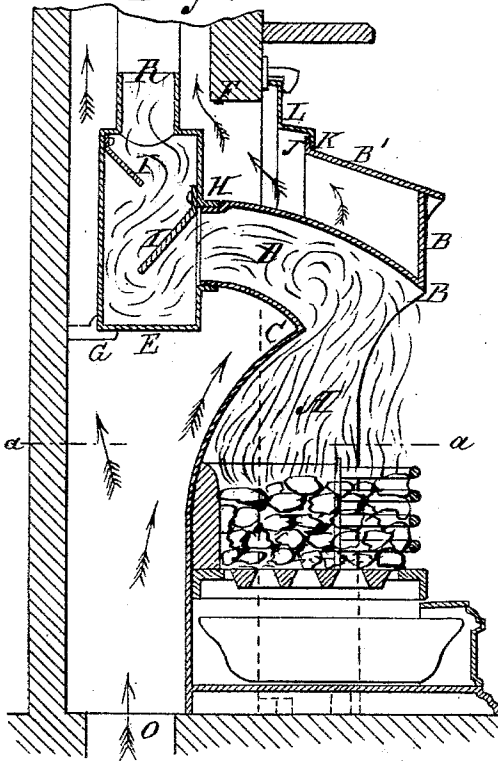


A. R. MORGAN.  
Fire-Place Heater.

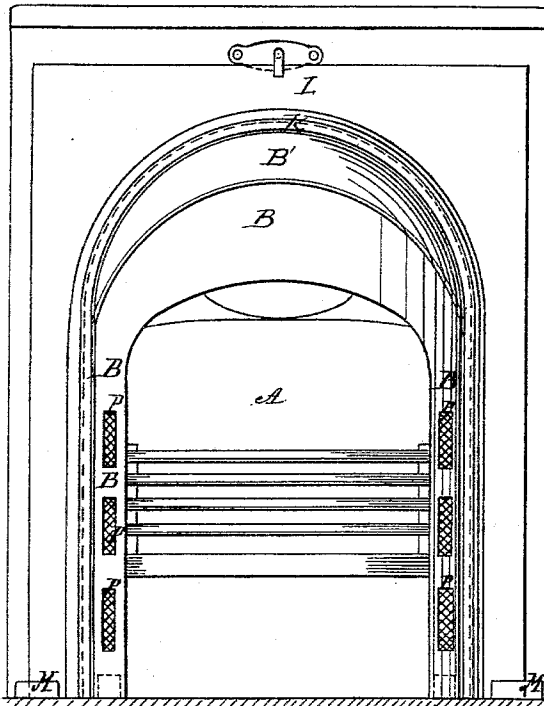
No. 210,870.

Patented Dec. 17, 1878.

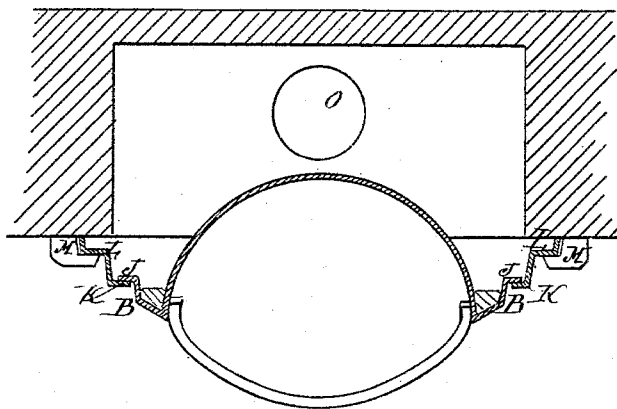
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



WITNESSES

*Wm. J. Morgan.*  
*Charles Wilson*

INVENTOR

*A. R. Morgan*  
*By A. P. Thayer.*

ATTORNEY

# UNITED STATES PATENT OFFICE.

ALONZO R. MORGAN, OF ASTORIA, ASSIGNOR TO OPEN STOVE VENTILATING COMPANY, OF NEW YORK, N. Y.

## IMPROVEMENT IN FIRE-PLACE HEATERS.

Specification forming part of Letters Patent No. **210,870**, dated December 17, 1878; application filed March 8, 1878.

*To all whom it may concern:*

Be it known that I, ALONZO RICHARDSON MORGAN, a resident of Astoria, Kings county, and State of New York, have invented new and useful Improvements in Fire-Place Heaters, of which the following is a specification:

This invention consists of improvements of the open-fire heater with expanding combustion-chamber and jacket patented by Wm. L. Phillips, January 13, 1874, whereby the same is adapted for use in mantel-openings, and also whereby a very simple arrangement is obtained that enables the heater to be conveniently applied to ordinary fire-places, and affords easy access for making the connecting-joint between the fire-box and the expanding chamber, to make and keep it tight, and thus prevent the escape of gases of combustion into the air warmed, and forming the atmosphere of the rooms warmed by it.

