

No. 685,327.

Patented Oct. 29, 1901.

A. C. EBY.  
AUTOMATIC GAS SHUT-OFF AND REGULATOR.

(Application filed Mar. 27, 1901.)

(No Model.)

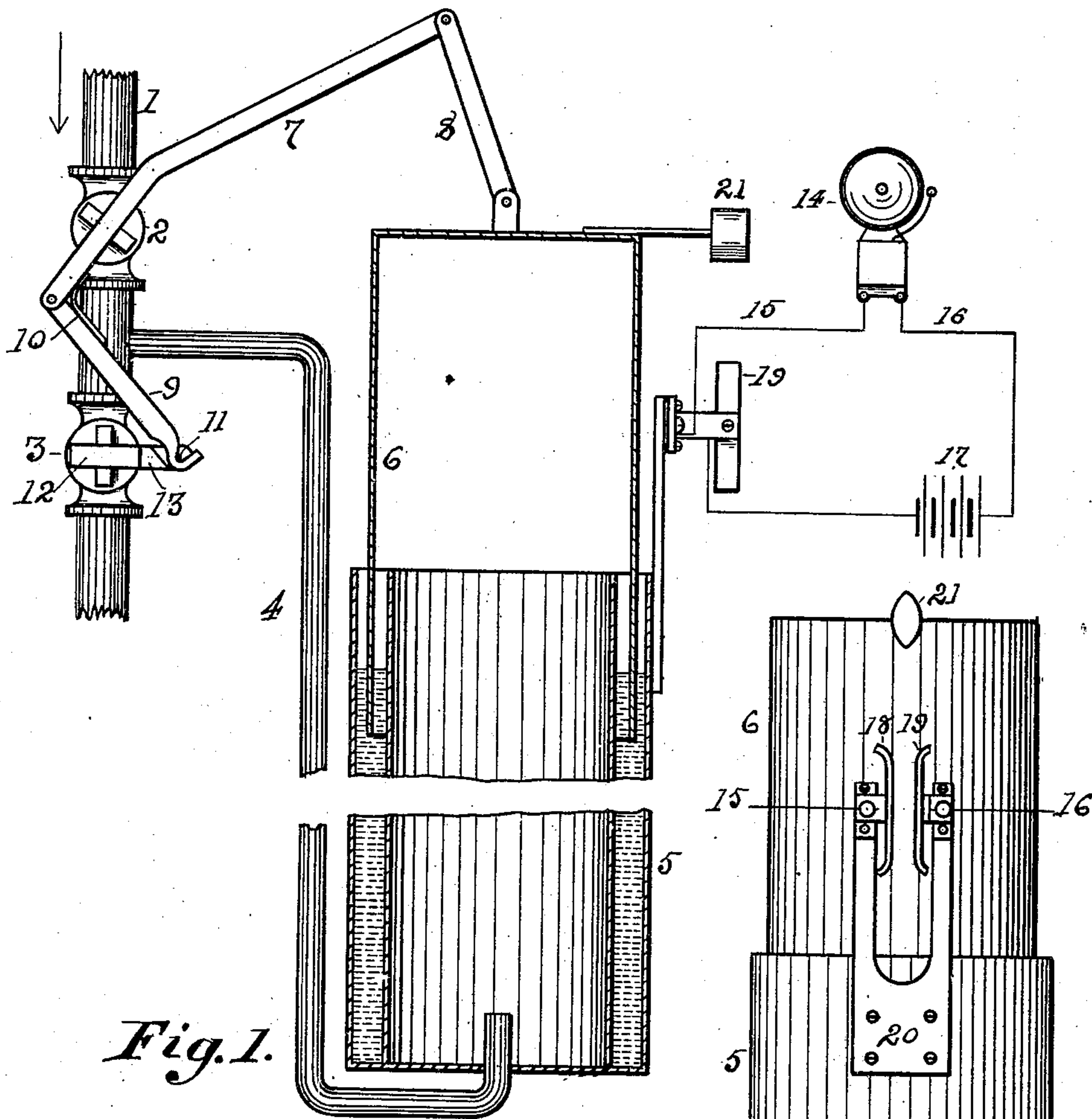


Fig. 1.

