

(No Model.)

L. D. BLACKWOOD.
WATERING TROUGH.

No. 540,713.

Patented June 11, 1895.

FIG. 1.

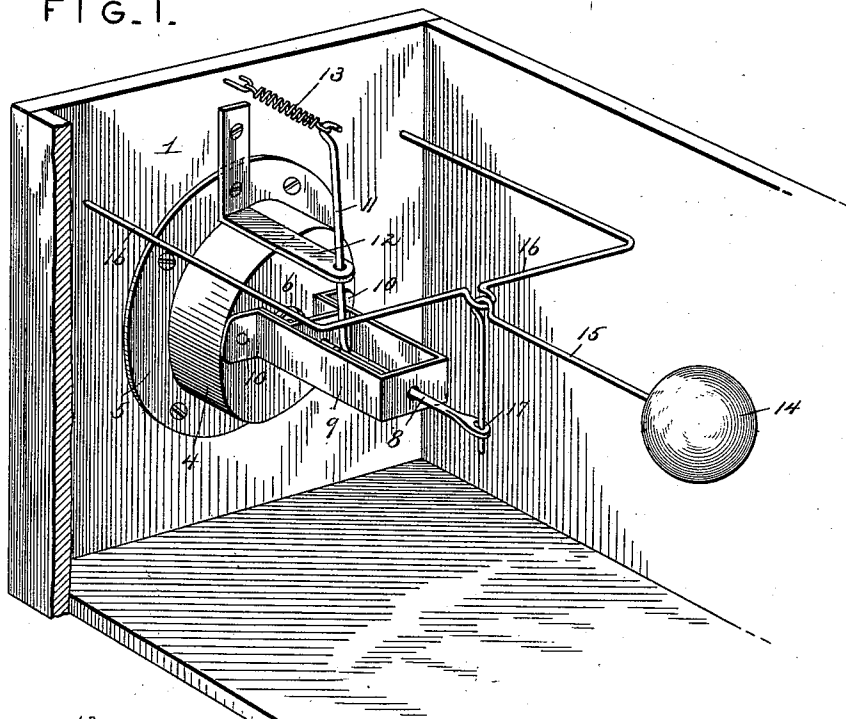


FIG. 2.

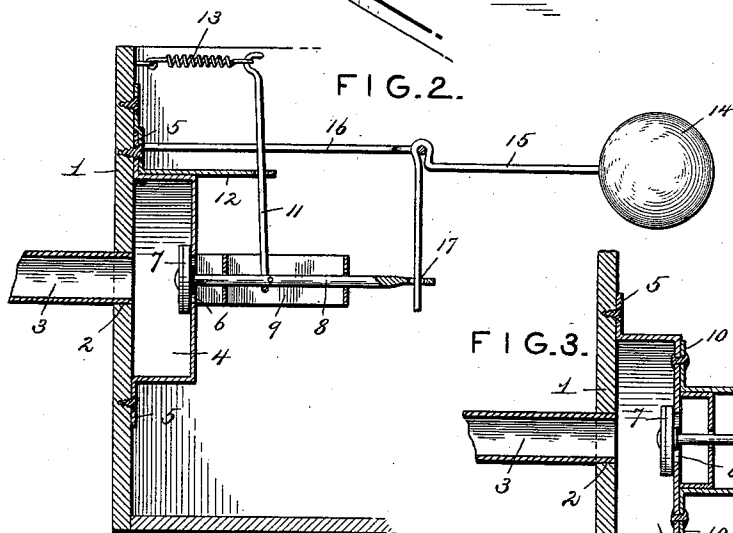
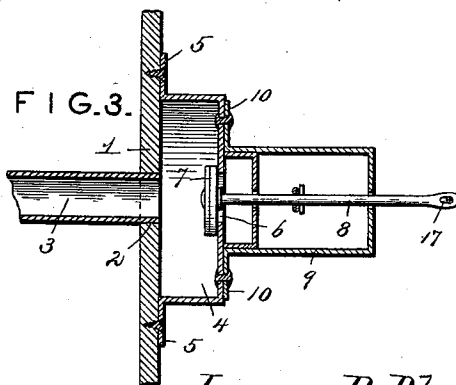


FIG. 3.



Inventor

Lorenzo D. Blackwood.

Witnesses

Harry L. Amer.
J. H. Wiley

By *his* Attorneys.

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UNITED STATES PATENT OFFICE.

LORENZO D. BLACKWOOD, OF LATHROP, MISSOURI.

WATERING-TROUGH.

SPECIFICATION forming part of Letters Patent No. 540,713, dated June 11, 1895.

Application filed January 28, 1895. Serial No. 536,464. (No model.)

To all whom it may concern:

Be it known that I, LORENZO D. BLACKWOOD, a citizen of the United States, residing at Lathrop, in the county of Clinton and State of Missouri, have invented a new and useful Valve for Stock-Watering Troughs, of which the following is a specification.

