(No Model.)

A. WOLFF.

GAS HEATER OR RADIATOR.

No. 466,958. Patented Jan. 12, 1892.

Fig. 2.

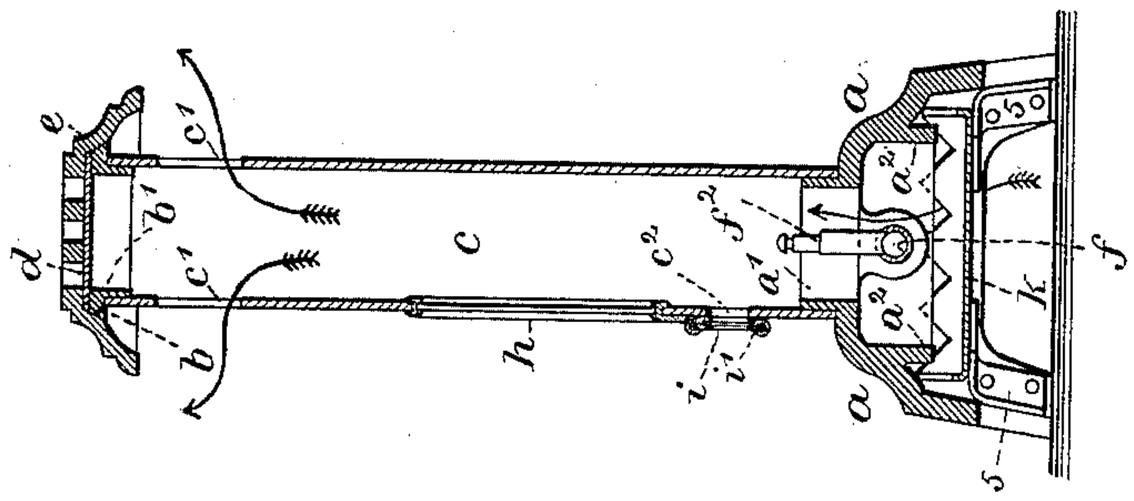


Fig. 1.

