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W. H. BROWN & G. C. GRANT.

STEAM COOKER.

APPLICATION FILED JAN. 10, 1905.

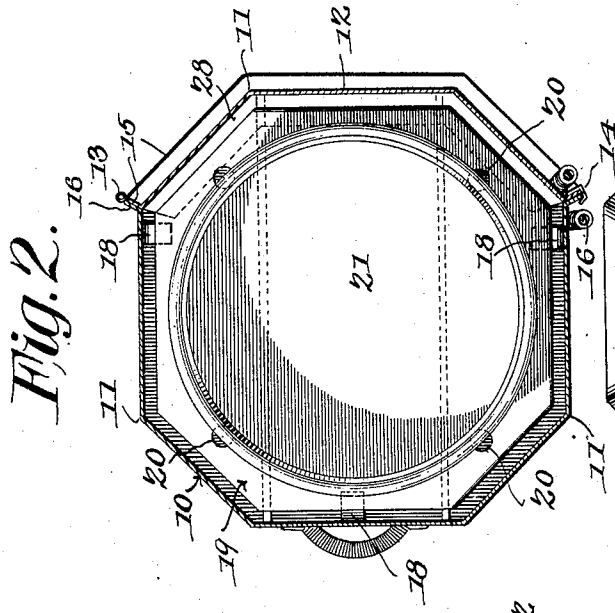


Fig. 2.

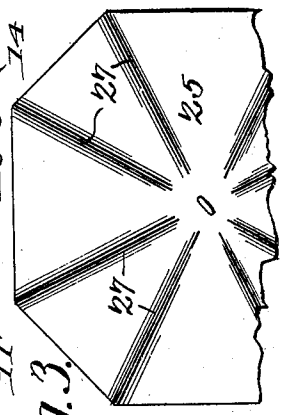


Fig. 3.

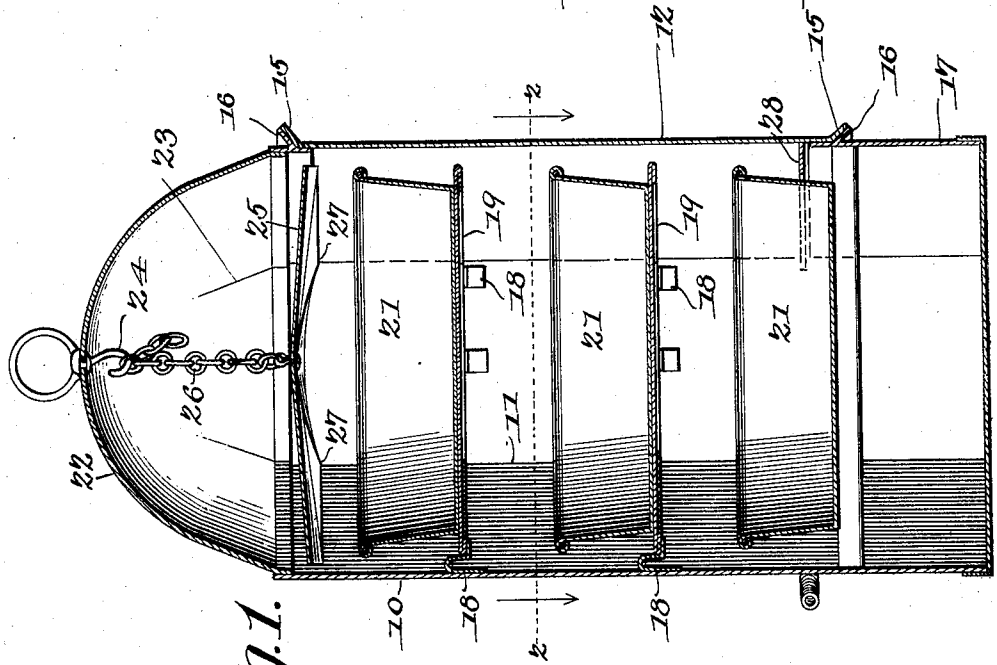


Fig. 1.

Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM H. BROWN AND GEORGE C. GRANT, OF MARGARETVILLE, NEW YORK.

STEAM-COOKER.

No. 800,069. Specification of Letters Patent. Patented Sept. 19, 1905.

Application filed January 10, 1905. Serial No. 240,474.