The invention relates to improvements in valves for stock-watering troughs.

The object of the present invention is to provide a simple and inexpensive device adapted to be applied to troughs and tanks for watering-various animals, and capable of regulating the supply of water by shutting the same off when the tank is full, or partially filled, and of causing the water to be turned on as the contents of the tank are consumed, thereby maintaining the water within the tank at a uniform depth.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a detail perspective view of a portion of a tank or trough provided with a valve constructed in accordance with this invention. Fig. 2 is a vertical sectional view of the same. Fig. 3 is a horizontal sectional view.

Like numerals of reference indicate like parts in all the figures of the drawings.

1 designates an end of a trough or tank, provided with a supply-opening 2, communicating with a supply-pipe 3, and secured to the inner face of the said end 1 is a cylindrical casing provided with a securing flange 5. The cylindrical casing 4 covers the supply-opening and is provided, in its outer face, with a circular discharge-opening 6, which is closed when the tank or trough is full, by a valve-plug or disk 7, mounted on a horizontal stem 8, which is guided in a substantially rectangular frame 9, extending horizontally from the casing. The rectangular guide-frame is provided with inner and outer cross-pieces having guide-openings, and the frame is provided with L-shaped flanges 10, riveted or otherwise secured to the cylindrical casing.

The valve-disk is held firmly against the inner face of the casing to shut off the supply of water when the tank is full, by means of a

vertically-disposed lever 11, fulcrumed in an opening of an L-shaped bracket 12, and provided at its lower end with an eye or hook embracing the stem of the valve, and secured to the same. The upper end of the lever 11 is shaped into a hook, and engages a coiled spring 13, which holds the valve-plug or disk firmly closed.

The valve is opened by means of a float 14, attached to an arm of a bell-crank lever 15, fulcrumed on a rectangular supporting frame 16 and having its other arm depending and engaging an eye 17 of the valve-stem. The supporting frame is substantially rectangular, and is provided with a bend receiving the angle of the bell-crank lever and engaging an eye of the same, and permitting the float to swing laterally as well as vertically.

When the float falls, by reason of the water being consumed, the valve-stem is moved inward against the action of the spiral spring, and fresh water is admitted to the tank or trough, and, as the latter is filled, the float rises and closes the valve, thereby shutting off the supply.

It will be seen that the valve is simple and inexpensive in construction, automatic in operation, and is adapted to be readily applied to any ordinary form of watering trough, and the supply-pipe may lead to a tank or reservoir or any other water supply.

Changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

What I claim is—

1. The combination with a tank or trough provided with a supply opening, of a casing covering the opening and provided with a discharge-opening, a horizontally-disposed guide-frame secured to the casing and extending horizontally therefrom, a valve-stem slidingly mounted on the guide-frame, a spring-actuated lever fulcrumed intermediate of its ends and engaging the valve-stem, a valve-plug or disk located within the casing and connected with the valve-stem, and a bell-crank lever fulcrumed at its angle and connected with the valve-stem and provided with a float, substantially as described.

2. A valve for troughs and tanks, compris-

ing a casing designed to cover a supply-opening and provided with a discharge-opening, a horizontally-disposed frame mounted on the casing and located at the discharge-opening, 5 a valve-stem slidingly mounted on the guide-frame and provided at its inner end with a valve-plug or disk located within the casing and arranged to close the discharge-opening, 10 and having one end connected with the valve-stem, a spring connected with the other end of the lever and adapted to hold the valve closed, a supporting frame, and a bell-crank lever fulcrumed at its angle on the supporting frame and having one arm carrying a float, the other arm of the bell-crank lever depending from the supporting frame and connected with the valve-stem, substantially as described. 15

20 3. A valve comprising a casing having a securing flange, an L-shaped bracket mounted at the top of the casing, and having one of its arms disposed horizontally and provided with an opening, a rectangular guide-frame mounted on the casing in advance of the discharge-

opening thereof and provided with guide-openings, a valve-stem arranged in the guide-openings, and having the valve disk or plug located within the casing for closing the discharge-opening, a lever disposed vertically 30 and arranged in the opening of the bracket and provided at its upper end with a hook, and having its lower end connected with the valve-stem, a spring connected with the hook of the lever, a horizontally-disposed rectangular supporting frame having a central eye or bend located above the valve-stem, and a bell-crank lever provided at its angle with an eye engaging the eye or bend of the supporting frame, one of the arms of the bell-crank 35 lever being connected with the valve-stem and its other arm carrying a float, substantially as described. 40

In testimony that I claim the foregoing as my own I have hereto affixed my signature in 45 the presence of two witnesses.

LORENZO D. BLACKWOOD.

Witnesses:

MOSES A. GOFF,

J. I. COULSON.