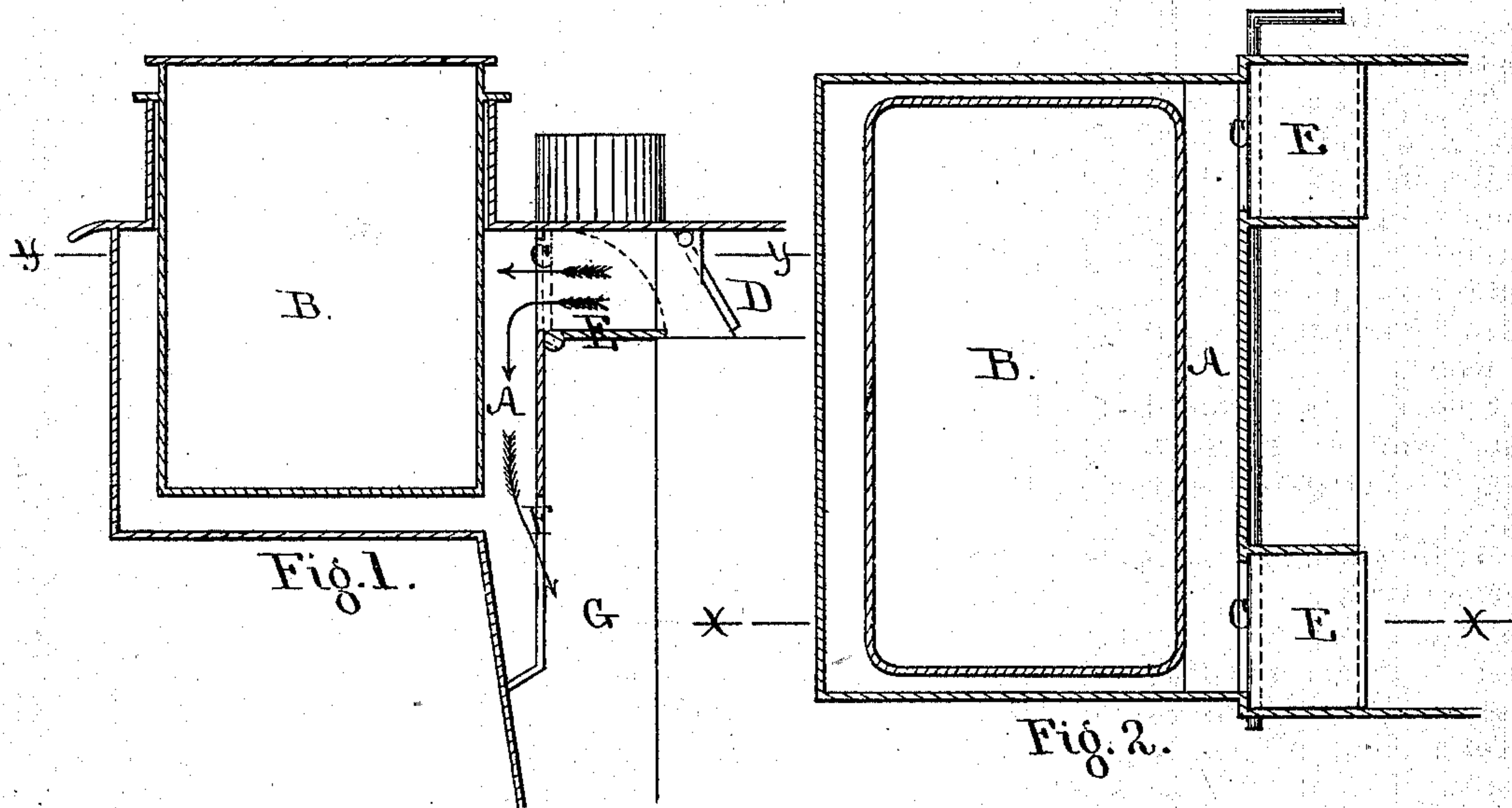


D. G. LITTLEFIELD.
Reservoir Cooking-Stoves.

No. 139,720.

Patented June 10, 1873.



Witnesses.

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UNITED STATES PATENT OFFICE.

DENNIS G. LITTLEFIELD, OF ALBANY, NEW YORK.