To all whom it may concern:

Be it known that we, WILLIAM H. BROWN and GEORGE C. GRANT, citizens of the United States, residing at Margaretville, in the county of Delaware and State of New York, have invented a new and useful Steam-Cooker, of which the following is a specification.

This invention relates to a convertible steam cooking and baking apparatus, and has for its object to improve the construction and increase the efficiency of devices of this class.

With these and other objects in view, which will appear as the nature of the invention is better understood, the same consists in certain novel features of construction hereinafter fully described and claimed.

In the accompanying drawings, forming a part of this specification, and in which corresponding parts are denoted by like designating characters, is illustrated the preferred form of the embodiment of the invention capable of carrying the same into practical operation, it being understood that the invention is not necessarily limited thereto, as various changes in the shape, proportions, and general assemblage of the parts may be resorted to without departing from the principle of the invention or sacrificing any of its advantages.

In the drawings, Figure 1 is a longitudinal sectional elevation. Fig. 2 is a transverse section on the line 2 2 of Fig. 1. Fig. 3 is a plan view of a portion of the deflecting-plate detached.

The improved apparatus comprises an inclosing casing 10, formed with a plurality of vertically-extending angular side faces whereby internal channels or guideways 11 are formed for conducting the water of condensation into the water-receptacle below, as hereinafter more fully explained.

Any desired number of the angular faces may be employed, but generally eight will be sufficient, as shown. The casing 10 is surmounted by a dome 22, semiglobular at the upper end and merging gradually and symmetrically into the angular side faces of the casing, as shown at 23. By this construction the water of condensation gathering upon the inner face of the dome flows down thereon and naturally seeks the most direct route, which will be toward the corner-channels 11, and will thus be quickly gathered in "streams" and flow thence to the water-receptacle, the increase in bulk of the water in the corners of the casing materially expediting and accelerating the discharge, as will be obvious.

A door 12 is attached to one side of the casing and hinged thereto, as at 13, on one side of the door and with a spring-catch 14 on the other side, the rim 15 of the door being of angular shape and fitting in a correspondingly angular casing 16 to increase the area of the bearing-surfaces, and thus produce a steam and air tight joint which will effectually prevent the escape of the steam or the entrance of cold air. The door is also provided with an inwardly-extending guard-strip 28 to deflect the water of condensation, which flows downward in the channels 11 of the door into the water-receptacle.

The lower portion of the casing is inclosed, as at 17, to form a receptacle for the water, and disposed at suitable intervals within the casing are lugs or brackets 18 for supporting shelves 19, the brackets having vertical offsets and the shelves being of less diameter than the interior of the casing and bearing against the offsets, so that the shelves are held spaced away from the casing to permit the water of condensation to blow past them. Each shelf is also provided with a plurality of vent-apertures 20 to provide for the more free circulation of the steam. The edges of the shelves are thus spaced from the inner angular faces of the casing to permit the steam to pass freely around them and also to permit the water of condensation to flow freely downward. The shelves are designed to support the cooking vessels, (represented at 21.)

Depending centrally from the dome 22 is a hook 24, from which articles to be cooked—such as fowls, hams, and the like—may be suspended.

Disposed within the casing above the food-receptacle is a deflector-plate 25, provided with a chain 26 for coupling to the hook 24, the plate thus being adjustable vertically by engaging one of the links of the chain with the hook. The deflector-plate may thus be adjusted to any required extent within the range of the chain.

The deflecting-plate is somewhat conical in form or with a general concave under surface and convex upper surface and with the surface divided into radial curved sections, the junctures of the sections forming downwardly and outwardly extending ridges 27, into which the

lower surface of the plate merges between each pair of the ridges. The ridges thus all converge toward the center of the plate and correspond in number to the channel-like corners 11 of the casing and terminate in proximity thereto. The formation of the alternating ridges and concaved surfaces also provides for corresponding radial channels in the upper surface. By this arrangement of parts any water of condensation gathering upon the interior of the dome 22 will flow downwardly thereon into the channel 11, as the route from the dome into the channels is the most direct and offers the least resistance, and the same is true of the deflector-plate 25, as the condensation gathering thereon flows over the curved surfaces between the ridges and gathers from either side upon the same and flows thence downwardly and runs off from the rim of the plate into the channels 11, and thence to the water-receptacle. Any condensation gathering upon the upper surface of the deflector-plate flows into the radial channels, and thence into the vertical channels 11. All of the water of condensation is thus gathered into a plurality of streams and discharged into the channels 11 in that condition, thereby materially expediting the discharge and preventing any deleterious effects from the slow or sluggish movement of the same. The heat is thus very materially increased without increase of expense or the amount of fuel consumed. This is a very material advantage in devices of this character and is a very essential requirement to produce the best results and prevent the formation of an envelop of condensed water upon the inner surface of the casing.

