

C. H. MELVIN.
STOVE.

No. 493,594.

Patented Mar. 14, 1893.

Fig. 2.

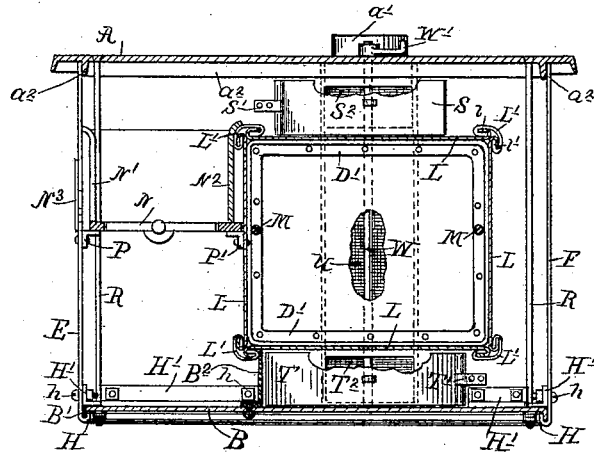
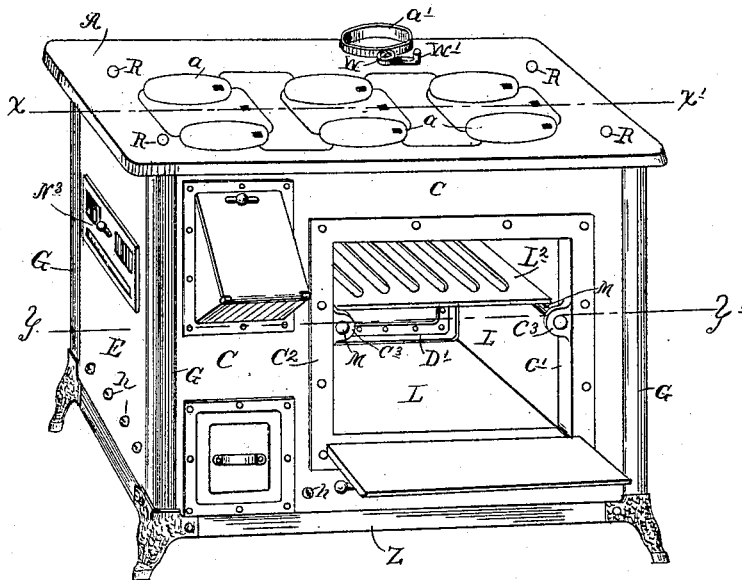


Fig. 1.



Witnesses.
Emma F. Elmore.
Frank D. Merchant,

Inventor.
Charles Herbert Melvin
By his Attorney.
Jas. F. Williamson

(No Model.)

2 Sheets—Sheet 2.

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Fig. 3.

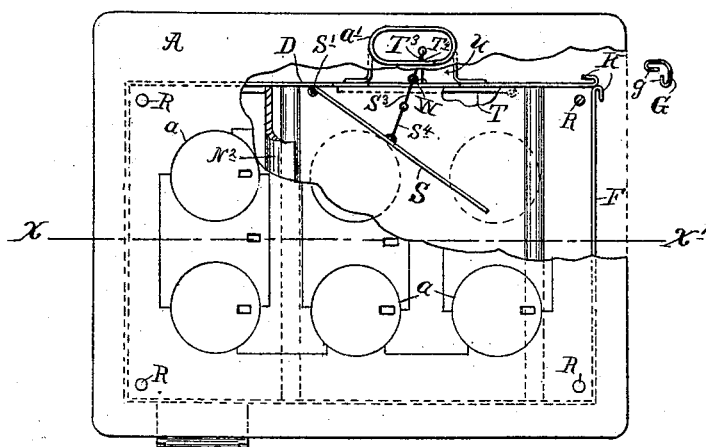


Fig. 4.

