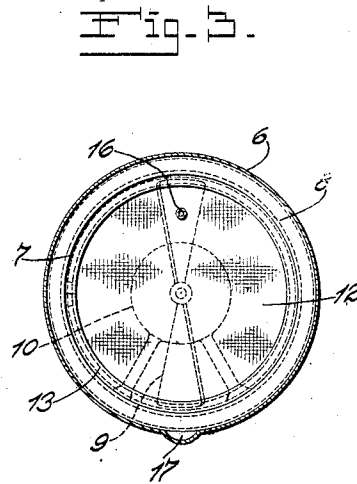
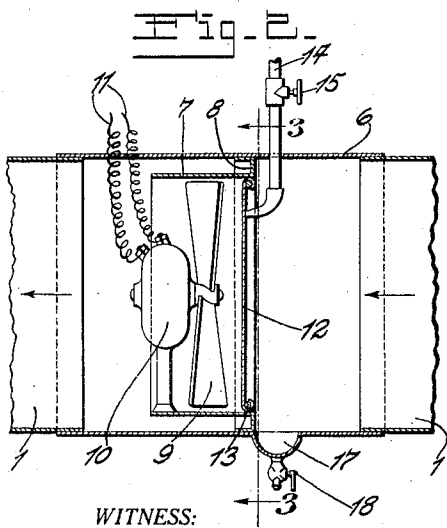
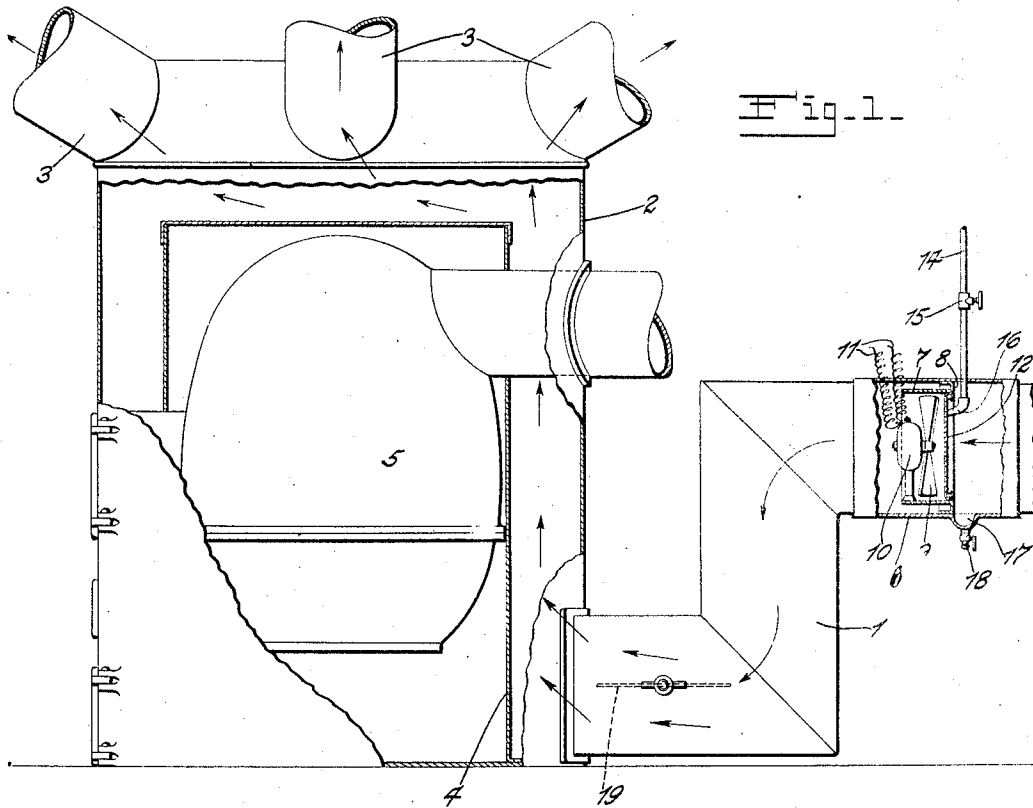


Feb. 23, 1926.

1,574,656

G. F. ISGRIG
VENTILATING DEVICE
Filed June 22, 1925



WITNESS:
Charles A. Beckett

INVENTOR.
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UNITED STATES PATENT OFFICE.

GEORGE F. ISGRIG, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-HALF TO WILLIAM H. MOORE, OF ST. LOUIS, MISSOURI.

VENTILATING DEVICE.

Application filed June 22, 1925. Serial No. 38,615.

To all whom it may concern:

Be it known that I, GEORGE F. ISGRIG, a citizen of the United States, residing at St. Louis, Missouri, have invented a new and useful Ventilating Device, of which the following is a specification.

