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J. B. PETERSON

REGULATING VALVE FOR WATER TROUGHS

Filed May 21, 1927

Fig. 1.

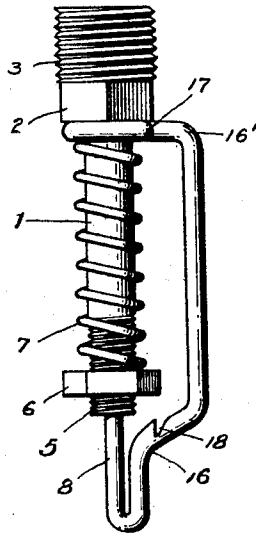


Fig. 2.

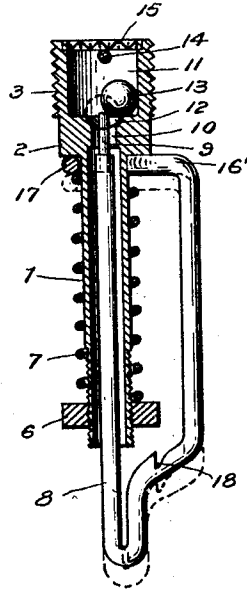


Fig. 3.

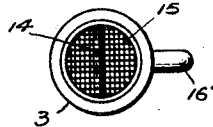
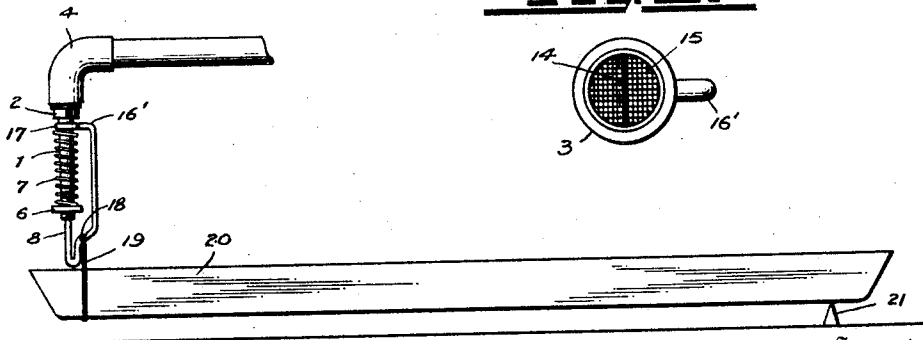


Fig. 4.

Inventor

John B. Peterson

By *Mason Denwick & Lawrence*
Attorneys

UNITED STATES PATENT OFFICE.

JOHN B. PETERSON, OF BLAINE, WASHINGTON.

REGULATING VALVE FOR WATER TROUGHS.

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This invention relates to regulation cut-off valves, and particularly to valves for controlling and regulating the flow of water into a drinking trough for chickens, live stock, etc.

An object of this invention is to provide a simple and cheaply constructed device which will automatically keep an even supply of water in a drinking trough and prevent waste of water by overflow of the trough, and furnish a fresh supply of water to the trough as part is used by chickens, stock, etc., or lost by evaporation.

A further object of this invention is to provide an automatic regulator for an even supply of water in a trough or vessel, by means of a valve which is operated by the weight of water in the trough or vessel, and when the water is lowered in the trough the valve is automatically opened and held open until a predetermined amount of water has flowed into the receptacle when the valve is closed automatically.

Other objects of this invention will appear from the following detailed description of the device and as disclosed in the single sheet of drawings which is herewith made a part of this application.

In the drawings—

Figure 1 represents a side elevational view of the mechanism in assembled relationship.

Figure 2 illustrates a similar elevation with the parts in section.

Figure 3 is a top plan view of the device.

Figure 4 shows the adaptation of the valve and mechanism attached to a water supply pipe and supporting a trough.

Like numerals on the different figures represent like parts.