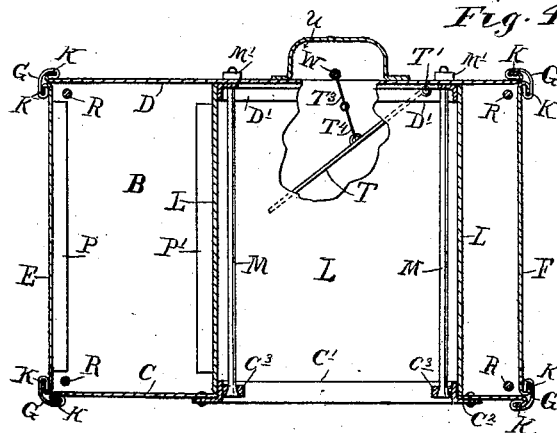
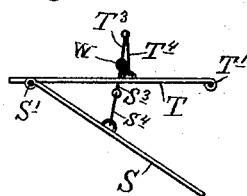


Fig. 5.



Witnesses
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UNITED STATES PATENT OFFICE.

CHARLES HERBERT MELVIN, OF MINNEAPOLIS, MINNESOTA, ASSIGNOR, BY
MESNE ASSIGNMENTS, OF TWO-THIRDS TO HIMSELF AND GEORGE E. GEE,
OF SAME PLACE.

STOVE.

SPECIFICATION forming part of Letters Patent No. 493,594, dated March 14, 1893.

Application filed January 2, 1892. Serial No. 416,808. (No model.)

To all whom it may concern:

Be it known that I, CHARLES HERBERT MELVIN, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Stoves; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to stoves; and more particularly to a stove having dampers of novel construction and arrangement, as will hereinafter more fully appear.

The stove illustrated in connection with my invention is constructed of sheet metal with the exception of the top plate of the stove, all the plates being of flat form and detachably united by means of flanges on the joining edges of the plates. Certain of the joining flanges may interlock directly with each other and others be connected by removable hook-like corner pieces which slide endwise over the joining flanges.

The invention is illustrated in the accompanying drawings, wherein like letters refer to like parts throughout the several views.

Figure 1 is a view in perspective, showing the stove set up and supported on a suitable base. Fig. 2 is a vertical section on the line X X' of Figs. 1 and 3. Fig. 3 is a plan view of the stove, some parts being broken away. Fig. 4 is a horizontal section on the line Y Y' of Fig. 1. Fig. 5 is a detail of the draft dampers, removed from the stove.

A, B, C, D, E, F and G are the knockdown parts of the stove body, of which A is the top, B is the bottom, C the front plate, D the rear or back plate, E the right and F the left end plate, and G are the four corner pieces for securing the side and end plates together at their vertical corners.

The top plate A is a light casting provided with the ordinary griddle holes *a*, and pipe thimble *a'*, and having in addition thereto, a depending flange *a*², adapted to telescope with the vertical part of the stove body, when the stove is set up.

The bottom of the stove and the sides and ends, as well as the four sides of the oven are

formed of rectangular flat pieces of sheet steel having their edges bent or folded back to form flanges for the interlocking joints. Of these, the bottom plate has its four edges turned downward forming the down flanges B'. The front, rear and side plates have their lower edges turned upon themselves inward and upward forming flanges H, for engagement with the said down flanges B' of the bottom plate and are held in position, when set up, by the angle bars H', removably secured by bolts and nuts *h* to each of the said side and end plates directly over the said flanges. Each of the vertical edges of the side and end plates are folded or turned outward and then backward upon themselves forming flanges K, for engagement with the removable corner pieces G. These "corner pieces" or caps G, are of angular form in cross section and have their vertical edges turned inward forming flanges *g*, of hook-like form for engagement with the out-turned flanges K of the side plates, the engagement being effected by an endwise movement of the caps.

The four oven plates L have corresponding flanges *l* on their joining edges, with which engage corner or cap pieces L' having hook-like flanges *l'*, in a manner exactly the same as the vertical corners and cap pieces of the stove body. This oven is secured between the front and rear plates of the stove body, by being placed in position with one end telescoping over the joint flange D' secured to the back plate and the other over the inwardly projecting joint flange C' on the oven door frame C², which is secured by rivets to the front plate of the stove body.

