Dec. 15, 1931. F. V. DETWILER 1,836,156

COOKING PLATE STOVE TOP

Filed May 21, 1931

Fig. 1

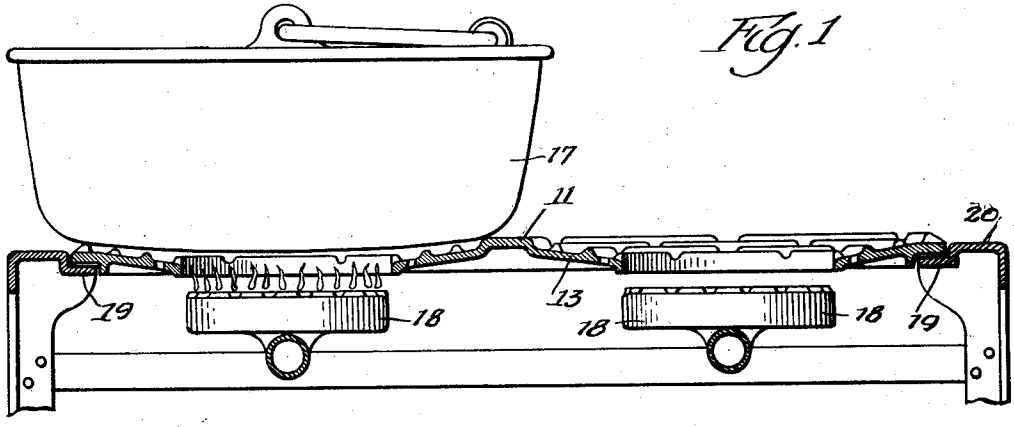


Fig. 2

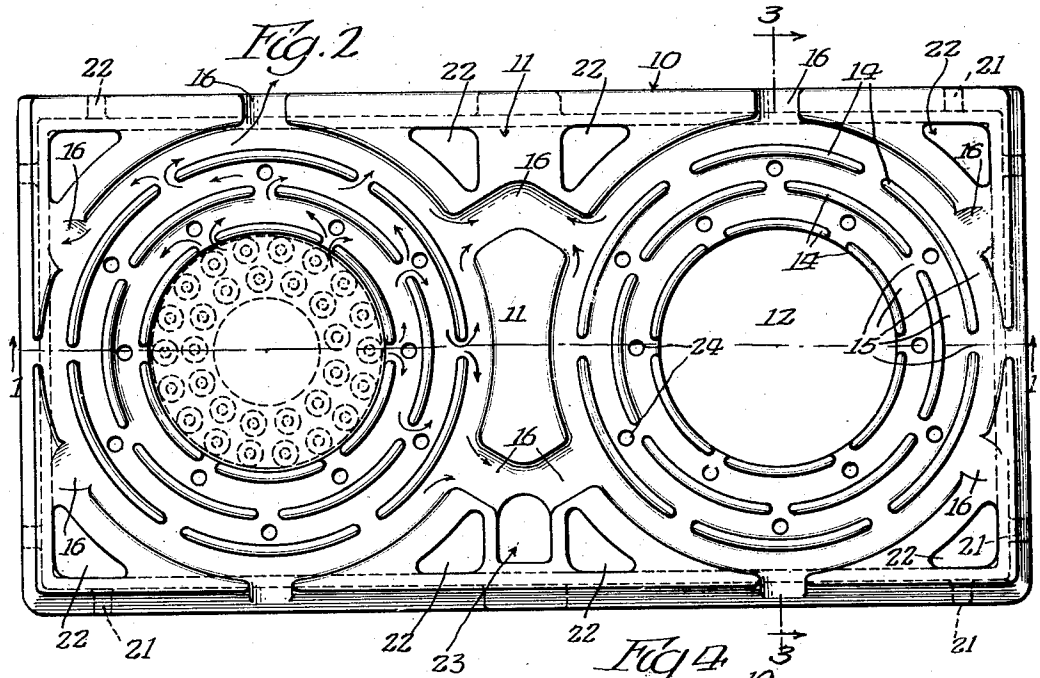


Fig. 3

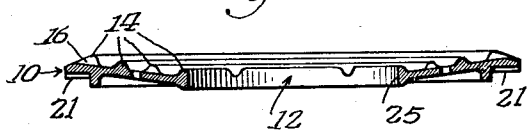
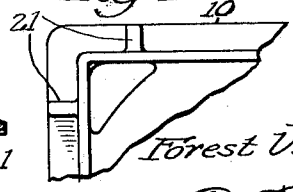


Fig. 4



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UNITED STATES PATENT OFFICE

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COOKING PLATE STOVE TOP

Application filed May 21, 1931. Serial No. 539,043.

