

Sept. 28, 1937.

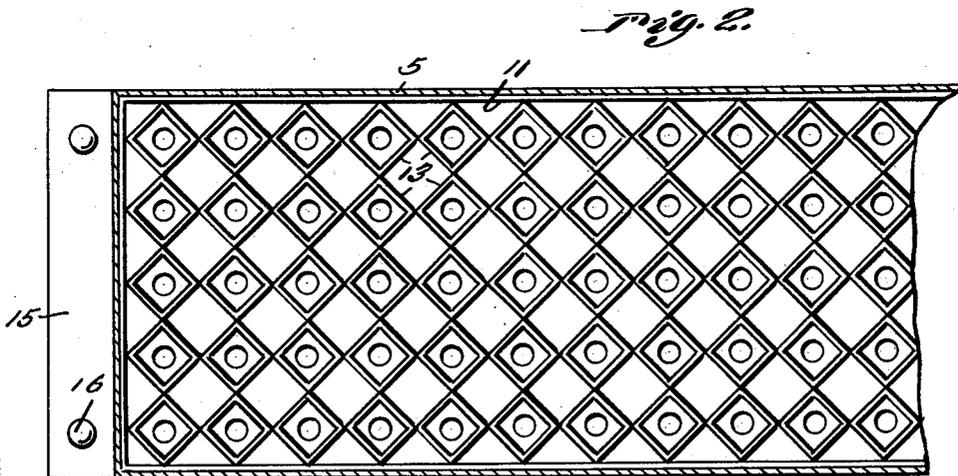
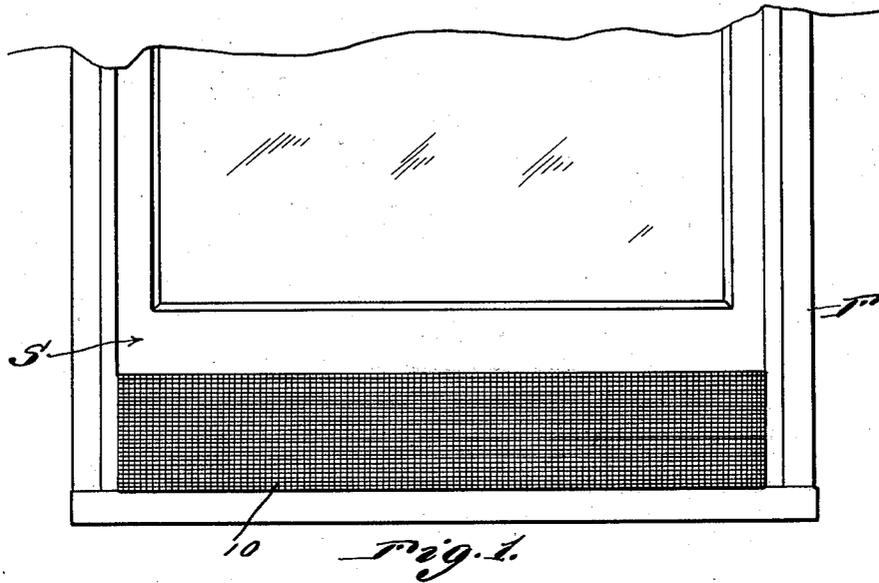
M. R. FRANKS

