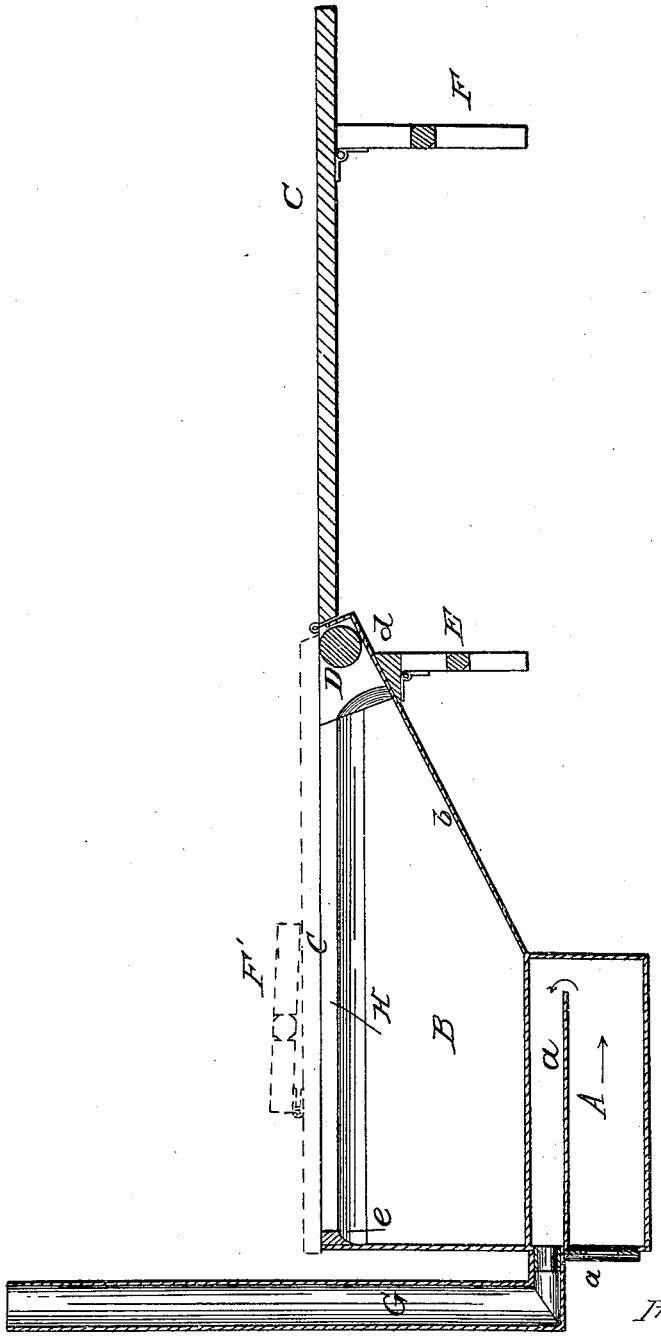
A. CLARKE.

Portable Hog Scalder.

No. 51,783. Patented Dec. 26, 1865.



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ARTHUR CLARKE, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN PORTABLE HOG-SCALDERS.

Specification forming part of Letters Patent No. **51,783**, dated December 26, 1865.

To all whom it may concern:

Be it known that I, ARTHUR CLARKE, of the city and county of Philadelphia, in the State of Pennsylvania, have invented a new and Improved Portable Hog-Scalder and Boiler for Agricultural and Domestic Purposes; and (in accordance with the acts of Congress in that case made and provided, when an original and first inventor desires to secure to himself, his legal representatives, and assigns the benefit of his invention) I do hereby declare that the following is a full, clear, and exact description of the construction, operation, and purpose of said invention, due reference being had to the drawing, with its letters of reference thereon, attached to this specification, and forming a part thereof.

The object of my invention is to supply agriculturists generally with a single, cheap, convenient, simple, and, if necessary, portable machine for doing what now requires a number of different machines and appliances.

The drawing hereto attached is a vertical section of my invention, showing its several parts, which I will now describe, that its construction and use may be properly understood.

The letter A represents the furnace; B, the boiler; C, the table, which by folding over forms a lid to the boiler *a*. (Seen in red lines at the letter C′.)

D is a roller or cylinder placed just at the junction of the posterior end of the boiler with the end of the table C.

The letter E represents a leg supporting the posterior end of the boiler, and F another leg supporting the posterior extremity of the table. Another leg may, if desired, be used to support its anterior portion.

G is a flue or pipe for carrying off the products of combustion from the furnace A.

The letter H represents a flange around the two sides and front of the boiler at its upper edge.

The furnace A is an oblong or a square box. It may be of the same size of the horizontal portion or bottom of the boiler, or somewhat less, if desired. In the latter case its sides may be covered with water-legs; but these will not be probably advisable in scalding hogs, boiling vegetables, &c., as the dirt, hair, and other impurities might be liable to settle and accumulate in them. The furnace-door is shown at *a*, and it will be advisable to have a sheet of iron, a flat stone, or brick arch extending from the front to near the back of the furnace above the fire-place proper, which, acting as a diaphragm, *a′*, will direct the flame backward, and thus cause it to pass along under the entire horizontal heating-surface of the boiler before it reaches the flue or pipe G. Ordinarily, or at least when the boiler is to be used in one or more fixed positions, the furnace may be made by a simple excavation in the earth of the proper size and the bottom of the boiler adjusted thereto, or rather the excavation adjusted in size to the boiler-bottom, in which case the front or firing portion may be built up of brick or stone and a flat stone or other appliance used as the fire-door. In all cases, as it is proposed to bring the bottom of the boiler on a level, or nearly so, with the general level of the ground, it will be necessary to make an excavation in front of the furnace to give free access to the fire-door. When, however, the circumstances render it desirable to have the machine portable I would recommend that the furnace be made a fixture or permanent attachment to the boiler, as shown in the drawing, and, of course, of the same material.

