

GEORGE S. DUNBAR.

Improvement in

Gas Extinguishers.

No. 119,455.

Patented Oct. 3, 1871.

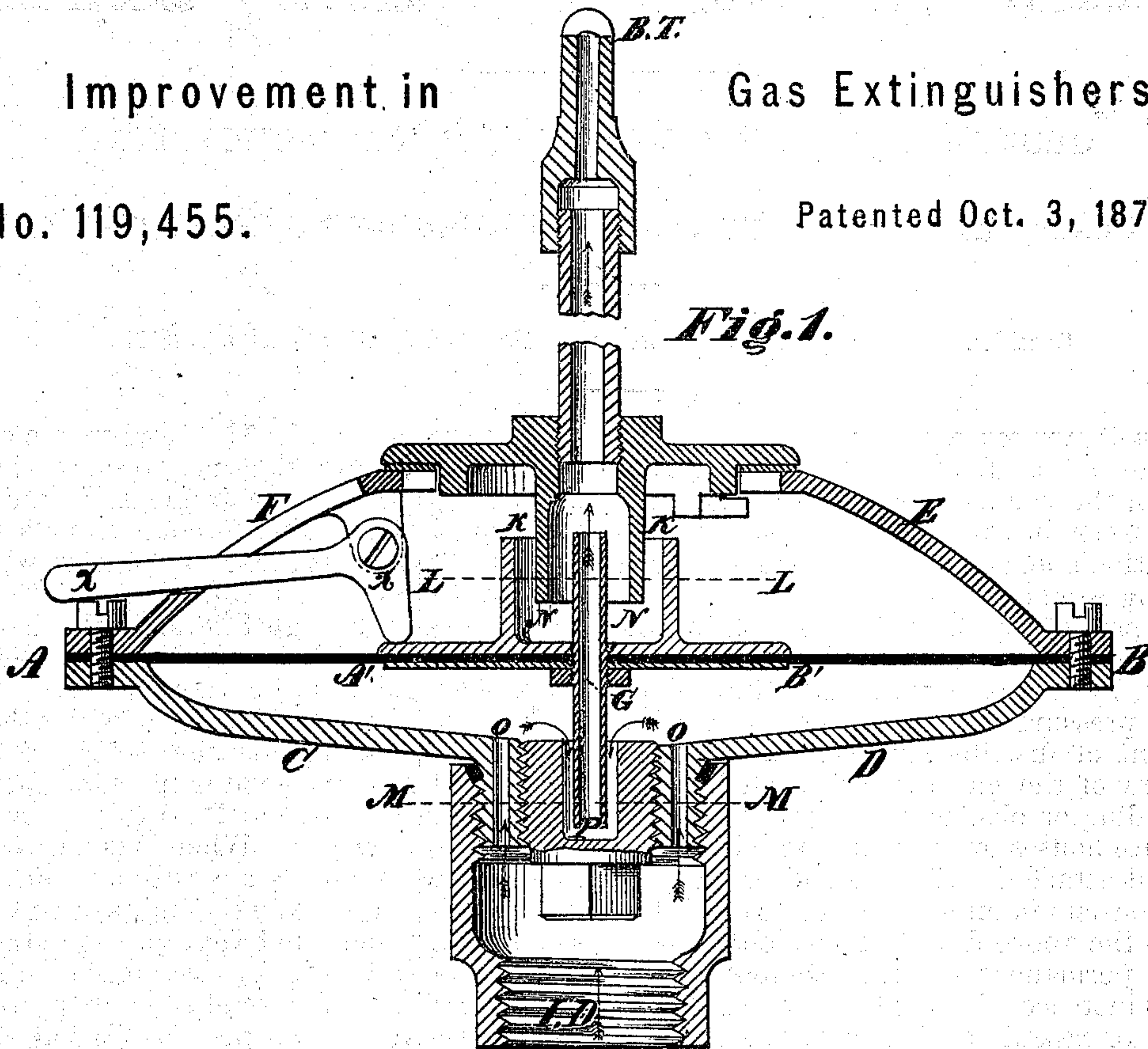


Fig. 1.

