



April 19, 1938.

L. A. ALTHOFF

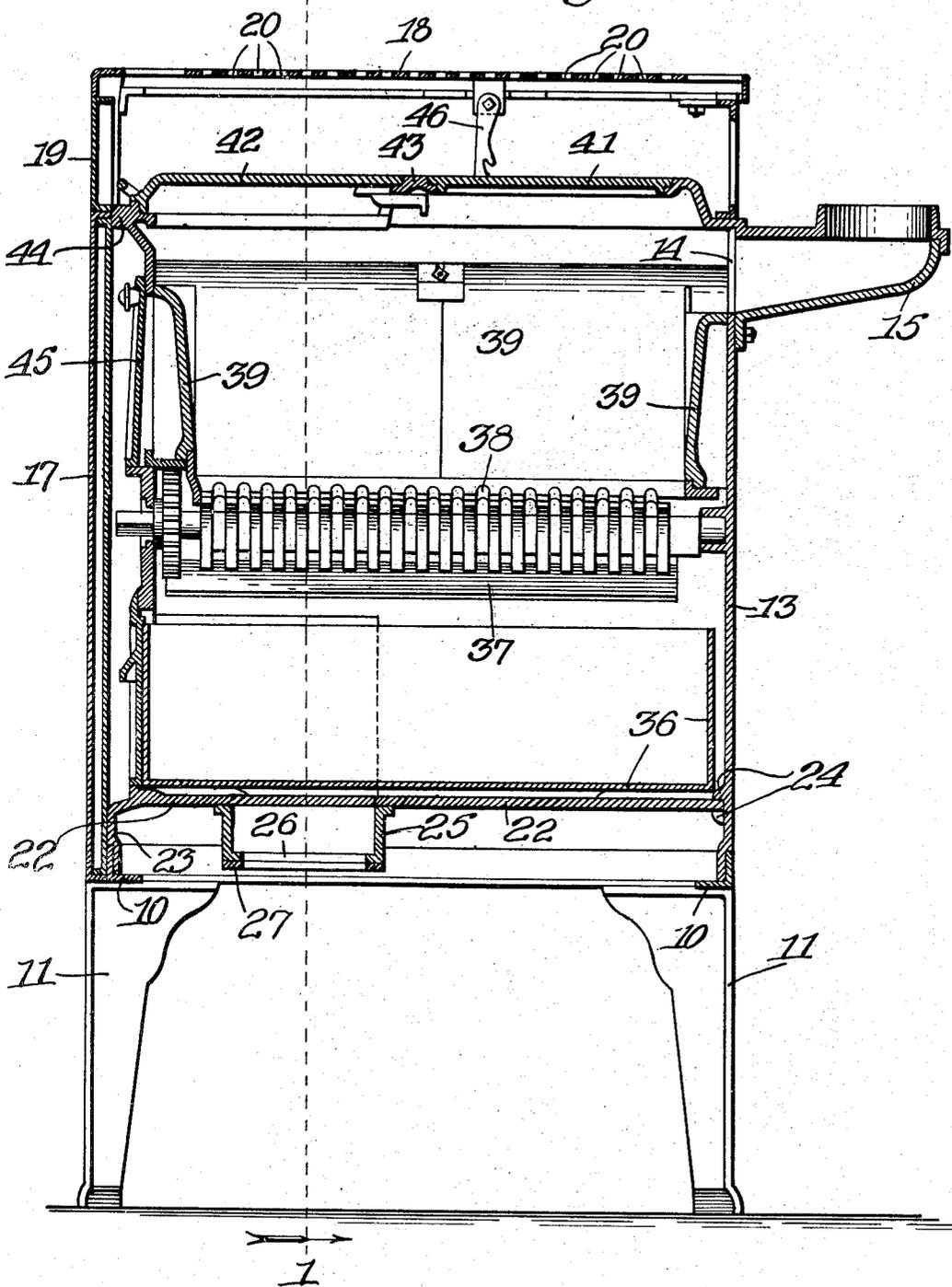
2,114,772

COMBINATION HEATING AND COOKING STOVE

Original Filed Feb. 1, 1935

2 Sheets-Sheet 2

Fig. 3.



Inventor:  
Lawrence A. Althoff,  
By *Dyrenforth, De, Chittom and Miles,*  
Attys.

# UNITED STATES PATENT OFFICE

2,114,772

## COMBINATION HEATING AND COOKING STOVE

Lawrence A. Althoff, Chicago, Ill.

Original application February 1, 1935, Serial No. 4,565. Divided and this application November 29, 1935, Serial No. 52,270

2 Claims. (Cl. 126-77)

This invention relates to a combination heating and cooking stove and may be employed in connection with a single unit as illustrated herein or in combination with a cooking range or other form of stove. This application constitutes a division of my co-pending application, Serial No. 4,565, filed February 1, 1936, for Combination heating and cooking stove.

An object of the invention is to provide a heating stove of compact design having improved draft control. Another object is to provide a heater of greater efficiency which is conveniently operated. Other objects and advantages will appear later in the specification.

The invention is illustrated, in a preferred embodiment, by the accompanying drawings, in which—

Fig. 1 is a transverse sectional view of a stove embodying my invention, the section being taken as indicated at line 1 of Fig. 3; Fig. 2, a bottom plan detail view; and Fig. 3, a sectional view, the section being taken as indicated at line 3 of Fig. 1.

