(No Model.)

J. W. CALTA.

STOVE.

No. 453,899. Patented June 9, 1891.

Fig. 1.

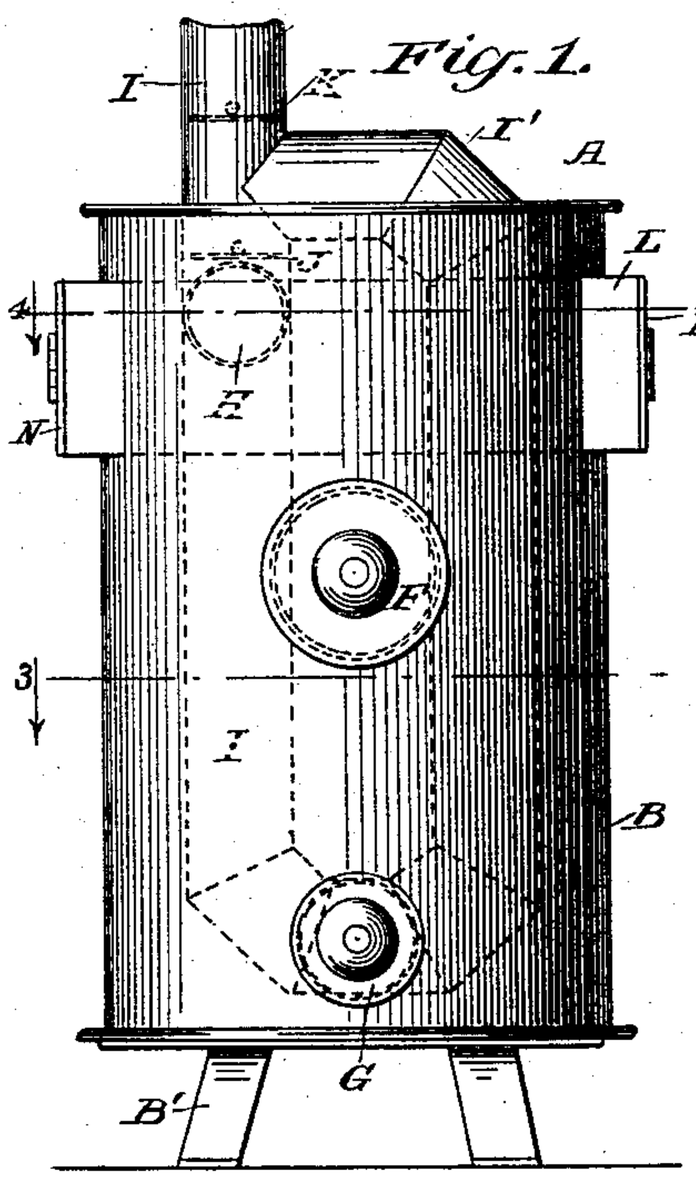


Fig. 2.

