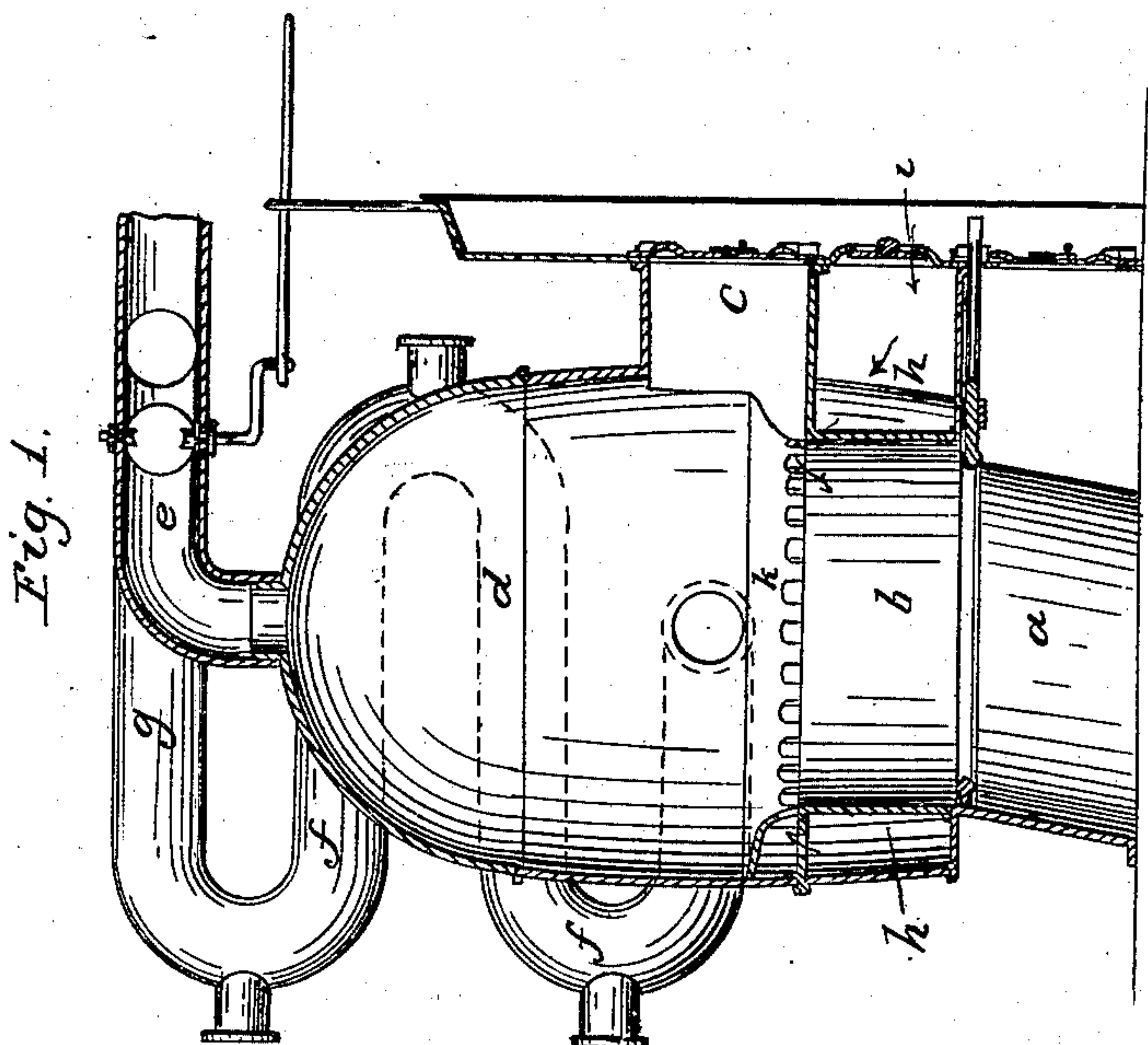
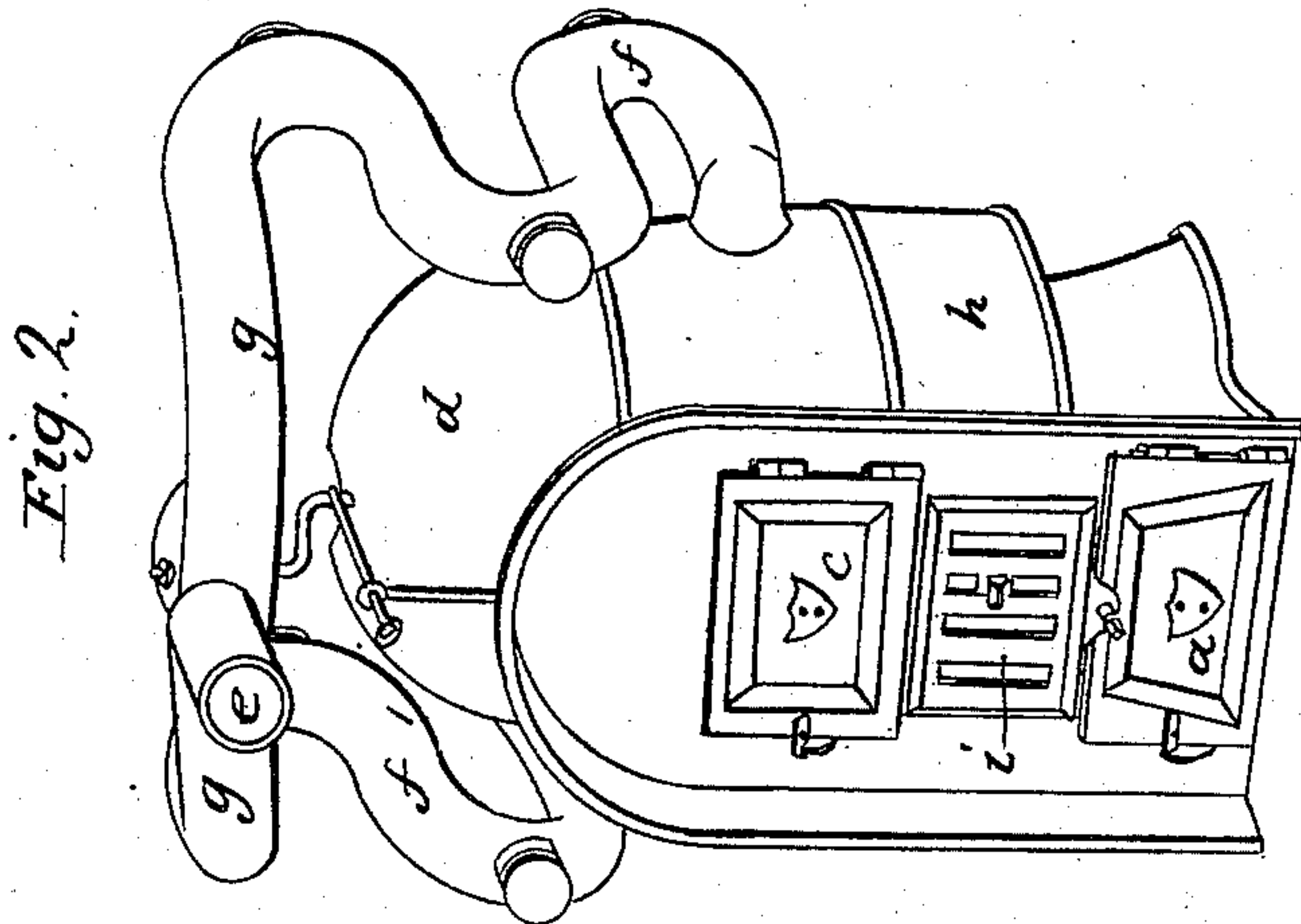


