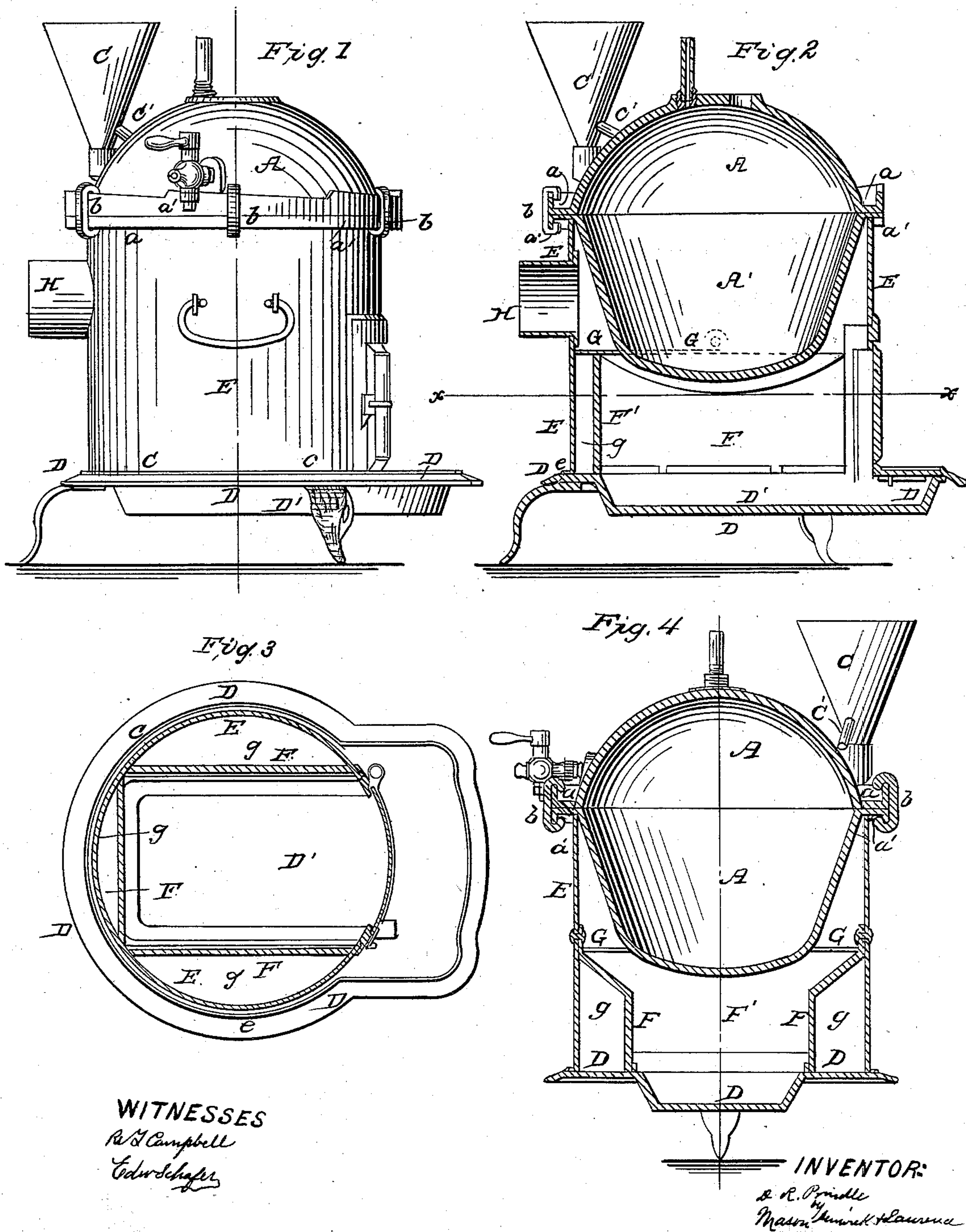


D. R. PRINDLE.  
Agricultural-Boiler Furnace.

No. 63,811.

Patented April 16, 1867.





# United States Patent Office.

DANIEL R. PRINDLE, OF EAST BETHANY, NEW YORK.

*Letters Patent No. 65,811, dated April 16, 1867.*

## PORTABLE FURNACE FOR BOILERS.

*The Schedule referred to in these Letters Patent and making part of the same.*

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, D. R. PRINDLE, of East Bethany, in the county of Genesee, and State of New York, have invented an improvement in Furnaces for Boilers and Steamers; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is an elevation of one side of the apparatus.

Figure 2 is a longitudinal section taken in a vertical plane through the centre of the apparatus.

Figure 3 is a section taken in a horizontal plane through the apparatus, as indicated by red line *x x* in fig. 2.

