To all whom it may concern:

Be it known that I, PHILIPA KOEHRING, a citizen of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Water-Measuring Devices, of which the following is a specification.

In the operation of what are known as concrete or batch mixing machines it is necessary to employ suitable means for supplying water to the materials being mixed.

The object of the present invention has been to devise a simple water supply means adapted to be used in connection with ordinary types of batch mixers and designed especially with a view of affording ready control of the amount of water or mixing fluid passing to the mixing drum, the automatic discontinuance of said supply after the adjustment of a suitable controlling device, and to facilitate a replenishing of the water or liquid contained in a suitable supply reservoir from which it passes to the mixing drum or receptacle.

With the foregoing and other objects in view, a full understanding of the invention will be had upon reference to the accompanying detail description and drawings appended hereto, in which:

Figure 1 is a side view of a water supply tank or reservoir having controlling means in accordance with the invention, a portion of the tank being broken away to disclose clearly the arrangement of the draw-off tube.

Figure 2 is an end view of the same.

Figure 3 is a detail sectional view of the main casing and draw-off coupling mounted therein.

Figure 4 is a detailed sectional view bringing out more clearly the arrangement of certain coupling parts.

In the drawings, A denotes a reservoir or tank which in the practice of the invention will be mounted in any substantial manner upon the framework of the mixing machine in connection with which the present invention is used. This tank or reservoir A has a suitable check valve 1 at its upper portion and a draw-off cock 2 at its lower portion, both of conventional type. Leading from the bottom of the reservoir A is an outlet pipe B composed of an upper section 5 and a lower section 6. Intermediate the sections 5 and 6 is a suitable coupling 3 with which is connected a water inlet pipe 4, said pipe being adapted to be attached to a hose leading from a suitable source of water supply from which the water in the reservoir A may be replenished at intervals when necessary. A three-way valve 5 is carried by the coupling 3 and is operable by a handle 6 suitably connected thereto. Said valve 5 in one position closes the inlet of the pipe 4 to the pipe B and permits the water to pass from the reservoir A through the pipe B to the mixer drum. In another position of the valve 5 the passage of the water through the pipe B to the mixer drum is cut off and communication is established between the inlet pipe 4 and the section 5 of the pipe B so that water may enter the reservoir A until the latter is filled.

The controlling means by which a predetermined amount of water for the mixing of a batch of materials in the mixer, may be supplied to the latter from the reservoir A forms the essential feature of the present invention and will now be described. The section 6 of the pipe B is connected with the reservoir A by means of a casing C suitably bolted or otherwise attached to the bottom of the reservoir. Mounted transversely in the casing C is a draw-off coupling 7 which is of hollow form, as seen in Fig. 3, being provided with an end port 8 and an upper port 9. Attached to the coupling 7 at the port 9 is a tube 10 of angular form, said tube being movable with the coupling 7 as an axis.

For adjusting the coupling 7 a controlling lever 11 is secured to the square exterior head 12 of the coupling, this lever being provided with a suitable operating handle 13 and being made in the form of a triangular frame, the lowest portion of which is provided on its inner side with a curved rack or toothed sector 14. The lever 11 is adapted to be locked at a predetermined adjustment by means of a latch bolt 15 which is mounted for vertical movement in a boss c that projects outwardly from the valve casing C. A lifting pin 16 is carried by the upper end of the latch 15 and on its lower end the latch has a coiled spring 17 encircling the same and interposed between the under side of the boss c and a pin 18 passing through the lower extremity of said member 15. The spring 17 normally tends to project the
latch into engagement with the teeth of the rack 14 and to thereby prevent unauthorized movement of the lever 11. On its outer side the lowermost portion of the frame of the lever 11 is formed with indicia consisting of consecutive numerals ranging from one to thirteen and corresponding with the teeth of the rack 14. The said indicia may be varied, however, as will be obvious upon understanding the operation of the invention.

