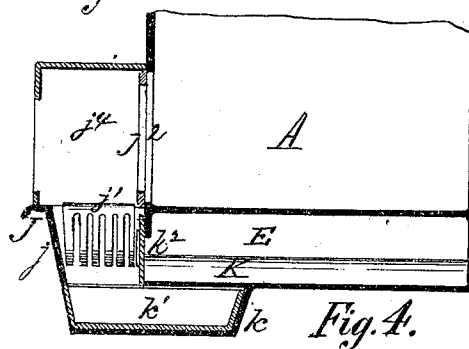
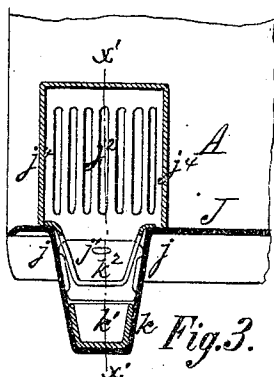
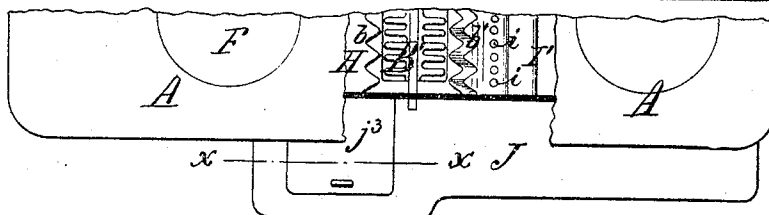
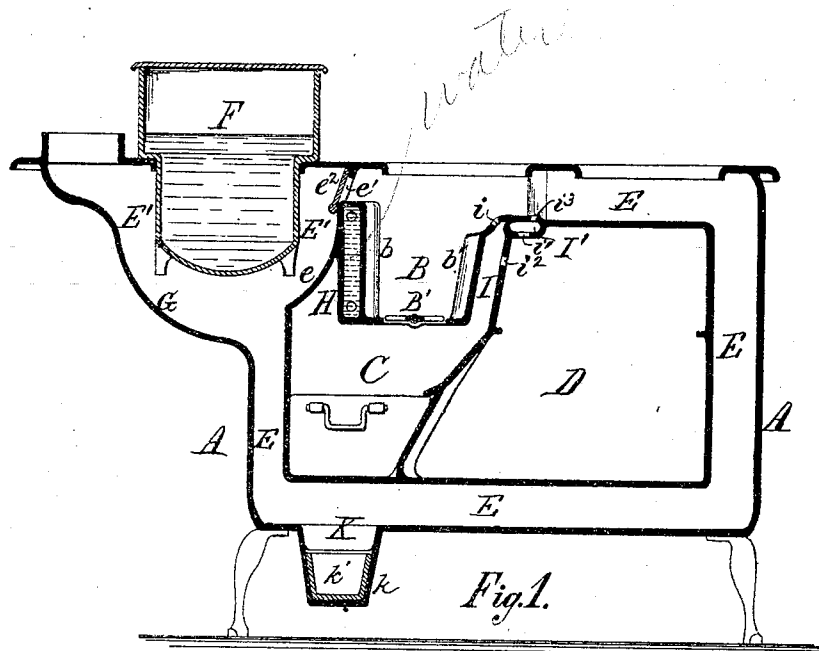


M. CURTIS & L. E. CLOW.

Improvement in Reservoir Cooking-Stoves.

No. 133,081.

Patented Nov. 19, 1872.



WITNESSES:

Robert Burns.
J. M. Smith.

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UNITED STATES PATENT OFFICE.

MARK CURTIS AND LEWIS E. CLOW, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN RESERVOIR COOKING-STOVES.

Specification forming part of Letters Patent No. 133,081, dated November 19, 1872.

To all whom it may concern:

Be it known that we, MARK CURTIS and LEWIS E. CLOW, both of St. Louis, county of St. Louis and State of Missouri, have made a certain new and useful Improved Cooking-Stove; and we do hereby declare that the following is a full and true description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon.

The nature of the improvements here presented relate, first, to the peculiar construction of the front part of the stove to form an auxiliary flue, whereby a direct draft from fire-place under the boiler or hot-water reservoir is achieved; secondly, to the arrangement and combination of a hot-air passage from ash-pit with a cold-air flue, to create a more equal and continuous heat and burning of the fuel-matter, said cold-air flue further being provided with draft-holes to equalize the temperature of heat in the oven, and to carry off its superfluous heat and gases to assist process of combustion; thirdly, to the arrangement of a hearth on either side of stove with or without soot-chamber and soot-pan, whereby the lower flue of the oven can be cleansed without inconvenience and uncleanness; fourthly, in providing and forming the hearth to have a furnace or grate in front of ash-pit, adapted for purposes of the ordinary charcoal furnace; fifthly, to certain detail construction and appliances, all of which will now more fully appear.

To enable those herein skilled to make and use our said improvements, we will now more fully describe the same, referring to—

Figure 1 as a longitudinal sectional elevation; to Fig. 2 as a part top plan, showing parts seen with cover partly removed; to Fig. 3 as a part longitudinal section at line *x x*; and to Fig. 4 as a transverse section at line *x' x'*.

