No. 843,240.

PATENTED FEB. 5, 1907.

C. E. SWARTZBAUGH.

STEAM COOKER.

APPLICATION FILED OCT. 29, 1903.

Fig. 1.

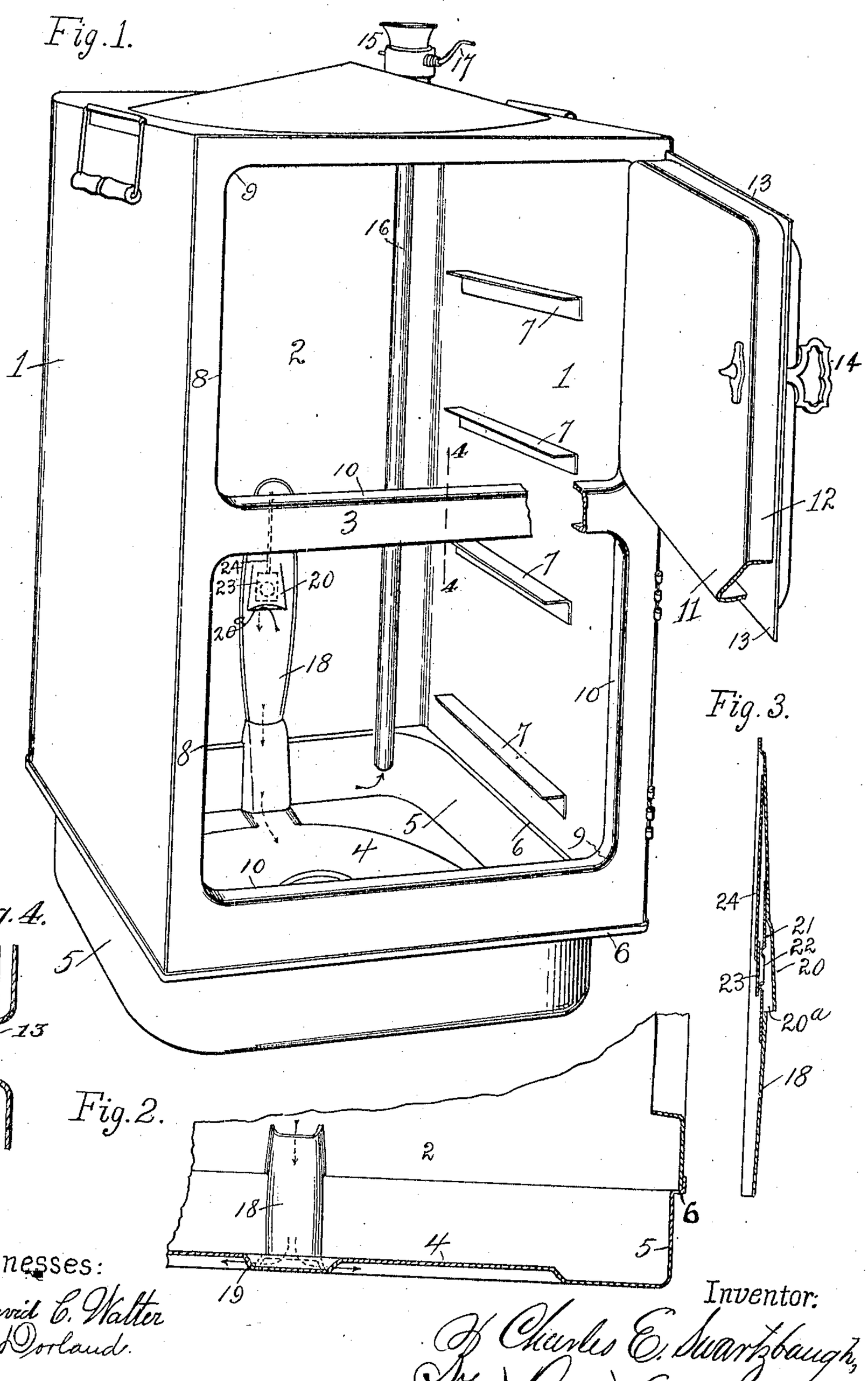

Fig. 3.

