D. H. NATION & E. C. LITTLE.

Reservoir Cooking-Stoves.

No. 142,933. Patented September 16, 1873.

Fig 1

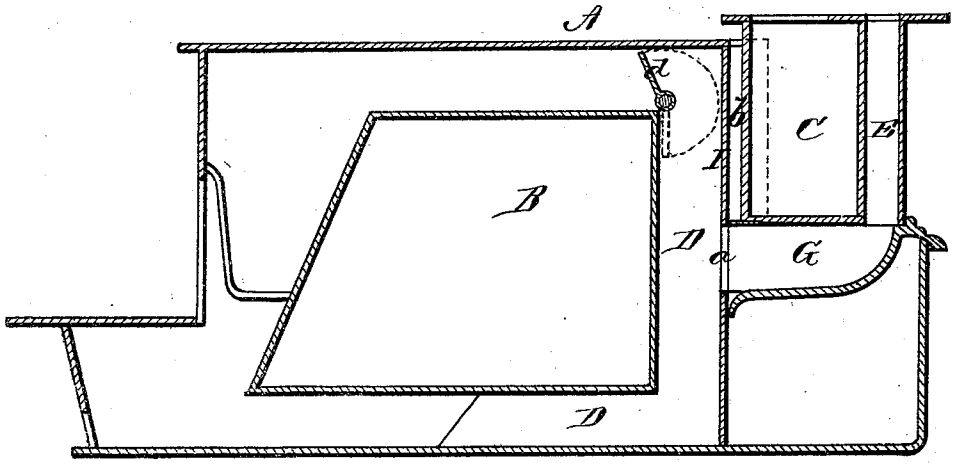


Fig 3

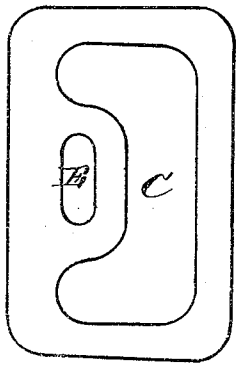


Fig 4

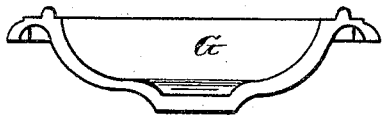
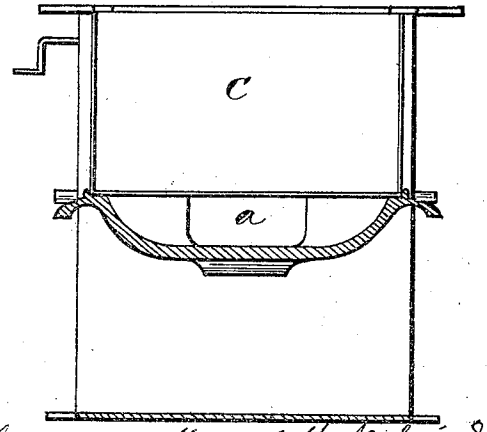


Fig 2



WITNESSES

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DAVID H. NATION AND EZEKIEL C. LITTLE, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN RESERVOIR COOKING-STOVES.

Specification forming part of Letters Patent No. **142,933**, dated September 16, 1873; application filed August 1, 1873.

To all whom it may concern:

Be it known that we, DAVID H. NATION and EZEKIEL C. LITTLE, of St. Louis, in the county of St. Louis and in the State of Missouri, have invented certain new and useful Improvements in Cooking-Stoves; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon, making a part of this specification.

Our invention relates to that class of cooking-stoves in which a water-reservoir is situated at the rear end of the stove; and it consists in the arrangement of the reservoir upon an extended support at the rear of the stove, so that an air-chamber, opening at its top into the air of the room, is left between the back-plate of the stove and the front of the reservoir, thereby protecting the front of the same from becoming burned out by being in direct contact with the heat from the fire. It also consists in a broad sheet-flue arranged under the reservoir, the heated air for which enters through a small passage in the back-plate of the stove, and, after circulating in said flue, passes out through a small opening in the rear thereof, all as more fully hereinafter set forth.

