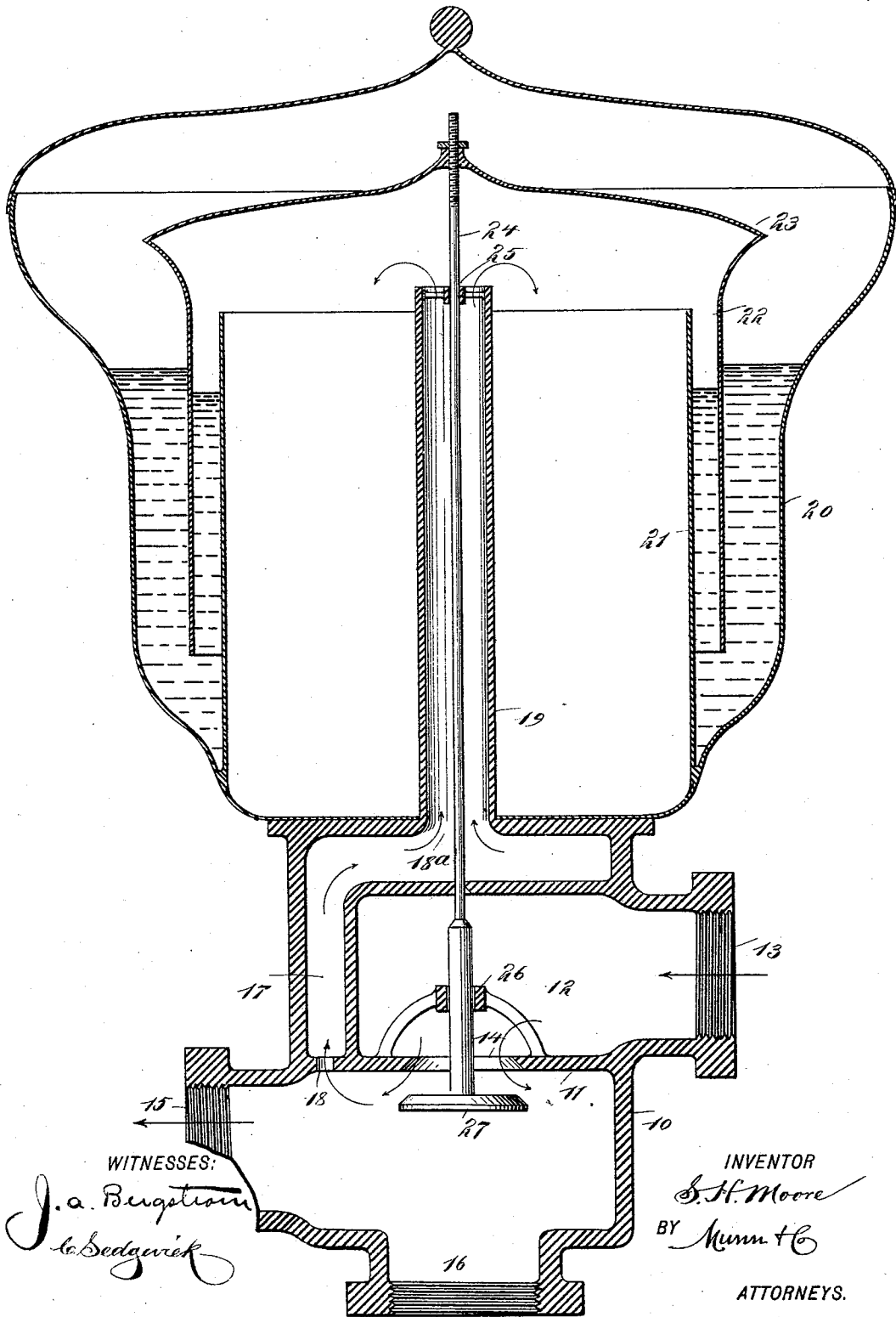


(No Model.)

S. H. MOORE.
GAS GOVERNOR.

No. 521,664.

Patented June 19, 1894.



WITNESSES:
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UNITED STATES PATENT OFFICE.

SILAS H. MOORE, OF NEW YORK, N. Y., ASSIGNOR TO HIMSELF AND ALFRED M. VERNON, OF SAME PLACE.

GAS-GOVERNOR.

SPECIFICATION forming part of Letters Patent No. 521,664, dated June 19, 1894.

Application filed November 1, 1893. Serial No. 439,711. (No model.)

To all whom it may concern:

Be it known that I, SILAS H. MOORE, of the city, county, and State of New York, have invented a new and Improved Gas-Governor, of which the following is a full, clear, and exact description.

