D. A. STELL.

COMBINATION COOK AND HEATING STOVE.

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1,178,884.

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Fig. 1.

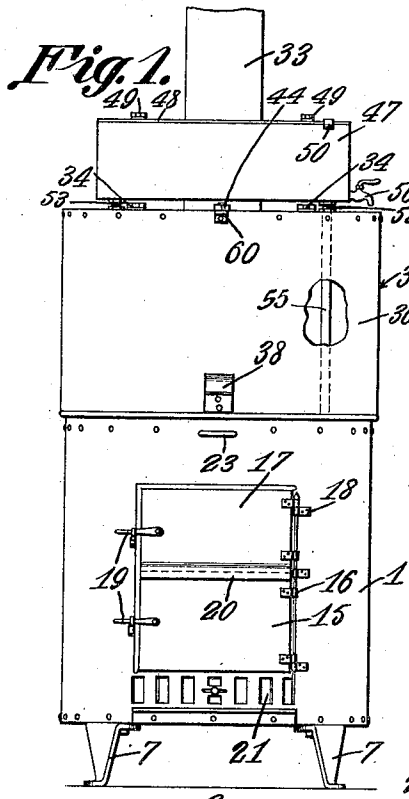


Fig. 5.

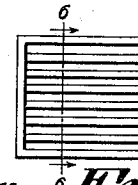


Fig. 2.

Fig. 4.

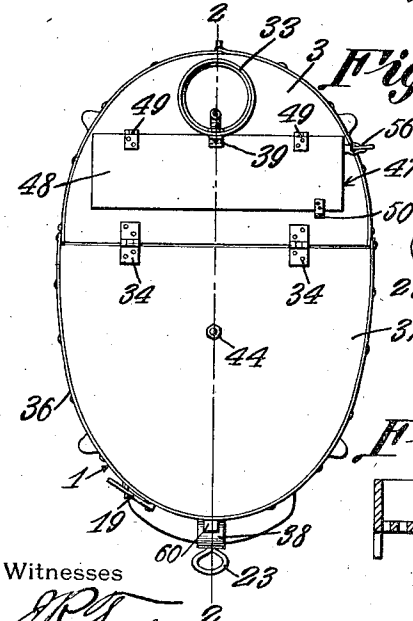


Fig. 6.

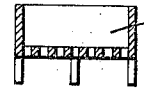
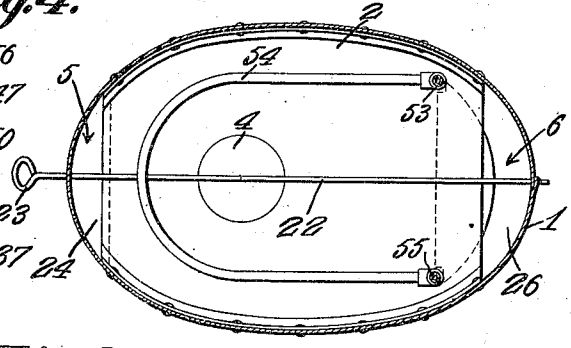


Fig. 3.



Witnesses

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COMBINATION COOK AND HEATING STOVE.

1,178,884. Specification of Letters Patent. Patented Apr. 11, 1916.

Application filed December 22, 1915. Serial No. 68,229.

To all whom it may concern:

Be it known that I, DAVID A. STELL, a citizen of the United States, residing at Murfreesboro, in the county of Pike and State of Arkansas, have invented a new and useful Combination Cook and Heating Stove, of which the following is a specification.

The device forming the subject matter of this application is adapted to be employed as a heating stove and as a cooking stove.

The invention aims to provide a device of the type above described in which the oven is movably mounted in a novel manner, so that it may be swung out of the way, when it is desired to insert material to be baked within the contour of the oven, or when it is desired to examine the material being baked, and for other purposes.

Another object of the invention is to provide novel means for controlling the draft from the combustion chamber or ash pit with respect to the oven.

A further object of the invention is to provide novel means whereby water may be heated.

It is within the province of the disclosure to improve generally and to enhance the utility of devices of that type to which the present invention appertains.

With the above and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed, without departing from the spirit of the invention.

In the accompanying drawings:—Figure 1 shows in front elevation a stove constructed in accordance with the present invention; Fig. 2 is a vertical longitudinal section, on the line 2—2 of Fig. 4, parts appearing in elevation; Fig. 3 is a cross section on the line 3—3 of Fig. 2; Fig. 4 is a top plan of the stove; Fig. 5 is a top plan showing a modified form of grate; Fig. 6 is a cross section on the line 6—6 of Fig. 5.

