

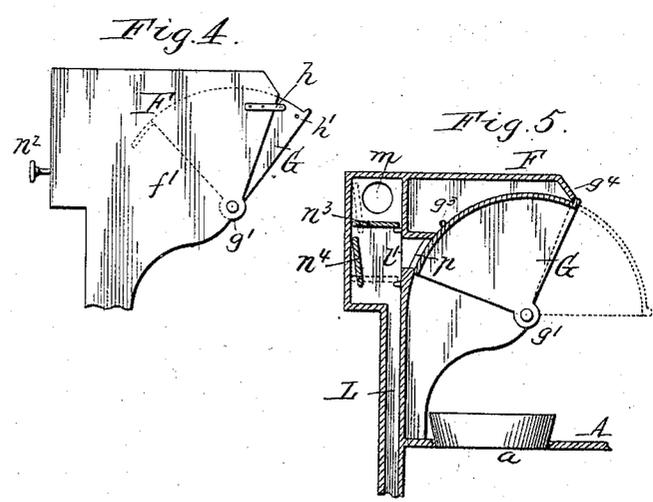
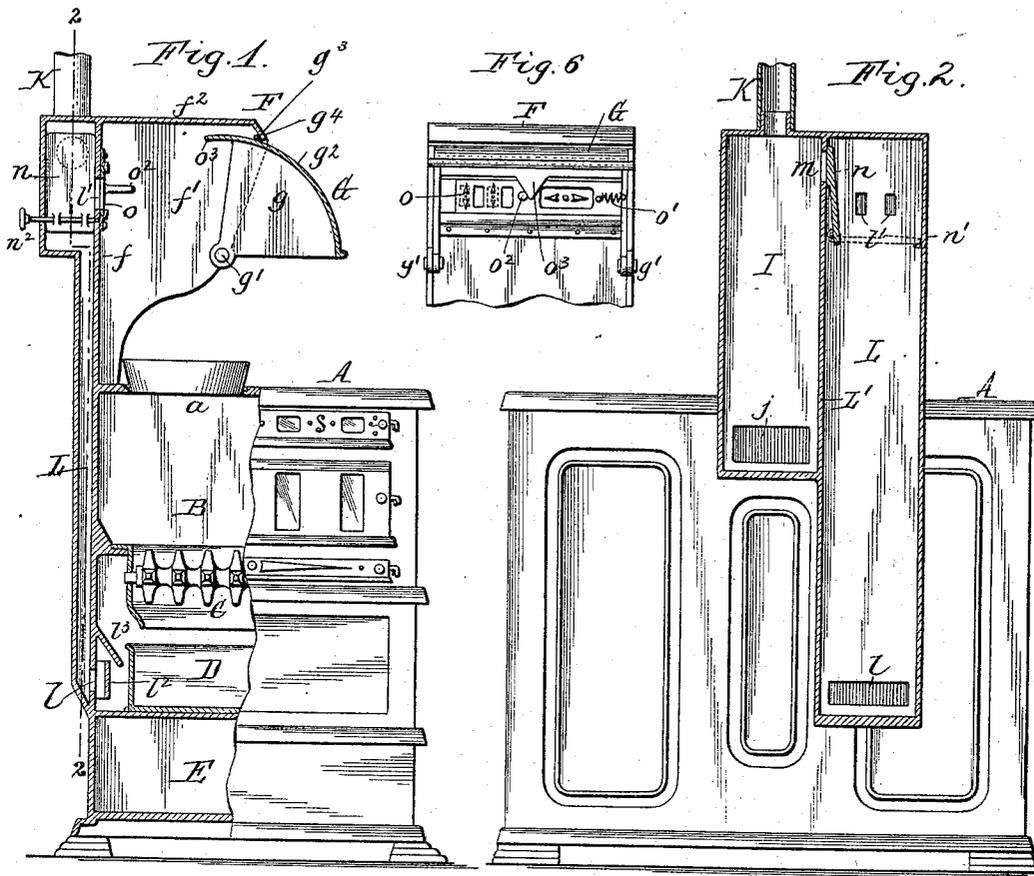
No. 607,976.

Patented July 26, 1898.

A. M. AMOS.
COOKING STOVE.

(Application filed Dec. 13, 1897.)

(No Model.)



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COOKING-STOVE.

SPECIFICATION forming part of Letters Patent No. 607,976, dated July 26, 1898.

Application filed December 13, 1897. Serial No. 661,642. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER M. AMOS, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented a new and useful Improvement in Cooking-Stoves, of which the following is a specification.

This invention relates to cooking-stoves, and has for its object to provide such stoves with effective means for gathering and carrying off or consuming the vapors arising from the utensils on the stove, so as to prevent the diffusion of offensive cooking odors through the rooms of the house, while at the same time avoiding interference with the draft of the stove.

