(No Model.)

G. R. PROWSE.

STOVE.

No. 378,149. Patented Feb. 21, 1888.

Fig. 1.

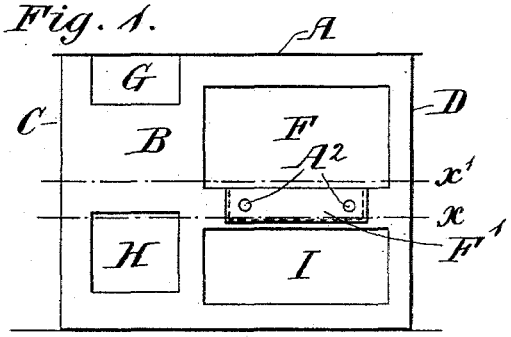


Fig. 4.

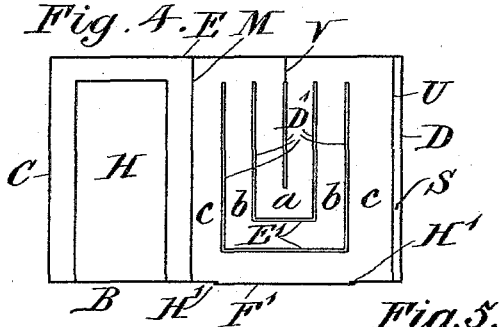


Fig. 2.

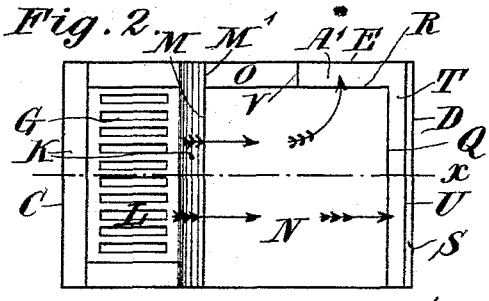


Fig. 5.

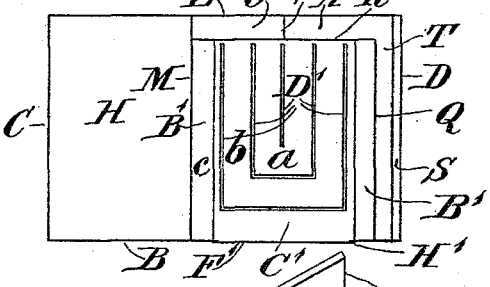


Fig. 3.

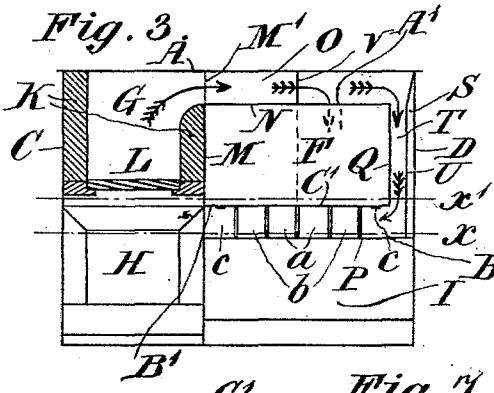
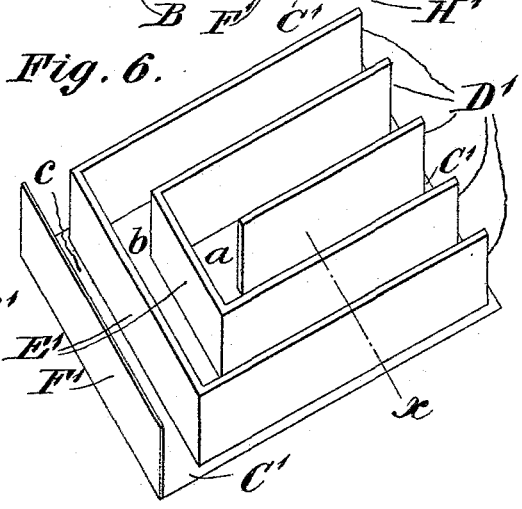
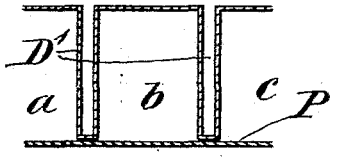


Fig. 6.



C'

Fig. 7.



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UNITED STATES PATENT OFFICE.

GEORGE R. PROWSE, OF MONTREAL, QUEBEC, CANADA.

STOVE.

SPECIFICATION forming part of Letters Patent No. 378,149, dated February 21, 1888.

Application filed June 13, 1887. Serial No. 241,173. (No model.)

To all whom it may concern:

Be it known that I, GEORGE ROGER PROWSE, of the city of Montreal, in the district of Montreal and 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 to further improvements in the invention for which Letters Patent of the United States were granted to me on the 23d of June, A. D. 1885, No. 320,499, for the purpose of producing a stove or range, &c., which will be more cheaply constructed, have a larger amount of heating-surface in the oven, and be so arranged that the cleaning out of the flues under the oven-plate is more easily accomplished, and such other advantages as may hereinafter be set forth.

The particular features of my present invention will be hereinafter 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 various doors for fire-box, oven, &c., are not shown. Fig. 2 is a plan of the stove shown in Fig. 1 with the top plate, A, removed. Fig. 3 is a vertical section on line *x*, Fig. 2. Fig. 4 is a horizontal section on line *x*, Fig. 1 or 3. Fig. 5 is a horizontal section on line *x'*, Fig. 1 or 3. Fig. 6 is an isometrical view of the oven-plate and flues in an inverted position. Fig. 7 is a section on line *x*, Fig. 6, showing a portion of plate P in relation therewith.

