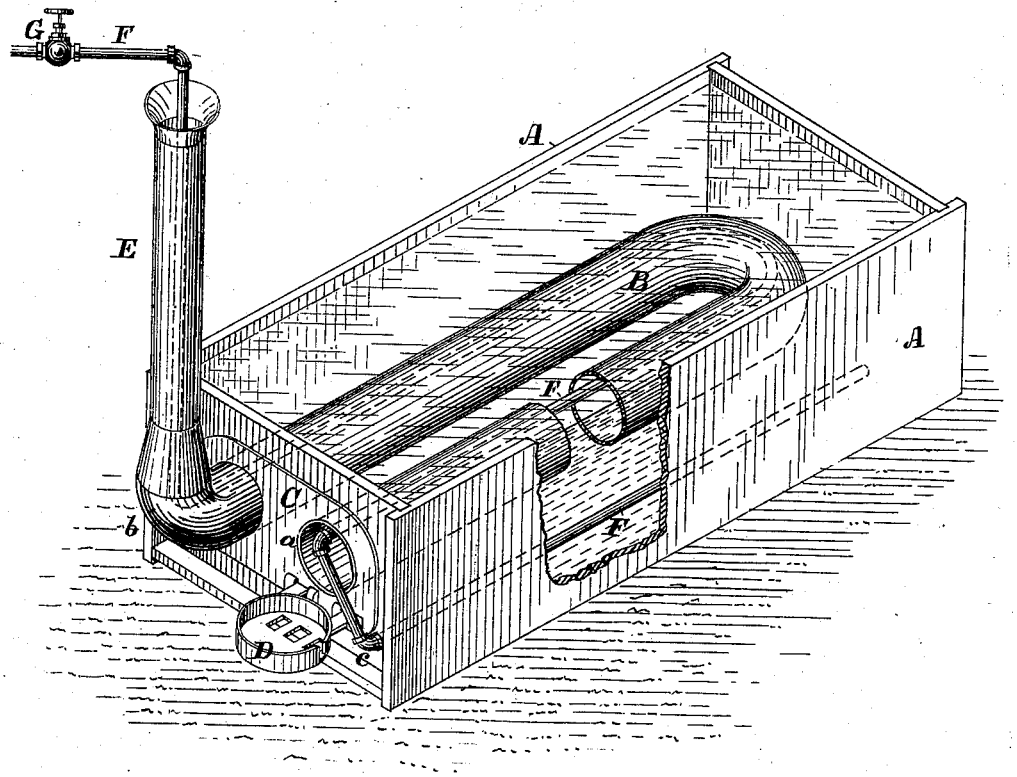
C. R. HARDY.
Stock Feed Boiler.

No. 201,668. Patented March 26, 1878.



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UNITED STATES PATENT OFFICE.

CLINTON R. HARDY, OF LEXINGTON, INDIANA.

IMPROVEMENT IN STOCK-FEED BOILERS.

Specification forming part of Letters Patent No. **201,668**, dated March 26, 1878; application filed February 9, 1878.

To all whom it may concern:

Be it known that I, CLINTON R. HARDY, of Lexington, in the county of Scott and State of Indiana, have invented certain Improvements in Stock-Feed Boilers, of which the following is a specification:

As its title indicates, this invention relates to boilers or tanks in which to cook corn, meal, and other food for stock; the object being to provide a cheap and convenient method of heating the water in the tank or vessel.

The invention consists in the combination, with a U-shaped furnace, of a feed-water-inlet pipe arranged to pass through the said furnace and its chimney, and back into the containing-vessel in which the furnace is submerged, all as will be hereinafter set forth.

The figure in the drawing represents, in perspective, my improved boiler, a part of the tank and furnace-flue being broken away to show the interior.

A is a tank or vessel, which may be of wood; and B is a U-shaped furnace and flue, which may be of galvanized iron. Both ends of the furnace open out of the vessel at *a b*, as shown, and may be connected with the end of the vessel A by means of a flange-plate, C. The open end *a* of the flue serves as the furnace proper, and the fuel is inserted here. The opening may be closed by a door, D, if desired. The end *b* connects with a chimney, E, whereby the smoke is carried away.

It will be seen that when a fire is kindled in the open end *a* of the furnace, the flame and products of combustion, accelerated by the draft, pass through the entire length of the flue and out at the chimney E, thus heating the flue in its transit. As the said flue is kept always below the water-line the heat will all be utilized.

F is a pipe from the pump or water-supply, arranged to feed water to the vessel A. This pipe enters the top of the chimney E, passes down the same, and through the entire length of the furnace-flue, out at *a*, and then enters the vessel at *c*, and passes back to the rear end. Thus the water is heated before it escapes into the vessel.

The chimney E may be the ordinary stove-pipe, and F may be of gas-pipe. G is a valve to regulate the influx of water.

This boiler is adapted for use on the farm where stock is to be fed, and wood, corn-cobs, corn-stalks, or other refuse may be used as fuel in it.

I am aware that agricultural boilers have been constructed in which a continuous return-flue submerged in the fluid contents of the containing-vessel has been used, and I make no claim to this feature; but

What I do claim is—

The combination of the vessel A, the U-shaped furnace and flue B, arranged therein as shown, the chimney E, forming a prolongation upward of one extremity of the furnace-flue, and the pipe F entering the chimney at the top, as shown, passing thence down the same entirely through the furnace and flue B, out at the mouth *a*, and back into the vessel A below the water-line, as and for the purposes set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

CLINTON R. HARDY.

Witnesses:
P. SHEA,
T. J. SHEA.