

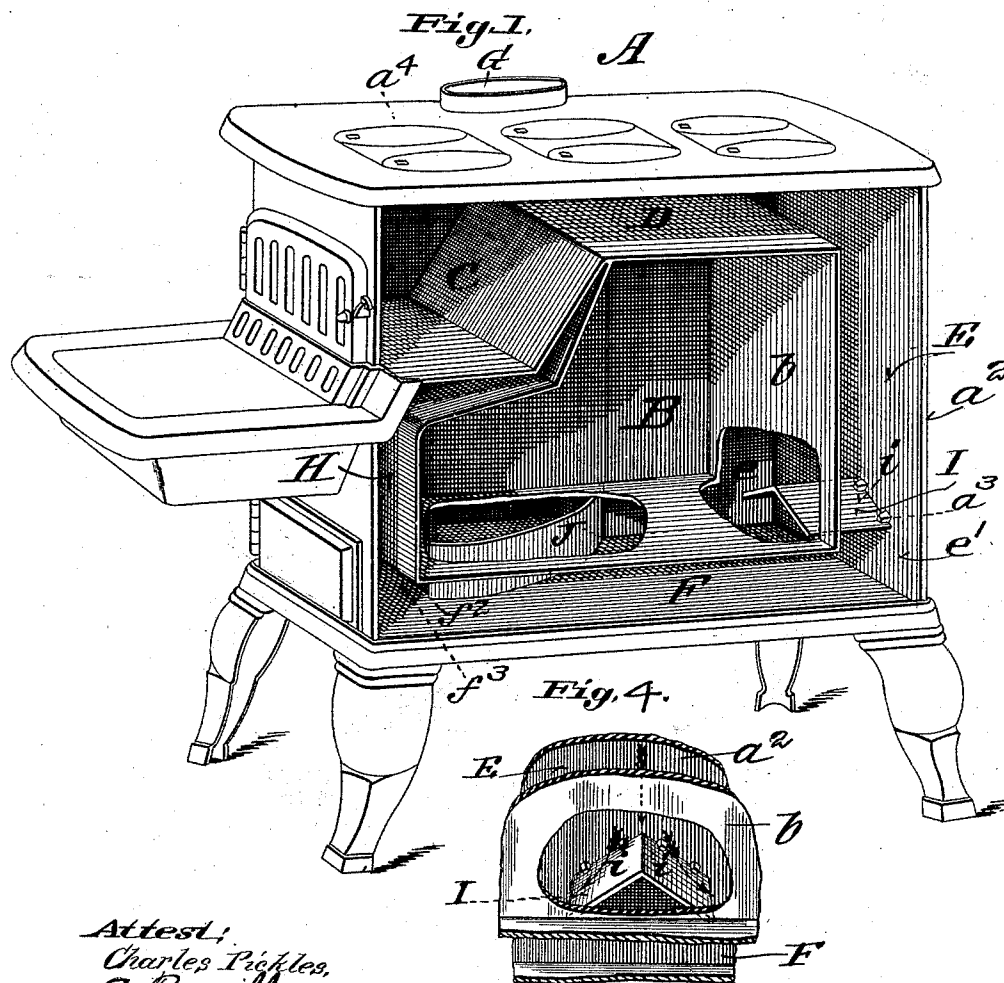
(No Model.)

2 Sheets—Sheet 1.

G. F. FILLEY.
COOKING STOVE.

No. 497,270.

Patented May 9, 1893.



Attest;
Charles Pickles,
A. Bonville.

Inventor:

Giles F. Filley
by C. D. Smith
his atty.

