

(No Model.)

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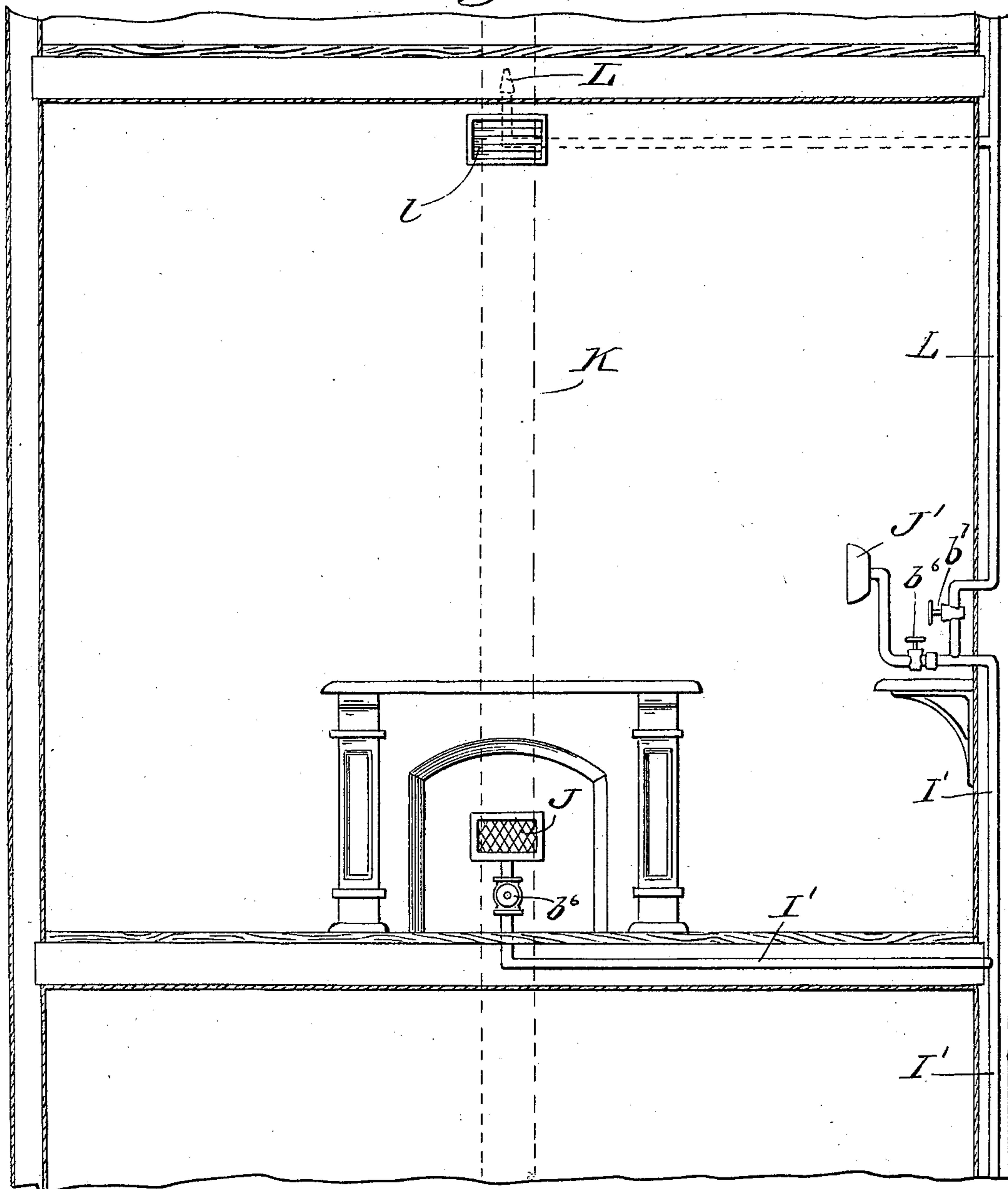
M. PELLET.

HEATING, VENTILATING, OR OTHER APPARATUS.

No. 543,811.

Patented July 30, 1895.

*Fig. 1.*



WITNESSES.

*John H. Deemer*  
*Percy O. Griffith*

INVENTOR

*Monsieur Pellet*  
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(No Model.)

