

Sept. 18, 1928.

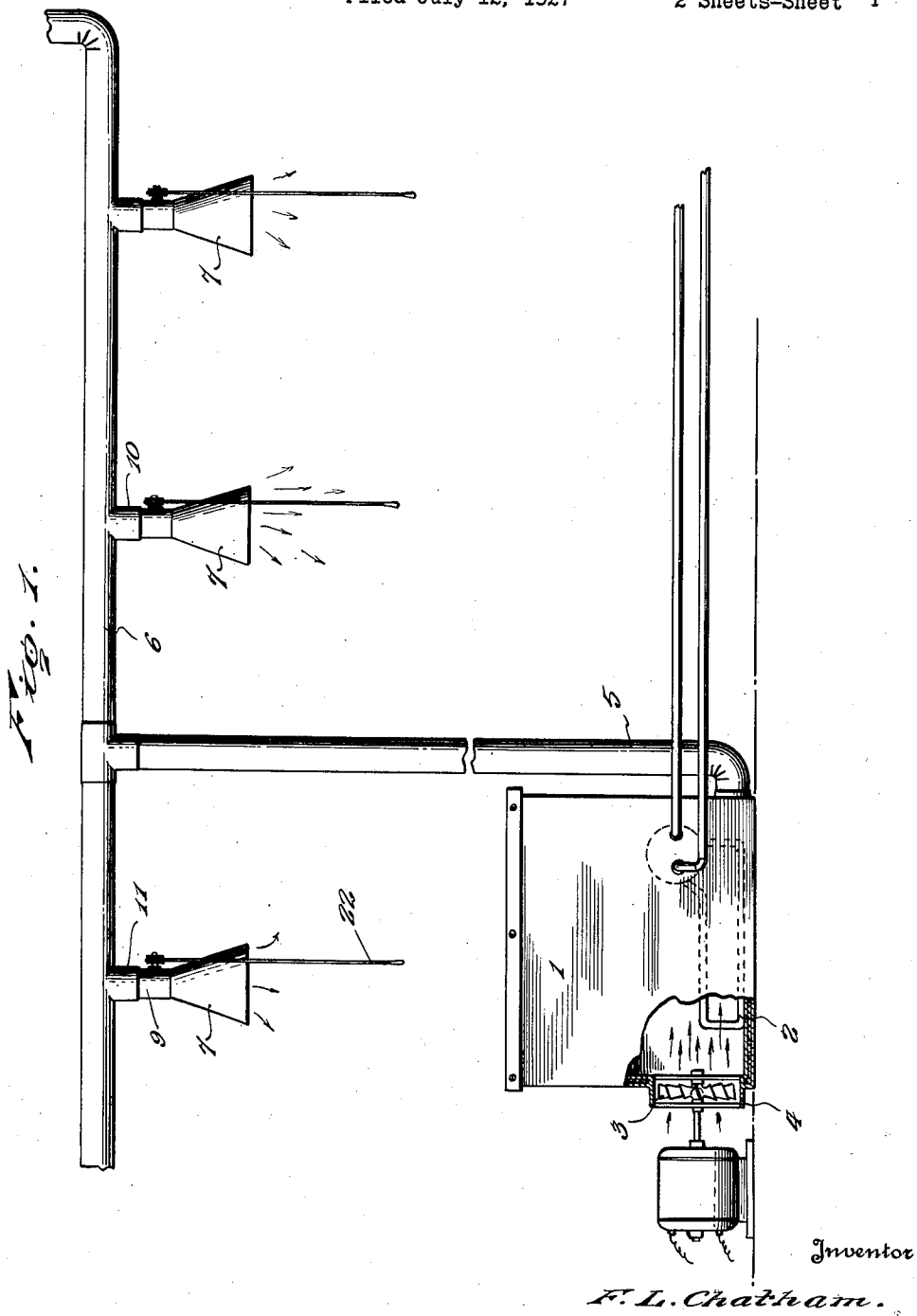
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F. L. CHATHAM

COOLING AND VENTILATING DEVICE

Filed July 12, 1927

2 Sheets-Sheet 1



By *Lacey & Lacey*, Attorneys

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Fig. 2.

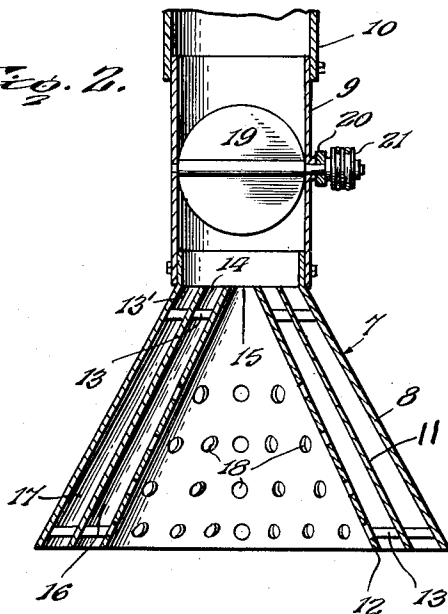


Fig. 3.

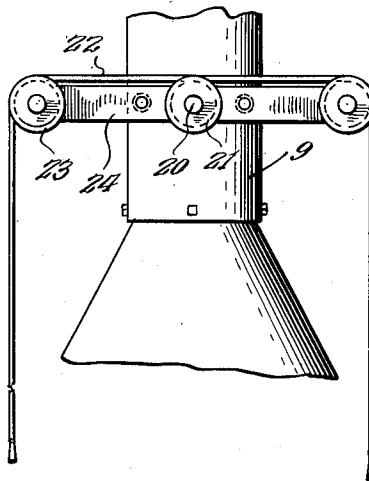


Fig. 4.

