

(No Model.)

T. L. & C. L. REGESTER.
AUTOMATIC WATERING TROUGH.

No. 533,556.

Patented Feb. 5, 1895.

Fig. 1.

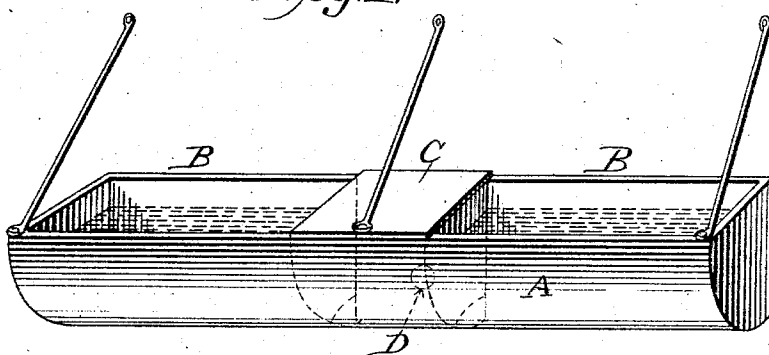


Fig. 2.

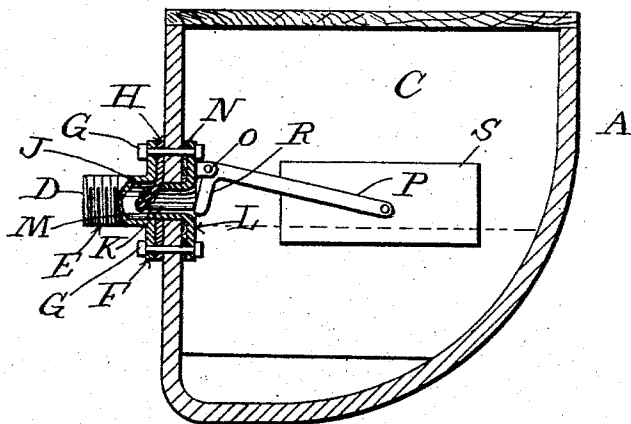
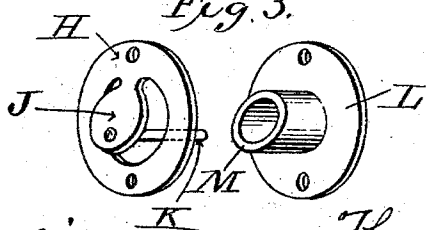


Fig. 3.



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UNITED STATES PATENT OFFICE.

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AUTOMATIC WATERING-TROUGH.

SPECIFICATION forming part of Letters Patent No. 533,556, dated February 5, 1895.

Application filed July 26, 1894. Serial No. 518,656. (No model.)

To all whom it may concern:

Be it known that we, THOMAS L. REGESTER and CHARLES L. REGESTER, citizens of the United States, residing at Sterling, in the county of Whiteside and State of Illinois, have invented certain new and useful Improvements in Automatic Watering-Troughs; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

Our invention consists in certain improvements in that class of watering troughs in which a float suspended upon the water in a float chamber communicating with the interior of the trough, is employed to open and close an inlet valve as the height of the water in the trough may determine, and thus to admit more water to the trough when the water in the latter is depleted to, or below a certain predetermined altitude, and to close the valve and shut off the ingress of the water to the trough when the latter has been sufficiently filled. For this purpose we employ a valve plate seated against the inner wall of the float chamber, having a diagonal valve seat placed upon its outer surface and projected a short distance through the side of said chamber; also a valve placed on the outer side of the trough in position to seat itself on said valve seat partly by its own gravity and partly by the pressure of the water in the inlet pipe. We also provide said valve with a horizontal stem projecting inwardly through the valve seat to nearly or quite the plane of the inner surface of the wall of said float chamber, and fulcrum horizontally a bell crank lever, above said valve opening, on said valve plate, in a position to press outwardly on said stem and open said valve against the pressure of the water in said inlet pipe, when the float attached to said lever shall have descended to or below a certain altitude, and thereby admit the water into said chamber and trough until the rising of said float shall withdraw said lever from said stem, and permit the seating of said valve, and thereby suspend

the further admission of water to said trough until the next descent of said float.