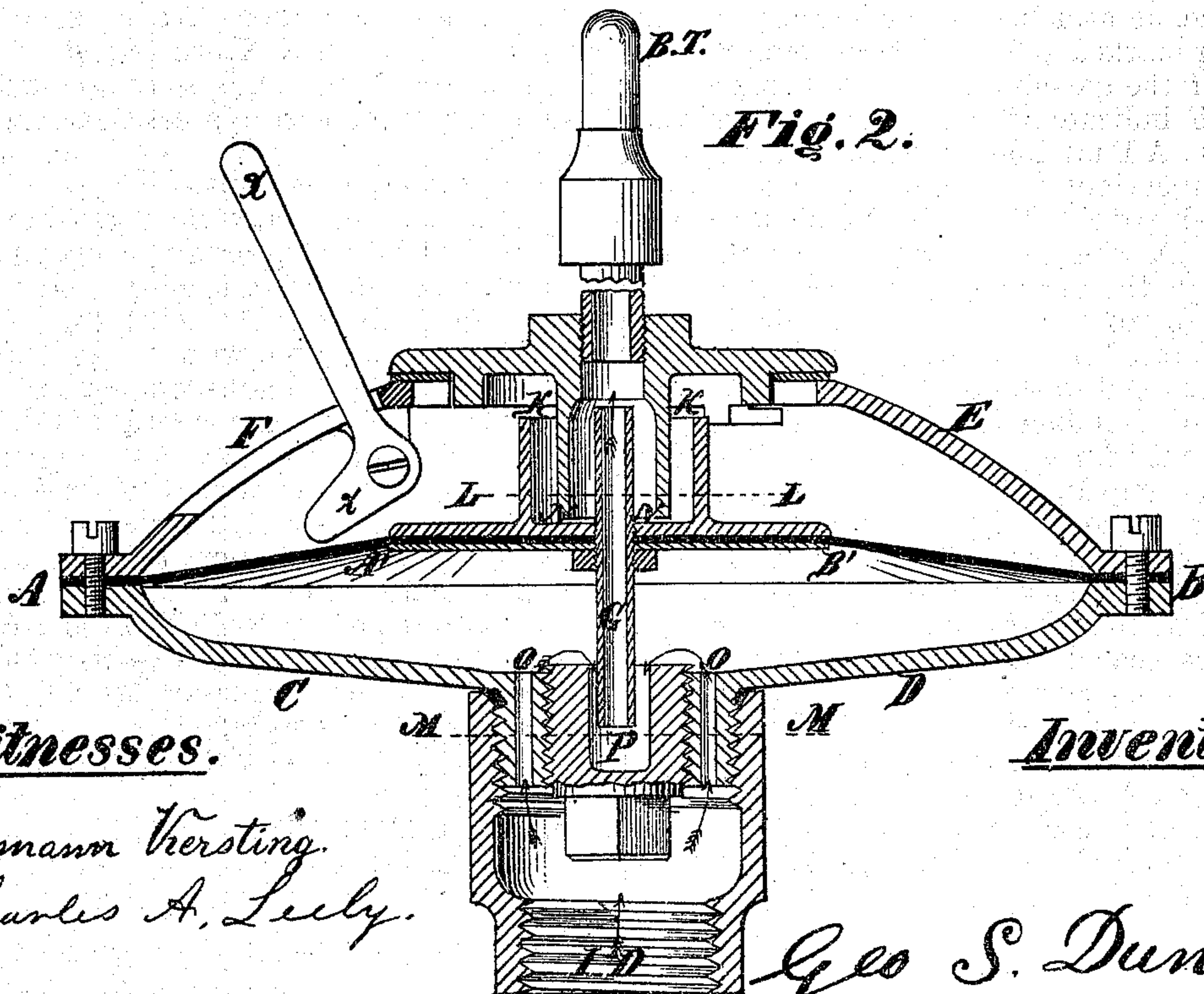


Fig. 2.

