No. 649,436. Patented May 15, 1900.

D. B. COOPER.

WATERING TROUGH FOR STOCK.

(Application filed Feb. 12, 1900.)

(No Model.)

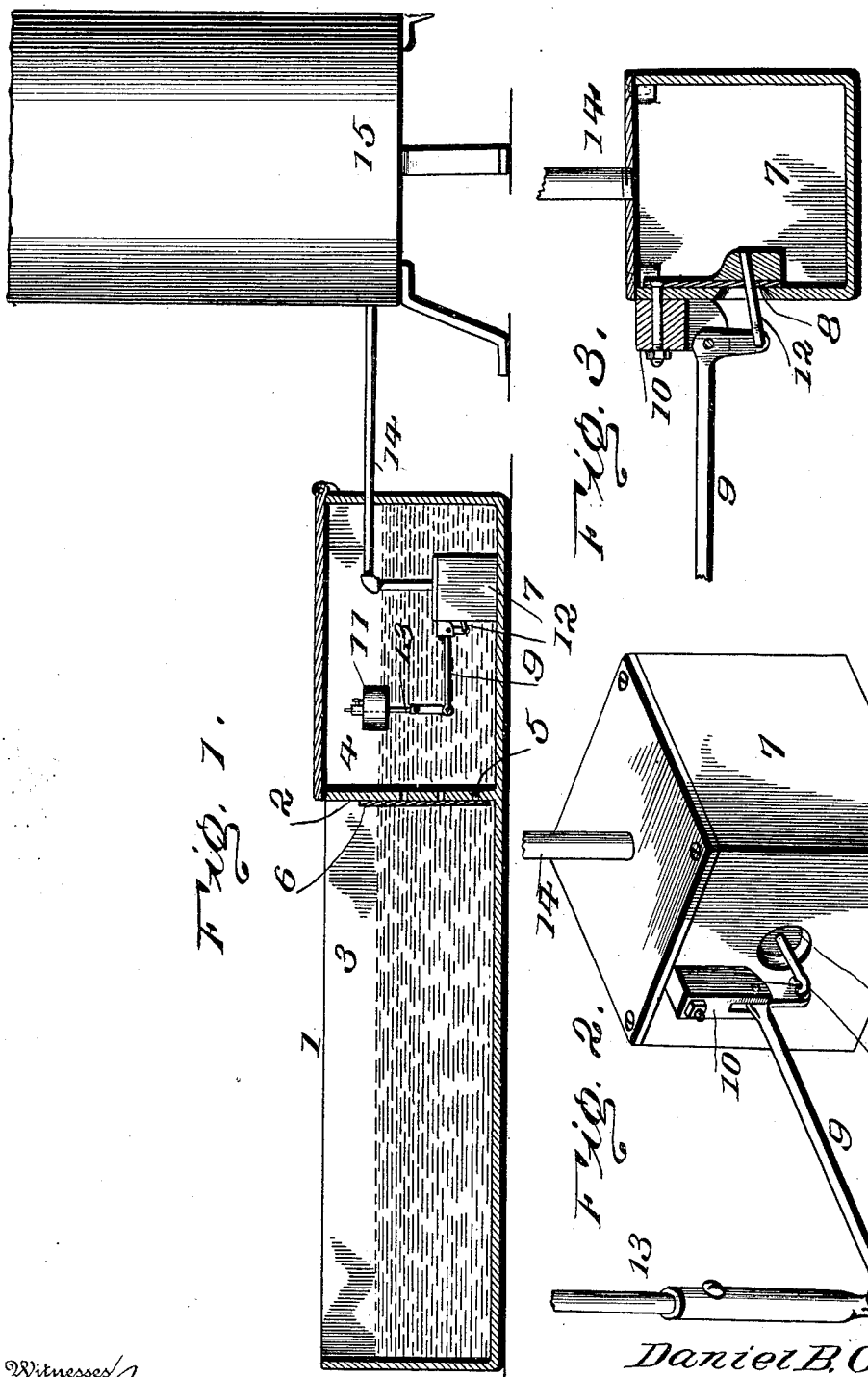

Fig. 1.

Fig. 3.

Fig. 2.

Witnesses:
Gladys D. Thompson.

Inventor
Daniel B. Cooper.

by R. A. B. Lacey his Attorneys.

UNITED STATES PATENT OFFICE.

DANIEL B. COOPER, OF LEBANON, KANSAS.

