

No. 635,754.

Patented Oct. 31, 1899.

O. DITSWORTH.
STOCK WATERER.

(Application filed Apr. 15, 1899.)

(No Model.)

Fig. 1.

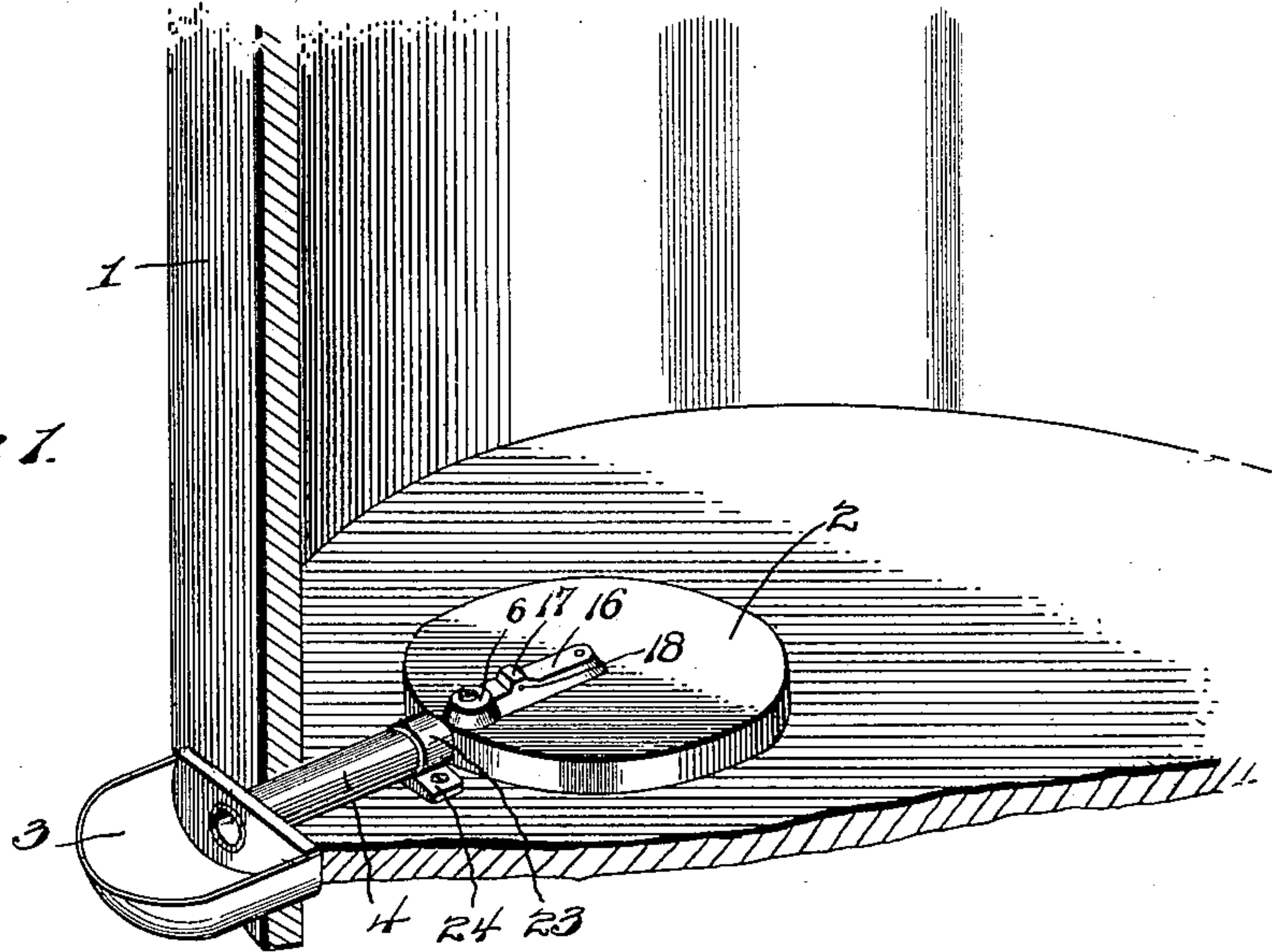


Fig. 2.

