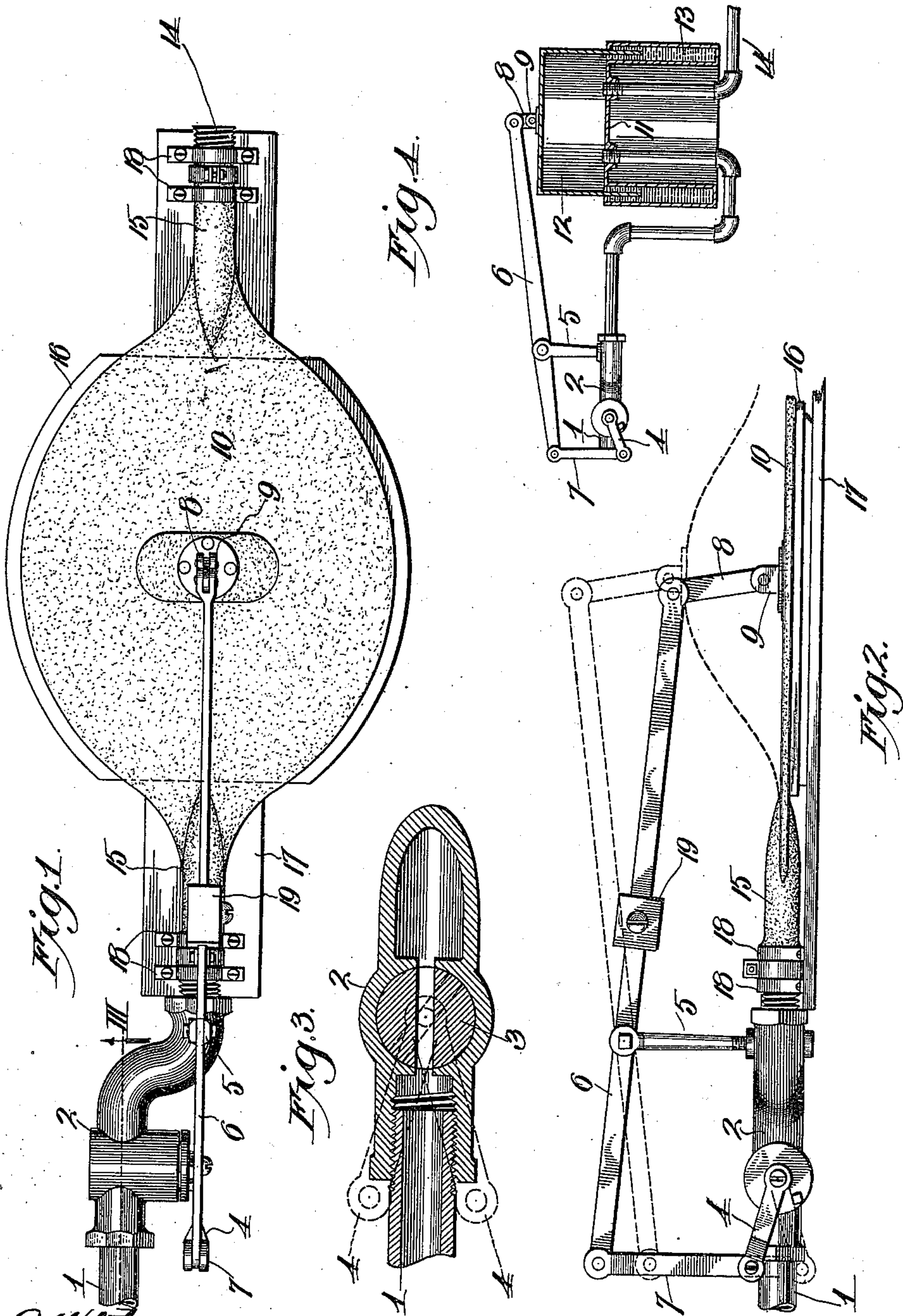


J. C. KLASSEN.
 AUTOMATIC CUT-OFF FOR GAS SERVICE PIPES.
 APPLICATION FILED JAN. 19, 1909.

963,157.

Patented July 5, 1910.



Witnesses
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UNITED STATES PATENT OFFICE.

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AUTOMATIC CUT-OFF FOR GAS-SERVICE PIPES.

963,157.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN C. KLASSEN, a citizen of the United States, residing at Kansas City, in the county of Wyandotte and State of Kansas, have invented certain new and useful Improvements in Automatic Cut-Offs for Gas-Service Pipes, of which the following is a specification.

This invention relates to automatic cut offs for gas service pipes, and more especially to an attachment to be located on a service pipe between a meter and illuminating and heating appliances for the purpose of cutting off the supply of gas to the same in the event that the supply of gas is entirely cut off or its pressure falls dangerously low, and my object is to produce a device of the character outlined which will operate efficiently and reliably, can be installed easily and economically and is of simple, durable and inexpensive construction.

With this object in view the invention consists in certain novel and peculiar features of construction and organization as hereinafter described and claimed; and in order that it may be fully understood reference is to be had to the accompanying drawing, in which,

Figure 1, is a top plan view of an attachment embodying my invention. Fig. 2, is a broken side elevation of the same. Fig. 3, is an enlarged vertical section taken on the dotted lines III of Fig. 1. Fig. 4, is a section partly in side elevation and partly in central vertical section of a modified form of the attachment.