IMPROVEMENT IN RESERVOIR COOKING-STOVES.

Specification forming part of Letters Patent No. 139,720, dated June 10, 1873; application filed February 19, 1873.

To all whom it may concern:

Be it known that I, DENNIS G. LITTLEFIELD, of the city and county of Albany, and State of New York, have invented certain Improvements in Cooking-Stoves, of which the following is a full and exact description, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a longitudinal section of the back end of the stove at the line *x x*, and Fig. 2 a horizontal section of the same at line *y y*.

My invention consists of an auxiliary chamber, constructed as herein described, for receiving the reservoir, having openings formed therein communicating with the descending flue or flues of the stove; and of such an arrangement of dampers as will cause the heated gases in their passage around the oven to be thrown into the reservoir-chamber, or excluded therefrom at will.

As shown in the drawings, A is the auxiliary chamber formed by an extension of the body of a cooking-stove. The water-reservoir B is placed within said chamber, leaving a space around it for the circulation of the heated gases. C C are openings formed near the top of the plate dividing the chamber A from the vertical flues of the stove, whereby an open communication may be maintained between the flue D over the top of the oven and the chamber A. F F are openings, also formed in the plate dividing the chamber A from the vertical flues near the base of the chamber, for the purpose of permitting the exit of the heated gases from said chamber. E E are dampers so arranged that when they are placed in a vertical position, as indicated by the dotted lines in Fig. 1, they close the openings C C, and prevent the flow of heated gases into the chamber A. This arrangement is of great importance while starting fire in the stove, when the slightly heated gases, by coming into contact with the cold surface of the reservoir, have the greater portion of their caloric extracted, and consequently become so heavy and sluggish as to greatly impede combustion. After the fire has become fully ignited and is burning freely, the dampers E E may be turned down into the horizontal position

shown in the drawings, thereby cutting off the direct communication with the back downward flues, and throwing the current of the heated gases into the chamber A, where a sufficient quantity is retained to effect the heating of the water contained in the reservoir B. The gases pass downward out of the chamber A, through the openings F, into the descending flues G at the back of the oven, and thence around the oven through the flues surrounding it, until they pass out of the stove through the escape-pipe. After the water in the reservoir has become thoroughly heated, the dampers can be turned to close the opening C C and cut off the flow of the heated gases into the chamber A, thereby stopping the unnecessary evaporation of the water, and, by avoiding the generation of steam, removing a frequent cause of annoyance to housekeepers.

As shown in the drawings, the chamber A is applied to the well known form of three-flue cooking-stoves, but it can be adapted with equal facility to any arrangement of flues wherein the gases first pass downward through the descending flue or flues at the back end of the stove.

It will readily be seen that by my improvement the stove can be used independently of the parts containing the reservoir, and that by it I provide the means of controlling at will the admission of the heated gases into the chamber A, or their exclusion therefrom, while using the oven for baking, which constitutes the principal feature of my invention, and serves to distinguish it from those stoves wherein the reservoir is constantly kept in direct contact with the heated gases. I am aware that water-reservoirs have heretofore been placed in chambers of cooking-stoves, wherein such chambers have formed a portion of the flues of the stove, and among the many of the well known stoves of this class, the patented one of Davis & Lord, November 23, 1829, may be mentioned, as showing such a construction; but the chamber A of my invention differs from those of the above-named class of stoves, in this, that it does not form any portion of the flue, and has no enforced draft whereby the heated gases are carried around the reservoir, but is dependent upon the heat received and retained in the chamber

for heating the water in the reservoir. My improvement utilizes the well known volatile properties of heated gases to attain the most elevated position, which is secured by carrying the currents out of the chamber in a descending direction, which leaves the most highly-heated gases remaining in the chamber, where, by imparting a portion of their heat to the plate forming the back of the exit-flue, it greatly augments and improves the draft of the stove.

What I claim as my invention is—

The auxiliary chamber A containing the

reservoir B, when combined with the descending flue or flues G of a cooking-stove, in such a manner as to discharge the heated gases from the base of said chamber into the said flue or flues, and controlling the admission or exclusion of such gases to and from said chamber while operating the oven, by the dampers E E, substantially in the manner herein described.

DENNIS G. LITTLEFIELD.

Witnesses:

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