(No Model.) 2 Sheets—Sheet 1.

# N. POULSON.

## VENTILATING FIRE PLACE.

No. 344,790. Patented June 29, 1886.

Fig. 1.

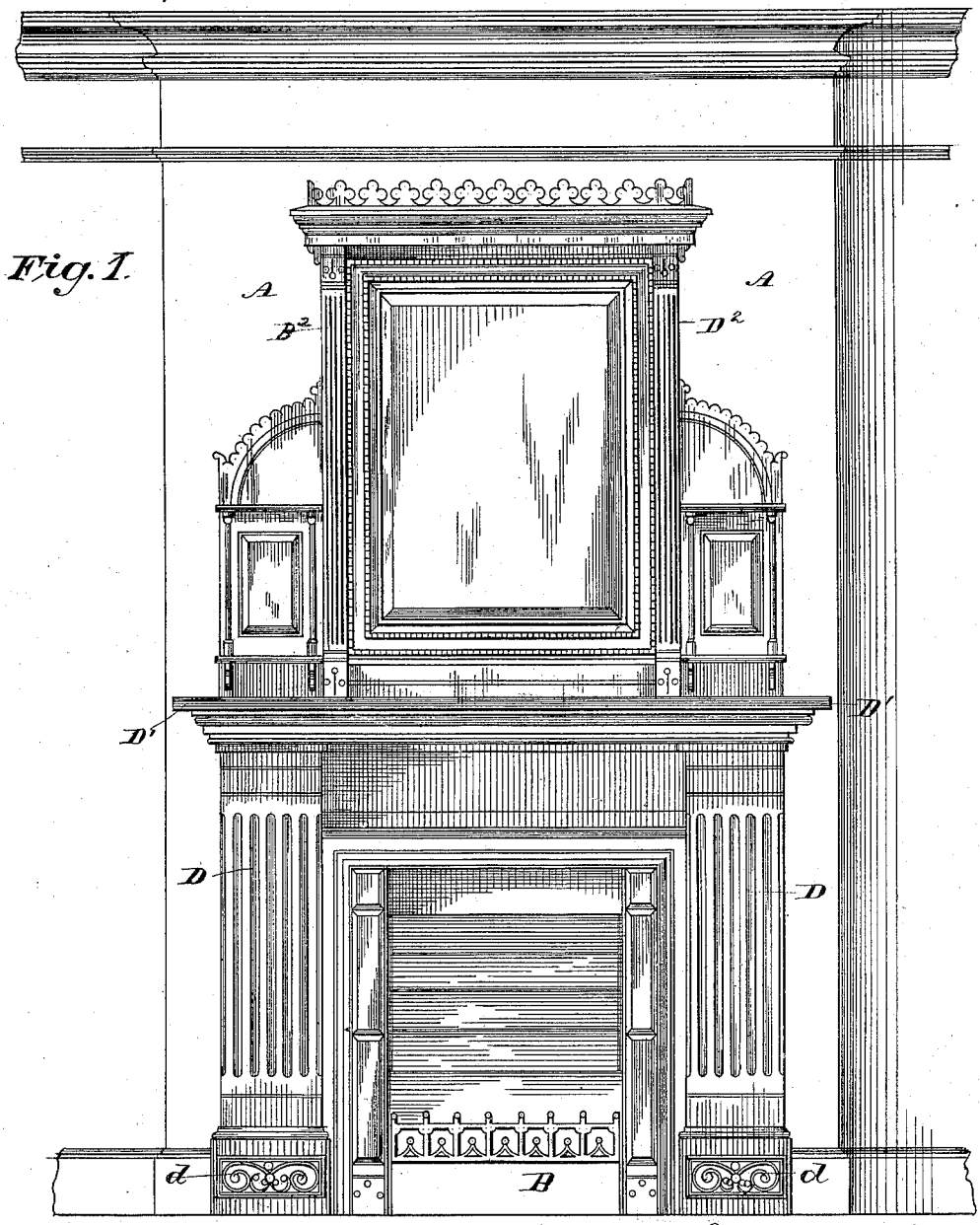


Fig. 4.

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Inventor:
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C. E. Gibb

(No Model.) 2 Sheets—Sheet 2.

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## VENTILATING FIRE PLACE.

No. 344,790. Patented June 29, 1886.

Fig. 2.