Referring now to the drawing, in which like parts are correspondingly numbered, 1 indicates a service pipe leading from a gas meter or equivalent device and 2 is a valve-casing secured on the discharge end of said pipe. 3 is a plug valve rotatably mounted in said casing and provided with a crank-handle 4, the said handle by preference, extending downwardly when the passage of the valve is in communication with pipe 1 for the purpose of enabling the gas from the latter to pass through the casing.

5 is a standard bearing a rigid relation and preferably secured to the casing, and fulcrumed on said standard is a rock-lever 6 pivotally connected at its rear end by a link 7, with the handle 4 of the plug valve, the front end of said rock-lever being pivot-

ally connected by a link 8 with a bracket 9 secured to the upper wall of a gas-holder or reservoir, which in Figs. 1 and 2, is in the form of an elastic or rubber bag 10, and in Fig. 4, in the form of a metal base 11 and a bell 12, the base being formed with an annular chamber 13 containing mercury in which the lower edge of the bell is continuously submerged for the purpose of preventing the escape of the gas from the bell except through the pipe 14 which conducts the gas to the heating and illuminating devices or either of such devices. Where the elastic or rubber bag is employed as a holder, it is provided at diametrically opposite points by preference, with tubular portions 15 coupled as shown or in any suitable manner, to valve-casing 2 and pipe 14, and said holder rests upon a suitable support, which preferably consists of a board or plate 16 carried by a board 17 secured by clips 18 to the ends of the valve-casing and pipe 14. By this arrangement all possibility of the flexible holder sagging downward is prevented and the proper operation of the rock-lever 6 under the inflation and deflation of the holder is assured.

Assuming that the heating and illuminating devices are in operation and that the holder of Figs. 1 and 2 is inflated, as indicated by dotted lines in the last-named figure, or that the bell 12 of the metallic holder is elevated as shown in Fig. 4, it will be seen that the valve is open as shown in Fig. 3, and that gas from pipe 1 is free to pass to the holder and thence to said heating and illuminating devices. It will also be apparent that the shutting off of the supply of gas from pipe 1 will result in the gradual deflation of the holder, the time required for the complete deflation being of course determined by the rapidity with which the gas is consumed by the heating and illuminating devices. Under this gradual deflation which is preferably made more positive or reliable in the construction shown in Figs. 1 and 2 through the use of a poise 19 adjustable on rock-lever 6, the valve is gradually closed through the connection of its handle with the rear end of said lever, and shortly after such closure is thus automatically effected the supply of gas in the holder becomes completely exhausted and the flame of the heating and illuminating devices is extinguished. The action described is the same in the event

that the pressure of the gas supplied to pipe 1 falls dangerously low, and after the valve is once closed it cannot be reopened automatically and consequently a restoration
5 of gas at its full pressure has no effect and such gas cannot pass to the holder and thence to the heating and illuminating devices. It will thus be seen that the attachment can be
10 depended upon to guard against any possibility of danger of asphyxiation or from explosion due to the striking of a match in a room charged with gas, and that the supply of gas to the heating and illuminating de-
15 vices cannot be renewed until the person in charge grasps the front end of the rock-lever and raises the same so as to open the valve and permit the gas to enter and charge the holder, it being obvious that the gas cannot escape until the heating and illumi-
20 nating devices are set in operation.

In practice it is preferred to box up or in-
case in any suitable manner, the gas holder of the type shown in Figs. 1 and 2, to avoid
25 any possibility of the holder becoming punctured accidentally or otherwise, and in this connection the advisability of using mercury instead of water in chamber 13 as a seal for the lower end of the bell 12, is suggested because the mercury being heavier
30 than water, will not yield to the same extent under the pressure of the gas admitted to the holder.

From the above description it will be ap-
parent that I have produced an attachment
35 of the character outlined embodying the feature of advantage enumerated as desirable

and which is susceptible of modification in various particulars without departing from the spirit and scope of the appended claim.

Having thus described the invention what
I claim as new and desire to secure by Let-
ters-Patent, is, 40

The combination of a horizontally-arranged supporting board, a gas holder above and supported by said board and provided at its
45 opposite ends with tubular portions or stems secured to said board, a gas-supply pipe having its discharge end out of longitudinal alinement with the adjacent tubular portion or stem of the holder, a valve casing secured
50 at its opposite ends to and communicating with said gas-supply pipe and said adjacent tubular portion or stem of the holder, a plug-valve mounted in said casing and controlling its passage, a standard secured upon
55 the said casing at the end adjacent to the holder, a rock-lever fulcrumed upon said standard and at its front end overhanging the said holder, a link pivotally connecting the central part of the holder with the front
60 end of the said rock-lever, a crank-handle projecting rearwardly from one end of the plug-valve, and a link pivotally connecting the crank-handle with the rock-lever rearward of its fulcrum point on said standard. 65

In testimony whereof I affix my signature in the presence of two witnesses.

JOHN C. KLASSEN.

Witnesses:

JAMES MEANEY,
G. Y. THORPE.