

M. & B. GREENBERG.
WATERING TROUGH.
APPLICATION FILED OCT. 25, 1912.

1,080,107.

Patented Dec. 2, 1913.

Fig. 1.

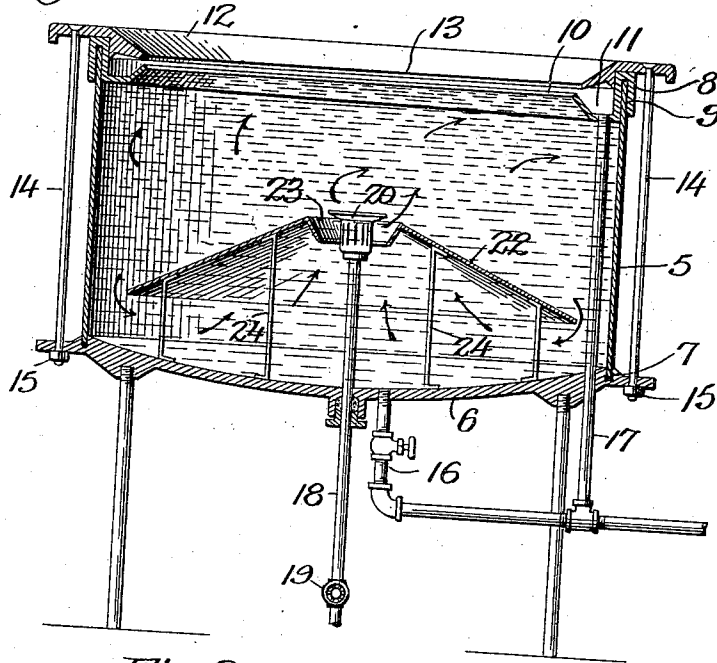


Fig. 3.

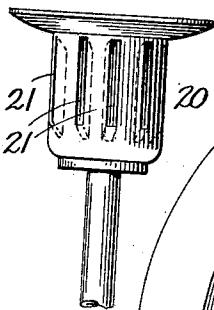


Fig. 2.

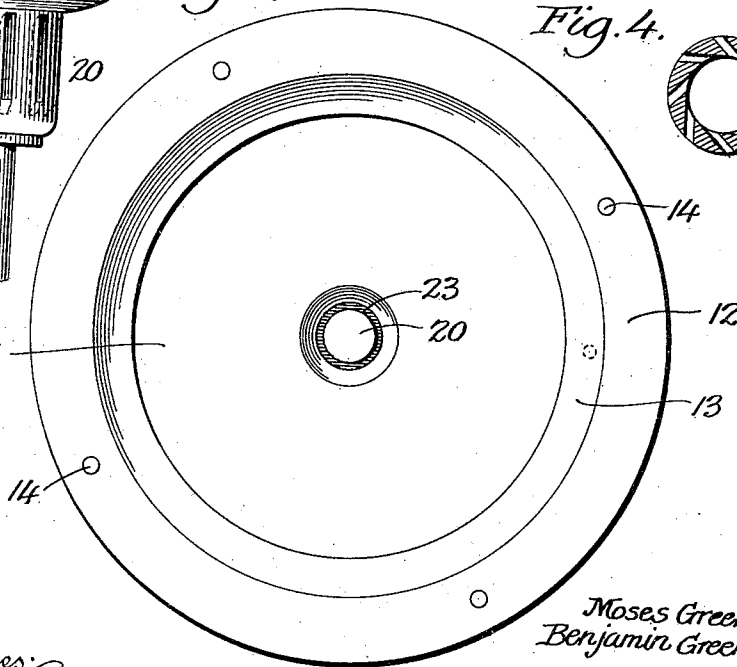
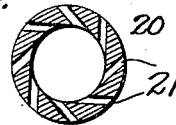


Fig. 4.



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UNITED STATES PATENT OFFICE.

MOSES GREENBERG AND BENJAMIN GREENBERG, OF NEW YORK, N. Y.

WATERING-TROUGH.

1,080,107.

Specification of Letters Patent.

Patented Dec. 2, 1913.

Application filed October 25, 1912. Serial No. 727,728.

To all whom it may concern:

Be it known that we, MOSES GREENBERG and BENJAMIN GREENBERG, citizens of the United States, and residents of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Watering-Troughs, of which the following is a specification.

This invention relates to watering troughs and its object is to provide a trough having means connected with the inlet and outlet pipes by which the water in the trough is given a spiral movement and put in circulation so that the accumulation of the foul water is prevented in any part of the device and fresh wholesome water is always provided.