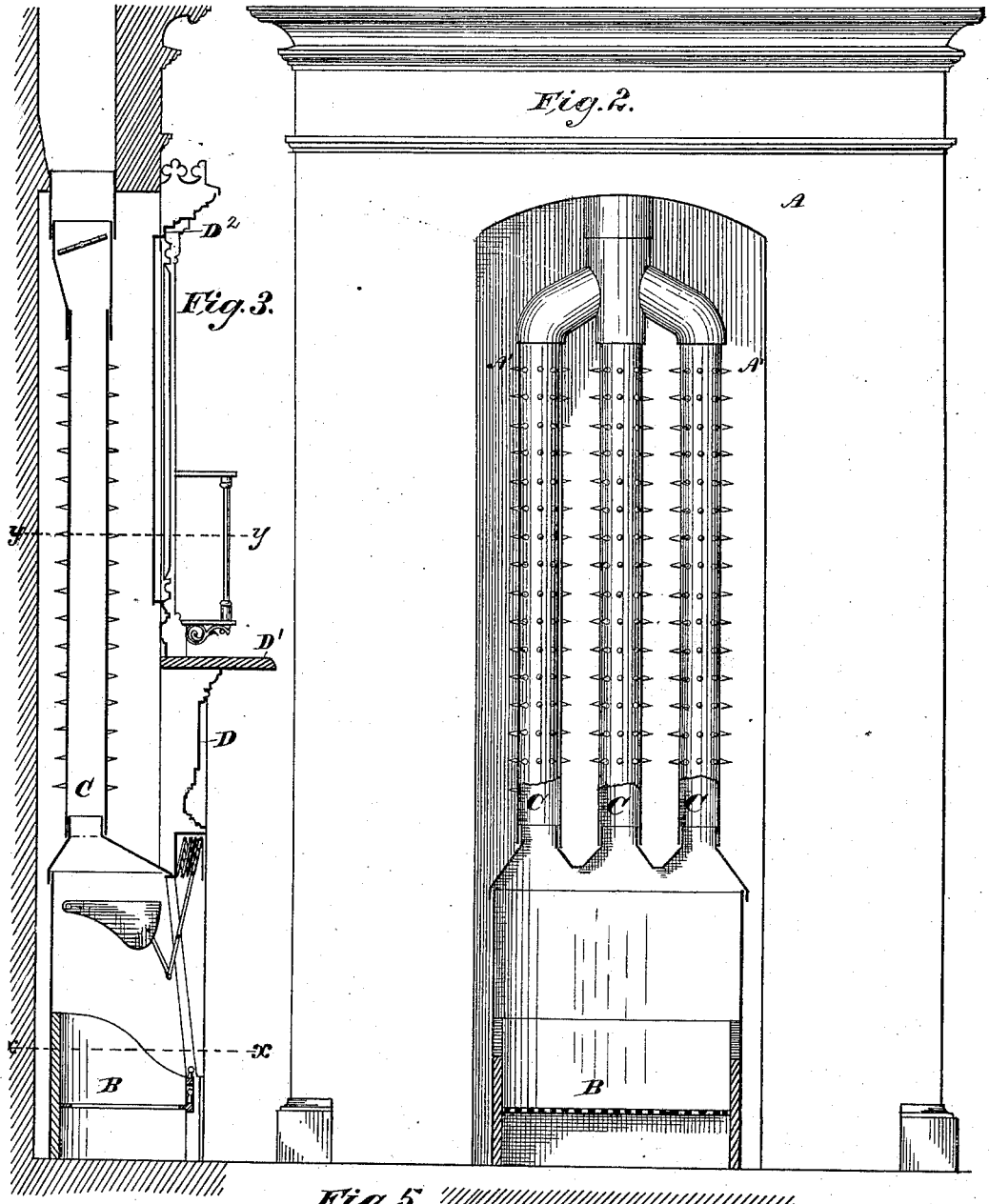
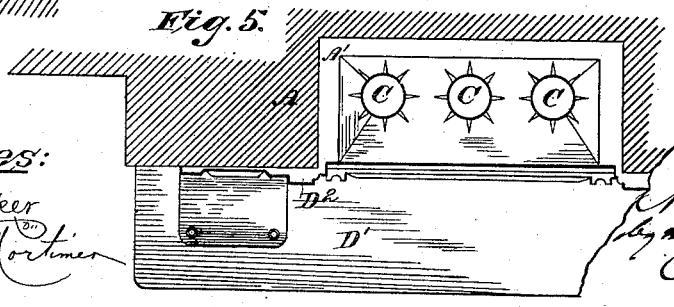



Fig. 3.