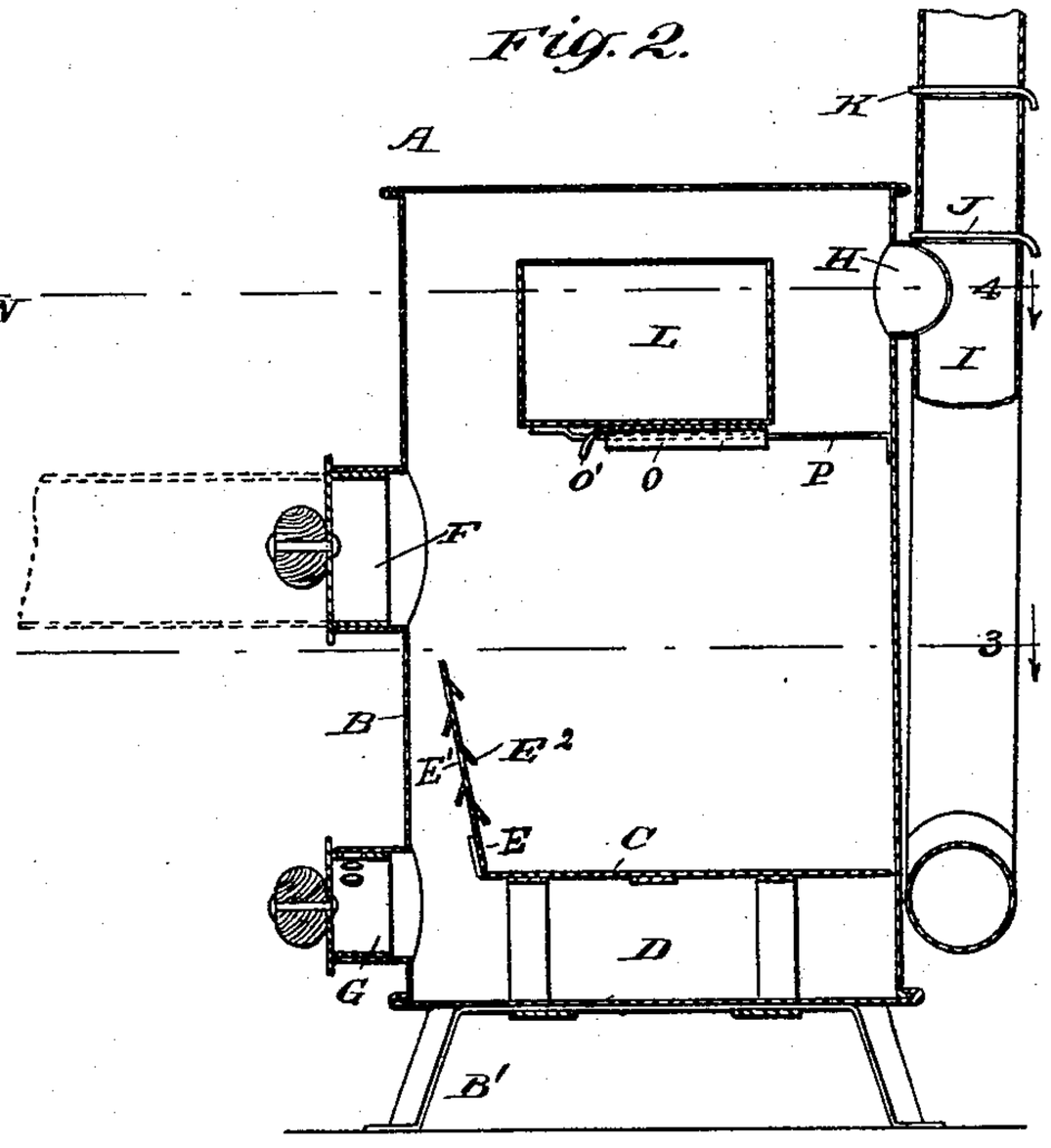


Fig. 3.

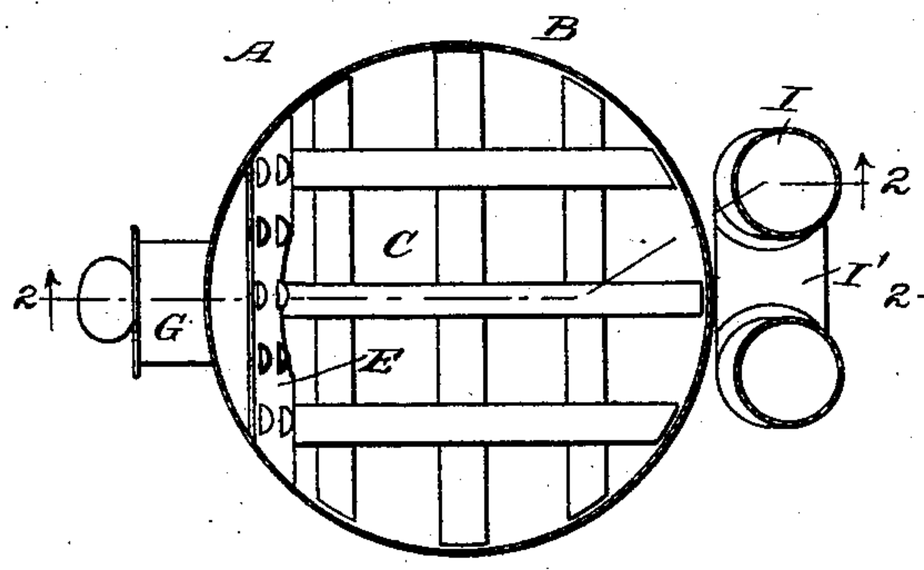


Fig. 4.