In the illustration given, I provide an angle iron base 10 supported upon legs 11. Clamped between the legs 11 and the angle iron base 10 are the lower turned edges of metal side walls 12. The rear wall 13 rests upon the base 10 as shown more clearly in Fig. 3, and is provided with an aperture 14 through which the outlet flue 15 extends.

The front of the range is provided with a door 17. It will be observed that the door does not extend to the top of the outer frame casing, but terminates at a point substantially flush with the inner stove top. A top cover member 18, hingedly connected at its rear end, is provided at its front end with a depending wall 19 adapted to meet substantially the top of the door 17. The top cover 18 is preferably provided with air outlet openings 20, and the side walls 12 are also provided near their top with air openings 21.

The inner stove is preferably a unitary structure resting upon the angle iron frame 10. The structure may be of cast iron or any other suitable construction. As shown more clearly in Figs. 1 and 3, the bottom wall 22 is provided at its forward end with a depending flange 23 which rests upon the angle iron 10. The rear end of the bottom wall 22 is secured to the rear wall 13 by flanges 24. The bottom wall is provided near its forward end with a depending box 25 having air openings 26 therein controlled by the perforated plate 27 which is slidably secured to box 25 by screws 28 which engage slots 29 in plate 27. A pivoted bar 30 is provided with a handle 31 extending to the front of the stove and providing a means for controlling the inlet of air.

tending to the front of the stove and providing a means for controlling the inlet of air.

The plate 22 is provided with air openings 33 just above the box 25 to permit air to pass from the box upwardly along the sides 34 of the inner stove. Spaced inside of the walls 34 are air inlet walls 35 which, together with walls 34, provide an air space directly above the slots 33. An ash hopper or bin 36 is slidably supported inside of walls 35 and upon the plate 22. Secured to the side walls 34 directly above the walls 35 are downwardly and inwardly inclined baffles or guides 37. The baffles 37 are spaced sufficiently above the walls 35 to permit air to pass under the inner free ends of the baffles and then upwardly through the grate.

The grate 38 of well-known construction is supported above baffles 37 and a fire-box 39 also of well-known construction is supported upon members 40 which are secured to the walls 34 and which also form a portion of the grate. In view of the well-known construction of the fire-box and grate, a detailed description will not be given.

The rear top wall of the inner stove is adapted to serve as a cooking top and is provided with a removable circular top 41. The forward end of the stove top is in the form of a lift door 42 which is hinged at its rear side to an intermediate portion 43 of the stove top. The forward end of the door 42 engages a front beam or bar 44 which serves as a rest for the coal scuttle when the door 42 is raised. The fire-box 39 is also provided with the usual door 45 closing the front side of the fire-box.

In order to support the top cover 18, I provide a latch member 46 which is provided with notches adapted to engage the lug 47 carried by the outer stove frame, as shown more clearly in Fig. 3.

In the operation of the stove, the required amount of air may be admitted through the bottom air box 25 by sliding the damper plate 27 to the desired position. The air enters, as shown more clearly in Fig. 1, through the apertures 26 and then through slots 33 in plate 32. The air passes upwardly through passages formed by walls 34 and 35 and then inwardly under baffles 37. The pre-warmed air then passes through the bottom of grate 38 and directly into firebox 39. In the operation just described, if desired, air may be admitted through the lower portion of side walls 34 adjacent the walls 35, but I prefer not to have the air enter at a point thereabove. The inwardly turned baffles 37 prevent the air passages from being clogged with ashes and at the same time, direct the ashes

into the hopper 36. The air outside of the inner stove enters at the bottom of the range and passes along the sides 12 in contact with the heated walls 34 of the inner stove. The air then passes out of openings 20 at the top of the range and side openings 21.

While in the foregoing illustrated description I have set forth a specific preferred structure, it will be understood that considerable variation may be made in the details of construction without departing from the spirit of my invention.

The foregoing detailed description has been given for clearness of understanding only, and no unnecessary limitations should be understood therefrom, but the appended claims should be construed as broadly as permissible, in view of the prior art.

I claim:

1. In a stove, a casing providing a firebox, an ash drawer compartment therebelow and a bottom closed except as to its forward end portion, said forward end portion being provided with an air inlet, means for controlling said inlet, means cooperating with the sidewalls of said drawer compartment to provide with said casing vertical passages in the front portion of the casing communicating with said bottom air inlet, an outlet flue communicating with the rear portion of the firebox, an ash drawer in said compartment, and downwardly inclined spreader guides carried by

said casing and extending over said air passages, said guides extending substantially the length of said firebox, and being adapted to direct ashes into said drawer and spread the rising air from said passages inwardly and rearwardly below said firebox.

2. In a stove, a casing providing a firebox, an ash drawer compartment therebelow and a bottom closed except as to its forward end portion, said forward end portion being provided with an air inlet, a slide mounted in said casing for controlling said inlet, a lever having its extreme rear end portion pivoted to the bottom casing wall and an intermediate portion pivotally connected to said slide, the forward free end portion of said lever extending to the front of said stove, an outlet flue communicating with the rear of said firebox, means cooperating with the sidewalls of said drawer compartment to provide with said casing vertical passages in the front portion of the casing communicating with said bottom air inlet, an ash drawer in said compartment, and downwardly inclined spreader guides carried by said casing and extending below and the length of said firebox, said guides being adapted to direct ashes into said drawer and spread the rising air inwardly and to the rear of said vertical air passages.

LAWRENCE A. ALTHOFF. 30