E. SCHULTE.

ADJUSTABLE VALVE CONTROLLER.

APPLICATION FILED NOV. 29, 1907.

953,766.

Patented Apr. 5, 1910.

Fig. 1.

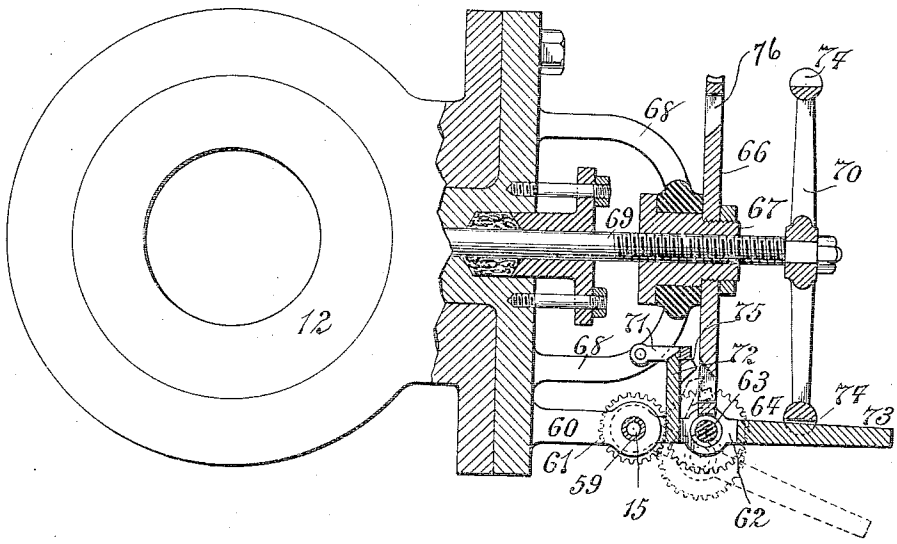
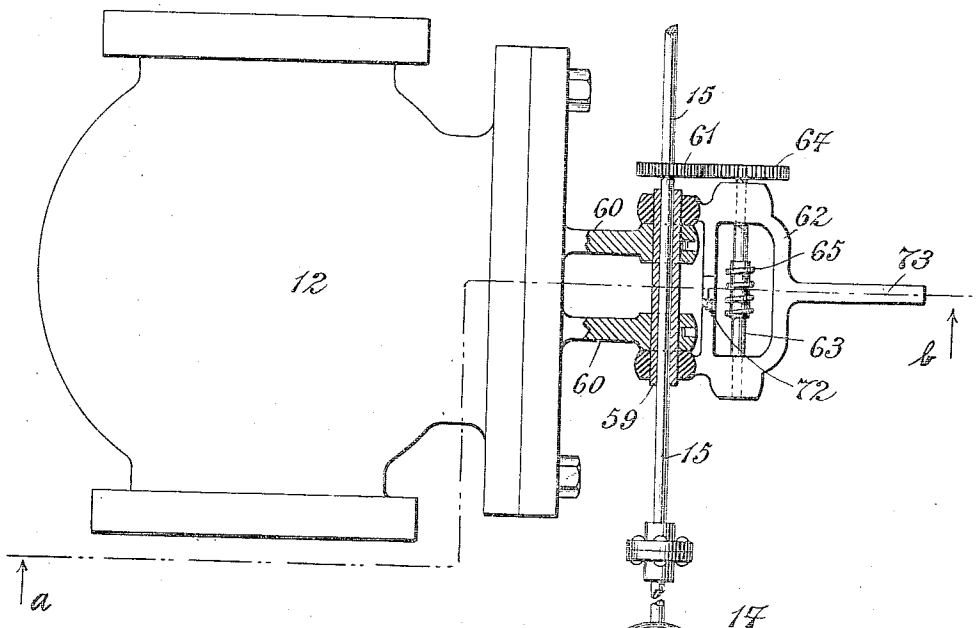


Fig. 2.



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UNITED STATES PATENT OFFICE.

EDUARD SCHULTE, OF HAMM, WESTPHALIA, GERMANY, ASSIGNOR TO THE UNITED COKE AND GAS COMPANY, A CORPORATION OF WEST VIRGINIA.

ADJUSTABLE VALVE-CONTROLLER.

