

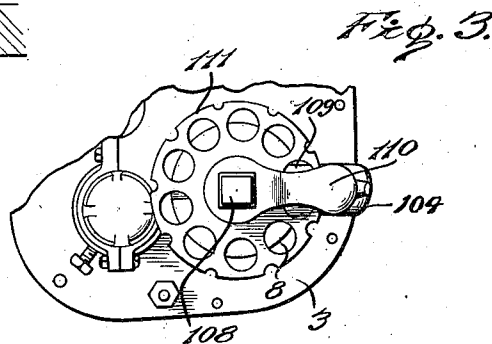
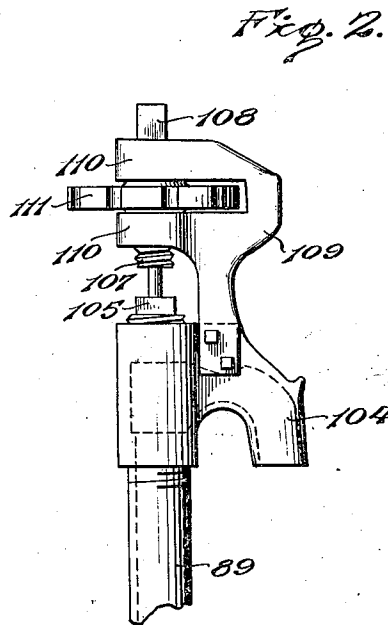
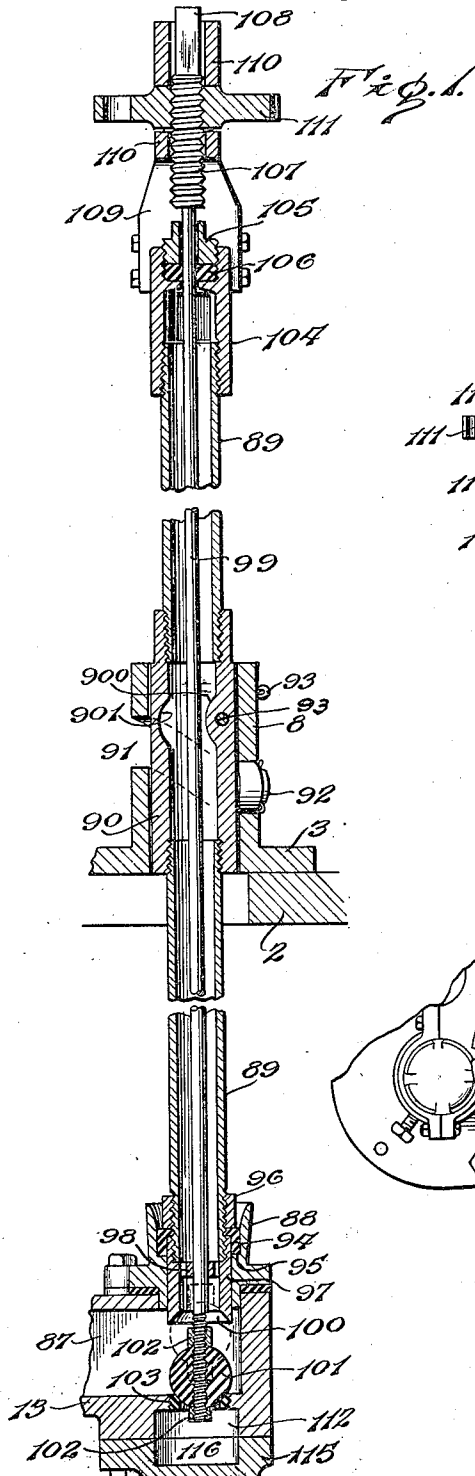
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J. H. OBERMAN, JR

VALVE MECHANISM FOR PUMPS

Original Filed Dec. 11, 1922



Inventor

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## UNITED STATES PATENT OFFICE.

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## VALVE MECHANISM FOR PUMPS.

Original application filed December 11, 1922, Serial No. 606,108. Divided and this application filed August 29, 1923. Serial No. 659,959.

*To all whom it may concern:*

Be it known that I, JOSEPH H. OBERMAN, Jr., a citizen of the United States, residing at Granville, in the county of Sioux and State of Iowa, have invented certain new and useful Improvements in Valve Mechanism for Pumps, of which the following is a specification.

This application is a division of an application filed by me December 11, 1922, Serial No. 606,108.

The invention relates to multiple delivery pumps and has for its object the provision of a novel valve mechanism whereby the course of the water may be controlled so that it may be delivered at the well or caused to flow to a distant point. The invention consists in certain novel features which will be hereinafter first fully described and then more particularly pointed out in the appended claims.

In the annexed drawing:

Figure 1 is a vertical section of a portion of a pump showing my present invention;

Fig. 2 is a side elevation of the spout and contiguous parts, and

Fig. 3 is a plan view.

