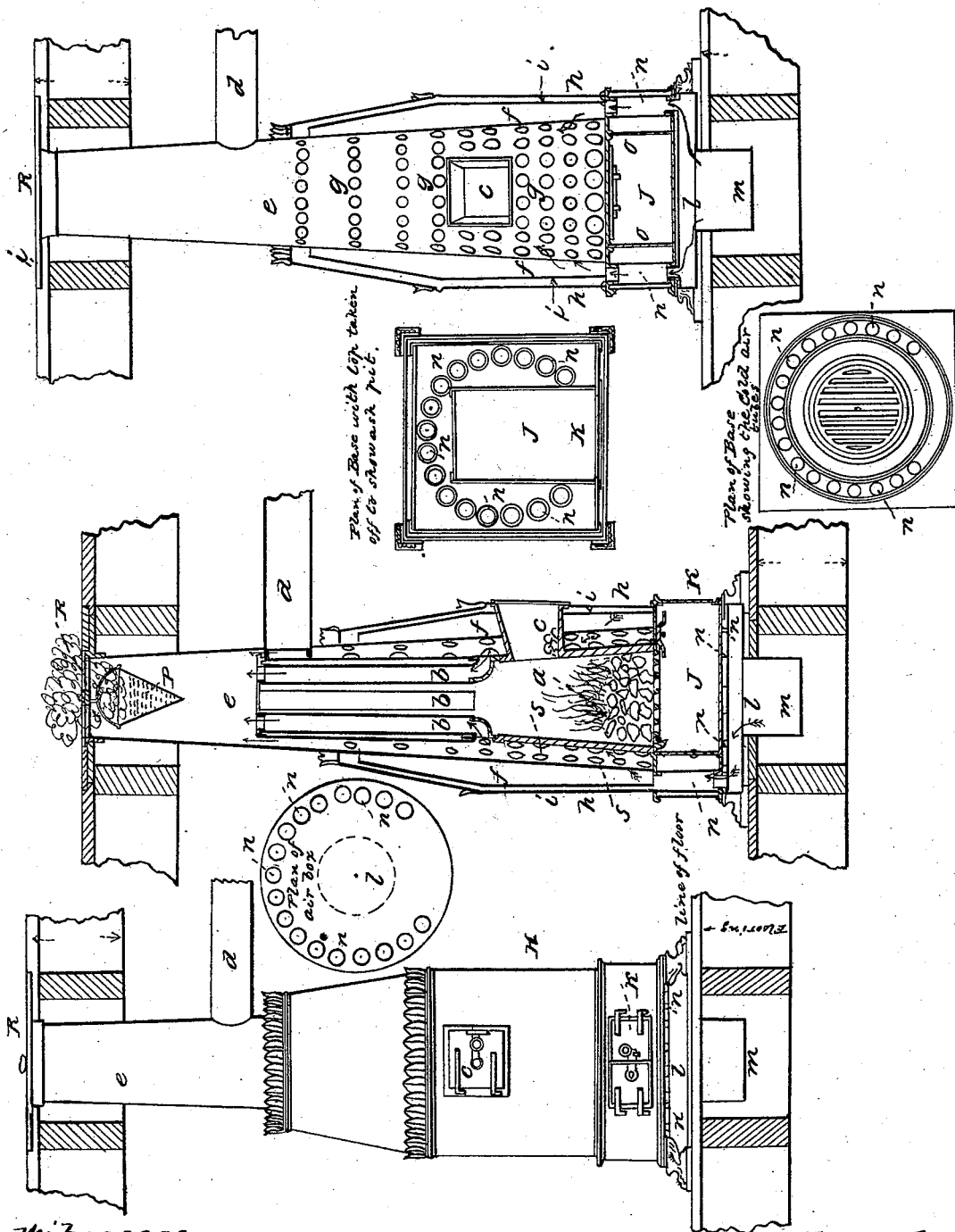


Hot Air Furnace.

No. 378.

Patented Sept. 8, 1837.



Witnesses
J. H. Hubbs
George Gay.

Inventor:
Ben Blaney

UNITED STATES PATENT OFFICE.

