March 25, 1924. 1,487,921

J. M. DEISCH

VALVE

Filed March 17, 1922 2 Sheets-Sheet 1

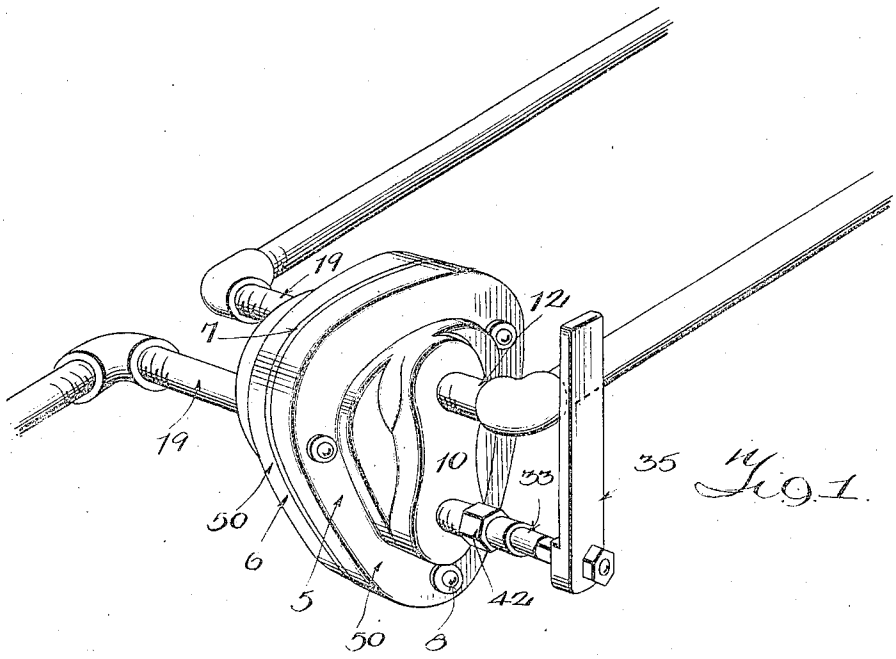


Fig. 1.

Fig. 2.

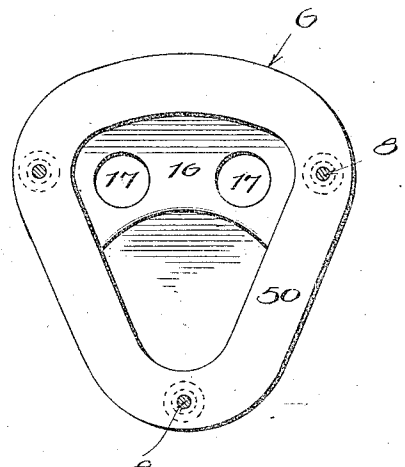
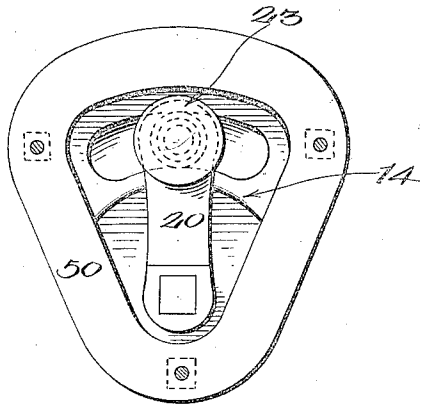


Fig. 3



WITNESSES

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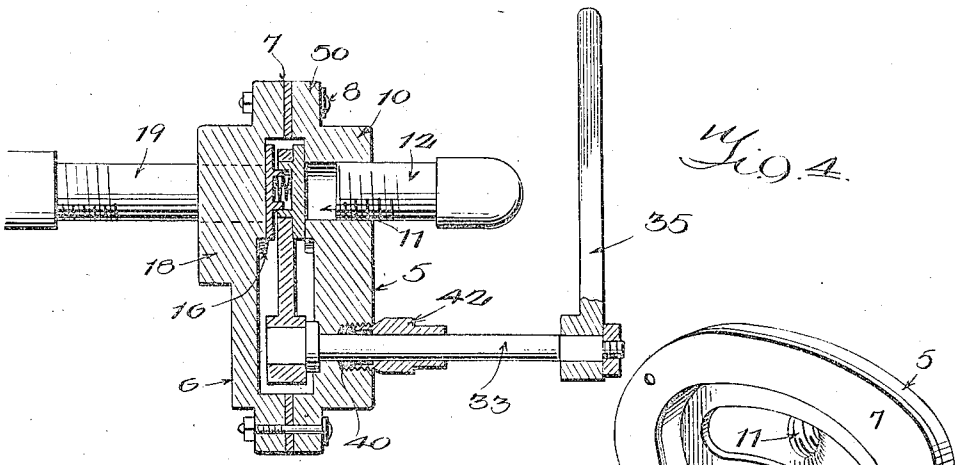


