A. KNOX.

Feed-Cooking Apparatus.

No. 210,614. Patented Dec. 10, 1878.

Fig. 1

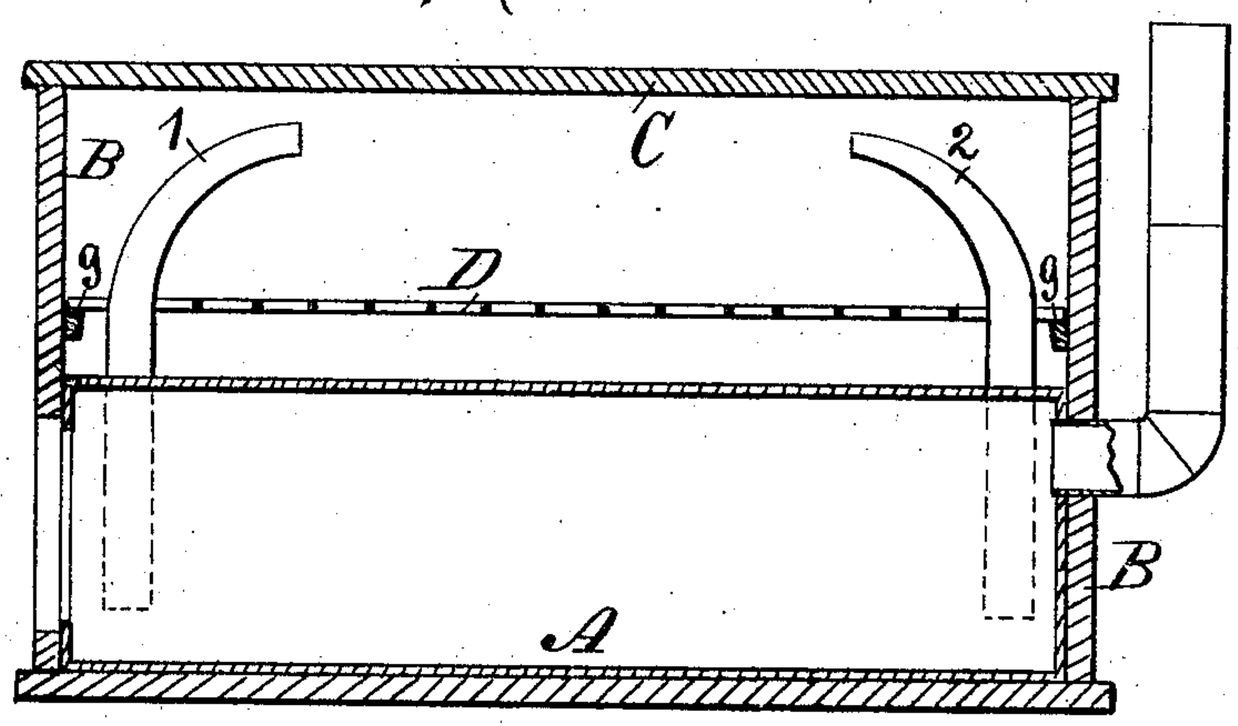
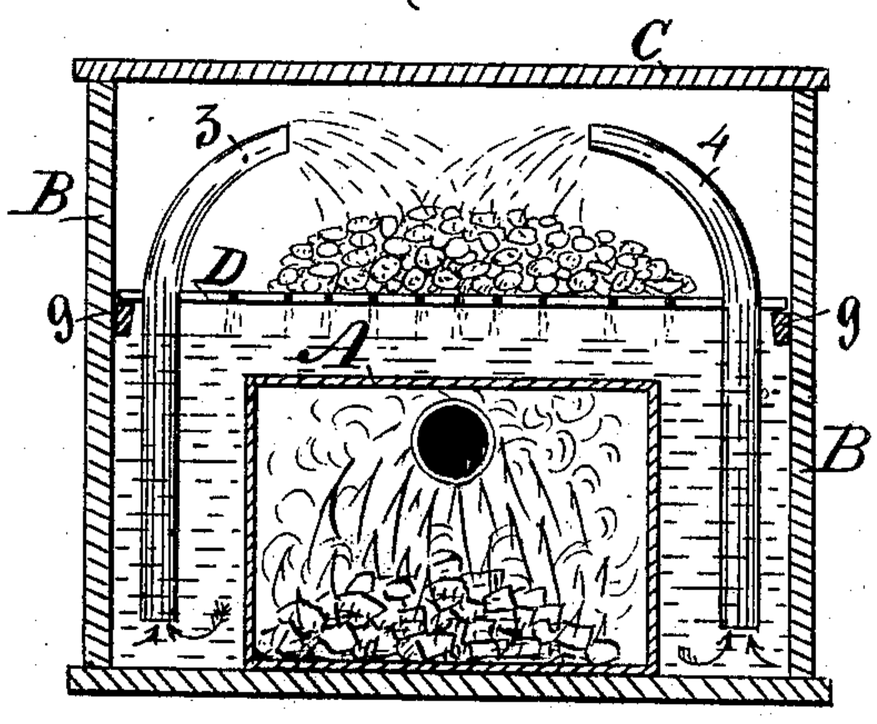


Fig. 2



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UNITED STATES PATENT OFFICE.