This invention relates to stove top cooking plate particularly adapted, though not necessarily limited in its use with gas or vapor ranges, and one of the objects of the invention is to provide an improved cooking top which is readily removable and so shaped that the products of combustion from the burner will pass through the plate and circulate across the top thereof to contact with and flow across the bottom of the cooking utensil or receptacle placed thereupon.

A further object is to provide in a plate of this character means for causing the products of combustion and the heated air to flow in tortuous passages across the top of the plate, the plate being so constructed that overflow from the pots and kettles will run toward the center of the top to be evaporated before they pass through the plate to the burner.

A further object is to provide in a plate or top of this character means providing for the escape of the heated air and products of combustion beyond the edge of the kettle or pot after passing over the top of the plate.

To the attainment of these ends and the accomplishment of other new and useful objects as will appear, the invention consists in the features of novelty in substantially the construction, combination and arrangement of the several parts hereinafter more fully described and claimed and shown in the accompanying drawings illustrating this invention, and in which

Figure 1 is a sectional view taken on line 1—1, Figure 2, of a plate top of this character constructed in accordance with the principles of this invention, and showing the same as applied to a portion of a stove.

Figure 2 is a top plan view of the plate.

Figure 3 is a detail sectional view taken on line 3—3, Figure 2.

Figure 4 is a bottom plan view of a portion of one corner of the plate.

In gas stoves of the type to which this invention is particularly applicable, it is customary to provide removable grids in the top of the stove, and which grids are formed by spaced bars and are provided with unobstructed spaces located above the burners, so as not to interfere with the products of combustion passing therethrough, the pots or cooking utensils being placed upon the grids.

The size of the stove and the number of burners determines the number of grids to be employed.

With the use of these grids, considerable of the heat and products of combustion from the burner are lost as they will pass freely through the grids and all of the products of combustion will not be directed against the bottom of the utensil.

In the present invention these grids are dispensed with and in lieu thereof there is provided one or more plates designated generally by the reference numeral 10, according to the size of the stove. Each of these plates is constructed of any suitable material and the body portion thereof is provided with an upper flat surface 11. In the present form of the invention one of the plates is shown which is rectangular in configuration and the plate is provided with openings 12 therethrough of a substantial size. The portions of the plate in proximity to these openings 12 incline downwardly as at 13 from the flat upper surface 11 toward each of the openings 12.

Supported by the inclined portions 13 of the plate are a plurality of concentrically arranged ribs or projections 14 that extend for a short distance above the top of the inclined portion of the plate and these ribs are spaced laterally and longitudinally from each other so as to form tortuous passages 15 leading across the top of the inclined portion of the plate, and communicating with these passages are additional passages 16 formed in the upper flat surface of the plate to open through the top thereof, so that when a pot or receptacle 17 is placed in position over the respective burners 18, which latter are arranged beneath the openings 12, the products of combustion from the burner and the heated air will flow through the openings 12 and through the tortuous passages 15 across the top surface of the plate and against and across the bottom of the utensil. The products of combustion and heated air will find their escape through the openings 16 in the

upper surface of the plate, and beyond the periphery of the receptacle.

A plate of this character is removably supported upon a ledge or flange 19 encompassing the usual opening in the top of the stove designated generally by the reference numeral 20, and projecting below the lower face of the plate 10 at suitable points, and as is usual in castings, are lugs or projections 21, which latter may be filed or shaped so as to overcome the imperfections in casting and to permit the plate to rest flat upon the flange or flanges 19. These lugs or projections 21 may be arranged at any point about the circumference of the plate and on the lower face thereof and may be of any desired width and length.

The plate is provided with additional openings 22 therethrough for the escape of heated air from beneath the plate and may also be provided with an opening 23 therethrough disposed above the usual pilot light on the stove.

It will be manifest that with a plate of this character considerable heat will be radiated beneath the bottom thereof and in order to provide means whereby this radiated heat may be employed in the heating of the utensil, there may be provided in the bottom of the grooves or spaces formed between the respective series of projections 14, openings 24 of any desired size and of any desired number. These openings may be located in proximity to the openings formed between the proximate ends of adjacent projections or may be otherwise disposed with relation thereto, and a circulation of the heated air through such openings from beneath the plate will be induced by the circulation of the air on the top of the plate through the tortuous passages 15.

If desired an upright flange 25 may encompass the openings 12 to assist in directing the products of combustion through the openings 12.

