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

Reservoir Cooking-Stoves.

No. 138,682. Patented May 6, 1873.

Fig 1

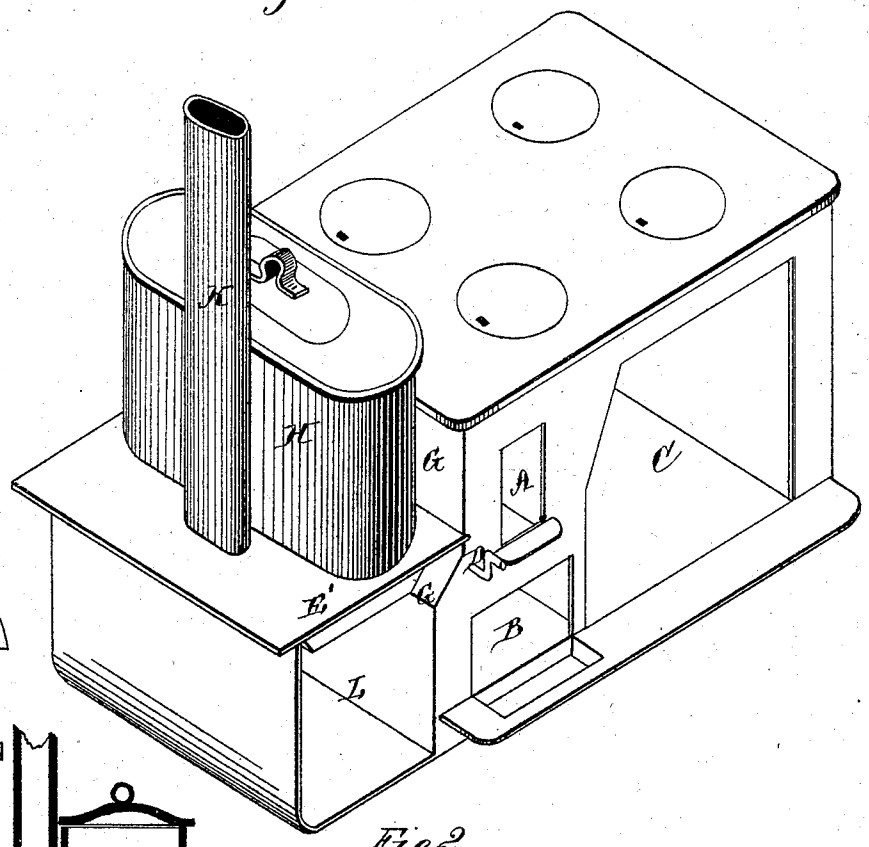


Fig 4

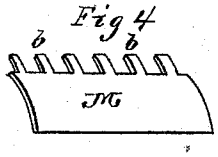


Fig 3

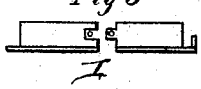
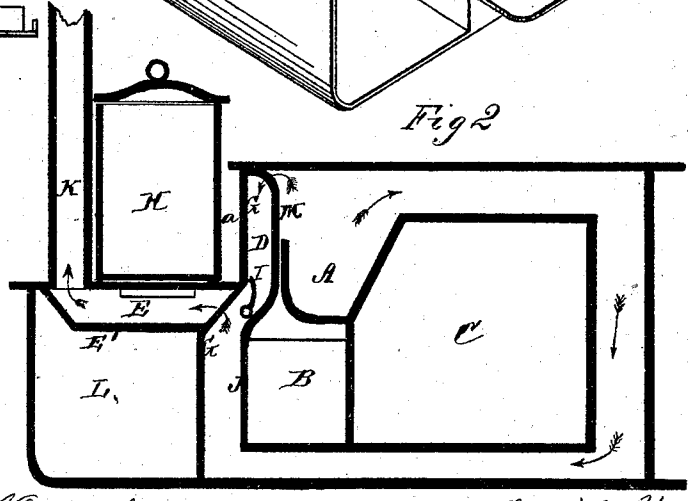


Fig 2



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UNITED STATES PATENT OFFICE.

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

IMPROVEMENT IN RESERVOIR COOKING-STOVES.

Specification forming part of Letters Patent No. **138,682**, dated May 6, 1873; application filed March 14, 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 Reservoir Cooking-Stoves; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon making a part of this specification.