Fig. 4.

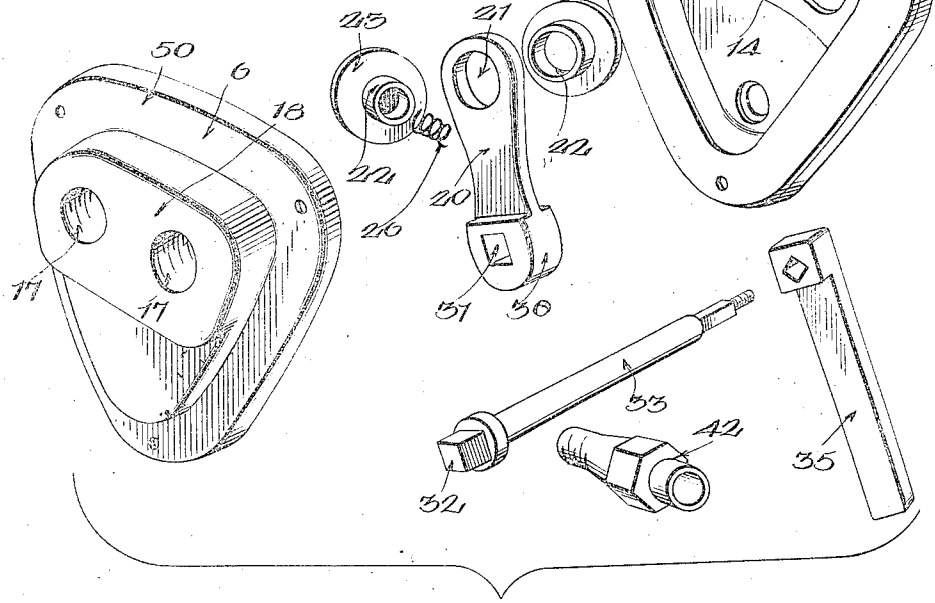


Fig. 5.

WITNESSES

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UNITED STATES PATENT OFFICE.

JACOB M. DEISCH, OF NAPPANEE, INDIANA.

VALVE.

Application filed March 17, 1922. Serial No. 544,566.

To all whom it may concern:

Be it known that I, JACOB M. DEISCH, a citizen of the United States, and a resident of Nappanee, in the county of Elkhart and State of Indiana, have invented certain new and useful Improvements in Valves, of which the following is a specification.

This invention relates to valves of the multiway type.

Briefly stated, an important object of this invention is to provide a valve having simple means whereby the same may be adjusted for directing the liquid, such as water, to either one of a pair of pipes or through both of the pipes simultaneously.

Further an important object of this invention is to provide a valve which is simple to adjust, reliable in use and cheap to manufacture.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawings forming a part of this application and in which like numerals are employed to designate like parts throughout the same,

Figure 1 is a perspective of the improved valve.

Figure 2 is a vertical sectional view through the valve, the view illustrating the outlet side of the valve in elevation.

Figure 3 is a vertical sectional view through the valve illustrating the inlet member and the swinging arm for controlling the liquid in elevation.

Figure 4 is a vertical transverse sectional view through the valve connected to the water conveying pipes.

Figure 5 is a group perspective of the valve.

In the drawings wherein for the purpose of illustration is shown a preferred embodiment of the invention the numerals 5 and 6 designate a pair of sections which cooperate in the formation of a casing. It might be said that the sections 5 and 6 are substantially triangular in formation and by reference to Figures 4 and 5 it will be observed that a gasket 7 of any desired material is confined between the sections and is held in position by means of fastening bolts 8 or other suitable fastening devices, which also securely and positively connect the plates 5 and 6.