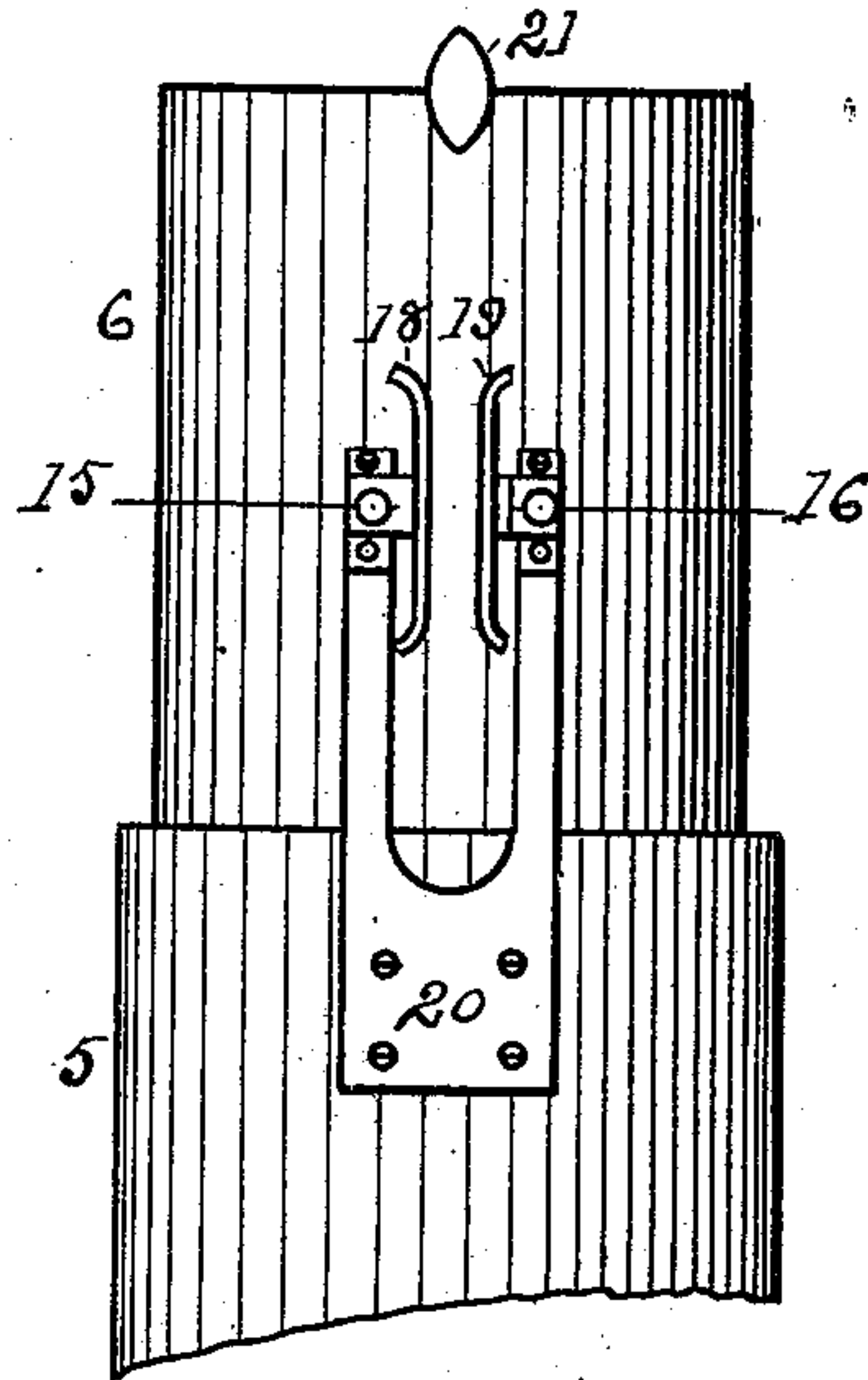


Fig. 2.

