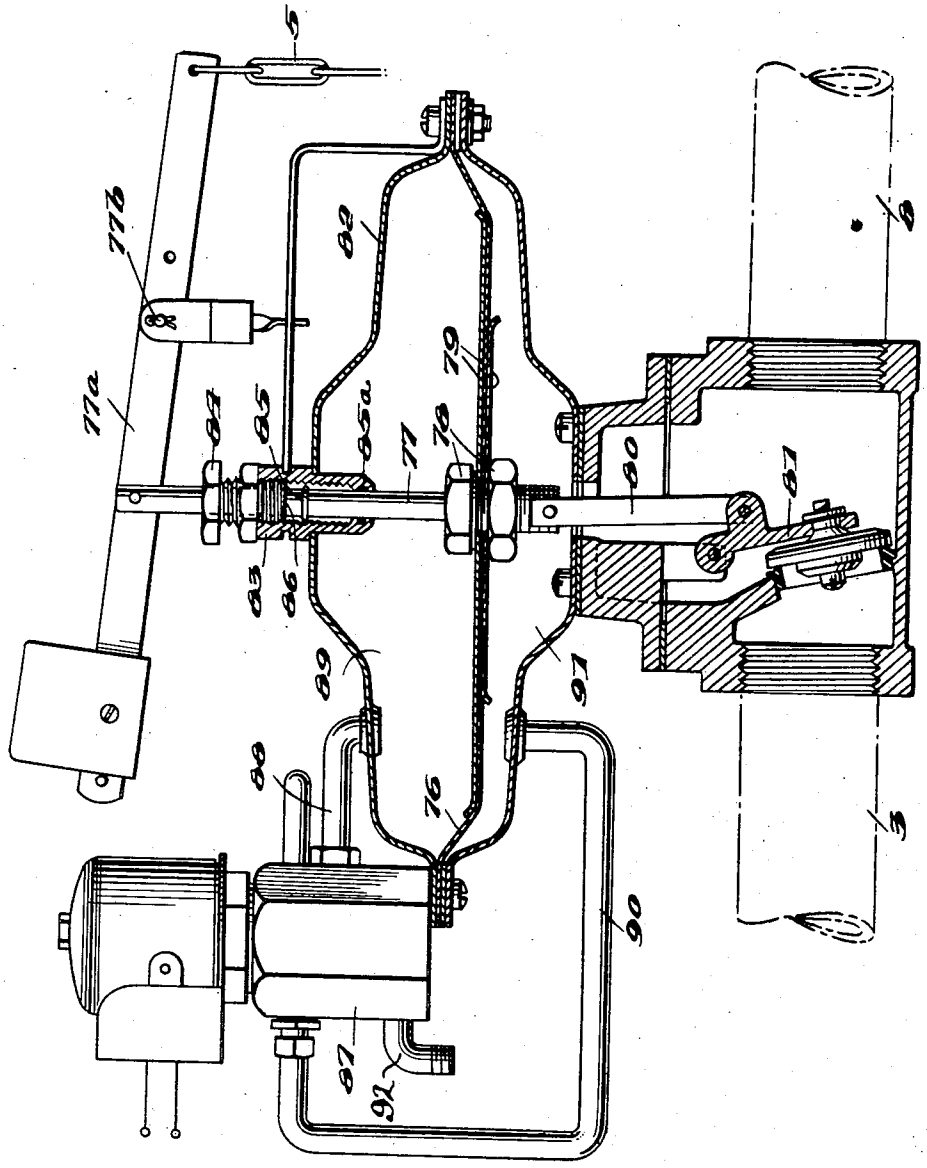
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ADJUSTABLE GAS CONTROL VALVE

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ADJUSTABLE GAS CONTROL VALVE

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1 Claim. (Cl. 251—31)

This invention pertains generally to gas control valves, and more particularly to means for adjustably setting the open positions of pressure-motor controlled full-flow supply valves. This application is a divisional application of my earlier application Ser. No. 583,893 filed May 8, 1956, now issued as U.S. Pat. No. 2,825,510.