2,094,530

VENTILATOR

Filed April 27, 1936

2 Sheets-Sheet 1



Inventor

M. R. Franks

By Clarence A. O'Brien and  
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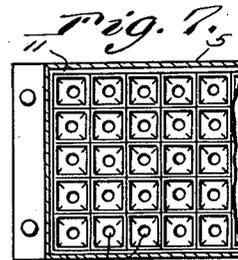
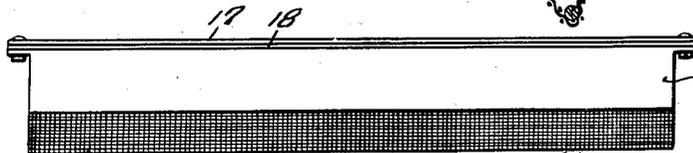
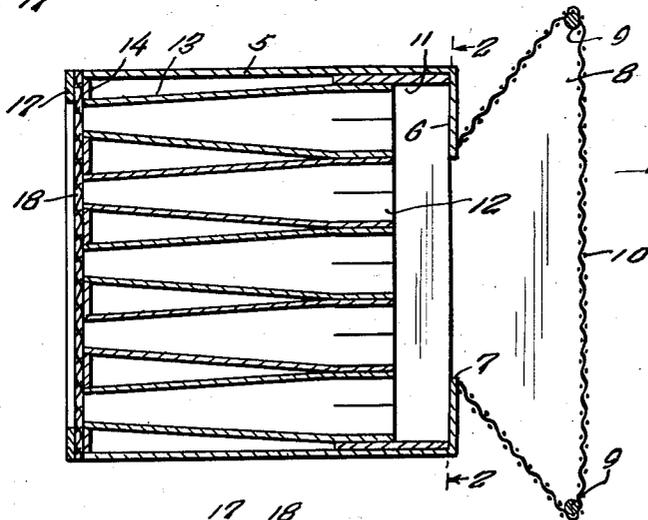
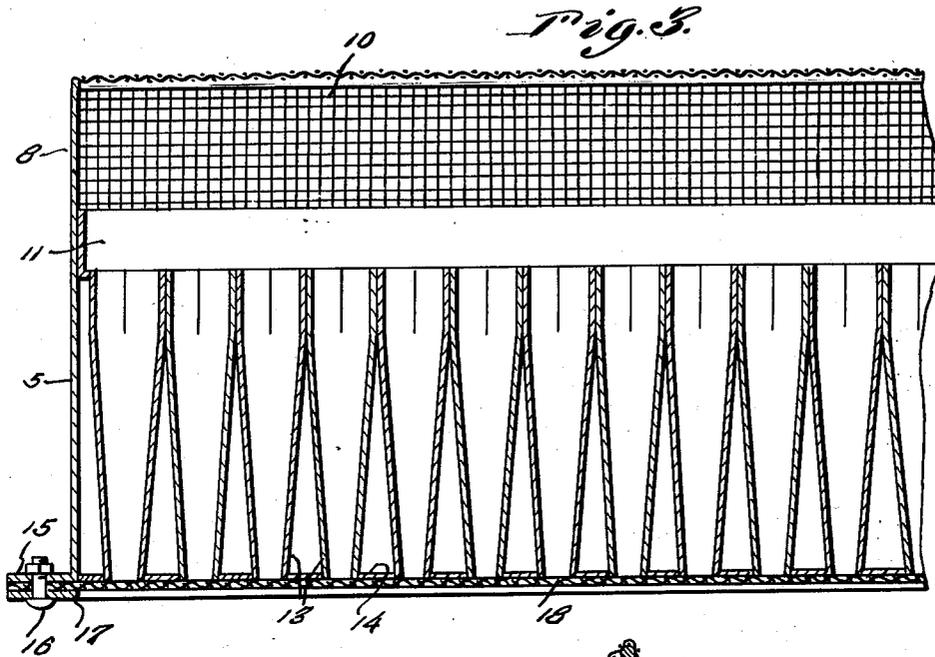
M. R. FRANKS

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VENTILATOR

Filed April 27, 1936

2 Sheets-Sheet 2



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# UNITED STATES PATENT OFFICE

2,094,530

## VENTILATOR

Maurice R. Franks, Buffalo, N. Y.

Application April 27, 1936, Serial No. 76,684

4 Claims. (Cl. 98—100)

This invention is a device for use in cooling the air in a room or the like and the object of the invention is to provide a device of this character which is in the form of a ventilator and which is primarily adapted for domestic use.

In accordance with the present invention a device is provided whereby air from the outside is permitted to enter a room or the like in such a manner as to reduce considerably the temperature of the room.

Further the invention comprehends the provision of such a device of simple and economical construction as will permit the same to be readily installed in automobiles, trains, airplanes, office buildings and homes, or private dwellings.

The invention together with its objects and advantages will be best understood from a study of the following description taken in connection with the accompanying drawings wherein:

Figure 1 is an elevational view illustrating an application of the invention.

Figure 2 is a sectional view taken substantially on the line 2—2 of Figure 4.

Figure 3 is a fragmentary horizontal sectional view through the device.

Figure 4 is a vertical transverse sectional view through the device.

Figure 5 is a top plan view thereof.

Figure 6 is a perspective view of an air duct.

Figure 7 is a fragmentary view partly in section and partly in elevation showing a slightly modified arrangement of the air duct.

Referring to the drawings by reference numerals it will be seen that in the preferred embodiment thereof the device comprises an oblong casing 5 of metal or other suitable material and having at the side thereof adapted to be disposed outwardly with respect to a room or the like a wall 6 formed with an entrance opening 7 and wings 8 projecting from the wall 6 at relatively opposite ends of the opening 7.

The wings 8 may be of any suitable edge configuration but of preferably the edge configuration suggested in Figure 4.

The wings 8 are braced with respect to one another at their upper and lower free corners through the medium of rods 9 over which is trained a sheet 10 of reticulated material, preferably screening which at its respective opposite end edges is suitably secured to the edge portion of the wings 8, the sheet 10 at its longitudinal edges terminating at the top and bottom of the opening 7 as clearly shown in Figure 4. Thus a screened air inlet is provided for the casing 5.

