No. 889,068. PATENTED MAY 26, 1908.

M. A. THORPE.

TANK HEATER.

APPLICATION FILED JAN. 15, 1907.

FIG. 1.

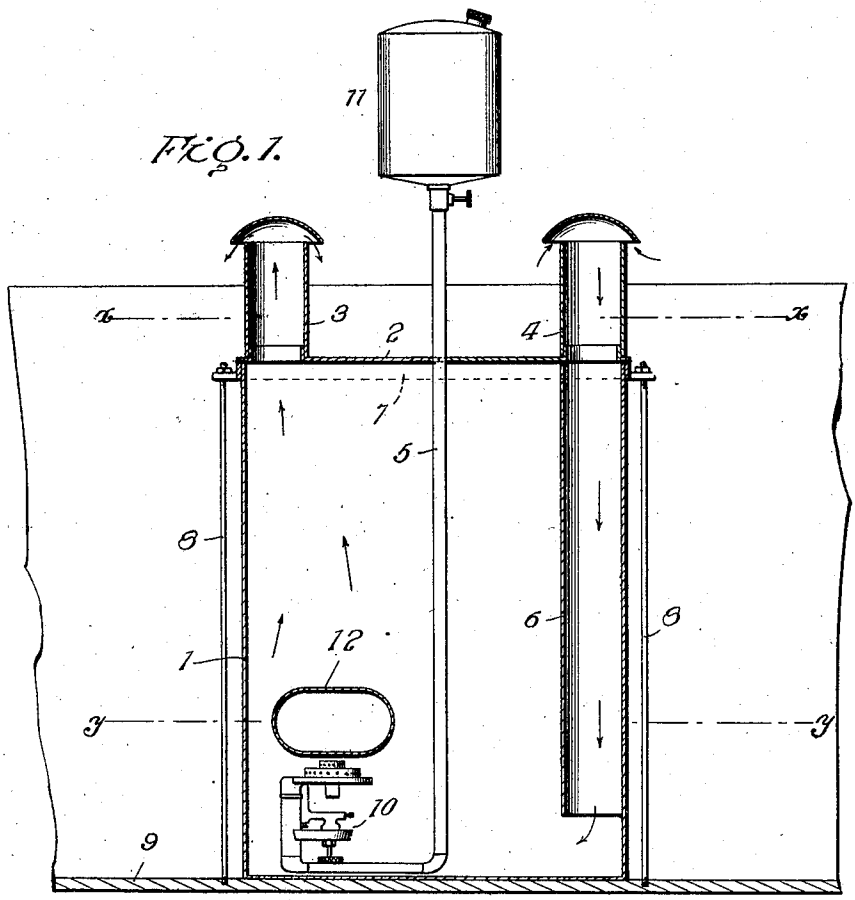


FIG. 2.

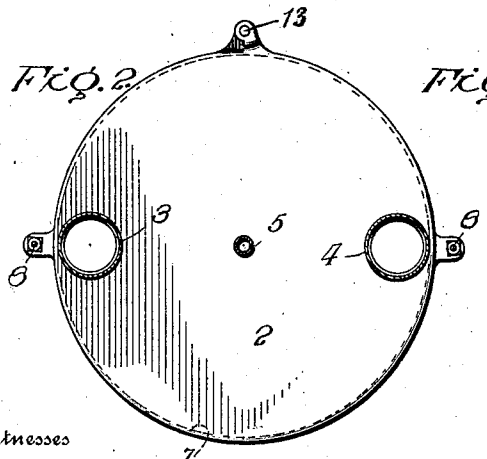
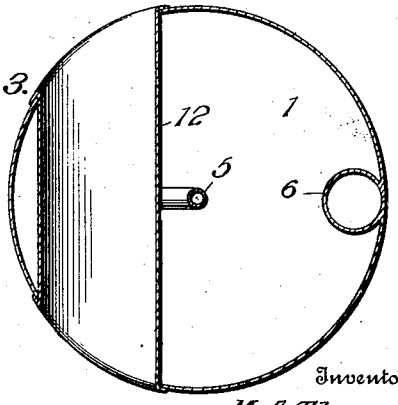


FIG. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

MARTIN A. THORPE, OF DARIEN, WISCONSIN.

