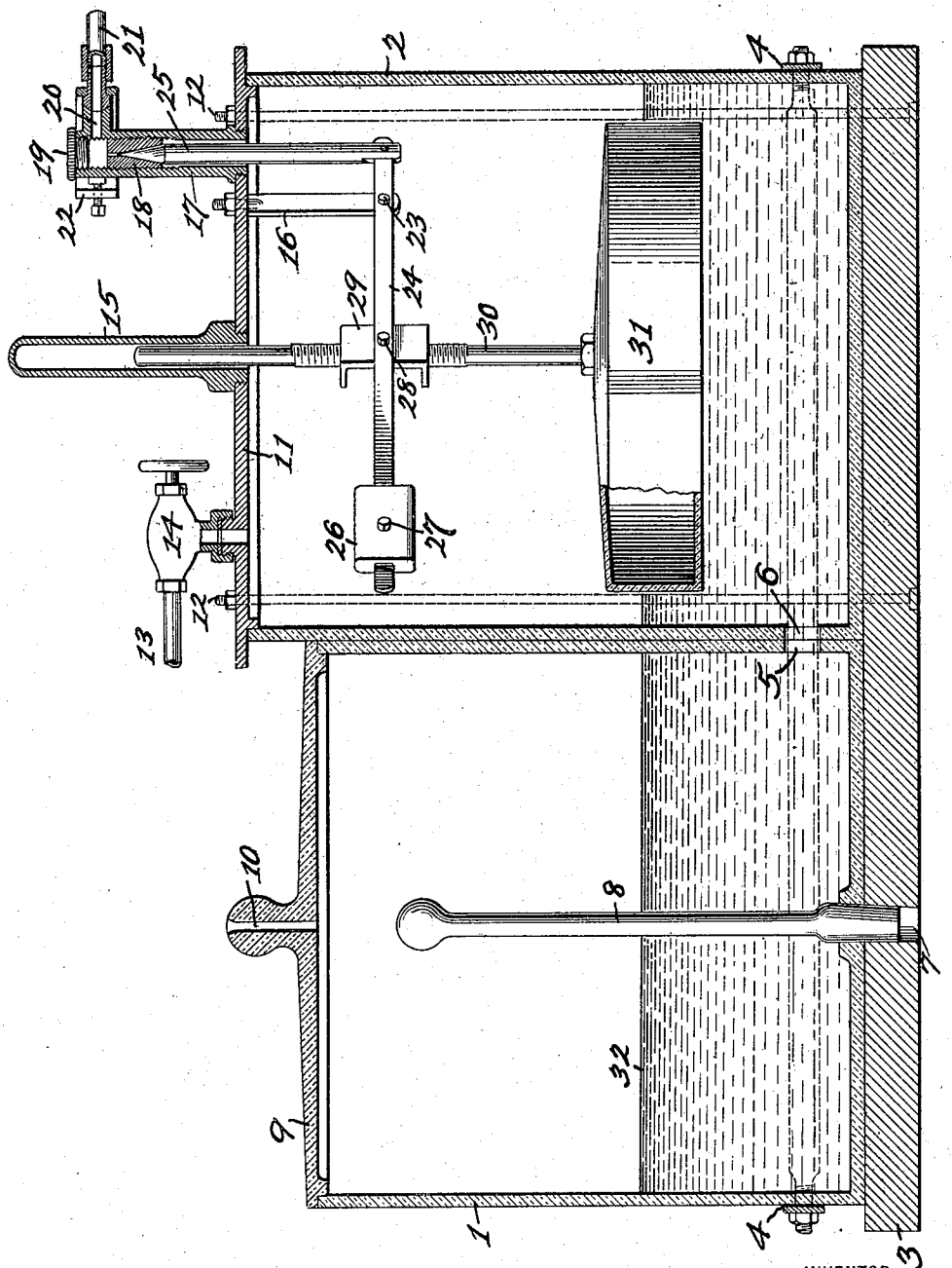
B. M. GATTERMEIR.

GAS PRESSURE REGULATOR.

APPLICATION FILED APR. 25, 1916. RENEWED FEB. 6, 1917.

1,218,543. Patented Mar. 6, 1917.



WITNESSES

Geo. W. Naylor

J. E. Larsen

INVENTOR

B. M. Gattermeir

BY Munn & Co

ATTORNEYS

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

BERNHARDT MATHIAS GATTERMEIR, OF CALIFORNIA, MISSOURI.

GAS-PRESSURE REGULATOR.

1,218,543. Specification of Letters Patent. Patented Mar. 6, 1917.

Application filed April 25, 1916, Serial No. 93,481. Renewed February 6, 1917. Serial No. 146,985.

To all whom it may concern:

Be it known that I, BERNHARDT M. GATTERMEIR, a citizen of the United States, and a resident of California, in the county of Moniteau and State of Missouri, have invented certain new and useful Improvements in Gas-Pressure Regulators, of which the following is a specification.