To more firmly secure the oven in position and give an additional rigidity to the stove body, a pair of rods M are passed longitudinally through the said oven near each side, having their heads engaging lugs C³ projecting from the door frame C² and their other ends, extending through perforations in the back plate and provided with nuts M' for clamping the said parts together. These bolts are so positioned that they serve as rests for the oven rack L².

N is the bottom grate, N' the side grate, N²

the fire back and N³ the draft register of the fire-box, all of the customary construction.

P P' are angle pieces for supporting the fire box secured respectively one to the adjacent plate of the stove body and the other to the adjacent plate of the oven.

Vertical draw-rods R pass through perforations in the top and bottom plates inside the corners and are provided with nuts at their lower ends for clamping the parts together. One pair of these bolts may also be employed to secure the vertical grate of the fire-box in position.

The removable vertical and horizontal draw-rods R and M co-operate to stay the parts of the stove and hold the same together with the necessary rigidity.

S and T are swinging dampers hinged to the rear plate D at their opposite ends by hinges S' and T', for opening and closing respectively, the passages S² and T², leading from the main body of the stove, respectively above and below the oven, into the back flue U. These dampers are preferably so connected that when either is in its closed position, the other will be in its open position and thrown out into the stove at an angle to the normal line of draft.

As a convenient means of connecting the dampers, I employ the rod W, extending vertically through the draft flue U and pivotally secured in the back plate D, carrying a pair of crank-arms S³ and T³, which project in a reverse direction, respectively opposite to and connected by links S⁴ and T⁴ with the dampers S and T. To the upper end of this rod, which extends through a perforation in the top plate of the stove, is secured a hand lever W' for setting the said dampers in their different positions. It should be noticed that when these dampers are set in either of their positions, their operating cranks and connecting links stand approximately on a dead center, and hence will hold the dampers against the force of the draft, in whichever position they may be set.

The operation of the dampers is as follows:—When desired to cook from the top of the stove, the lower draft passage T² is closed by the damper T, hence, the other damper S will be moved into its opened position, as shown in Fig. 3. In this position, the damper S acts as a deflector, preventing the draft from taking a short cut across one side of the oven in passing from the fire-box to the flue passage S² and causing the same to spread out

over the top of the oven and make the complete circuit of the griddle holes. On the other hand, when it is desired to use the oven, as for baking purposes, the upper draft passage S² is closed by the damper S, the closing of which will, as before stated, throw the lower damper T into its open position as shown in Fig. 4. The draft will then pass from the fire-box over the top, down the side, under the bottom of the oven and through the passage T² into the back flue of the stove. The open damper T, then acting as a deflector will cause the flame to spread out under the entire bottom of the oven. These dampers, therefore perform the double function of dampers and deflectors. It should be noticed that the said dampers, in order to give the same sufficient length for their function as deflectors, are made longer than would be necessary to close the draft passages.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. In a cooking stove having an interior oven, a pair of combined dampers and deflectors located one above and the other below the oven, controlling respectively the direct and indirect passages to the outlet flue, and arranged each to be thrown outward against the line of draft to act as a deflector when open, substantially as and for the purpose set forth.

2. In a stove provided with an oven, a pair of combined draft dampers and deflectors located one above and the other under the oven, and controlling the passages to the outlet flue, the said dampers being mounted to move in opposite directions so that when one is open the other is closed and arranged to deflect and spread out the products of combustion so that the direct draft must take the complete circuit of the griddle holes and the indirect the complete circuit of the oven.

3. The combination with the stove having an interior oven and direct and indirect passages to the outlet flue of the combined dampers and deflectors S and T, the operating rod W provided with the reversely related cranks S³ and T³ and the links S⁴ and T⁴ connecting the same with the said dampers, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES HERBERT MELVIN.

Witnesses:

WM. D. HULL,

JAS. F. WILLIAMSON.