S. RAYMOND & J. CAMPBELL.

Heating-Stove.

No. 167,566. FIG. 1 Patented Sept. 7, 1875.

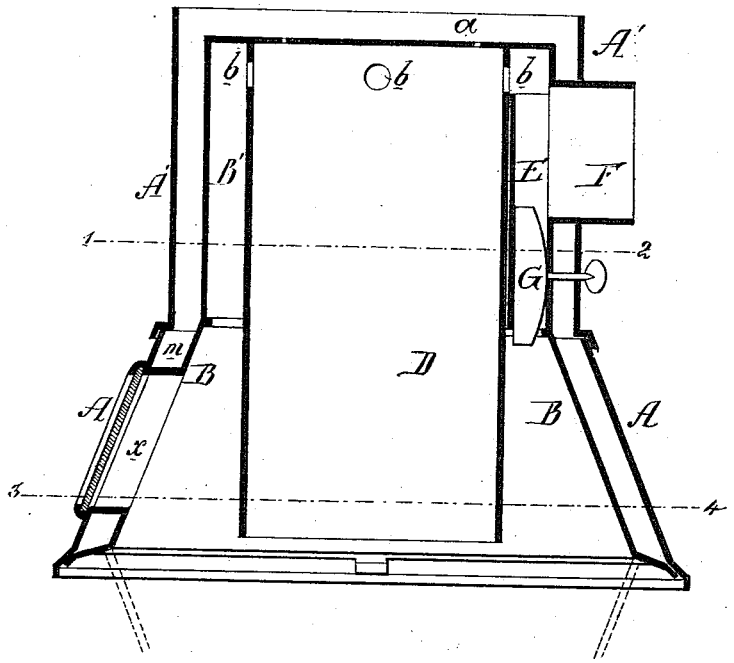


FIG. 2.

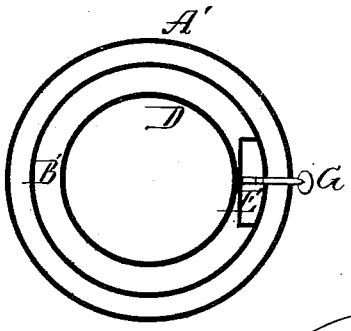
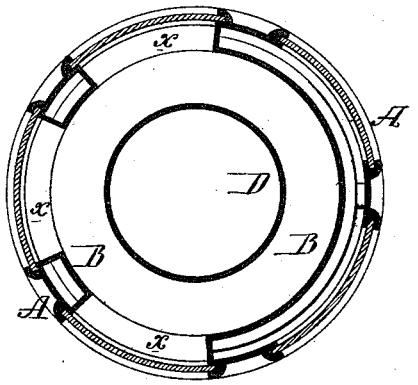


FIG. 3.



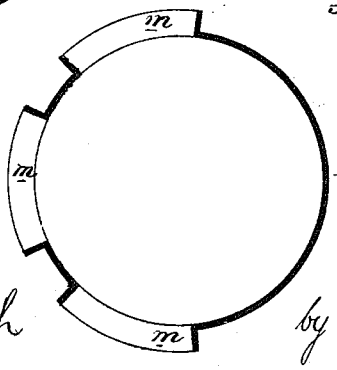


FIG. 4

Witnesses
Harry Smith
Hubert Howson

Seymour Raymond
and Joseph Campbell
by their Attorneys
Howson and Son

UNITED STATES PATENT OFFICE.

SEYMOUR RAYMOND AND JOSEPH CAMPBELL, OF MIDDLETOWN, PA.

IMPROVEMENT IN HEATING-STOVES.

Specification forming part of Letters Patent No. **167,566**, dated September 7, 1875; application filed January 11, 1875.

To all whom it may concern:

Be it known that we, SEYMOUR RAYMOND and JOSEPH CAMPBELL, of Middletown, Dauphin county, Pennsylvania, have certain Improvements in Heating-Stoves, of which the following is a specification:

The object of our invention is to so construct a stove that it can be readily converted from a direct-draft into an air-heating stove.

This object we attain in the manner which we will now proceed to describe, reference being had to the accompanying drawing, in which—

Figure 1 is a vertical section of sufficient of the stove to illustrate our invention; Fig. 2, a sectional plan on the line 1 2; and Fig. 3, a sectional plan on the line 3 4, Fig. 1.

That part of the stove which contains the combustion-chamber consists of the external flaring casing A and internal flaring casing B, and to the former is attached the cylindrical casing A′, within which is a cylindrical casing, B′, attached to the upper edge of the casing B, and closed at the top *a* by a suitable cover. From the top *a* is suspended the magazine D, the latter having at the top lateral openings *b* for the passage of gas. At the rear of the stove, between the magazine D and the casing B′, is formed a vertical flue, E, open at both ends, and provided with a damper, G, on opening which the products of combustion can take a direct course upward through the said flue to the exit-pipe. The rear portion of the casing B of the combustion-chamber is free from openings, but in the front there are doorways *x* extending through both casings, the doorways being furnished with the usual mica doors. The inner casing B of the combustion-chamber is cast in one piece with the flanges *m*, Fig. 4, which form the sides, top, and bottom of the doorways, the junction of the outer with the inner casings being at the outer edges of these flanges, so that the joints are beyond the range of the products of combustion, which cannot, therefore, escape at said joints.

Air is admitted to the space between the two casings through suitable apertures at or near the lower edge of the same, and, passing upward, is brought into intimate contact with the heated casings B and B′, the hot air being permitted to escape into the room containing the stove, or being conveyed through suitable pipes to upper rooms.

In order to insure the contact of the heated gases with the entire surface of the casing B′ it is only necessary to close the damper G, when the gases will be compelled to circulate round the magazine before entering the flue E, down which they then pass to the pipe E, thereby traversing and effectually heating the casing B′ and the air in contact therewith. On turning the damper the gases will find a direct outlet to the exit-pipe.

We claim as our invention—

In a heating-stove, the combination of a magazine, D, cylinder B, vertical pipe E, between the cylinder and magazine, and open at both ends, horizontal outlet F, communicating with the pipe E, and the valve D, in the pipe below the outlet, all substantially as and for the purpose set forth.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

SEYMOUR RAYMOND.
JOSEPH CAMPBELL.

Witnesses:
B. H. BENNER,
GEO. R. HENDRICKSON.