

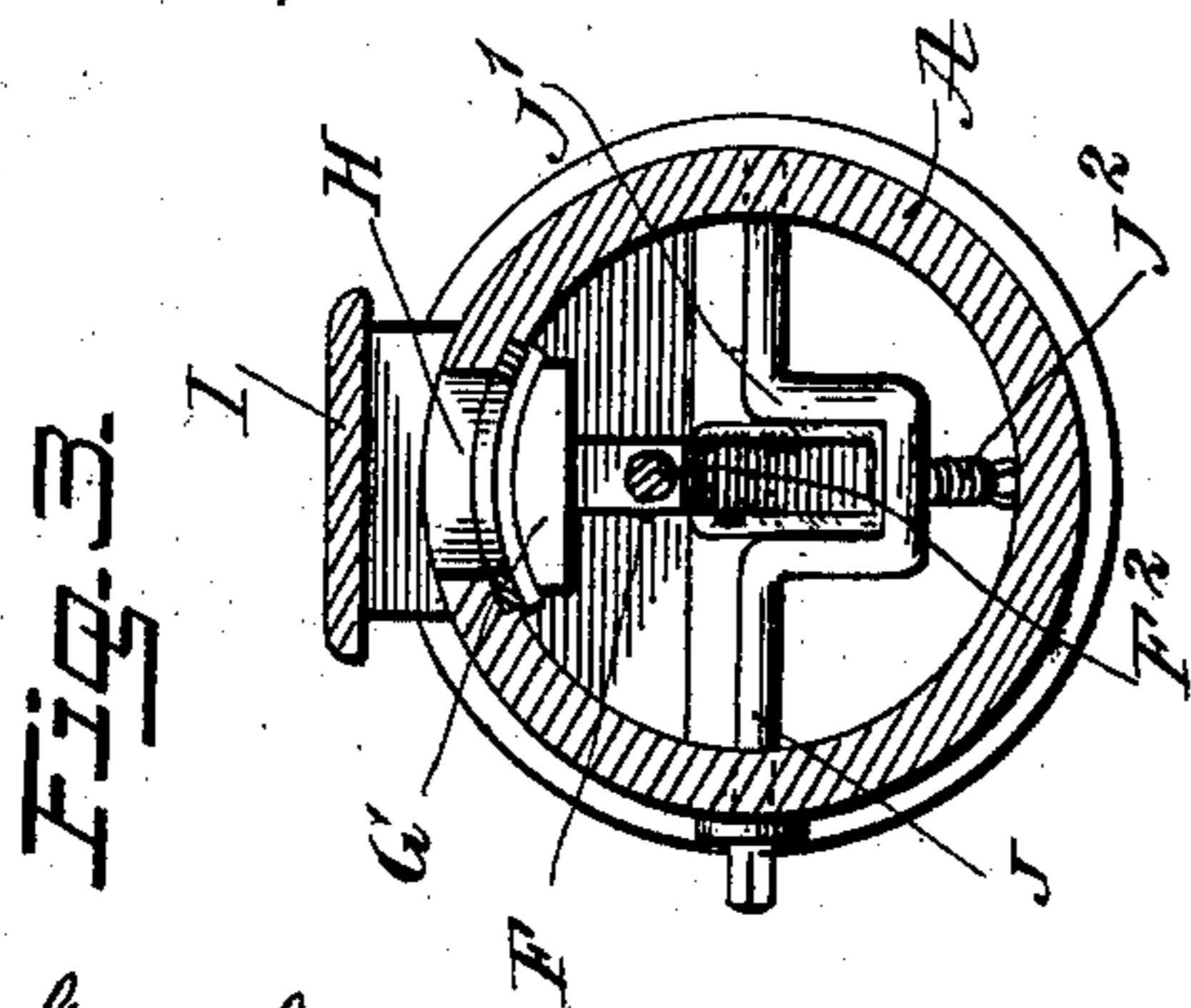
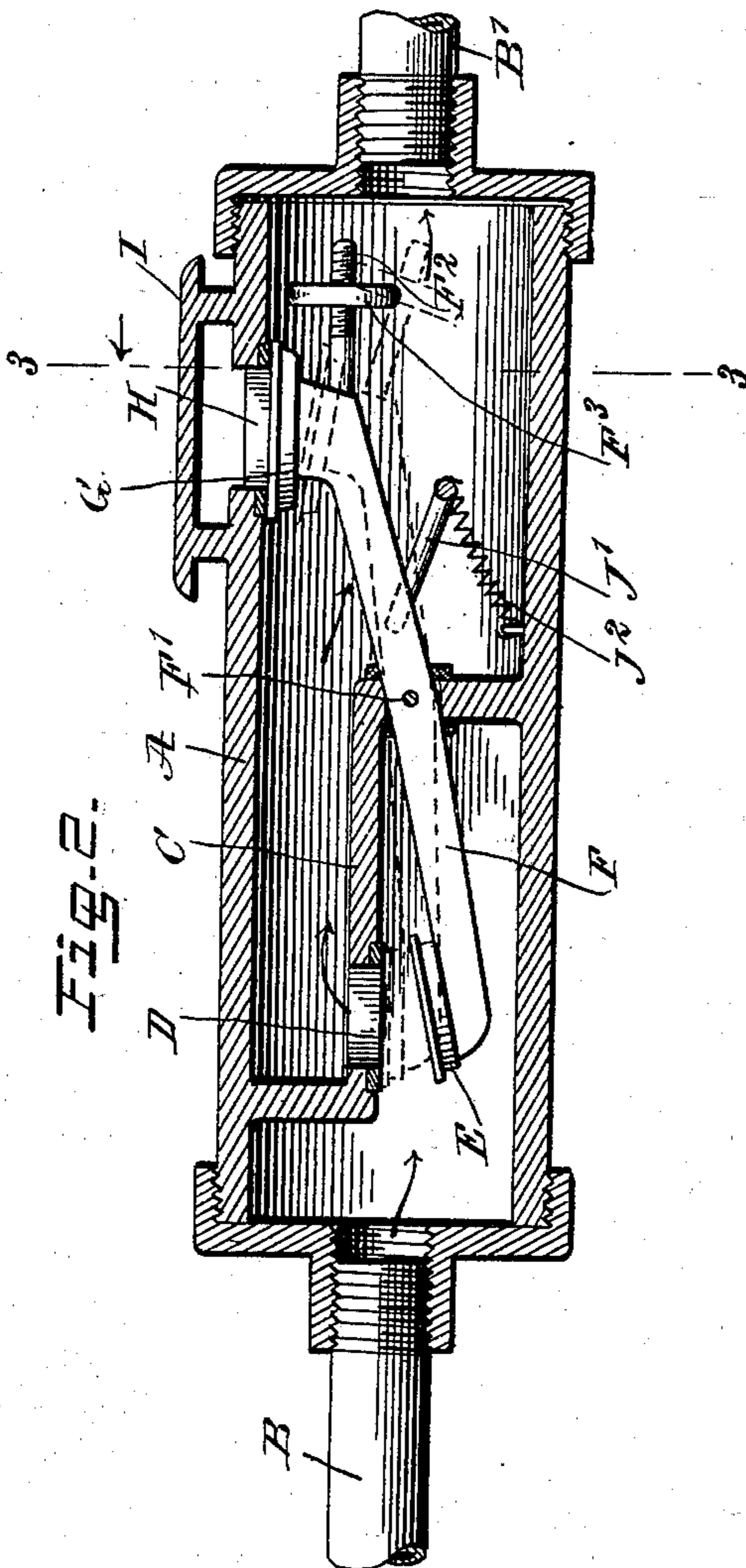