Assuming the parts to be adjusted in the positions shown in Fig. 1, it will be apparent that upon opening the valve 5 to permit the water to flow from the tank A out of the pipe B to the mixer, said opening being accomplished by merely moving the handle 6 downward a quarter revolution, by reason of the adjustment of the lever 11 and the tube 10 of the coupling 7, a predetermined quantity of water will pass to the mixing receptacle. The water flows from the reservoir A according to the adjustment of the members 7 and 10 until the level of the water in the reservoir is below the upper open extremity of the tube 10. Should a sufficient supply of water not pass through the pipe B for the mixture of a batch in the mixing drum, the operator will so manipulate the lever 11, moving it to the right according to the illustration, until the latch 15 engages a tooth of the rack 14 opposite a number higher than the one at which the latch has previously adjusted. On the other hand, if a too large quantity of water flows through the pipe B on opening the valve 5 in the manner described, the operator by lifting the latch 15 may freely move the lever 11 to the left and thereby diminish the quantity of water passing from the reservoir to the mixing machine. In the above manner the necessary amount of water for mixing purposes may be very quickly regulated, all adjustments of the coupling 7 being effected without the use of any tools whatever and furthermore there is no need, according to the present invention, of employing floats or movable parts such as in ordinary apparatus for the same purpose are frequently getting out of order. In order that the tube 10 of the coupling 7 may be permitted to have its relatively arcuate movement, it will be understood that the opening in the bottom of the reservoir A through which said extension passes, is considerably elongated, the movement of the member 10 being limited in opposite directions by abutting of said member with the portions of the reservoir and casing C contiguous to the bottom opening.

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

1. In means of the class described, the combination of a reservoir provided with an outlet and means governing the passage of water through said outlet consisting of a coupling, a controlling lever connected with the coupling and comprising a triangular frame having an offsetting handle, a side of said frame being formed with a rack, and a latch bolt supported adjacent to the lever and adapted to engage said rack to hold the lever at a predetermined adjustment.

2. In means of the class described, the combination of a reservoir provided with an outlet and means governing the passage of water through said outlet consisting of a coupling, a controlling lever connected with the coupling and comprising a triangular frame having an offsetting handle, a side of said frame being formed with a rack, a casing in which said coupling is mounted and having an offsetting boss located intermediate the side portions of said lever, a spring-actuated bolt mounted in said boss and normally engaging said rack to hold the lever at a predetermined adjustment.

3. In means of the class described, the combination of a reservoir provided with an elongated opening, a valve casing connected with the reservoir at said opening, a coupling mounted in said casing, a draw-off tube extending from the coupling upwardly through said elongated opening into the reservoir and having its upper end open and its lower end in communication with the coupling, a controlling lever connected with the coupling and comprising a triangular frame having a handle projecting therefrom, a side of said frame being formed with teeth to provide a rack and being curved on an arc generated from the axis of the coupling as a center, a boss projecting outward from the casing at a point above the rack, and a spring actuated latch bolt slideable in said boss and normally engaged with the rack to hold the lever in a predetermined position, said curved portion of the lever being formed opposite the teeth of the rack with indicia to facilitate positioning of the coupling and draw-off tube to regulate the quantity of liquid.

4. In means of the class described, the combination of a reservoir having an elongated opening therein, a casing exterior to the reservoir and connected therewith at said opening, a hollow coupling disposed in said casing and having a closed end projecting from the casing, the other end of the coupling opening into the casing and the intermediate portion of the coupling having an opening communicating with the said elongated opening of the reservoir, a draw-off tube connected with the coupling at the last mentioned opening and extending into and movable in the reservoir, the portions of the reservoir at the opposite ends of said elongated opening being adapted to abut with the said tubular extension to limit its movement, and controlling means.
connected with the closed projecting end of
the coupling to move the same and the tube
connected therewith.
5. In means of the class described, the
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ervoir and having its upper end open and
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coupling, a controlling lever connected with
the coupling for moving the same and cor-
respondingly moving the tube, said lever
15 being provided with a rack, a latch coacting
with the rack to hold the lever in predeter-
mined positions, and indicia associated with
the lever to denote different positions of the
tube in the reservoir.
   In testimony whereof I affix my signature
in presence of two witnesses.
   PHILIP A. KOEHRING.
   Witnesses:
   E. F. HOLLENSTEINER,
   G. H. MILLER.