H. SWIERS.

TANK AND WATER HEATER.

APPLICATION FILED SEPT. 19, 1921.

1,433,755. Patented Oct. 31, 1922.

Fig. 1

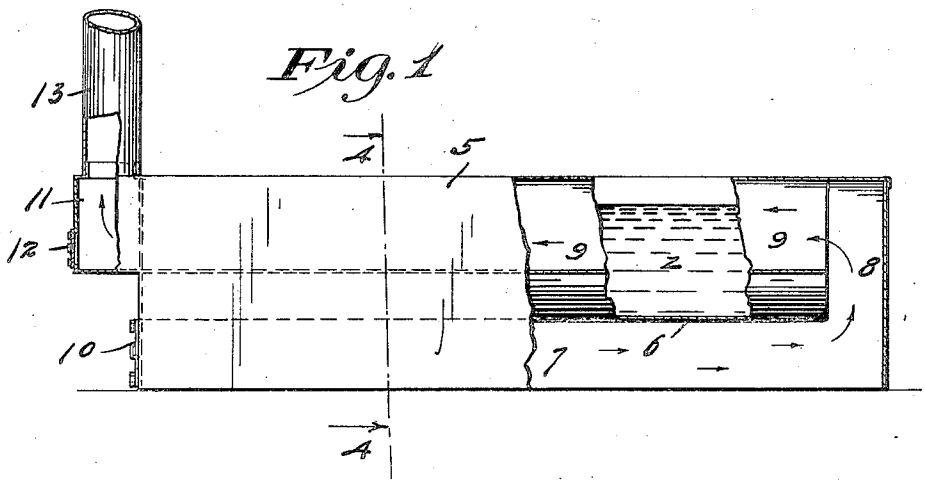


Fig. 2

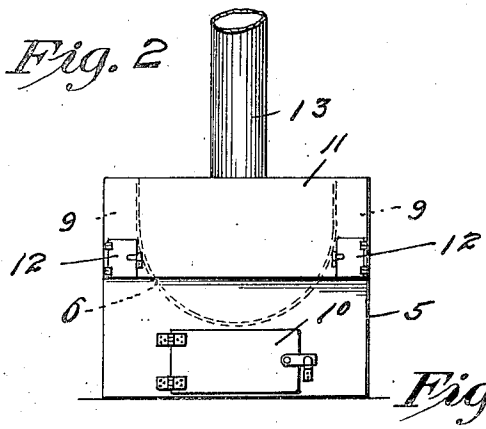


Fig. 4

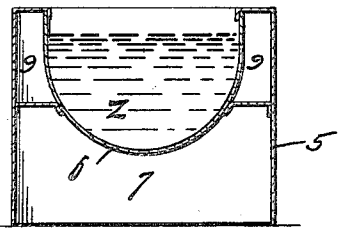
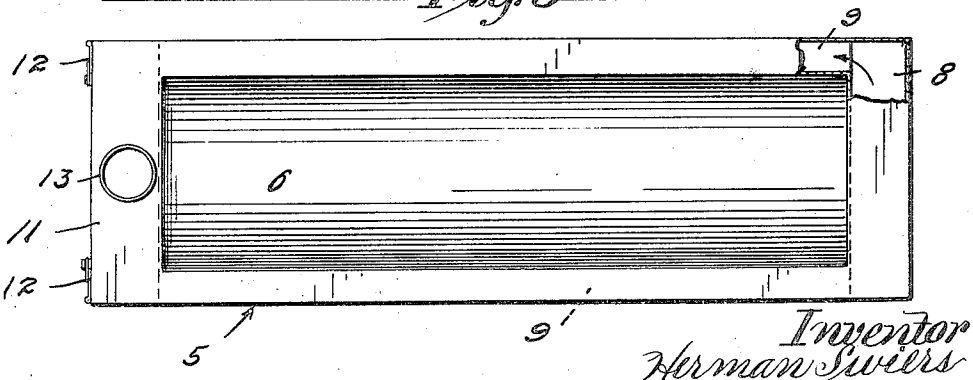


Fig. 3



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UNITED STATES PATENT OFFICE.