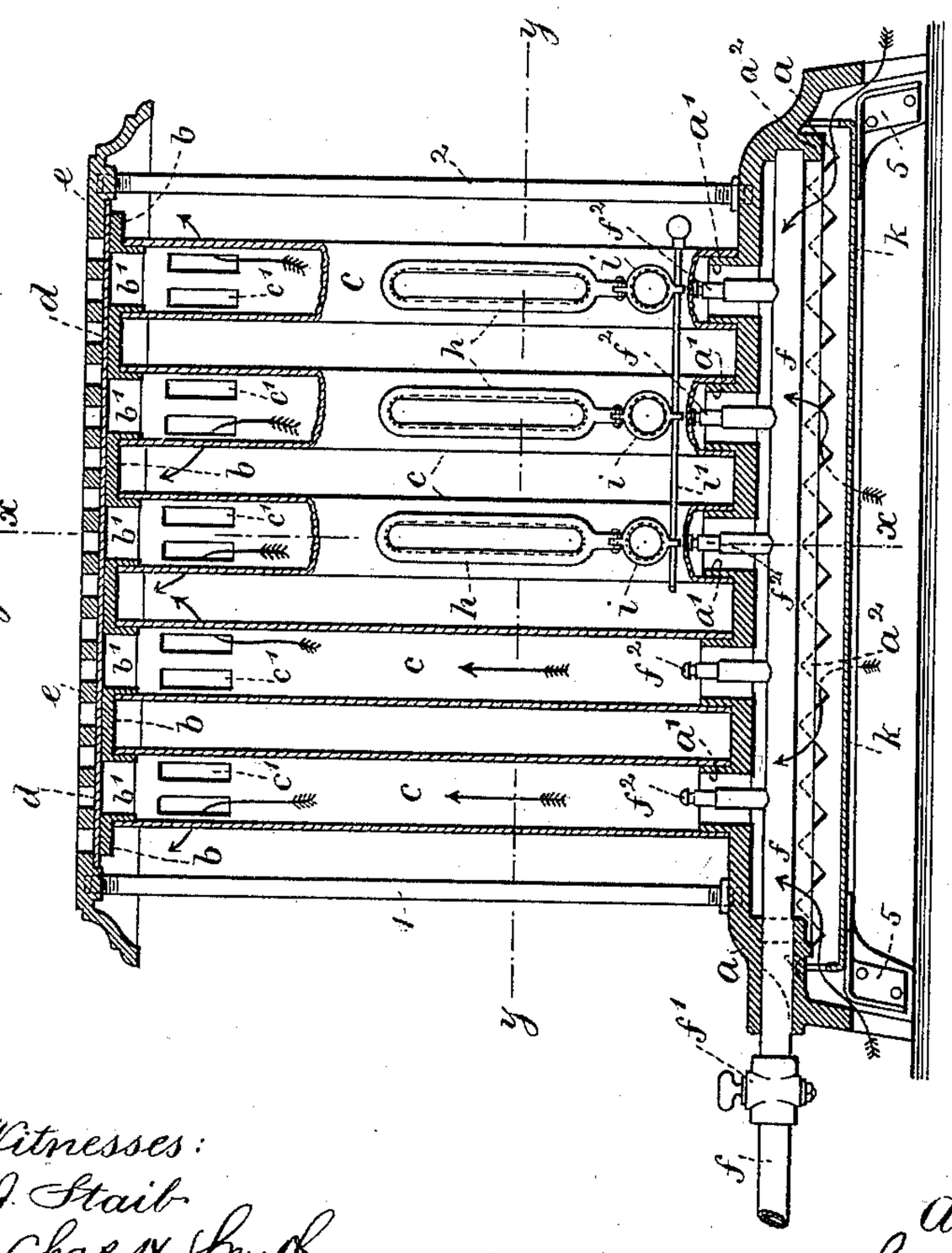
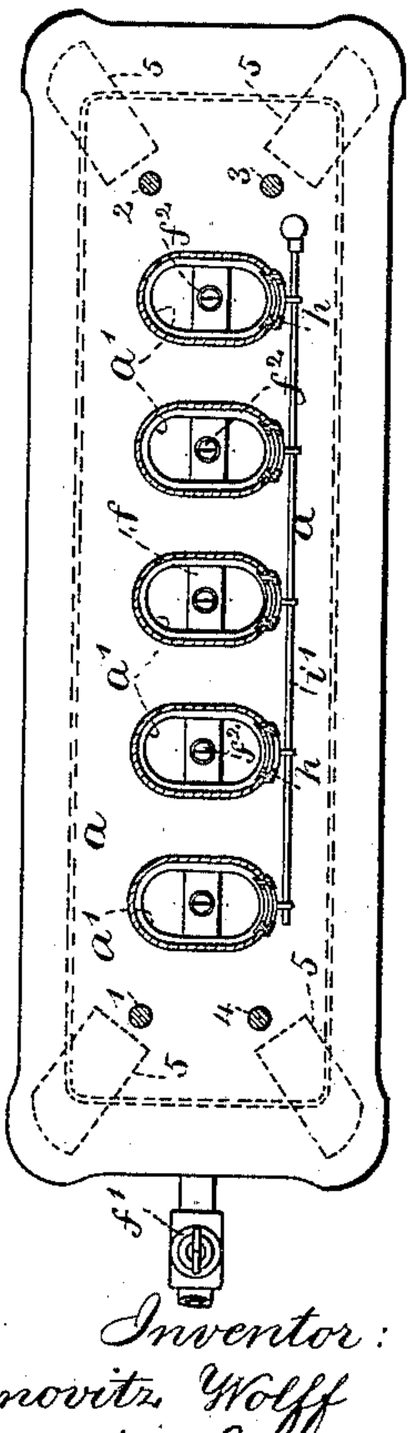


Fig. 3



Witnesses:
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UNITED STATES PATENT OFFICE.

ARNOVITZ WOLFF, OF NEW YORK, N. Y.

GAS HEATER OR RADIATOR.

SPECIFICATION forming part of Letters Patent No. 466,958, dated January 12, 1892.

Application filed August 31, 1891. Serial No. 404,189. (No model.)

To all whom it may concern:

Be it known that I, ARNOVITZ WOLFF, a citizen of the United States, residing in the city, county, and State of New York, have invented a new and useful Improvement in Gas Heaters or Radiators, of which the following is a specification.

My invention relates to a compact and portable heater or radiator for warming rooms in buildings by gas-flames.

In carrying out my invention I employ a base and top that are connected together, and between them are vertically placed sheet-metal radiating-tubes in which are gas-burners. These radiating-tubes have frames with mica, through which the light of the gas-flames can be seen and by which a cheerful appearance is imparted to the room in which the heater is located. These radiating-tubes also have openings opposite the internal burners, through which said burners are lighted, and openings at the upper ends for the escape of the heated air. I prefer to place a false bottom within the base, so that the light of the gas-flames does not shine upon the floor and downward radiation is intercepted. The openings for lighting the burners have covers, which are connected by a rod and are adapted to be lifted together to successively light the burners.

