

F. J. MEYER.
 GAS REGULATOR.
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1,262,225.

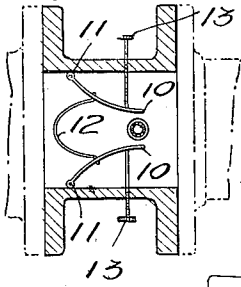


Fig. 4.

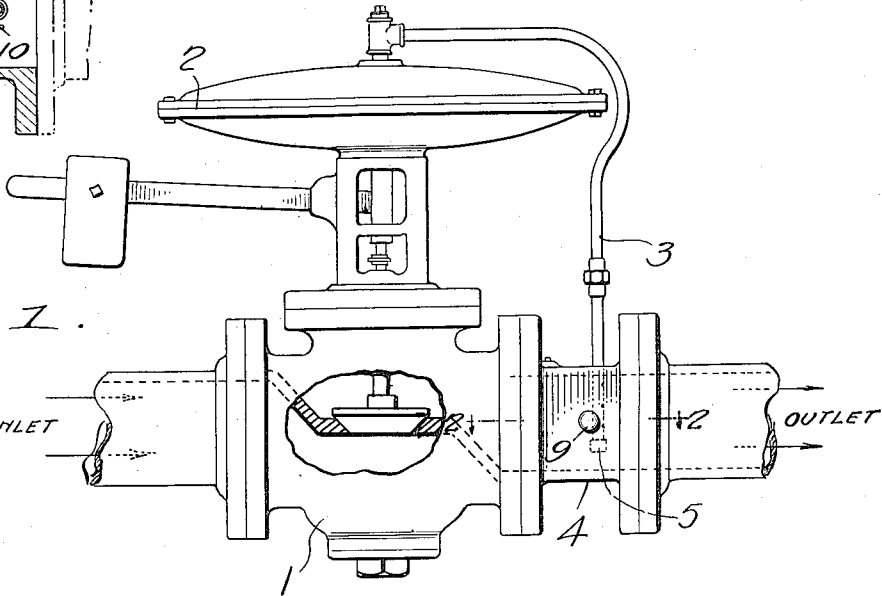


Fig. 1.

Fig. 3.

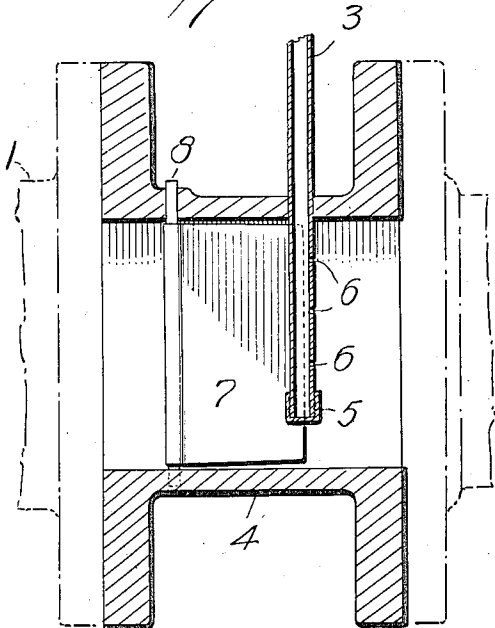
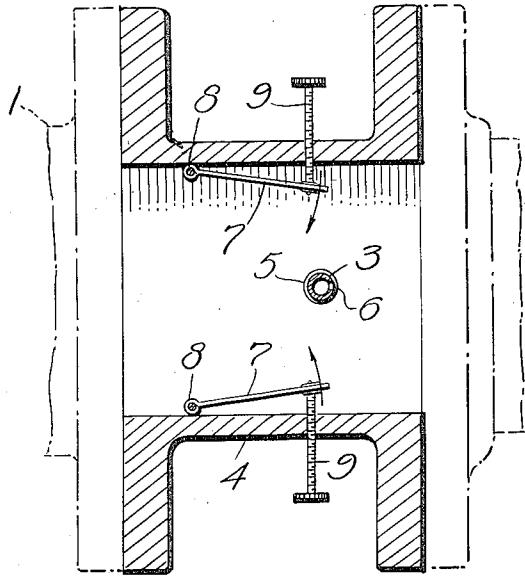


Fig. 2.