Fig. 4.

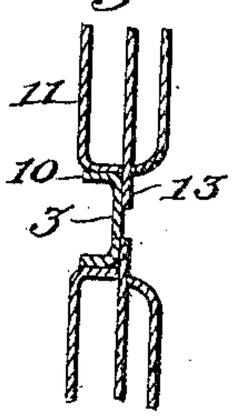

Fig. 2.

Witnesses:

David C. Walter

S. A. Dorland.

Inventor:

Charles E. Swartzbaugh,

By Munn & Hall His Attys

UNITED STATES PATENT OFFICE.

CHARLES E. SWARTZBAUGH, OF TOLEDO, OHIO.

STEAM-COOKER.

No. 843,240. Specification of Letters Patent. Patented Feb. 5, 1907.

Application filed October 29, 1903. Serial No. 179,018.

To all whom it may concern:

Be it known that I, CHARLES E. SWARTZBAUGH, a citizen of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented certain new and useful Improvements in Steam-Cookers; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

In that class of utensils employed in cooking by steam heat the device heretofore usually employed has consisted of a cylindrical sheet-metal vessel closed at bottom and having at top a steam-tight removable cover or lid. The bottom of this vessel is supplied with water, the vessel is placed over a fire, and food to be cooked is supported within the chamber of the vessel and cooked by exposure to the steam. In these vessels a series of receptacles for the food, one above another, is disposed within the chamber of the cooker. This form of cooker has been found in practice to be highly efficient, but a serious objection is the difficulty of reaching and inspecting the contents of the food-receptacles below the one next to the top or lid. In cookers of cylindrical form it is impracticable to overcome this difficulty by the use of openings in the sides of the vessel, owing to the size of the openings required and the difficulty of obtaining tight joints for the closure of such openings.

My invention relates to and its object is to provide means for overcoming the difficulties here pointed out, and more particularly to provide a steam-cooker of such form and with such openings as will permit the inspection and handling of either of the food-receptacles without disturbing any of the other food-receptacles, and which openings may be supplied with cheap efficient steam-tight closures.

My invention also relates to certain details of construction hereinafter described, and pointed out in the claims.

I attain these objects by means of the devices and arrangement of parts hereinafter described and shown, and illustrated in the accompanying drawings, in which—

Figure 1 is a perspective front view of my cooker with one of the doors open and with the other door removed. Fig. 2 is a transverse sectional elevation of a part of the bottom of my cooker; Fig. 3, a vertical sectional elevation of part of the rear wall of my cooker, and Fig. 4 is a cross-section through a portion of the front wall and door of the cooker on the line 4 4 of Fig. 1.

Like numerals of reference indicate like parts throughout the drawings.

In the drawings, 1 1 are the sides, 2 the back, and 3 the front, of the body of my cooker. The bottom 4 is contracted and of smaller area than the transverse area of the cooker. It is substantially rectangular, but has rounded corners and an upwardly-projecting flange 5, which is joined at its upper margin to the ledge 6, which is rectangular in outline and is joined to the bottom margins of the sides, front, and back. The reduced bottom forms a vessel or tank for the reception of water and is formed seamless by stamping and drawing. The top is at its margins flat and at its center is slightly conical, as shown, so that the water of condensation on the under side of the top will flow to the outer edge of the top and not drop onto the food contained in the cooker. To the opposing faces of the sides of the cooker are secured at corresponding heights a series of light brackets 7 for the support of pans or shelves which contain the food to be cooked.

In the front of my cooker are two openings 8 8, which are substantially rectangular in outline, but which have rounded corners, as at 9. The margins of the openings are provided with inwardly-turned flanges 10, which are slightly beveled inwardly, so that the inner edge of the flange is smaller than the outer edge. The flanges 10 are stamped and drawn seamless and integral with the piece of sheet metal composing the front. The openings 8 are provided with doors 11, hinged to the body of the cooker and which are composed, preferably, of two separated parallel pieces of sheet metal united at their margins by outwardly-beveled pieces 12. These latter pieces are seamless, are formed, preferably, integral with the inner sheet of the door, are rounded at their corners, and are stamped and drawn of exactly such size and shape as to accurately fit the flanged openings 8, thus insuring steam-tight joints. The outer sheets of the doors are extended to form flanges 13, which when the doors are closed fit tightly against the front of the cooker. The doors are provided with suit

able fastenings 14 for holding the doors in closed position.

