(No Model.)

C. W. WATSON, Dec'd.

M. ATCHINSON, Administratrix.

GAS BURNING HEATER.

No. 474,895. Patented May 17, 1892.

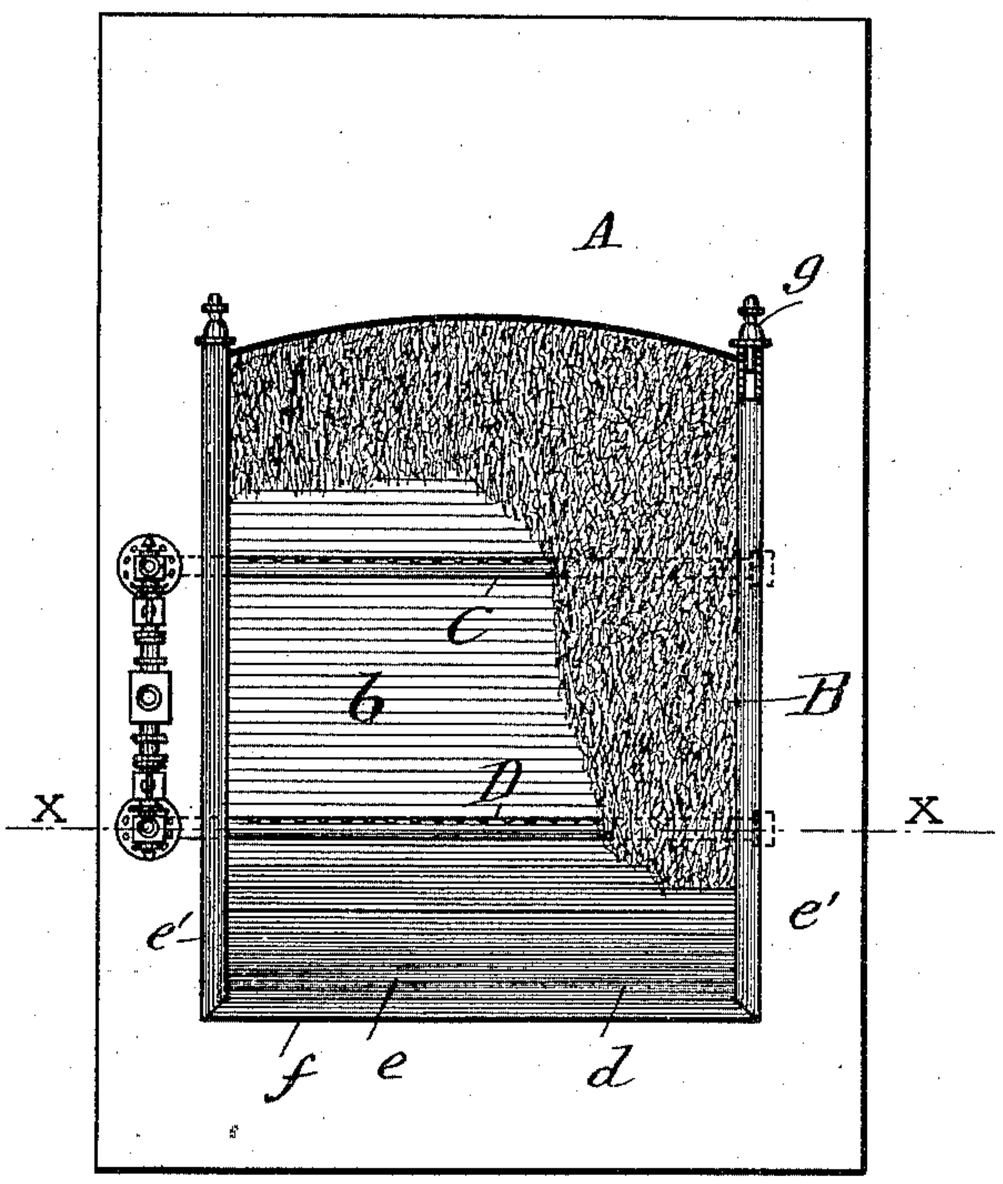

Fig. 1.

