

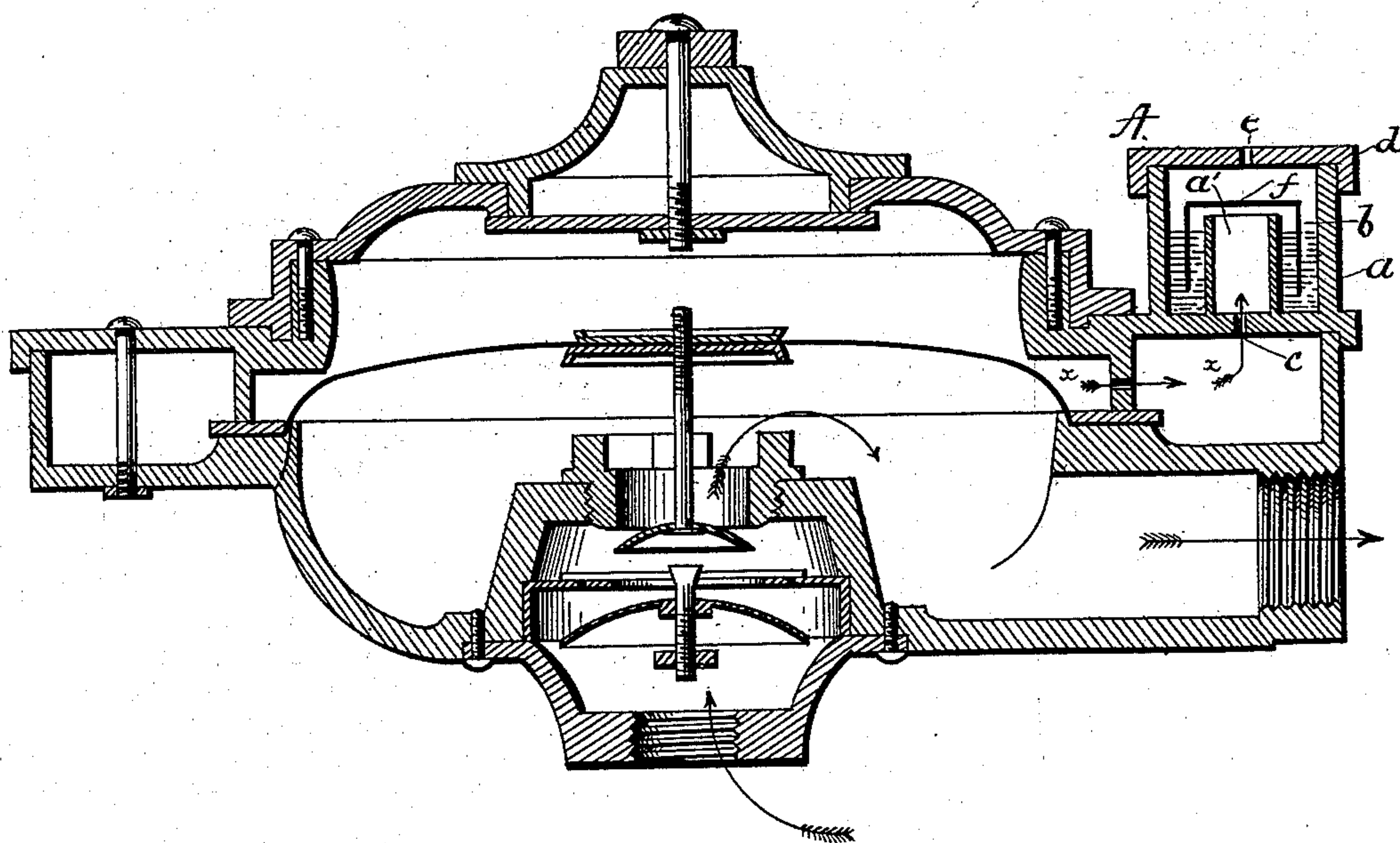
(No Model.)

G. S. LACEY.

GAS REGULATOR.

No. 268,368.

Patented Nov. 28, 1882.



WITNESSES

F. L. Ourand
W. T. Cole

INVENTOR

Griffin S. Lacey,
by W. M. Howard
Attorneys

UNITED STATES PATENT OFFICE.

