March 27, 1928. 1,663,789

O. O. ANDERSON

STOCK WATERER

Filed Dec. 6, 1926

Fig. 1.

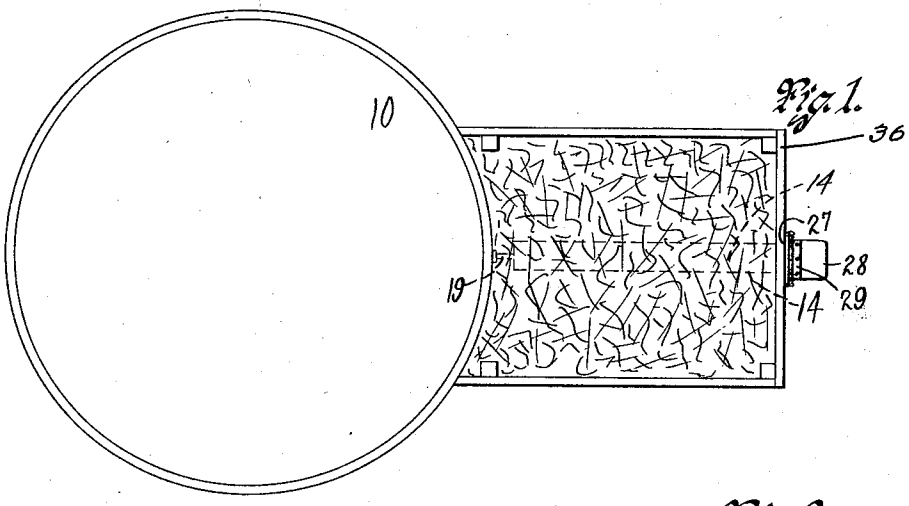


Fig. 2.

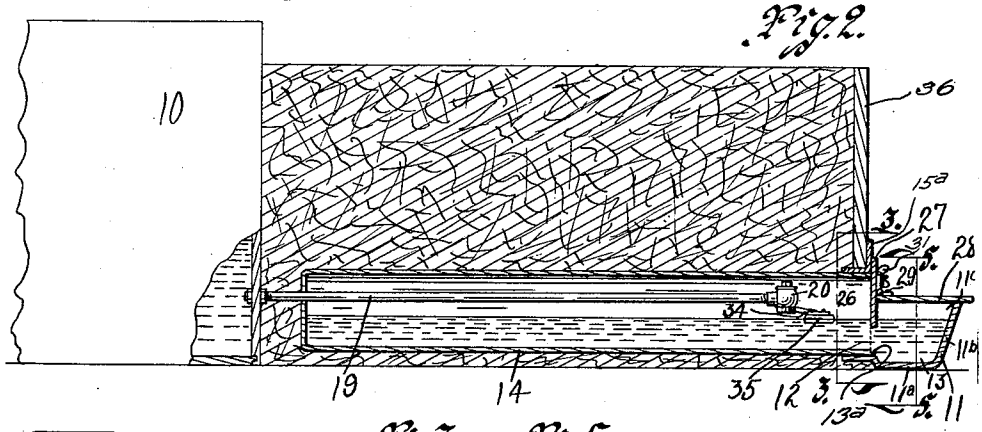


Fig. 3.

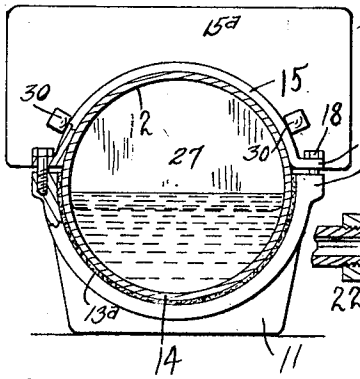


Fig. 4.

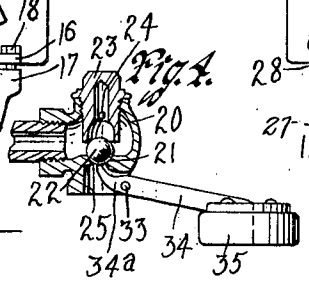
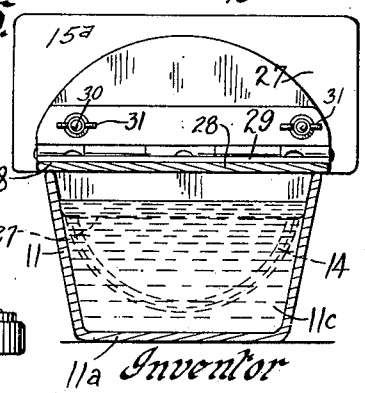


Fig. 5.



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UNITED STATES PATENT OFFICE.

OSCAR O. ANDERSON, OF SIOUX RAPIDS, IOWA.

STOCK WATERER.

Application filed December 6, 1926. Serial No. 152,861.

The object of my invention is to provide a stock waterer of simple, durable and inexpensive construction, peculiarly adapted for installation in connection with a tank or other source of supply of water, and to be subjected to the heat generated from stable manure, so as to require no lamp or similar heating device.

