

UNITED STATES PATENT OFFICE.

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STOCK-WATERING TANK.

974,873.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, BURTON HERBERT GEDGE, a citizen of the United States, residing at Anderson, in the county of Madison and State of Indiana, have invented certain new and useful Improvements in Stock-Watering Tanks, of which the following is a specification.

The object of my invention is to produce a substantial, but cheaply constructible automatic stock watering tank by means of which fresh water may be automatically fed to stock, the construction being such that it can be readily, cheaply and substantially manufactured and also such that it may be very readily cleaned. The construction is also such that provision is made by which there may be a very considerable expansion of the air within the reservoir without resulting in an overflow of the drinking pan.

The accompanying drawings illustrate my invention. Figure 1 is a vertical section of a structure embodying my invention; Fig. 2 a section on line 2 2 of Fig. 1, and Fig. 3 a detail section, on a larger scale, on line 3 3 of Fig. 1.

In the drawings, 10 indicates a cylindrical main body made of sheet metal. The upper edge 11 of this main body is turned inwardly and flattened down upon the inner surface of the main body and, at its extreme edge, is returned upwardly and inwardly to form an inwardly-flaring upwardly-presented annular flange 12 adapted to receive the outwardly-flared downwardly-presented flange 13 formed at the edge of the circular cover member 14, the construction being such that the cover member 14 may be readily placed in the position shown in Fig. 1 and its flange 13 secured to the flange 12 in an air tight manner, as by means of soldering or otherwise. This particular construction is very stiff so that a comparatively light soldered joint will be air tight and will not be readily broken by blows. The top 14 lies a little below the upper extremity of the main body 10 for a purpose which will appear.

Mounted in the lower end of main body 10 is an inverted basin 15 which, at its edge, is associated with the lower edge of main body 10 by any suitable joint which need not necessarily be water tight although, for convenience in construction, I find it desirable to make said joint 16 an ordinary rolled and

soldered seam. The central portion 17 of the basin lies above the lower end of the main body 10 a considerable distance and, in order that the basin may be made of comparatively light material and yet withstand the weight of water within the main reservoir, said portion 17 may conveniently be corrugated, as shown, in order to stiffen the same in a well known manner. At a point near the upper region of basin 15 the side wall is perforated at 18; the wall of the main body 10 is perforated at 19 opposite perforation 18; and the two perforations are connected by a tube 20 which is placed between the two perforations 18 and 19 in a water and air tight manner.

Arranged alongside of body 10 is a passage 25 which may be conveniently formed by means of a U shaped strip 26 the flanges 27 thereof being secured to the outer surface of the main body 10 by soldering, or otherwise, to produce a tight joint. The strip 26 extends nearly the whole length of body 10 and said body, at a point near its bottom, is perforated at 28 so as to give access from the interior of body 10 to the lower end of passage 25, the lower end thereof, below the perforation 28, being closed as shown at 29. Near its upper end, passage 25 communicates with a perforation 31 which extends through the wall of body 10 and through the portion 11 thereof so as to communicate with the interior of said body 10 above the cover member 14. Also formed alongside of body 10, is a passage 32 which is produced by means of a strip 33 similar to the strip 26. In fact the two strips may be identical, being only different in arrangement relative to the main body, the strip 33 being closed at its upper end at 34 and open at its lower end, the said lower end lying near the lower end of the main body 10. The wall of the main body 10 is perforated, immediately below the cover member 14, at 35 giving access from the interior of reservoir 10, near its upper end, to the upper end of passage 32. Practically at the lower end of passage 25 the strip 26 is perforated to receive a screw-threaded bushing 41 which is adapted to receive, temporarily, a threaded plug 42.

The entire structure thus far described is adapted to be set into a pan 45 the upper edge of which lies some distance above the bushing 41. While the drawing shows what

would appear to be a tight joint between the lower edge of the reservoir structure and the bottom of the pan 45, it is to be remembered that the reservoir structure merely sets in the pan and, therefore, that water may easily flow from the pan beneath the reservoir and into the chamber 46 formed by the inverted basin 15.