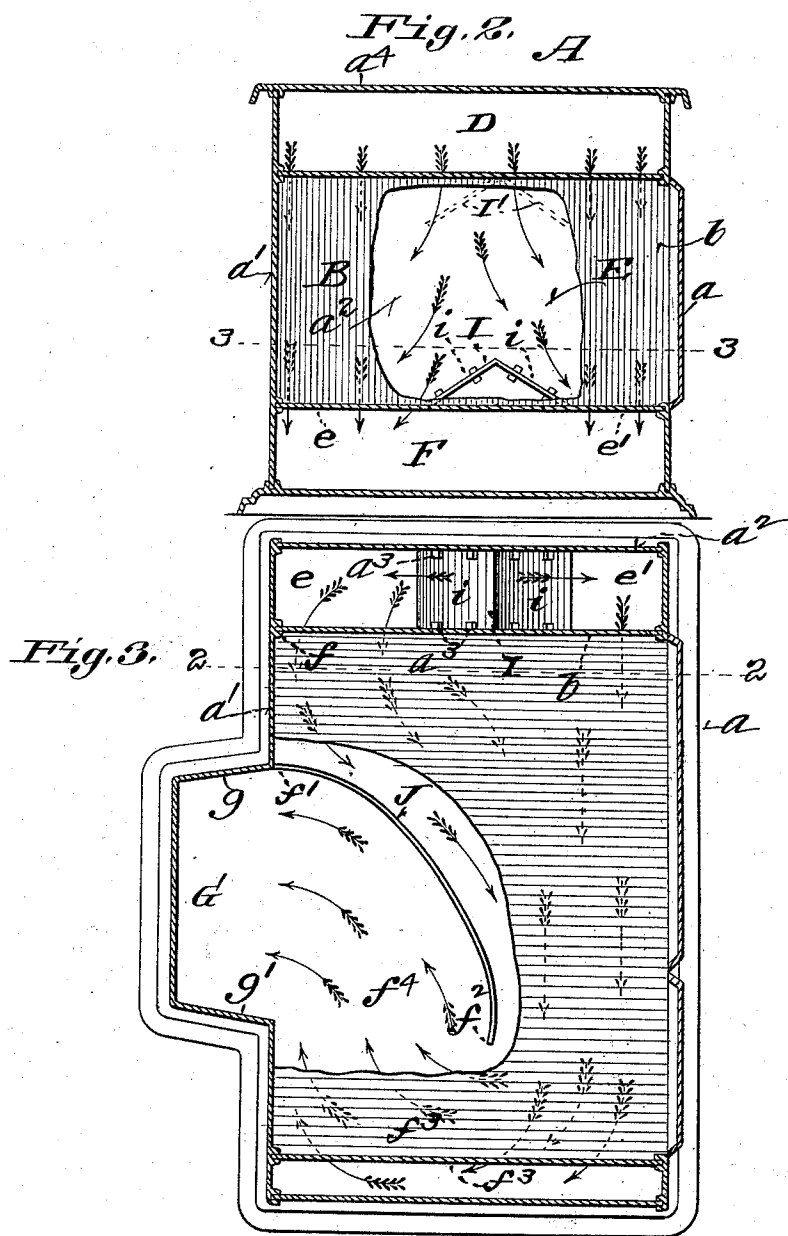
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UNITED STATES PATENT OFFICE.

GILES F. FILLEY, OF ST. LOUIS, MISSOURI.

COOKING-STOVE.

SPECIFICATION forming part of Letters Patent No. 497,270, dated May 9, 1893.

Application filed November 28, 1891. Serial No. 413,426. (No model.)

To all whom it may concern:

Be it known that I, GILES F. FILLEY, of St. Louis, Missouri, have made a new and useful Improvement in Cooking-Stoves, of which the following is a full, clear, and exact description.

The improvement has for its object the more equable heating of the oven and other parts of the stove, and it consists in the means whereby the heat, in a single, or sheet flue stove or range, is conducted more evenly from the fire-place over the oven, and delivered more evenly into the bottom flue beneath the oven, and applied more advantageously to the oven-bottom, all substantially as is herein after set forth and claimed, aided by the annexed drawings, making part of this specification, and exhibiting what I consider a desirable mode of carrying out the improvement, and in which—

Figure 1 is a view in perspective of a stove having the improvement embodied therein, the rear side of the stove being removed to exhibit its interior, and portions of the rear wall and bottom of the oven being broken away to expose to view the novel features of the construction; Fig. 2, a vertical cross-section of the stove on the line 2—2 of Fig. 3, which, in turn, is a horizontal section of the stove, on the line 3—3 of Fig. 2. In Fig. 2, the rear wall of the oven is broken away, and in Fig. 3, the oven bottom is broken away; and Fig. 4 a detail.

The same letters of reference denote the same parts.

The stove, A, or range, as the form of cooking-stove herewith exhibited is usually styled, is of the customary form saving as it may be modified or supplemented by the improved features under consideration. The oven is shown at B, the fire-place at C, and D represents the flue leading from the fire-place above the oven, E the sheet-flue, F the bottom flue, or flue beneath the oven, and G the escape. The blind-flue, or *cul-de-sac*, H, sometimes used to temper the heat of the fire-place upon that portion of the oven which is more immediately in the vicinity of the fire-place, is also preferably shown.

As hitherto made, the sheet-flue, or diving-flue, E, has extended across the width of the range, and has been adapted to conduct the

heat in the form of a single, or undivided, current, and to deliver it thus into the flue beneath the oven, and the last named flue has usually been tapered immediately from its point of connection with the sheet-flue until opposite the farther portion of the oven, at which point the flue has been contracted to one half or one third of its original width, and from this last named point the bottom flue has extended, in a right angular direction, to the escape. With such a construction this difficulty is experienced: The heat-current is drawn away from the sides of the range more or less and is applied rather to the central portion of the stove, and in consequence the oven is unequally heated, it being heated more especially along the central portion of its top, at the central portion of its farther end, and along the front portion of its bottom, and, if the fire is increased, to enable its otherwise cooler portion to be sufficiently heated, the central portion or portions of the oven are unduly heated.

