

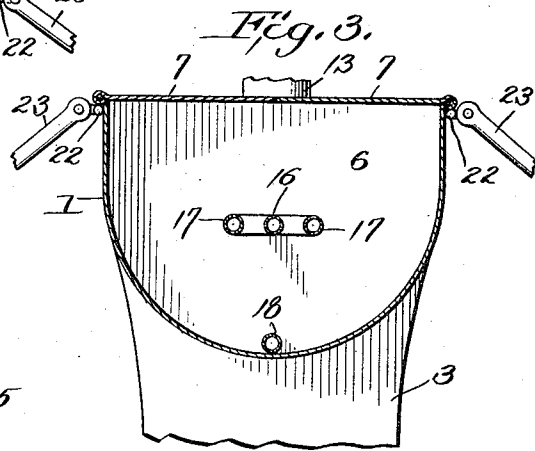
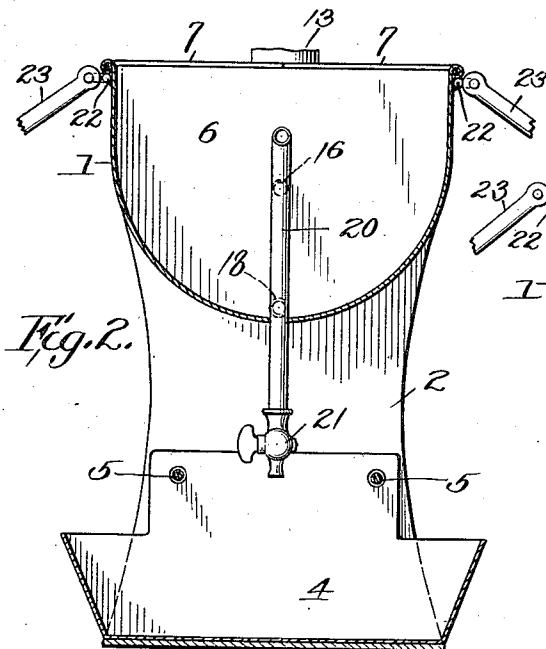
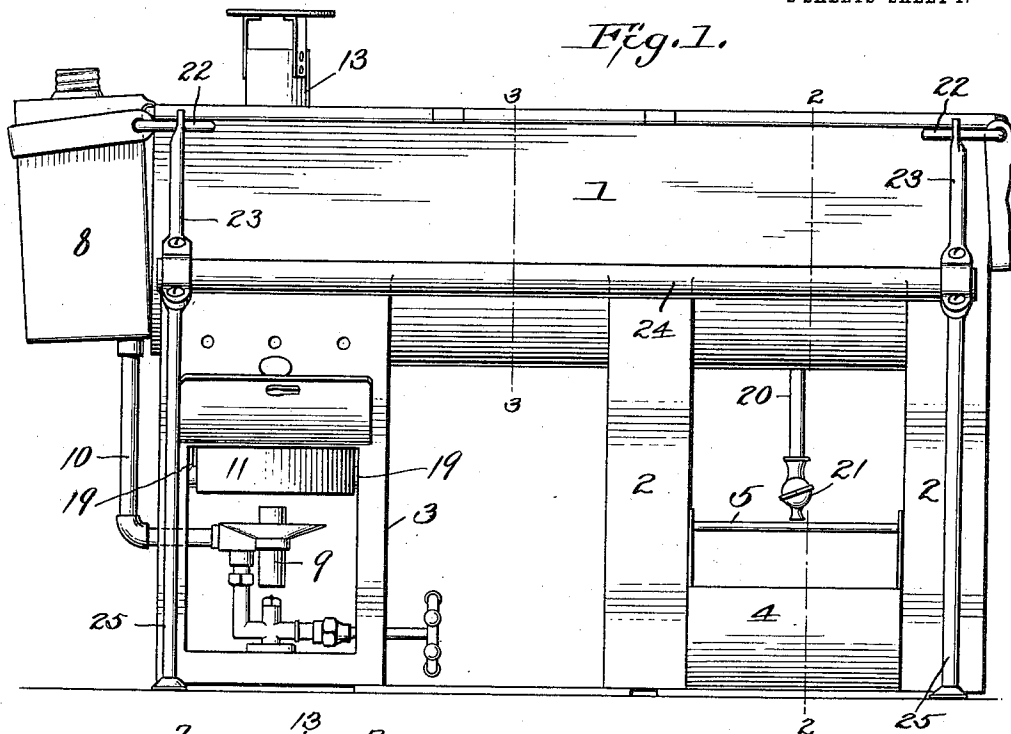
J. AMBRUSTER.
TANK AND HEATER.

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1,060,658.

Patented May 6, 1913.

2 SHEETS—SHEET 1.



Witnesses

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TANK AND HEATER.

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2 SHEETS—SHEET 2.

