No. 662,738. Patented Nov. 27, 1900.

C. O. RASCHER.

WATER TANK HEATER.

(Application filed May 8, 1900.)

(No Model.) 2 Sheets—Sheet 1.

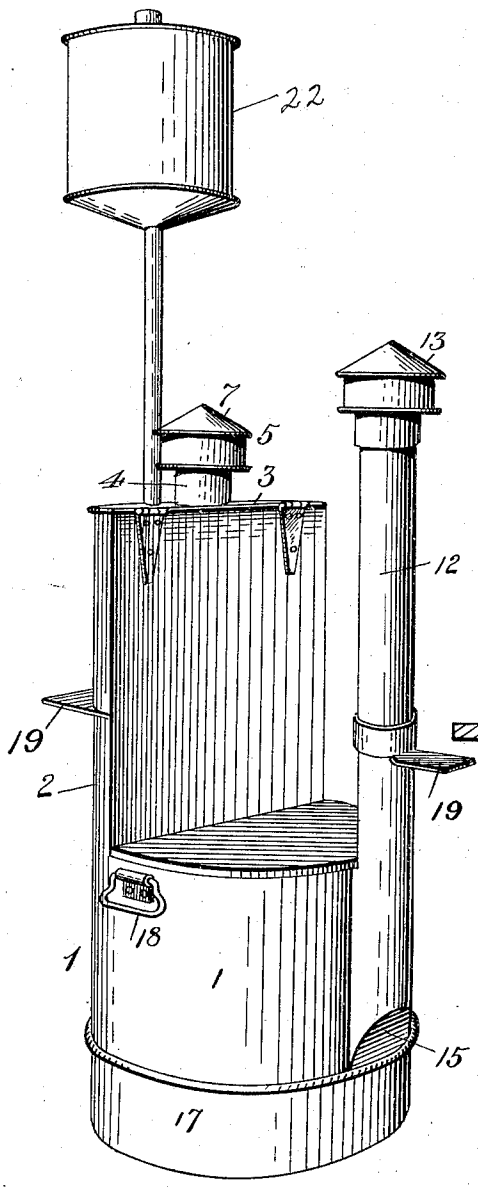


Fig. 1.

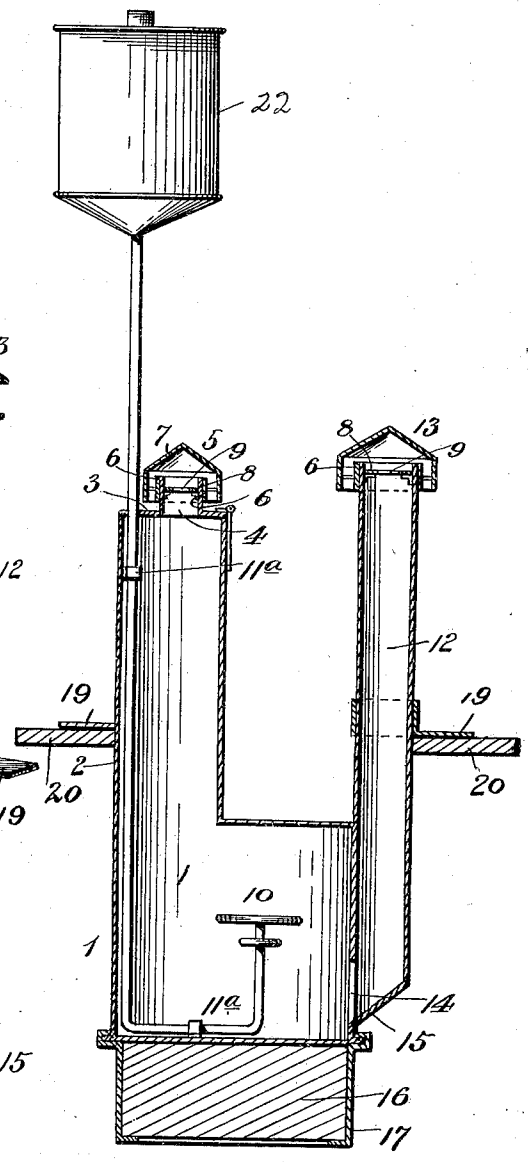


Fig 2.

Witnesses:
F. L. Ormand.
E. P. Bowyer.

Inventor:
Carl O. Rascher,
By Louis Bagger & Co.,
Attorneys.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 662,738. Patented Nov. 27, 1900.

C. O. RASCHER.

WATER TANK HEATER.

(Application filed May 8, 1900.)

(No Model.) 2 Sheets—Sheet 2.

Fig. 3.

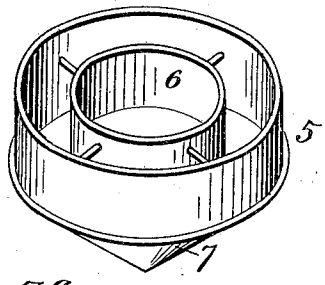


Fig. 3a.

