(No Model.)

W. J. KEEP.

COOKING STOVE.

No. 381,793. Patented Apr. 24, 1888.

Fig. 1

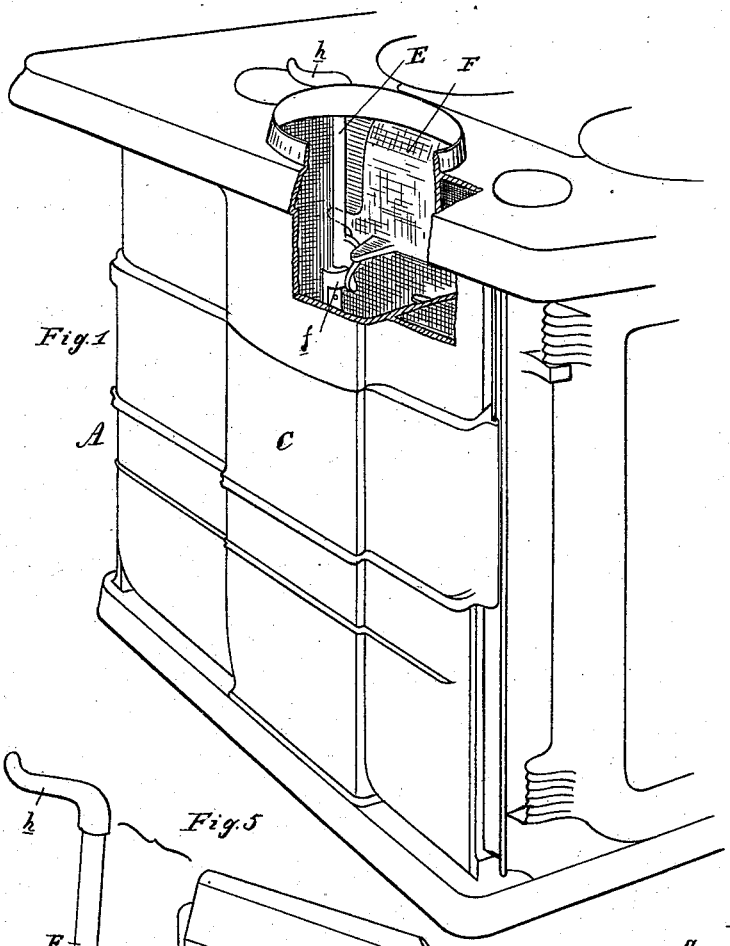


Fig. 4

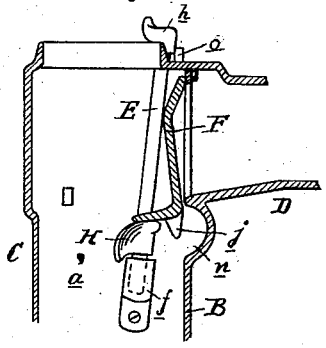


Fig. 5

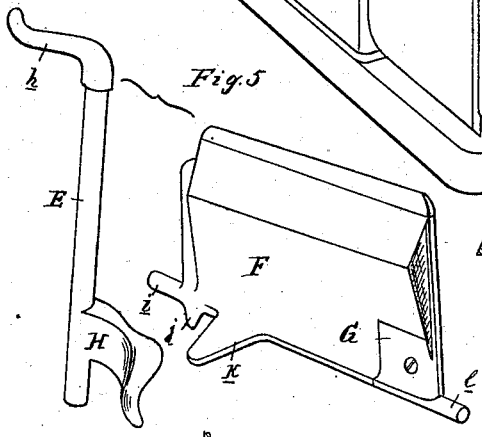


Fig. 3

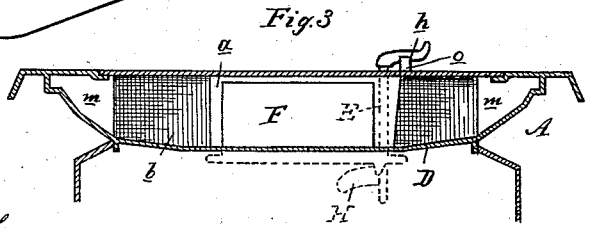
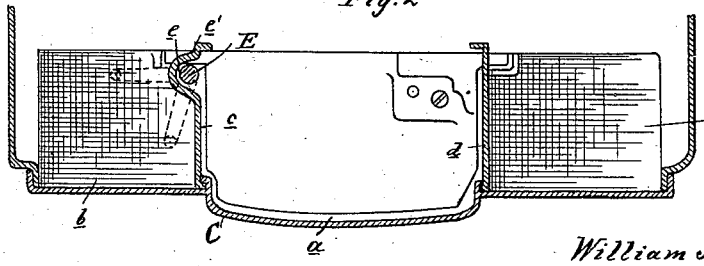


Fig. 2



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UNITED STATES PATENT OFFICE.

WILLIAM J. KEEP, OF DETROIT, MICHIGAN.

COOKING-STOVE.

SPECIFICATION forming part of Letters Patent No 381,793, dated April 24, 1888.

Application filed March 15, 1887. Serial No 230,953. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM J. KEEP, of Detroit, in the county of Wayne and State of Michigan, have invented new and useful Improvements in Cooking-Stoves; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to certain new and useful improvements in cooking-stoves, and is more especially designed to be employed in the class of stoves that are provided with revertible flues.

The invention consists in the peculiar combinations and the novel construction, arrangement, and adaptation of parts, all as more fully hereinafter described, and then particularly pointed out in the claims.