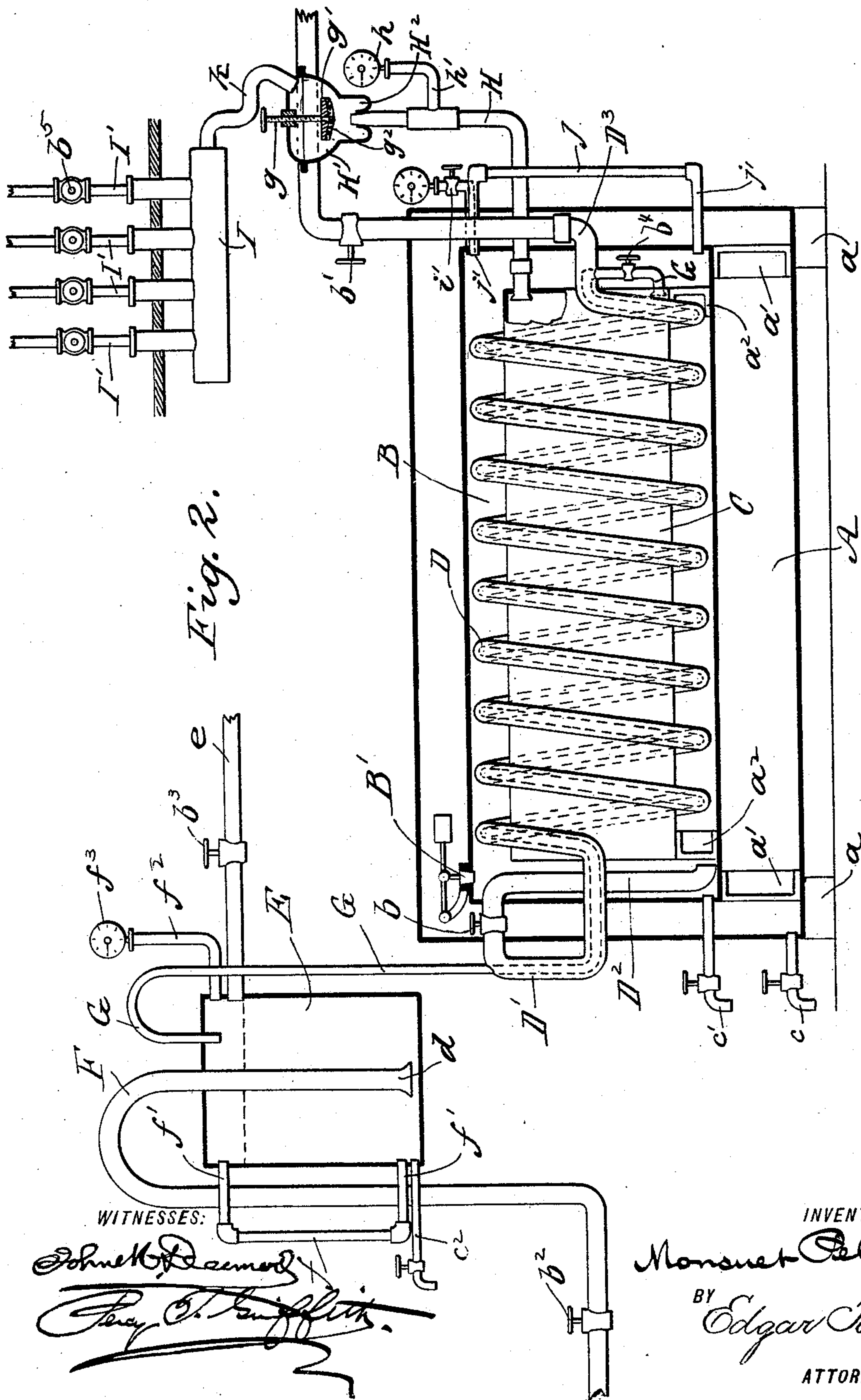
2 Sheets—Sheet 2.

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*John H. Deemer*  
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INVENTOR

*Monsieur Pellet*

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# UNITED STATES PATENT OFFICE.

MONSUET PELLET, OF NEW YORK, N. Y.

## HEATING, VENTILATING, OR OTHER APPARATUS.

SPECIFICATION forming part of Letters Patent No. 543,811, dated July 30, 1895.

Application filed January 2, 1895. Serial No. 533,505. (No model.)

*To all whom it may concern:*

Be it known that I, MONSUET PELLET, a subject of the Emperor of Austria-Hungary, and a resident of New York, county of New York, and State of New York, have invented certain new and useful Improvements in Ventilating or other Apparatus, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof, in which similar letters of reference indicate corresponding parts in all the figures.

