(No Model.)

R. J. & J. A. BROCKMEYER.

COOKING RANGE OR STOVE.

No. 578,690. Patented Mar. 9, 1897.

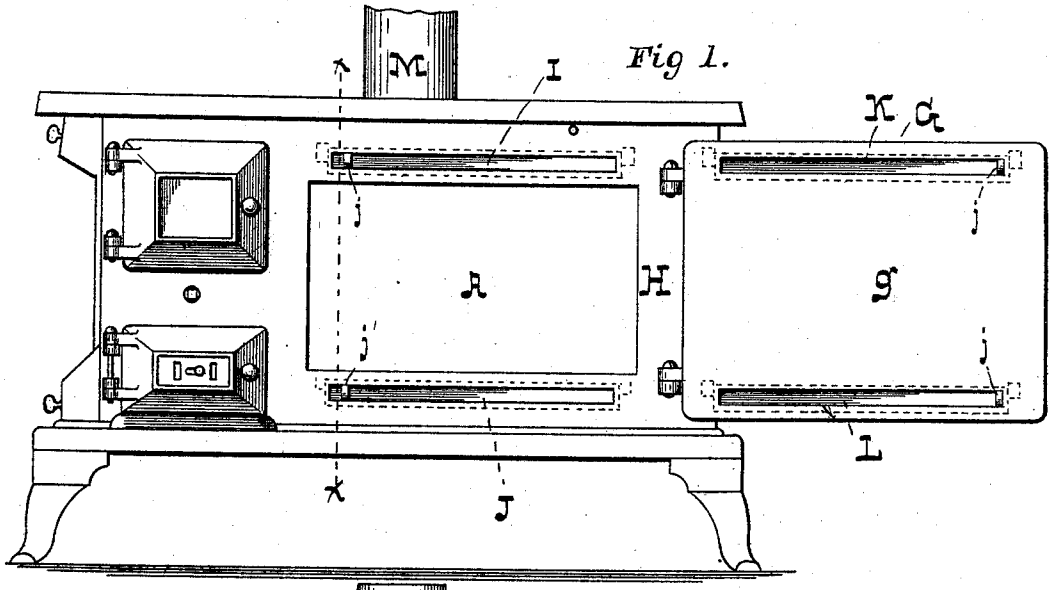

Fig 1.

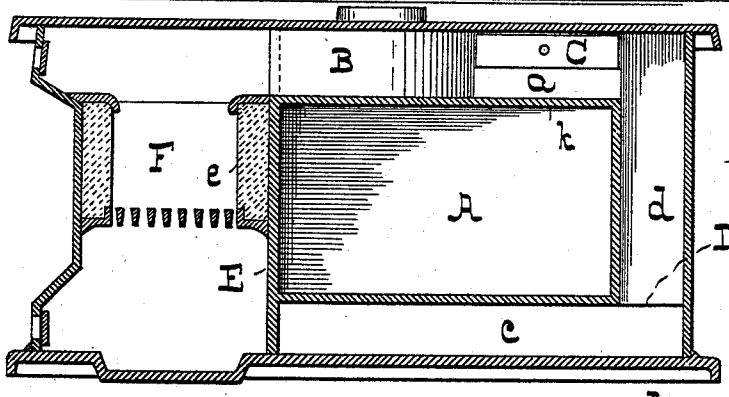

Fig 2.

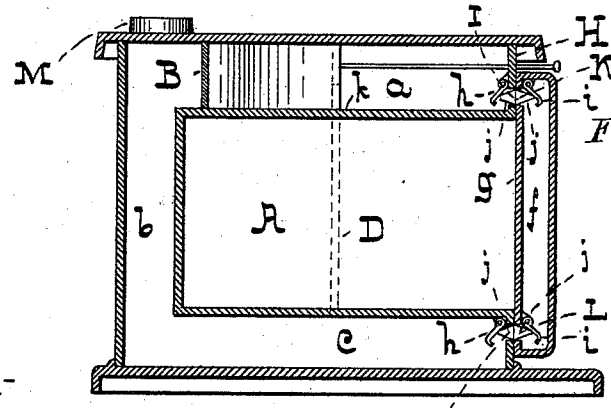

Fig 3.

-WITNESSES-

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UNITED STATES PATENT OFFICE.

