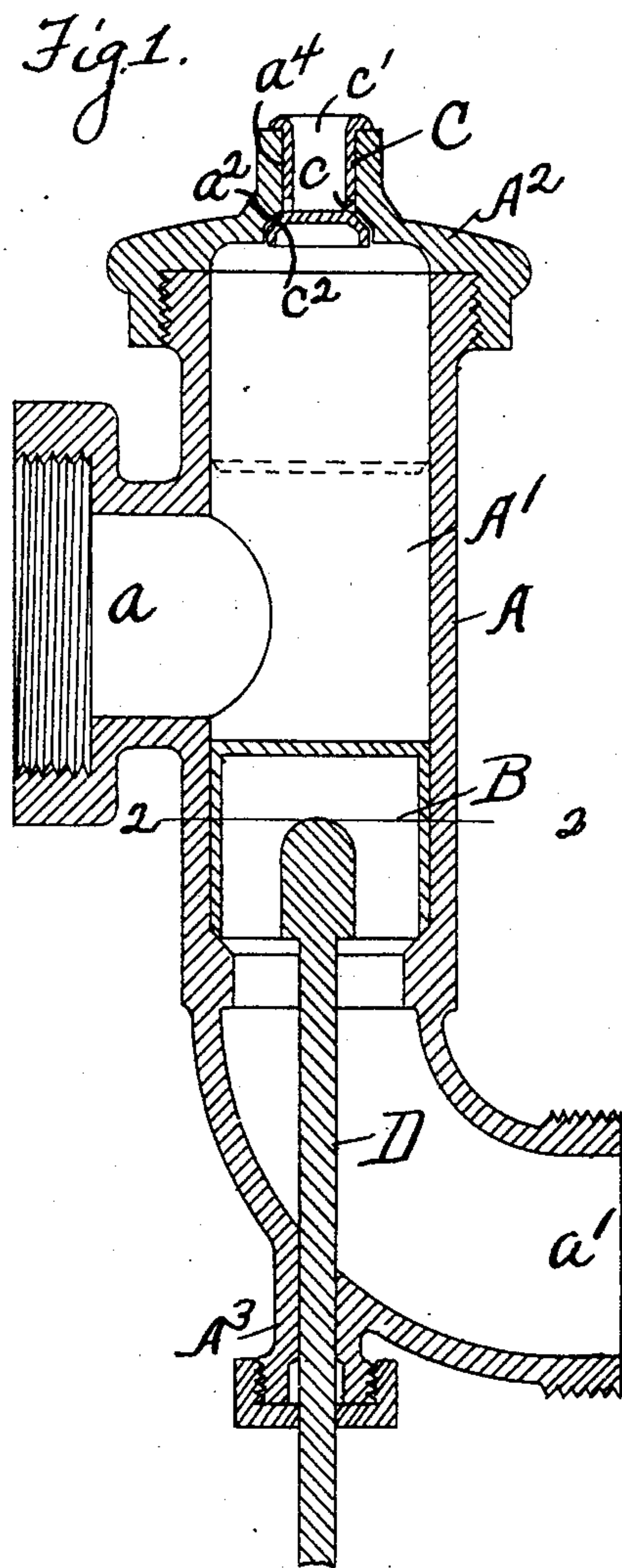


No. 779,460.

PATENTED JAN. 10, 1905.

J. G. ARMSTRONG.  
SAFETY CUT-OFF FOR GAS LINES.  
APPLICATION FILED MAR. 17, 1904.



Witnesses  
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# UNITED STATES PATENT OFFICE.

JOSEPH G. ARMSTRONG, OF WARREN, PENNSYLVANIA, ASSIGNOR OF  
ONE-HALF TO C. E. METZGER, OF WARREN, PENNSYLVANIA.

## SAFETY CUT-OFF FOR GAS-LINES.

SPECIFICATION forming part of Letters Patent No. 779,460, dated January 10, 1905.

Application filed March 17, 1904. Serial No. 198,691.

*To all whom it may concern:*

Be it known that I, JOSEPH G. ARMSTRONG, a citizen of the United States, residing at Warren, in the county of Warren and State of Pennsylvania, have invented new and useful Improvements in Safety Cut-Offs for Gas-Lines, of which the following is a specification.

This invention relates to safety cut-offs for gas-lines; and it consists in certain improvements in the construction thereof, as will be hereinafter fully described, and pointed out in the claims.

