(No Model.) 2 Sheets—Sheet 1.

G. R. PROWSE.

COOKING STOVE.

No. 320,499. Patented June 23, 1885.

Fig. 3.

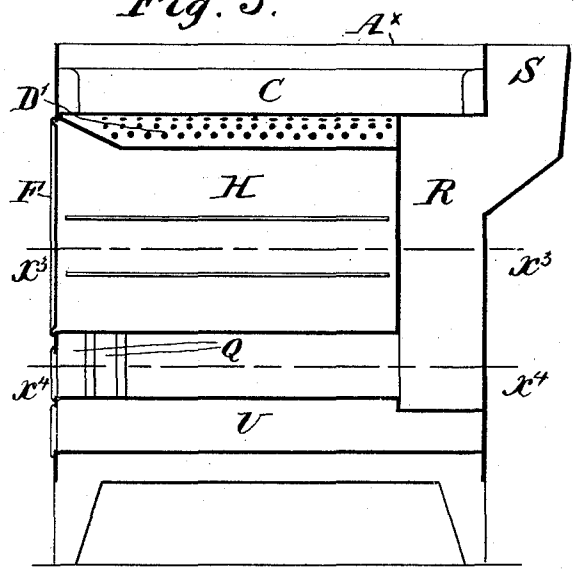


Fig. 1.

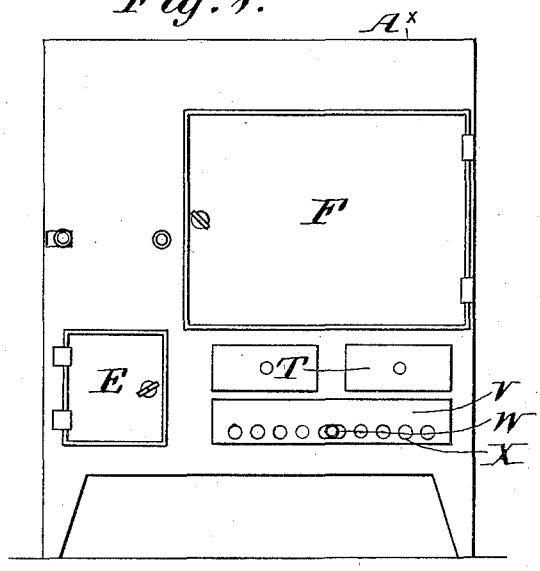
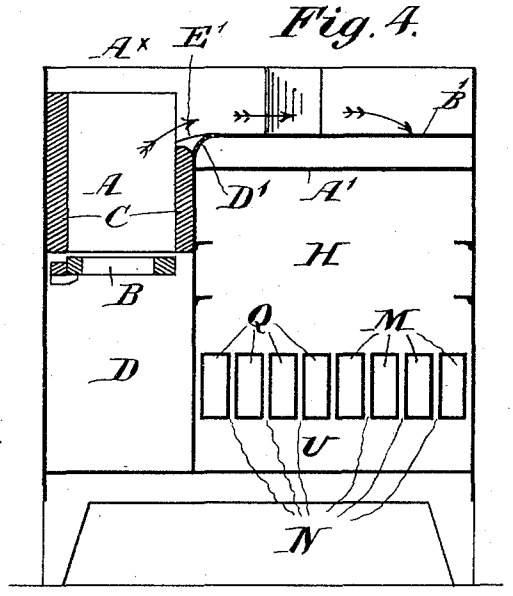


Fig. 4.



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(No Model.) 2 Sheets—Sheet 2.

G. R. PROWSE.

COOKING STOVE.

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Fig. 2.

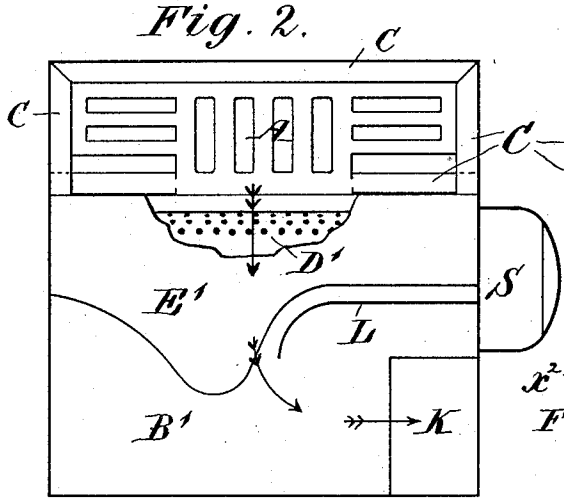


Fig. 6.