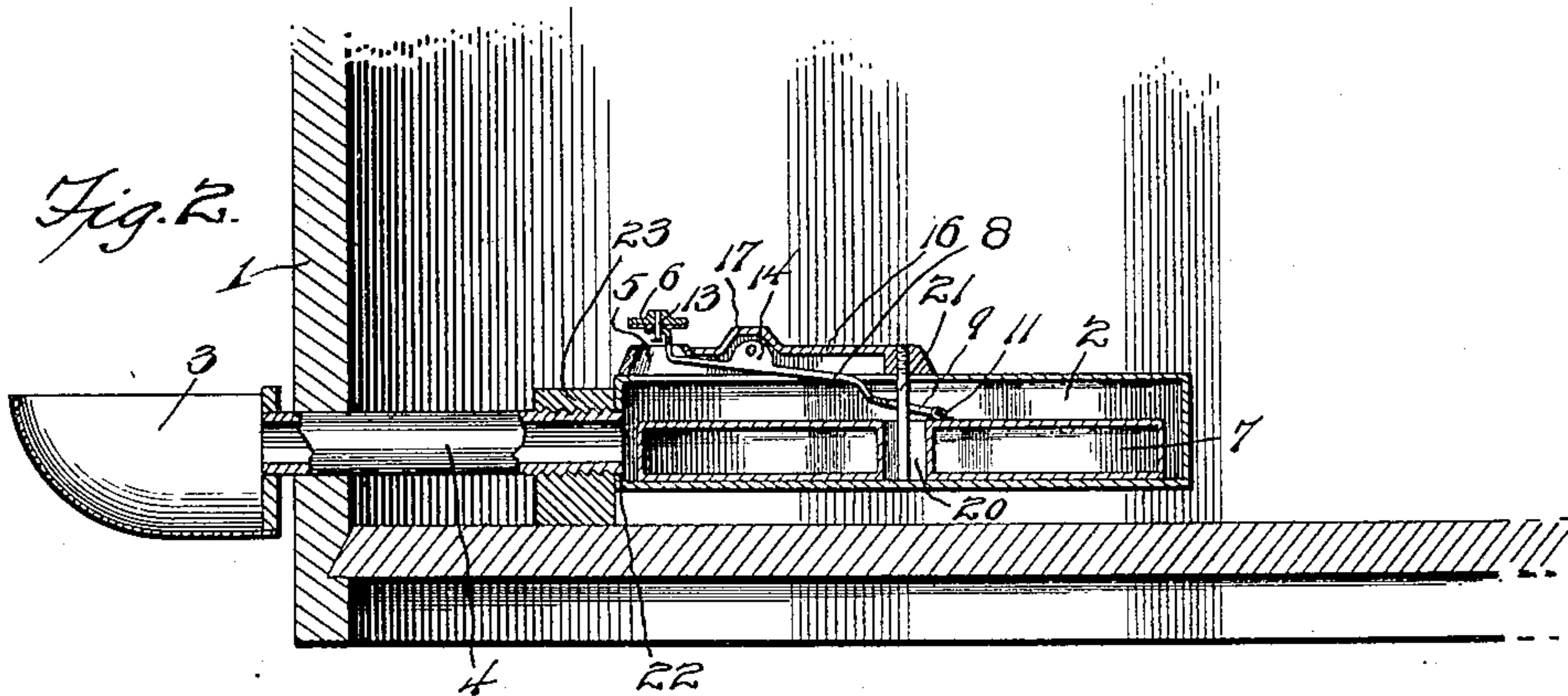


Fig. 4.