GRIFFIN S. LACEY, OF NEW YORK, N. Y., ASSIGNOR, BY MESNE ASSIGNMENTS,
TO THE AMERICAN GAS SAVING COMPANY, OF SAME PLACE.

GAS-REGULATOR.

SPECIFICATION forming part of Letters Patent No. 268,368, dated November 28, 1882.

Application filed October 12, 1882. (No model.)

To all whom it may concern:

Be it known that I, GRIFFIN S. LACEY, a citizen of the United States, residing in the city of New York, in the county and State of New York, have invented certain new and useful Improvements in Gas-Regulators; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing, which forms a part of this specification.

This invention is specially designed as an improvement upon that described in Letters Patent No. 255,517, granted March 28, 1882, to me for a gas-regulator, and has for its object to increase the efficiency and durability and improve the general operation thereof. In the regulator described in my said patent the air which is above the diaphragm is continually changing, it being received and discharged through a minute hole placed in the cover as the diaphragm is lowered or raised consequent upon the variation of pressure below it. The result is that the air which is discharged from above the diaphragm emits a disagreeable odor into the apartment, contracted from the contact of the air with gas-contaminated surfaces, the lubricant, and other extraneous matter. Another disadvantage attending the continual change of the body of air above the diaphragm is the deterioration of the leather or other substance of which it is composed, which is found not to result where the body of air is constant or unchanged. To obviate the said defects involved in the use of my invention patented as aforesaid is the purpose of my present invention.

To these ends it consists in a device applied to my patented regulator whereby the air above the diaphragm and in immediate contact therewith may have the requisite motion resulting from the rise or fall of the diaphragm and still be isolated or separated from the outer air or that in communication with the apartment. The construction employed prevents the escape of unpleasant odor from the regulator, as the air in contact with the gas-contaminated surfaces and other air-tainting agencies within the regulator is water-sealed against the air in direct communication with the room. It is also seen that the same appli-

ances will protect the diaphragm against the ill effects of a constantly-changing body of air.

The accompanying drawing is a sectional view of my patented regulator with the present invention applied thereto.

It is unnecessary to describe the regulator itself, which, in all essential particulars, is the same as that set forth in my said patent.

A is an air-chamber, whose interior is arranged substantially after the manner of a gas-ometer used by gas-works. The outer casing of the air-chamber A (marked *a*) is secured to the cover of the regulator in any suitable manner. Within the casing *a* is a wall, *a'*, extending part of its height, between which wall and the casing itself is formed a liquid-space, *b*. The solid bottom of the casing is pierced by an aperture, *c*, which leads to the space between the cover and the top surface of the diaphragm. The lid of the casing *a* is represented by *d*, and is pierced with a small aperture, *e*. An inverted cup is shown by *f*, which cup extends into the liquid in the space *b*, the interior of the cup being by reason of the aperture *c* in free communication with the space between the cover of the regulator and the upper surface of the diaphragm. It will be seen that the air above the diaphragm is free to move as shown by the arrows *x x*, the cup *f* rising and falling with the movement of the diaphragm, and that the air in contact therewith is a constant body, or not subject to change, it being isolated from the outer air by the water seal. It is also apparent that the air discharged into the apartment from the regulator is not polluted by contact with foreign or odorous matter, as in my patented invention; and, further, that the diaphragm, not being subjected to a changing body of air, is not liable to the deterioration or injury above referred to.

The shape of the air-chamber A is unimportant. It may be made annular, so as to surround the cover, or in box or other form, it being only necessary that it shall fulfill the conditions above described.

I claim as my invention—

1. An air-tight dry gas-regulator having a flexible diaphragm, the chamber above which is in communication with a space sealed from

the outer air, substantially as described, whereby the diaphragm may have free movement and escape of gaseous or unpleasant odors from the regulator to the apartment be prevented,
5 as set forth.

2. In combination with a diaphragm gas-regulator, an air-chamber having a liquid space and an inverted cup entering the same, the interior of the cup being in communication
10 with the space between the top of the diaphragm and the cover of the regulator, substantially as set forth.

3. In a diaphragm gas-regulator, a casing having a liquid-space, combined with a perforated lid and an inverted cup, substantially as
15 and for the purpose set forth.

In testimony whereof I have hereunto set my hand and seal this 6th day of September, 1882.

GRIFFIN S. LACEY. [L. S.]

Witnesses:

F. B. SQUIRE,
JAS. G. NEWCOMB.