ALBERT KNOX, OF OSCEOLA, IOWA.

IMPROVEMENT IN FEED-COOKING APPARATUS.

Specification forming part of Letters Patent No. **210,614**, dated December 10, 1878; application filed January 14, 1878.

To all whom it may concern:

Be it known that I, ALBERT KNOX, of Osceola, in the county of Clarke and State of Iowa, have invented an Improved Feed-Cooking Apparatus, of which the following is a specification:

The object of my invention is to save time, labor, and expense in the construction and operation of a combined furnace and boiler, specially adapted for washing and cooking potatoes, corn, and other kinds of vegetables or grain designed to be prepared for feeding animals.

Heretofore boilers and furnaces of various forms have been constructed and combined in such a manner that the water in the boiler would envelop the furnace, and conductors would elevate the boiling water to fall upon matter supported upon a diaphragm above the water in the boiler.

My improvement consists in the manner of forming a combined boiler and furnace, as hereinafter set forth, that is adapted to receive and retain water-elevating spouts in the corners, and intermediate between the boiler and furnace walls, to elevate water and steam from the bottom to the top of the boiler-chamber, to flood, wash, and cook food supported upon the central portion of a diaphragm placed in the boiler and above its water-line.

By means of my improvement the water-elevating spouts will be out of the way and no obstruction in handling the food, and as they extend to near the bottom of the boiler and furnace they cause my apparatus to operate sooner, and to continue in operation longer with a given quantity of fuel and heat, and with a less quantity of water, than others in which the water-elevators do not extend downwardly between the boiler and furnace walls.

Figure 1 of my drawing is a longitudinal central elevation of my apparatus. Fig. 2 is a transverse view of the same. Together they fully illustrate the construction and operation of my complete invention.

A represents a metal furnace, fixed to the bottom and ends of a wooden boiler in any suitable way, and in such a position that water in the boiler will come in contact with the sides and top of the furnace, and be subjected to a large area of heating-surface. The furnace has a door at its front end to admit fuel, and a smoke-flue at its rear end to carry off the waste products of combustion.

B B are the sides of the wooden boiler, joined to the bottom and ends in any suitable way to form a strong water and steam tight vessel. C is an adjustable or removable boiler-cover. D is a perforated removable diaphragm, formed in sections, of wood or sheet metal, and supported in the boiler above the top of the furnace by means of cleats *g*, fixed to the inside faces of the boiler-sides B.

Numbers 1 2 3 4 represent tubular curved spouts, fixed in the corners of the boiler, in such positions that their lower open ends will be immersed in the water surrounding the furnace, and their upper ends, above the diaphragm D, will be inclined toward the center of the boiler, as required, to discharge water over the feed placed upon the diaphragm.

In the practical operation of my invention I place my apparatus in a convenient position relative to the feed and the place where the animals are to be fed, and then pour into the boiler sufficient water to cover the furnace that extends through it, and start a fire in the furnace to bring the water to a boiling temperature. I next place potatoes, corn, or such other feed as I may wish to wash and cook, upon the diaphragm, above the water, and then cover the boiler. When the water commences to boil it will rise in the elevators fixed in the corners of the boiler, to be discharged therefrom over the mass of vegetables or grain, to wash and cook it, as the action of the heat of the furnace and the water-elevators cause the water to circulate in the boiler and pour over the elevated feed thus subjected to the steam and boiling water continuously until well cooked, and also cleansed from ground, smut, and other impurities that often endanger the health of animals that are fed with unwashed food. The impurities washed from the feed will form a sediment in the bottom of the boiler, which can be readily removed when the diaphragm is lifted out of the way.

A combined washing and cooking apparatus of any size and capacity desired can be thus

cheaply produced and advantageously operated to prepare food for animals.

I claim as my invention—

The combined furnace and boiler A B C, having the curved water-elevating spouts 1 2 3 4 fixed in the corners intermediate between the furnace and boiler walls, to extend from near the bottom of the furnace and boiler to near the top of the boiler, and the sectional perforated and removable diaphragm D, when arranged and combined to operate in the manner and for the purposes set forth.

ALBERT KNOX.

Witnesses:

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