In the accompanying drawings, Figure 1 is a sectional front view of a cooking-stove embodying my invention. Fig. 2 is a sectional side view thereof, the plane of the section being in line 2 2, Fig. 1. Fig. 3 is a fragmentary sectional elevation corresponding to Fig. 1, showing a different position of the dampers. Fig. 4 is a side elevation of the hood, showing the catch for holding its extension in different positions. Fig. 5 is a vertical section of the gathering-hood and adjacent parts, showing a modified arrangement of the main dampers. Fig. 6 is a front view of the hood, showing the same folded.

Like letters of reference refer to like parts in the several figures.

A is the top plate of the stove, having the usual utensil-holes *a*.

B is the fireplace; C, the grate; D, the ash-pit, and E the warming-closet.

F is a stationary gathering-hood which overhangs the top of the stove and which is adapted to catch and confine the vapors arising from the utensils placed on the stove or seated in the holes *a*. This hood extends laterally from one side of the stove to about the middle thereof, and consists of a rear wall *f*, side walls *f'*, having contracted lower portions, and a horizontal top plate *f*². This hood is preferably provided with a folding extension G, which is arranged to project beyond the stationary hood F when unfolded, as shown in Figs. 1 and 4, so as to overhang a larger area of the stove-top, and which may be folded more or less into the main hood, as shown in Fig. 3, when utensils are placed

only on the portion of the stove under the main hood. The extension G preferably consists of sector-shaped side walls *g*, pivoted at their lower ends to the side walls of the fixed hood F by horizontal pins *g'*, and a segmental top plate *g*², connecting the outer portions of said side walls. The unfolding movement of the extension is limited by a stop *g*³, arranged at its rear end and engaging against a lip or inclined portion *g*⁴, arranged at the front edge of the hood, as shown in Fig. 1. The hood extension is held in a more or less open position by a suitable spring-catch *h*, secured to one of the side walls of the hood and having at its free end a pin or stud which interlocks with one of a series of openings *h'*, formed in the adjacent side wall of the extension, as shown in Fig. 4.

I is an upright smoke-flue arranged on the same side of the stove as the vapor-catching hood and extending, preferably, to the top of the hood. This smoke-flue communicates at its lower end with an aperture *j*, formed in the adjacent wall of the stove-body and opening into the fireplace, while its upper end is connected with the stovepipe K.

L is an upright vapor-flue, preferably arranged beside the smoke-flue I and connecting the upper portion of the vapor-gathering hood with the ash-pit. In the construction shown in the drawings the vapor-flue is separated from the smoke-flue by an upright partition L' and communicates at its lower end with the ash-pit by an opening *l*, as shown in Figs 1 and 2, while its upper portion communicates with the upper rear portion of the vapor-gathering hood by vapor-inlets *l'*, formed in the rear wall of the hood. This rear wall forms the front or inner wall of the smoke-flue and the upper portion of the vapor-flue. The upper portion of the vapor-flue communicates with the smoke-flue by a vapor exit or opening *m*, formed in the partition L', as shown in Figs. 2 and 3. As shown in these figures, the vapor-inlets *l'* are arranged below the level of the vapor-exit *m*.

In order to prevent ashes from clogging the lower opening *l* of the vapor-flue, a suitable guard is applied to said opening, as shown in Fig. 1. This guard preferably consists of a three-sided upright shield *l*², which is arranged over the inner side of said open-

ing and which opens at its top and bottom into the ash-pit for allowing the vapor to enter the ash-pit. l^3 is an inclined lip arranged at a short distance above the shield l^2 for preventing the entrance of ashes at the top of the shield.

n is a main damper located in the upper portion of the vapor-flue and arranged to direct the incoming vapor either downwardly through the vapor-flue or directly through the vapor-exit m into the smoke-pipe. In the construction shown in Figs. 1, 2, and 3 this damper is pivoted at its lower end at a point below the vapor-inlets l' and constructed of the proper dimensions to cover the vapor-exit m when swung into its upright position, as shown by full lines in Figs. 1 and 2, and to extend across the vapor-flue below the vapor-inlets l' when swung into its horizontal position, as shown by dotted lines in Fig. 2 and by full lines in Fig. 3. The damper is supported in its horizontal position by a ledge n' , formed on the inner side of the vapor-flue, and is operated by a rock-shaft or spindle n^2 , which forms its pivot and extends through the wall of the flue, the projecting end of the spindle being provided with a knob or handle for turning it.

o is an auxiliary damper which is applied to the vapor-inlets l' and whereby said inlets may be closed for checking the fire. This damper is preferably operated by the folding extension G of the hood and may consist of a horizontally-sliding plate guided in ways arranged on the rear wall of the hood.

o' is a spring which tends to hold the damper o in its open position, in which it uncovers the vapor-inlets l' , and which is secured at its outer end to the hood and at its inner end to the damper. The latter is provided on its outer side with a lug or projection o^2 , which is arranged in the path of a wedge or cam o^3 , arranged on the rear end of the folding extension, so that upon completely folding the extension into the hood said wedge comes in contact with the lug of the damper and shifts the same in the proper direction to close it, as shown in Fig. 6, thereby closing the vapor-inlets in the act of folding the extension. The extension is held in this position by the spring-catch h . Upon unfolding the extension the spring o' returns the damper o to its open position.