Figure 4 is a transverse section taken in a vertical plane through the apparatus.

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

This invention relates to certain improvements on furnaces and supports therefor.

This invention relates to certain improvements in the construction of furnaces which are adapted for heating and supporting caldrons and steamers, such as I have shown in my Letters Patent No. 25,442.

The object of my invention is to so construct a furnace for such purposes as I have above mentioned as to afford a wide base support which will prevent the boilers from turning over; at the same time to have a properly contracted fire-place, and a non-conducting wall surrounding such fire-place as will be hereinafter described.

To enable others skilled in the art to understand my invention, I will describe its construction and operation.

In the accompanying drawings, *A A'* represent two sections, which form, when united together, a horizontally divided steamer, as described in my Patent No. 25,442. These two sections *A A'* are constructed with annular flanges *a a'*, and are connected together by means of hooks *b*, which embrace the flanges *a a'*. This steamer is provided with a safety-valve, a steam pipe, and an inflow pipe, to which latter a funnel, *C*, is applied, having a drip tube, *C'*, leading from it and directed downward, so as to supply water to the annular flange *a*, to prevent the packing, which is used between the two flanges *a a'*, from becoming too highly heated and injured. The upper hemispherical section *A* is removed when it is desired to use the apparatus as an open caldron.

The furnace upon which the caldron or steamer is mounted, is constructed with a circular cast-iron base, *D*, having an extended hearth formed on it with a depressed ash-pit, *D'*, and an annular ridge, *c*. Upon this base *D* a cylinder, *E*, is secured, as shown in the drawings, which cylinder is of such diameter as to receive within it the boiler or caldron *A'*, and to support the latter by its flange *a'*, as shown in figs. 2 and 4. The caldron or steamer rests freely upon the upper edge of the cylinder *E*, so that it can be turned around upon the same, or removed, at pleasure. The fire-place within this cylinder is constructed of three upright plates *F*, *F*, and *F'*, with a horizontal plate, *G* covering the back plate *F'*, and extending around so as to serve as a deflector for directing the products of combustion forward and causing them to pass around the caldron *A'* before escaping from the furnace through the smoke pipe *H*. The side plates *F F* are cast so that their upper parts incline outward and close the spaces between them and the outer jacket or cylinder *E*, as shown in fig. 4. It will be seen from the above description that the fire-place or chamber is contracted so as to concentrate the heat about the caldron *A'*, upon a wide base support, *D*; and that this fire-place is surrounded by an outer jacket or cylinder, *E*, which forms, on three sides of the fire-place, air spaces, *g g g*, the confined air in which will prevent to a considerable extent the radiation of heat from the walls *F F F'* outward. These air spaces not only serve to keep very much of the heat within the fire-place and space above it, but they also serve to prevent the impingement of cold air upon the outer surfaces of said plates, and consequently the plates will not readily rust out or crack from this cause. The plates *F F F'* are suitably secured to the cylinder *E*, so that they can be readily removed therefrom when desired, and so as to increase the strength and stiffness of this cylinder, and render it suitably adapted for supporting the weight of the caldron and its contents. In practice, I prefer to have the cast-iron plates, forming the fire-box, so constructed and applied in their places that they shall be free to expand and contract in every direction, thus preventing them from cracking from the extremes of heat and cold to which they are subjected. I am aware that caldrons and boilers of various descriptions and for various purposes have been mounted upon furnaces, which were of less horizontal area than these caldrons and boilers, for the purpose of having a contracted and heat-concentrating fire-box, and therefore I shall not claim broadly a contracted furnace under a caldron. Neither do I confine my invention to any definite form or construction of caldron or boiler, for various forms may be employed in conjunction with the improved furnace and base support. I will

here state that the furnace is adapted for using either wood or coal. When the latter is used a grate is applied on top of the base-plate over the ash-pit.

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

1. The construction of a combined furnace and support for boilers, caldrons, or steaming vessels, of an extended horizontal base, D, an outer jacket, E, and a contracted fire-box, which is formed of side plates F, F, and F', substantially in the manner described.

2. In a furnace which is adapted for supporting and heating caldrons or steaming vessels, I claim the air spaces *g g g*, for protecting the fire-box plates formed substantially as described.

3. The deflecting plate G, adapted to serve as a cover for the rear air space *g*, and also as a means for directing the heated products of combustion forward around the bottom of the caldron, substantially as described.

4. A heating furnace, which is also adapted to serve as a firm and safe support for a caldron or steamer, constructed substantially as herein described.

In testimony whereof I have hereunto subscribed my name this 26th day of December, A. D. 1866.

D. R. PRINDLE.

Witnesses :

EDM. F. BROWN,  
CHAS. MASON.