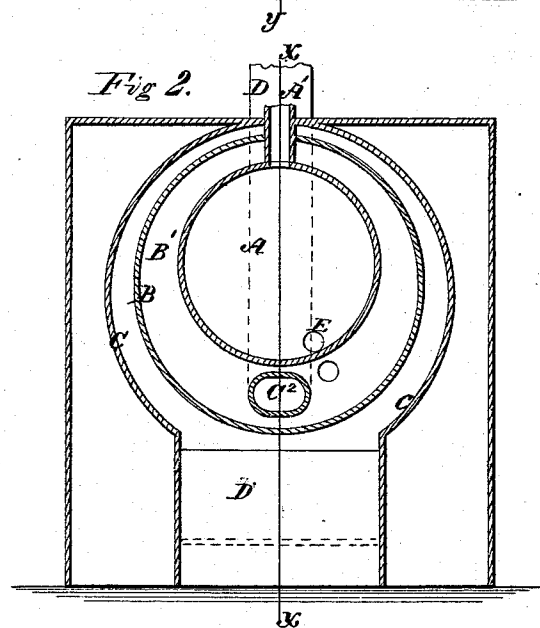
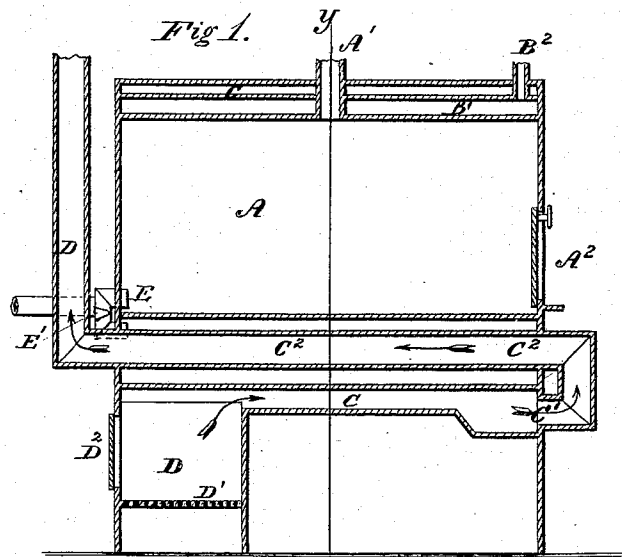


R. B. LEWIS.
Culinary Boilers.

No. 137,140.

Patented March 25, 1873.



Witnesses.

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Inventor.

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UNITED STATES PATENT OFFICE.

RICHARD B. LEWIS, OF QUINCY, ILLINOIS.

IMPROVEMENT IN CULINARY BOILERS.

Specification forming part of Letters Patent No. 137,140, dated March 25, 1873.

To all whom it may concern:

Be it known that I, RICHARD B. LEWIS, of Quincy, in the county of Adams and State of Illinois, have invented certain new and useful Improvements in Culinary Boilers, of which the following is a specification:

The object of my invention is to provide a boiler for cooking food for stock, &c., in large quantities, in the operation of which the degree of heat may be regulated as required, and applied without the possibility of burning or injuring the materials to be cooked. My improvements are hereinafter fully set forth. The kettles usually employed for cooking food for stock have the serious disadvantage that inasmuch as their contents are exposed to the direct action of the fire beneath or around the kettle, it is difficult or impracticable to apply sufficient heat to effect the desired result without burning the food, and they require constant attention to prevent this result. In the use of my improved culinary boiler such an accident cannot occur, and it requires no further attention than the replenishing of the fuel from time to time.

In the accompanying drawing, Figure 1 is a vertical longitudinal section through a culinary boiler embodying my improvements at the line *xx* of Fig. 2; and Fig. 2, a vertical transverse section through the same at the line *yy* of Fig. 1.

In this instance the food cylinder or caldron A is a metallic vessel inclosed within a boiler or heating cylinder, B, in such manner as to provide a steam and water space, B¹, between the two and entirely around the food-cylinder. In cases where a larger amount of heating-surface is required the steam and water space B¹ may be extended around the ends of the food-cylinder, which, in such instances, would be supported by proper stay-bolts or similar connections to the boiler B. The materials to be cooked and a proper quantity of water when necessary are supplied to the food-cylinder through the tube A¹, and removed at the close of the operation through the door A². Water is supplied to the boiler through the tube B², which may be provided with a safety-valve to relieve the boiler from excessive pressure of steam. The boiler may be surrounded by a casing, C, at one end of which is the furnace

D provided with a suitable grate, D¹, and door D². The products of combustion from the furnace may pass around the boiler through the casing C into the flue or breeching C¹, thence into a return flue, C², passing through the boiler below the food-cylinder and finally escape into the chimney D. A series of flues may be used instead of a single one, if preferred, thereby correspondingly increasing the heating-surface of the boiler.

In the operation of the boiler the degree of heat may be increased or diminished, according to the requirements of the case, by attaching the chimney D either to that end of the flue C² immediately above the furnace, in the position shown by the drawing, or to the breeching C¹, the flue C² being in the latter case left open.

It will thus be seen that the degree of heat applied to the food is susceptible of very considerable variation. In the former case the heat is applied both to the exterior of the boiler through the casing C and to its interior by means of the flue C². In the latter case the heat is only applied to the exterior of the boiler, afterward passing directly to the chimney, and the flue C² being left open cool air circulates through it and correspondingly reduces the temperature.

The food-cylinder and boiler are connected by a tube, E, provided with a suitable stop-cock, E¹. By means of this tube hot water from the boiler can be introduced into the food-cylinder at such times and in such quantities as may be required.

It is obvious that various modifications of construction may be adopted in my improved culinary boiler without departing from the spirit of my invention. For example, the water and steam space may be provided at the ends of the food-cylinder, as well as surround it, and in instances where only a moderate degree of heat is required the return flue or flues may be dispensed with.

The advantages of my improved culinary boiler to agriculturists, stock-raisers, and others, who require efficient means for cooking food for stock in quantities, will be apparent upon inspection. The heat can be applied with greater or less intensity to a considerable quantity of material, and inasmuch as the

cooking-cylinder is completely removed from contact with the fire the heat is applied through the medium of the water and steam contained in the heating-cylinder, and under no circumstances can a greater degree of heat be applied than that corresponding to the pressure of steam, consequently effectually preventing the burning or scorching of the materials contained in the food-cylinder.

I claim as my invention—

1. The combination of a food-cylinder, a heating-cylinder surrounding the food-cylinder,

der, and a furnace for applying heat to the heating-cylinder, substantially as set forth.

2. The combination, with heating-cylinder, of the furnace, the breeching, one or more return flues, and a detachable chimney, substantially as set forth.

3. The combination of the heating-cylinder, the food-cylinder, and the connecting-pipe, substantially as set forth.

Witnesses: RICHARD B. LEWIS.

J. B. GILPIN,

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