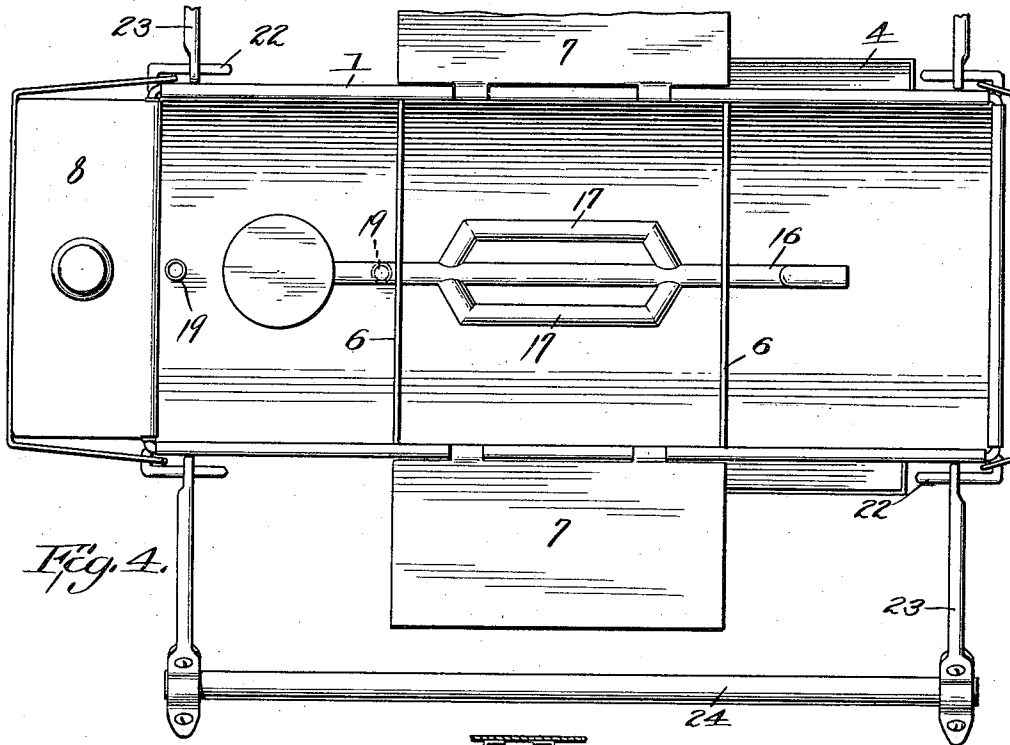


Fig. 4.

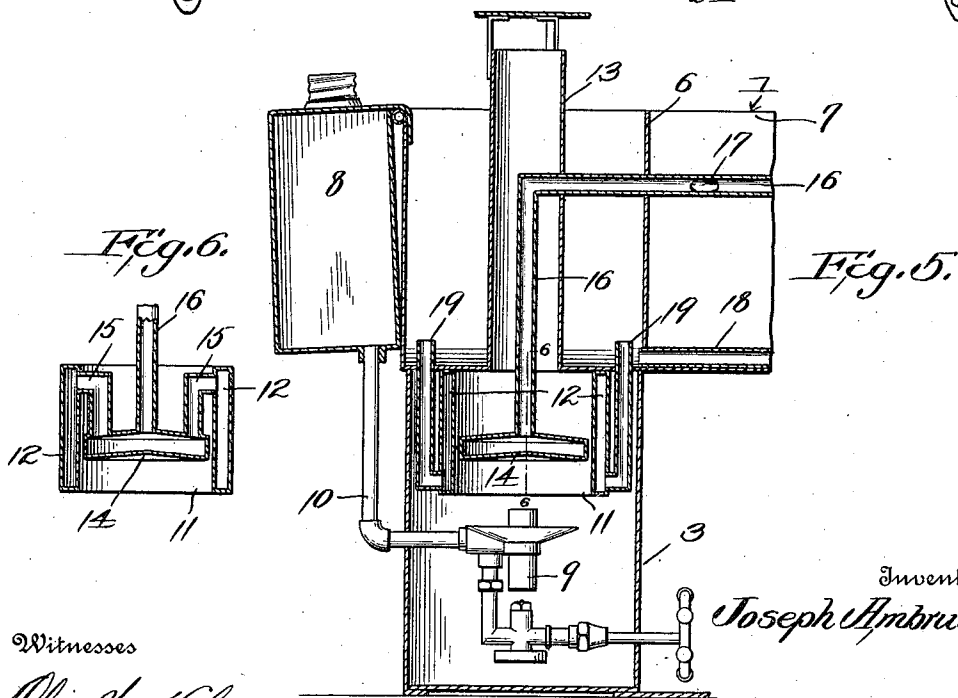


Fig. 5.

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UNITED STATES PATENT OFFICE.

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TANK AND HEATER.

1,060,658.

Specification of Letters Patent.

Patented May 6, 1913.

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To all whom it may concern:

Be it known that I, JOSEPH AMBRUSTER, a citizen of the United States, residing at Freeport, in the county of Stephenson and State of Illinois, have invented a new and useful Improvement in Tanks and Heaters, of which the following is a specification.