In carrying out the invention the plate 5 is formed with an outwardly extending boss 10 having an opening 11 threaded for the reception of a liquid inlet pipe 12 extending from a suitable source of supply. As illustrated in Figure 5 the opening 11 flares toward its inner end and assumes an arcuate formation and opens through an integral arcuate shoulder 14 formed on the inner side of the plate 5.

The section 6 which cooperates with the section 5 is formed on its inner side with an arcuate shoulder 16 arranged opposite the arcuate shoulder 14 and having openings which align with the threaded openings 17 in the boss 18. Figure 5 illustrates that the pair of spaced openings 17 in the boss 18 on the exterior of the plate 6 are screw threaded for engagement with outlet pipes 19 which may extend to a boiler or other point where it is desired to use water or other liquid.

As previously stated, the invention forming the subject matter of this application is provided with simple means whereby the water may be directed to either one of two points or both of the points simultaneously and with this end in view I provide a control arm 20 having one terminal portion slightly enlarged and apertured as indicated at 21 for the reception of the telescoping inwardly extending annuli 22 of a pair of coacting disks or heads 23.

The heads 23 of which there are two are, as illustrated in Figure 4 arranged on opposite sides of the enlarged terminal portion of the swinging arm 20 and a coiled spring 26 is confined between the disk heads 23 and serves to urge the same into contact with the opposed shoulders 14 and 16 which are of arcuate formation.

The lower portion of the arm 20 is formed with an attaching boss 30 having a squared opening 31 for the reception of the squared end 32 of a control stem 33. The control stem 33 is extended through the plate or section 5 and has connection with a handle 35 by means of which the stem may be rotated. A suitable packing 40 surrounds the stem 33 and is urged into liquid tight engagement with the stem by means of a packing nut 42.

In operation the pipes 19 may be connected to a pair of boilers or other points of use and the pipe 12 may be connected to a suitable source of supply. If it is desired to cut off the flow of water to one of the pipes the arm 22 is swung about the

axis of the stem 30 so that the disk-shaped head will be positioned over one of the openings 17. This positively cuts off the flow of water through one of the pipes and causes the entire flow to pass through the other pipe 19.

When it is desired to cause the yater to flow through both of the pipes simultaneously the disk-shaped head is positioned between the openings 7 and 8 thereby uncovering both of the openings. A spring 26 acts as a means for securing the disk-shaped heads 23 in liquid tight engagement with the opposed shoulders 14 and 16 so that leakage is reduced to a minimum.

As illustrated in Figure 4 the fastening bolts 8 of which there may be any desired number are extended through inwardly extending flanges 50 which cooperate with the gasket 7 in providing sufficient space between the shoulders 14 and 16 to permit of the free movement of the arm and the disk-shaped head 23.

Attention is directed to Figure 4 which illustrates that pressure within the casing of the valve will not force the arm 20 tightly into engagement with either of the arcuate shoulders 14 and 16 because of the presence of the spring actuated heads 23. Therefore the arm 20 may be freely operated by the throttle 35 regardless of the pressure within the casing.

It is to be understood that the form of the invention herewith shown and described is to be taken as a preferred example of the same and that such minor changes in arrangement and construction of parts, may be made as will remain within the spirit of the invention and the scope of what is claimed.

Having thus described the invention, what is claimed is:—

A valve of the character specified comprising a pair of substantially triangular coacting plates having inwardly directed opposed shoulders of arcuate formation, one of the plates being provided with an inlet opening having its inner end flared and extended through the adjacent shoulder and being of arcuate formation, the other plate being provided with spaced outlet openings extending through one of the shoulders, a swinging arm mounted between said shoulders, disk-shaped heads arranged on opposite sides of said arm and having inwardly directed telescoping annuli slidably extending through the arm, a coiled spring confined between said disk-shaped heads and urging the same into engagement with said opposed shoulders, means whereby said arm may be operated, the outer edges of said coacting plates being provided with offset connecting flanges maintaining the shoulders in spaced relation to permit of the free swinging of said arm, one of the heads being flatly in contact with the adjacent shoulder and straddling the said arcuate opening.

JACOB M. DEISCH.