The stove forming the subject matter of this application includes a tubular body 1, provided at its rear with an upstanding extension 29, the body 1 being supported upon legs 7, if desired. The upper end of the body 1 is closed by a top 2 defining a fire box or combustion chamber 3, the top 2 being provided with one or more movable lids 4 if desired. At the front of the stove, the top 2 terminates short of the body 1 to define an opening 5, and at the rear of the stove, the top 2 terminates short of the back portion of the extension 29, thereby to define an opening 6. Disposed within the fire box 3 is a removable tubular casing 8 which is open at the front, as clearly shown at 12. The casing 8 is supplied with superposed openings 9 in any of which may be mounted pins 10 supporting a grate 11. The construction, therefore, is such that the grate may be raised and lowered at the will of an operator, it being understood that any suitable means may be provided whereby the grate 11 may be adjusted vertically. If desired, the casing 8 and the grate 11 may be removed, the place of these elements being taken by a box grate 14, shown in Figs. 5 and 6, the box grate ordinarily being employed in the summer time, when wood is used as a fuel.

An ash door 15 is hinged as shown at 16 to the body 1, a stoke door 17 being hinged to the body as indicated at 18 and both doors being adapted to be held in closed positions by means of latch mechanisms 19 of any desired sort. The stoke door 17 is provided along its lower edge with a flange 20, overlapping the upper edge of the ash door 15; and therefore, the latch 19 on the ash door 15 may be omitted, if such a construction is considered desirable.

Mounted to reciprocate in the front and rear portions of the body 1, below the top 2 is a damper rod 22, the forward, protruding end of the damper rod being supplied with a handle 23. Carried by the damper rod 22 is a damper 24 controlling the opening 5, the rear end of the damper rod carrying a damper 25 controlling the opening 6, the draft through the fire box 3 being controlled by a damper 21 carried by or located below the ash door 15.

The numeral 59 indicates a damper located at the back of the body 1 and ordinarily employed as a check-draft. The damper 25 is provided with an upstanding lip 26 constituting a damper controlling an opening 27 in a back plate 28 extended between the top 2 and a supplemental top 31 carried by the upper end of the extension 29. The back plate 28, which is removable, is provided with a finger piece 40 and is held

in place by latches 30 on the top 31 and on the top 2, and by abutments 30ª on these parts, the abutment on the top 31 only being shown. The supplemental top 31 supports a stack 33 communicating with the flue 32 defined by the extension 29 and the back plate 28.

Hinged as shown at 34 to the supplemental top 31 is a hood 35 embodying a side wall 36 and a top 37, the hood being open at the back and being adapted to coöperate with the extension 29, the latter being open at the front but being closed by the removable back plate 28. The hood 35 may be lifted through the medium of a finger piece 38, and may be held in an upwardly swung position by means of the latch 39 on the stack 33, the same being adapted to coact with a lip 60 on the forward upper edge of the hood 35.

Disposed within the hood 35 is a tubular oven 41 which is removable. Any suitable means may be provided for mounting the oven 41 removably in the hood 35. If desired, the oven 41 may be equipped on its top with standards 42 adapted to bear against the top 37 of the hood 35. The top of the oven 41 carries a threaded stud 43 passing through the top 37 of the hood and equipped with a nut 44 adapted to engage the top of the hood. In the back of the oven 41 there is an opening 45 which facilitates the insertion of the material to be baked into the oven when the hood 35 is swung upwardly. When the hood 35 is in a lowered position, as shown in Fig. 2, the opening 45 will be closed by a plate 46 fixed to and upstanding from the top 2.

The numeral 47 designates a tank mounted on the supplemental top 31 near to the stack 33, the tank 47 being provided with a lid 48 which is hinged to the tank as shown at 49 and is retained in a closed position by means of one or more latches 50, the lid 48 and the tank 47 being tongued and grooved together as shown in Fig. 2 to afford a tight joint when the lid is closed, the tongue and groove construction above alluded to being indicated by the reference character 51 in Fig. 2. Disposed within the tank 47 is a rack 52 on which dishes and the like may be placed. The tank is adapted primarily for heating water but if the temperature of the water is raised sufficiently the tank may be used for boiling articles placed on the rack 52. A vertical pipe 53 enters the bottom of the tank 47 and passes downwardly into the fire box 3, the pipe 53 communicating with a loop 54 located in the fire box. The loop 54 may be of any desired contour and of any length, depending upon the amount of heating surface desired. The loop 54 communicates with an upright pipe 55 entering the bottom of the tank 47. Obviously, the water in the tank 47 flows through the conduit formed by pipes 55 and 53 and the loop 54 and is heated. The tank 47 may be equipped with a draw-off cock 56. Extended rearwardly from the pipe 53 is a pipe 57 which may be connected with a water supply system when such a system is available. When no such system is at hand, the tank 47 may be filled otherwise. The tank 47 is supplied with a vent pipe 58 entering the stack 33.

