G. F. FILLEY.

COOKING STOVE.

No. 9,788. PATENTED JUNE 14, 1853.

Fig. 1.

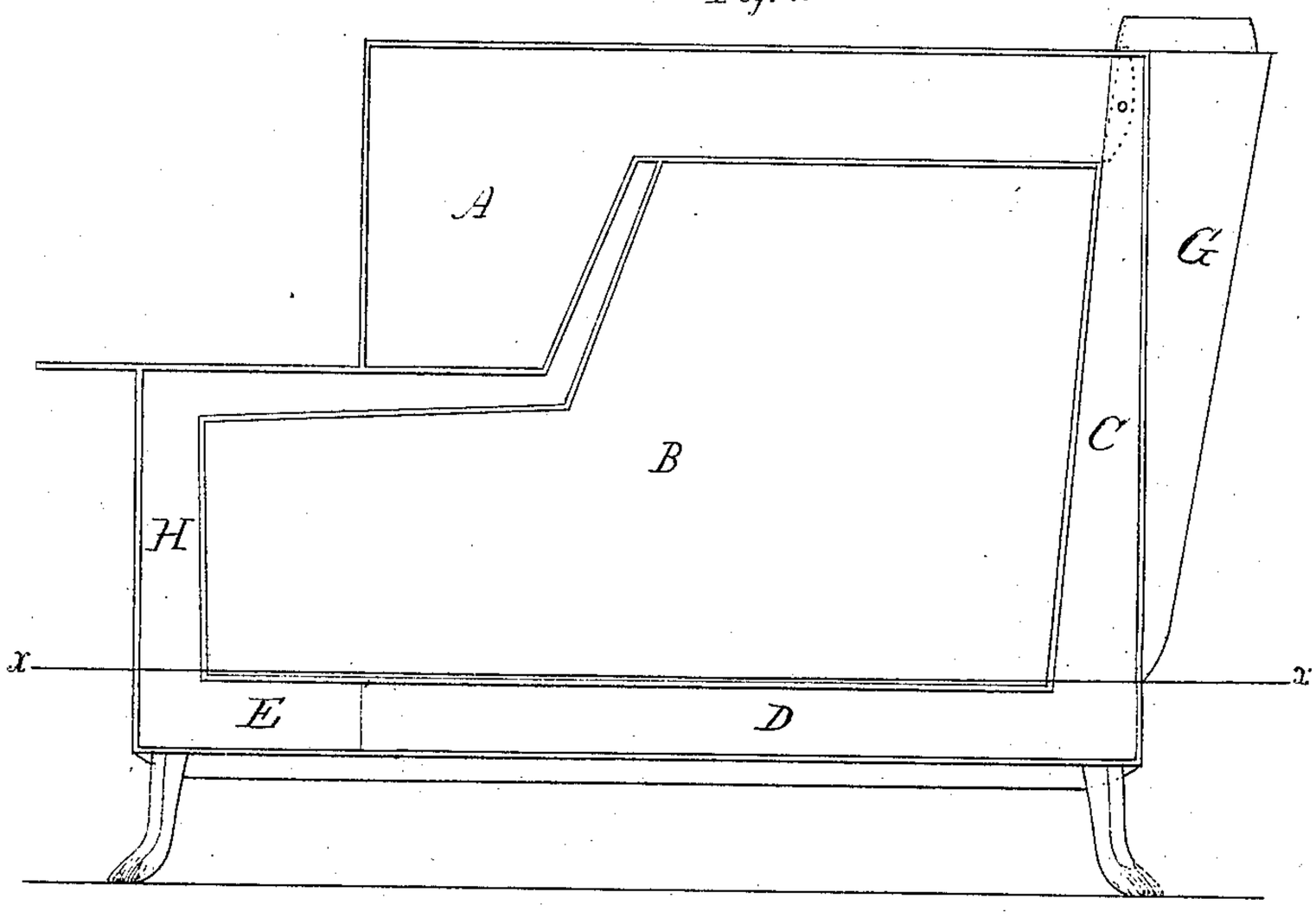
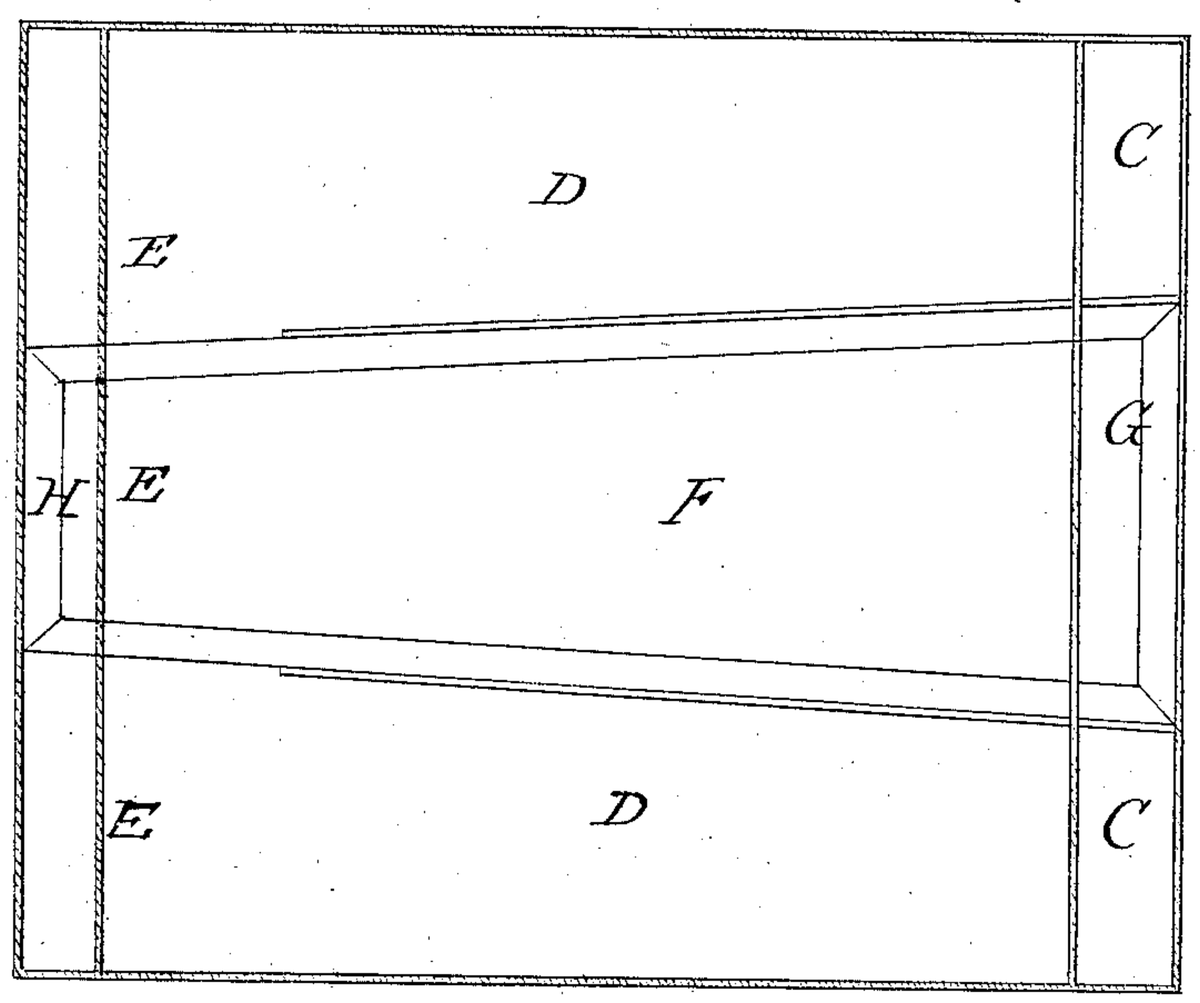