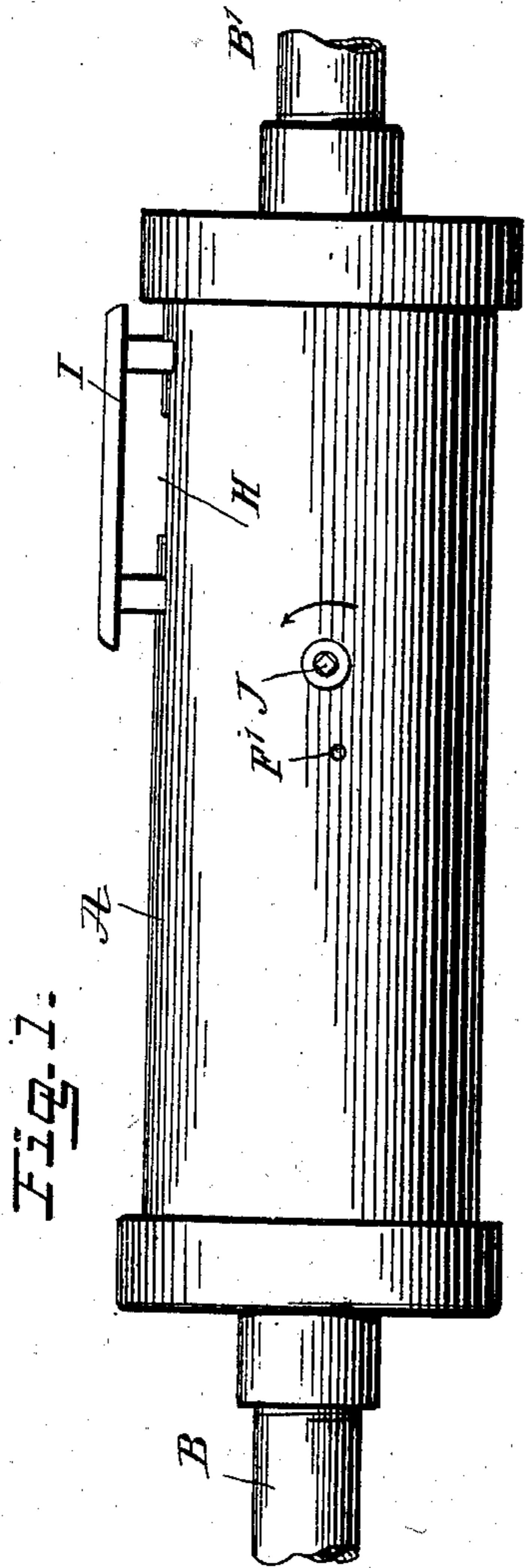
No. 702,195.

