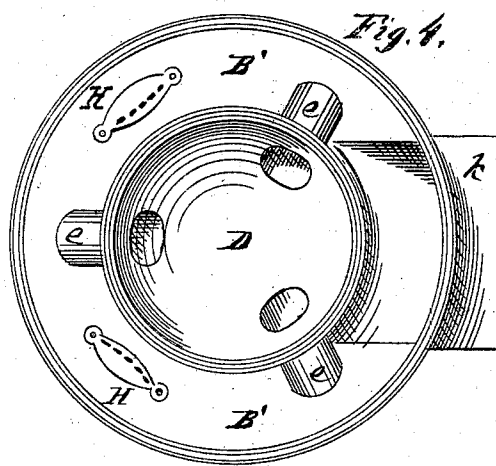
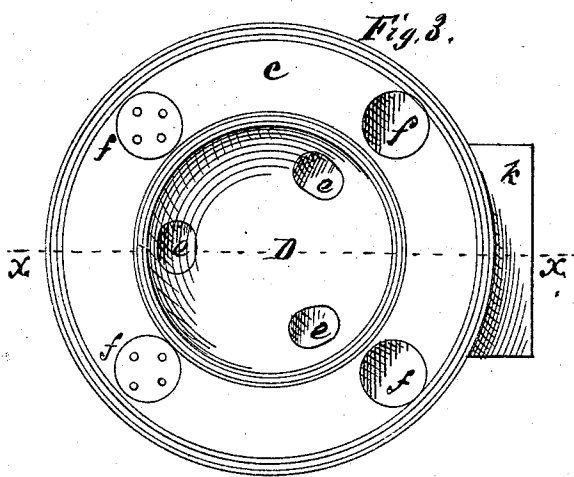
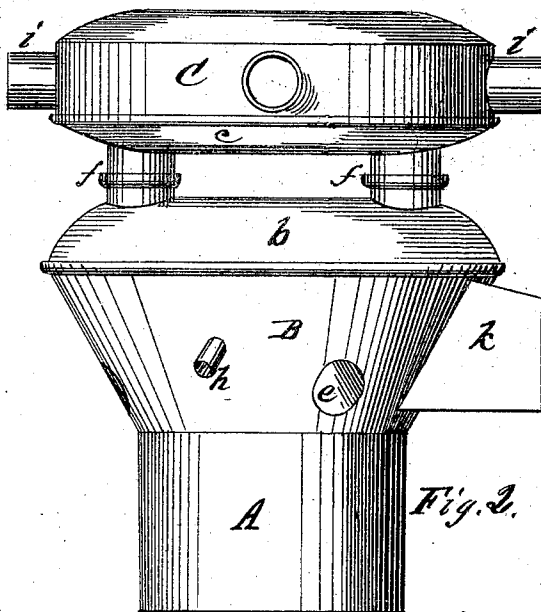
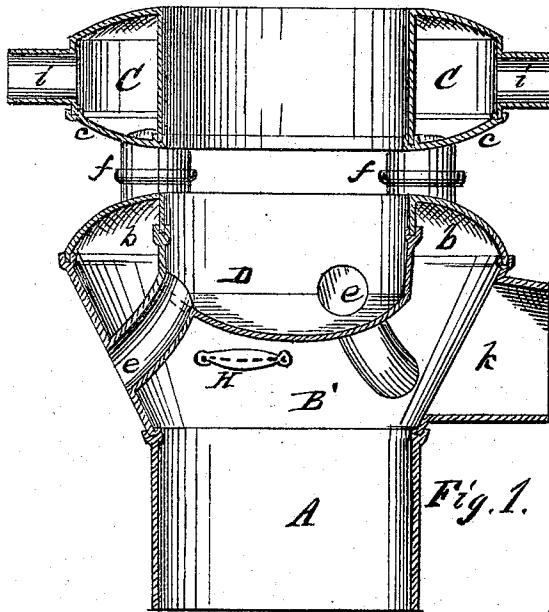


WILLIAM H. BOND.
Hot Air Furnace.

No. 125,259.

Patented April 2, 1872.



WITNESSES:

J. A. Muley
A. H. Stryker.

INVENTOR:

Wm H. Bond

UNITED STATES PATENT OFFICE.

WILLIAM H. BOND, OF SYRACUSE, NEW YORK.

IMPROVEMENT IN HOT-AIR FURNACES.

Specification forming part of Letters Patent No. 125,259, dated April 2, 1872.

Specification describing an Improved Hot-Air Furnace, invented by WILLIAM H. BOND, of Syracuse, in the county of Onondaga and State of New York.

This invention relates to an improved arrangement of heating surface, whereby its extent is increased and the heated gases brought more intimately in contact therewith, and the cold air circulated freely over the central heating surfaces, as hereinafter more fully described.

Figure 1 is a central vertical section taken in the line *xx* in Fig. 3. Fig. 2 is a side elevation. Fig. 3 is a top view or plan, with the part C removed. Fig. 4 is a plan of that part below the cap pieces *b*.

Similar letters of reference indicate like parts in the several figures.

A is the fire-pot, on which is mounted a flaring chamber, B. This chamber has a cap piece, *b*, and in its center is a deep depression or dish, D, that increases considerably the extent of heating surface, and also throws the hot gases out in contact with the flaring walls B and the cap pieces *b*. The gaseous products of combustion pass from the chamber B' up through the short pipes *ff* into an annular ring or chamber, C, that is mounted over all; and from this the said gases escape into the smoke-flue by the pipes *ii*. A current of cold air is passed

freely up through the central portion of the heater by pipes *eee*, that connect the outside of the flaring walls B with the inside of the disk D. For burning the unconsumed gases in the upper part of the chamber B' air is supplied by small pipes *h*, Fig. 2, one on each side of the furnace. A distributing cavity is formed over the inner end of each pipe, *h*, by riveting a hollow cast-iron cap, H, over said ends of the air-pipes *h*. These forms spread the air out laterally, and discharge it through a line of small openings arranged horizontally, as shown in Fig. 1. There are four pipes, *ff*, that make connection between B' and C, but the two rear ones are covered by perforated plates, as seen in Fig. 3, that can be removed to allow ashes to fall through the said rear pipes *ff* into the fire-pot when the chamber C requires cleaning.

I claim the dish-shaped chamber D, with the cold-air pipes *eee* entering its bottom, in connection with a furnace composed of the parts A B *b*, pipes *ff*, annular chamber C, pipes *ii*, and air-distributors H H, all constructed and arranged as and for the purpose specified.

WM. H. BOND.

Witnesses:

F. A. MORLEY,
A. H. STRYKER.