In the drawing, 2 indicates a portion of the well curb and 3 indicates a portion of a base secured on the curb and having a guiding and supporting sleeve 8 cast thereon. 13 denotes a bridge piece which is located in the well and supported from the curb, said bridge piece containing an inlet and passages through which the water flows when the operating mechanism is actuated. Inasmuch as the particular form of the inlet and the operating mechanism are not part of the present invention, they are omitted from the drawing. A passage 87 extends through the bridge piece laterally from the inlet port to the end of the bridge piece and one outlet for the water is arranged in the top of the bridge piece over the end of the said passage 87 and another outlet is provided in the bottom of the bridge piece in axial alinement with the first-mentioned outlet. A packing cup 88 is secured upon the bridge piece over the said end of the passage 87 and a delivery tube 89 has its lower end disposed within the said packing cup. This delivery tube is constructed of two axially alined sections threaded into the upper and lower ends, respectively of a coupling head 90 fitting

within the sleeve 8, as shown. The sleeve 8 is constructed with a helical slot 91 and the head 90 is equipped with a stud 92 playing in the said slot. Rotation of the head will cause it to ride upwardly in the sleeve when removal of the delivery tube is desirable for repairing or other purposes, and a roller may be fitted upon the stud 92 to reduce frictional wear upon the walls of the slot 91. Cotter pins 93 secure the head 90 against movement within the sleeve 8, it being noted that the coupling 90 is provided with an internal enlargement 900 to receive a cotter pin, and is further provided with a recess 901 at a point diametrically opposite the enlargement so that the cross-sectional area of the bore will not be reduced to restrict the flow of the water. The provision of the enlargement 900 also prevents leakage around the locking pins or keys. Upon the lower end of the delivery tube 89 is fitted a packing ring or diaphragm 94 which may engage an internal shoulder 95 on the packing cup 88, and this packing ring is clamped to a shoulder 96 upon the tube 89 by a cage or sleeve 97 which is threaded onto the lower end of the tube 89 and is provided internally with a spider 98 constituting a guide for the valve stem 99. The lower end of the sleeve 97 forms the upper outlet and is preferably beveled or flared, as shown at 100, so that it will constitute a seat for the valve 101 which may conveniently be a rubber ball secured upon the stem 99 by nuts 102 disposed above and below the ball, as clearly shown. Upon reference to Fig. 1, it will be noted that the valve 101 may engage the seat 100 or may engage the seat 103 which is below the valve and defines the lower outlet. The position of the valve is determined by vertically adjusting the stem 99 so that the water may be directed into and through the delivery tube 89 or may be directed through the outlet 103 to and into the underground service pipe. Upon the upper end of the delivery tube 89, I secure a spout 104 through which the water may be discharged. The stem 99 extends through the top portion of the spout and said top portion is constructed to receive a packing nut 105 adapted to be turned home against packing 106 so that the said packing will be compressed about the stem 99 and leakage of the water prevented. The stem extends through the nut 105 and above

the same is provided with the threaded enlargement 107, the extreme upper end of the stem being angular in cross section, as shown at 108, and the enlargement 107 being integral with or separate from and threaded onto the stem 99, as preferred. A sustaining and guiding head 109 is secured upon the spout and projects upwardly therefrom and is provided with the lateral lugs or branches 110 through which the threaded and angular portion of the valve stem passes. Between the lugs 110, a hand wheel 111 is mounted and this hand wheel is constructed with an internally threaded hub engaging the threaded portion 107 of the valve stem so that rotation of the hand wheel will effect vertical movement of the stem and consequently adjust the valve 101, as desired.

20 In the under side of the bridge piece is a groove 112 which forms the upper portion of a lateral passage extending from the port of the valve seat 103 to the mentioned underground service pipe. A flange 115 is secured to the under side of the bridge piece and this flange is provided in its upper side with a groove or recess 116 mating with the groove 112 to complete the passage to the underground service pipe.

30 When the water is to be delivered at the mouth of the well, the hand wheel 111 is turned so that the valve stem 99 will be

driven downwardly and the valve 101 caused to engage the seat 103. The flow of water through the passage provided by the grooves 112 and 116 to the underground service connection will be thereby prevented and the water will rise through the delivery tube 89 to the spout 104. If the valve be caused to engage the seat 100, the flow of water through the delivery tube 89 will be prevented and it will flow through the port 103 and the passage leading therefrom to the underground service pipe, as will be readily understood.

Having thus described the invention, what is claimed as new is:

In a pump, the combination of a vertically disposed delivery tube, a delivery spout at the upper end of said tube, a valve adapted to seat against the lower end of said tube, a valve stem extending through the said tube and carrying the said valve, a bracket secured upon and rising from the spout and having spaced lateral members above the delivery tube, the valve stem having a threaded portion extending loosely through the said spaced members, and a hand wheel mounted upon said threaded portion of the valve stem between said spaced members.

In testimony whereof I affix my signature.

JOSEPH H. OBERMAN, Jr. [L. S.]