No. 894,688. PATENTED JULY 28, 1908.

A. NEUSUS & B. F. GIBLER.

TANK HEATER.

APPLICATION FILED JULY 24, 1907.

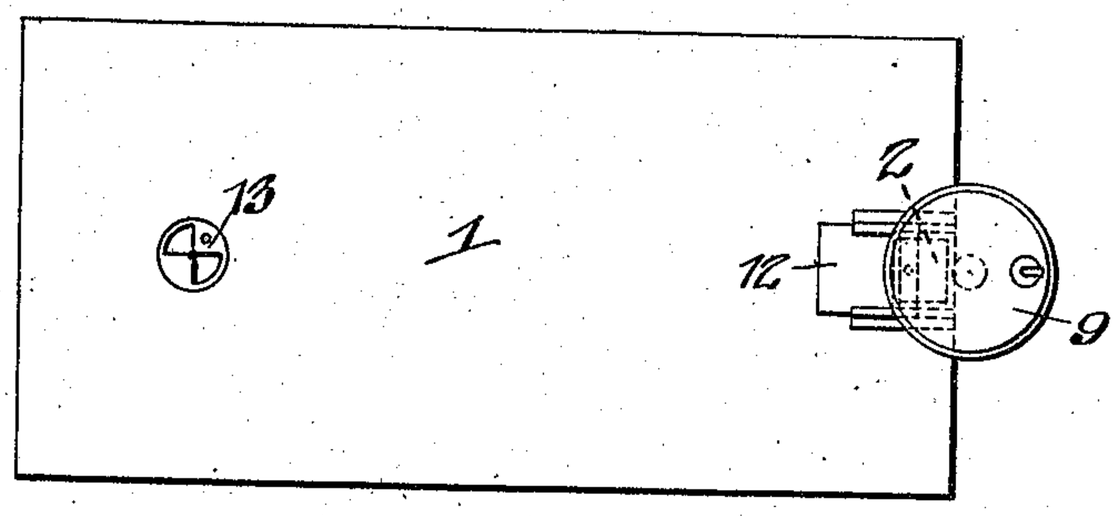

FIG. 1.

