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VENTILATING AND HUMIDIFYING DEVICE

Filed June 30, 1923

FIG-1

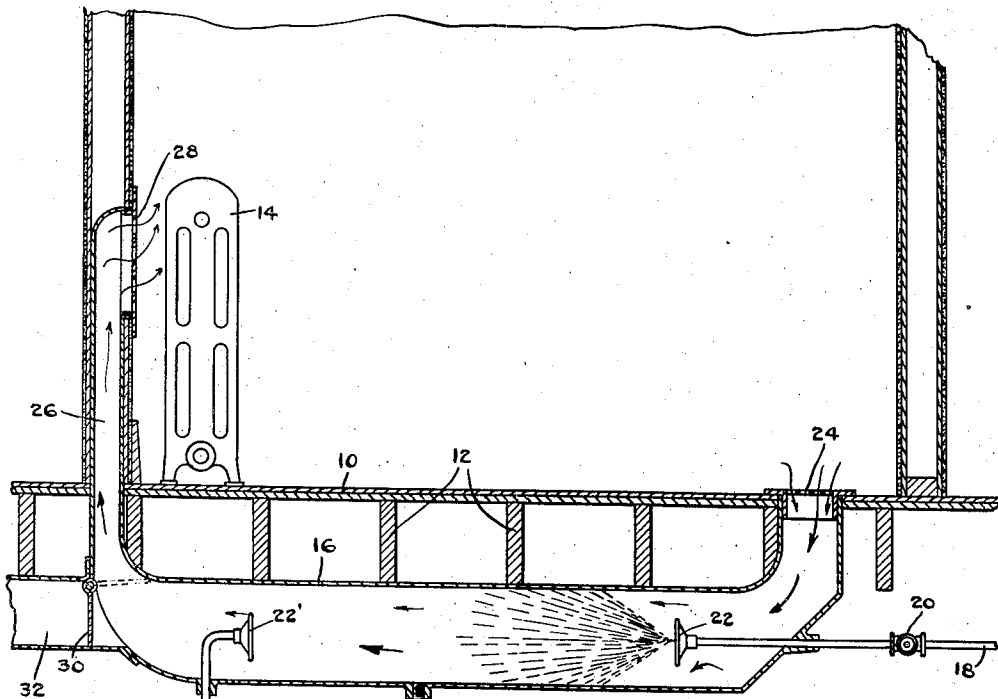


FIG-2.

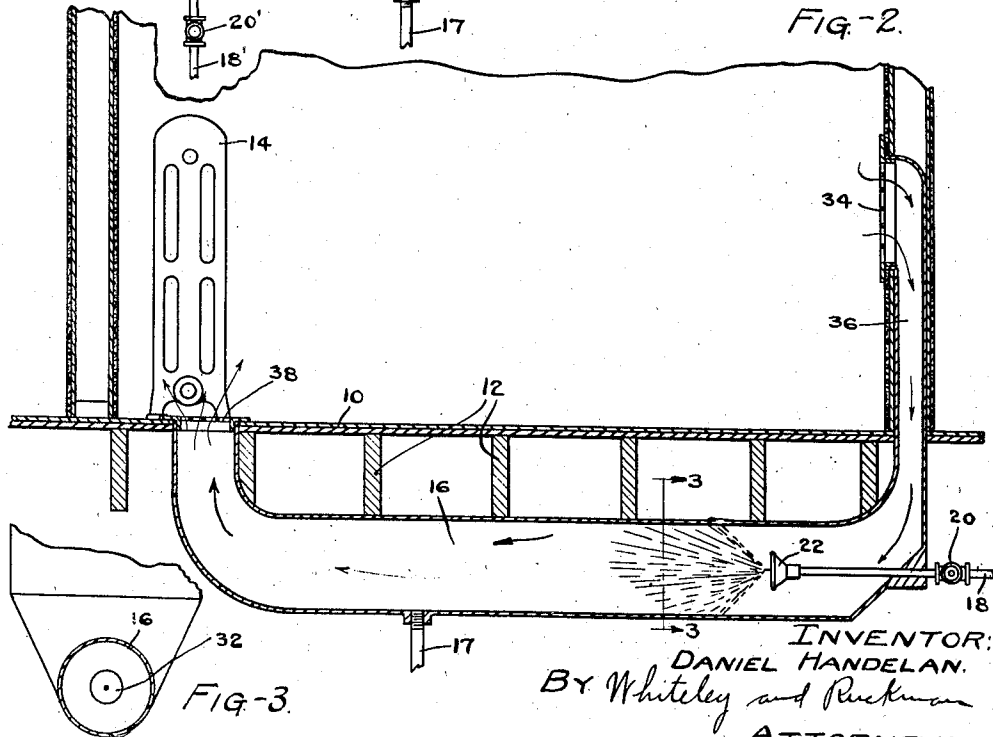


FIG-3.

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VENTILATING AND HUMIDIFYING DEVICE.

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My invention relates to ventilating and humidifying devices, and has for an object the provision of a device which will maintain the air in the rooms of buildings in a moistened condition. Another object is the provision of a device which will purify the air in rooms.