My invention relates to improvements in that class of gas governors which are adapted for use in maintaining an even pressure of gas at the burner, and particularly to that class of governors in which a float actuated by the back gas pressure is used to regulate the movement of a controlling valve, a device of this class being shown in the patent to Sleeman, No. 335,156, dated February 2, 1886.

The objects of my invention are to simplify and reduce the cost of construction of the valve-casing and render it more compact, and also to adapt it for attachment to and support of the liquid-seal tank in a superior manner.

To these ends my invention consists of certain features of construction and combinations of parts, as will be hereinafter described and claimed.

Reference is to be had to the accompanying drawing, forming a part of this specification, in which the figure is a central vertical section of the gas governor showing my improvements.

The governor is provided with a valve casing 10, which is composed of an integral metal casting. It is divided horizontally by a partition 11, thus forming an upper gas chamber 12, which has at one side a suitable inlet 13, and which communicates by means of an orifice or passage 14, with the lower portion of the valve casing, which lower portion is provided at one side with an outlet 15, which is preferably used to connect with the pipes leading to the burners and which also has an outlet 16, at the bottom which may be used as a drain or may be connected with the burner pipes, but this arrangement is not claimed as novel.

On the exterior of the valve casing and leading from a point above the outlet 15 to a point centrally above the casing, is a channel 17 for gas, this channel connecting at its lower end, as shown at 18, with the valve casing below the partition 11, while at the end of its horizontal portion, the said channel connects, as

shown at 18^a, with a central tube 19 which projects upward above the valve casing and into the tank or bowl 20, which is adapted to contain the liquid seal as hereinafter described, and within which is a central well 21, this being formed by an annular partition which projects upward from the bottom of the bowl or tank and is concentric with the tube 19. The top of the valve casing is flat, as shown, and the bottom of the tank rests thereon, being thus duly supported yet adapted for convenient detachment. The above-described construction of the valve-casing renders it very compact, yet provides for free passage of gas. The tank or bowl 20 is partially filled with liquid, such as glycerine, so as to form a seal through which the gas cannot pass and in this seal is suspended a float 22, which is of a generally cylindrical shape, and which encircles the well 21, the upper portion or crown of the float being expanded, as shown at 23, to give it an increased area, so that the gas within it may easily lift it.

To the central portion of the top of the float is secured the valve stem 24 which extends downward through the tube 19 and the top of the valve casing, the stem sliding in suitable guides 25 and 26 near its upper and lower ends, and terminating at its lower end in a valve 27 which normally hangs below the orifice or passage 14, but which when raised tightly closes the same.

It will be observed that the space between the well 21 and the float 22 is less than the space between the float and the sides of the bowl or tank 20, and this greater exterior area of the liquid seal which is contained in the bowl has a tendency to counterbalance the variation of volume of the liquid within the float. This arrangement of the float, together with its expanded end, renders it extremely sensitive, and consequently it has a tendency to maintain an even burner pressure. The gas which enters the inlet 13 passes downward through the orifice 14 and out through the outlet 15, while it also flows upward through the channel or passage 17 and tube 19 into the upper portion of the float, and while conditions are normal the gas will flow through the valve casing and the valve 27 will be open, but when the pressure is greatly increased

the back pressure through the channel 17 raises the float 22 and partially closes the valve 27 while, if the pressure is lessened, the valve drops again thus permitting more gas to flow through the governor. As shown in the drawing, the tank or bowl 20 is separate from the valve casing 10, but both may be, if desired, made in a single piece.

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

1. A gas governor, comprising a valve casing having an upper and lower chamber connected by a passage, the upper chamber having an inlet and the lower one an outlet, a liquid-containing tank seated on the flat top of the valve casing, a central tube projecting upward into the tank which is fitted closely around the base of said tube and forms a liquid-tight joint therewith, a right-angular channel leading from the lower chamber of the valve casing and delivering into the tube, a float suspended in the tank and extending over the tube top, a valve rod carried by the

float and extending down through the tube and top of the lower or gas inlet chamber wherein it is guided, a skeleton guide attached to the partition between the chambers, and a valve on the lower end of the rod, to close the central gas passage in the partition, substantially as described.

2. As an article of manufacture, the valve casing consisting of an integral casting having the following construction and arrangement of parts; the flat top, from which a tube projects vertically; a gas passage extending horizontally and vertically, and communicating at its upper end with said tube and at its lower end with a gas outlet chamber formed in the lower portion of the casting; an inlet chamber arranged above such outlet chamber; and an intervening partition having a gas passage; as shown and described.

SILAS H. MOORE.

Witnesses:

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