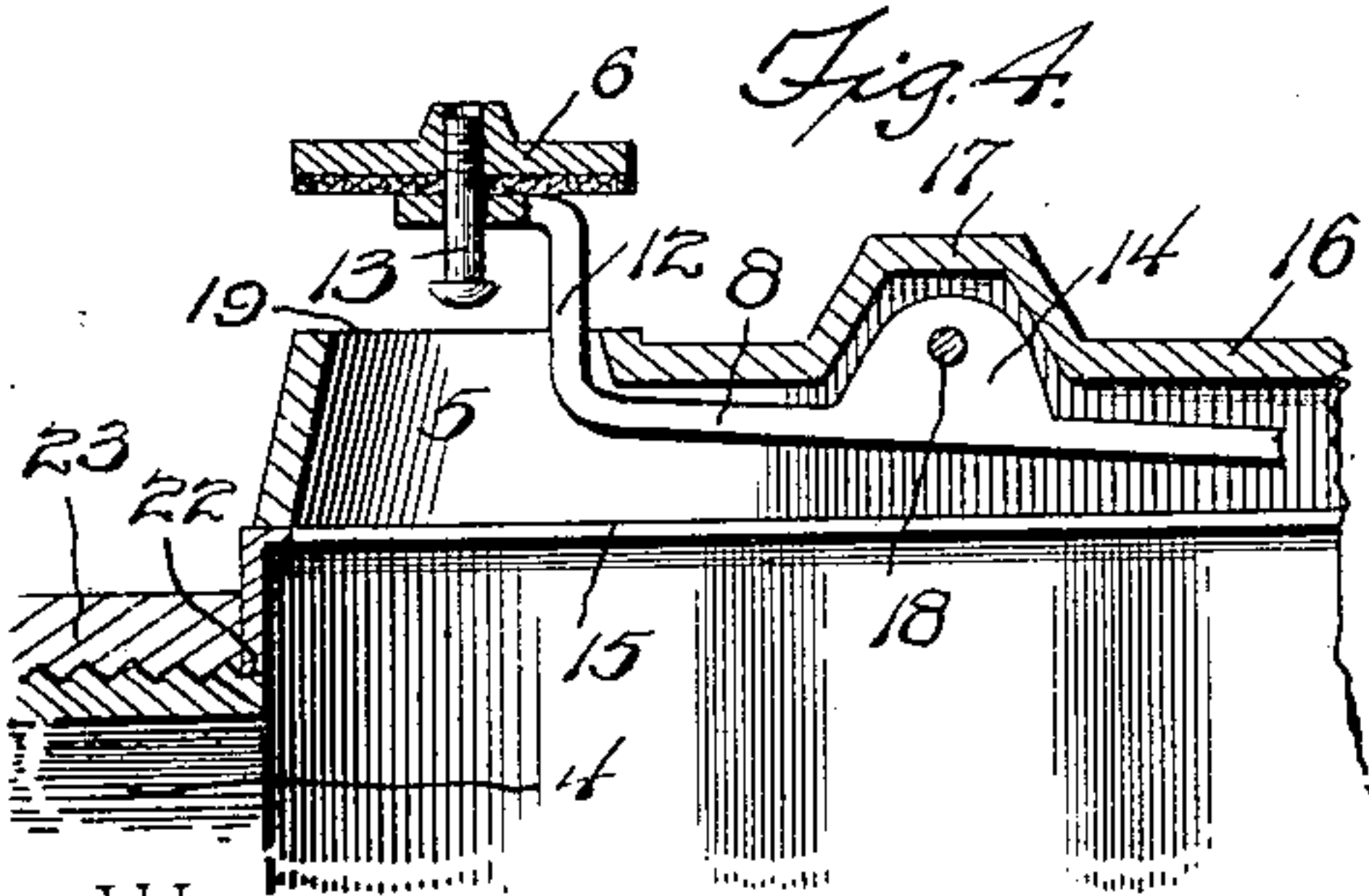
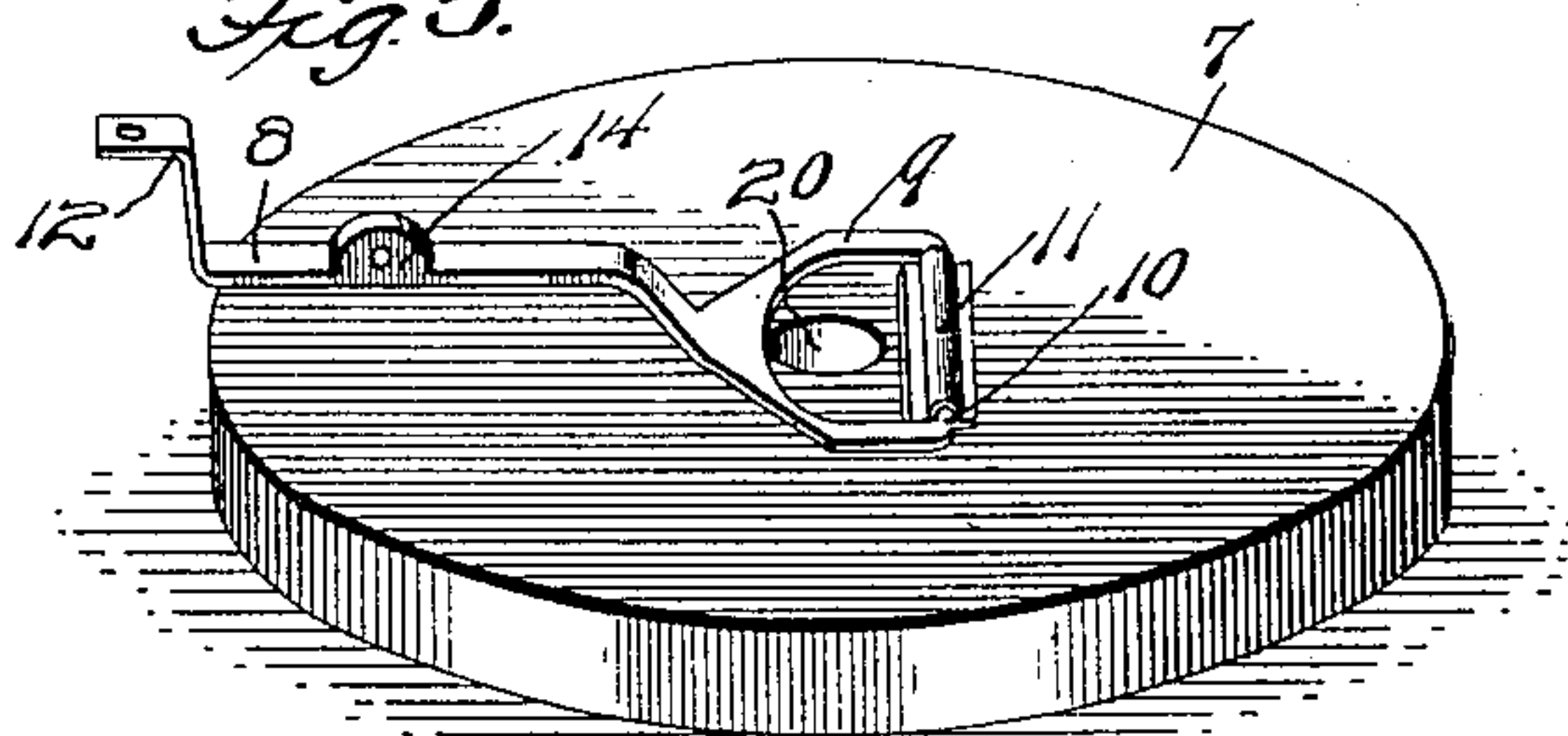