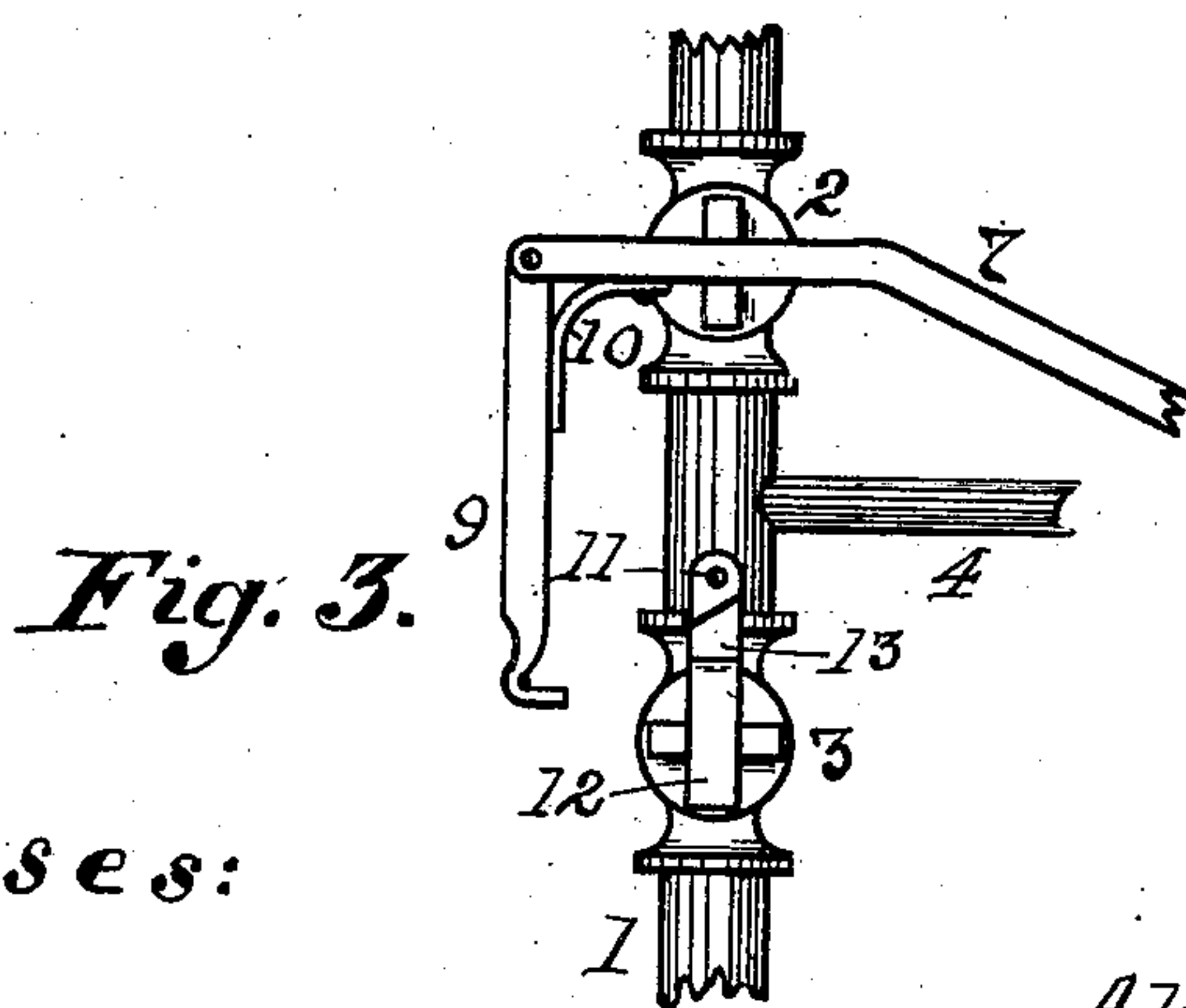


Fig. 3.

Witnesses:

W. G. Wood

M. W. Wade.

Inventor:

Alvah C. Eby,

by Humphrey & Humphrey,  
Attorneys.



# UNITED STATES PATENT OFFICE.

ALVAH C. EBY, OF AKRON, OHIO.

## AUTOMATIC GAS SHUT-OFF AND REGULATOR.

SPECIFICATION forming part of Letters Patent No. 685,327, dated October 29, 1901.

Application filed March 27, 1901. Serial No. 53,116. (No model.)

*To all whom it may concern:*

Be it known that I, ALVAH C. EBY, a citizen of the United States, residing at Akron, in the county of Summit and State of Ohio, have invented a certain new and useful Improvement in Automatic Gas Shut-Offs, Regulators, and Alarms, of which the following is a specification.

My invention has relation to improvements in that class of devices designed to be used in connection with service or supply pipes for inflammable gas for lighting or fuel to cut off the supply upon a failure or a decided decrease of the gas-pressure, and thus prevent an escape of gas into apartments through burners that might have been open when the pressure failed upon a return of such pressure to form a dangerous element liable to explosion by igniting from an open fire or a match lighted by a person ignorant of the presence of the gas.

The object of my invention is to provide a new and improved device of the class named that will be simple in construction and effective in operation, the parts of which will be readily accessible for inspection and adjustment.