By reason of the tortuous passages and of the openings 24, a circulation of the heated air and products of combustion across the top of the plate will be insured and the heated air will escape through the openings 16 in the top surface of the plate and will be thereby prevented from being directed back against the flame of the burner 18.

While the preferred form of the invention has been herein shown and described, it is to be understood that various changes may be made in the details of construction and in the combination and arrangement of the several parts, within the scope of the claims, without departing from the spirit of this invention.

What is claimed as new is:—

1. A cooking plate stove top embodying a body portion provided with an opening of substantial size therethrough and which opening when the plate is in position will stand over the burner of the stove, a series of concentrically arranged laterally and longitudinally spaced ribs projecting above the top of the plate to form tortuous passages for the products of combustion from the burner, and open channels in the top of the plate to form escape passages for the heated air from beneath and beyond the edge of a vessel placed upon the plate over the burner.

2. A cooking plate stove top embodying a body portion provided with an opening of substantial size therethrough and which opening when the plate is in position will stand over the burner of the stove, a series of concentrically arranged laterally and longitudinally spaced ribs projecting above the top of the plate to form tortuous passages for the products of combustion from the burner, and open channels in the top of the plate to form escape passages for the heated air from beneath and beyond the edge of a vessel placed upon the plate over the burner, the upper surface of the plate being substantially flat, and a portion of the plate in proximity to said opening inclining downwardly from said flat surface to said opening.

3. A cooking plate stove top embodying a body portion provided with an opening of substantial size therethrough and which opening when the plate is in position will stand over the burner of the stove, a series of concentrically arranged laterally and longitudinally spaced ribs projecting above the top of the plate to form tortuous passages for the products of combustion from the burner, the upper surface of the plate being substantially flat and a portion of the plate in proximity to the burner inclining downwardly to said opening, and open channels in the said flat surface extending from the said downwardly inclined portion of the plate.

4. A freely removable cooking plate top for stoves embodying a body of substantial size, the upper surface thereof being substantially flat and having a plurality of burner openings of substantial size therethrough, portions of the plate in proximity to said openings inclining downwardly to said openings, a plurality of upwardly extending projections on the said downwardly inclined portions of the plate to form tortuous passages for the heated air and products of combustion from the burner as they flow across the top of the said portions, and channels in the plate opening through the top of the said flat portions and extending from the said downwardly inclined portions.

5. A freely removable cooking plate top for stoves embodying a body of substantial size, the upper surface thereof being substantially flat and having a plurality of burner openings of substantial size therethrough, portions of the plate in proximity to said openings inclining downwardly to said openings, a

plurality of upwardly projecting concentrically arranged extended and disconnected ribs on the upper surface of the said downwardly inclined portions to form tortuous channels for the heated air across said portions of the plate, and channels opening through the top of the said flat surface of the plate and communicating with the channels in the said downwardly inclined portions.

6. A cooking plate stove top embodying a body portion provided with an opening of substantial size therethrough and which opening when the plate is in position will stand over the burner of the stove, a series of concentrically arranged laterally and longitudinally spaced ribs projecting above the top of the plate to form tortuous passages for the products of combustion from the burner, and open channels in the top of the plate to form escape passages for the heated air from beneath and beyond the edge of a vessel placed upon the plate over the burner, there being openings through the plate intermediate the said ribs.

7. A freely removable cooking plate top for stoves embodying a body of substantial size, the upper surface thereof being substantially flat and having a plurality of burner openings of substantial size therethrough, portions of the plate in proximity to said openings inclining downwardly to said openings, a plurality of upwardly extending projections on the said downwardly inclined portions of the plate to form tortuous passages for the heated air and products of combustion from the burner as they flow across the top of the said portions, and channels in the plate opening through the top of the said flat portions and extending from the said downwardly in clined portions, there being openings in the bottoms of the tortuous passages and extending through the plate.

8. A freely removable cooking plate top for stoves embodying a body of substantial size, the upper surface thereof being substantially flat and having a plurality of burner openings of substantial size therethrough, portions of the plate in proximity to said openings inclining downwardly to said openings, a plurality of upwardly extending projections on the said downwardly inclined portions of the plate to form tortuous passages for the heated air and products of combustion from the burner as they flow across the top of the said portions, and channels in the plate opening through the top of the said flat portions and extending from the said downwardly inclined portions, there being openings of substantial size through the plate and the said flat surface thereof beyond the said downwardly inclined portions.

In testimony whereof I have signed my name to this specification, on this 6th day of March, A. D. 1931.

FOREST V. DETWILER.