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

OLIVER DITSWORTH, OF LANARK, ILLINOIS.

STOCK-WATERER.

SPECIFICATION forming part of Letters Patent No. 635,754, dated October 31, 1899.

Application filed April 15, 1899. Serial No. 713,148. (No model.)

To all whom it may concern:

Be it known that I, OLIVER DITSWORTH, a citizen of the United States, residing at Lanark, in the county of Carroll and State of Illinois, have invented a new and useful Stock-Waterer, of which the following is a specification.

This invention relates to stock-waterers, and has for its object to provide a positive and quickly-acting valve mechanism for automatically controlling the supply of water from the reservoir to the drinking trough or receptacle.

To this end the present invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims.

In the drawings, Figure 1 is a perspective view of the device applied in position to a tank, the latter being broken away. Fig. 2 is a longitudinal sectional view thereof. Fig. 3 is a detail perspective view of the float and valve operating lever. Fig. 4 is an enlarged detail sectional view illustrating the mounting of the lever and the valve.

The same numerals of reference are used to designate like and corresponding parts in each of the figures of the drawings.

Referring to the drawings, 1 designates a tank or reservoir adapted to contain the supply of drinking-water, and located interiorly and attached to the bottom thereof is the casing 2, which contains and protects the actuating mechanism of the present invention. It will be understood that the water is adapted to pass through the casing 2 to the drinking cup or trough 3, located exteriorly of the tank and connected to the casing by means of a suitable pipe or passage 4.

By reference to Fig. 2 of the drawings it will be seen that the hollow casing 2 is comparatively shallow and is provided with an inlet-opening 5, formed through the top of the casing and adjacent to the end of the pipe 4 in order that the water may pass freely through the inlet-opening and be conveyed by the pipe 4 directly to the drinking-cup 3.