Removably mounted within the casing 5 and

in abutting relation with the wall 6 of the casing is a frame 11 which fits conformably within the casing as shown.

Disposed within the frame 11 and terminating intermediate the respective opposite ends of the frame 11 are the squared ends 12 of what are otherwise substantially conical air ducts 13 that are open at their respective opposite ends.

At their smallest ends the ducts 13 are suitably secured within openings provided therefor in a plate 14 that fits within the end of the casing 5 remote from the screened inlet.

At said end remote from the screened inlet the casing 5 at its respective opposite ends is provided with lateral outstanding flanges 15 to which is secured through the medium of bolts or the like 16 a clamping frame 17 provided for disposing and securing against the plate 14 and over the smallest and outlet end of the ducts 13 a sheet 18 of apertured absorbent material which is adapted to be wetted with water or the like and which will serve to cleanse the air passing through the member 18 as the air from the outside enters into a room or the like.

As shown in Figure 2 the ducts 13 are arranged in horizontal and vertical rows with the largest ends of the ducts facing the screened inlet at the end of the device.

Thus it will be seen that the device may be readily placed within a window frame F as shown in Figure 1 permitting the window sash S to close down on the top of the casing 5 as shown for securing the device in position.

With the device thus positioned within a window the air from the outside will pass through the device being washed as it dips through the member 18 and enters the room. Thus cool fresh air is admitted into the room and this air will serve to lower considerably the temperature of the room and at the same time insure a circulation of fresh clean air within the room.

By having the ducts of the shape as shown the air will increase in velocity as it passes through the ducts and obviously the greater a velocity attained the cooler the air will be in entering the room.

The air ducts 13 may have their squared ends arranged within the frame 11 either as shown in Figure 2 or as shown in Figure 7 and as may be found desirable.

Further it will be understood that this device may be used as a cool air system for automobiles, airplanes, trains, busses, as well as for use in cooling building elevators and any and all moving vehicles.

It will be further understood that where found desirable the device may be used as a stationary unit in association with an electric fan acting as its power and used to cool a room, or the device can be constructed as a portable unit to be moved to the desired location.

In connection with the wetting of the absorbent element 13 it will be appreciated that water to a suitable level may be placed within the casing 5, the spacing between the cones, in actual practice, allowing for about one-half gallon of water to be placed in the casing for saturating the cloth or element 18. Thus the air passing through the conical ducts 13, and filtering through the saturated elements 18 delivers washed air into the room or other enclosure with which the device is used.

In this connection it will be understood, however, that any other suitable method or means may be used for maintaining the element 18 suitably wetted or saturated with water.

Having thus described the invention what is claimed as new is:

1. A device of the character described comprising a casing open at two opposite sides, and provided at one side thereof with an enlarged screened air inlet, a plurality of air ducts within the casing and extending from one open side thereof to the other, said air ducts being open at their respective opposite ends for the passage of air therethrough, and an air penetrable and water absorption sheet disposed over the open side of the casing opposite to the screened inlet.

2. A device of the character described comprising an elongated casing opened at two opposite sides, said casing being adapted to be disposed within a window frame, a frame fitting conformably within said casing, a plurality of tapered air ducts arranged in horizontal and vertical rows and having their largest ends secured to one another and arranged within said

frame, with the outermost ducts having their largest ends secured to the frame whereby said frame and ducts are removable relative to the casing as a unit.

3. A device of the character described comprising an elongated casing opened at two opposite sides, said casing being adapted to be disposed within a window frame, a frame fitting conformably within said casing, a plurality of tapered air ducts arranged in horizontal and vertical rows and having their largest ends secured to one another and arranged within said frame, with the outermost ducts having their largest ends secured to the frame whereby said frame and ducts are removable relative to the casing as a unit, said casing having end wings extending from one open side thereof, and a screening for said open side supported between said wings.

4. A device of the character described comprising an elongated casing opened at two opposite sides, said casing being adapted to be disposed within a window frame, a frame fitting conformably within said casing, a plurality of tapered air ducts arranged in horizontal and vertical rows and having their largest ends secured to one another and arranged with said frame, with the outermost ducts having their largest ends secured to the frame whereby said frame and ducts are removable relative to the casing as a unit, said casing having end wings extending from one open side thereof, and a screening for said open side supported between said wings, and an air penetrable and water absorption sheet disposed against the open side of the frame opposite to said wings, and a clamping frame cooperable with said casing for securing said sheet in this position at the mentioned side of the casing.

MAURICE R. FRANKS.