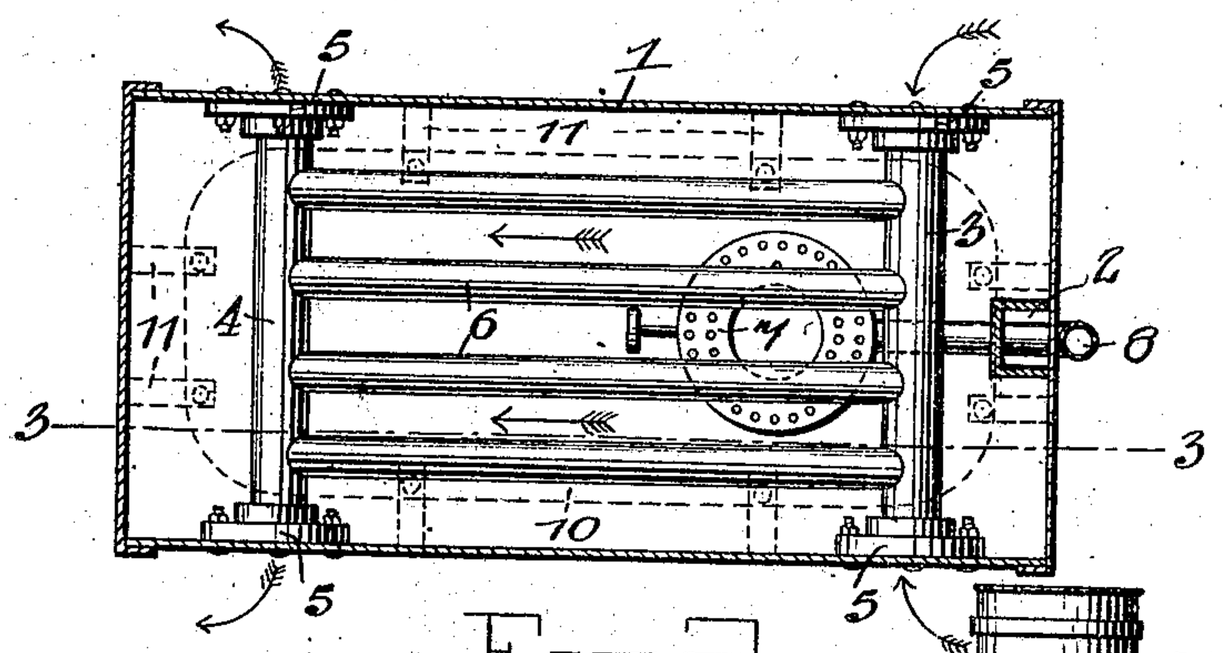

FIG. 2.

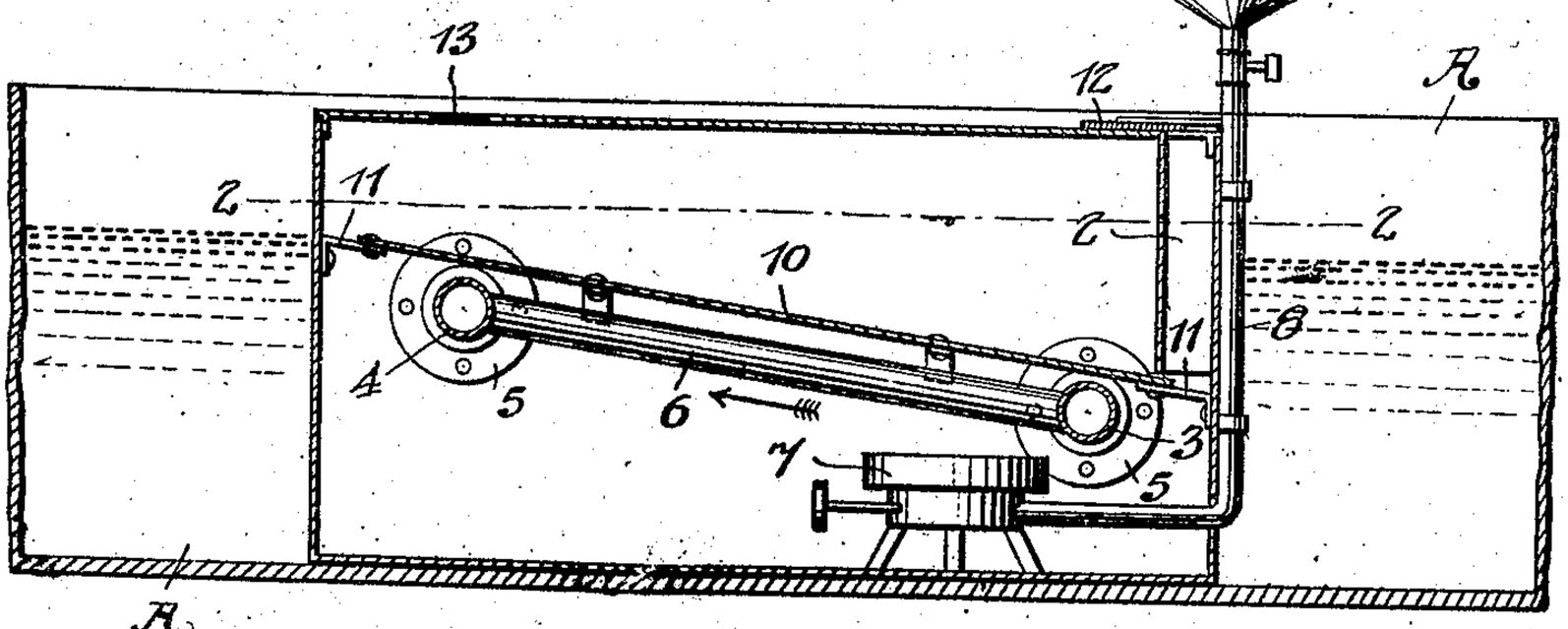

FIG. 3.