When the damper rod 22 is pulled forwardly into the position shown in Fig. 2, the damper 24 closes the opening 5, the damper 25 uncovers the opening 6, and the damper 26 closes the opening 27 in the back plate 28. Heat is thus cut off from the hood 35 and passes out through the flue 32 and the stack 33. If, however, the damper rod 22 is pushed rearwardly, then the damper 25 closes the opening 6, the damper 26 is moved to open position with respect to the opening 27 in the back plate 28, and the damper 24 uncovers the opening 5. Then the products of combustion pass through the opening 5, around the oven 41 and out through the opening 27 in the back plate 28, into the stack.

As hereinbefore stated, the hood 35 with the oven 41 may be swung upwardly into an open position, the opening 45 in the back of the oven permitting the insertion of the articles to be baked. When the hood 41 and the hood 35 are swung downwardly into the closed position of Fig. 2, then the plate 46 acts as a closure for the opening 45 in the oven 41.

Having thus described the invention, what is claimed is:—

1. In a stove, a body provided with an upstanding extension constituting a flue; a top on the body and located at the base of the flue, the top defining a fire box in the body; a movable hood coöperating with the top and the flue; an oven coöperating with the top and spaced peripherally from the hood to form a circulating space, the top being provided with front and rear openings establishing communication between the circulating space and the fire box, and the flue having an aperture communicating with the circulating space; a primary damper controlling the front opening; a secondary damper controlling the rear opening; and a supplemental damper controlling the aperture.

2. In a stove, a body provided with an upstanding extension constituting a flue; a top on the body and located at the base of the flue, the top defining a fire box in the body; a movable hood coöperating with the top and the flue; an oven carried by the hood and spaced peripherally from the hood to form a circulating space, the top being provided with front and rear openings establishing communication between the circulating space and the fire box, and

the flue having an aperture communicating with the circulating space; a primary damper controlling the front opening; a secondary damper controlling the rear opening; a supplemental damper controlling the aperture; and means for operatively connecting all of the dampers whereby the supplemental damper and the primary damper may be moved to closed positions when the secondary damper moves to an open position.

3. In a stove, a body provided with an upstanding extension constituting a flue; a top on the body and located at the base of the flue, the top defining a fire box in the body; a movable hood coöperating with the top and the flue; an oven carried by the hood and spaced peripherally from the hood to form a circulating space, the rear portion of the oven being provided with an opening; an upstanding plate carried by the top and constituting a closure for the said opening when the hood coöperates with the top and flue, the top being provided with front and rear openings establishing communication between the fire box and a circulating space lying between the oven and the hood, and the flue having an aperture communicating with the said circulating space; a primary damper controlling the front opening; a secondary damper controlling the rear opening; a supplemental damper controlling the aperture; and means for operatively connecting the dampers whereby the primary damper and the supplemental damper are moved to closed positions when the secondary damper moves to an open position.

4. In a stove, a body provided with an upstanding extension; a movable back plate coöperating with the extension to define a flue, the back plate having an aperture; a top on the body and coöperating with the back plate; a hood hinged to the extension and adapted to coöperate with the top; an oven carried by the hood and separated peripherally therefrom to form a circulating space; the top being provided with front and rear openings communicating with the circulating space, and the aperture in the back plate forming a communication between the flue and the circulating space; a rod slidable in the body; a primary damper connected with the rod and controlling the forward opening; and a secondary damper connected with the rod and controlling the rear opening, the secondary damper being provided with an upstanding flange constituting a damper for the aperture in the back plate, the primary damper being mounted to move into closed position with respect to the forward opening, and the supplemental damper being mounted to move into closed position with respect to the aperture, when the secondary damper is moved to an open position with respect to the rear opening.

5. In a device of the class described, a body provided with an upstanding extension constituting a flue; a top on the body and located at the base of the flue, the top defining a fire box in the body; a hood hinged to the extension and coöperating with the top and the extension; an oven cooperating with the top and separated peripherally from the hood to form a circulating space, the top being provided with front and rear openings establishing communication between the circulating space and the fire box, and the flue having an aperture communicating with the circulating space; dampers controlling the openings and the aperture; a tank disposed on the extension; and a pipe the ends of which communicate with the tank, the pipe being extended downwardly through the extension and through the top, and having a branched portion located within the fire box.

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

DAVID A. STELL.

Witnesses:
ROBERT N. ALFORD,
G. P. CRAWFORD.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."