Figure 1 is a sectional elevation of the improved fire-place heater and a fire-place in which it is arranged. Fig. 2 is a front elevation, and Fig. 3 is a horizontal section, the latter being taken on the line *a a* of Fig. 1.

*A* represents the open-fronted fire-box, which, in addition to the ordinary combustion-space, has an expansion-extension, *D*, formed in the top by the large backward projection of the back plate in the place of the usual pipe-connection, thereby considerably increasing the combustion-space, and sensibly lessening the rapid escape of the heat and unconsumed gases. This extension *D* projects into the space behind the fire-box sufficiently to connect with the reverberatory chamber *E* located therein, taking the place of the ordinary smoke-pipe connection, but being much more capacious at the junction at said chamber, with which it makes the connection by entering a collar, *H*, projecting forward from its side, which joint may be fitted gas-tight, with or without cement. The reverberatory chamber *E* is located in the space behind the fire-box, with its lower end a little below the extension *D*, so that its bottom can be reached readily through extension *D*, for cleaning out the soot and ashes readily which deposit therein. It extends upward as high or higher than the

mantel, as may be desired, while the fire-box is below the mantel, and projects forward from it more or less. Within chamber *E* is a deflecting-plate, *I*, to impede the too rapid escape of the products of combustion, which said plate projects down about as low as the bottom of the passage from the fire-box; but said passage and the plate are both wholly above the level of the top of the front opening into the fire-box, the object of which is not to impede the escape of the products of combustion to such extent as to cause, with ordinary chimney-draft, the regurgitation of gases into the room, which is a common complaint with ordinary fire-place heaters when the doors are open. At the same time it is sought to make such hinderance to the escape as to effect good combustion, and cause the air surrounding the heating-surfaces to be warmed as much as possible.

The chamber *E* is independent and detachable from the fire-box extension, enabling each to be made and applied in different sizes, whereby each may be adapted to the different areas or dimensions of chimneys already existing or those that may be constructed specially for these heaters.

The front plate, *B*, and the back plate, *C*, of the fire-box are projected prominently forward, enabling the extension *D* to be formed directly over the fire-box, with its back end not extending beyond the back of the lower portion of the fire-box, so that, in cases where the fire-place already constructed is so that the chamber *E* cannot be placed as high as desired without disturbing the arch *F* of the fire-place, it may be dropped lower down behind the fire-box, and have its collar *H* fixed higher upon it; but generally the arch will not prevent the placing of the chamber *E* as high as desired.

The connection between the extension *D* of the fire-box and the chamber *E*, which is generally very difficult to keep tight, is, in this construction, where access can always be had to it by removing the front plate or mantel-frame surrounding the heater. The situation of the reverberatory chamber *E* is such that its interior is completely accessible through the open fire-box and extension *D*, and may at any

time be cleaned from soot, which is not the case with other fire-place heaters.

The front plate, B, in which the front opening of the fire-box is made, extends directly upward a short distance above the top of the fire-box, and thence backward at B toward the front wall of the fire-place, and terminates in a flange, J, which extends over the top and down the sides to the fire-place hearth, and serves, with the flange K of the frame L, to securely connect the fire-box to the brick-work, the said frame being fastened to the latter by any suitable device.

It will be seen that this construction affords a simple and easy method of setting up the heater by first enabling us to place the chamber E with its smoke-pipe attached in a perfectly secure position, and then to adjust perfectly the fire-box and its connection with the back chamber, and finally to place the frame L, which secures the fire-box.

The removal of the frame affords ready access to the joint at H at any time, should the joint require to be repaired, thus insuring safety against the escape of gases into the air, which is so common with other heaters, in which greater difficulty of attending to the joint exists.

The air for heating purposes enters through the opening in the hearth at O, and, after being heated, passes up in the chimney into the rooms to be heated by passages of common ar-

rangement. It may also enter through registers P in the front plate or in the base from the room containing the heater, if desired, and in practice dampers will be employed to turn it on or off either way.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The fire-box A, having a distinctively-formed and capacious rearward-extension chamber, D, at the top, instead and in place of the ordinary pipe-connection, and the reverberatory chamber E, in combination, when said extension D terminates at and unites with said reverberatory chamber and said reverberatory chamber is located with its bottom accessible through the extension D.

2. The combination of the open-fronted fire-box A, front plate B B', having flange J, and the frame L, having flange K, with a fire-place, substantially as described.

3. The combination of the open-fronted fire-box A, having expansion-chamber D, front plate B B', having flange J, frame L, having flange K, and the reverberatory chamber E, substantially as described.

ALONZO R. MORGAN.

Witnesses:

WM. J. MORGAN,  
CHARLES TREILSON.