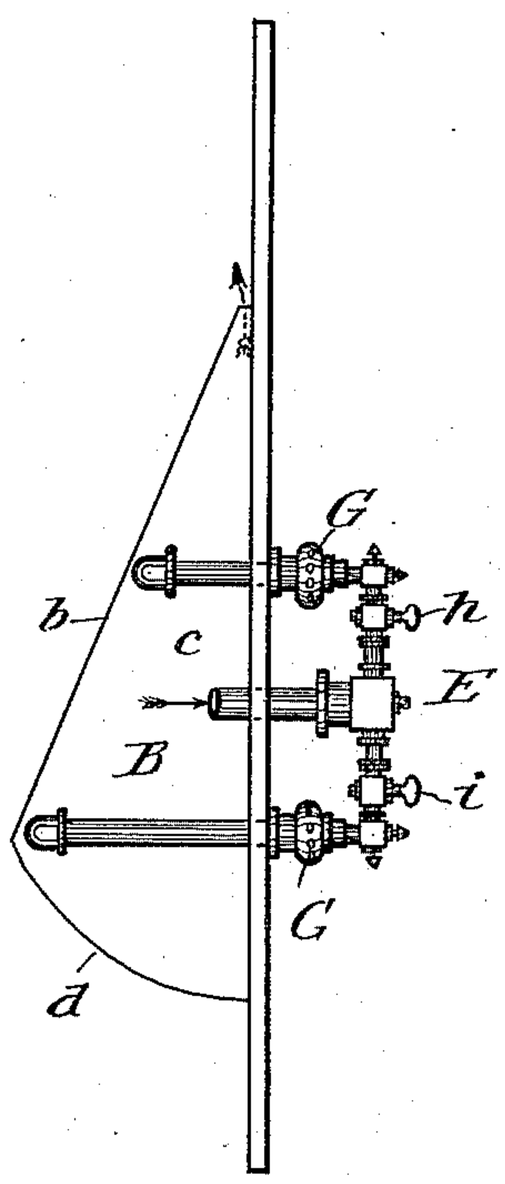

Fig. 2.

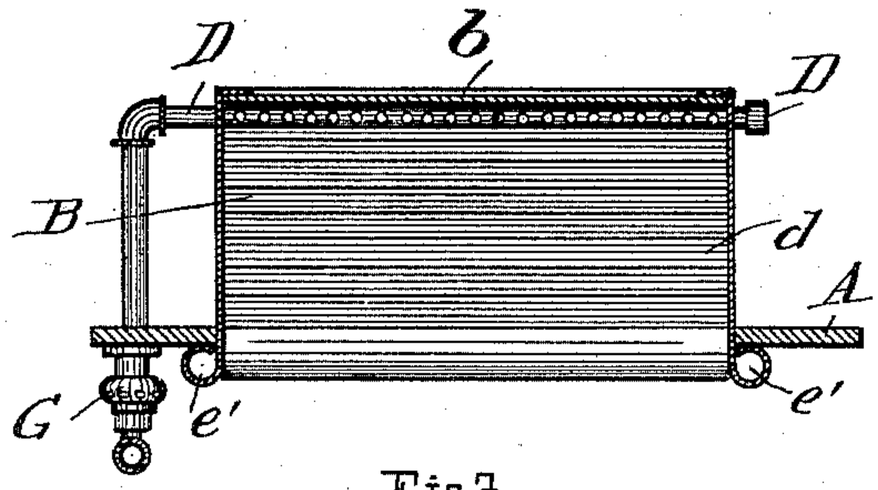

Fig. 3.

Witnesses:
H. Gladden
W. R. Bryan.

Inventor:
Mattie Atchinson
Administratrix of the Estate of
Chas. W. Watson, deceased
by Spear & Lesley Attys

UNITED STATES PATENT OFFICE.

MATTIE ATCHINSON, OF OAKLAND, CALIFORNIA, ADMINISTRATRIX OF CHARLES W. WATSON, DECEASED.

GAS-BURNING HEATER.

SPECIFICATION forming part of Letters Patent No. 474,895, dated May 17, 1892.

