

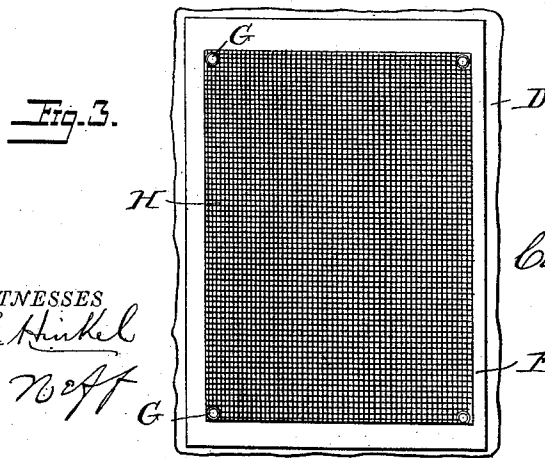
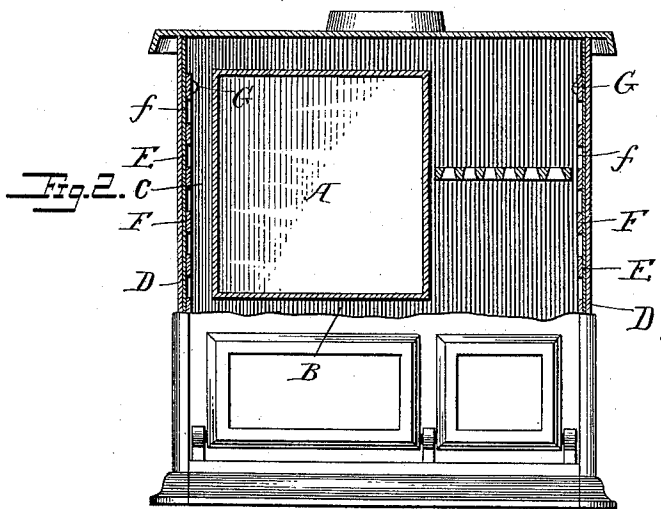
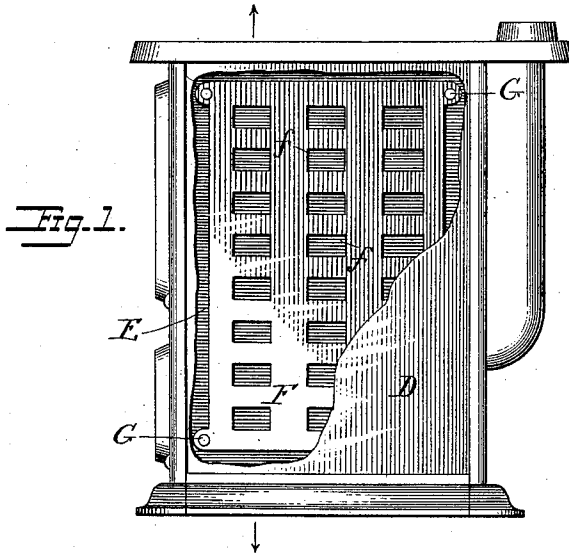
(No Model.)

C. F. WALTHER.

NON-CONDUCTING LINING FOR STOVES OR HEATERS.

No. 472,414.

Patented Apr. 5, 1892.



WITNESSES
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UNITED STATES PATENT OFFICE.

CHARLES F. WALTHER, OF BUFFALO, NEW YORK, ASSIGNOR TO SHERMAN
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NON-CONDUCTING LINING FOR STOVES OR HEATERS.

SPECIFICATION forming part of Letters Patent No. 472,414, dated April 5, 1892.

Application filed January 26, 1891. Serial No. 379,110. (No model.)

To all whom it may concern:

Be it known that I, CHARLES F. WALTHER, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Non-Conducting Linings for Stoves and Heaters, of which the following is a specification.

This invention has for its object to provide a non-conducting lining for the flues of stoves and heaters, through which pass the hot products of combustion, such lining being usually applied to the inner faces of the outside plates of the flues and serving to prevent the loss of heat by conduction and radiation and the buckling or warping of the outer plates, and hence the opening of joints.

The invention consists of a sheet of asbestos or similar non-conducting lining and a metallic rack or holder separable therefrom covering the non-conducting lining and serving to hold it in place and protect it when the flues are raked or cleaned out.

In the drawings wherein my invention is illustrated, Figure 1 is an inside face view of the outside plate or shell of a cooking-stove or range having my invention applied thereto. Fig. 2 is a cross-section of the same, showing other parts of the stove. Fig. 3 is a face view showing another form of the invention.

Referring to Fig. 2, A represents the oven of a cooking stove or range; B, the bottom flue; C, the side flue, and D one of the outside shells or plates of the stove.

Against the inside of the shell or plate D is placed a lining of sheet-asbestos E or other suitable non-conducting material of a non-friable nature and which may be made into sheets. This lining is held in place and protected by a separable metallic rack or holder, which as preferably constructed consists of a thin cast-iron plate F, Fig. 1, perforated, as at f, to reduce its weight and the amount of metal contained therein. It is arranged over the lining E and held in place by the bolts G, one at each corner of the plate being sufficient, which pass through the lining and the outside plate. It forms a ready means for securing the lining against the flue-wall, and, besides, it

protects the lining, which otherwise would be liable to become torn when the flue-walls are raked to clean off the accumulated soot and ashes, the plate presenting a smooth surface, which may be easily and rapidly cleaned.

Instead of the cast-metal plate F, I may use a rack or holder of woven wire H, as illustrated in Fig. 3; but I prefer the plate, as it is less expensive, lasts longer, and presents a surface which can be more easily cleaned.

It will be observed that when using the separate metallic holder or rack it is necessary to punch but four holes for the bolts G through the heavy plate which constitutes the outer shell of the stove, the holder or rack being sufficiently stiff to hold the lining in place between the bolts.

The non-conducting lining and rack described are not only adapted to be applied to stoves in which it is desired there should be no radiation of heat, such as cooking-stoves, but also to heaters of those kinds in which it is desirable to confine all the heat within the outer shell or casing, a heater of this character being shown in Patent No. 423,759 to J. J. Graves, dated March 18, 1890.

I am aware that it is not new to make the doors of furnaces and other heaters with linings or fillings of non-conducting substances, such as fire-clay, and also that it is not new to line the fire-pots or combustion-chambers of stoves with non-conducting material, which is secured in various ways to the metallic supporting-plates which constitute the backings of the walls of such fire-chambers; but all of such constructions differ very materially from my invention, where the non-conducting lining-sheet is of a non-friable nature and both it and the metallic confining holder or rack are separable from each other and also from the flue-wall to which they are to be secured, and, further, where the metallic rack or holder serves not as a backing for the non-conducting lining, but as a fastening or covering therefor.

What I claim as my invention is—

1. In a stove or heater, the combination, with the wall of a flue, of a sheet of non-friable non-conducting lining material E, placed

against the flue-wall, and a separable metallic holder or rack secured to the flue-wall against the face of the lining, substantially as set forth.

- 5 2. In a stove or heater, the combination, with the wall of a flue, of the non-conducting lining material E, placed against the flue-wall, and the separable cast-metal plate bolted

against the face of the lining, substantially as set forth. 10

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

CHARLES F. WALTHER.

Witnesses:

ROBERT H. MONTGOMERY,
ROBT. L. CANEY.