WITNESSES

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GAS-REGULATOR.

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To all whom it may concern:

Be it known that I, FRANK J. MEYER, a citizen of the United States, and a resident of Oklahoma city, in the county of Oklahoma and State of Oklahoma, have made certain new and useful Improvements in Gas-Regulators, of which the following is a specification.

My invention is an improvement in gas regulators and has for its object to provide mechanism for use in connection with pressure operated valves for controlling the flow of gas, for automatically increasing the pressure of gas during the time of largest demand.

In the drawing:

Figure 1 is a side view of the improved regulator.

Fig. 2 is a section on the line 2—2 of Fig. 1, looking in the direction of the arrows adjacent to the line, and,

Fig. 3 is a section at right angles to Fig. 2.

Fig. 4 is a sectional view of a modified form of means for varying the flow through the pipe.

The present embodiment of the invention is shown in connection with a regulating valve 1, of the usual construction, operated by a diaphragm in the casing 2, and the pressure is transmitted from the pipe line to the diaphragm by a pipe 3, which leads from the outlet end of the valve casing to the diaphragm casing in the manner shown.

In the usual construction of gas regulators of the character in question, the pipe 3 merely communicates with the pipe section 4, which is arranged at the outlet end of the casing 2, so that the pressure in the main at the outlet side of the regulating valve is maintained in the diaphragm casing 2.

In the present construction, however, the pipe 3 is extended into the pipe section 4, and nearly across the said section, as shown, and is capped at its inner end as indicated at 5. A series of openings 6 is provided in the extended portion of the pipe, the said openings being at the side of the pipe remote from the casing 1, that is, the said openings face in the direction of the flow of gas.

It will be evident from the description that as the flow passing the equalizer pipe 3 increases there will be a reduction of pressure in the said pipe, the flowing gas

acting in the manner of an injector to reduce this pressure in the equalizing pipe, and the valve will be opened to increase the flow through the supply pipe.

In order to make the amount of pressure increase adjustable, the velocity of the gas past the pipe 3 is varied by adjusting the cross section of the pipe opening at this point. One method of so varying the pressure is shown in Figs. 2 and 3, wherein the section 4 of pipe is square in cross section, and vanes 7 are provided for decreasing the cross section. These vanes 7 are oppositely arranged and are hinged to the pipe section, as indicated at 8, at one side edge and at their opposite side edges they are connected with screws 9, which are threaded through the pipe section in such manner that by turning the screws in the proper direction the vanes may be moved inwardly or outwardly at their unhinged edges. When the vanes are moved inward the capacity of the pipe will be reduced, and such cross section may be reduced to any desired point. With the improved attachment the gas pressure may be maintained constant at a point distant from the regulator.

In the embodiment of the invention shown in Fig. 4, the vanes 10 which are oppositely arranged, and hinged to the pipe, as indicated at 11, are pressed outward by a bent spring 12, and they are moved inward by set screws 13, which are threaded to the pipe section 14. In this construction when the screws are turned outward the spring 12 moves the valve 10 apart, increasing the cross sectional area of the pipe.

I claim:

1. In combination with the pressure control diaphragm operated valve for controlling the flow of gas through a pipe line, of means in connection with the said valve and the pipe line for reducing the pressure on the outer face of the diaphragm with the increase in velocity of the flow through the pipe line, said means being adjustable to vary the amount of increase.

2. In combination with the pressure control regulating valve of a pipe line, said valve being a diaphragm operated valve, and a pipe connecting the diaphragm chamber with the pipe line on the outlet side of the casing, said connecting pipe being extended into the pipe line and having its end closed and having openings opening in the direction of flow of the gas, and means

for varying the cross section of the pipe line at the connecting pipe, said means comprising oppositely arranged vanes hinged within the pipe line on opposite sides of the
5 said connecting pipe, and screws threaded through the pipe line and connected with the free edges of the vanes for swinging said vanes.

3. In combination with the pressure con-
10 trol regulating valve of a pipe line, said valve being a diaphragm operated valve, and a pipe connecting the diaphragm cham-

ber with the pipe line on the outlet side of the casing, said connecting pipe being extended into the pipe line and having its
15 end closed and having openings opening in the direction of flow of the gas, and means for varying the cross section of the pipe line at the said connecting pipe.

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Witnesses:

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