Application filed November 6, 1891. Serial No. 411,031. (No model.)

To all whom it may concern:

Be it known that I, MATTIE ATCHINSON, a citizen of the United States, residing at Oakland, in the county of Alameda, State of California, being the administratrix of the estate of CHARLES W. WATSON, deceased, the said WATSON having been the inventor of certain new and useful Improvements in Gas-Burning Heaters, hereby declare that the following is a full, clear, and exact description of the said invention.

This invention relates to gas-burning heaters of the class intended to be set or placed in an ordinary fireplace and having burners in which natural or manufactured gas is burned for heating rooms by radiation.

The invention consists in certain novel and peculiar features of construction constituting improvements over devices previously used for this purpose. Such features need not be here particularly specified; but they are fully hereinafter described and claimed, and are shown in the accompanying drawings, in which—

Figure 1 is a front view. Fig. 2 is a side elevation. Fig. 3 is a horizontal section on the line *x x*, Fig. 1.

A represents the front plate of the heater, which may be of any desired material, such as Russia sheet iron, copper, or brass. Its shape will vary according to that of the fireplace it is intended to fit; but I have shown it in the drawings as rectangular. A large central opening is formed in this plate, in which is secured the copper reflector B, which forms the sides, back, and bottom of the heater. The reflector has an inclined back plate *b*, vertical sides *c*, and a curved reflecting bottom *d*, the sides and bottom having shallow reflecting grooves *e*. The back plate *b* is preferably a separate piece of sheet metal. The reflector as a whole is secured to the front plate by projecting its side and bottom edges through the central opening in said plate and then turning such edges respectively out and down to form holding-flanges. Instead of a flat flange at right angles, however, I prefer to form the projecting edges into tubes *e f*, as shown in the drawings. These produce a more ornamental finish, particularly when closed at the top, as shown, by ornamental caps or plugs *g*.

The burners are horizontal perforated tubes C D, which extend transversely across the inclined back of the reflector. The burner-tubes are continued at right angles outside the reflector and project forward through the front plate. They are there connected by a centrally-placed double gas-cock E, having two keys *h i*. The entire inclined back plate of the reflector is covered with a coating of asbestus fiber, which conceals the burner-tubes. The drawings, however, for clearness show only a partial covering. The perforations in the burner-tubes are, as shown, placed at the top, so as to direct the escaping gas upward against the asbestus lining. The gas-jets therefore burn over the entire surface, rendering the whole body of the fiber incandescent, producing the effect of a full burning-surface and radiating an intense heat.

G represents air-bulbs, one upon each gas-cock, and perforated as shown. When gas is admitted to the burners and ignited, air is drawn in through these perforations, which, mixing with the gas, produces a blue flame, causing a thorough combustion of gas and thereby preventing smoke. The fumes and products of combustion escape up the flue through the open space between the back and front plates at the top. (See Fig. 3.)

What I claim is—

1. In a gas-burning heater, the combination, with a front plate adapted to fit a fireplace and having a central opening, of a reflector secured within said central opening by having its side and bottom edges turned over the edges of said central opening, substantially as set forth.

2. In combination with the front plate adapted to fit a fireplace, a reflector connected to said front plate by having its side and bottom edges turned over the edges of said central opening and formed into tubes, substantially as described.

3. The combination, in a gas-burning heater, of a front plate adapted to fit a fireplace, a reflector secured thereto, upper and lower

burner-tubes, a double gas-cock, and a gas-supply pipe, all constructed and arranged so that gas may be admitted to either or both of said burners, substantially as described.

4. In combination, the front plate, the reflector comprising the side *c*, the bottom portion *d*, and the back *b*, extending upwardly therefrom, the transverse burners extending across the upper and lower portions of said back plate and in close proximity thereto, and a covering for said back plate arranged in close proximity to the same and extending in front of the transverse burners, substantially as described.

In testimony whereof I have affixed my signature, in presence of two witnesses, this 24th day of October, 1891.

MATTIE ATCHINSON,
Administratrix of the Estate of C. W. Watson, deceased.

Witnesses:
G. W. BAKER,
L. W. SEELY.