

J. REYNOLDS.
HEATING FURNACE.

No. 179,062.

Patented June 20, 1876.

FIG. 1.

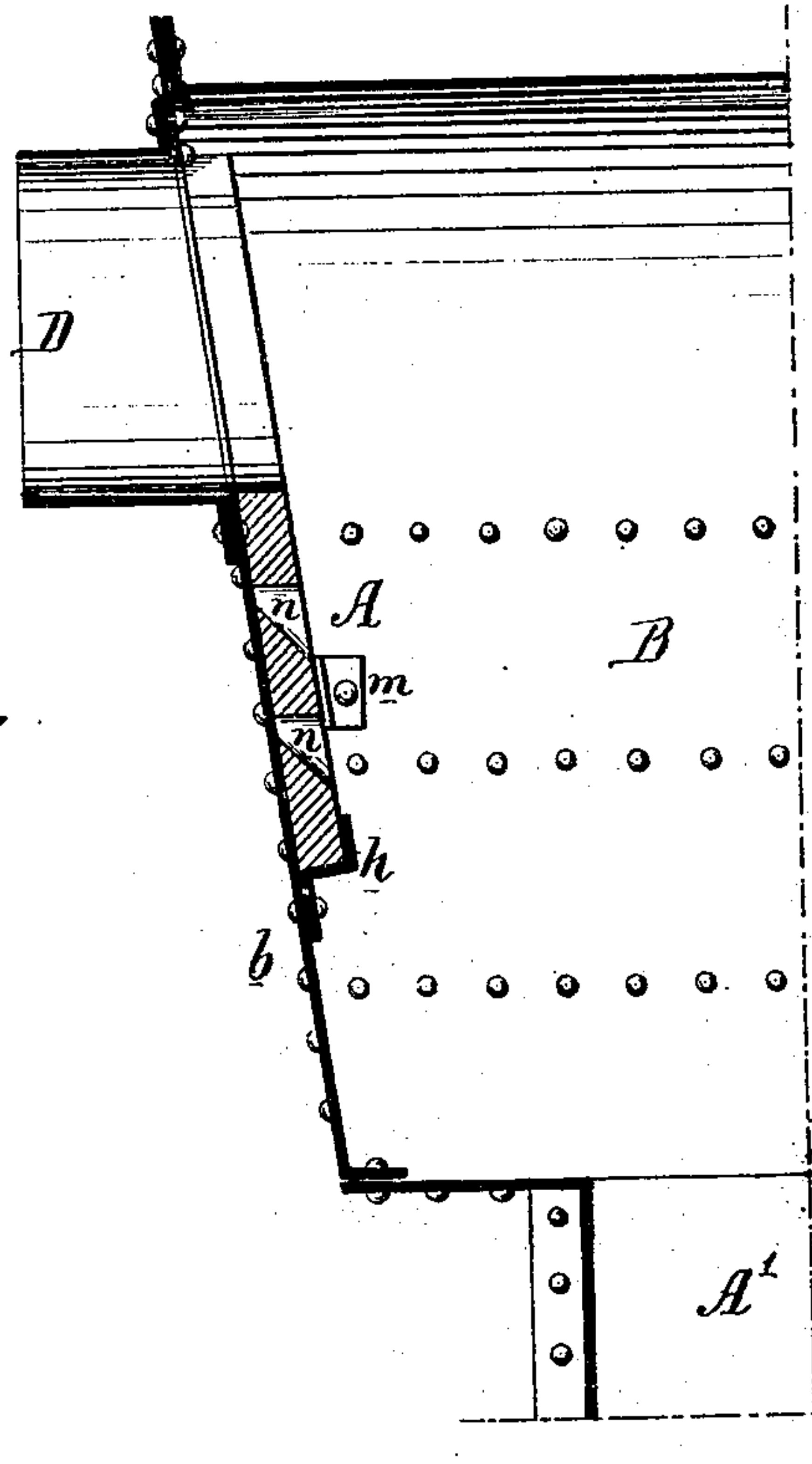
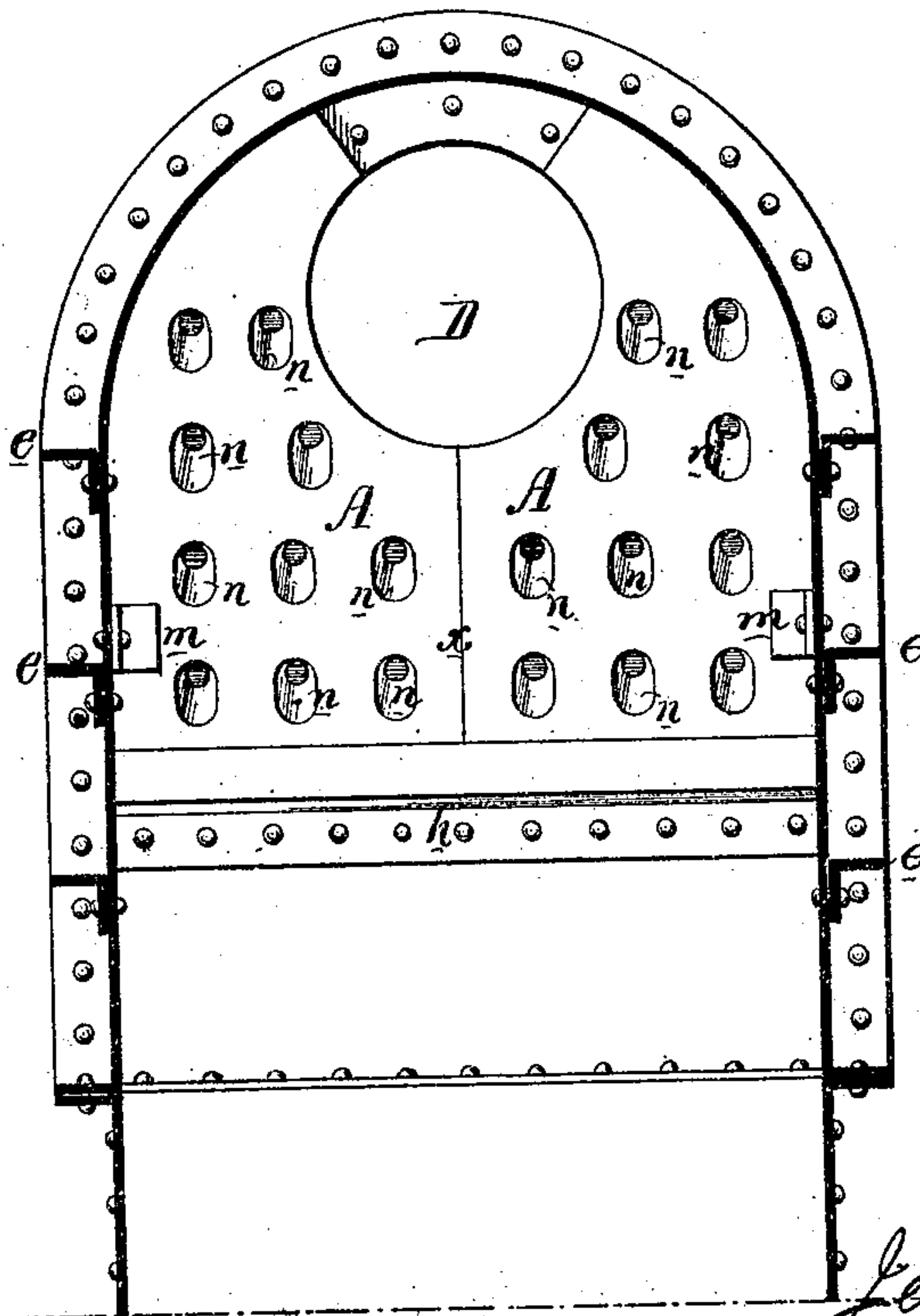