TANK-HEATER.

No. 889,068. Specification of Letters Patent. Patented May 26, 1908.

Application filed January 15, 1907. Serial No. 352,391.

To all whom it may concern:

Be it known that I, MARTIN A. THORPE, citizen of the United States, residing at Darien, in the county of Walworth and State of Wisconsin, have invented certain new and useful Improvements in Tank-Heaters, of which the following is a specification.

The object of this invention is to devise a novel form of heater for preventing the freezing of water in stock troughs in cold weather, said heater being of such construction as to be applied to any watering trough and readily removable therefrom for repairs, or any desired purpose.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction and the means for effecting the result, reference is to be had to the following description and accompanying drawings.

While the invention may be adapted to different forms and conditions by changes in the structure and minor details without departing from the spirit or essential features thereof, still the preferred embodiment is shown in the accompanying drawings, in which:

Figure 1 is a vertical sectional view of a heater embodying the invention, showing the same applied to a stock watering trough. Fig. 2 is a horizontal section on the line *x*—*x* of Fig. 1. Fig. 3 is a horizontal section on the line *y*—*y* of Fig. 1.

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 heater comprises a hollow body, or shell 1, which may be of any size and of any cross sectional outline, said body being preferably formed of sheet metal, such as galvanized iron. The body, or shell 1, is closed at its bottom and sides and is open at the top to which is fitted a cover 2, the same being preferably of cast iron and having openings therein for draft pipes 3 and 4 and the fuel pipe 5. The cover 2 is adapted to swing horizontally to admit of access being had to the interior of the heater and for this purpose has one edge thereof pivoted to the shell 1 as indicated at 13. The projecting portions of the draft pipes 3 and 4 are fitted to collars surrounding openings formed in the cover and admitting of ingress and egress of air. The draft pipe 3 extends outward from the cover only, whereas the draft pipe 4 registers with a section 6 which extends within the shell, or body 1, and terminates a short distance from the bottom thereof, the said section 6 being secured to one side of the shell 1. The upper portion of the shell is reinforced by means of a band 7 which is provided with apertured lugs adapted to receive tie rods 8 and the pivot stud of the cover 2. The tie rods 8 secure the heater to the bottom of the tank 9 and retain the heater in place.

A burner 10 is located in the lower portion of the body, or shell, and may be of any type and receives liquid fuel from a tank 11 by way of the pipe 5. The burner is removable from the shell to admit of cleaning, or repairing, or for any purpose. Any suitable means may be employed for retaining the burner in place.

A pipe 12 is arranged horizontally in the lower portion of the shell, or body, and connects at its end to opposite sides. This pipe 12 is somewhat flattened and is arranged at one side of the shell and directly above the burner 10. The water to be heated circulates through the pipe 12 and is prevented from freezing in cold weather by means of the heat derived from the burner 10.

The heater may be of any size depending upon the capacity of the stock watering trough and is placed within the latter and may be secured by the tie rods 8, or other means. The water surrounds the heater and passes through the pipe 12 and when the burner is lighted, the water is sufficiently warmed to prevent congealing.

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

In a tank heater, the combination of a shell open at the top, a reinforcing band at the top of the shell, tie rods engaging said band to secure the shell to the tank bottom, a cover pivoted to the reinforcing band and provided with a pair of openings, draft pipes

projecting upwardly from the cover and communicating with the openings, a pipe section extending downwardly from the cover and communicating with one of the openings, a burner arranged within the shell, and a pipe connecting opposite sides of the shell and disposed over the burner.

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

MARTIN A. THORPE. [L. S.]

Witnesses:
EDWARD WELLS,
JOHN C. WOODFORD.