

Improvement in Cooking-Stoves and Ranges.

Patented May 2, 1871.

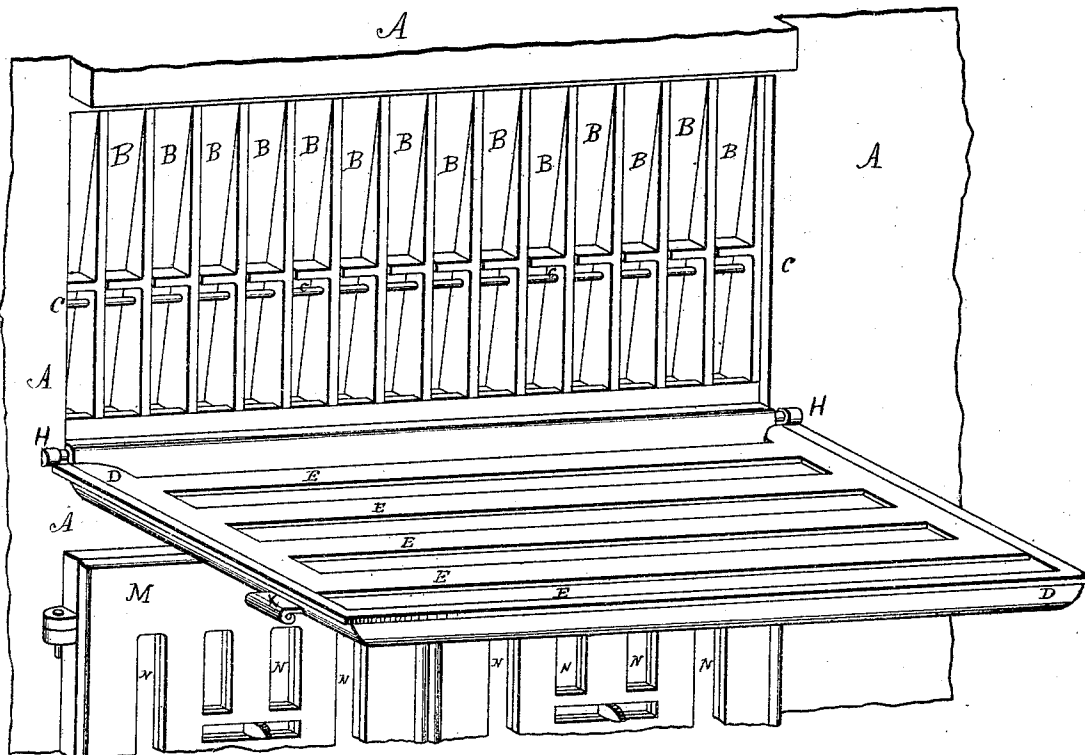


Fig. 3.

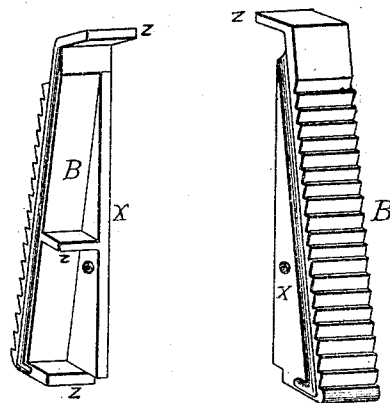
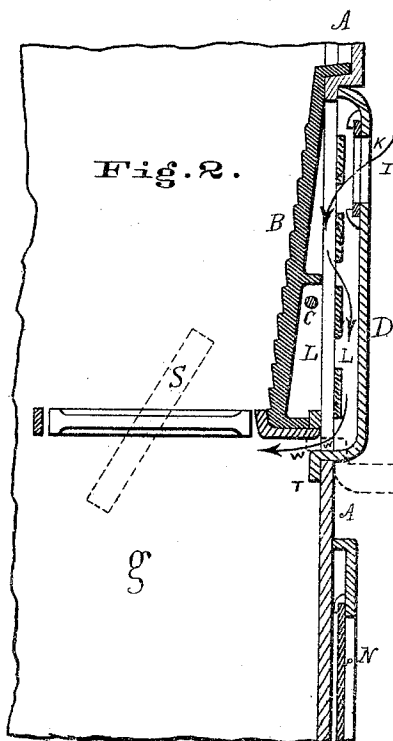
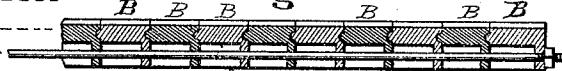


Fig. 4



INVENTOR

John S. Peckham,
by Fisher and Fisher,
attys.

Attest
Jas. H. Layman.
L. Richards.

United States Patent Office.

JOHN S. PECKHAM, OF UTICA, NEW YORK.

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IMPROVEMENT IN COOKING-STOVES AND RANGES.

The Schedule referred to in these Letters Patent and making part of the same.

Be it known that I, JOHN S. PECKHAM, of Utica, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Stoves and Ranges, of which the following is a specification.

The first part of my invention relates to a front fire-plate for a stove or range, made in sections, each of such shape as to fit together tightly, and, when so fitted, secured in place by certain devices in such a manner that a fire-plate of such construction is very durable and is a very efficient radiator of heat.

The second part of my invention relates to the combination with a stove of the aforementioned fire-plate, and also of a folding shelf containing draught-registers, in such a manner that when the folding shelf is unfolded it can be used as a plate-warmer or toaster, and the fire-plate can be used as a sad-iron heater and the like; and when the folding shelf is folded up and its draught-registers opened, the ordinary registers near the bottom of the stove being shut, the fire-plate then performs the office of heating the air which afterward feeds the fire of the stove, thus materially aiding combustion and economizing heat.

Description of Accompanying Drawing.