I overcome, or at least largely obviate, the described difficulty in the following manner: By dividing the heat-current at a point in its course before it reaches, or well enters, the flue beneath the oven, and deflecting its portions respectively toward the sides of the flue at the point where the current is divided, and thereby preventing the current, or hindering its tendency to draw toward the center of the range as it passes over the oven and descends through the diving flue, and, also, thereby causing the current, in passing into the bottom flue, to be applied more uniformly throughout the width of the bottom flue: also, by shaping the bottom flue, and thereby causing a portion of the current, after it enters the bottom-flue, to act upon (what in a range is) the back-portion of the oven bottom and thereby heat it more uniformly with that portion of the oven bottom which is in front of it than hitherto has been practicable in a sheet-flue range.

The most desirable mode of carrying out the improvement is shown in the drawings.

I represents a deflecting plate inserted therein just above the level of the bottom-flue, but it might be otherwise arranged, for instance, in the position indicated by the

broken lines I I, Fig. 2. It is also preferably arranged slightly nearer the front, a , of the range than the back, a' , thereof, for the purpose of making the portion, e , of the diving-flue somewhat wider than the portion e' thereof. Said deflector also preferably extends, in the direction of the length of the range, from the oven wall, b , to the wall, a^2 , of the range. The deflector also is preferably made with the inclined surfaces, i, i , and it is conveniently held in place by means of the lugs, a^3 , upon the walls, b , and a^2 , substantially as shown. The action of the deflector, I, is supplemented by the flue strip, J, employed to shape the bottom-flue, F. Said strip, unlike the construction hitherto employed for an analogous purpose, does not start from a point, f , at the junction of the bottom flue with the diving-flue, but at a point, f' , in the bottom flue which is at some distance from said point, f , and which is preferably directly at the side, g , of the entrance to the escape G, substantially as shown, and from said starting point said strip extends toward the front, a , and also in the direction of the fire-place end of the range, terminating, say at a point, f^2 , which is perhaps slightly nearer the front than the back of the range, and, in a longitudinal direction, about opposite the side, g' , of the escape. But said flue-strip may be variously extended, and the principle of this portion of the improvement carried out, provided it starts from a point, as described, which is at some distance into the bottom-flue from the point f .

The operation of the improved construction is as follows: The heat current passes over the oven in the ordinary manner and thence down the diving-flue until it encounters the deflector therein; the current is then divided, its portions passing downward, respectively at the sides of said deflector, and entering the bottom flue accordingly; that is, one portion of the current passes between the deflector and the front of the range, and the other portion of the current between the deflector and the back of the range; the first named portion passes along the front portion of the bottom flue and heats the front portion of the oven-bottom, and the last named portion passes into the bottom flue at the back part thereof, entering and traversing that portion of the bottom flue which is between the point f and the point f' , and thence past the flue strip to combine with the first named portion of the heat-current; the two portions, reunited to

form a single current, now pass through the portion, f^3 , of the bottom-flue, and thence turned into the portion, f^4 , of the bottom flue, and thence into the escape G, substantially as is indicated by the various arrows shown in Figs. 2 and 3. Owing to the division of the heat current, and the deflection of its portions, substantially as described, the heat, in the first place, is conducted more evenly over the oven, and the oven is not only thereby more evenly heated at the top, but the heat is also thereby better applied to the vessels upon the range top a^4 : in the second place the heat is applied more evenly to the oven-wall b ; and in the third place the oven bottom is heated more uniformly, especially throughout that portion of it which is adjacent to the oven wall b .

The described division of the heat-current, and deflection of its portions, as described is of value irrespective of the described arrangement of the bottom-flue strip. But the last named part, when arranged and extended substantially as described, is of material advantage in that it enables a portion of the divided heat-current to be applied to a portion of the oven bottom which, in the constructions heretofore made, cannot be properly heated without at the same time unduly heating the oven elsewhere. I desire not to be restricted to this particular arrangement of the flue strip J, here shown, nor to any other arrangement thereof, so long as it is arranged to enable the two portions of the heat-current to be applied respectively to the heating of different portions of the oven-bottom.

I claim---

In a sheet flue range, substantially as described, the combination of the oven with the flues D and E, the latter having near its lower end the deflector I, and the bottom flue F, having therein the flue strip J, extending from the back side thereof and from a point between the escape flue and the diving flue D, toward the front, and in the direction of the fire place of the range whereby said deflector I, and the flue strip J, coact to insure an equal and regular diffusion of heat beneath the floor of the oven, substantially as shown and described.

Witness my hand this 21st day of November, 1891.

GILES F. FILLEY.

Witnesses:

C. D. MOODY,
A. BONVILLE.