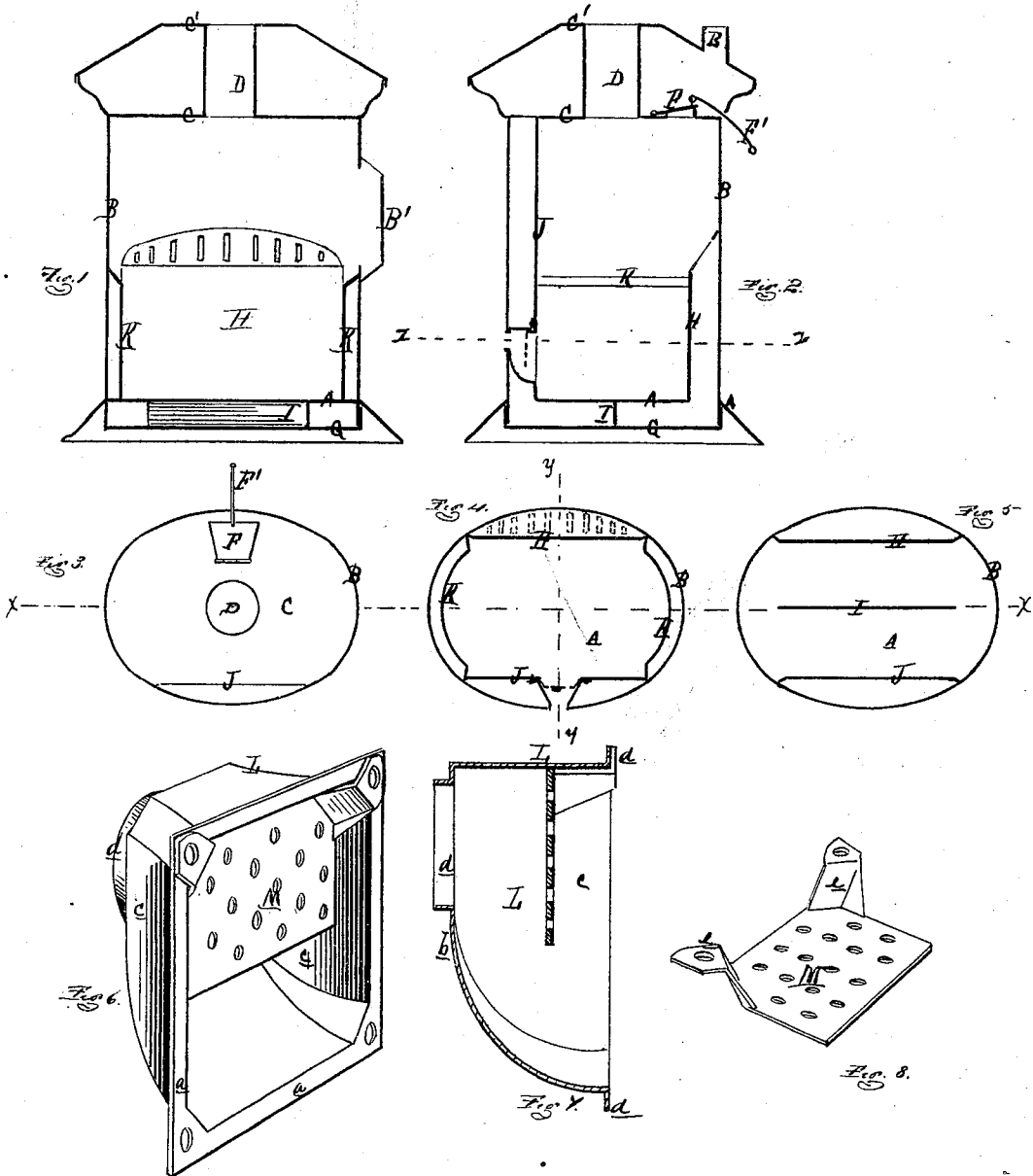


J. V. B. CARTER.

Heating-Stove.

No. 129,315.

Patented July 16, 1872.



ATTEST:
H. C. Sprague
H. F. Ebert

INVENTOR:
John V. B. Carter
Per atty
H. C. Sprague

UNITED STATES PATENT OFFICE.

JOHN V. B. CARTER, OF DETROIT, MICHIGAN, ASSIGNOR TO DETROIT STOVE WORKS, OF SAME PLACE.

IMPROVEMENT IN HEATING-STOVES.

Specification forming part of Letters Patent No. 129,315, dated July 16, 1872.

To whom it may concern:

Be it known that I, JOHN V. B. CARTER, of Detroit, in the county of Wayne and State of Michigan, have invented a new and useful Improvement in Heating-Stoves; and I do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon and being a part of this specification, in which—

Figure 1 is a transverse vertical section on the line *x x* in Figs. 3, 4, and 5. Fig. 2 is a cross-section on *y y*, Fig. 4. Fig. 3 is a plan of the top, the cap being removed. Fig. 4 is a horizontal section on the plane *z z* in Fig. 2. Fig. 5 is an inverted plan of the base, the bottom-plate being removed. Fig. 6 is a perspective view of the draught-register case from the inner side. Fig. 7 is a cross-section of the same, and Fig. 8 is a detached perspective view of the baffle-plate detached.