In the drawings, Figure 1 is a vertical section and partial elevation of my improved device. Fig. 2 is a cross-section at $x\,x$, and Fig. 3 is a sectional plan at $y\,y$.

a represents the base, which is preferably of cast metal more or less ornamental and provided with collars a' and an internal flange at a^2.

b represents a flat cast-metal top plate with collars b', and c are tubes of sheet metal, such as Russia iron, which at their respective ends fit over the collars a' b' and constitute the heat-radiating tubes.

An imperforate plate or sheet of metal d covers the top b, and an open-work ornamental top or cover e surmounts the heater or radiator, and screw-ended tie-rods or tubes 1, 2, 3, and 4 at the respective corners firmly bind and hold the top e and base a, into which they screw, and the intermediate parts together.

A gas-pipe f passes into and lengthwise through the radiator-base a, and said pipe is provided with a cock f' and burners f^2, one burner being within and central of each tube c, and the openings at c^2 afford a means of reaching and lighting the burners f^2, as they are adjacent to said burners. The pipe f may be flexibly or rigidly connected to the main gas-supply. The oblong frames h, having lugs at their lower ends, are to be secured vertically at openings made in the tubes c, and these frames are adapted to hold mica, and the light of the gas-flames is visible and passes through said mica into the apartment where the heater is located to shed a cheerful light in said apartment. To the lugs of each of these frames h are hinged small plates i, adapted to fit over and close the openings c^2. These plates i have perforated lugs, through which passes a rod i', by means of which all of the plates can be simultaneously lifted to give access through the openings c^2 to light the burners f^2.

I prefer to employ a false-bottom plate k, having a turned-up serrated edge that fits outside of the flange a^2, and said bottom plate is connected to the base a by corner bracket-plates at 5. The office of this plate k is to prevent the light of the gas-flames being thrown down upon the floor and to interrupt radiated heat. The serrated edges of the plate k allow for the admission into the base a of atmospheric air for the gas-flames.

I provide openings c' in opposite sides of the sheet-metal tubes c at their upper ends, and these openings provide for the escape into the apartment of the heated air from within the tubes c. The radiated heat outside the tubes c also ascends and causes a circulation and heating of the air of the apartment.

I claim as my invention—

1. The combination, in a gas heater or radiator, with a base and a gas-pipe passing through the base and having burners, of vertical sheet-metal tubes c, rising from said base and having upper openings c' for the escape of heated air and lower openings c^2 to allow for lighting the burners, and an imperforate plate closing the upper ends of the tubes c, substantially as and for the purposes set forth.

2. The combination, in a gas heater or radiator, with a base and a gas-pipe passing

through the base and having burners, of vertical sheet-metal tubes *c*, rising from said base and having upper openings *c'* for the escape of heated air and lower openings c^2 to allow for lighting the burners, frames connected upon the faces of said tubes *c* and having lugs at their lower ends, and the plates or frames *i*, connected to said lugs and adapted to cover the openings c^2, and an imperforate plate closing the upper ends of the tubes *c*, substantially as and for the purposes set forth.

3. The combination, with the base and top and the gas pipe and burners, of the vertical sheet-metal tubes *c*, the frames *h*, with mica connected therewith and having lugs at their lower ends, the plates *i*, hinged to the lugs of the frames *h* and having base-lugs, and the rod *i'*, passing through such lugs, substantially as and for the purposes set forth.

4. The combination, in a gas heater or radiator, with the base *a*, having legs and integral collars *a'*, of the top plate *b*, having integral collars *b'*, the vertical sheet-metal tubes *c* between said base and top plate and fitting said collars and having openings *c'* near their upper ends, the imperforate plate *d*, covering the tops of said tubes *c*, the open-work top *e*, resting upon the plate *d*, the corner tie-rods connecting the base *a* and top *e*, and the plate *k* within the base, having turned-up serrated edges, and means for securing said plate to the base, substantially as set forth.

5. The combination, in a gas heater or radiator, with a base having legs, of vertical sheet-metal tubes *c*, rising from said base, a gas-pipe passing through said base and having burners at the lower ends of the tubes *c*, and a bottom plate *k*, fitting freely within and connected to the base and having turned-up edges around which air passes to the burners, whereby downward radiation is prevented, substantially as specified.

Signed by me this 25th day of August, A. D. 1891.

ARNOVITZ WOLFF.

Witnesses:
GEO. T. PINCKNEY,
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