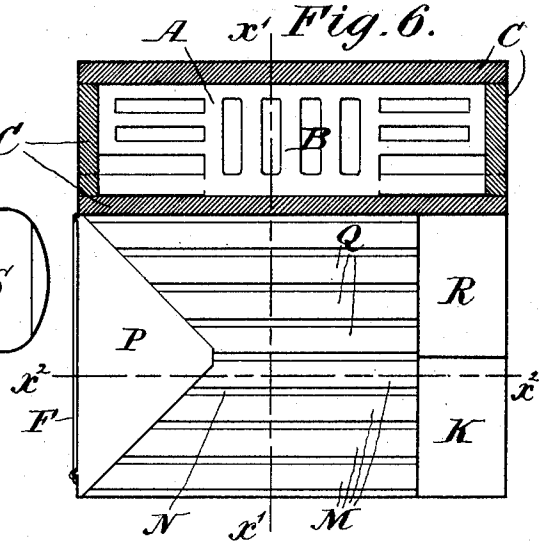


Fig. 5.

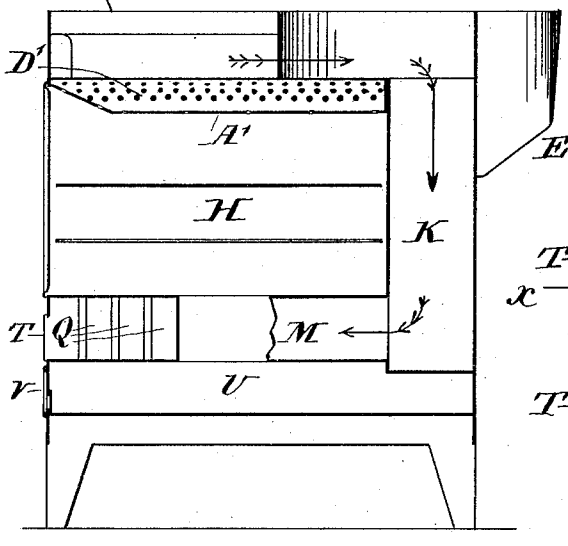
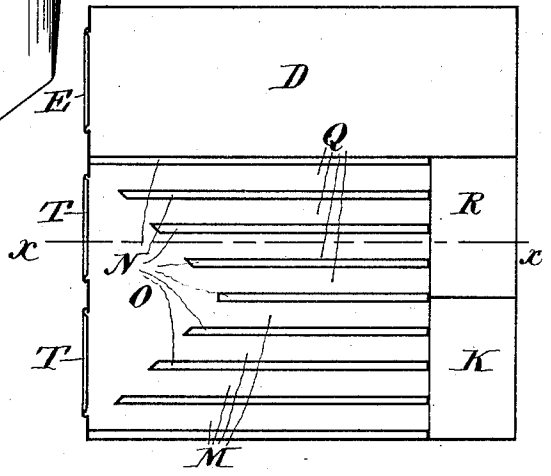


Fig. 7.



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UNITED STATES PATENT OFFICE.

GEORGE ROGER PROWSE, OF MONTREAL, QUEBEC, CANADA.

COOKING-STOVE.

SPECIFICATION forming part of Letters Patent No. 320,499, dated June 23, 1885.

Application filed December 29, 1884. (No model.)

To all whom it may concern:

Be it known that I, GEORGE ROGER PROWSE, of the city of Montreal, District of Montreal, Province of Quebec, Canada, have invented new and useful Improvements in Stoves, &c.; and I do hereby declare that the following is a full, clear, and exact description of the same.

This invention has reference particularly to the class of cooking stoves and ranges in which a good oven is particularly desired.

The particular features of my invention will be hereinafter clearly set forth and claimed.

In the drawings hereunto annexed similar letters of reference indicate like parts, and Figure 1 is a front elevation of a stove embodying my invention, the top plate of which is represented by the line $A^{\times}$. Fig. 2 is a plan of the stove shown in Fig. 1. Fig. 3 is a vertical section from front to back of the stove, taken on the line $x\ x$, Fig. 7. Fig. 4 is a transverse vertical section of the stove, taken on line $x'\ x'$, Fig. 6. Fig. 5 is a vertical section of the stove, taken transversely on line $x^2\ x^2$, Fig. 6. Fig. 6 is a horizontal section of the stove, taken on line $x^3\ x^3$, Fig. 3. Fig. 7 is a horizontal section of the stove, taken on the line $x^4\ x^4$, Fig. 3.

$A^{\times}$ is an ordinary top with openings through which to feed the fire-box, and further openings may be added, if desired.