Means are also afforded for the accumulation of straw, feed and dirt in the bottom of the trough until drawn off through the waste pipe or otherwise.

These and other details and objects of the invention will be more fully described in the following specification set forth in the claims and illustrated in the drawings; wherein:

Figure 1 is a vertical sectional view of the trough. Fig. 2 is a plan view. Fig. 3 is a detail elevation of the discharge nozzle. Fig. 4 is a sectional view through same.

Animals, and especially horses and cattle, are exposed to serious danger from contracting diseases by using troughs from which the spittle and froth of other animals is allowed to collect and remain. Disease germs are often caused to accumulate in large quantities in unsanitary troughs where they mix with other dirt, thrive and spread diseases.

The present invention is designed to provide a thoroughly sanitary trough which not only presents no lodging place for the disease germs but its parts may be easily separated and cleaned so as to not only remove the germs which it may contain but also any dirt, moss or breeding places for germs.

The trough is preferably made of metal and consists of a cylinder 5 of sheet metal or boiler iron and a cast metal bottom 6 with an annular groove 7 to receive the lower edge of the cylinder and contain the necessary packing to make a water tight joint. The upper edge of the cylinder carries a ring 8 and fits into an annular groove 9 and projecting inward has a flange 10

constituting a gutter 11. On the top of the ring 8 is a second ring 12 with an inclined inner edge 13 which is shorter than the flange 10 so that any water dripping upon it or the ring 12 will run off into the gutter 11 and not back into the trough.

The above described parts are all held together by means of bolts 14 whose heads are countersunk into the ring 12 and after passing through same also pass through the edge of the bottom 6 and receive nuts 15 by means of which the parts are drawn and held together, the upper and lower edges being water tight and the whole trough being easily and quickly assembled.

The bottom plate 6 is preferably dished in order to allow heavy particles of dirt, straw and grain to collect at the lowest point and be drawn off through the drain pipe, 16, which is normally closed and is connected by means of the pipe 17 with the lowest point of the gutter 11 and the waters carried off by these pipes is conducted to any convenient point and discharged.

The water is supplied through the pipe 18 having the valve 19 to regulate the amount of water and a nozzle 20 to permit of its escape. As the water leaves the nozzle it passes out of a series of orifices 21 arranged tangential to the body of the nozzle and having their upper and lower walls inclined upward so that an upward spiral movement is produced forcing the water to overflow the flange 10 and at the same time to cause an upward movement of the waters beneath the conical deflector 22 and draw them through the opening 23 and toward the gutter 11. The plate 22 is supported by legs 24 and in cleaning the trough this plate may be lifted out and so that access may be had to the bottom of the trough.

It is obvious that the details of the device may be altered as may be found desirable and the parts otherwise modified without departing from the essential features above described.

The arrows on the drawing, show the circulation of the water and how none of the latter is left undisturbed but constantly given an upward movement until all light dirt, foam, froth and saliva is carried over the edge of the gutter and down the waste pipe. The location of the nozzle in the opening of the conical deflector draws the water from beneath the latter and forces it toward

the upper surface, creating an especially strong current in the lower-corners of the trough where the water is generally dead and the foul matter collects.

5 What we claim as new and desire to secure by Letters Patent is:

1. In a watering trough, the combination with a tank comprising side walls, a bottom and an upper ring, of bolts passing through the ring and the bottom to hold the parts together, a ring with a gutter within the upper end of the tank, an outlet pipe for the gutter, an inlet pipe, a nozzle with tangential openings, a deflecting plate about the nozzle and an outlet pipe at the bottom of the trough.

2. In a watering trough the combination with a bottom plate supported by legs and having a groove around its edge of a vertical wall fitting in the groove, a ring with an internal gutter at the upper end of the wall, a second ring on the first and having a flange overhanging the gutter, bolts securing the second ring and the bottom together, outlet pipes for the bottom and the

gutter, an inlet pipe with a nozzle for discharging the water spirally and a deflecting plate to cause the dead water to fall into the corners of the trough.

3. In a watering trough, the combination with a dished bottom having a groove near its outer edge, of a ring constituting a gutter within the tank and having a groove, a cylinder carried in the grooves, a second ring on the first and having a flange to cover the gutter, bolts passing through the second ring and the bottom and holding the parts together, outlet pipes, a supply pipe having a spiral discharge nozzle and a conical deflector supported above the bottom and about the nozzle.

Signed at New York in the county of New York and State of New York this 21st day of October A. D. 1912.

MOSES GREENBERG.
BENJAMIN GREENBERG.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."