

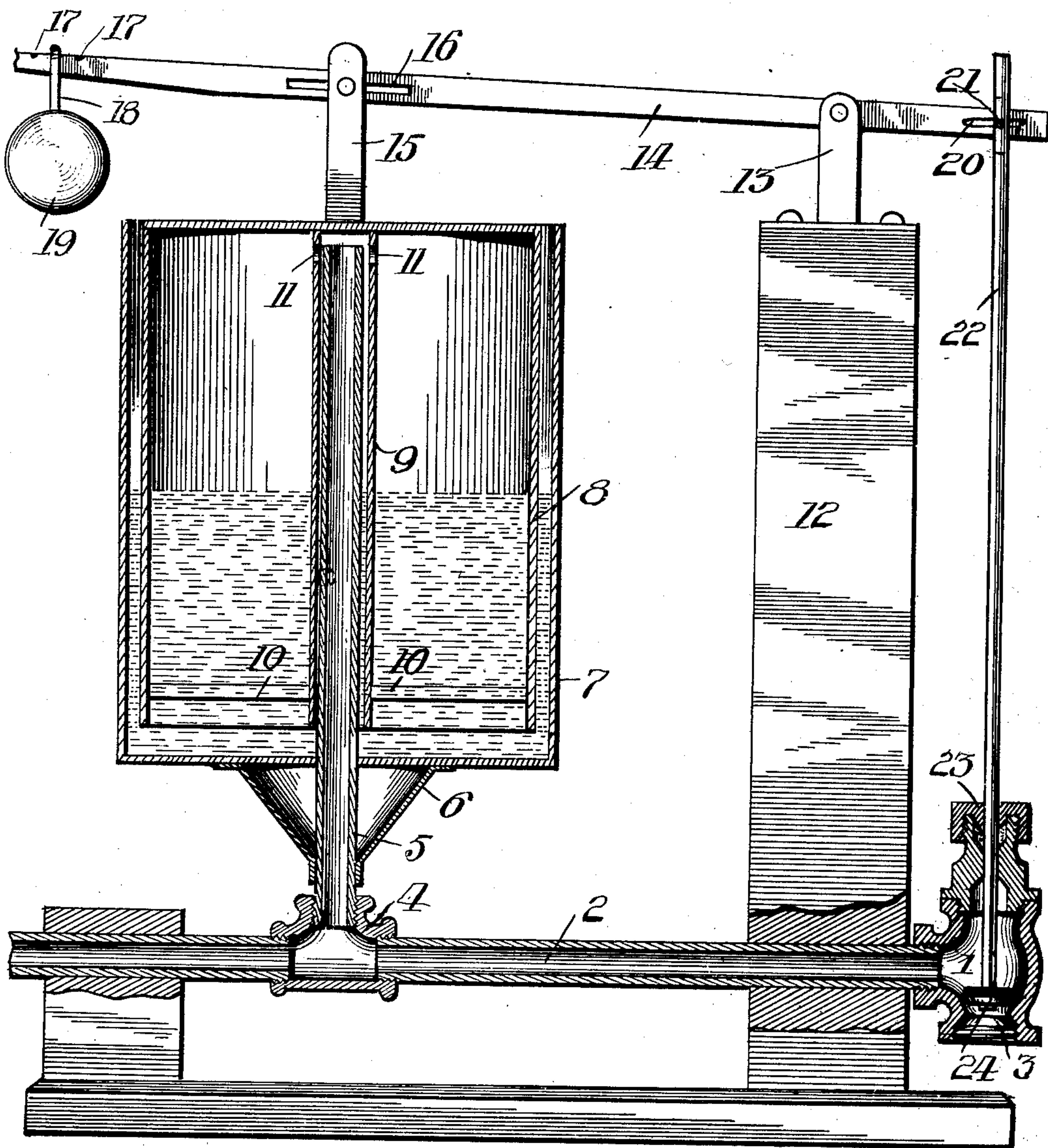
No. 731,997.

PATENTED JUNE 23, 1903.

A. M. FISHER.
GAS REGULATOR.

APPLICATION FILED APR. 11, 1903.

NO MODEL.



Witnesses:
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UNITED STATES PATENT OFFICE.

ALLAN M. FISHER, OF EAST LIVERPOOL, OHIO.

GAS-REGULATOR.

SPECIFICATION forming part of Letters Patent No. 731,997, dated June 23, 1903.

Application filed April 11, 1903. Serial No. 152,120. (No model.)

To all whom it may concern:

Be it known that I, ALLAN M. FISHER, a citizen of the United States of America, residing at East Liverpool, in the county of Columbiana and State of Ohio, have invented certain new and useful Improvements in Gas-Regulators, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to certain new and useful improvements in gas-regulators, and relates more particularly to that class of regulators which are used to maintain a predetermined pressure in the outlet-pipe, the pressure of the supply to which is variable.