A is the fire-box, situated at the side of the stove, provided with grate B and lining C.

D is the ash-pit, and E the ash-pit door. F is the oven-door.

The outside or shell of the stove G is preferably made of sheet iron or steel. Nevertheless, cast-iron plates may be used, if desired.

Now, all the above-mentioned parts are each of ordinary construction.

H is the oven, the door F of which is situated on the front of the stove.

K is a downtake-flue, by which the products of combustion are brought down, as shown by the arrows in Figs. 2, 4, and 5.

L is a baffle-plate, of ordinary construction, to prevent the products of combustion from passing too directly to the downtake-flue K. With the bottom of this flue are connected four (or any desired number of) rectangular tubes, M and Q. The top of the tubes in that part of the oven through which they extend form the bottom of the oven H, with the exception of the long slot-openings N, formed by the space between each of the tubes.

The tubes M terminate in a triangular space, O, situated at the front part of the bottom of the oven, and covered by the plate P. (See Figs. 6 and 7.) Four other similar tubes, Q, are connected with the said space O. These, as shown, have their other ends connected with the uptake-flue R, extended by the outer projection, S, connecting with any suitable chimney or flue.

It will be observed that the flue K is of considerable width. The object of this is to take the products of combustion from the fire-box A down to the tubes M in as compact a manner as possible, so that, arriving at the tubes M, (which, it will be observed, are of considerable depth, thereby providing a considerably-extended heating-surface, so that the radiation of heat may take place freely in the bottom of the stove,) the products of combustion passing through the tubes M to the space O are conducted through the tubes Q (which co-operate with the tubes M in the radiation of the heat) to the uptake-flue R and out at the projection S, so that by the above-described arrangement the principal heating of the oven takes place from the bottom of it. This is an important feature, because ovens having the principal heat imparted to them at the bottom I have found to give a much better result in roasting and baking than in stoves where the greater part of the heat is applied to them in any other place than the bottom.

In the front of the stove are formed two sweep-hole doors, T, by opening which the tubes M and Q may be thoroughly and easily cleaned. This is considered important, inasmuch as that, if the tubes are not kept clean, the action of the stove will not be satisfactory.

Below the tubes M and Q is situated a space, U, of which V is the door, having any ordinary damper-regulator, W, which controls the flow of air through the perforations X, so that a current of air may pass into the space U and up through the slot-openings N, through a perforated plate, A', situated near

the top of the oven, of which the plate B′ forms the top. This current of air passes through perforations formed at the corner D′.

Extending over the oven-plate B′ is a guard to the perforations at D′, and causes the steam, &c., from the oven to intermingle with the products of combustion as they arise from the fire-box A. The said current of air, in combination with the particular application of the heat, as described, is important.

If desired, the downtake-flue K may be provided with a non-heat-conducting lining, to assist in preventing the radiation of heat in it.

With regard to the space U, by opening the door V, plates, dishes, &c., to be warmed can be placed in it without preventing the current of air from passing through it.

In the construction of stoves and ranges as they have been heretofore arranged the fire-box and flues are placed at opposite ends of the stove or range, thereby reducing the width of the oven the amount of the space occupied by the flues. This is objectionable, inasmuch as that it causes the oven to be narrow in width and deep in length. With ovens so formed the back part of them may practically be said to be useless, inasmuch as that, if anything is placed in the back and other things in front of the oven, those in front must be taken out before the things at the back can be removed.

I am aware that it has been the practice heretofore to form stoves, &c., with the flues under the bottom plate of the oven, so that the said plate forms at one and the same time the bottom of the oven and the top of the flues. Therefore the upper surface of this said plate is the only one for furnishing the heat at the bottom of the oven; but such arrangement of flues with the bottom plate of the oven is clearly distinct from my invention, which consists in forming the tubes M and Q with slot-openings N between each of them, whereby a greatly-extended surface is obtained for the radiation of heat; also, a very convenient and desirable space, U, is formed in direct connection with the oven H by the openings N.

What I claim is as follows:

1. The combination of the fire-box A, oven H, uptake and downtake flues K and R, and tubes M and Q, having slot-openings N between them, as shown, constructed, arranged, and operating substantially as shown and described, for the purposes set forth.

2. The combination of the fire-box A, oven H, having perforations at D′, uptake and downtake flues K and R, tubes M and Q, having slot-openings N between them, as shown, and space U, having a controlling-regulator by which a current of air is admitted to the oven, the whole constructed and arranged substantially as described, for the purposes set forth.

GEO. R. PROWSE.

Witnesses:

CHARLES G. C. SIMPSON,

W. DECARIE.