Similar letters of reference indicate corresponding parts in the several figures.

The nature of this invention relates to certain improvements in the construction of wood-burning heating-stoves, whereby the heated currents are reverted through a short internal diving-flue into a double-base, whence they rise, after being therein divided, through a wide single flue at the front of the stove into a double top before passing out into the smoke-pipe, while the stove is so arranged as to have a direct draught at will. It also relates to a peculiar draught-register case provided with a partial diaphragm perforated to serve as a baffle-plate, the object of which is to prevent sparks from being thrown out through the register, and to increase the draught at the lower part of the incandescent fuel.

The invention consists in the peculiar construction and arrangement within the oval sheet-metal shell and with relation to a double-top and base, as described in the Letters Patent of John D. Miller, assignor to the Detroit stove-works, dated October 3, 1871, and numbered 119,634, of the descending-flue at the back of the stove, a dividing-strip in the base and a rising-flue at the front of the stove; also, in a peculiar case for conveying the draught from the register to the interior of the stove, and provided with a baffle-plate in the upper

half of its middle section to prevent sparks or coals from being thrown out into the apartment.

In the drawing, A represents the base of my stove mounted on suitable legs. B is an oval sheet-metal shell mounted thereon, and on it is erected a double top, composed of the plates C and C' joined at their peripheries. Through the center of the double top is a feed-chute, D, and at the back part of the cap is an outlet, E, surrounded with a collar to receive the smoke-pipe. F is a damper closing an opening in the inner top-plate operated by a rod, F', by which it may be swung up against the chute, and thus give a direct draught. G is the bottom-plate of the stove, forming, with the base-plate, a bottom or base-chamber.

All the foregoing parts being substantially the same as the corresponding ones shown in the above-mentioned Letters Patent, their invention is hereby disclaimed.

H is the diving-flue plate about one-half the height of the combustion-chamber, straight, and forms a chord of the ellipse of the stove provided with a grating at the top to prevent coals or fuel from falling into the base-chamber, which it communicates with through an opening in the base-plate. I is a dividing-plate in the base-chamber in the direction of its transverse axis, leaving a passage-way at each end. J is the up or return flue plate, being a straight plate, forming a chord at the front part of the shell, extending from the base-chamber to the top-chamber, through suitable openings in their plates. K K are segmental castings, preferably corrugated, extending from the edges of the diving-flue plate to those of the return-flue plate, and form the lining of the stove. B' is a door at one end of the stove for the introduction of fuel. If the damper F be closed, the heated currents will pass down the back-flue into the base-chamber, where they will be divided by and pass around the ends of the strip I, whence they will pass to the front flue and rise up into the double top, passing around the chute, and finally make an exit into the smoke-pipe.

It will be noticed that the heated currents are caused to pass in contact with the exterior walls of the stove at every change of direction, and thus give up a large proportion

of their caloric, which otherwise would be lost, and yet all the channels through which they move are large and free, and present no such obstructions as would check the combustion to such an extent as to cause the stove to smoke when the draught is reverted; also, that nearly every square inch of the exterior surfaces of the stove is available for direct radiation, making this stove a powerful but economical heater.

As is well-known, wood-burning stoves are open to the objection of throwing out live coals and sparks through the draught-register, to the great danger of the carpet and floor of the apartment, and also to the fact that ashes fall out through the draught-opening. To overcome these objections I construct my draught-register case as shown, and which I will now describe. L is a case cast with a rectangular flange, *a*, at the inner end, with a hole drilled at each corner. From this flange the top part extends horizontally forward to a front wall, *b*, but narrowing as it approaches it. The sides *c c* are vertical and follow the outline of the top, but the bottom curves upward to a flange or collar, *d*, in the front wall, which protrudes through an opening in the shell of the stove, where it has secured to it a register to admit the draught of air. M is a rectangular perforated baffle-plate provided with the angular lug *e* at each upper corner, by means of which

it is secured and suspended within the upper half of the case, by the same bolts or rivets which secure the latter to the front-flue plate, so that sparks snapping out will be arrested by said plate, as also the ashes, when the chamber is filled. The draught entering through the register sweeps down under the baffle-plate, which contracts the area of opening sufficiently to give it force, and impinges upon the lower part of the incandescent fuel, where it is most needed. Should the stove get too full of ashes and they thus stop the draught-way under the plate there would be still sufficient area of draught-opening through the apertures in the baffle-plate to support combustion.

What I claim as my invention, and desire to secure by Letters Patent, is—

The construction and arrangement, with relation to the shell B, base and bottom plates A G and top-plates C C', of the diving-flue plate H, dividing-strip I, and return-flue plate J, these parts being combined with the draught-register case L, constructed substantially as described, and provided with the baffle-plate M, or its equivalent, for the purpose specified.

JOHN V. B. CARTER.

Witnesses:

H. F. EBERTS,
H. S. SPRAGUE.