The ingress of water from the tank into the casing is adapted to be controlled by a valve 6, located exteriorly of the inlet-opening and

automatically operated by means of a float 7 inclosed within the hollow casing. This float is preferably in the form of a hollow sealed box and is operatively connected to the valve 6 by means of a lever 8, pivoted intermediate of its ends to the casing. As clearly indicated in Fig. 3, it will be seen that one end of the lever is deflected or offset below the plane thereof and provided with a yoke 9 of substantially D shape, the transverse bar 10, connecting the opposite ends of the yoke, being connected pivotally to the top of the float 7 by means of a suitable bearing-eye 11, extending the entire length of said transverse bar, so as to prevent lateral movement of the float upon the lever. The opposite end of the lever is deflected upward and given a substantially L shape, as at 12, and the valve 6 is connected to the prong of the L-shaped extremity by means of a suitable screw-fastening 13, forming a stem which passes through an opening in the end 12 of the lever, removably connecting the valve to the upper face of said extremity. It will be understood that the lever has a sliding engagement with the stem 13 and that by means of the screw the distance between the valve and lever may be increased or diminished, whereby the operation of the valve may be regulated to open and close the inlet-opening more quickly or slowly, as desired. The stem 13 passes loosely and slidingly through the extremity of the lever and is free to move therein, so that the valve is rendered self-adjusting, which insures the proper seating of the valve and obviates leakage. Intermediate its ends and nearer the valve end thereof the lever is provided with an upstanding lug or shoulder 14, and the lever is adapted to extend upwardly through a suitable diametric slot 15, formed through the top of the casing adjacent to and in line with the pipe 4. Inclosing this slot and extending above the top of the casing is a housing 16, having intermediate its ends an upward extension 17, within which the lug or shoulder 14 of the lever is adapted to be mounted upon a suitable transverse pivot-pin 18. The outer portion of this casing is enlarged, so as to inclose the inlet-opening 5, and adapted to have its upper edge provide a valve-seat for the valve 6. Formed centrally through the float is an opening 20,

having no communication with the interior of the float, and extending through the opening is a supporting-rod 21, connected through the top of the float to the inner end of the housing 16, and adapted to engage the bottom of the float-casing, whereby the casing 2 is prevented from being collapsed by the weight of the water contained within the tank 1.

The outlet-opening 22, which is formed through the peripheral edge of the casing, is provided with an internally-threaded and outwardly-projecting collar 23, having opposite transversely-alined ears 24, adapted to receive suitable fastenings, whereby the device may be fastened to the bottom of the tank. The inner end of the pipe 4 is exteriorly threaded, so as to removably connect the pipe and the drinking-cup 3 with the casing 2.

In the operation of the device, the float being in its lowest position and the inlet-opening 5 opened thereby, the water flows freely through the inlet-opening and into the drinking-cup by means of the pipe 4. When the water in the drinking-cup has reached a predetermined level, there will also be sufficient water in the casing 2 to elevate the float, whereby the valve 6 is operated to close the inlet-opening 5 and prevent the further outflow of water from the tank to the drinking-cup. As the water is appropriated by the stock from the drinking-cup the level of water is lowered thereby and the float permitted to settle, whereby the valve will again open to permit of the passage of water from the tank to the drinking-cup. It will thus be seen that the operation of the device is automatic, whereby the level of the water in the drinking-cup is maintained at a constant level and overflow of the water is effectively prevented.

By reason of the inner end of the lever being the longer and connected centrally to the float it will be apparent that the entire effect of the movement of the float is conveyed to the valve 6, so as to quickly and positively actuate the same, and as the valve is located exteriorly of the casing it receives the weight of the water in the tank and is thereby more firmly seated than if it were contained within the casing. The purpose of providing the inner end of the lever with a yoke is to connect the lever centrally of the float and to embrace and thereby avoid the supporting-rod 21 in the operation of the float and lever. The opening 20, through which the supporting-rod 21 extends, should be of a size to permit of the slight lateral movement of the float caused by its connection with the operating-lever 8.

The present invention provides an exceedingly practical and useful controlling means for stock-waterers, as the parts thereof are effectively housed and protected by the casing 2, and the valve 6, being located exteriorly of said casing and upon the top thereof, receives the weight of the water within the tank and is thereby held firmly upon its

seat 19 when the supply of water to the drinking-cup is cut off. Furthermore, the drinking-cup is located somewhat below the valve and the casing 2, whereby all dirt and sediment will effectually drain to the cup and the operating parts of the device are kept free from all foreign matter. It will also be noted that the supporting-rod 21, in addition to preventing the collapse of the casing 2, also provides a guide for the float in its movement up and down within the casing.

