

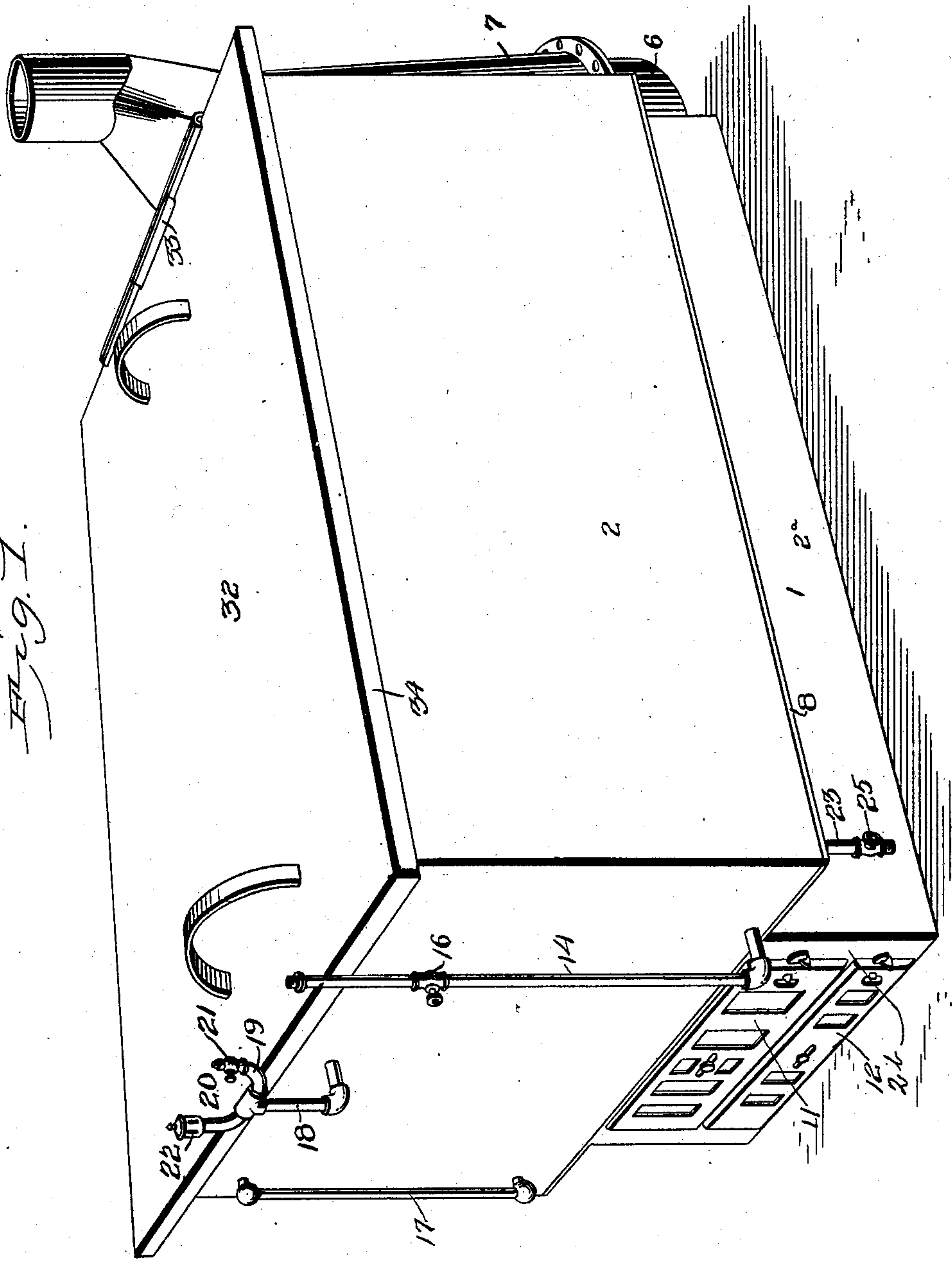
No. 720,649.

PATENTED FEB. 17, 1903.