Witnesses

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UNITED STATES PATENT OFFICE.

AUGUST NEUSUS AND BENJAMIN F. GIBLER, OF WINSLOW, ILLINOIS; SAID GIBLER ASSIGNOR TO SAID NEUSUS.

TANK-HEATER.

No. 894,688. Specification of Letters Patent. Patented July 28, 1908.

Application filed July 24, 1907. Serial No. 385,382.

To all whom it may concern:

Be it known that we, AUGUST NEUSUS and BENJAMIN F. GIBLER, citizens of the United States, residing at Winslow, in the county of Stephenson and State of Illinois, have invented certain new and useful Improvements in Tank-Heaters, of which the following is a specification.

Our invention relates to tank heaters and particularly contemplates the provision of a simple inexpensive and highly efficient device to be placed in watering troughs or tanks and to prevent the same from freezing in cold weather.

Our invention further and specifically resides in the following features of construction, arrangement and operation as will be hereinafter described with reference to the accompanying drawings forming a part of this specification, in which like numerals are used to designate like parts throughout the several figures, and in which

Figure 1 is a top plan view of our improved apparatus, Fig. 2 is a horizontal sectional view taken on the line 2—2 of Fig 3, and Fig. 3 is a vertical sectional view taken on the line 3—3 of Fig. 2, and illustrating the same within a water tank or trough.

In the practical embodiment of our invention we provide a preferably water tight rectangular casing 1 having an air shaft 2 formed downwardly therein adjacent one end, transverse water pipes 3 and 4 connecting the sides of the casing 1 adjacent each end thereof, the pipe 4 being arranged slightly above the pipe 3, and both of said pipes having flanges 5 bolted to the sides of the casing 1. The pipe 3 is adapted for use as a water inlet and the pipe 4 as the water outlet, as is shown by the arrows in Fig. 2 indicating the flow thereof, and said transverse pipes 3 and 4 are connected by means of a series of parallel inclined pipes 6. A suitable heater 7, which I have shown in the drawings as an oil burner fed through a pipe 8 from an oil tank 9 is arranged below the series of pipes 6 and is adapted to heat the same to a degree sufficient to take the extreme chill from the water in its passage therethrough. For a quicker and more uniform heating of the pipe 6, I preferably arrange just above the same a shield 10 connected to the sides and ends of the casing 1 by means of straps 11. Air is supplied to the heater 7 through the air shaft 2, the amount of air passing therethrough being regulated by a slide 12 arranged in guides at the upper end thereof. The supply of air and the draft is further controlled by the draft regulator 13 arranged in the top of the casing 1.

The entire apparatus as described is adapted to be placed within a water tank or trough A to allow the water in said tank or trough to circulate through the same whereby it may be heated sufficiently to prevent it freezing.

Having thus fully described our invention, we claim:

In a device of the character described, the combination with a closed rectangular casing, of a pair of water circulating pipes arranged transversely through said casing at a different height thereon and provided with flanges adapted to be secured to said casing, a plurality of longitudinal inclined water circulating pipes connecting said transverse pipes, a heater arranged below said pipes, a heat shield arranged above said pipes and provided with straps for attachment upon the inner surface of said casing, an air shaft formed at one end of said casing, said shaft opening through the top thereof and extending downwardly to said shield, a slide mounted adjacent the mouth of said air-shaft to regulate the volume of air, and a draft regulator formed in the top of said casing at the opposite end thereof from said air shaft, to regulate the draft through said casing, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

AUGUST NEUSUS.
BENJAMIN F. GIBLER.

Witnesses:
JOHN FRITZ,
PAUL J. BURRELL.