FIG. 2.



Witnesses, Hubert Howson
Thomas M. Swan

Jesse Reynolds
by his Attys.
Howson and Son.

UNITED STATES PATENT OFFICE.

JESSE REYNOLDS, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN HEATING-FURNACES.

Specification forming part of Letters Patent No. **179,062**, dated June 20, 1876; application filed April 23, 1874.

To all whom it may concern:

Be it known that I, JESSE REYNOLDS, of the city of Philadelphia, Pennsylvania, have invented an Improvement in Heating-Furnaces, of which the following is a specification:

The object of my invention is to so construct the walls of the combustion-chamber of a heating-furnace that while a good heating effect is produced, the said walls may be effectually protected from the injurious effects of the direct action of the products of combustion.

In the accompanying drawing, in which Figure 1 is a vertical section, and Fig. 2 a transverse section, of the rear of the combustion-chamber of a heating-furnace, A' represents a portion of the fire-place; B, the combustion-chamber, and D the outlet for the products of combustion, the casing of the combustion-chamber being made of sheet-iron, strengthened by angle-irons *e* where necessary. As the rear plate *b* of the casing is exposed to the direct action of the products of combustion as the latter pass to the outlet D, I apply to the said rear plate *b* a slab or slabs, A A, of fire-clay, supported partly by the inclined rear and partly by the ledge *h* of angle-iron, and held in position by the angular plates *m m*, riveted to the sides of the combustion-chamber. It is preferable to make these slabs

in two parts, meeting each other on the central line *x*, as shown, each part being cut away near its upper edge to conform to the shape of the outlet D; but any desired number of slabs may be used. But as the slabs A A tend somewhat to hinder the radiation of the heat, I have found that by making a series of openings or passages, *n*, in the slabs, a much better heating effect is produced, while the rear plate of the combustion-chamber is in no way injuriously affected by being thus exposed at different points to the products of combustion.

I do not desire to claim, broadly, applying slabs of fire-clay to the walls of a furnace; but I claim as my invention—

1. The combination of the slab or slabs A A of fire-clay with the inclined plate *b* of a furnace, and with the ledge *h* and retaining-plates *m*, as set forth.

2. The combination of the metallic casing of the combustion chamber of a furnace with a slab or slabs, A, of fire-clay, having a series of openings, *n*, as and for the purpose specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JESSE REYNOLDS.

Witnesses:

WM. A. STEEL,
HUBERT HOWSON.