My invention relates to means for automatically controlling the supply of gas in the degree of use and is an improvement over the form shown and described in Letters Patent No. 1,177,314, issued to me on the 28th day of March, 1916.

My invention is fully described in the following specification, of which the accompanying drawing forms a part, said drawing being a longitudinal, vertical, section through a gas pressure regulator constructed in accordance with my present invention.

Referring to the drawing, 1 and 2 represent tanks arranged upon a base 3 and secured together by means of a strap 4 and in communication with each other by means of registering passages 5 and 6, these tanks being composed of acid resisting material, such as glass, and the tank 1 is provided with a drain hole 7 normally closed by means of a cork 8 also of acid resisting material, and with a removable cover 9 having a vent 10 therethrough.

The tank 2 has a cover 11 secured thereto, as by bolts 12, and having a gas pipe 13 leading to the point of use and controlled by a valve 14 in detachable conection with said cover. The cover 11 has a hollow cap 15 in detachable connection therewith arranged centrally of the cover, and said cover is further provided with a hanger 16 and with a tube 17 in detachable connection therewith, said tube being internally threaded for engagement with an adjustable needle-valve seat 18 and having a cover 19 and an inlet port 20 in communication with a gas supply pipe 21 held in place by a clamp 22 or in any desired manner.

Pivoted at 23 to the hanger 16 is a lever 24 the shorter arm of which is in pivotal connection with a needle 25 coöperating with the seat 18 to form a gas cut-off, the longer arm of said lever having a weight 26 slidably adjustable thereon and held in adjusted position by means of a screw 27.

The lever 24 is pivoted at 28 to a carrier 29 in screw-threaded engagement with a vertical rod 30 secured at its lower end to a float 31 formed of acid resisting material, the upper end of said rod being contained within the cap 15.

In practice, a quantity of a desired liquid 32 is maintained in the tanks the level of which is controlled by the cork 8, upon removal of the cover 9, the liquid in both tanks being normally at the same level because of the passages 5 and 6.

When the liquid is poured into the tank 1, the cover 9 having been removed for this purpose, said liquid enters the tank 2 and raises the float 31 and unseats the needle-valve 25, the level of the liquid being gaged to hold the said valve open under normal conditions.

If a finer adjustment of the needle-valve 25 is desired, or if it is desired to re-adjust the same, the cap 15 may be removed and the rod 30 may then be rotated to raise or lower the carrier 29 on said rod, thereby changing the relative positions of the float and needle-valve.

A fine adjustment of said valve is also possible by rotating the valve seat 18 and this seat is readily removable for grinding or for substitution, the cost of the latter being relatively slight in view of the low cost of the seats.

The apparatus is thus adjustable by means of the cork 8, by means of the weight 26, by means of the lever carrier 29, and by means of the valve seat 18, thereby insuring any desired degree of control of the gas supply.

When the gas pressure is excessive the liquid in the tank 2 is forced into the tank 1 and the float is permitted to descend correspondingly, thereby partially closing the needle-valve 25 and reducing the gas supply and, when the pressure is reduced, the float again rises and opens the needle-valve.

My invention is very practical and is a development of the form shown in the Letters Patent referred to and, while I contemplate the use of glass for all parts which may be made of such material, and of copper for other parts, I do not limit myself to any specific materials.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is:—

1. A device of the class described, comprising two tanks connected adjacent their bottoms, a strap for holding said tanks together, an air-tight cover for one of said

tanks, a supply pipe leading therethrough, a service pipe leading therethrough, a float, a vertical rod carried thereby, a lever carrier adjustable on said rod, a lever pivoted to said carrier, and a needle-valve in said supply pipe in operative connection with said lever.

2. A device of the class described, comprising two tanks connected adjacent their bottoms, an air-tight cover for one of said tanks, a supply pipe leading therethrough, a service pipe leading therethrough, a float, a screw-threaded rod carried by said float, a carrier in threaded engagement with said rod, a lever pivoted to said carrier, and a needle-valve in operative connection with said lever for controlling said supply pipe.

3. A device of the class described, comprising two tanks connected adjacent their bottoms, an air-tight cover for one of said tanks, a supply pipe, a service pipe, a float, a screw-threaded rod carried by said float and extended through said cover, a removable cap for said rod carried by said cover, a carrier in threaded engagement with said rod, a lever pivoted to said carrier, and a needle-valve in operative connection with said lever for controlling said supply pipe.

4. A device of the class described, comprising two tanks connected adjacent their bottoms, an air-tight cover for one of said tanks, a service pipe, a supply pipe, an internally threaded tube through said cover, a removable cover for the outer end of said tube, a valve seat block in threaded engagement with the interior of said tube, means for connecting said tube and supply pipe, a float, a rod carried thereby, a lever pivotally carried by said rod, and a needle-valve pivoted to said lever and arranged to coöperate with said seat block.

BERNHARDT MATHIAS GATTERMEIR.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."