With this and other objects in view, my invention consists in the construction, arrangement and combination of the various parts of my stock waterer, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claim, and illustrated in the accompanying drawings, in which:

Figure 1 shows a top or plan view of a waterer embodying my invention installed in connection with a tank.

Figure 2 is a longitudinal, sectional view through the waterer.

Figure 3 is a detail, transverse, sectional view taken on the line 3—3 of Figure 2;

Figure 4 is a vertical, sectional view illustrating the structure of the controlling valve and the relation of the float arm thereto; and

Figure 5 is a detail, sectional view taken on the line 5—5 of Figure 2.

It is well known that when stable manure is piled up, there is generated a very considerable degree of heat for a substantial length of time.

It is my purpose to provide a waterer for stock constructed and adapted for the purpose of supplying water automatically to a trough and for utilizing such ordinary waste heat for the purpose of warming the water.

My improved stock waterer may be used in connection with any suitable source of water supply.

In the drawings, I have shown the water tank indicated generally by the reference numeral 10, which may be the source of supply for the waterer.

The waterer comprises a trough 11, which has a bottom 11^a, slightly inclined front wall 11^b, side walls 11^c, and a back wall 11^d, which is provided slightly above the bottom of the trough with a substantially semi-circular opening 12 around which is a rearwardly projecting flange 13. The trough likewise has a cover, which I will hereafter describe.

Resting on the flange 13 is one end of a tubular chamber 14, which is locked to the flange 13 and the trough 11 by means of a clamp 15 on a plate 15^a. The clamp 15 and flange 13 have coacting ears 16 and 17 (see Figure 2), which are fastened together by screw bolts 18 or the like. A gasket 13^a is provided between the tubular compartment 14 and the flange 13 and clamp 15.

The rear end of tubular chamber 14 is closed, except to receive the inlet pipe 19, which extends through the outer end of the tubular chamber 14 and to a point a little short of the trough 11.

On the inner end of the intake pipe 19 is a valve casing 20 in which is a valve seat 21, with which cooperates a ball valve 22. A valve housing 23 is screwed into the top of the casing 20 and is designed to loosely receive the upper portion of the ball valve 22, as shown in Figure 4. The valve housing 23 has a vent 24. The discharge opening 25 of the valve housing permits flow of water into the tubular compartment 14, from which water flows into the trough 11.

The compartment 14 is open at its forward end and at its upper portion is formed with a flange 26. An upright plate 27 rests across the upper, rear part of the trough 11 and projects upwardly and downwardly from the upper portion of the compartment 14. Its lower part forms a partition extending below the water level for preventing the passage of cold air into the compartment 14.

Resting on the trough is a cover 28, which projects forwardly beyond the front wall 11^b of the trough to be engaged by the nose of the hog or other animal, so that it may be lifted. A hinge 29 is secured to the cover 28 and to the plate 27.

Bolts 30 are mounted in the plate 15^a and project through the plate 27. Wing nuts 31 are screwed into the bolts 30 for holding the hinge and the cover and plate assembly in place and for permitting quick detachment of the cover 28 for permitting access to the valve and float. The structure shown provides ample room to get at the valve when the plate and cover assembly are removed.

Pivoted as at 33 to the valve casing 20 is a float arm 34 to one end of which is secured a suitable float 35. The other end of the float arm, indicated at 34^a, projects into the valve casing and cooperates with the valve 22, in such manner that when the float is

lowered, the end 34ª of the float arm will raise the valve and hold it in open position, whereas when the float is raised, the valve is permitted to drop to closing position.

In the installation of my improved waterer, the intake pipe 19 is connected with the tank 10, as shown for example in Figure 2.

I preferably build a casing 36 alongside the compartment 14 and substantially spaced therefrom and extend it across the waterer just back of the trough 11.

In the use of the device, manure is placed in the casing 36 entirely surrounding the compartment 14.

Enough heat is generated to keep the water in the compartment 14 warm, and of course circulation occurs and the water in the trough is therefore kept from freezing.

Animals raise the cover 28 and drink, and as the water in the trough is lowered, the water from the compartment 14 flows into the trough until the float is lowered for opening the valve. As soon the water flowing from the intake pipe again reaches the predetermined point, the float is raised for closing the valve.

It will be seen that the cover 28 may be quickly and easily removed for access to the float and valve.

I claim as my invention:

In a waterer of the class described, a trough having an opening at its rear end, a tubular compartment connected with the rear end of the trough in communication therewith and extending a substantial distance therefrom for adapting it to be embedded in manure, an intake pipe extended into said compartment at the end farthest from the trough and extending to position adjacent to and accessible from the trough, a valve for controlling discharge from the end of said pipe adjacent to the trough, a float in the compartment operatively connected with said valve, a plate detachably mounted at the front end of said compartment and projecting downwardly to form a partition between the trough and compartment terminating above the bottom of the trough, a trough cover hinged to said plate, and means for detachably mounting the plate for permitting its ready removal for affording convenient access to the valve and float.

Des Moines, Iowa, August 30, 1926.

OSCAR O. ANDERSON.