Letter A is the top plate of the stove.

B is the front plate, C and D are side plates, and E the back plate, of the stove, all of which are of an ordinary construction, and united together in any suitable manner to form the outer shell of the stove in an ordinary manner. In the plate B openings are formed, as shown, for the oven F, fire-box G, ash-pit H, and heater I.

K is the fire-box lining, and L the grate.

M is a plate extending vertically from the plate N, which forms the top of the oven, to the bottom of the stove or range, and transversely from the front plate, B, to the back plate, E, an upward projection, M', of the plate M forms one side of the uptake O in that part of it which extends above the plate N. The uptake extends down and connects with one end of the flues *a*, *b*, and *c*, hereinafter to be described.

At any desired distance below the bottom of the oven, which bottom will be hereinafter described, is situated a horizontal plate, P. This plate extends from the side D to the plate M in the longitudinal direction, and from the plate B to the plate E transversely of the stove, and is attached to the said plates D M B E. The plate P forms also the top of the heater I.

The side of the oven opposite to that formed by the plate M is formed by a plate, Q, which extends from the plate N down to the bottom of the oven and from the plate B to the plate R, which forms the back of the oven. The plate Q is parallel to the side D, but situated at a suitable distance from it to form a dead-air space, S, and a suitable flue, T, the space S being divided off by a plate, U. The plate R extends vertically from the plate A, in that part of it where the uptake O is situated, and from the plate N, where the uptake O is not situated, down to the bottom of the oven L.

V is a plate which extends vertically from the plate P up to the plate A and from the plate E to the plate R, and forms the side of the uptake O opposite to the side formed by a part of the plate M. This plate V is situated at about mid-distance between the plates M and Q, leaving a space which forms a flue, A', at the back of the oven. This flue A', as shown, unites with the flue T at the side, the two forming a downtake, A' T, by which the products of combustion arising from the fire-box G, after passing over the top plate, N, of the oven, are brought down to the bottom of the oven, as shown by the arrows in Figs. 2 and 3.

The bottom of the oven, which is situated at a suitable distance above the plate P for the formation of the flues *a*, *b*, and *c*, is parallel therewith. This is formed by two side strips or plates, B', which extend horizontally from the plates M and Q, as shown, and extend transversely from the plate B to the plate R. The edges of these plates B' adjacent to the plate C' are formed in an ordinary manner to make ordinary joints with the plate C', which, with the said plates B', form the bot-

tom of the oven. The edges of the plate C′ that lie within the oven are closely fitted to make a sufficiently-tight joint with the plates B′ and the plate R (by simply adjusting the plate C′ to its proper place) by its own gravity.

The particular formation of the plate C′, and its relation to the flues A′ and T or downtake A′ T, is an important feature in this invention, and must be fully described.

The plate C′ is constructed with a number of downward-extending hollow projections or deep corrugations, D′, extending transversely of the stove, five of these being shown; but a greater or less number may be formed, as desired, according to the extent of heating-surface that is desired.

E′ are longitudinal projections or corrugations arranged, as shown, to connect the ends, as shown, of the projections or corrugations D′, and thus form flues under the plate C′. The plate C′ is further provided with a downward-projecting flange, F′, which, when in place in relation to the plate B, forms a close joint therewith. Where the flange F′ occurs in the front of the stove an opening is formed in plate B, there being, however, enough of the plate B left at the back of the flange F′, as shown at H′, (see Figs. 4 and 5,) to form a joint between the plate B and said flange F′, as shown also by the dotted lines in Fig. 1. The hollow projections or corrugations D′ and E′ extend down to the plate P, as will be understood by Figs. 3, 6, and 7. As shown, three complete flues, *a*, *b*, and *c*, are formed under the plate C′. One end of each of these connects with the downtake A′ T; the other end with the uptake O.

The plate C′ may be provided with such hollow projections or corrugations as may be required to form any desired number of flues similar to the flues *a*, *b*, and *c*, connecting in the same manner with the flue A′, or with the downtake A′ T, as shown, and uptake O.

The projections D′ and E′ give a greater amount of heating-surface to the oven F, as also the flue T, for in this present invention the products of combustion from the fire-box are caused to circulate around all the surfaces of the oven F, except the front and the side at which the fire-box is situated.

A^2 are any suitable handles, which may also, if desired, be arranged as ordinary combined handles and catches for holding the flange F′ close pressed up to the plate B; but as these do not form any part of my present invention, and almost any ordinary form may be used, they need not be further described or shown in the drawings. When the flues under the plates B′ and C′ require to be cleaned, it is only necessary to remove the plate C′ by simply lifting it out of place, whereupon free access is given for the purpose. This also is looked upon as an important improvement of my present invention.

What I claim, and wish to secure by Letters Patent, is as follows:

The combination, in a cooking stove or range, of the oven F, downtake A′ T, uptake O, as shown and described, the detached plate bottom C′, (of the oven F,) provided with hollow projections D′ E′ and flange F′, which, with the plate P, form flues *a*, *b*, and *c* under the said plate or bottom C′, with the plate P, the whole constructed and arranged substantially as described.

GEO. R. PROWSE.

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