N numeral 1 is a tubular member with an enlarged head divided into a hexagonal section 2 for use in connection with a wrench for screwing the threaded top 3 into any suitable water supply pipe 4. The lower end of the tube 1 is also provided with a thread 5 upon which is operated an adjusting nut 6 for regulating the tension of a helical spring 7.

A valve stem 8 extends from the bottom of the tube through the same to a point in the base of the head 2 and is there preferably narrowed as at 9 to provide sufficient port space 10 around the same for the free flow of water through the port 10 from the valve chamber 11. Centrally in the bottom of the chamber is a rounded seat 12 for

a ball 13 of suitable weight to automatically roll into the seat, and keep the port 10 closed. A cross pin 14 is placed across the top of the chamber which prevents the ball from falling from the chamber during transportation, and a screen 15 is seated across the top of the chamber to prevent the passage into the chamber of any dirt or other articles which might tend to obstruct the seat of the valve and so prevent the ball from effectually closing the same.

The valve stem extends below the tube, is thence bent upward and outward to provide an offset 16, thence extends up and along the outside of the spring 7, and is again bent inward as at 16' and around the tube immediately beneath the part 2, forming a slidable eye 17 against which the upper end of the spring 7 rests. By the tension of the spring as regulated by the nut 6 the eye 17 is held against the bottom of the part or shoulder 2.

A notch 18 is provided on the upper side of the bend 16 for holding any bail 19 or other means for suspending a water receptacle or trough 20. The trough, as illustrated, may be supported at one end by any pivotal block 21, and thus present a long area on each side of the trough for chickens, animals, etc. to drink without crowding each other. The pivot is located at such distance from the bail 19 that sufficient weight of the trough when filled with water will draw down valve stem 8 by overcoming the tension of the spring, until the top of the stem as 9 will reach a position below the valve seat 12, at which time the ball 13 will take its position over the port 10 securely closing the port 10 and prevent any further flow of water from the pipe 4 until part of the water supply in the trough has been exhausted. When the water supply has been reduced in the trough to a predetermined extent and as regulated by the pressure nut 6 against the spring 7, the spring will force the eye 17 up sufficiently to lift the point 9 until the ball has been displaced from its seat, when water will again flow into the trough until filled to the predetermined point or weight, and thus automatically preserve the desired supply of water in the receptacle.

This device is designed primarily for use in supplying small chickens with drinking water, in a way that will assure an even supply, and without danger of overflowing the

trough and dampening the floor near the trough. The importance of the notch 18 at a position offset from the lower bend of the stem, is to prevent any possible leakage of water down the stem, from coming into contact with the trough bail, as it would be likely to follow along the bail to the outer edge of the trough, drop to the floor, and cause the dampness thereof, which is very undesirable for chicks.

What I claim is:—

1. A regulating cut-off valve for automatically preserving a predetermined supply of water in a drinking receptacle, a tube threaded at the top for screwing into a water supply pipe and at the lower end for carrying an adjusting nut, a valve stem extending from the bottom to near the top of the tube, a ball valve and valve seat located near the top of the tube, the ball placed in a chamber over the seat in position to automatically roll on to the seat except as prevented by the top of the valve stem, a guard to hold the ball in the chamber, a screen over the chamber

to prevent obstructive matter from clogging the valve seat, the stem bent around from the bottom of the tube outward and upward along and parallel with the tube to a point near the valve seat and there bent inward and around the tube to form a slidable eye around the tube, a spring mounted around the tube between the eye and the nut for normally holding the top of the stem above the valve seat, supporting means near the lower bend of the stem for holding up a water receptacle of a predetermined water supply.

2. In combination, a drinking trough, a support at one end of the trough to hold the same pivotally a desired distance above the ground, the other end of the trough supported from the lower end of a stem in a mechanism described in the foregoing claim, the bail suspended from a notch offset from the center of the valve mechanism.

In testimony whereof I affix my signature.

JOHN B. PETERSON.