Patented June 10, 1902.

J. C. FURMAN.  
SAFETY DEVICE FOR GAS LINES.

(Application filed Jan. 21, 1902.)

(No Model.)



WITNESSES:

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# UNITED STATES PATENT OFFICE.

JOHN C. FURMAN, OF STRATTANVILLE, PENNSYLVANIA, ASSIGNOR OF ONE-FOURTH TO JAMES W. JONES, OF STRATTANVILLE, PENNSYLVANIA, AND IRVIN M. SHANNON, OF CLARION, PENNSYLVANIA.

## SAFETY DEVICE FOR GAS-LINES.

SPECIFICATION forming part of Letters Patent No. 702,195, dated June 10, 1902.

Application filed January 21, 1902. Serial No. 90,655. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN C. FURMAN, a citizen of the United States, and a resident of Strattanville, in the county of Clarion and State of Pennsylvania, have invented a new and Improved Safety Device for Gas-Lines, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved safety device for gas-lines designed to guard against gas escaping into the house-service pipes in case the flames of the burner have gone out owing to lack of gas-supply, the arrangement being such that the line is automatically shut off in case the gas-pressure falls below a predetermined degree, and the line is kept closed on recurring full gas-pressure until the safety device has been reset manually.

The invention consists of novel features and parts and combinations of the same, as will be more fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all of the views.

Figure 1 is a side elevation of the improvement. Fig. 2 is a longitudinal sectional elevation of the same, and Fig. 3 is a transverse section of the same on the line 3 3 of Fig. 2.