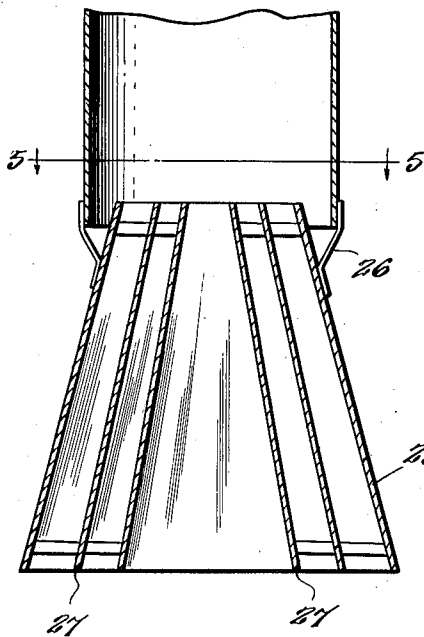
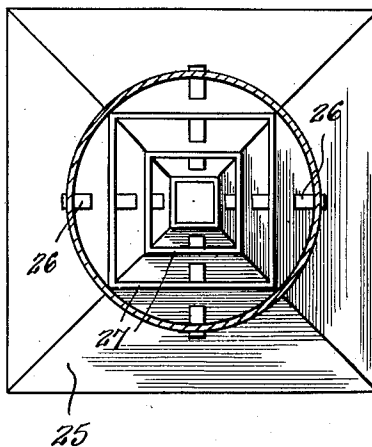


Fig. 5.



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UNITED STATES PATENT OFFICE.

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COOLING AND VENTILATING DEVICE.

Application filed July 12, 1927. Serial No. 205,220.

The present invention is directed to improvements in devices for ventilating or cooling dwellings or buildings.

The primary object of the invention is to provide a device of this character so constructed that air can be forced into a room of a dwelling or building to cool the air therein, means being provided for controlling the supply of air to the rooms.

Another object of the invention is to provide a device of this character so constructed that air will be conducted to a distributor or a plurality of distributors in a room, the distributors being so constructed that the air will be discharged therefrom in such a manner as to cool a great area in the room.

In the accompanying drawing:

Figure 1 is a side elevation of the device.

Figure 2 is a vertical sectional view through one of the distributors.

Figure 3 is a fragmentary side elevation thereof, showing the means for controlling the valve plates.

Figure 4 is a detail sectional view through a modified form of the invention.

Figure 5 is a sectional view on line 5—5 of Figure 4.

Referring to the drawings, 1 designates a cabinet and in which is mounted a refrigerating coil or unit 2 of any well known construction. Communicating with one end of the cabinet is a casing 3 in which is mounted a motor driven fan 4, while to the opposite end of the cabinet is connected a pipe 5 and through which cooled air from the cabinet is forced into a branch pipe 6. The number of branch pipes will be of course governed by the size of the building, but for the sake of illustration one section of such pipe is shown.

This pipe may have one or more distributors 7 connected thereto according to the size of the room to be ventilated or cooled. The distributors consist of an outer conical casing 8 provided with necks 9 which fit into collars 10 carried by the branch pipes 6.

Mounted in the casing 8 is a pair of concentrically arranged conical deflectors 11 and 12, said deflectors being held in spaced relation from each other and from the casing 8 by brackets 13, the casing, as well as the deflectors 11 and 12, having their minor ends

provided with openings 13', 14 and 15, respectively. The brackets obviously maintain the deflectors and casing spaced sufficiently to provide annular air passages 16 and 17. The innermost deflector 12 is provided with a plurality of perforations 18 in order that air flowing from the necks 9 will not only enter the deflector 12 through the opening 15 but also will pass through the perforations 18 into said deflector. Since the casing 8 and deflectors are conical in shape the air passing from the necks 9 into the distributor will be deflected fan like in order to cool or ventilate a comparatively large area in the room into which it is discharged.

In order to regulate the passage of air through the necks 9 the valve plates 19 are mounted therein on shafts 20, the extended ends thereof having doubled grooved pulleys 21 fixed thereto and around which is wound the intermediate parts of a cord 22, said cord being trained around pulleys 23 carried by the ends of the bar 24 which is fixed to the necks in any suitable manner. It will be obvious that upon pulling upon either end of the cord the valve plate can be adjusted to regulate the passage of air through the deflector and into the distributors.

In Figures 4 and 5 a conical casing 25 is connected to the necks 9 by brackets 26 and mounted therein and spaced therefrom and from each other are conical deflectors 27, which are angular in cross section and serve the same function as do the preferred form of the invention.

In lieu of the fan 4 a suction fan may be mounted in the pipe 5 if it is desired. In any event the air will be cooled in the cabinet 1 by the refrigerating unit and conducted to the distributors, and it will be of course understood that when it is not desired to cool the air but merely use the air for ventilating purposes that the refrigerating coil may be eliminated.

Having thus described the invention, I claim:

The combination with a cabinet, of a branch pipe having communication therewith, distributors in communication with the branch pipe and including conical outer casings, conical deflectors mounted within the

casing and spaced therefrom and from each other, the innermost deflector having a plurality of perforations formed therein, said casings and deflectors having open upper and
5 lower ends, the openings in the upper ends being in communication with the branch pipe to permit air therefrom to pass between the casings and deflectors and through the perforations into the innermost deflector, and means for controlling the flow of air into the
10 distributors.

In testimony whereof I affix my signature.

FRANK L. CHATHAM. [L. s.]