In addition to the steam-tight joint furnished by the construction here described I overcome the difficulties encountered in manufacturing sheet-metal closures for openings in sheet-metal receptacles, as heretofore attempted. In devices of this class the openings and their closures have usually had square corners, and it has been found in practice next to impossible to stamp and draw the metal so that the corners will be perfect and not leak steam. The beveled meeting surfaces and their rounded corners above described fully overcome these difficulties.

In one corner of the top of the cooker is a circular opening having a flaring mouth, into which fits closely a small funnel 15, the bottom of which is extended, as a pipe 16, to near the bottom of the chamber of the cooker. The funnel and tube serve as a means for supplying water to the bottom of the cooker. The lower end of the tube 16 should be so near the bottom of the cooker and the water level in the tank-bottom should be such that the lower end of the tube is normally submerged. In the funnel-piece at the top of the tube is a disk whistle which will be blown by the escaping steam as a signal when the water in the cooker becomes so low as to uncover the lower end of the tube. The whistle is provided with a crank 17, by which it may be turned edgewise to leave the passage through the tube unobstructed, so that water will freely pass through the tube.

Secured to the interior face of the back of the cooker near its bottom is a segment of a flattened tube 18. The margins of this piece being soldered to the back of the cooker there is formed between the piece 18 and the back of the cooker a thin elongated chamber. At the bottom this chamber leads out through an opening 19 through the bottom of the cooker. (See Fig. 2.) In the face of the piece 18 is an outwardly-struck portion 20, through which is an opening 20^a. To the inner concave side of the piece 18, directly over the hole 20^a, is secured a thin flat plate 21, through which is a hole 22. This hole is covered by a thin flat outwardly-opening check-valve 23, which is supported and held in normally closed position by means of a flat spring 24, the upper end of which is secured to the inner side of the piece 18. The valve 23 prevents the escape of steam through the holes 19, 20^a, and 22. The tension of the spring 24 is such as to resist the internal steam-pressure in the cooker to a given extent, beyond which the spring yields, permitting the valve to open and the steam to escape down onto the stove or into the fire. Thus by means of the spring-valve the steam is confined in the cooker, but is prevented from attaining an undue pressure.

The operation and advantages of my device will now be readily understood. Water is supplied to the tank-bottom, food-receptacles are slipped onto the brackets 7 through the open doors, the doors are tightly closed, and the bottom of the cooker is placed on the stove or over the fire. Now either of the receptacles and its contents may, by opening the upper or lower door, be readily inspected without removing or disturbing either of the other food-receptacles. The joints of the doors being steam-tight, the lower end of the tube 16 being water-sealed, and the valve 23 being closed steam, vapors, and odors are confined under a moderate pressure until the internal steam-pressure is sufficient to open the valve. The opening of the valve permits excess of steam to escape downwardly and inwardly, as indicated by the dotted arrows, onto the stove or into the fire.

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

1. In a steam-cooker, a vertical wall of sheet metal having therethrough an angular opening with rounded corners, said opening having an integral inwardly-turned seamless beveled flange, and a door for said opening consisting of two thicknesses of sheet metal, the inner thickness having an integral seamless beveled margin corresponding with the flange of said opening, the outer thickness of the door having extended margins to form a flange to overlap the margin of said opening.

2. In a steam-cooker, a substantially rectangular top having in one corner a downwardly-projecting funnel combined with a tube adapted to slip through said funnel, and a funnel-shaped member at the top of said tube adapted to fit into the first-mentioned funnel to form a steam-tight joint, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES E. SWARTZBAUGH.

Witnesses:

S. A. DORLAND,

W. T. S. O'HARA.