A. B. NOTT.

Farmers' Boilers.

No. 135,005. Patented Jan. 21, 1873.

Fig. 1

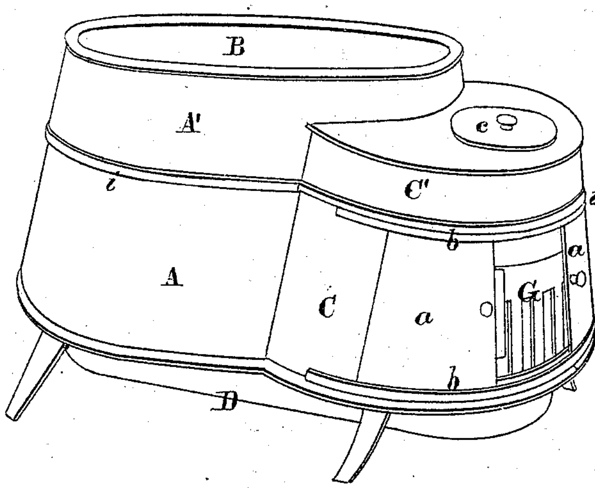


Fig. 2

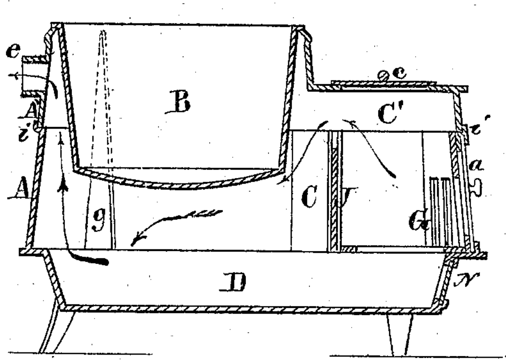


Fig. 4

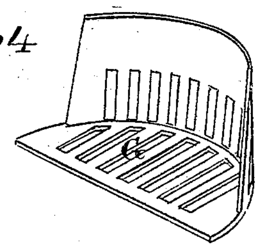
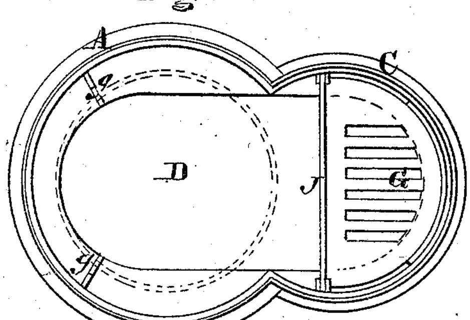


Fig. 3.



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R. T. Campbell.
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AM. PHOTO-LITHOGRAPHIC CO. N.Y. (OSBORNE'S PROCESS.)

UNITED STATES PATENT OFFICE.

AARON B. NOTT, OF FAIRHAVEN, MASSACHUSETTS, ASSIGNOR OF ONE-HALF HIS RIGHT TO JAMES E. CARD, OF SAME PLACE.

IMPROVEMENT IN FARMERS' BOILERS.

Specification forming part of Letters Patent No. **135,005**, dated January 21, 1873.

To all whom it may concern:

Be it known that I, AARON B. NOTT, of Fairhaven, in the county of Bristol and State of Massachusetts, have invented an Improved Farmers' Boiler; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1 is a perspective view of my improved boiler complete; Fig. 2 is a section taken longitudinally and vertically through the center of the boiler; Fig. 3 is a top view of the lower section of the furnace and boiler shell; and Fig. 4 is a perspective view of the removable grate.

Similar letters of reference indicate corresponding parts in the several figures.

The object of this invention is to improve farmers' boilers, so that either wood or coal can be burned in their furnaces, as may be desired; at the same time to construct them that the flames and heated products of combustion will be caused to circulate about the sides and bottom of the caldron; also, to provide for shortening vertically the furnace-shell, and making it of two horizontally-divided parts, as will be hereinafter explained.

The following description of my invention will enable others skilled in the art to understand it.

In the accompanying drawing, it will be seen that the furnace for containing and supporting the caldron or boiler B is constructed of two horizontally-divided sections, which are fitted together by a joint at *i*, and secured by several bolts or rivets. The lower and longest section consists of an oblong upwardly-converging shell, A C, and a depressed ash-pit, D, which latter extends from front to rear of the entire furnace-shells, and is especially designed for use when wood is burned, and for another purpose hereinafter explained. The two portions A and C represent, in a side view, two frustums of cones united, the portion A being the largest. The upper section, which is vertically shorter than the lower section, is of the same shape as the latter, and consists of two portions, A′ and C′. The portion A′ is open at its top, and supports the caldron by means of a flange, as shown in Fig. 2. The portion C′, which is shorter vertically than the section A′, is closed on top, except a small feed-opening for coal, which opening is provided with a cover, *c*, shown in Figs. 1 and 2. The furnace-shell thus constructed is of an oblong upwardly-tapering form, the front portion of which is vertically shorter than that portion which receives into it the caldron B. Between the two portions of this furnace I apply a division-plate or fire-bridge, J, the ends of which are received between flanges, which support such plate in a vertical position and allow it to be removed from the furnace at pleasure. G represents a grate, consisting of a horizontal semicircular portion and an upwardly-rising curved portion, which is designed for preventing the escape of coals through a front-door opening when the doors thereof are opened. This grate rests upon a ledge which is above the ash-pit D, and when desired it may be removed from the fire-chamber. The front of the ash-pit D is provided with a sliding door, N, for regulating the admission of air, and also for allowing the removal of the ashes. The doors to the front of the fire-chamber are so applied to grooved flanges *b b* that they can be opened or shut with a laterally-sliding movement.

When coal is used as fuel the grate and fire-bridge are employed, as shown in Fig. 2, and the coal is supplied to the fire-chamber through the opening which is through the top of this chamber. When it is necessary or desirable to use wood as fuel the grate and also the fire-bridge J are removed from the fire-chamber so as to leave the entire heating-space free for receiving large logs that may extend the entire length of the ash-pit D, thus rendering unnecessary the use of short wood.

It will be seen from the foregoing description that the body furnace is composed of only two pieces united by a horizontal joint and bolts or rivets, which sections are larger at their base than they are at their upper end, for the purpose of affording plenty of space for fuel and expansion of the products of combustion.

On opposite sides of the portions A A′ are arranged two deflecting or interrupting plates, *g g*, which rise from the base of A to the upper edge of A′, and are designed for preventing the heated products from passing directly

from the space above the fire-bridge to the escape-pipe *e*. By means of these plates *g g* the products are caused to descend beneath and heat the bottom of the caldron B, then rise and escape through the pipe *e*, thus heating the entire surface of the caldron.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The horizontally-divided and upwardly-tapered sections A C and A′ C′, constructed and put together as herein described and shown.

2. The combination of the depressed ash-pit D and sections A C A′ C′ with the removable caldron B, and removable grate G, and the removable fire-bridge J, all substantially as described.

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Witnesses:
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