The full objects and advantages of my invention will appear in connection with the detailed description, and the novel features of my inventive idea will be particularly pointed out in the claims.

In the accompanying drawings,—Fig. 1 is a view mostly in vertical section showing one form of the device. Fig. 2 is a view mostly in vertical section showing a modified form of the device. Fig. 3 is a view in section on the line 3—3 of Fig. 2.

In the drawings, the numeral 10 designates the floor of a room in a building, this floor being supported on joists 12. A radiator 14 which may be either a hot water or steam radiator is placed at any convenient location in the room. A flue 16 is placed underneath the joists, this flue preferably extending for substantially the full length or width of the room and being provided with a drain pipe 17. A water supply pipe 18 preferably provided with a shutoff cock 20 extends into one end of the flue 16 and terminates in a nozzle 22 for producing a conical spray of water directed toward the other end of the flue. In the form shown in Fig. 1, a floor register 24 provides for entrance of air into the end of the flue 16 which is provided with the nozzle, the flue being turned upwardly for this purpose. The other end of the flue is turned upwardly and extends as a vertical flue 26 within the wall of the room. The upper end of the flue 26 communicates with a wall register 28 which is shown somewhat below the top of the radiator 14 but which may be placed at any height in the wall and at any desired location with respect to the radiator preferably at the same side of the room. At the junction of the horizontal flue 16 with the vertical flue 26, a damper 30 is provided. This damper is hinged at the top of an extension flue 32 so that when the damper is turned into dotted line position, entrance into the flue 26 is prevented, and entrance into the extension tube 32 is established. The flue 32 extends to the outside of the building. In this form of the invention, I also show a water supply pipe 18' provided with a shutoff cock 20', and this

pipe extends into the other end of the flue 16 from that into which the pipe 18 extends. The inner end of the pipe 18' terminates in a nozzle 22' adapted to direct a spray of water within the flue in the opposite direction from that which comes from the nozzle 22 when the latter is utilized. When the shut-off cock 20 is closed and the shut-off cock 20' is opened, and the damper 30 is moved into dotted line position, fresh outside air will be drawn in through the extension tube and delivered into the room. In the form shown in Fig. 2, a wall register 34 provides for entrance of air into a vertical flue 36 which is within the wall of the room and which connects with the end of the horizontal flue 16 containing the nozzle 22. The other end of the horizontal flue is turned upwardly through a floor register 38 which may be placed at any desired location with respect to the radiator 14 preferably at the same side of the room.

The operation and advantages of my invention will be readily understood in connection with the foregoing description. The supply pipe 18 is connected with the city water system and when the cock 20 is open, a fine spray of water will be delivered into the flue 16 by the nozzle 22. The force of this spray causes air to be drawn into the end of the flue 16 containing the nozzle, the air being thoroughly moistened by the spray and then delivered from the other end of the flue into the room. During its passage through the flue 16, the air is subjected to a washing action which removes dust and other impurities. In case the flue discharges into the room adjacent the radiator therein, the heated air rising from the radiator acts to increase the current of air through the flue. Any surplus water delivered by the nozzle 22 and not carried along with the current of air will be drawn off by the drain pipe 17. In case it is desirable to remove bad air from the room and not carry it back again into the room, the damper 30 is turned into the dotted line position shown in Fig. 1 so that the air taken from the room will pass outside. As previously explained, fresh air from the outside may be drawn into the room by means of the nozzle 22'.

I claim:

1. A ventilating and humidifying device for dwellings comprising a flue extending horizontally under the floor of a room containing two registers, one end of said flue be-

ing turned upwardly to deliver air to one of said registers and the other end of said flue being turned upwardly to receive air through the other of said registers, a water supply pipe extending into said flue, and a nozzle on the end of said pipe near the receiving end of said flue for directing a fine spray of water toward the delivery end thereof, the force of said spray causing air from the room to pass through said flue and be delivered into the room in a moistened condition.

2. A ventilating and humidifying device for dwellings comprising a flue extending horizontally under the floor of a room containing two registers located at different levels, one end of said flue being turned upwardly to deliver air through one of said registers and the other end of said flue being turned upwardly to receive air through the other one of said registers, a water supply pipe extending into said flue, and a nozzle on the end of said pipe near the receiving end of said flue for directing a fine spray of

water toward the delivery end thereof, the force of said spray causing air from the room to pass through said flue and be delivered into the room in a moistened condition.

3. A ventilating and humidifying device for dwellings comprising a flue extending horizontally under the floor of a room containing two registers, one end of said flue being turned upwardly adjacent a radiator to deliver air to one of said registers and the other end of said flue being turned upwardly to receive air through the other one of said registers, a water supply pipe extending into said flue, and a nozzle on the end of said pipe near the receiving end of said flue for directing a fine spray of water toward the delivery end thereof, the force of said spray causing air from the room to pass through said flue and be delivered into the room in a moistened condition.

In testimony whereof I hereunto affix my signature.

DANIEL HANDELAN.