In cooking the auxiliary damper o is allowed to open by sufficiently unfolding the extension of the hood, and the main damper n is moved to the upright position, (shown by full lines in Figs. 1 and 2,) whereby the connection between the vapor-flue and the smoke-flue is shut off and communication between the hood and the ash-pit is established. The heat ascending from the fireplace into the smoke-flue creates a descending draft or suction through the vapor-flue, which causes the vapor rising into the hood to pass through the inlets l' of the vapor-flue and descend through the latter into the ash-pit, whence it ascends

through the fire-grate and is consumed. The proper draft to sustain the fire is thus maintained through the vapor-flue, the ordinary dampers in the front of the stove being closed when the vapor-tube is in use. When the fire burns so briskly that it requires no upward draft through the grate, the main damper n is swung down to the horizontal position, (indicated by dotted lines in Fig. 2 and by full lines in Fig. 3,) thus uncovering the exit-opening m , shutting off the vapor-flue below the vapor-inlets l' , and allowing the vapor to pass from the upper portion of the vapor-flue directly through said exit-opening into the smoke-flue.

When it is desired to check the fire—for instance, for keeping the same over night—the auxiliary damper o is closed by completely folding the hood extension G , as hereinbefore described.

If utensils are placed in both sets of holes in the stove-top, the hood extension is wholly unfolded, so as to catch all the vapor.

In the modified construction of my improvement (shown in Fig. 5) two dampers $n^3 n^4$ are employed in place of the single damper n of the first-described construction. In this case both dampers are pivoted at their lower ends to the rear wall of the vapor-flue, and the upper damper is pivoted between the vapor-inlets l' and the vapor-outlet m , while the lower damper is pivoted below the vapor-inlets. With this arrangement when it is desired to direct the vapor through the vapor-flue the upper damper n^3 is lowered to its horizontal position and the lower damper n^4 is raised to its upright position, as shown by full lines in Fig. 5, and when it is desired to pass the vapor directly into the smoke-flue the dampers are moved into the reverse positions. (Indicated by dotted lines in said figure.)

If desired, the segmental top plate of the hood extension G may be utilized as an auxiliary damper, as shown in Fig. 5, instead of the separate damper o , (shown in Figs. 1 and 3,) in which case the portion p of the rear wall of the hood containing the vapor-inlet openings is curved concentrically with the pivots of the folding extension.

My improvement, while catching and carrying off the cooking vapors, does not impair or otherwise interfere with the draft of the stove.

The hood takes the place of the overhanging shelf with which some cooking-stoves are provided, and its horizontal top may be utilized as a shelf. It presents the same general appearance as the usual shelf and does not detract from the sightliness of the stove nor materially increase its cost.

I claim as my invention—

1. In a cooking-stove, the combination with the ash-pit, the fireplace and an ascending smoke-flue connected with the fireplace, of a vapor-gathering hood overhanging the stove-top, a descending vapor-flue arranged adjacent to said smoke-flue and extending from the

rear portion of said hood to the ash-pit, the upper portion of said vapor-flue communicating with the upper portion of the smoke-flue by a connecting-passage, and damper mechanism applied to said vapor-flue and said connecting-passage, whereby said passage may be closed and the vapor-flue left unobstructed, or the vapor-flue closed and said passage left open, substantially as set forth.

2. The combination with the body of the stove, the fireplace, the ash-pit and a smoke-flue, of a vapor-gathering hood overhanging the stove-top, a descending vapor-flue connecting said gathering-hood with the ash-pit and having an inlet which opens into said hood and an exit which leads into said smoke-flue, and a swinging damper arranged in said vapor-flue and having its lower end pivoted at a point below the level of said vapor-inlet, whereby the damper covers said vapor-exit when turned to its upright position and obstructs the vapor-flue below said vapor-inlet, when turned to said horizontal position, substantially as set forth.

3. The combination with the body of the stove, the fireplace and the ash-pit, of a vapor-

gathering hood overhanging the stove, a descending vapor-flue connecting said hood with the ash-pit and having a vapor-inlet which opens into said hood, a damper applied to said vapor-inlet, and a movable extension applied to said hood and arranged to operate said damper, substantially as set forth.

4. The combination with the body of the stove, the fireplace and the ash-pit, of a vapor-gathering hood overhanging the stove, a descending vapor-flue connecting said hood with the ash-pit and having a vapor-inlet which opens into said hood, a damper applied to said vapor-inlet and provided with automatic means for opening it, and a folding extension pivoted to said hood and having a cam or wedge which engages with said damper and closes the same when the extension is folded into the hood, substantially as set forth.

Witness my hand this 4th day of December, 1897.

ALEXANDER M. AMOS.

Witnesses:

CARL F. GEYER,
KATHRYN ELMORE.