Fig. 5.

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# UNITED STATES PATENT OFFICE.

NIELS POULSON, OF BROOKLYN, NEW YORK.

## VENTILATING FIRE-PLACE.

SPECIFICATION forming part of Letters Patent No. 344,790, dated June 29, 1886.

Application filed April 30, 1885. Serial No. 163,975. (No model.)

*To all whom it may concern:*

Be it known that I, NIELS POULSON, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Ventilating Fire-Places; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to that style of ventilating fire-places in which the smoke from the open-grate heater is conveyed to the chimney by a series of vertical air-heating smoke-pipes arranged in the chimney-breast, and the air heated by these smoke-pipes is discharged into the upper part of the room.

Heretofore it has been customary to set the heater and its mantle-front in a permanent manner in the masonry of the chimney-breast and to close the front of the hot-air chamber above the mantel by hinged panels or registers independently secured to or set in the chimney-breast.

The object of my invention is to simplify the construction in such a way that the masonry can be entirely finished before the heater and its appurtenances are put in position, that the same can be put in place very easily by any person of ordinary intelligence, and that on removal of the mantel the heater and smoke-pipes will be exposed.

To this end my improvement consists of a ventilating fire-place, the chimney-breast of which is constructed with a niche high enough to receive both the heater and its smoke-pipes, and the mantel-front of which is portable and made of metal, with a top or cabinet above the mantel-shelf, covering the niche so as to permit the escape of hot air from the top of the niche only.

In order that my invention may be clearly understood, I have illustrated in the annexed drawings, and will proceed to describe, a practical form thereof.

Figure 1 represents a front elevation of my improved ventilating fire-place. Fig. 2 also represents a front elevation thereof as it appears when the metallic mantel is removed. Fig. 3 represents a vertical transverse section of the fire-place. Fig. 4 represents a horizontal section thereof, taken in the plane of broken line X X of Fig. 3. Fig. 5 represents a horizontal section thereof, taken in the plane of broken line *y y* of Fig. 3.

The same letters of reference indicate identical parts in all the figures.

The chimney-breast A is constructed with a niche, A′, in front, which niche extends from the hearth to within a short distance from the ceiling, being of sufficient depth and width and height to receive the open-grate heater B and its series of smoke-pipes C C C, and still afford ample room for the circulation of air around them.

The open-grate heater may be of any approved construction, and the heating-surface of the smoke-pipes may, in case they are made of cast-iron, be increased by spurs cast on them, as shown. These smoke-pipes are shown as connected by a manifold and slip joint with the chimney-flue.

My fire-place front consists of a metallic, preferably cast metal, mantel, D, constructed above the shelf D′ with a solid back-top or cabinet, $D^2$, high enough to cover the niche to the top. The mantel projects a little from the chimney-breast; but the sides fit closely against the same, so that no hot air can escape from the niche, except at the top. Where the cabinet projects but little from the chimney-breast, as shown, I form a projecting cornice around, so as to give ample room for the escape of hot air from the top of the niche.

A cold-air duct (not shown) will be provided to supply the niche at the hearth with air from the outside, and registers *d d* are provided near the base of the mantel-front to supply the niche with air from the room.

The mantel-front is not set in the chimney-breast, but needs merely to be placed up against it, so that, being portable, it can be removed at any time when it may become desirable to obtain access to the heater and its smoke-pipes for cleaning or repairing purposes.

What I term the "cabinet" of the mantel may be merely an ornamented metal plate, a frame with a mirror suitably protected from the hot air back of it, or any other suitable device presenting a solid back to the niche.

I claim as my invention—

The combination, substantially as before set forth, of an open-grate heater having a series of direct upright smoke-pipes rising from the top of the heater, a chimney-breast containing a high niche for the reception of such heater and its series of smoke-pipes, and a portable metallic mantel-front, which exposes the open grate and has a cabinet for covering the niche to the top, the parts being constructed and arranged, substantially as described, so as to form a ventilating fire-place, which, in addition to its heating capacity by direct radiation, causes an indraft of cold air at the bottom of the niche in the chimney-breast and a discharge of warm air at the top of said niche.

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

NIELS POULSON.

Witnesses:
W. H. WINSLOW,
CHAS. S. COOKE.