Figure 1 is a sectional perspective view of the rear portion of a stove, showing position of damper and rod when closed. Fig. 2 is a sectional plan of flues, showing damper open to direct draft. Fig. 3 is a cross-section looking to the rear with damper closed. Fig. 4 is a vertical section. Fig. 5 is a detail perspective of damper and rod.

In the accompanying drawings, which form a part of this specification, A represents a stove, the space between the back plate, B, of the oven and the back plate, C, of the stove being divided into the central direct-draft flue, *a*, and the downflues *b* by the flue-strips *c d*, these flues communicating with flues below the oven, as in the ordinary manner.

D is the top plate of the oven. Upon referring to Fig. 4 it will be seen that the rear portion of this top plate dips downwardly to the top of the back-oven-plate, B. This construction is to provide a greater area at the entrance to the flues *a b*.

In the flue-strip *c* there is formed a vertical groove or channel, *e*, to receive the vertical damper-rod E, the lower end of which is stepped in a suitable socket or bearing, *f*, while its upper end projects through the top plate of the stove and terminates in a handle, *h*, by means of which it is partially rotated. The front edge of the flue-strip *c* terminates in a lip, *e'*, which may be of sufficient width to protect the damper-rod from the heat in direct draft, in which case the groove *e* could be dispensed with.

F is the damper, which is pivotally secured between the walls of the flue, so as to close or disclose the direct draft flue. This damper I preferably construct in two parts, the main portion being provided with a journal area, *i*, a downwardly-projecting spur, *j*, and a lever-arm, *k*. To the opposite lower corner of the damper F is removably secured a plate, G, carrying a journal-arm, *l*. The two journal-arms *i l*, when the damper is in place, find bearings in the flue-walls *c d*.

H is a cam arm or horn projecting laterally from the damper rod E, and this arm H lies underneath the arm *k* of the damper and against the spur *j*.

The upper edges of the side plates of the stove in which the oven-doors are located flare outwardly, forming extension-flues *m*, and are so formed to enlarge the entrance to the flues *b*. The depression or dip to the rear edge of the oven top plate above described, together with the extension flues *m*, increases the entrance to the flues fully equal to the area of the exit-collar over the direct-draft flue. The parts being in place, it will readily be seen that by turning the damper-handle to the rear the rod is caused to partially rotate. The arm H thereof, pushing against the spur *j*, compels the damper to open or assume a horizontal position, thus opening the passage for direct draft. In a retrograde movement of the damper-rod the cam-arm H, in its action upon the lever-arm *k*, compels the damper to assume its closed position, thus directing the products of combustion to the down or side flues.

By constructing the damper in two parts I am enabled to put it into position after the stove is put together, and to remove it without disturbing any other part of the stove.

It will be observed that the damper-rod, being partially concealed in the groove of the flue strip, is not liable to be affected by the flames in direct draft, and, being in a vertical position, the oven-doors can be made larger than if the damper-rod projects horizontally, in which latter case the doors would have to be made smaller in order that they might open and not interfere with the damper.

While I have shown and described a stove

provided with two downflues, it is evident that my invention could be advantageously embodied in stoves wherein provision is made for but two flues—one direct and one reversible or down flue.

I have spoken of one descending and one ascending flue separated by a strip. It is not necessary that in all cases this strip shall be a thin piece of iron. It may be desirable to separate the flues from each other a farther distance than it would be necessary to bound each flue by a separate wall; but the operation would be the same in either case.

In the top of the back plate, B, of the oven is formed a recess, *n*, to receive the horn H of the damper-rod, and this allows me to locate such damper-rod in close proximity to the back oven-plate.

On top of the stove, in front of the handle, is a stop, *o*, which acts as a guard to prevent articles placed on the stove from accidentally opening the damper.

What I claim as my invention is—

1. A cooking stove having an oven and a flue extending over the oven-top and from side to side of the stove, and downdraft-flues and a central updraft-flue between said downdraft-flues, the top plate of the oven being depressed at its rear edge, whereby the size of the opening between the flue over the oven and the central-draft flue is increased, substantially as described.

2. The combination, with a stove provided with a direct-draft flue and two downflues, of a pivoted dropping-damper arranged to control the exit of the direct-draft flue, and a vertical damper-rod for said damper, turning on its axis at right angles to the movement of said damper, substantially as and for the purpose specified.

3. The combination, with a stove having two or more rear vertical flues and a grooved strip forming a division-wall between said flues, of a vertical damper-rod situated in said groove, and a damper actuated by said rod, substantially as described.

4. The combination, with a stove having two or more rear vertical flues and a flue-wall having a lip, of a vertical damper-rod concealed by said lip and a damper actuated by said rod, substantially as described.

5. The combination, with a stove, of a vertical flue, a damper closing the entrance to said flue, and a vertically-grooved flue-strip provided at its lower end with a socket, and a vertical damper-rod stepped in said socket and situated in said groove, substantially as described.

6. The combination, with a stove provided with a back plate and a back oven-plate arranged with a space between them, of a damper arranged within said space and provided with spur *j* and arm *k*, and a vertical damper-rod, E, provided with a laterally-projecting cam arm or horn, H, working between said spur and arm, substantially as and for the purposes set forth.

7. The combination, with a stove having an oven, of a flue in the rear thereof, a damper closing the entrance to said flue, a plate forming one wall of said flue and provided with a recess, *n*, and a damper-rod having a horn working in said recess, substantially as described.

WILLIAM J. KEEP.

Witnesses:
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E. I. SCULLY.