Changes in the form, proportion, size, and the minor details of construction within the scope of the appended claims may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

What I claim is—

1. In a device of the class described, the combination with a supply-tank having an exterior drinking cup or trough, of a casing having an inlet-opening and located within the tank, a valve adapted to control the inlet-opening, a float located within the casing and provided with an opening extending through the float, a rod connecting the opposite sides of the casing extending through the opening of the float and adapted to support the sides of the casing against the weight of the water and also provide a guide for the float, means for operatively connecting the float with the valve, and a pipe or passage communicating from the interior of the casing to the drinking cup or trough, substantially as shown and described.

2. In a device of the class described, the combination with a supply-tank having an exterior drinking cup or trough, of a casing having an inlet-opening provided in its top and a slot communicating with the opening, an upwardly-projecting housing inclosing the slot, a float located within the casing, an operating-lever connected at one end to the float extending upward through the slot through the top of the casing and pivoted intermediate its ends within the housing, the outer end of the lever being extended upward through the inlet-opening and provided with a valve exteriorly of the inlet-opening, whereby the weight of the water within the tank aids in seating the valve, and a pipe or passage communicating from the interior of the casing to the drinking cup or trough, substantially as shown and described.

3. In a device of the class described, the combination with a supply-tank having an exterior drinking cup or trough, of a casing located within the tank and provided with an inlet-opening, a float arranged within the casing and provided with a central opening formed entirely through the float, a valve for the inlet-opening, a lever carrying the valve at one end and provided at its opposite end with a yoke which embraces the opening in the float and is pivoted or hinged to the top of the latter, a supporting-rod connecting the opposite sides of the casing and extending through the float, and a pipe or passage com-

communicating from the interior of the casing to the drinking cup or trough, substantially as shown and described.

4. In a device of the class described, the combination with a supply-tank having an exterior drinking cup or trough, of a casing having an inlet-opening and a diametric slot communicating with the opening, the casing being located within the tank, a housing projecting upwardly from the top of the casing and inclosing the slot and forming a valve-seat around the inlet-opening and provided with an intermediate vertical extension, a float located within the casing, a lever having an intermediate upstanding shoulder arranged within the vertical extension of the housing and mounted therein upon a transverse pivot-pin, the inner end of the lever being deflected or offset downwardly and pivoted or hinged to the top of the float, the opposite outer end of the lever being provided with a substantially L-shaped upstanding extension adapted to project through the inlet-opening and above the top of the housing, a valve connected to the extension and adapted to be seated upon the upper edge of that portion of the housing surrounding the inlet-opening, and a pipe or passage communicating from the interior of the casing to the drinking cup or trough, substantially as shown and described.

5. In a device of the class described, the combination with a supply-tank having an exterior drinking cup or trough, of a casing provided with an inlet-opening in its top, a valve adapted to close the inlet-opening and provided with a stem, and a float-operated lever connected with the valve and having an opening in which the valve-stem is fitted to slide, to afford a limited independent movement of the valve, substantially as described.

6. In a device of the class described, the combination with a supply-tank having an exterior drinking cup or trough, of a casing provided with an inlet-opening, a valve having a stem adjustably connected thereto so

that it may be lengthened and shortened, and a float-operated lever having a slidable engagement with said stem, substantially as described.

7. In a device of the class described, the combination of a supply-tank, a casing provided with an inlet-opening and an outlet-opening and located within the tank, a valve for the inlet-opening, a float arranged within the casing, means operatively connecting the float and the valve, an outwardly-projecting collar encircling the outlet-opening and provided with opposite ears, whereby the casing may be connected to the tank, a drinking cup or trough located exteriorly of the tank, and a pipe extending through the side of the tank in communication with the drinking cup or trough and having a removable connection with the collar and communicating with the interior of the casing, substantially as shown and described.

8. In a device of the class described, the combination with a supply-tank having an exterior drinking cup or trough, of a casing provided with an inlet-opening, a valve adapted to control said opening, a float having an elongated bearing-eye provided upon its upper side and arranged within the casing, a lever connected at one end to the valve and having its opposite end provided with a substantially D-shaped yoke, the transverse straight bar of the yoke being pivotally received within the bearing-eye on the float, whereby lateral movement of the latter upon the lever is prevented, and a pipe or passage communicating from the interior of the casing to the drinking cup or trough, substantially as shown and described.

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

OLIVER DITSWORTH.

Witnesses:

C. W. DITSWORTH,
FRANK DITSWORTH.