This invention relates to means for ventilating, heating or cooling, and disinfecting buildings, and has for its object to provide a simple, cheap, readily-constructed, and perfectly-operating device by means of which fresh air may be moistened, heated, and distributed under pressure throughout the building, and one or more of the outlets thereof constructed to form inhalers for supplying the air individually to the occupants of the building, and, further, to provide means for expelling the impure air from the room.

The invention consists in the novel construction and arrangement of parts hereinafter fully described.

Referring to the drawings, Figure 1 represents a vertical section of portion of a building provided with an apparatus embodying my invention. Fig. 2 is a sectional elevation of the main apparatus.

In the practice of my invention I construct an inclosing chamber or housing A, mounted upon supports *a*, having mounted within the same, upon similar supports *a'*, a smaller chamber B, communicating with said main chamber A only by means of a safety-valve *B'* therein at the top. Within this chamber B is a third chamber C, mounted upon supports *a''* and wholly closed throughout.

Surrounding the chamber C throughout its length is a pipe-coil D, one end of which projects horizontally through the chambers B and A, thence upwardly in the form of a vertical arm *D'* provided with an angular extension *D''*, which is inserted through said chambers A and B and opens into the bottom of the latter, being provided near its junction with the arm with a valve *b*. The opposite end *D'''* of this pipe-coil D projects through the said chambers and leads to a suitable steam supply conveniently located, said end

being furnished with a valve *b'*. The chambers A and B are each provided with outlets or faucets *c c'*.

Immediately above the inclosing-chamber A is secured a vessel E, into which is introduced an inlet-pipe F, provided with a valve *b''*, extending vertically almost to the bottom of said vessel, and having a flaring mouth *d*, through which compressed air is introduced into said vessel E. This vessel is constantly maintained partially filled with water through an inlet *e*, provided with a valve *b'''*, and entering near the top of said vessel. The quantity of liquid therein is indicated by a gage-tube *f*, connecting to said vessel at top and bottom through tubes *f'*, and the contents may be withdrawn through a faucet *c''*, projecting from the bottom thereof. Above the level of the liquid an angular pipe or tube *f''* projects upwardly from the vessel E, and is provided with a gage *f'''* to indicate the pressure of the air within the same. Leading from the top of said vessel is an air-outlet G, of less diameter than the inlet F, and extending through the vertical arm *D'* of the pipe-coil D, through the same to the end thereof, where it leaves the said coil and opens into one end of the central chamber C, being provided with a valve *b''''*. Extending from the said chamber C to the outside of the device is a pipe H, entering a small chamber H' which is provided with a combined valve and regulator comprising a headed rod *g*, screw-threaded and inserted vertically through the chamber H', being provided with a head *g'*, having a face *g''* of absorbent material, which is adapted to close the lower portion or base H'' of said chamber, and at the same time absorb the moisture from the air injected through the pipe H. This pipe H is provided with a gage *h*, mounted upon an angular pipe or branch *h'*, projecting therefrom, to register the air-pressure. The steam-pressure within the chamber B is indicated by a gage *i*, mounted upon a pipe *i'*, inserted in the top of the said chamber B, and the height of liquid in said chamber caused by condensation of the steam is indicated by means of a gage-tube *j*, communicating therewith at top and bottom by means of pipes *j'*.

The chamber H' is connected by means of an outlet-pipe *k* to a section or cylinder I,



having a plurality of distributing-pipes I' projecting therefrom, provided with valves  $b^5$  and extending through the walls of the building to the various rooms into which said pipes open, as shown in Fig. 1, through a register or like device J in the wall of the room, beneath which they are provided with valves  $b^6$ ; or, as shown in said figure, one or more additional pipes may be connected to each room, opening into the same at about the height of an individual of average size, and provided with enlarged mouths J'.

In order to provide for expelling the impure air from the building, I form a vertical air-shaft K therethrough, communicating with each room through the top thereof by means of the openings  $l$ . Branch pipes L lead from the pipes I' to a point immediately above one or more of said openings  $l$ , through which the flow of the pipes I' may be directed by opening the valves  $b^7$  thereof and at the same time closing the adjoining valve  $b^6$ .

