

R. H. BROWN.
Reservoir Cooking-Stoves.

No. 142,080.

Patented August 26, 1873.

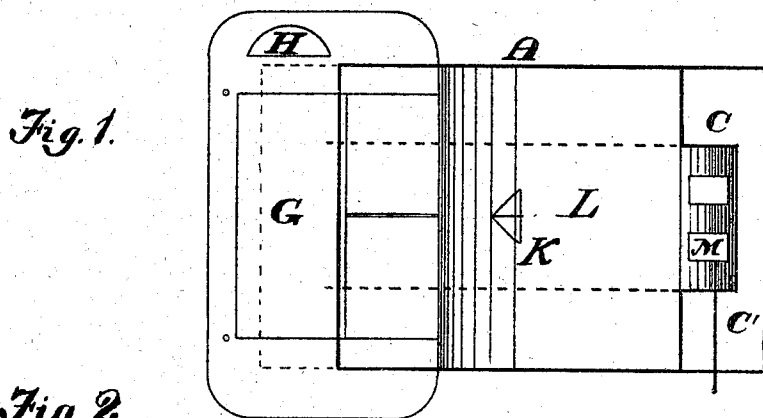


Fig. 2.

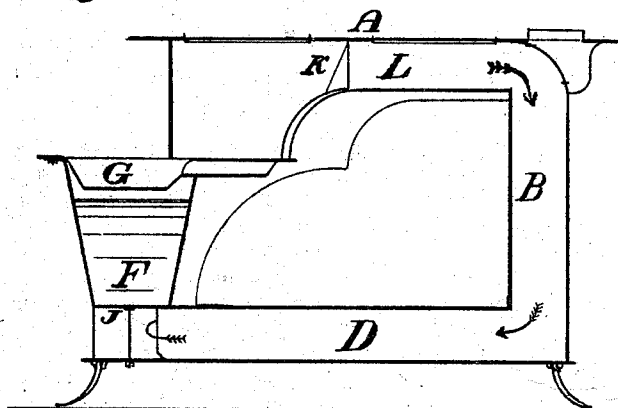


Fig. 3.

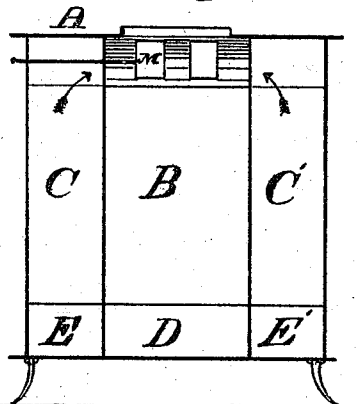
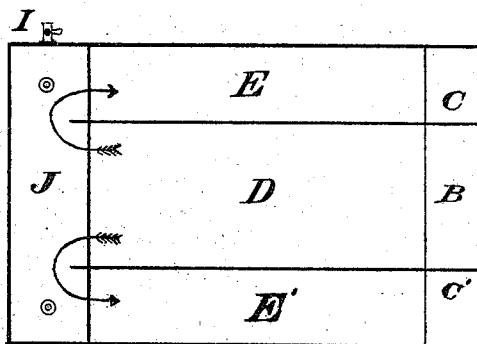


Fig. 4.



WITNESSES

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RICHARD H. BROWN, OF LINNEUS, MISSOURI.

IMPROVEMENT IN RESERVOIR COOKING-STOVES.

Specification forming part of Letters Patent No. **142,080**, dated August 26, 1873; application filed April 28, 1873.

To all whom it may concern:

Be it known that I, RICHARD H. BROWN, of Linneus, county of Linn and State of Missouri, have invented new and useful Improvements in Cooking-Stoves, of which the following is a full, clear, and exact description, reference being hereby had to the annexed drawing making part of this specification, and to the letters of reference marked thereon, in which—

Figure 1 is a plan of the invention, the top plate being removed. The two sets of dotted lines respectively indicate the positions of the hot-water reservoir and the bottom flues. Fig. 2 is a central longitudinal sectional elevation. Fig. 3 is a rear elevation, the rear plate being removed. Fig. 4 is a bottom view, the bottom plate being removed.