The nature of our invention consists in the construction and arrangement of a reservoir cooking-stove having the reservoir and exit-flue located in front of the fire-box, as will be hereinafter more fully 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 perspective view, and Fig. 2 a longitudinal vertical section, of our stove. Fig. 3 is a view of the damper, and Fig. 4 is a view of the front fire-plate.

A represents the fire-box, with ash-pit B underneath and baking-oven C in rear, as is usual in cooking-stoves. In front of the fire-box in the main part of the stove is a vertical flue, D. At a point about midway between the top and bottom plates of the stove, and extending outward from the front of the same, is a flue-shell, E′, having a flue, E, which communicates, by suitable openings in the front plate of the stove, with the flue D. The flue E in the shell E′ extends under the entire bottom of the reservoir H. Openings are made through the front plate G, say about two-thirds of the width of said plate, for the purpose of dividing the heat in using the direct or indirect draft.

We do not confine ourselves to the two openings, as one long single opening may be used; but we consider the two openings the best for the purpose.

While using the indirect draft, or making the heat pass the circuit of the baking-oven C, the damper I, which is made in two parts, as shown in Fig. 3, and when placed in the flue D, rests upon the angular flue-plate J and against the front plate G at a point opposite the top edge of the flue-shell E′. The damper I extends the whole width of the stove from side to side, and at such time will occupy the position shown in Fig. 2.

When using the direct draft the damper is turned back, resting against the flue-plate J. At such time the heat and products of combustion pass over and down the flue D, through the opening or openings in the front plate G, into the flue-shell E′, and out through the exit-flue K, so that, in using the direct or indirect draft, the heat is divided and spread to the outside surface of the reservoir, and acts on the whole bottom surface thereof, where there will always be water if there is any in the reservoir at all.

It will be noticed that there is a space, *a*, between the reservoir and the front plate G of the stove of about an inch, more or less, for the purpose of preventing the heat from acting on the side of the reservoir; for experience has shown us that, in all cases where reservoirs are heated at the sides, they are liable to crack when refilling with cold water, and, if made of copper, will soon burn out above the water-line.

L is the warming-closet, placed below the flue-shell E′, and extending to the bottom of the stove.

When the reservoir is removed from the flue-shell common ware may be used, and will fit the boiler-holes; therefore, it will answer the double purpose of a reservoir and ordinary cooking-stove.

The fire-plate M is made with fingers *b b*, as shown in Fig. 4, to prevent the coals from falling over into the flue D.

The advantages of this class of cooking-stoves are, that it is less expensive to construct; it can be made air-tight, and a saving of fuel in consequence is accomplished; the reservoir being placed on the front end of the stove, it can be heated without detracting the heat from the baking-oven of the stove while using the same, for the reservoir is heated after the heat has acted upon the baking-oven and the cooking-surface of the top of the stove, or, in other words, by the heat that would otherwise be wasted; and for a summer arrangement, it is especially adapted, because four boiler-holes may be heated up without

heating the oven or body of the stove; the damper being made in two parts, it can be mounted in the stove or replaced, should it become crimped or broken, without taking the stove apart, though it is less liable to be consumed by heat in the position it occupies than in any other form of stove where the damper is placed immediately over the fire-chamber, or where the heat comes directly in contact therewith; furthermore, by the portability of the arrangement, by the removal of the reservoir we have a six-hole plain stove; in fact it is a reservoir-stove without a reservoir, for, if desired, any stove-boiler can be used that conforms to the sizes of the holes.

The form of the reservoir may be changed in various ways; for instance, the exit-flue may pass up through the center or be attached to the side thereof.

The top of the flue-shell E′ will be made separate, with two boiler-holes in it for common ware.

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

1. The arrangement of the flue E and flue-shell E′, made separate, and attached to the front plate of the stove, in combination with the reservoir H and exit-flue K, substantially as and for the purposes herein set forth.

2. The opening or openings in the front plate G, in combination with the damper I, flues D E, and reservoir H, for the purpose specified.

3. The direct-draft flue D in front of the fire-chamber, and formed by the flue-plate J and front plate G, in combination with the opening or openings in the front plate G, the damper I, flue E, and reservoir H, as shown and described.

In testimony that we claim the foregoing we have hereunto set our hands this 10th day of February, 1873.

DAVID H. NATION.
EZEKIEL C. LITTLE.

Witnesses:
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