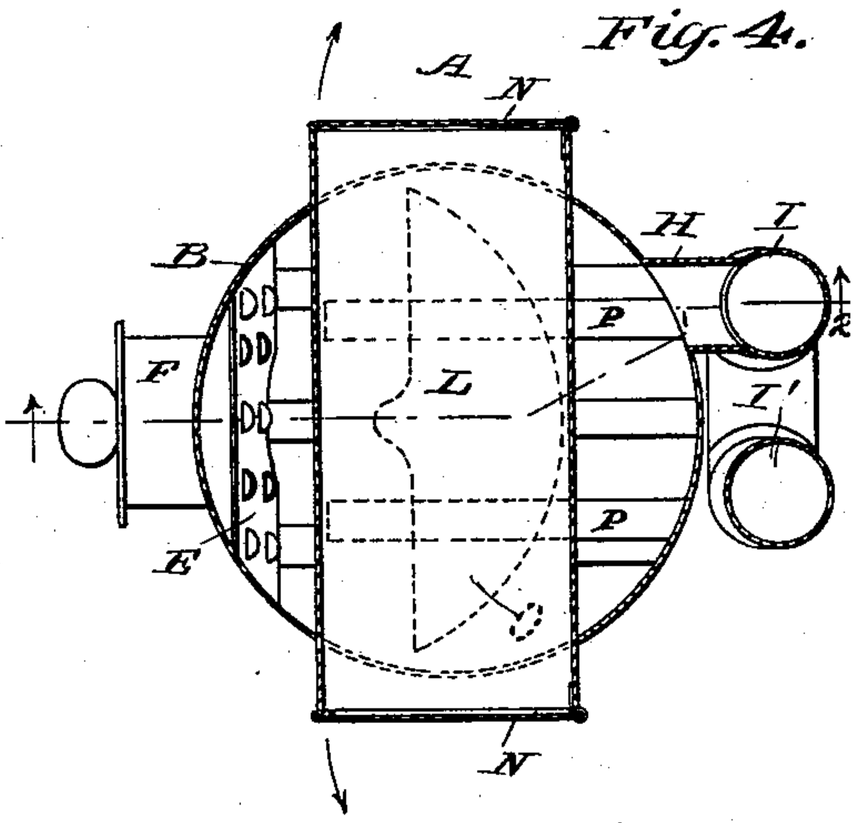
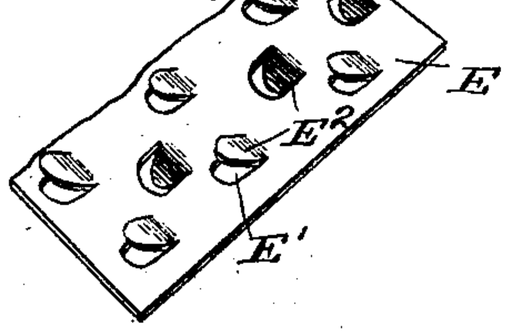


Fig. 5.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JAMES W. CALTA, OF CASTALIA, SOUTH DAKOTA.

STOVE.

SPECIFICATION forming part of Letters Patent No. 453,899, dated June 9, 1891.

Application filed April 1, 1890. Serial No. 346,144. (No model.)

To all whom it may concern:

Be it known that I, JAMES W. CALTA, of Castalia, in the county of Charles Mix and State of South Dakota, have invented a new and Improved Stove, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved stove which is simple and durable in construction, specially designed for burning straw, hay, trash, and rubbish as fuel, and adapted for heating and cooking purposes.

The invention also consists of certain parts and details and combinations of the same, as will be hereinafter fully described, and then pointed out in the claim.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a front elevation of the improvement. Fig. 2 is a sectional side elevation of the same on the line 2 2 of Figs. 3 and 4. Fig. 3 is a sectional plan view of the same on the line 3 3 of Figs. 1 and 2. Fig. 4 is a like view of the same on the line 4 4 of Figs. 1 and 2, and Fig. 5 is a perspective view of part of the front plate.