The operation is as follows: When the parts are assembled as shown in the drawings, plug 42 tightly closes the opening in bushing 41. Thereupon water may be poured into the upper end of the reservoir structure upon the cover member 14 and this water will flow through perforation 31, passage 25 and perforation 28 and will rise into the interior of the reservoir 10, the air within said reservoir flowing freely out through perforation 35 and down through passage 32 issuing through the open end thereof. The reservoir may be filled to a point where the water flows out of opening 35. Thereupon plug 42 is removed and the water within the reservoir will flow outward through perforation 28 and bushing 41 into pan 45 rising therein, and in chamber 46. It will first close the lower end of passage 32 thus preventing ingress of any further air into the upper end of reservoir 10 so that the further outward flow of water from the reservoir will produce a partial vacuum in the upper end of the reservoir. Water will continue to flow from the reservoir until it rises in pan 45 to a point above the perforation 28 and bushing 41 thus sealing said opening and the rise continuing to about the level indicated by the dotted line in Fig. 1. In this condition it will be noticed that the upper end of chamber 46 is in free communication with the atmosphere. Whenever the water is exhausted from the pan 45 to a point below perforation 28 and bushing 41 there will be an inflow of air which will bubble up through the water in reservoir 10 and there will be a consequent outflow of water from the reservoir into the pan until the working level of water in the pan 45 is restored.

An apparatus of this kind generally stands out where it is affected by the weather temperature and consequently, when the air within the reservoir becomes heated, it will tend to force some of the water from the reservoir into pan 45 and if the reservoir were continued full size into the pan 45, the available space for the water thus crowded out of the reservoir into the pan would be comparatively small and there would be an overflow. By providing the chamber 46, however, it will be seen that practically the entire capacity of the pan 45 is available for this expansion outflow and an overflow of the pan is thus prevented without exposing all of the expansion outflow to direct contact by the stock. It is therefore kept clean and when the air within the reservoir cools at

night, there will be a return flow from the pan into the reservoir.

It will be noted that, by the particular construction adopted, it is perfectly easy to thoroughly clean the pan 45 by merely lifting the reservoir structure therefrom and that the expansion chamber 46 may also be thoroughly cleaned as it is freely accessible when the reservoir structure is inverted.

I claim as my invention:

1. An automatic watering tank comprising a main hollow body having an outflow opening from its lower end and having an inverted open-bottom basin secured in its lower end and open to atmosphere at its upper end, means through which the said body may be filled, and means dependent upon the level of water in a delivery pan for admitting air into the upper end of said reservoir, and the said delivery pan separable from the main body.

2. A main reservoir for an automatic stock watering tank, comprising a main sheet metal body, a sheet metal open-bottom basin inverted in the lower end of said main body and connected therewith and open to atmosphere at its upper end, a cover member closing the upper end of said main body, the main body having a delivery opening near its lower end and a closable air exit opening leading from near its upper end to a point near its lower end.

3. A main reservoir for an automatic stock watering tank, comprising a main sheet metal body, a sheet metal open-bottom basin inverted in the lower end of said main body and connected therewith and open to atmosphere at its upper end, a cover member closing the upper end of said main body and associated therewith by means of an upwardly presented inwardly flaring flange carried by the main body below the top thereof, and a downwardly presented outwardly flaring flange carried by the cover member, the main body having a delivery opening near its lower end and a closable air exit opening leading from near its upper end to a point near its lower end.

4. A main reservoir for an automatic watering tank, comprising a main sheet metal body, a sheet metal open-bottom basin inverted in the lower end of said main body and connected therewith and open to atmosphere at its upper end, a cover member closing the upper end of said main body, the main body having a delivery opening near its lower end and an air exit opening near its upper end, and vertical passage ways communicating with said openings and formed by applying to the wall of the main body strips of substantial U-shape.

5. A main reservoir for an automatic stock watering tank, comprising a main sheet metal body, a sheet metal open-bottom basin inverted in the lower end of said main

body and connected therewith and open to
atmosphere at its upper end, a cover member
closing the upper end of said main body and
associated therewith by means of an up-
5 wardly presented inwardly flaring flange
carried by the main body below the top
thereof and a downwardly presented out-
wardly flaring flange carried by the cover
member, the main body having a delivery
10 opening near its lower end and an air exit
opening near its upper end, vertical passage
ways communicating with said openings and

formed by applying to the wall of the main
body strips of substantial U-shape, and a
loose pan adapted to receive the basin end 15
of the main reservoir.

In witness whereof, I, have hereunto set
my hand and seal at Indianapolis, Indiana,
this twenty-ninth day of April, A. D. one
thousand nine hundred and nine. 20

BURTON HERBERT GEDGE. [L. s.]

Witnesses:

ARTHUR M. HOOD,
THOMAS W. McMEANS.