WATERING-TROUGH FOR STOCK.

SPECIFICATION forming part of Letters Patent No. 649,436, dated May 15, 1900.

Application filed February 12, 1900. Serial No. 4,980. (No model.)

To all whom it may concern:

Be it known that I, DANIEL B. COOPER, a citizen of the United States, residing at Lebanon, in the county of Smith and State of Kansas, have invented certain new and useful Improvements in Watering-Troughs for Stock; and I do hereby 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.

This invention relates to apparatus for automatically replenishing the trough of stock-watering mechanism with water as the same is consumed, whereby a predetermined level of the water in the trough is maintained at all times. The valve mechanism is so constructed as to be used in connection with any style of trough located in any position and can be removed for inspection and repair and is independent of the trough in which it is placed.

The improvement consists of the novel features, details of construction, and combination of the parts, which hereinafter will be more fully described and claimed and which are shown in the annexed drawings, in which—

Figure 1 is a sectional detail of the trough, showing the valve mechanism in position and connected with the supply-tank and reservoir. Fig. 2 is a perspective view of the valve mechanism. Fig. 3 is a vertical central section thereof.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The trough 1 may be of any size, capacity, and form and is subdivided by a vertical partition 2 into compartments 3 and 4, which are in communication by means of openings 5, formed in the partition 2. The valve mechanism is located in the compartment 4, and the compartment 3 is utilized for drinking purposes. A valve 6 is loosely attached at its upper end to the side of the partition 2, facing the compartment 3, and extends over the openings 5 to within a short distance of the bottom of the trough and is designed to prevent dirt and foreign matter passing from the compartment 3 into the compartment 4. When the level of the water in the compartment 3 becomes lower than the level of the water in the compartment 4, the valve 6 will move by reason of the superior pressure of the water in the compartment 4 and uncover the openings 5 and permit an equalization of the water-level in both compartments.

The valve mechanism for regulating the supply of water to the trough consists of a casing 7 of box form, having openings in its top and one side, a valve 8, applied to the vertical side, having a discharge-opening and constructed to move inward, a bell-crank lever 9, fulcrumed to a block 10, secured to the side of the casing having the discharge-opening, and a float 11, connected with the outer end of the horizontal arm of the lever 9. The vertical arm of the lever 9 is connected by a link 12 with the valve 8, and a rod 13 connects the outer end of the lever 9 with the float 10 and is capable of having its effective length varied to position the float to correspond with the predetermined level of water in the tank. The position of the float may be changed by having it adjustably connected with the rod 13, or the latter may be composed of sections adjustably connected. The block 10 is secured against the outer side of the wall of the valve-casing 7 by the same fastening employed to secure the valve 8 against the inner side, and the lower end of the block is made rounding and is formed with a vertical groove or slot to receive the elbow portion of the lever 9, which is pivoted thereto. The supply-pipe 14 connects with the opening in the top of the casing 7 and leads from the tank or reservoir 15, which contains the water for replenishing the trough as the latter is emptied.

The valve mechanism is wholly devoid of attachment of any kind to the trough and can be removed and placed in position at will, thereby facilitating inspection and the making of repairs when the latter become necessary. Aside from this the mechanism can be sold independently of the trough and can be placed in position by the average person without the use of tools and can be readily repaired when required.

When the parts are assembled, as shown in Fig. 1, and the water in the trough reaches the required level, the float 11 is buoyed upward and automatically closes the valve 8,

thereby shutting off the supply of water. When the level of the water lowers, the float correspondingly descends and exerting a downward pressure upon the rod 13 and outer end of the lever 9 forcibly opens the valve 8 against the head or pressure of supply, thereby permitting the water to pass from the tank or reservoir 15 into the compartment 4 of the trough 1 and from said compartment into the drinking-compartment 3 until the water reaches the required level, when the supply will again be cut off by the ascent of the float.

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

A valve mechanism for stock-watering troughs, comprising a casing of approximately box form having a side discharge-opening and an inlet, an inwardly-opening valve applied to the inner face of the wall having the discharge-opening, a block secured to the outer face of the said side by the same means employed for securing the valve in place, a bell-crank lever fulcrumed to the lower end of the said block, a link positively connecting the vertical arm of the lever with the valve, and a float having adjustable connection with the outer arm of the said bell-crank lever, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

DANIEL B. COOPER.

Witnesses:
W. S. DURRETT,
JAS. R. LEWIS.