The boiler B, in that portion resting upon or over the furnace, may also be square or oblong, but its sides and bottom, too, may be concave; but that portion extending backward toward the table C should have a sloping ascent, as shown at *b* in the drawings, the object of this latter form being to facilitate the withdrawal of the immersed or scalded substance or matter from the boiler to the table C. This boiler may be made of cast or wrought iron. Its sides, end, and the sloping portion *b* of the bottom might be made of tin-plate, sheet-zinc, or iron; but in using such thin material it would be necessary to support these parts by an outside wooden casing. The size and capacity of the boiler will depend, of course, in a great measure upon the amount of work it is contemplated to have it do. One of about two feet and a half high, two or two and a half feet broad, and five or six feet in extreme length at top will generally suffice for all the requirements of ordinary farming establishments. If it be made deeper than about two and a half feet, it will be inconvenient to do the work required to be done on the table C while the workmen or operators are standing on the ground around it. This objection may, however, be obviated by the

use of a platform or benches around the table, on which to stand.

The table C is or may be made of some strong solid wood several inches in thickness and united by hinges to the boiler. By means of these hinges it can be turned back to form a covering for the boiler Its size, therefore, should be such as to accomplish this purpose also, making it therefore perform two functions—the table to work on and a cover for the boiler. The red lines C′ show it in position for this purpose. This table may be made slightly concave on its upper surface, at least near the end next the boiler, so as to conduct the drainage-water back to the boiler and facilitate the reception of the immersed or scalded objects as they pass over the roller D. This roller itself, being an accessory arrangement for enabling the workmen to withdraw weighty objects, such as a hog or sheep, from the boiler to the table, may have others below it, if deemed necessary.

For the purpose of preventing the hog or other matters from coming in direct contact with the bottom of the boiler, it may be advisable to lay slats of wood, square or round, at intervals over it, or cover it with a wooden lattice-work.

The letter E shows one of the legs intended to support the outer extremity of the boiler, and consequently, also, one end of the table. It is attached to the cross-beam *d*, either permanently or by a hinge or otherwise. The letter F shows another leg near the outer end of the table, for its support at this part. It is preferable always to have the leg hinged to the table, that it may be laid down, as seen at F′. Thus the table is used as a lid or cover for the boiler. If it should be deemed necessary, another set of legs may be interposed between E and F. This may be the case in using this arrangement in large pork-houses. The length of these legs will be such, of course, as to sustain the top of the boiler and table in a horizontal position, or as nearly so as may be required.

The letter H represents a flange or stay attached to the inner side of the upper edges of the front and sides of the boiler, giving additional strength and breadth of surface to these parts. By beveling or sloping its inner face, as shown at *e*, the water, which surges up when a body is suddenly immersed therein, is thrown inward toward the central line of the boiler, thereby preventing it from splashing over the edges, to the inconvenience, if not danger, of the operator.

From this description the operation of this machine can be so easily understood as scarcely to require any explanation. After filling the boiler to the required height the fire is made in the furnace and the water raised to the desired temperature, which may be determined, if desired, by a thermometer. If the object be to boil the materials, the table is turned over upon the boiler, so that the water may be made to boil the required time, and then turned back to its place to perform its purposes of a table. If to be used as a hog-scalder, the animal, after having been immersed the necessary time, is withdrawn to the table to be scraped. If used for washing clothes, after having been subjected to such boiling as may be required, the lid or table is turned off, a small quantity of cold water added, if required, to reduce the temperature, the washing then done in the boiler, and the clothes deposited on the table to drain. It is an admirable sheep-washer, as the animal can be immersed in the boiler filled with either cold or warm water, from whence it can be removed to the table for the thorough cleansing of the wool with the slightest possible fatigue or injury to the sheep. It may be used with equal advantage for boiling roots, vegetables, and other materials for the use of the stock, or even for culinary purposes. When not otherwise employed, it may be made to serve the purposes of a bath-tub, with cold or warm water for the family. In fact, when fuel, as is generally the case in our country, is not an item of any material importance in domestic economy, it might be kept in constant use, enabling the farmer to dispense with all other forms of boiler in the household arrangement.

In large pork-packing establishments, where everything is adjusted with the strictest regard to economy of time and labor, and consequently expense, this device, arranged on a plan adapted to the business of the season, will be a great improvement on existing plans; nor would it be less important as a substitute for the mode of operation now so commonly in use on large sheep-raising farms for washing sheep.

To meet the requirements in these cases it may be advisable to so modify the form of the boiler that a table may be applied at the front end and at one or both the sides. In that case each additional table can be so divided and hinged as to fold over and cover its appropriate portion of the boiler, when required to be used as a cover therefor. This may require some slight modification in the furnace without affecting its relative position or function.

When necessary to remove the water from the boiler, it can be done most conveniently through an orifice or spigot near the bottom.

Having thus fully set forth the character, operation, and nature of my invention, what I claim therein, and desire to secure by Letters Patent of the United States, is—

1. The combination of the table C and roller D with the boiler B, arranged and operating substantially as set forth.

2. The furnace A and boiler B and table C, in combination, when the latter can be used as a cover for the boiler as well as a table, substantially as set forth.

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