HERMAN SWIERS, OF BEJOU, MINNESOTA.

TANK AND WATER HEATER.

Application filed September 19, 1921. Serial No. 501,766.

To all whom it may concern:

Be it known that I, HERMAN SWIERS, a citizen of the United States, residing at Bejou, in the county of Mahnomen and State of Minnesota, have invented certain new and useful Improvements in Tank and Water Heaters; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to provide an extremely simple and highly efficient self-containing tank and water heater and to this end, generally stated, the invention consists of the novel devices and combinations of devices hereinafter described and defined in the claims.

In the accompanying drawings, which illustrate the invention, like characters indicate like parts throughout the several views.

Referring to the drawing:

Fig. 1 is a view principally in side elevation of the improved tank and water heater with some parts broken away and sectioned;

Fig. 2 is a front elevation of the same;

Fig. 3 is a plan view with some parts broken away and sectioned; and

Fig. 4 is a transverse vertical section taken on the line 4—4 of Fig. 1.

The numeral 5 indicates a rectangular casing or housing, preferably having an open bottom and a closed top. A tank 6 is set into the pot of the casing 5 and spaced above the bottom thereof, to afford therebeneath, a combustion chamber 7. The upper edges of the tank 6 are at the top of the casing 5 and the rear end of said tank terminates short of the rear end of the casing 5 to afford a passageway 8 which leads from the combustion chamber 7 to a pair of flues 9 located between the sides of the casing 5 and tank 6. In the front of the casing 5 is a door-equipped feed opening 10 for the combustion chamber 7 and above said opening, outward of the casing 5, is a smoke box 11 into which the flues 9 open. Door-equipped clean-outs 12 in the front of the smoke box 11 are aligned with the flues 9. Leading from the top of the smoke box 11 is a smoke stack 13.

Straw or other suitable fuel may be placed in the combustion chamber 7 and burned to heat water in the tank for stock to keep the same from freezing, for cooking stock food or heating water for scalding pigs and for various other purposes. Smoke and flames from the combustion chamber 7 enter the flues 9 through the passageway 8 and, from thence, the smoke travels through the flues 9 to the smoke box 11 and into the stack 13. By reference to Fig. 4, it will be noted that the bottom, sides and rear of the tank 6, are directly exposed to the combustion chamber 7, passageway 8 and flues 9, so that the water Z or other contents in the tank 6, are very quickly heated or cooked and very little heat is required to keep water for stock in said tank, from freezing. The flues 9 and smoke box 11 may be very easily cleaned through the clean-out opening 12.

The above described invention while extremely simple and of comparatively small cost to manufacture, is thought to be highly efficient for the purpose had in view. Waste material, such as straw, may be used for heating the tank 6 and thus very little, if any, expense is required for fuel. As the improved tank and water heater is self contained, the same may be very readily moved from place to place.

In some instances in the manufacture of the invention it would be desirable to extend the rear end of the tank to the rear end of the casing and shorten the length of the flues at their rear ends to afford smoke escape passageways. This construction will reduce the cost of production. It is, of course, understood that in place of the fuel heretofore mentioned a suitable oil burner may be placed in the combustion chamber.

What I claim is:

1. A device of the kind described comprising a casing having a cumbustion chamber, said casing having at its front end a fuel feed opening and a smoke stack, a tank in the casing and forming the top of the combustion chamber, and return flues in the casing between said casing and tank and

leading from the rear end of the combustion chamber to the smoke stack.

2. A device of the kind described comprising a casing having a combustion chamber, said casing having at its front end a fuel opening and a smoke stack, a tank in the casing forming the bottom of the combustion chamber, and return flues in the casing between the sides of the casing and tank and leading from the rear end of the combustion chamber to the smoke stack, the sides and top of the flues being formed by the casing and tank.

In testimony whereof I affix my signature.

HERMAN SWIERS.