An object of my invention is to provide adjustable stop means limiting the open positions of a single-stage full-flow valve controlling the flow of a gaseous medium from a source to a demand.

Other objects and advantages of my invention will become more apparent from a study of the following specification when considered in conjunction with the single figure of accompanying drawings which illustrates by an axial sectional elevation view a single-stage full flow valve according to the present invention.

Referring now to the single figure of the drawings, a single stage valve is disclosed having diaphragm **76** with valve stem **77** secured therethrough by means of the lock nuts **78** and the pressure plates **79**. Connecting link **80** secured to the lower extremity of valve stem **77** is secured to valve member **81** so that when diaphragm **76** is in its lower position as shown, valve member **81** is in its closed position, and when diaphragm **76** is in its upper position the valve member **81** is in its open position.

Secured to the upper portion of the pressure motor casing **82** is a sleeve **83** having a threaded interior bore. Threadably movable within the sleeve **83** is adjustable setting member **84**. Setting member **84** has a hollow bore therethrough to permit vertical sliding movement of valve stem **77** therein. O-ring **85***a* in the sleeve **83** serves to seal the valve stem **77** and to prevent evacuation of the pressure motor. The valve stem **77** is provided with an extension **85** adapted to cooperate with the under surface **86** of adjustable setting member **84**. Thus it may be seen that by vertically adjusting setting member **84** within sleeve **83** the extent of upward travel of stem **77** may be limited, and consequently the extent of opening of valve member **81** is likewise limited. Secured to the upper extremity of valve stem **77** is lever arm **77***a* pivoted about pivot point **77***b* and provides control means to a secondary door (not shown) by means of the chain **5**.

The operation of the pressure motor is controlled by solenoid valve **87** having a line **88** connected to the upper pressure motor chamber **89** and a line **90** connected to the lower pressure motor chamber **91**. Energization of the solenoid valve will cause line **88** to be connected to vent line **92** with the result that the pressure in lower chamber **91** is greater than the pressure in upper chamber

89. Diaphragm **76** then moves upwardly until extension **85** contacts lower surface **86** of adjustable setting member **84**. Valve member **81** is thus moved to its open position.

Failure of electrical power supplied to solenoid valve **87** will result in the connection of lines **88** and **90** to equalize the pressures in upper chamber **89** and lower chamber **91** and to allow diaphragm **76** to drop and valve member **81** to close. The solenoid valve **87** is provided with the solenoid holding means described above.

While in accordance with the provisions of the Statutes I have illustrated and described the best form of embodiment of my invention known to me, it will be apparent to those skilled in the art that changes may be made in the form of the apparatus described without departing from the spirit of my invention as set forth in the appended claim.

I claim:

Control means for controlling the flow of a gaseous medium in a supply main connecting a source to a demand comprising a valve in said supply main having a valve casing divided into an inlet chamber and an outlet chamber by a partition provided with a valve seat, and a valve member pivotally mounted within said inlet chamber and cooperating with said valve seat; a pressure motor having a casing and a movable diaphragm therein; means connecting said diaphragm to said valve member so that the position of said valve member with respect to said valve seat is dependent upon the position of said diaphragm within said casing; a vertical sleeve member secured in an opening in the upper portion of said pressure motor casing, said sleeve having a vertical bore extending longitudinally therethrough, the upper portion of said bore being threaded; an opening setting member threadably secured in the threaded portion of the longitudinal bore in said sleeve member, said setting member having a vertical bore extending longitudinally therethrough; an auxiliary equipment control stem slidably mounted in the bore of said setting member, one end of said stem being connected to said diaphragm and the other end of said stem constituting a longitudinally-movable output shaft extending outside said casing, said auxiliary equipment control stem having a projection intermediate the diaphragm-connected end and said setting member and adapted to cooperate with said setting member to limit the upward extent of axial movement of said auxiliary control stem and the opening of the valve as determined by the longitudinal adjustment of said setting member within said sleeve member; and annular sealing means mounted within the lower portion of the bore in said sleeve member in engagement with the periphery of the control stem to seal the opening through the casing of the pressure motor.

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