J. T. BUDD.
Hot Air Furnace.

No. 58,373.

Patented Oct. 2, 1866.



Witnesses:
Chas. Smith.

Geo. A. Walker.

Inventor:

John T. Budd
per L. W. Small atty.

UNITED STATES PATENT OFFICE.

JOHN T. BUDD, OF NEW YORK, N. Y.

HOT-AIR FURNACE.

Specification forming part of Letters Patent No. 58,373, dated October 2, 1866.

To all whom it may concern:

Be it known that I, JOHN T. BUDD, of the city and State of New York, have invented and made a certain Improvement in Hot-Air Furnaces; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the annexed drawings, making part of this specification, wherein—

Figure 1 is a vertical section of my improved furnace, and Fig. 2 is an exterior perspective view of the same.

Similar marks of reference denote the same parts.

The object of my invention is to convey a regulated supply of heated air to the fire at or near the top of the fuel to promote a perfect combustion. To effect this I employ a casing surrounding the fire-pot, with openings into the fire-chamber, and with a register or door to regulate the admission of air; and I employ radiating-pipes at the sides of the furnace to increase the heating-surface.

In the drawings, *a* represents the ash-pit; *b*, the fire-pot; *c*, the fuel slide and door; and *d*, a dome over the fire, from which a pipe, *e*, and damper for kindling passes to the chimney.

On each side of the dome *d* I place radiating-tubes *f*, running back and forth, and terminating in a lateral connection, *g*, to the tube *e*. These radiators *f* increase the heating-surface, and they may be fitted with openings and covers in the elbows for cleaning.

Around the fire-pot *b* is an air jacket or casing, *h*, having holes in its upper surface below a perforated shield, *k*, which is near the level of the top of the fuel in the fire-pot *b*, and

said shield, being perforated with numerous small holes, a supply of air is allowed to pass in above the fire for consuming the gases and rendering the combustion more perfect. The air becomes highly heated by contact with the exterior of the fire-pot, and hence is adapted to promote combustion.

The admission of air to the jacket *h* may be regulated by a door or register at *i*, and, if desired, a thorough ventilation of apartments may be effected by a descending pipe leading from such apartments and connecting with the air-jacket *h*.

By the air-jacket surrounding the fire-pot and conveying its heat into the furnace itself, the dryness of atmosphere experienced from the red-hot fire-pot is prevented, and at the same time no heat is lost, as the temperature of the entire furnace is increased by the hot air carried into it from the jacket.

What I claim, and desire to secure by Letters Patent, is—

1. The dome *d*, pipe *e*, and damper, in combination with the two ranges of return-pipes *f* at the sides of the furnace, connected to the pipe *e* by the lateral connections *g*, as and for the purposes set forth.

2. The air-jacket *h*, surrounding the fire-pot, in combination with the shield *k*, for allowing a regulated quantity of heated atmosphere to pass into the gases above the fire for their consumption, as set forth.

Dated this 21st day of May, A. D. 1866.

JOHN T. BUDD.

Witnesses:

CHAS. H. SMITH,
GEO. D. WALKER.