Witnesses.Hermann Kersting.
Charles A. Leely.Inventor.

Geo S. Dunbar.

UNITED STATES PATENT OFFICE.

GEORGE S. DUNBAR, OF PITTSFIELD, MASSACHUSETTS.

IMPROVEMENT IN APPARATUS FOR EXTINGUISHING STREET GAS-LAMPS.

Specification forming part of Letters Patent No. 119,455, dated October 3, 1871.

To all whom it may concern:

Be it known that I, GEORGE S. DUNBAR, of Pittsfield, in the county of Berkshire and State of Massachusetts, have invented certain Improvements in Attachments to Gas-Burners, of which the following is a specification:

The first part of my invention consists in certain attachments to public gas-lamps or other gas-burners, by means of which a partial reduction of the pressure at the gas-works or other central point of distribution will shut off and seal the flow of the gas through such burners without sealing or obstructing any other burners in private houses or elsewhere to which this device is not attached. The second part of my invention consists in an automatic lock or latch attached to the above device, by which the seal is rendered permanent and independent of any subsequent increase of pressure of the gas.

Figure 1 represents a section of the apparatus, full size, as attached to the burner-tip, the latter being marked B T, the whole being screwed on top of the gas-pipe inside the lantern.

C D E F indicates the exterior shell of the attachment. A B is a horizontal diaphragm, flexible and impervious to gas, which is weighted by the metal plate A' B'. The induct of the gas is marked I D, whence the arrows mark its passage through the vertical ducts O O, of which three or more are constructed. The diaphragm A B is perforated by a vertical duct, G G, which is rigidly attached to the plate A' B'. The inferior orifice of this duct G G dips, while the apparatus is out of use, into a liquid valve contained in the cup P, composed either of quicksilver, of glycerine, or of other suitable liquid, the level of which is shown by M M. The superior orifice of G G is inserted into the inferior orifice N N of the eduction-port of the attachment, and is sealed therein permanently by being surrounded by a cup-valve, K K, containing a suitable liquid, whose level L L is so adjusted that the seal is not broken by the fall of the diaphragm A B into its horizontal position. X X represents a latch or lock working through a slit in the outer shell, and which so adjusts it-

self, as represented in Fig. 1, when the arrangement is not in use, that no pressure through I D can elevate the diaphragm A B and unseal the cup-valve P. Fig. 2 represents a section of the same apparatus, also full size, in which the latch X X has been so adjusted that the pressure of the gas through I D raises the diaphragm A B, unsealing the dip-pipe at P, and allowing the flow of gas to the burner.

When the latch X X is adjusted by the lamp-lighter the pressure from the street-mains, operating through I D, elevates the diaphragm A B, opening the dip-valve at P, so as to permit efflux of gas to the burner. When it is desired to extinguish the public lamps without more than a momentary influence on the lights of private consumers a transient and appropriate reduction of pressure at the center of distribution allows the diaphragm A B, in case of each lamp, to fall by its own weight, closing the dip-valve at P, which extinguishes the burner. At the same time the weight of the latch X X brings it down, locking down the diaphragm A B, so that no subsequent resumption or increase of pressure can again open the valve.

I claim as my invention—

1. The combination, with a gas-burner, of a horizontal flexible diaphragm, carrying a central open vertical duct whose inferior port dips into a liquid seal, all as above set forth.

2. The combination, with a gas-burner, of a horizontal flexible diaphragm, operated on by the pressure of the gas beneath, and a liquid seal on the top of the said diaphragm inclosed between concentric cylinders, of which cylinders the inner one transmits the gas, all arranged in the manner and for the purposes above set forth.

3. The combination, with the horizontal flexible diaphragm, of the latch X X, so arranged as to lock down the diaphragm by its own gravitation on diminution of pressure beneath the same, all substantially as specified.

GEORGE S. DUNBAR.

Witnesses:

N. R. PLUNKETT,
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