The foregoing devices are illustrated in the accompanying drawings, in which—

Figure 1 is a perspective of a trough containing our invention. Fig. 2 is a vertical cross section through a portion of the float chamber exhibiting the location and interrelation of the parts employed in regulating the admission of the water. Fig. 3 is a detail of the valve and the valve plate referred to. Similar letters refer to similar parts throughout the several views.

A is the entire trough which is subdivided into the end compartments B. B. and the central float chamber C, the latter having communication with each of the watering chambers B through suitable openings in its side walls, at or near the bottom of the latter.

D is a short tube provided with threaded exteriors E and thereby adapted to be screwed into an inlet pipe so as to form a continuation thereof, or into the wall of a water reservoir, and perform the double function of admitting the water and assisting to sustain the trough. The outer end of the tube D is provided with the annular flange F and by means of bolts G passing through said flange, said tube D is attached to the trough A. Between the flange F and the side of the trough A, there is interposed a gasket H having a central opening somewhat larger than that of the tube D, in which opening there is suspended, in position to swing into the mouth of the opening of tube D, the valve J. To the inner surface of the valve J, there is, about centrally, attached the horizontal stem K, which projects through the wall of the trough A and through a valve seat M. attached to the inner side of the wall of the trough, and extends into the adjacent end of the tube D.

L is the valve plate provided with the valve seat M before referred to, which seat is of an oblique formation, the surface upon which the valve J rests being diagonal to a vertical plane and longer at its lower side than at its upper one, whereby the valve J closes by its own gravity upon said seat, and whereby also, less resistance from the outer water is experienced than if said valve seat were in a vertical plane.

The valve plate L, washer N, and gasket H are all attached to the side of the trough by means of transverse bolts G, and to more effectually seal the valve plate L, there is interposed between it and the inner side of the trough A, a leather washer N. On the inner surface of the valve plate L and a suitable distance above the opening of the valve seat M there are formed two ears O. O. between which there is fulcrumed at its angle, the float lever P in a substantially horizontal position. The shorter arm R of lever P projects downward from the pivotal point of said lever, in position to engage the valve stem K. To the inner end of the lever P there is suitably attached the float S.

By making the valve seat M of such a length that the outer or inclined portion will be substantially even with the outer surface of the side of the trough, the valve portion J of the gasket H will normally rest upon the end of the valve seat within the tube D, thereby making a very compact construction and utilizing the gasket for making a close joint between the flange of the tube D and as a support for the valve J, and by providing the inner face of the valve plate L with the lugs O, the parts are all secured together by the bolts which pass through the flanges and the side of the trough.

The operation of our invention is as follows:—The water in the trough being below its normal or required altitude, and the float S correspondingly depressed, the short arm R of the lever P, by pressure against the inner end of the valve stem K, will raise the valve J outwardly from its seat M and permit the inflow of the water, through tube D into trough A, the water freely passing from the valve chamber C into the end watering compartments B. B. When the water in chamber C and watering compartments B. B. has risen and carried the float S to a predetermined altitude, the arm R of lever P will be thereby

withdrawn from the stem K, and the valve J by its own gravity, supplemented by the pressure of the water in the tube D, will close upon its seat, and intermit the flow of water into trough A until the float S, by reason of the depletion of water in said trough, shall again descend. It will be noticed that the valve and its seat are inclosed, by the valve plate L, into the mouth of the tube D and therefore protected from casual injury.

What we claim as our invention, and desire to secure by Letters Patent of the United States, is—

In an automatic watering trough, provided with a valve compartment and a water compartment communicating with each other, of a flanged inlet tube communicating with the valve compartment, a gasket between the flange of the tube and the side of the trough, the central portion of the gasket being provided with a valve, a plate secured to the inner side of the trough and provided with a valve seat which projects through the side of the trough and has its outer end inclined and substantially even with the outer surface of the trough, whereby it is normally closed by the valve, a valve stem secured to the valve and projecting through the valve seat, a lever pivotally secured to the inner surface of the plate, one end of which bears against the inner end of the valve stem, and the opposite end is provided with a float, and bolts through the plate and the flange of the inlet tube for securing the parts together and to the side of the trough, substantially as set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

THOMAS L. REGESTER.
CHARLES L. REGESTER.

Witnesses:

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ELIAS J. LE FEVRE.