M. W. WILLIAMS.
STEAM FEED COOKING APPARATUS.
APPLICATION FILED FEB. 24, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses
E. J. Howard
J. W. Garner

M. W. Williams, Inventor.
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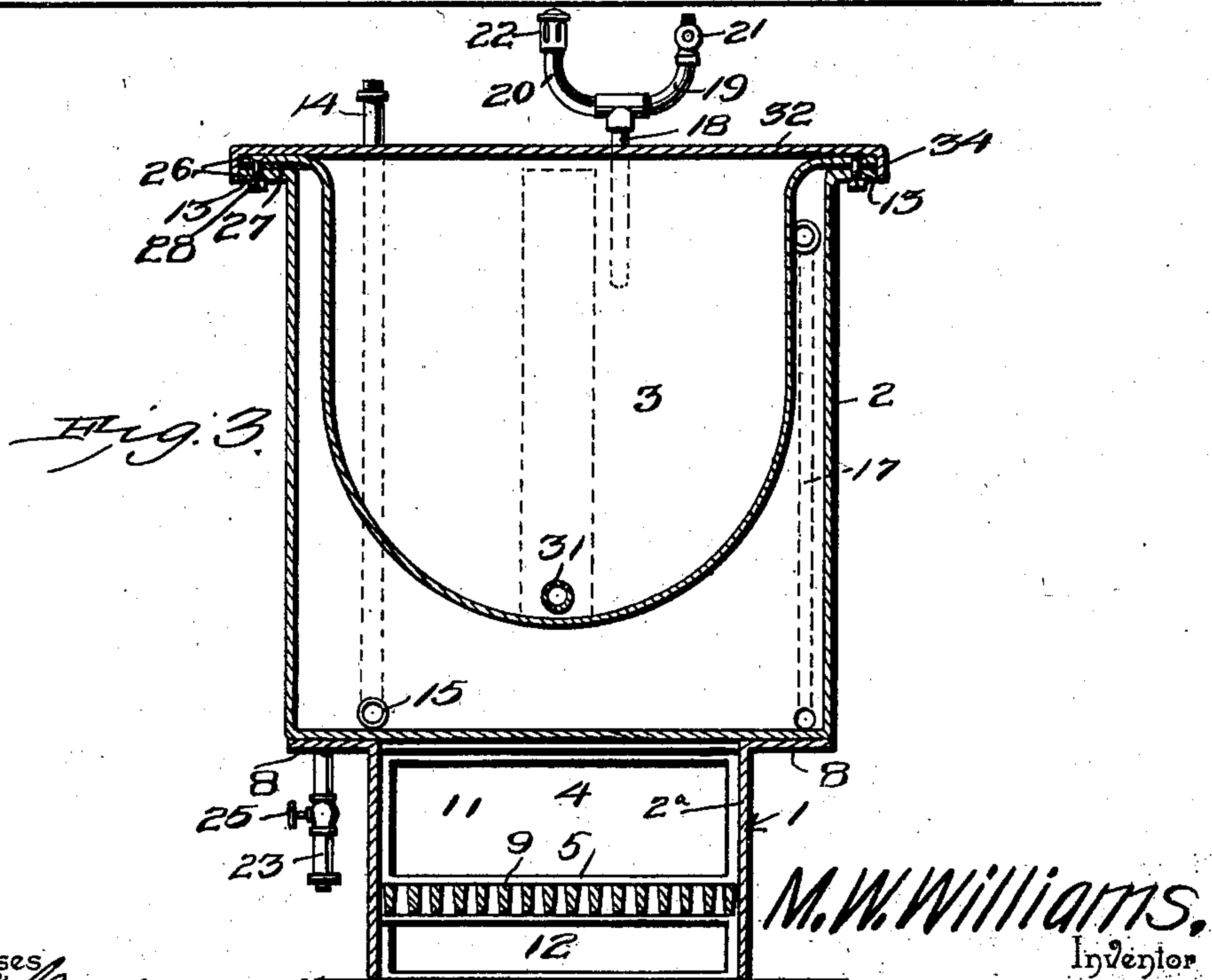
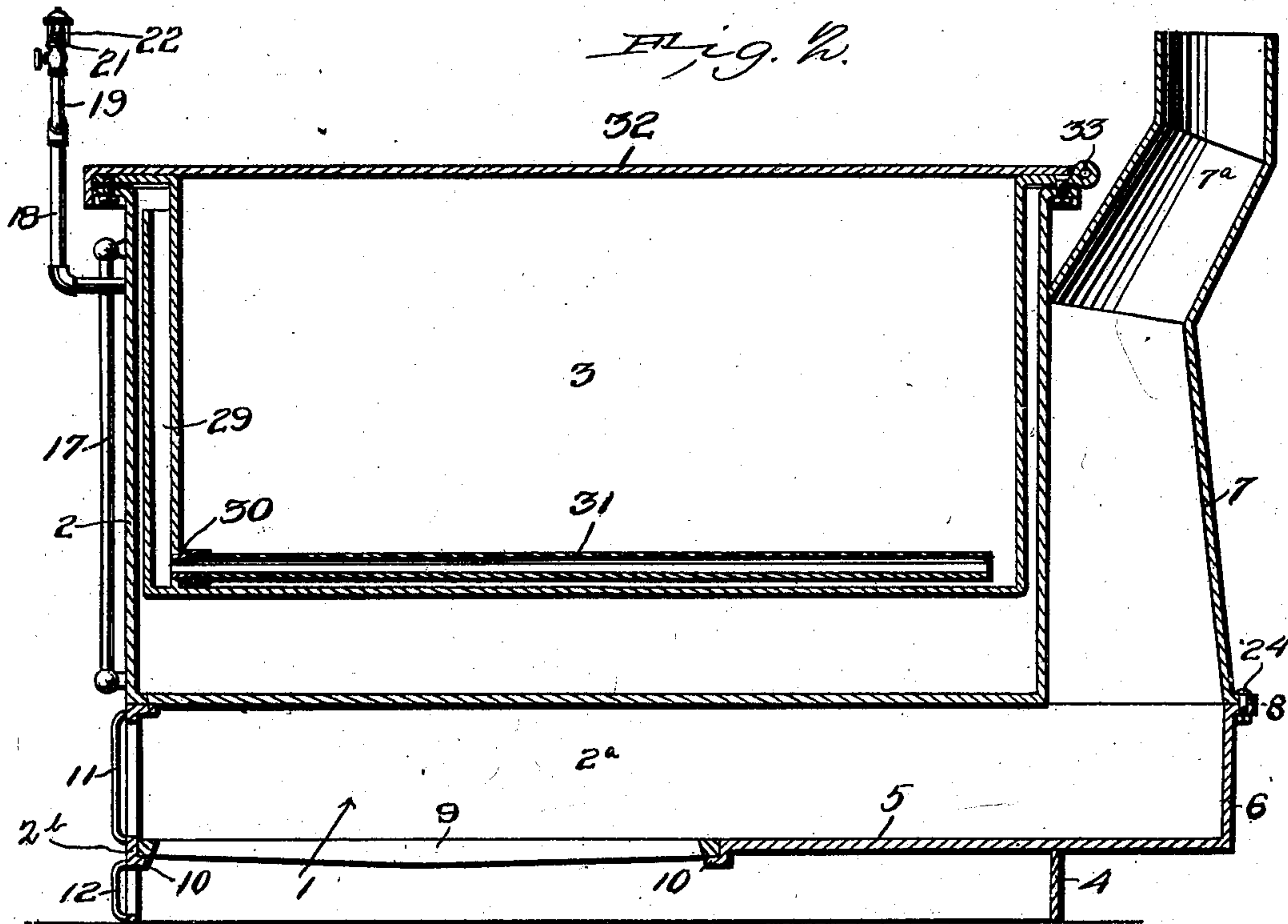
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UNITED STATES PATENT OFFICE.