Fig. 2.



UNITED STATES PATENT OFFICE.

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

COOKING-STOVE.

Specification forming part of Letters Patent No. 9,788, dated June 14, 1853; Reissued December 27, 1859, No. 873.

To all whom it may concern:

Be it known that I, GILES F. FILLEY, of the city of St. Louis and State of Missouri, have invented sundry new and useful Improvements in Cooking-Stoves; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, Figure 1 being a side elevation of one of my improved cooking-stoves with the sides plate removed; and Fig. 2, a section thereof, in the line *x x* of Fig. 1, with the bottom oven plate removed.

Similar letters indicate like parts in both figures.

Cooking stoves with descending flues, as they are now, and have been heretofore constructed, have two serious defects, viz: They have a weak draft, and there is not a sufficent quantity of heat carried down into the flues under the oven, to raise to a baking temperature the front portion of the oven bottom.

The nature of my invention consists, first, in an improvement in the proportions of the flues in that description of cooking stoves that have descending flues, by which an increased draft is produced, and consequently a larger portion of heat is carried from the fire chamber to and under the front portion of the oven bottom. And in the second place, in connection with said improved proportions of the flues, my invention consists in employing a dumb flue, (H,) which communicates with the flue space under the front end of the oven, and thence rises between the front end of the oven and the front plate of the stove to the hearth plate, and thence extends along under the bottom and up the back of the fire chamber—as shown in Fig. 1—for the purpose of insuring the proper degree of heat under the front portion of the oven bottom, in the manner hereinafter set forth.

In the accompanying drawings, A, is the fire chamber.

B, is the oven.

C, C, are the descending flues leading from the flue space above the oven, to the horizontal side flues D, D, below the oven.

E, is a flue space extending across under the entire front end of the oven, into which the side flues D, D, discharge their contents, and from which the central flue F, conducts the gaseous products of combustion to the central back flue G, which communicates with the smoke pipe.

It will be perceived that from the upper ends of descending flues C, C, to the flue space E, and thence again to the upper end of the central back flue G, there is a gradual enlargement of all the flue spaces as they pass from the flue space over the oven toward the smoke pipe, viz: the flues C, C, gradually enlarging from their upper to their lower extremities; the flues D, D, enlarging as they pass from the rear to the front end of the stove; the flue F, enlarging as it passes from the front toward the rear end of the stove, and the flue G, enlarging as it rises, from bottom to top.

The aforesaid gradual enlargement of the flues, as they pass from the fire chamber toward the smoke pipe, causes the desired increase of draft to enable my improved cooking stoves to be used in all situations where any cooking stove can be used, and in many situations where no other cooking stove, with descending flues, could be used. The said increase of draft, will also cause a larger amount of heat to be carried down into the flue space E, under the front portion of the oven; an amount of heat which will generally be sufficient to raise that portion of the oven bottom to the desired baking temperature. In case however, a sufficient quantity of heat should not be conveyed by the flues C, C, and D, D, into the flue space E, to raise to a baking temperature the portion of the oven bottom above the said flue space, an additional quantity of heat will be conveyed into the flue space E, by means of the dumb flue H, and the circulation of hot air and gases within the said dumb flue, and between it and the flue space E: The greater degree of heat on the side of the said dumb flue formed by the back of the fire chamber, causing an upward current on that side, and a corresponding downward current on the opposite side of the said flue.

Having thus fully described my improvements in the class of cooking stoves which have descending flues, what I claim as my invention and desire to secure by Letters Patent, is—

1. The flaring enlargement of the side flues C, C, and D, D, from the space above the oven, to the flue space E, which extends

under the entire front end of the oven; and also the enlargement of the central flues F and G, from the said flue space E, to the upper end of G, for the purpose of increasing the draft of all the flues, and causing a larger portion of heat to be conducted into the said flue space E, substantially as herein set forth.

2. In combination with the flaring shape of the flues C, C, F, and G, I also claim the auxiliary dumb flue H, which rises from the flue space E, to the hearth plate, and thence is continued immediately under the fire chamber and up the back of the same, by which another portion of heat from the fire chamber is conducted, by radiation and circulation, into the said flue space E, for the purpose of aiding in giving an increased draft to the stove, and in raising the temperature of the front end of the oven bottom to the required degree for baking purposes, substantially as herein set forth.

The above specification of my improved cooking stove signed this first day of February 1853.

GILES F. FILLEY.

Witnesses:
C. G. JONES,
WM. WISWELL.

[FIRST PRINTED 1913.]