953,766. Specification of Letters Patent. Patented Apr. 5, 1910.

Original application filed April 3, 1907, Serial No. 366,168. Divided and this application filed November 29, 1907. Serial No. 404,424.

To all whom it may concern:

Be it known that I, EDUARD SCHULTE, a subject of the Emperor of Germany, residing in Hamm i. W., Germany, have invented a certain new and useful Improvement in Adjustable Valve-Controllers, of which the following is a specification.

The present invention relates to improved means for controlling valves, particularly where a number of valves are intended to be controlled simultaneously. It finds its special usefulness in connection with systems of automatic control of fluid pressure, such as air or gas pumping systems and the like.

This is a division of my application for U. S. Letters Patent Number 366,168, filed April 3rd 1907.

A preferred embodiment of the present invention as used in an automatic controlling system of the same general type as that above mentioned is shown in the accompanying drawings, wherein—

Figure 1 is a partial vertical section on *a*—*b* in Fig. 2, and Fig. 2 is a side elevation partly in section of my preferred combination valve controller.

This invention is applicable to a system of any reasonable number of prime movers, each having its own governing valve wherein all of the valves may be operated by a common shaft rotated by a single electric motor, and in Fig. 2 the shaft 15 is shown broken off at its extremity to indicate indefinite length for the purpose of operating an indefinite number of valves.

In Fig. 2, the electric governing motor is shown at 14 and it drives a shaft 15 passing in front of a row of valves for governing appropriate prime movers. The motor 14 is normally at rest, and it is made to run in one direction or the other when required, for simultaneous regulation of all of the valves.

My invention makes it possible to operate any one valve either manually or at will, and this is accomplished by the means illustrated in the drawings.

Here the shaft 15 of motor 14 turns within a bushing 59 supported on the arms 60 which project from the front of the valve 12, and a pinion 61 is fixed on the shaft 15 at each valve. A frame 62 is pivoted on the bushing 59 and carries a rotary shaft 63 having a pinion 64 at one end which engages with the pinion 61. The shaft 63 also carries a worm 65 which, when the frame 62 is raised, engages with the worm wheel 66 to which there is centrally attached a hub 67 turning in bearings supported from the valve by the arms 68.

The stem 69 whereby the valve 12 is operated is threaded in the nut or hub 67 and carries at its outer extremity a hand wheel 70. The frame 62 is held up in the position shown in Fig. 2 by means of the hand latch 71 which engages with the upward projection 72 on the frame 62; and in this position a horizontal locking projection 73 on the frame 62 engages with notch 74 on the wheel 70. These notches are placed at close intervals all around the wheel.

It is clear that in the position shown in Fig. 2 the locking projection 73 prevents the hand wheel 70 and the screw 69 from turning and in this position the shaft 15, acting through pinions 61 and 64 and the worm 65, will operate the worm wheel 66 so as to move the stem 69 in or out according to the direction of rotation. If it is desired to operate the valve by hand, the frame 62 is lowered as shown in dotted lines in Fig. 1, thus freeing the hand wheel 70 and locking the worm wheel 66 and nut 67 by means of the bolt 75 on the projection 72 entering an opening 76 in the wheel 66. These holes 76 are placed at close intervals in a circle on the wheel 66. Thus, with the frame 62 depressed, the nut 67 is held fast so that revolution of the hand wheel may operate the valve.

What I claim is—

1. A valve controlling device comprising in combination a fluid controlling valve, a threaded stem for operating the same, a hand wheel for turning said stem, a worm wheel adapted to move said stem, and a pivoted frame having projections thereon arranged so as to make locking engagement with said hand wheel in one position and to free said hand wheel and lock said worm wheel in another position, substantially as described.

2. A valve controlling device comprising in combination a fluid controlling valve, a threaded stem having a hand wheel for operating the same, an internally threaded hub fitting said stem and carrying a worm wheel, a driving shaft, a pivoted frame cen-

tered on said shaft and carrying a worm, means for transmitting motion from said driving shaft to said worm and two locking projections on said frame; all arranged so that when the frame is in one position the worm and worm wheel will engage and one of said projections will lock said hand wheel, and in another position of the frame the worm gear will be disconnected and the second projection will lock said worm wheel, substantially as described.

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