BENJAMIN BLANEY, OF BOSTON, MASSACHUSETTS.

NON-RADIATING HOT-AIR STOVE.

Specification of Letters Patent No. 378, dated September 8, 1837.

To all whom it may concern:

Be it known that I, BENJAMIN BLANEY, of the city of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in the Mode of Warming Houses and other Buildings by Hot Air; and I hereby declare the following to be a full and exact description thereof.

My invention consists of a non radiating hot air stove easily portable, consuming but little fuel and very safe even when in close contact with wood or other combustible substances.

To enable those skilled in the art of constructing hot air stoves to make use of my invention and improvement, I proceed to describe its construction and operation. The base is of cast iron and of a square form, within which is the ashpit and tubes *n* as seen in the drawing, to connect the cold air box with the cold air chamber in the stove. Beneath the base is a sheet iron box *l* to receive the external air to be distributed through the tubes *n* into the cold air chamber *f*. The cylinder *a*, for fuel is of cast iron and of the size desired and placed on end upon the base. A necking with elbows within of cast iron on which the rarefying tubes *b b* are fitted is placed upon the cylinder. A sheet iron case is next fitted upon the necking inclosing the rarefying tubes and rising as high as the top of them. A cap with openings and flanges to receive the rarefying tubes and case is then fitted upon the top, and the whole is safely secured together by rods passing through the projections on the cap and screwed into the ears cast upon the outside of the fuel cylinder.

An opening is made in the cylinder for the passage of the smoke into the smoke funnel *d*. The fuel cylinder is inclosed in a sheet iron case four or five inches larger in diameter than the fuel cylinder and extending to the apartments to be warmed. This case is perforated with holes *g g*, from the base nearly as high as the top of the outside case. These holes are about two inches in diameter and three inches apart near the bottom of the case, and decreasing in size while the spaces between them are increasing toward the top as seen in the drawings. The space inclosed by this case is the hot air chamber *e*. Another case *i* is then added outside of the preceeding and about four inches larger elevated on legs about two inches high and

extending to within about four inches of the top of the outside case. The object of this case which is called a loose case is to intercept the rays from the heated cylinder which pass through the openings or perforations in the last described case; the whole is then inclosed by an outside case *h* rising nearly as high as the smoke funnel and made air tight at the top around the outside of the hot air chamber. The space between the outside case, and the perforated case, is the cold air chamber. The fuel is introduced through the orifice *c* and rests upon the grating which falls upon a hinge for clearing as in the drawing. The ash pit *j* in the base of the stove is placed within the range of tubes *n* leading from the cold air box to the cold air chamber. The air that supplies the fire passes through the ash pit, and the cold air is admitted from the air box below through the tubes *n* into the cold air chamber—thence it meshes through the perforations in the case which separates the cold air chamber from the hot air chamber, the cold air thus acting directly upon the heated surface of the fuel cylinder is rapidly heated and ascends through the hot air chamber into the apartments to be warmed, and is regulated by the register as desired. A portion of cold air circulates between the outer case and the loose case next within, this being constantly supplied with cold air and the outside case being protected by the loose case from the action of the direct rays of the heated cylinder is kept nearly cold, which constitutes a non-radiating hot air stove—the smoke funnel *d* connects with a chimney or otherwise as convenient.

P, is an evaporating vessel which may be suspended in the hot air chamber or over the register at pleasure.

The drawing herewith attached and which is hereby made a part of this specification being lettered and having copious references in the margin thereof is supposed to render further details in this specification unnecessary.

What I particularly point out and claim as my invention is—

1. The application of the cold air to the inner surface of the out side case over the whole space from the base to the top of the stove by the mode in which it is admitted through the air box into the cold air chamber and caused to circulate between the out side case and the loose case, and between

the loose case and the perforated case before it passes through the perforated case into the hot air chamber to act upon the heated cylinder.

- 5 2. I also claim as new and my invention the application of the loose case to the hot air stove for the purpose of preventing the

direct rays from the heated cylinder acting through the perforations upon the outside case in the manner above described.

BENJ. BLANEY.

Witnesses:

GEORGE GAY,
D. A. SIMMONS,