The invention is illustrated in the accompanying drawings, as follows:

Figure 1 is a section on the line 1 1 in Fig. 2; Fig. 2, a section on the line 2 2 in Fig. 1.

The device comprises the valve-chamber A. This has the inlet *a* and outlet *a'*. Arranged by the inlet is a cylinder A', forming part of the valve-chamber. The cylindrical valve B is arranged to operate in this cylinder A'. The outer walls of the valve B fit the inner walls of the cylinder, so as to make a gas-tight joint. A plunger D extends through the gland A<sup>3</sup>. By means of this plunger the valve B may be returned to its upper position after it is closed through the action of the device. The upper end of the cylinder A' extends a sufficient distance above the inlet *a* to permit the valve B to be pushed up above the inlet *a*. In order to permit of this upward movement, a small float-valve C is arranged in the top A<sup>2</sup> of the valve-chamber. This valve C has the hollow neck *c'*, into which the openings *c* lead. The neck *c'* fits loosely in an opening *a'* in the top A<sup>2</sup>. The valve-seat *c'* forms a closure on the seat *a'* of the cover A<sup>2</sup>. As the valve B is raised the valve C may be held down by the finger, so as to permit the escape of trapped air above the inlet *a*.

The operation of the device is as follows: The valve B is moved to its upward position, as shown by the dotted line, and the gas turned into the inlet *a*. The plunger D is brought back to its lower position—that is, the position shown in Fig. 1. The gas-pressure then holds the valve B in its upper position,

so that there is a free passage for gas through the valve. When the gas-pressure falls, the valve B drops to the position shown in Fig. 1, thus cutting off the gas. The opening afforded by the valve C permits of a ready drop of the valve B upon the lowering of pressure. When gas is again turned on through the inlet *a*, the valve B forms a closure to the main passage and the float-valve C immediately closes through the action of the gas-pressure, so that gas is entirely cut off until the valve B is again raised by manipulation of the stem D. The stem D passes through any suitable gland, as A<sup>3</sup>.

I do not claim, broadly, a valve for safety cut-offs which is raised to its open position by a plunger, as D.

What I claim as new is—

1. In a safety cut-off for gas-lines, the combination of a valve-chamber having a gas-passage therethrough and a valveway therein; a main valve in said valveway arranged to be held in an open position by the gas under pressure and to close the gas-passage upon a failure of gas-pressure and then to remain closed with a renewal of gas-pressure, said valve closing the valveway above the gas-passage, and a check-valve above the main valve, said check-valve being arranged to be closed by gas-pressure and to open in the absence of said pressure.

2. In a safety cut-off for gas-lines, the combination of a valve-chamber having a gas-passage therethrough and a valveway therein; a main valve in said valveway arranged to be held in an open position by the gas under pressure and to close the gas-passage upon a failure of gas-pressure and then to remain closed with a renewal of gas-pressure, said valve closing the valveway above the gas-passage; and a check-valve above the main valve, said check-valve being arranged to be closed by gas-pressure and to open in the absence of said pressure; and means for opening the main valve from without the chamber.

3. In a safety cut-off for gas-lines, the combination of a valve-chamber having a gas-passage therethrough, and a cylindrical valveway



therein; a cylindrical valve forming a closure with said way in the valveway, said valve being closed at one end and formed of sufficiently light material to be sustained in an open position by the gas-pressure and upon a failure of gas-pressure to fall by gravity closing the gas-passage; a check-valve controlling a passage of the valveway, said valve being arranged to be closed by gas-pressure and to open in the absence of said pressure.

4. In a safety cut-off for gas-lines, the combination of the valve-chamber A having the cylindrical portion A', inlet *a* and outlet *a'*; the valve B arranged in the cylinder A' and forming a fit therewith; the cover A<sup>2</sup> having the float-valve C therein; the valves B and C

being proportioned to be held in their upper position by gas-pressure.

5. In a safety cut-off for gas-lines, the combination with a cut-off valve adapted to be held in an open position by gas-pressure, and to fall upon a failure of said pressure; a float-valve C having the hollow neck *c'*, and opening *c*, said valve being proportioned to be held in its closed position by gas-pressure.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JOSEPH G. ARMSTRONG.

Witnesses:

W. J. HOGAN,  
J. H. BOWDEN.