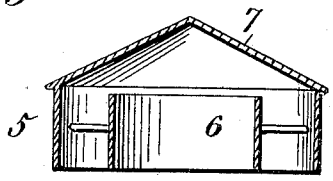


Fig. 4.

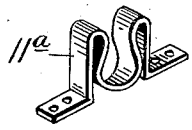
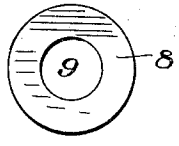


Fig. 5



Witnesses:
F. L. Ourand
E. P. Bunyea.

Inventor:
Carl O. Rascher,
By Louis Bagger & Co.,
Attorneys.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

CARL O. RASCHER, OF DAVENPORT, IOWA.

WATER-TANK HEATER.

SPECIFICATION forming part of Letters Patent No. 662,738, dated November 27, 1900.

Application filed May 8, 1900. Serial No. 15,921. (No model.)

To all whom it may concern:

Be it known that I, CARL O. RASCHER, a citizen of the United States, residing at Davenport, in the county of Scott and State of Iowa, have invented new and useful Improvements in Water-Tank Heaters, of which the following is a specification.

My invention relates to water-tank heaters; and the objects of the same are to provide simple and efficient means for preventing water from freezing in watering-troughs for stock and to furnish a gasolene heater or drum with means for regulation of the draft. I attain these objects by means of the construction shown in the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of a water-tank heater made in accordance with my invention. Fig. 2 is a central vertical section of the same. Fig. 3 is a perspective view of one of the protector-caps inverted. Fig. 3ª is a section of the same. Fig. 4 is a detail perspective of one of the clamps for holding the pipe of the gasolene-burner in place in the drum or heater. Fig. 5 is a plan view of one of the perforated disks which serve as dampers for the vent-pipes.

Like numerals of reference designate like parts wherever they occur in the different views.

In the drawings the numeral 1 designates a sheet-metal drum, which may be round, as shown, or any suitable shape. Rising from one side of this drum is a semicylindrical chamber 2, provided with a hinged cover 3. At the top of the chamber 2 is a short section of pipe 4, and fitted over the upper end of this pipe is a cap or hood 5. As shown in Fig. 3, this cap or hood consists of an inner ring 6, which fits the pipe 4, and an outer cap or cover 7 of conical shape, there being a space between the ring 6 and the cap 7. A disk 8, having a central aperture 9, is fitted within the upper end of the pipe 4. I may use any suitable number of disks 8, having different sizes of apertures 9 to suit different conditions, and these disks are to be interchangeable. An ordinary gasolene-burner 10 is located within the drum 1 and is held firmly therein by spring-clamps 11ª, one located in the bottom of the drum and the other upon the inner wall of the chamber 2. These clamps are substantially U-shaped, and are made of spring metal. When the hinged cover 3 is thrown back, the burner may be readily removed. Upon the opposite side of the drum 1 from the chamber 2 a cold-air-feed pipe 12 is secured, and this pipe extends up above the chamber 2 and is provided at its upper end with a cap 13, similar in construction to the one already described. A perforated disk similar to the one described may also be placed in the pipe 12. When the cold-air feed is insufficient to properly maintain the flame of the burner, the disk 8 may be changed for one having a larger aperture 9, or if the feed is excessive a disk having a smaller aperture may be used. These interchangeable disks in both the hot and cold air pipes give a wide range in the matter of regulating the air-feed and draft, and when the disks having apertures of the proper relative sizes have been placed in both the hot and cold air pipes and the caps are placed in position a uniform heat may be maintained. An aperture 14 in the side of the drum 1 communicates with the cold-air pipe 12, and the lower end of this pipe has an inclined bottom 15 to deflect the air into the drum to support the flame of the burner. A metal weight 16 is secured to a ring 17, connected to the bottom of the drum. This weight may be separable from the ring for convenience in shipping, and when it is desired to attach it the lower edge of the ring 17 may be bent inward to inclose the weight in an obvious manner.

Handles 18 may be attached to the opposite sides of the drum for convenience in handling the apparatus.

In order that the heater may be immersed at the desired depth in the water-tank, I have provided brackets 19, which project outward from the chamber 2 and from the cold-air pipe 12. A board or other float 20 fits underneath the brackets 19 and sustains the heater at the desired depth in the water-tank, the weight at the bottom of the drum always insuring an upright position of the heater.

The operation of my invention will be apparent from the foregoing. The heater is immersed in a tank or trough of water when the temperature is below the freezing-point, and when the burner is lighted and the drafts

properly adjusted the device may be kept in operation by merely keeping the supply-tank 22 filled with gasolene.

My invention is simple in construction, easy to care for, is not liable to get out of order, and can be manufactured at a slight cost.

Having thus fully described my invention, what I claim is—

In a heater for water-tanks, a drum, a gasolene-burner therein, a cold-air pipe leading to the drum, a hot-air pipe rising from the drum, removable apertured disks in said pipes, and protecting-caps seated upon the outer ends of said pipes, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

CARL O. RASCHER.

Witnesses:
FRANK RASCHER,
L. SCHRICKER.