In order to enable others skilled in the art to which our invention appertains to make and use the same, we will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a longitudinal vertical section of our stove; Fig. 2 is a transverse vertical section of the same through the water-reservoir. Fig. 3 is a plan view of the reservoir; and Fig. 4 is a front view of the sheet-flue under the bottom of the reservoir.

A represents the top plate of the stove. B is the oven; C, the water-reservoir; D, the center one of the three flues of the stove; and E, the exit-flue, located in the rear of the reservoir C. This reservoir is located upon a support therefor, which extends rearward from a point about half-way between the top and bottom plates of the stove, and which may either be attached to or forming part of the stove, and a sheet-flue, G, is provided in the same under the bottom of the reservoir C. The heat, entering this flue, passes through the small central passage *a* in the stove-back I. It is there spread and retained under the reservoir until it gradually ascends through the small passage or exit-flue E. By this construction the rapid exit of the heated air from under the reservoir is prevented, and the heat, being retained under the bottom of the reservoir, causes the water in the same to become hot in a short time. The reservoir C is so arranged with respect to the back-plate I of the stove that an air-space, *b*, communicating with the air of the room at the top, is left between the front of the reservoir and the back-plate. By this means the outside air will pass down between the back-plate and front of the reservoir and prevent the front of the reservoir from burning out, which would be the case if the parts were in direct contact, especially when the water in the reservoir becomes low.

In the ordinary method the flame is made to strike directly upon the front surface of the reservoir, thereby rendering it liable to crack while replenishing with cold water upon the heated plates.

The opening *a* in the back-plate I of the stove is of the same width as the center-flue D, and the products of combustion pass through said opening into the sheet-flue G, which thus has a contracted entrance and a contracted exit.

When using the direct draft the damper *d* of the center flue D is turned downward and rests against the back-oven plate, as shown by the dotted lines in Fig. 1. At such times the heat passes down the center-flue D of the back through the opening *a* in the back-plate I into the sheet-flue G under the bottom of the reservoir, and out of the exit-flue E. When the indirect draft is used, the damper *d* occupies the position shown in Fig. 1, and at such times the heat passes down the usual side flues and under the bottom of the oven to the front of the stove, where it turns into the center flue D and passes back through the opening *a* to the sheet-flue G under the bottom of the reservoir and out of the exit-flue.

With a stove thus constructed, the reservoir is heated almost entirely from the bottom, and the heat acts upon the entire surface of the bottom of the reservoir, and when the

reservoir is but partially filled there is no danger of the heat acting against, and burning out the top part of, the front side of the reservoir.

We do not claim under this patent a flue-shell and rear central extension that is detachable from the stove-body by means of hooks on the one and catches or pins on the other; nor do we specifically claim a reservoir with a flue in its rear, as these elements of invention are the subject of a separate application for a patent now pending; neither do we wish to be understood as claiming the arrangement of the reservoirs and flues for heating the same in front of the fire-box of the stove, as shown in our patent of May 6, 1873, No. 138,682.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the back-plate I of the cooking-stove A, of the reservoir C, arranged on a support about midway between the top and bottom plates of the stove, and the air-chamber *b* between the stove-back and reservoir-front, open at the top, and communicating with the air in the room, substantially as and for the purposes set forth.

2. The combination, with the stove A and reservoir C, of the small opening *a*, the sheet-flue G under the entire bottom of the reservoir, and the small exit passage or pipe E, all substantially as and for the purposes herein set forth.

In testimony that we claim the foregoing we have hereunto set our hands this 5th day of July, 1873.

DAVID H. NATION.
EZEKIEL C. LITTLE.

Witnesses:
ARTHUR L. PIERCE,
BENJ. S. BUCK.