MARION W. WILLIAMS, OF HOPKINSVILLE, KENTUCKY.

STEAM FEED-COOKING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 720,649, dated February 17, 1903.

Application filed February 24, 1902. Serial No. 95,425. (No model.)

To all whom it may concern:

Be it known that I, MARION W. WILLIAMS, a citizen of the United States, residing at Hopkinstville, in the county of Christian and State of Kentucky, have invented a new and useful Steam Feed-Cooking Apparatus, of which the following is a specification.

My invention is a steam feed-cooking apparatus, especially adapted for use in cooking feed for live stock, but also adapted for use in rendering lard, scalding hogs, boiling clothes, and for the purposes of a water-trough; and it consists in the peculiar construction and combination of devices herein-
after fully set forth and claimed.

In the accompanying drawings, Figure 1 is a perspective view of a steam feed-cooking apparatus embodying my improvements. Fig. 2 is a vertical longitudinal central sectional view of the same. Fig. 3 is a vertical central transverse sectional view of the same.

In the embodiment of my invention I provide a furnace or fire-box on which is an outer boiler 2, and I also provide an inner boiler 3, which is adapted to be placed in and is removable from the outer boiler.

The furnace 1 is preferably rectangular in form, as here shown, and is preferably a single casting, and comprises the sides 2^a, the front end 2^b, the rear end 4, and a bottom plate 5, which latter is disposed in the rear portion of the furnace, connects the side walls thereof, and at its rear end communicates with an offset portion 6, which is preferably of semicylindrical form and forms an elbow, open on its upper side and to which the smoke-flue 7, which is permanently attached to the rear end of the outer boiler 2, is adapted to be fitted and secured. The side walls and the rearward extension or elbow 6 of the furnace are provided with outstanding horizontally-disposed flanges 8, on which the bottom of the outer boiler 2 and the lower end of the flue 7 respectively rest, as shown in Figs. 2 and 3. The grate 9 of the furnace may be either of the construction here shown or any other suitable construction and is supported on flanges 10, with which the front side of the furnace and the front end of the bottom plate

5 are formed. The front end of the furnace is provided with a suitable fuel-door 11 and a suitable door 12, which leads to the ash-pit under the grate 9 and plate 5. It will be observed that the furnace has neither top nor bottom. In use it is disposed directly on the ground, and its upper side is formed by the bottom of the outer boiler 2. Hence the furnace is exceedingly simple in construction and can be manufactured at very slight expense.

The outer boiler 2 is provided at its upper side with outstanding flanges 13, which project from the front, rear, and side walls thereof and extend entirely around the boiler. A water-feed pipe 14, which is here shown as disposed on the front side of the outer boiler, communicates therewith near its bottom, as at 15, and is provided with a valve 16. The upper end of the water-feed pipe is here shown as screw-threaded and adapted for the attachment of a funnel or a hose thereto, by means of which water may be supplied to the outer boiler. The same is further provided on its front side with a water-gage 17 and has a steam-pipe 18 communicating with the steam-space in the outer boiler, the said steam-pipe having branches 19 20, which are respectively provided with a cut-off valve 21 and a pop-valve or safety-valve 22, which may be of any suitable construction. A water-discharge pipe 23 depends from the lower side of the outer boiler and passes through an opening in one of the flanges 8. Hence the said water-pipe assists in keeping the outer boiler in position on the furnace. The respectively-flanged meeting portions of the offset or elbow 6 and the smoke-flue 7 are here shown as secured together by suitable stove-bolts, as at 24. The water-discharge pipe 23, which serves to drain water from the outer boiler, is provided with a suitable valve, which is indicated at 25.

The inner boiler 3 is of slightly-less length and breadth than the corresponding dimensions of the outer boiler, so that the inner boiler may be disposed in the outer boiler and a steam and water space formed between them, and the lower side of the inner boiler is preferably semicylindrical in cross-section,

as shown in Fig. 3, the depth of the inner boiler being less than that of the outer boiler. The inner boiler has outstanding flanges 26 projecting from its side and end walls at its upper side, which flanges 26 bear upon sheets 27 of suitable packing material, which are placed on the flanges 13 of the outer boiler, the said flanges 26 serving to support the inner boiler, as will be understood. The inner boiler is detachably secured to the outer boiler by suitable stove-bolts 28, which are inserted in alined openings in the flanges 13 26 and the packing-sheets 27. Furthermore, this construction of the outer and inner boilers enables the same to be connected together so that steam-tight joints are formed between them. In the embodiment of my invention here shown the inner boiler is provided at its front end with a steam-inlet pipe or chamber 29, the upper end of which opens into the steam-space of the outer boiler and the lower end of which communicates with the interior of the inner boiler near its lower side, as at 30. A distributing-pipe 31, which is perforated and which is nearly coextensive in length with the inner boiler, is disposed in the bottom of the latter and coupled detachably to the steam-inlet pipe at the point 30. Said distributing-pipe may be uncoupled and disconnected from the lower end of the steam-inlet pipe and a plug inserted in the latter at the point 30 when it is not desired that live steam direct from the outer boiler shall enter the inner boiler.

