(No Model.)

G. F. FILLEY.

COOKING STOVE OR RANGE.

No. 497,272. Patented May 9, 1893.

Fig. 1.

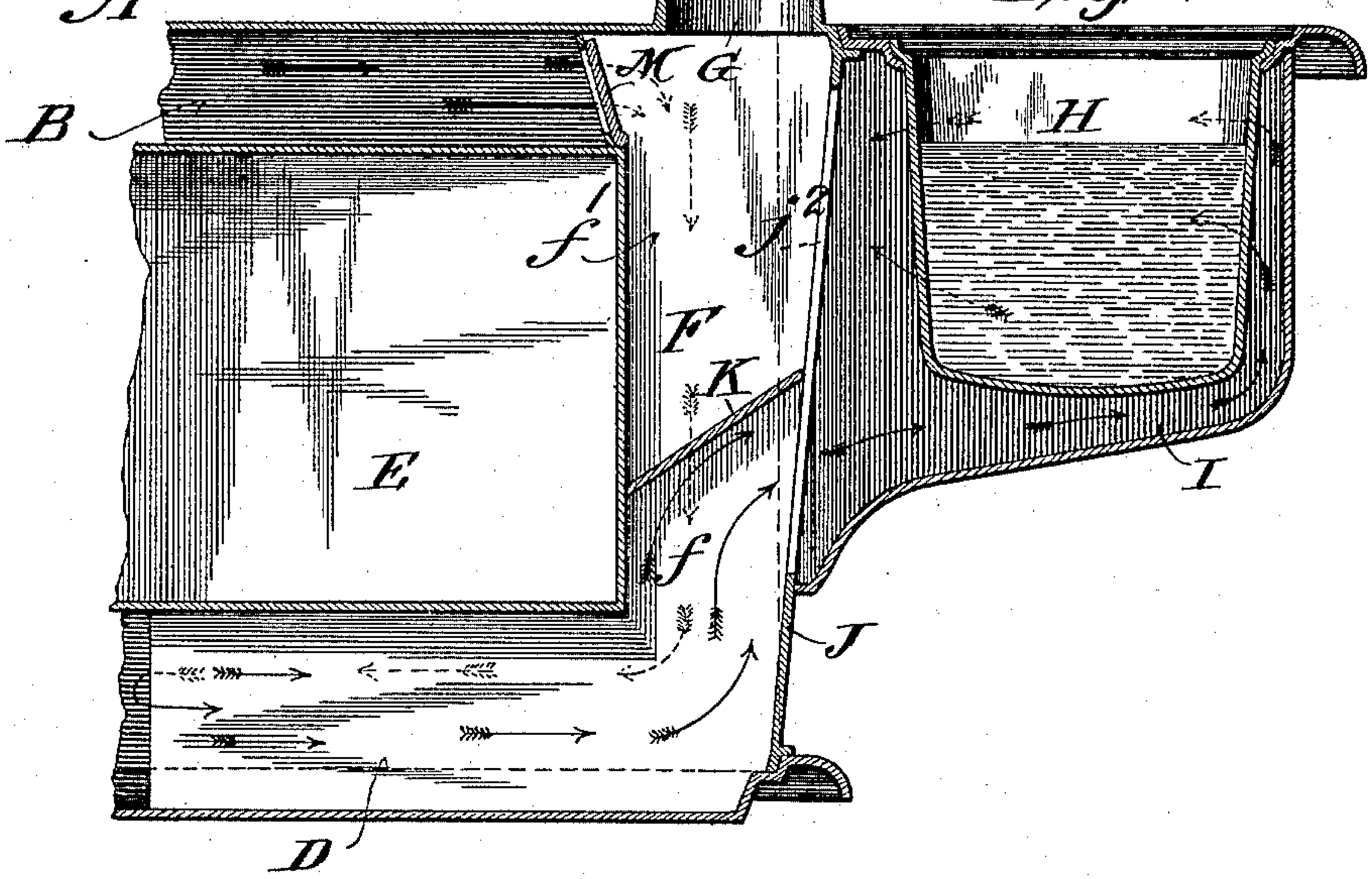
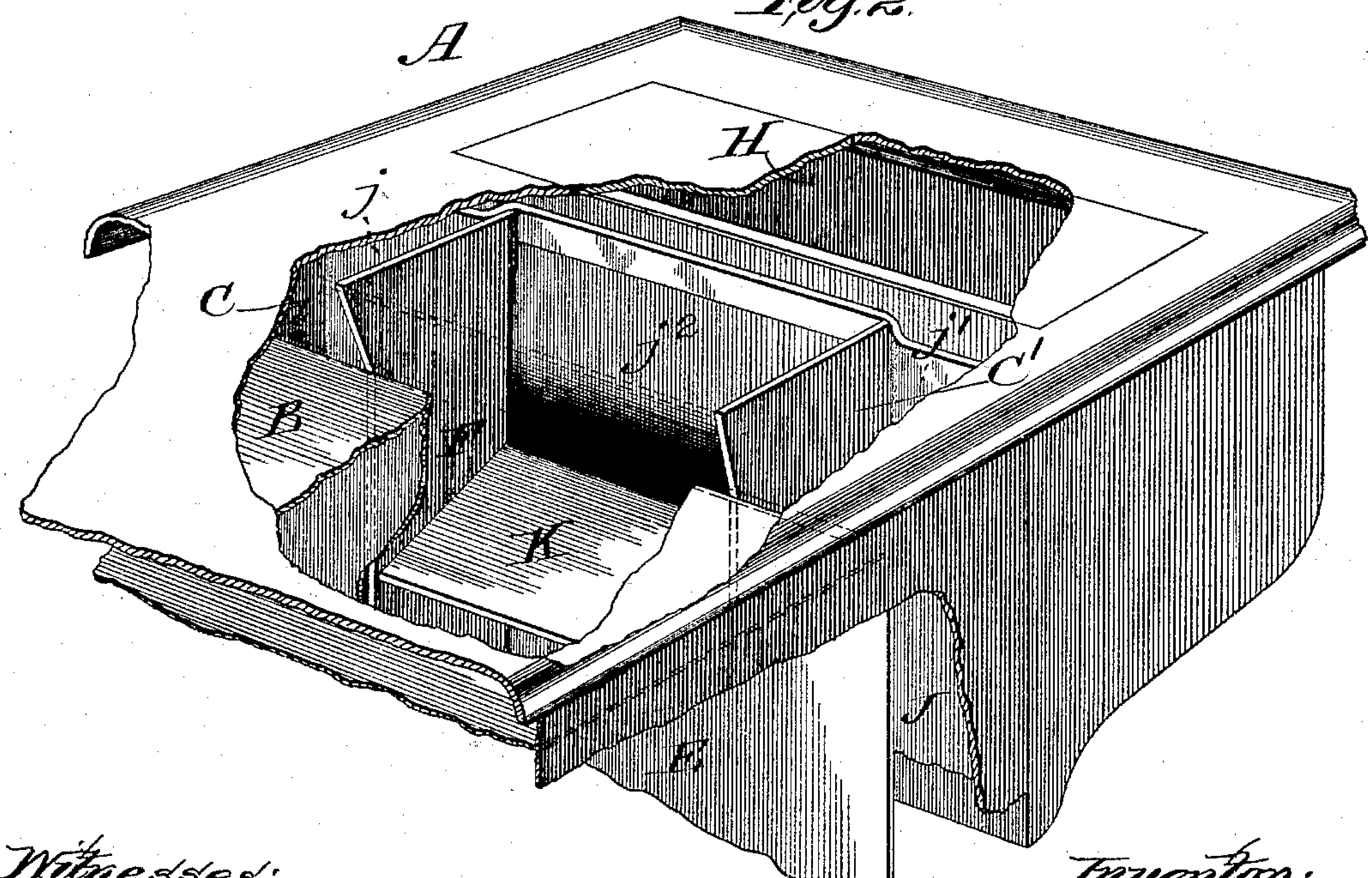


Fig. 2.