Like letters of like kind indicate like parts.

To enable a hot-water reservoir to be attached to a cooking-stove at less cost than has hitherto been necessary; to arrange the reservoir in a convenient position, and so that it can be readily heated, filled, and emptied; to economize fuel, and to more efficiently direct the heated products of combustion, are mainly the objects of my invention; which consists, chiefly, in the peculiar construction and arrangement of the hot-water reservoir, substantially as is hereinafter described. It also consists in the means employed for directing the course of the heated products of combustion, substantially as is hereinafter described.

In the drawing, A, Figs. 1, 2, 3, and 4, represents a cooking-stove of ordinary construction, saving that in place of the usual exit-flue at the rear, there is a central diving-flue, B, Figs. 2, 3, and 4, and in place of the usual diving-flues on either side, at the rear, there are, respectively, two exit-flues, C C'. Also, underneath the oven-chamber, there is a central flue, D, connecting with the diving-flue B, and on either side thereof two return-flues, E E', Figs. 3 and 4, connecting with the exit-flues C C'. All the bottom flues D and E E', extend forward beyond the front plate of the stove, and underneath the hot-water reservoir F, Figs. 2 and 4, which is arranged in front of the stove on a level with the floor of the oven-chamber, and underneath the hearth-plate G, which, preferably, forms the top of the reser-

voir. The plate G is provided with an opening, H, through which the reservoir is filled. I, Fig. 4, represents a faucet, by which the contents are withdrawn. The reservoir is, preferably, made by casting. When in position its rear wall preferably constitutes the front plate of the stove, which, in such case, is made without a front plate. The bottom of the reservoir J, preferably, constitutes the top of the extension or chamber in front of the bottom flues D and E E'. The hearth-plate G, Figs. 1 and 2, is, preferably, a fixed part, as shown. It may, however, be made detachable by any suitable means. A deflector, K, of ordinary shape, is arranged at the center of the front of the top flue L, Figs. 1 and 2. M represents a damper, arranged and operated in the ordinary way.

In operation, the damper M being open, the products of combustion pass through the top flue L, and out of the stove. When the damper is closed, they pass down the central diving-flue B, thence along through the central bottom flue D into the extension underneath the reservoir F, thence back through the return-flues E E', and thence up through the exit-flues C C', and out of the stove, as indicated by the arrows in Figs. 1, 2, 3, and 4. From the arrangement of the rear and bottom flues, as described, the heat-currents in their direct course are concentrated about the central part of the stove, while in their return-course they are taken along the sides of the stove. The fire being hotter in its direct course than in its return, this important advantage accrues, viz., less radiated heat is lost. From the side flues a certain amount of heat escapes, by radiation, into the room. The amount of this loss is diminished by retaining the heat-currents while at their highest temperatures, in the central flues, for as the temperature diminishes the ratio of loss diminishes with it. For the same reason, a larger amount of heat is brought to bear against the reservoir in front than would be the case were the direct flues to be at the sides of the stove.

By constructing and arranging a hot-water reservoir, as described, less weight of material is needed in the manufacture of the stove and reservoir than in the ordinary constructions.

The space occupied by an extension-top stove is not needed, and the room beneath the hearth-plate, otherwise lost, is utilized. Being exposed to direct and radiated heat below, above, and in rear, the reservoir is easily heated, and from its low-down position it can be readily filled, and also easily emptied into a vessel resting on the floor.

The deflector K serves to spread the heat-currents over the top of the oven-chamber before entering the diving-flue.

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

In a cooking-stove, a hot-water reservoir

arranged at the forward end of the stove under the hearth-plate thereof, and over or upon the extended side and bottom plates of the stove, the top of the reservoir being the said projecting hearth-plate, the bottom being the top of the chamber or flue-space formed by the said extension of the side and bottom plates, and the rear wall of the reservoir being the front plate of the oven, substantially as shown and specified.

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Witnesses:

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