The formation of the casing 10 with its plurality of angular side faces, whereby the angular longitudinal channels 11 are provided, is an essential feature of the structure, as by that means the circular cooking-dishes, while nearly filling the interior of the casing, cannot bear so closely against the side walls as to close the channels 11 and divert the downwardly-flowing water of condensation. Thus no matter how carelessly the dishes may be placed upon the shelves 19 the flow of the condensed water cannot be shut off.

The plate 25 will preferably be of aluminium or of an aluminium compound to secure both lightness and freedom from corrosion.

Having thus described the invention, what is claimed is—

1. In a steam cooking device, a casing having angular side faces forming a plurality of longitudinal channels for the water of condensation, a deflecting-plate having a general concave under surface and convex upper surface and divided into transversely-curved radially-disposed sections whereby the junctures of the curved sections form downwardly and outwardly inclined ridges into which the curved surfaces merge from opposite sides, with the terminals of said ridges contiguous to said vertical channels, and means for suspending said deflector-plate within said casing.

2. In a steam cooking device, a casing having angular side faces forming a plurality of longitudinal channels for the water of condensation and with a water-chamber in the lower part, a dome surmounting said casing and formed with semiglobular upper part and angular lower part and merging into said globular part and the angular sides of said casing, a deflecting-plate having a general concave under surface and convex upper surface and divided into transversely-curved radially-disposed sections whereby the junctures of the curved sections form downwardly and outwardly inclined ridges into which the curved surfaces merge from opposite sides, with the terminals of said ridges contiguous to said vertical channels, and means for suspending said deflector-plate within said casing.

3. In a steam cooking device, a casing having angular side faces forming a plurality of longitudinal channels for the water of condensation, a deflecting-plate having a general concave under surface and convex upper surface and divided into transversely-curved radially-disposed sections whereby the junctures of the curved sections form downwardly and outwardly inclined ridges into which the curved surfaces merge from opposite sides, with the terminals of said ridges contiguous to said vertical channels, and a chain connected to said deflector-plate and adapted for adjustable connection within said casing.

4. In a steam cooking device, a casing having angular side faces forming a plurality of longitudinal channels for the water of condensation and with a water-chamber in the lower part, a dome surmounting said casing and formed with semiglobular upper part and angular lower part and merging into said globular part and the angular sides of said casing, a deflecting-plate having a general concave under surface and convex upper surface and divided into transversely-curved radially-disposed sections whereby the junctures of the curved sections form downwardly and outwardly inclined ridges into which the curved surfaces merge from opposite sides, with the terminals of said ridges contiguous to said vertical channels, a hook depending from said dome, and a chain connected to said deflector-plate for adjustably engaging said hook.

5. In a steam cooking device, a casing having angular side faces forming a plurality of longitudinal channels for the water of condensation and with a water-receptacle at the bottom and with a doorway in one side having a beveled frame, a door swinging from said casing and having beveled edges for engaging said beveled frame and with angular faces forming longitudinal channels corresponding to the channels in said casing, a plurality of spaced brackets upon the inner walls of said

casing and each provided with an offset, shelves for the food-receptacles and supported upon said brackets and maintained by said offsets spaced from the inner face of said casing, and a deflecting-plate suspended within the casing above the shelves and divided into transversely-curved radially-disposed sections forming downwardly and outwardly inclined ridges between each pair of the curved sections with the terminals of the ridges contiguous to said vertical casing-channels and the channels in said door.

6. In a steam cooking device, a casing having angular side faces forming a plurality of longitudinal channels for the water of condensation, and a dome surmounting the casing and formed with semiglobular upper part and inclined angular lower part merging respectively into the globular part of the dome and the angular side faces of the casing.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

WILLIAM H. BROWN.
GEORGE C. GRANT.

Witnesses:
N. D. OLMSTEAD,
J. D. ROTESMUND.