A further object is to provide alarm mechanism to sound a signal to warn the user of the failure of the pressure, and a final object is to adapt the machine to regulate the flow of gas to the burners by the fluctuations of the gas-pressure, so that the light or heat will be steady.

To the attainment of the aforesaid objects my invention consists in the peculiar and novel construction, arrangement, and combination of parts hereinafter described and then specifically pointed out in the claims, reference being had to the accompanying drawings, which form a part of this specification.

In the accompanying drawings, in which similar reference-numerals indicate like parts in the different views, Figure 1 is an elevation of my improved device in condition to permit the gas to pass to the burners and with the gasometer in vertical central section; Fig. 2, an elevation of the upper part of the gasometer, showing the contact-blades for closing an electric circuit through an alarm-bell; and Fig. 3, a view of the service-

pipe, valves, and actuating-lever in position after the machine has acted to close the valve.

Referring to the drawings, 1 is the gas-pipe, through which the gas flows in the direction of the arrow, in which are two valves 2 3 of the ordinary type, from between which a pipe 4 leads to the interior of the gasometer, consisting of an annular tank 5, nearly full of water, in which is a receiver 6.

Attached to the stem of the valve 2 is a lever 7, pivotally connected at one end with an end of a link 8, hinged to the top of the receiver 6. The opposite end of the lever 7 is pivoted to one end of a lever 9, and in the angle between the levers is a spring 10, which constantly tends to rock the free end of the lever 9 outward. The free end of the lever 9 terminates in a hook arranged to engage a pin 11 on one end of a short handle 12, secured to the stem of the valve 3.

On the face of the handle 12 and near the pin 11 is a block 13 to form a stop to prevent the hook of the lever 9 from falling away from the pin 11 until the handle is vertical and the valve 3 closed, as shown in Fig. 3.

In operation, the receiver being empty, the apparatus is caused to act by turning on the gas, thus permitting it to enter the receiver, and as it rises it will gradually tend to close the valve 2, and the valve 3 is then opened by hand to admit gas to flow to the burners, and the hook on the lever 9 is placed in engagement with the pin 11 on the handle 12 and the machine is set ready to act. As gas is consumed in the burners the receiver will tend to fall, the effect of which is to open the valve 2 wider and partially close the valve 3, and thus maintain a balance of pressure substantially the same without reference to the amount used in the service. The constant fluctuation of the gasometer keeps the levers in slight motion, that in turn rotates both valve-stems and serves to keep them from becoming fixed or corroded in one position by long inaction.

If the gas is entirely shut off from the main or service pipe, the receiver will gradually fall as the gas therein is exhausted until it reaches its line of movement. This, by means of the lever 9 and handle 12, closes valve 3 until the handle 12 stands vertically, as ap-



pears in Fig. 3, when the hook will be pushed from the pin 11 by the spring, and hence if the gas-pressure is renewed in the main the valve 3 will remain closed until turned by hand.

To notify the user, I provide an electric bell 14, whose terminal posts are connected, respectively, by wires 15 and 16 with the poles of a battery 17 and with contact-plates 18 and 19, mounted on a support 20, insularly mounted on the tank of the gasometer. On the receiver 6 is a contact-arm 21, arranged and adjusted as the receiver descends to pass between and make electrical contact with the contact-plates 18 19, and thus close the circuit through the battery and bell.

I claim as my invention—

1. In a device of the kind described the combination of a supply-pipe, two valves therein a pipe from said supply-pipe between said valves to a gasometer, a gasometer connected by a lever with one valve, a spring-pressed lever connecting said first lever and a handle on said second valve, said last-mentioned lever being provided with a hook to engage a pin on said handle and to be re-

leased from engagement therewith by said spring when said last-named valve is closed substantially as shown and described.

2. In a device of the kind described the combination of a supply-pipe, two valves therein one having a lever on its stem and the other having a short handle attached to its stem, a pivoted link attached to one end of said first lever having a hook on its free end to engage a pin on said handle when said last-named valve is open and to be rocked from such engagement when said valve is closed, a gasometer attached by a pipe to said supply-pipe between said valves and having its receiver attached by a link to said first-named lever, an electric alarm, containing a bell, battery and contact-plates adapted to ring said bell when said gasometer operates, substantially as shown and described.

In testimony that I claim the above I hereunto set my hand in the presence of two subscribing witnesses.

ALVAH C. EBY.

In presence of—

C. E. HUMPHREY,  
C. P. HUMPHREY.