This invention relates to ventilating devices.

An object of the invention is to provide an improved ventilating device for use in connection with a hot air furnace for forcing cooling currents of air through the furnace shell and air service pipes to the various rooms to which said pipes lead for delivery of hot air thereto when the furnace is in use as a heater; thus transforming a cold weather heating apparatus into a hot weather cooling ventilating apparatus.

Another object of the invention is to provide a device of the character mentioned designed and adapted to be placed into the usual cold air inlet pipe or flue leading to the furnace for drawing air into said flue from the outside and forcing air from the flue into the furnace shell and thence into the service pipes to ventilate and cool the rooms to which the service pipes lead.

Other objects will appear from the following description, reference being made to the drawing in which—

Fig. 1 is a view showing my invention applied to a hot air furnace of usual construction.

Fig. 2 is an enlarged longitudinal sectional view of the air cooling, humidifying and propelling device.

Fig. 3 is a cross sectional view on the line 3—3 of Fig. 2.

The invention is shown embodied in the air circulating system of a hot air furnace utilizing the air drum of the furnace to receive the air delivered thereto by the present invention, and the enclosure of the fire box has a baffle to distribute the air to the service pipes leading to the rooms. However, the invention may be used in other embodiments having air distributing means for delivering the air to the rooms.

As shown the fresh air inlet pipe 1 opens into the lower portion of the air drum 2 from which the service pipes 3 lead to the rooms to which air is to be delivered from the furnace. The shell 4 within the drum 2

encloses the fire box 5 and serves as a baffle to deflect the air to the various service pipes 3.

According to the present invention a pipe section 6 is mounted as a part of the pipe 1 and is preferably removable and replaceable so that the air propeller and humidifying device supported thereby may be removed and replaced, as desired. A reduced pipe section 7 is supported within the pipe section 6 preferably by flange structure 8 at its outer end in rigid connection with the pipe 6 and forming a baffle to prevent outward movement of air between the pipe sections 6 and 7 and to force inwardly moving air to pass through the restricted pipe section 7 in a strong blast.

An air propeller 9 is supported within the pipe section 7 and operated by an electric motor 10 energized by current passing through the circuit wires 11. A screen 12 preferably of absorbent fibrous material is supported outwardly from the air propeller 9 and, as shown, is retained in the outer end of the pipe section 7 by a removable resilient expansible hoop 13.

Moisture for humidifying the air passing through the screen may be conducted to the screen through a pipe 14 controlled by a valve 15 and having a nozzle 16 terminating close to the screen. The screen being of absorbent fibrous material is maintained in a moistened condition when the valve 15 is open, and the air passing through the moist wet screen becomes humidified. A sump 17 is provided outwardly from the end of the pipe section 7 to receive condensed moisture accumulating in the bottom of the pipe and is equipped with a drain valve 18.

A valve 19 is provided in the pipe 1 between the air propelling device and the drum 2 to regulate the velocity of the air passing to the air distributing pipes, and in addition the amount and velocity of air forced through the ventilation system may be varied by varying the speed of operation of the air propeller 9 by familiar means not herein shown.

From the foregoing it will be seen that my invention is capable of use for many purposes including that of supplying cooled humidified air when desired and of increasing the supply of air to the furnace when

the furnace is in operation. The amount and velocity of the air may be controlled by the valve 19, or by varying the speed of operation of the motor, and the humidity of the air may be varied as desired by controlling the amount of water delivered to the screen.

The invention may be varied in widely equivalent particulars without departure from the nature and principle thereof, as set forth in the appended claims.

I claim:

1. The combination with a hot air furnace shell having distributing pipes leading therefrom, and an inlet pipe opening thereinto, of a pipe section within and of smaller diameter than said inlet pipe, a baffle between said pipe section and said inlet pipe, and an air propelling device in said pipe section.

2. The combination with a hot air furnace shell having distributing pipes leading therefrom and an inlet pipe opening there-

into, of a pipe section within and of smaller diameter than said inlet pipe, a baffle between said pipe section and said inlet pipe, an air propelling device in said pipe section, and means in connection with said inlet pipe adjacent to the outer end of said pipe section for withdrawing water from said inlet pipe.

3. The combination with a hot air furnace shell having distributing pipes leading therefrom and an inlet pipe opening thereinto, of a pipe section within and of smaller diameter than said inlet pipe, a baffle between said pipe section and said inlet pipe, an air propelling device in said pipe section, a depressed portion in connection with said inlet pipe adjacent to the outer end of said pipe section, and a humidifying device in said inlet pipe adjacent to the outer end of said pipe section and said depressed portion of said inlet pipe.

GEORGE F. ISGRIG.