This invention relates to a combined feed and watering trough especially designed for the use of stock, and poultry and the main object of the invention is to provide the animals with warm water and feed during cold weather, and a further object of the invention is to save fuel by warming the feed or mash by passing through the feed compartment the water intended for use in the drinking compartment, thereby bringing the water down to the proper drinking temperature and at the same time utilizing the heat extracted from said water for the purpose of warming the feed.

With these objects in view, the invention consists of the novel features of construction, hereinafter described, pointed out in the claims and shown in the accompanying drawings, in which,

Figure 1 is a side elevation of the complete device. Fig. 2 is a cross section on the line 2—2 of Fig. 1. Fig. 3 is a cross section on the line 3—3 of Fig. 1. Fig. 4 is a plan view, parts upon one side being broken away and the covers of the feed compartment being in open position. Fig. 5 is a longitudinal section taken centrally through the heating end of the device. Fig. 6 is a detail sectional view of the hot water heating device upon the line 6—6 of Fig. 5.

In these drawings, 1 represents a trough which may be of any desired size, which is mounted upon a number of metal supporting legs 2 and 3, the latter of which forms also a casing for the purpose of inclosing certain heating devices to be hereafter described in detail. Also between the supporting legs 2 is mounted a smaller trough 4, from suitable cross bars 5, the smaller trough providing drinking water for small stock not large enough to use the main trough 1. The trough 1 is divided by cross partitions 6 into middle and end compartments, the middle compartment being designed for holding mash or other suitable feed, being provided with hinged covers 7. The end compartment immediately above the trough 4 is designed to hold drinking water while the other end compartment is connected with

the water heating device. Suitably hung upon this end of the trough is a liquid fuel tank 8, and arranged within the supporting leg 3, which is formed of sheet or galvanized metal, is a hydro-carbon burner 9, of any desired type, connected by a suitable pipe 10 with the fuel tank 8.

It will be understood that the particular type of heating device is immaterial, since the entire device is adapted to be made in various sizes, and where large stock, such as horses and cattle are to be watered and fed, the device may be of such size that it will be practical and in some cases cheaper to employ a wood or coal burner in place of the liquid fuel burner illustrated.

A suitable water heating tank 11 is arranged in the upper portion of the supporting leg 3, and consists of an open cylinder surrounded by a water jacket 12. A smoke pipe or flue 13 leads upwardly from said cylinder 11 and opens above the tank 1. Arranged within the cylinder 11 is a hollow disk 14, which communicates with the water jacket 12, by means of upwardly extending angled pipes 15, and from the center of said disk extends upwardly a water supply pipe 16, which extends up through the flue 13 and is then carried horizontally through the side of the flue and through the partitions 6, discharging into the drinking compartment at the opposite end of the trough 1. In the middle compartment, the pipe 16 is provided on each side with a lateral extension 17 so that the warm water in passing from the heating device through the said feed compartment is caused to travel through both the pipe 16 and the branch pipe 17, thereby increasing the heating surface of the pipes in the middle compartment. A cold water return pipe 18 leads back from the bottom of the drinking compartment and through the feed compartment and discharge into the end compartment through which the flue 13 extends. From this compartment cold water flows back to the water jacket 12 through suitable pipes 19. A depending pipe 20 provided with a suitable valve 21 depends from the pipe 16 and furnishes warm water for the small trough 4.

To adapt the device for the use of fowls hooks 22 are provided upon the sides and adjacent the ends and upon these hooks are adapted to be hung suitable arms 23 which carry perches 24, said perches being also provided with suitable supporting legs 25.

These perches are detachable and may be removed while the device is being transported from place to place, or when the device is used for watering and feeding other
5 kinds of stock.

What I claim is:

1. A device of the kind described comprising a trough divided into three compartments, means for heating water in one of
10 said end compartments, a pipe conducting heated water from said end compartment through the middle compartment and discharging the same into the other end compartment, said pipe being branched in the
15 middle compartment, and a return pipe extending from the second mentioned end compartment back to the first mentioned end compartment.

2. A device of the kind described comprising a trough divided into middle and
20 end compartments, a cylinder having a water jacket arranged under one of the end compartments, the water jacket communicating with said compartment, a flue for
25 products of combustion extending upwardly through said compartment from said cylinder, a heating device arranged beneath said cylinder, a hollow disk arranged in said

cylinder and in communication with the upper portion of the water jacket, a water supply pipe extending from said disk upwardly
30 through a portion of said flue, and thence through the middle compartment to the other end compartment into which it discharges, and a return pipe leading from the
35 last mentioned compartment and discharging into the first mentioned end compartment.

3. A device of the kind described comprising a trough divided into middle and
40 end compartments, supporting legs for said trough, a heating device incased in one of said supporting legs and beneath an end compartment adapted to contain water, means for conveying water from said com-
45 partment through the middle compartment and into the opposite end compartment, the middle compartment forming a feeding trough, the said feed being warmed by passage of water through said middle compart-
50 ment.

JOSEPH AMBRUSTER.

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."