The improved stove A is provided with a shell B, preferably oval or cylindrical in shape, having legs B′ and containing an open grate C, below which is formed the ash-pit D. On the front of the grate C is arranged an upwardly-extending and slightly-inclined plate E, having a series of perforations or openings E′, over which extend at both sides lugs E^2, passing downwardly, so as to prevent the fuel placed on the grate C from falling into the ash-pit D. At the same time the openings E′ permit of passing air necessary for combustion to the fuel on the grate-bars. The plate E extends upward toward the filling-opening F, provided with the usual door, through which the fuel is introduced into the shell B, to pass onto the grate C. The lower end of the front plate E of the grate is opposite the draft-door G, provided with the usual door having openings, through which can pass air to the interior of the shell when the door is closed, the said air passing under the grate C and into the channel formed between the plate E and the shell B, so that the air can pass into one side of the fuel by passing through the openings E′ in the front plate E. If desired, plates E may be arranged on all sides of the grate C.

From the upper end of the shell B leads outwardly a short pipe H, leading to the chimney-pipe I, connected at its upper end with the chimney and having its lower end bent around, so as to form an additional draft-channel I′, which connects with the upper part of the chimney-pipe I a suitable distance above a damper J, located directly above the pipe H in the chimney-pipe I. A second damper K is also held in the chimney-pipe I a suitable distance above the entrance of the branch pipe I′ into the pipe I, so that heat, smoke, and gases passing from the shell B through the pipe H can pass downwardly in pipe I, and from thence into the branch-pipe I′, and then into the chimney-pipe I, when the damper J is closed. When the latter is open, the smoke and gases from the shell B can pass through the pipe H directly into the upper part of the chimney-pipe I and to the chimney.

The damper J is solid, while the damper K is provided with the usual openings, so that in case it is entirely closed the gases can pass at all times to the chimney. In the upper part of the shell B is also arranged an oven L, passing completely through the shell and extending a short distance on each side of the said shell. On each outer end of the oven L is arranged a door N, so that the oven can be opened on either side for the introduction or removal of food to be baked or cooked. The oven L is preferably rectangular in cross-section and arranged in such a manner as to have its inner walls forming channels in the upper part of the shell B, so that all the heat generated by the burning fuel can pass around the four sides of the said oven.

The rear channel formed between the oven and the rear part of the shell B can be closed by a slide O, fitted to slide on supports P on the under side of the oven, inside of the shell B, so that when the said slide is moved rearward to close the said rear channel all the heat, gases, and smoke rising from the burning fuel pass around the front of the oven L, over the top before the said heat, gases, and

smoke can pass out of the pipe H to the chimney, as previously described.

On the front end of the slide O is arranged a downwardly-extending lug O′, adapted to be taken hold of with the poker or other instrument for opening or closing the said slide through the filling-opening F. The fuel to be burned is passed through the filling-opening onto the grate C, and is ignited from underneath the grate-bars, through the ash-pit door G. The necessary air for combustion passes into the lower part of the shell B through the openings in the ash-pit door G, as previously mentioned.

By arranging the front plate E in the manner previously described the puffing of the burning fuel is completely avoided, as sufficient air is passed to the burning fuel from underneath the grate C and also through the openings E′ in the front-plate E. By passing the outgoing heat, gases, and smoke through the branch pipe I′ before they are allowed to pass into the chimney considerable pressure is removed from the upper part of the shell. At the same time the draft can be conveniently regulated by adjusting the dampers J and K in the branch pipe I′ in the chimney-pipe I.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

In a stove, the combination, with a shell having a filling-opening and a draft-opening below the filling-opening, of a grate held in the shell and a perforated plate having lugs projecting over the perforations, said plate being secured to the grate and inclined upward toward the filling-opening, but out of contact with the shell and forming with the shell a channel, substantially as herein shown and described.

JAMES W. CALTA.

Witnesses:
JAMES MERWIN,
WM. BUN SMITH.