The casing A is connected at one end with the pipe B of the gas-supply main, and the other end of the casing is connected with the pipe B' for conducting the gas to the burners in the house. Within the casing A is arranged a transverse partition C, provided with a valve-seat D, adapted to be closed by a valve E, held on one end of a lever F, fulcrumed at F' in the partition C and carrying at its other end a valve G, adapted to close a valve-seat H, arranged in the wall of the casing A and opening to the atmosphere. By reference to Fig. 2 it will be seen that the lever F extends into both compartments formed by the partition C, it being understood that when the lever F is in the position shown in Fig. 2 the valve-seat D is open to allow gas to pass from the pipe B through the casing A into

the pipe B'. The valve G is held to its seat H by the gas-pressure within the casing for keeping the valve E off its seat as long as the gas-pressure is at or above a predetermined degree; but as soon as the pressure falls below the predetermined degree then the lever F swings by its own weight downward at the end carrying the valve G, so that the latter moves off its seat H, and the other end of the lever swings upward to move the valve E against the seat D, thus closing the same. When this takes place, the connection between the pipes B and B' is cut off and the valve E remains closed on recurring gas-pressure, so that no gas can pass through the casing and pipe B' to the open burners, and consequently the escape of gas into a room is completely prevented. The valve-seat H is preferably on top of the casing A, and over it extends a suitable guard I to prevent impurities from passing into the casing. When the valve H moves from its valve-seat, then the gas which is in the service-pipe B' can leak out through the seat into the atmosphere, thereby avoiding accidents when taking fittings of the service-pipe apart for repairs or other purposes.

It is understood that the valve G is readily held to its seat H by the gas-pressure from within the casing A against the atmospheric pressure on top of the valve.

In order to prevent leakage of gas from one compartment to the other through the partition C at the opening for the lever F, I prefer to employ rubber or other elastic washers held against the opposite faces of the partition over the opening for the lever F, the latter having a snug fit in the said elastic washers. (See Fig. 2.)

In order to weight the lever F at the forward end to any desired degree—that is, to the pressure within the casing A—when the valve E is to close, I provide the said forward end of the lever with a screw-rod F<sup>2</sup>, on which screws a weight F<sup>3</sup>.

In order to permit of resetting the lever F to the position shown in Fig. 2, the following device is provided: In the sides of the casing A is journaled a crank-shaft J, provided with in the casing A with a crank-arm J', adapted

to engage the forward or weighted end of the lever F, the said crank-arm being pressed on by a spring J<sup>2</sup> to normally hold the crank-arm in a lowermost position, as shown in Figs. 2 and 3. The outer end of the crank-shaft J is adapted to receive a key, wrench, or other tool to enable the operator to conveniently turn the said crank-shaft to move the crank-arm J' in engagement with the lever F, to swing the same upward at its forward end and bring the valve G back to its seat on the valve-seat H, to swing the valve E off its seat D and again allow gas to pass from the pipe B through the casing A to the pipe B' and to the burners.

It is expressly understood that whenever the pressure of the gas falls below a certain point or ceases altogether then the valve E moves to its seat to shut off the gas from the pipe B' and the burners, so that no gas can escape into the room even if the burners are left open and gas under pressure again passes through the pipe B.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A safety device for gas-lines, comprising a casing in the line and having a transverse partition to form two compartments, of which one is connected with the gas-inlet and the other with the gas-outlet, a valve-seat in the said partition to establish communication between the compartments, a valve-seat in the outlet end of the casing and opening to the atmosphere, valves for the said valve-seats, and a connection between the valves to hold one to its seat at the time the other is open, and vice versa, as set forth.

2. A safety device for gas-lines, comprising a casing in the line and having a transverse partition to form two compartments, of which one is connected with the gas-inlet and the other with the gas-outlet, a valve-seat in the said partition to establish communication between the compartments, a valve-seat in the outlet end of the casing and opening to the atmosphere, valves for the said valve-seats, and a connection between the valves to hold one to its seat at the time the other is open, and vice versa, the said connection being in the form of a lever weighted at the end carrying the valve for the valve-seat opening to the atmosphere, as set forth.

3. A safety device for gas-lines, comprising a casing in the line and having a transverse partition to form two compartments, of which one is connected with the gas-inlet and the other with the gas-outlet, a valve-seat in the said partition to establish communication between the compartments, a valve-seat in the outlet end of the casing and opening to the atmosphere, valves for the said valve-seats, a connection between the valves to hold one to its seat at the time the other is open, and vice versa, and a resetting device under the control of the operator, for engaging the said connection to allow of resetting the valves, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN C. FURMAN.

Witnesses:

B. F. HURLEY,  
A. B. FURMAN, Sr.