Figure 1 is a view of a stove front, and of the sectional fire-plate fitted therein, and the folding shelf and the ordinary draught-registers of a stove, as arranged for use.

Figure 2 is a transverse section through the center of fig. 1, except that in fig. 1 the folding shelf is opened down, while in this figure the shelf is folded up to the fire-plate.

Figure 3 shows in perspective the front, back, and sides of a section of the fire-plate.

Figure 4 is a longitudinal section of my fire-plate, made across the sections at the rod which binds such sections together, and showing how each section is fitted and united to its adjacent section.

General Description.

A is the front of a stove.

B are the sections of the fire-plate. These sections are serrated on that side which forms a portion of the inside of the fire-box, as shown in fig. 3 and in section in fig. 2. The front or outer part of this section is shaped as shown in the left-hand section of fig. 3, having three transverse projecting flanges extending forward, one from the top, a second from the middle, and a third from the bottom of said section.

Along that side of the section which is on the right of the left-hand figure of fig. 3 and on the left of the right-hand figure of fig. 3 is a flange, through whose side is a hole to allow the entrance of the connecting-

rod. This flange strengthens the section as well as affords a foothold for the connecting-rod.

Throughout the entire length of that part of the flange which is adjacent to its section runs a groove or channel, into which fits a bead of the adjacent section. This bead is located on each section on that side which is opposite to the flange and groove. How said beads fit into said grooves is shown in section in fig. 4.

Whether flange X be on the right or left side of a section is immaterial to this my improvement. It is, however, convenient to have these flanges on the corresponding sides of the sections, and when the flanges are thus placed the whole sectional plate wears a more symmetrical appearance.

It is also immaterial to the successful working of my improvement whether the beads are on the right or on the left side of each section, or the grooves are on the right or left side, so long as the sections are so formed that the beads of the sections fit into the grooves in their adjacent sections. To secure these sections in place when fitted together a connecting-rod or binder, C, is passed through the hole in the flange X of each section, and the sections are then tightened up by a screw working upon a thread on the end of the rod C, and held in place as shown in figs. 1 and 4.

These sections, when thus united, form the sectional fire-plate heretofore mentioned. This fire-plate is placed in the front of the stove, with the serrated side within, and thus forms one of the sides of the fire-chamber.

The advantage of making a fire-plate in such sections, and of so uniting these sections, is that we have thus a continuous plate which may expand and contract without cracking or breaking; we also have a plate which is very durable and admits of easy and quick repair. Lastly, such a plate is a prime conductor and radiator of heat from the fire within to the air without, or to a sad-iron or other article placed against it.

D is a folding shelf, pivoted on rods or hung on hinges, H, fastened to the stove at the lower side of said shelf. In this shelf is a set of draught-registers, opened and shut by slides.

On the inner side of this folding shelf, supported by the frame and separated from the main portion of this shelf, is a series of slats, E, running lengthwise across the shelf. These slats are to hold any plate, sad-iron, or other article to be heated, and to keep such article from coming into contact with the hot shelf itself, and also to allow the air to circulate freely below the article.

On the lower edge of the frame of this shelf, and between the hinges, is a flange, T, running parallel to the side shelf and at right angles to the edge of the frame to which it is attached.

This flange T works in a narrow longitudinal open-

ing, W, in the front of the stove just below the sectional fire-plate. In width this narrow opening is usually twice the thickness of the frame of the shelf where it enters the opening.

When the shelf is folded up, as shown in fig. 2, its office of toast-warmer, sad-iron heater, or the like, is suspended, and it performs, with the aid of opening W, a new and different function, now to be described.

The shelf being folded up, the flange T will then assume such a position that a draught-passage or opening, W, is made between the upper inner side of the flange and below the bottom of the sectional fire-plate.

The registers I in the shelf are now opened, and at the same time the registers N in the bottom of the stove are closed.

Upon the completion of these arrangements the air to feed the fire, instead of entering the flues N, will now pass through registers I and into the space L between the folding shelf and the sectional fire-plate.

As this incoming air passes over the hot surface of the sectional fire-plate it becomes heated, and, passing down through opening W, it enters the space *g* below the fire. It then passes up through the fire-grate S and enters into combustion with the fuel.

This air, in consequence of becoming thus heated, enters more easily and rapidly into combination than when not so heated. Therefore the heat thus radiated by the sectional fire-plate, when not used for warming the room or heating any article placed on folding shelf D, is utilized in aiding the combustion of the fuel in the fire-chamber.

When the shelf D is unfolded the flange T will then be thrown up against the bottom of the sectional fire-plate in such a manner as to entirely close the draught-

passage W, as shown by the dotted lines of fig. 2, thereby cutting off all entrance by that way of air into the space below the fire-grate. The registers N must then be opened, and air passes through them up through the grate to the fire in the common way.

My invention, with its advantages, is applicable not only to stoves, but also to ranges and the like.

Claims.

What I claim as my invention is—

1. The sections B, formed substantially as described and for the purposes set forth.
2. The connecting-bar C, in combination with the sections B B B, &c., substantially as described and for the purposes set forth.
3. The sectional fire-plate B B B, &c., constructed substantially as described.
4. The sectional fire-plate B, in combination with a stove, range, or the like, substantially as and for the purposes specified.
5. In combination with a stove or range or the like, the fire-plate B and folding shelf D, substantially as and for the purposes set forth.
6. In combination with a stove or range or the like having a front fire-plate or plates, a folding shelf provided with a draught door or doors above, in connection with a draught-opening in the stove below, so that when the shelf is closed up the draught may pass through said doors and opening, but when the shelf is let down the draught is cut off automatically by the bottom edge of said shelf, substantially as described.

Witnesses:

JOHN S. PECKHAM.

S. T. PECKHAM,
F. B. PECKHAM.