The general outline of the stove is as shown in Fig. 1.

The stove or range A has the fire-box B, ash-pit C, oven D, and a continuous flue, E, surrounding the oven. (See Fig. 1.) F is the boiler or hot-water reservoir, positioned in front of the stove, in close proximity to the fire-place B. In order that the direct benefits of the heat from the fire-chamber B shall be utilized and made to surround the bottom of the

reservoir F, the front face or casing G of the stove for this purpose is made to form an auxiliary flue, E', as indicated in Fig. 1. Further, the flue-partition *e* is curved inward at top, so as to partly correspond with flue E'. A continuous flue is thus made by the communication of the flue E' and extension-flue E, creating a direct draft under the hot-water reservoir. To regulate the passage of heat through the flues E E' as desired, the opening *e'* is provided with a proper damper, *e'*. The heat or hot gases can thus be made to pass around the oven D through flue E, imparting an equalizing heating effect to the oven; or the heat can be directed into the auxiliary flue E', to better and quickly heat the reservoir. Between the fire-place B and top part of the partition *e* the hot-water back or chamber H is situated. Said chamber is constructed to form part of the fire-place B, and yet is divided from the partition *e*, thus enabling the full and direct action of heat from fire-place to surround the bottom and reach the opposite sides of said chamber. The hot-water chamber H is provided with proper pipes on opposite sides, obviating the necessity of passing said pipes over the top of the oven, as usual in stoves or ranges. The fire-chamber B has its opposite backs *b b'* corrugated, as ordinary. B' is the ordinary revolving grate in the fire-chamber. Back of the fire-place B and forming part of same is a hot-air chamber or passage I. Said passage is arranged to communicate at bottom with ash-pit, and at top is provided with a series of perforations, *i*, as clearly shown in Figs. 1 and 2. Further, immediately joining the back, at top of the hot-air passage I, is the cold-air flue I'. Said flue I' is made by joining the top and front oven-plates, (see Fig. 1,) in constructive nature forming a transverse tube, admitting cold air from both sides of the stove. A hole, *i'*, is provided in the cold-air flue, sufficient to allow a cold-air draft to enter oven D to equalize the temperature of heat in same; a further hole, *i''*, being made in hot-air passage I to allow all superfluous steam, gases, and heat from oven to escape into said hot-air passage and pass out of same. Further, it will be noticed that the hot air, carbonaceous matter, and gases from fire-place, ash-pit, during exit out of hot-air passage I, commingle and otherwise combine with draft from cold-

air flue I', from hole i^3 on top, causing a more perfect oxidation or burning to take place, producing a continuous flame to surround the oven, and otherwise acting with beneficial advantages of establishing a more uniform distribution of the heat throughout the stove. By this arrangement, also, the hottest part of the oven is kept more cool, the heat is tempered on the oven-plates, all dampness in the oven is dried, and the process of cooking and baking is rendered more wholesome. Arranged on either side of the stove is a hearth-plate, J, for general convenience of supporting articles. To clean the flue E from soot and other impurities, the same are raked to the front into the offset K at bottom of stove. Further, to the offset K is combined, so as to form part of same, a soot-chamber, k . Said soot-chamber projects near to the outer line of the hearth-plate, and is provided with a suitable soot-pan, k^1 . The opened end of the offset K has a slide-door, k^2 . Thus all the sooty matter raked and collected in said offset can be gathered and deposited in the soot-pan k^1 and carried away, and the inconveniences ordinarily resulting in cleansing the oven-flue is thus practically avoided. Forming part of the hearth-plate J is a grate or furnace, j , made by closing the sides between hearth and soot-chamber k , as indicated in Fig. 3. j^1 is a suitable grating placed in furnace. The door j^2 of the ash-pit is grated (see Fig. 4) to allow the smoke and consumed products from furnace to escape in the ash-pit. The soot-pan k^1 serves as a draft-regulator for the furnace. j^3 is a lid to close hearth and cover furnace when

the latter is not used. A suitable furnace is thus combined with the stove, answering all purposes of the ordinary household charcoal-furnace. A proper cap or blower, j^4 , can be formed to be placed over the furnace to create further draft, and to carry off fumes, gases, and the like into ash-pit.

Having thus fully described our said invention, what we claim, is—

1. The flue or chamber E', communicating beneath with flue E, and at its upper side with fire-box B by an opening, e^1 , into which the water-reservoir so sits that the entire pit thereof may be exposed to the heated products of combustion, substantially as described.

2. A hot-air passage, I, when arranged back of fire-place and communicating from ash-pit, and combined with cold-air flue I' and draft-holes i^1 i^2 i^3 , substantially as and for the purpose set forth.

3. A hearth-plate arranged on either side of stove, provided with soot-chamber k and pan k^1 , in combination with the offset K of stove A, substantially as and for the purpose set forth.

4. The hearth-plate J, grating or furnace j , soot-chamber k , pan k^1 , when arranged in combination with offset K and stove A, as and for the purpose set forth.

In testimony of said invention we have hereunto set our hands.

MARK CURTIS.
LEWIS E. CLOW.

Witnesses:

WILLIAM N. HERTHEL,
ROBERT BURNS.