RICHARD J. BROCKMEYER AND JOSEPH A. BROCKMEYER, OF BALTIMORE, MARYLAND.

COOKING RANGE OR STOVE.

SPECIFICATION forming part of Letters Patent No. 578,690, dated March 9, 1897.

Application filed April 7, 1896. Serial No. 586,507. (No model.)

To all whom it may concern:

Be it known that we, RICHARD J. BROCKMEYER and JOSEPH A. BROCKMEYER, of the city of Baltimore and State of Maryland, have invented certain Improvements in Cooking Ranges or Stoves, of which the following is a specification.

The object of this invention, in common with others of its class, is to construct a cooking stove or range in such manner that the oven thereof will be heated from the door side, as well as from the other sides thereof, as will hereinafter fully appear. With this in view we provide the stove-plate on the front or door side of the stove with two openings, one above and the other below the oven, and make the oven-door hollow and provide the inner plate of the door with openings which, when the door is closed, register with the openings in the stove-plate before mentioned. Further, we hinge over the openings in the stove and door plates gravity-closing valves and place across the said openings spurs which serve to open the valves as the oven-door is closed. The spaces above and below the oven are then in communication with the interior of the door, and when the direct-draft damper of the stove is closed and the products of combustion, which, from the construction of the stove, have a movement in a downward direction or from over the oven to underneath the same, a portion of the said products pass downward through the door and heat the inside plate thereof, which plate constitutes the front wall of the oven.

In the further description of the said invention which follows reference is made to the accompanying drawings, forming a part hereof, and in which—

Figure 1 is an exterior front view of the improved cooking range or stove with the oven-door open. Fig. 2 is a central longitudinal section of the same. Fig. 3 is a cross-section of Fig. 1, taken on the dotted line *x x*.

Referring now to the drawings, A is the stove-oven, and *a* the space above the oven, separated from the space *b* in the rear of the oven by a plate B, in which is situated the direct-draft damper C. The space *c* under the oven is in communication with the space *b* and also with the space *d* at the end of the stove, which latter is separated from the space *b* by a partition-plate D. The wall E of the oven is heated by the fire-brick *e* in the fire-pot F.

G is the oven-door, hinged, as is common, to the stove-plate H. This door is made hollow, so as to produce the space *f*, and the inner plate of the door is denoted by *g*.

I and J are openings in the stove-plate H, situated, respectively, above and below the oven, the former leading into the space *a* and the latter into the space *c*. These openings have each a gravity-closing hinged valve *h*, the valves being on the inside of the stove-plate H.

In the oven-door plate *g* are openings K and L, which register with those I and J in the stove-plate H when the door is closed, and these latter openings having gravity-closing valves *i*, similar to the ones *h*, before described in connection with the stove-plate H.

Across each of the openings I, J, K, and L is a spur *j*, and the spurs pass each other as the oven-door is closed and open the valves.

When the direct-draft damper C is open, the products of combustion from the fire-pot take the shortest and most direct course to the stovepipe, and the oven is not heated except through the plates E and at the top; but when the said damper is closed the products of combustion have to pass through the space *a*, over the plate *k*, down the space *d* at the end of the oven, along the space *c* under the oven, and thence upward through the space *b* at the back of the oven to the smoke-pipe M. Now as the general direction of the products of combustion after leaving the plate *k* is first downward some of them pass through the openings I and K into the upper part of the space *f* in the oven-door and out through the lower openings J and L into the space *c* and mix with the remainder, which have taken the direction described. From this description it will be seen that the door-plate *g* is heated from products of combustion while taking a downward course through the oven-door and that the oven receives heat from the door.

When the oven-door is opened, the valves *h* and *i* close by gravity, as the spurs *j* no

longer serve to keep them open and no air can enter the space *f* within the door or into the spaces around the oven.

We claim as our invention—

In a cooking range or stove, the front stove-plate thereof having an opening above and below the oven, combined with a hollow oven-door with the inside plate thereof provided with openings which register with those in the front plate of the stove when the door is closed, a gravity-closing valve over each opening, and the stove and inner door plates provided with spurs which serve to open the valves as the oven-door is closed, and thereby induce a downward current of products of combustion through the hollow door, when the direct-draft damper is closed, substantially as specified.

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Witnesses:
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