The object of this invention is to provide a cheap and efficient regulator which may be interposed within the pipe, whereby any predetermined pressure may be had in the outlet-pipe, the pressure of the supply of which is variable.

In describing the invention in detail reference is had to the accompanying drawing, forming a part of this specification, and in which the view shows a vertical view, partly in section, of my improved device.

In the accompanying drawing the reference-numeral 1 indicates a suitable cock for controlling the supply of gas in the outlet-pipe 2, the supply-pipe (not shown) of which is connected with a port 3 of the valve. Interposed in the outlet-pipe 2 at a point adjacent to said cock 1 is a T 4, to which is secured the vertical regulator supply-pipe 5. This supply-pipe has secured to its lower end adjacent the T 4 a conical bracket 6, which supports the outer shell 7 of the water-sealed gasometer, the inner valve 8 of which is provided with a suitable guide-tube 9, the lower end of which is supported by brackets 10 10, and the upper end of which has provided therein apertures 11 11 for the purpose of permitting the gas which is supplied to the same through pipe 5 to escape to the upper end of the inner bell 8. A vertical support 12, on the upper end of which a bracket 13 is secured, within which the horizontal rod 14 is fulcrumed, is provided. The inner bell 8 of the gasometer is provided at its upper end with a split bracket 15, which straddles the said lever 14, and a pin running through said

bracket 15 passes through the slot 16, formed in the lever 14. The outer end of this lever 14 is provided with a series of notches 17 17, in which the support 18 of the weight 19 rests. The movement of said weight 19 determines the pressure at which the gas in the outlet-pipe is to be maintained. The opposite end of this lever has provided therein a slot 20, through which the pin 21, provided in the valve-stem 22, which encircles the end of said lever, is placed, said valve-stem 22 passing through a stuffing-box 23 in the cock 1 and connecting with the valve 24 within said cock.

While the gasometer is shown in its dry condition, it is obvious that a water seal may be placed in the same when the device is in operation.

The operation of the device is as follows: The gas passing through the port 3 into the cock 1 from the supply-main will pass through pipe 2, and a portion of the same will pass through pipe 5 and apertures 11 into the upper end of the inner shell of the gasometer, when the water within said shell will be forced downwardly, and the water contained in the annular space between said shell and the shell 7 will be forced upwardly. Should this pressure be sufficient to elevate the weight 19, the end of the lever 14 to which the valve-stem 22 is secured will be forced downwardly, thereby forcing the valve 24 against its seat and discontinuing the supply of gas. The gas being drawn off from pipe 2 for the purpose of using the same will decrease the amount contained within the inner shell of said gasometer until such time as the pressure of said gas is insufficient to support the weight 19, when the said weight will force the inner shell downwardly, thereby elevating stem 22, when the valve 24 will again be withdrawn from its seat and more gas be permitted to enter from the main. This operation being repeated will maintain the pressure within the outlet-pipe 2, said pressure being coincident with the adjustment of the weight 19 on the lever 14.

While I have herein shown and described a practical form of my invention, yet it will be obvious that various changes may be made in the details of construction without departing from the general spirit of the invention.

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

1. In a gas-regulator, the combination of a
5 cock interposed between the gas supply and
outlet pipes, and connection with the gasome-
ter interposed in said outlet-pipe adjacent to
said cock, the inner shell of said gasometer
being provided at its upper outside end with
10 a bracket which is slidably connected with a
lever which is also slidably connected with
the stem of the cock, the fulcrum of said le-
ver being intermediate of the connection with
said bracket and said stem, the free end of
15 said lever being provided with an adjustable
weight whereby the pressure of gas necessary
to actuate the inner shell of said gasometer
may be varied, thereby regulating the pres-
sure which will actuate said lever and stem
20 to operate the cock interposed between the
supply and outlet pipes, substantially as de-
scribed.

2. In a gas-regulator, the combination of a
cock interposed between the supply and out-
25 let pipes, said outlet-pipe having a pipe con-
necting with a gasometer interposed therein
at a point adjacent to said cock, said pipe
connecting with the gasometer extending to

the upper end of the guide provided on the
inner side of the inner shell of said gasome- 30
ter, suitable ports provided in the upper end
of said guides to permit the gas to pass into
the upper end of the inner shell of said gas-
ometer, a suitable conical support at the
lower end of said pipe connecting with the 35
gasometer for supporting the outer shell of
the gasometer, the upper end of the inner
shell of said gasometer being provided with
a bracket which is slidably connected with 40
the lever which is also slidably connected with
the stem of the valve interposed between the
supply and outlet pipes, the fulcrum for said
lever being located intermediate of said stem
and bracket, and an adjustable weight pro- 45
vided on the end of said lever opposite from
that to which the stem is connected whereby
the gas-pressure within said gasometer nec-
essary to actuate said valve-stem, thereby con-
trolling the supply of gas, may be varied, sub-
stantially as described. 50

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

ALLAN M. FISHER.

Witnesses:

ELIJAH W. HILL,
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