A. H. BUCKHOUT.

Hot-Air Grate.

No. 208,069. Patented Sept. 17, 1878.

Fig. 1

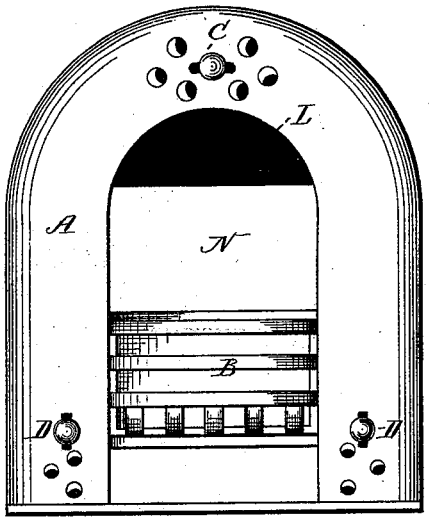


Fig. 2.

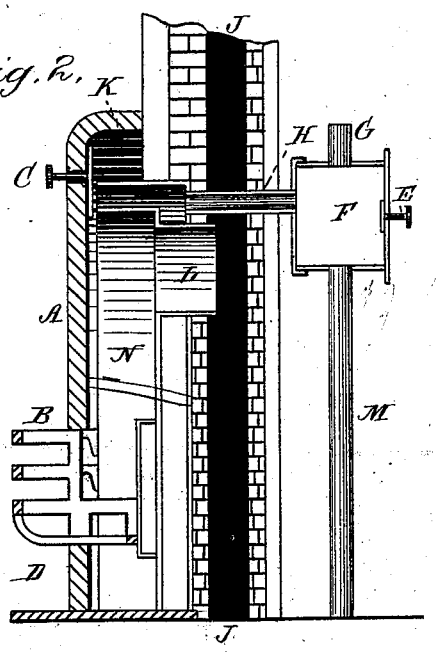


Fig. 3.

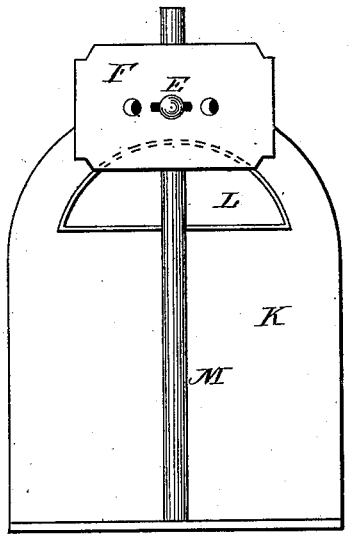
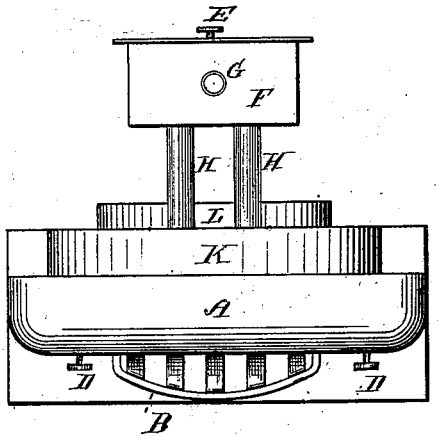


Fig. 4.



WITNESSES

John A. Redstone.

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INVENTOR

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UNITED STATES PATENT OFFICE.

ADNA H. BUCKHOUT, OF OAKLAND, CALIFORNIA.

IMPROVEMENT IN HOT-AIR GRATES.

Specification forming part of Letters Patent No. **208,069**, dated September 17, 1878; application filed July 27, 1878.

To all whom it may concern:

Be it known that I, ADNA H. BUCKHOUT, of Oakland, in the county of Alameda and State of California, have invented certain new and useful Improvements in Hot-Air Grates, of which the following is a specification, reference being had to the accompanying drawing and the letters marked thereon.

Figure 1 is a front elevation of my improved hot-air parlor-grate. Fig. 2 is a transverse sectional elevation of the same, showing the connection with the chimney. Fig. 3 is a rear elevation of the same; and Fig. 4, a vertical plan view, showing the construction and general arrangement of the same.

A represents an ordinary grate-front; B, the grate; C, D, and E, ventilating or air slides; F, a drum or heater; G, a hot, and M, a cold, air pipe. H and H are hot-air pipes; K, the hot-air chamber that surrounds the fire-place and receives heat from the same. J is the flue or chimney, of the ordinary construction. L is the connecting passage or throat to conduct the smoke from the grate or fire-place into the flue or chimney. N is the fire-place.

The front A is of cast-iron or other suitable material. The grate B is also of ordinary construction. K is a hot-air chamber, made of iron or other suitable material. It surrounds the fire, and the heat from the same is radiated into it.

The ventilators C and D are operated by slides in the usual way, as indicated, by the elongated holes or slots.

J represents any common flue or chimney, and the throat L is of sheet-iron or any suitable material, to connect the fire-place and flue and form a passage for the smoke. The drum F is connected with the hot-air chamber K by the pipes H and H, through which it receives its supply of heated air. The heated air is discharged through the pipe G, and the temperature may be regulated by any well-known device of flues or dampers. Admission of air to the drum F is also regulated by the slide E in the usual way, the pipe M supplying colder air when required.

The following is the operation of the apparatus: The fire being placed in the grate B, and the hot-air chamber K being supplied by cold air through the slides D, it is heated, and supplied to the room by opening the slide C. The drum F is also supplied with heated air from the chamber K through the pipes H and H, and the supply may be regulated by any well-known plan now in use in heating apparatus.

It will be readily seen that the supply of air being cut off by the slides D D, and the slide C closed, the circulation will be stopped and the grate will operate as an ordinary grate, or the heated air from K may be passed into the room where the fire-place is situated.

The grate with heating-chamber K is so constructed as to connect with any ordinary chimney or flue with or without a fire-place, needing only the connection of the throat L with the flue or chimney J; or the grate-front may be placed at any other part of the room, and the throat extended like an ordinary pipe, thus allowing the grate and mantel to be placed at the most suitable point without regard to the position of the chimney.

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

The grate and fire-place B and N, the throat L, hot-air chamber K, hot-air pipes H and H, drum F, the slides C, D D, and E, the cold-air pipe M, and hot-air pipe G, the whole being constructed and operated as and for the purposes set forth.

ADNA H. BUCKHOUT.

Witnesses:

JOHN H. REDSTONE,

ALBERT E. REDSTONE.