The operation of the device will be readily understood from the foregoing description, taken in connection with the accompanying drawings. The steam is first introduced through the end  $D^3$  of the pipe-coil D, and continuously passed through said pipe-coil and through the arm  $D'$  and extension  $D^2$  into the chamber B, wherein it condenses. The air is then forced through the pipe F into the bottom of the vessel E, ascending through the water therein to the top thereof and being thereby moistened, and passing through the outlet-pipe G, which extends through the pipe-coil D, the air is thereby heated and at length escapes through the end of said outlet G into the central chamber C, and therefrom through the chamber H', the pipe  $k$ , and the section I to the distributing-pipes I', the pressure and flow thereof being regulated by turning the rod  $g$  to further open or close the base  $H^2$  of the chamber H', and the superfluous moisture of said air being absorbed by the casing  $g^2$  of said regulator. Passing through these pipes I' the air may be caused to enter the room in the desired quantities through the inlets or registers J by opening the valves  $b^6$ , and, furthermore, the air may be individually breathed by presenting the face to the outlet or inhaler J'. It will be observed that the air introduced is not only pure, but is also moistened and heated, and, furthermore, is caused to enter the room under pressure, thereby to a certain extent expelling the impure air from said room. The whole building may also be very readily purified by directing the flow of the air through the pipes  $l$  by opening the valve  $b^7$ , the compressed air being thereby forced upwardly through the air-shaft K, drawing the air from the rooms through the openings  $l$  and carrying the same off to the top of the house, the said air being supplanted by fresh air introduced through the register J.

Where it is desired to cool the air rather than heat the same, the chamber A is filled

with ice or other refrigerating material, thereby reducing the temperature of said air as it passes through the outlet G within the pipe-coil D, which thus renders the apparatus useful throughout the various seasons.

It is to be noted that by the employment of the various valves and the arrangement of the pipes and other parts as herein set forth the distribution of the air may be perfectly controlled.

The advantages resultant from the use of the invention will be manifest to all who are conversant with the general class of devices to which the same appertains.

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

1. In an apparatus for ventilating and heating or cooling buildings, the combination of a chamber or housing adapted to receive refrigerating material, a steam chamber within the same and an air chamber within said steam chamber, a steam coil within said steam chamber and surrounding said air chamber and opening into the steam chamber, a vessel having a water inlet communicating with the same, and a compressed air inlet extending vertically therethrough to the bottom thereof, an air-outlet pipe leading from the top of said vessel and passing through the steam coil and opening into the air chamber, an outlet leading from said chamber to a regulator and valve, and a pipe leading therefrom to a section or chamber with which air distributing pipes connect, substantially as shown and described.

2. In an apparatus for ventilating and heating or cooling buildings, the combination of an air chamber, a steam coil surrounding the same and connected to a suitable source of steam, a vessel having a water inlet communicating therewith, a compressed air inlet leading to the bottom of said vessel, an outlet pipe leading from the top of said vessel and passing through the whole of the steam coil and communicating with the air chamber surrounded thereby, a pipe leading from said chamber to a regulator in connection therewith, and a plurality of distributing pipes communicating with the regulator and with the various rooms of the building, said pipes being provided with valves for regulating the outflow of the air, substantially as shown and described.

3. In an apparatus for ventilating and heating or cooling buildings, the combination of a chamber adapted to receive refrigerating material, a steam chamber located therein and an air chamber located within the steam chamber, a steam coil surrounding the said air chamber, in communication with a source of steam supply, an air pipe passing through said coil and communicating with the air chamber, said air chamber being also in communication with an air pressure regulator, and through said regulator with distributing pipes, substantially as shown and described.



4. In an apparatus for ventilating and heating buildings, the combination of a steam chamber, an air chamber located in said steam chamber, a steam coil in communication with  
5 a source of steam supply surrounding said air chamber within said steam chamber and also communicating with said chamber, an air supply pipe passing through said steam coil and communicating with said air chamber, an air  
10 pressure regulator also in communication with said air chamber, and air distributing pipes in communication with said regulator, substantially as shown and described.

5. The combination, in an apparatus for  
15 heating and ventilating rooms, of an air chamber, an air supply communicating therewith near the bottom thereof, a steam chamber, an air chamber within said steam chamber, a

steam coil surrounding said air chamber within said steam chamber, a pipe communicating  
20 with the water chamber near the top thereof, extending through said steam coil and communicating with said air chamber, said air chamber being also in communication with a  
25 pressure regulator, and through distributing pipes with the various rooms of the building to be ventilated and heated, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 28th day of December, 1894. 30

MONSUET PELLET.

Witnesses:

PERCY T. GRIFFITH,  
A. CUSACK.