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

COOKING STOVE OR RANGE.

SPECIFICATION forming part of Letters Patent No. 497,272, dated May 9, 1893.

Application filed April 12, 1892. Serial No. 428,894. (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 or Ranges, of which the following is a full, clear, and exact description.

The improvement relates to that class of cooking stoves or ranges known as three-flue and having a low-down reservoir. In such stoves it has hitherto been the practice to warm the reservoir more or less with the heat proceeding from the diving flues of the stove; that is, the diving flues communicate with the flue space containing the reservoir, and the heat as it descends through the diving flues is applied partly to the reservoir. In the present construction the reservoir is not heated at the expense of the oven, but with heat which has passed around the oven and into the ascending flue, and which otherwise would go to the escape, all substantially as is hereinafter set forth and claimed, aided by the annexed drawings, making part of this specification, and exhibiting a desirable mode of carrying out the improvement, and in which—

Figure 1 is a vertical, central, longitudinal section of a cooking stove constructed according to the principle of the improvement; and Fig. 2 a view in perspective of the same, the view being from above, and with portions of the plates broken away.

Only that portion of the stove which is needed for an understanding of the improvement is exhibited.

The same letters of reference denote the same parts.

A represents a three flue cooking stove of ordinary construction saving as modified by the improvement under consideration.

B represents the flue leading from the fire place of the stove; C, C′, the diving-flues; D the central bottom flue beneath the oven E, and F represents the ascending flue; the escape is at G, and H represents the reservoir, and I the flue space containing the reservoir.

J is the end plate of the stove; its portions j, j', respectively constitute the partitions which separate the diving-flues from the flue space I. An opening j^2, in said end plate opposite the ascending flue, and extending, preferably, from about the level of the oven bottom well upward to the top of the stove, and the full width of the ascending flue, establishes connection between the ascending flue and the flue space I.

K represents a deflector. It serves to direct the heat from the ascending flue into the flue space I. The deflector is, preferably in the form of a plate arranged crosswise in the ascending flue and dividing it into two parts substantially; namely, the lower part, f, which extends from the flue D upward to about the level of the bottom of the reservoir, and the upper part, f', which extends from said level upward to the escape, substantially as shown. The deflector is preferably inclined as shown.

The action of the construction is as follows: With the damper M open the course of the products of combustion is direct to the escape in the usual manner; but when the damper is turned up, as in Fig. 1, the course is downward through the diving flues, thence through the side bottom flues and into the central bottom flue D, and thence into the ascending flue in which the heat current encounters the deflector described; the heat is thereby caused to leave the ascending flue and to enter and circulate through the flue space I, and thence it returns into the upper part of the ascending flue, and thence to the escape, all as indicated by the arrows in Fig. 1. In this manner the reservoir in a cooking-stove or range can be heated by means of heat which otherwise would pass directly to the escape and be lost, and by reason of the diving flues or flue being separated from the chamber containing the reservoir, the oven receives the full benefit of the heat in the diving flues or flue; it will also be seen that no dampers or parts requiring adjustment are needed to direct the heat in thus applying it to the reservoir, and the heat is applied advantageously to the reservoir.

I desire not to be restricted to a three-flue cooking stove in carrying out the present improvement, as the same can, with such necessary and obvious modifications of construc-

tion as are needed to adapt it thereto, be embodied in a two-flue stove or in a range.

I claim—

In a cooking stove or range having the descending flues C, C′, and the ascending flue F, provided with an opening j^2, in its rear, the reservoir H, placed in the flue space I, and the deflector K, in said ascending flue F, dividing it into substantially two parts, the lower part *f*, extending upward to about the level of the bottom of the reservoir and the upper part *f′*, extending from said level upward to the escape, whereby the reservoir is heated by the otherwise waste heat, substantially as described.

Witness my hand this 4th day of April, 1892.

GILES F. FILLEY.

Witnesses:

C. D. MOODY,

FRED. P. HANS.