The inner boiler is covered by a lid 32, which is connected thereto at one end by a hinge 33. The said lid is also preferably provided, as here shown, with depending flanges 34 at its sides and ends, which when the lid is closed cover the outstanding flanges of the outer and inner boilers.

When my improved apparatus is used for cooking feed for live stock, the distributing-pipe 31 is employed in the inner boiler, the feed to be cooked is placed in the inner boiler, the lid thereof closed, and the outer boiler having been partly filled with water and the same heated to the boiling-point by the fire in the furnace steam from the outer boiler passes through the steam-inlet pipe 29 and distributing-pipe 31 into the lower portion of the inner boiler. The exterior of the latter, as will be understood, is heated by the boiling water and steam in the outer boiler, and the live steam, which is admitted to the bottom of the inner boiler, is discharged through the perforations in the distributing-pipe 31 into the lower portion of the mass of feed throughout the entire length thereof, so that the feed is heated both externally and internally, and the same is uniformly cooked in such manner that it is rendered very digestible.

When my improved apparatus is used for rendering lard, the distributing-pipe 31 is removed and the steam-inlet pipe 29 plugged

or closed, as hereinbefore described, to prevent live steam from entering the inner boiler. The steam-valve 21 should also be opened to permit the escape of steam from the outer boiler and prevent the inner boiler from becoming so highly heated as to scorch the fat and injure the lard.

By attaching a steam-hose to the valve 21 live steam may be conducted from the outer boiler to a body of water in a kettle or other vessel to heat the same for scalding hogs or other purposes.

When the apparatus is set up as shown in the drawings, with the distributing-pipe 31 in place, the same is adapted for use for boiling clothes for laundry purposes, live steam being introduced to the water and clothing in the inner boiler through the perforations in the pipe 31, thus adding to the heat thereof and correspondingly hastening the process of boiling the clothes.

The apparatus may be also used for watering stock.

The smoke-flue 7 is substantially semicylindrical in form in cross-section, and the front side thereof is formed by the rear end of the outer boiler. Hence the heat of the escaping products of combustion is utilized in heating the boiler. The flue 7 is nearly of the same width as the rear end of the boiler, so that practically the entire rear end of the boiler is directly exposed to the heat of the escaping products of combustion, and the same materially assists in heating the outer boiler. The upper portion of the smoke-flue is contracted, as indicated at 7^a.

Having thus described my invention, I claim—

1. The combination of an open-top furnace, an open-top outer boiler fitting on the top of said furnace and provided with an outturned flange around the upper edge thereof, an inner boiler disposed in said outer boiler and having its walls and bottom spaced from the walls and bottom of said outer boiler, said inner boiler having an outturned flange spanning the space between the walls of the outer boiler and those of the inner boiler and resting on the flange of the outer boiler and detachably connected thereto, a packing disposed between said flanges, and a closure for said inner boiler.

2. The combination of an open-top furnace, an open-top outer boiler fitting on the top of said furnace and provided with an outturned flange around the upper edge thereof, an inner boiler disposed in said outer boiler and having its walls and bottom spaced from the walls and bottom of said outer boiler, said inner boiler having an outturned flange spanning the space between the walls of the outer boiler and those of the inner boiler and resting on the flange of the outer boiler and detachably connected thereto, said inner boiler having a steam-chamber formed at one end

thereof and extending to a point near the top thereof and opening into the steam-space of the outer boiler, and a steam-distributing pipe disposed in the bottom of the inner boiler and
5 extending approximately the entire length thereof, said pipe tapping said steam-chamber at a point near its bottom for admitting steam into said inner boiler.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

MARION W. WILLIAMS.

Witnesses:

EDW. S. LONG,
J. E. MCKEE.