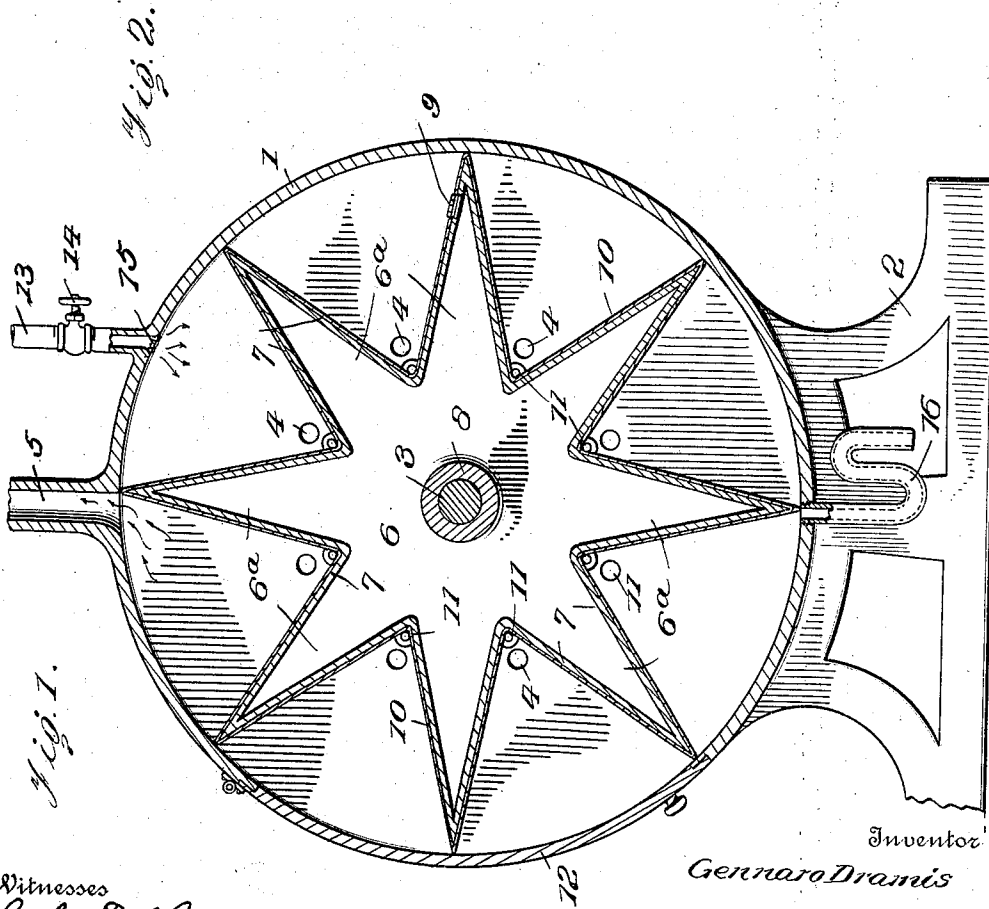
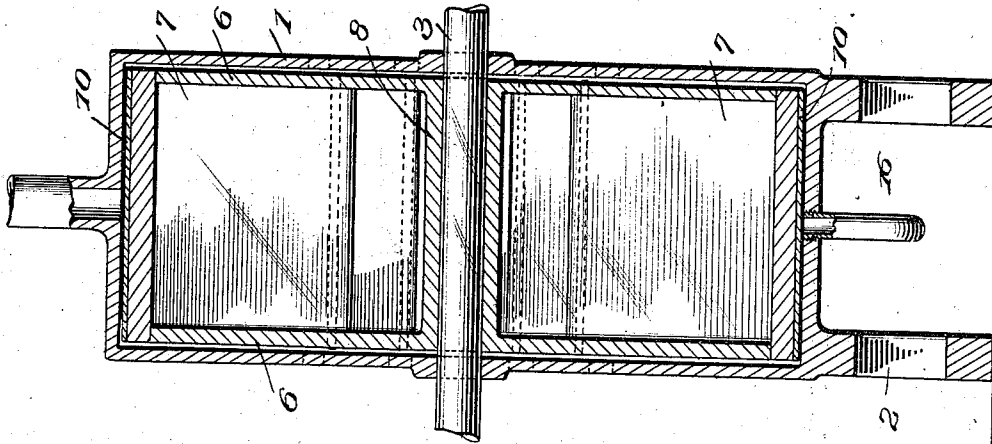


G. DRAMIS.
AIR COOLING APPARATUS.
APPLICATION FILED DEC. 6, 1909.

978,008.

Patented Dec. 6, 1910.



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GENNARO DRAMIS, OF BROOKLYN, NEW YORK.

AIR-COOLING APPARATUS.

978,008.

Specification of Letters Patent.

Patented Dec. 6, 1910.

Application filed December 6, 1909. Serial No. 531,738.

To all whom it may concern:

Be it known that I, GENNARO DRAMIS, a subject of the King of Italy, residing at Brooklyn, in the county of Kings and State of New York, have invented an Air-Cooling Apparatus, of which the following is a specification.

The present invention relates to certain new and useful improvements in ventilating and cooling apparatus, and the object of the invention is the provision of a device of this character, which embodies novel features of construction whereby air may be effectively cooled and forced into the room or other compartment.

The invention further contemplates a ventilating and air cooling device which is inexpensive in its construction, which can be operated at a comparatively small cost, and which can be easily and quickly installed in operative position.

With these and other objects in view, the invention consists in certain combinations and arrangements of the parts as will more fully appear as the description proceeds, the novel features thereof being pointed out in the appended claims.

For a full understanding of the invention, reference is to be had to the following description and accompanying drawing, in which:

Figure 1 is a vertical sectional view through a ventilator and air cooling device constructed in accordance with the invention, and Fig. 2 is a transverse sectional view on the line 2—2 of Fig. 1.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawing by the same reference character.

Referring to the drawing, the numeral 1 designates a casing which is substantially cylindrical in shape and is provided with a base 2 which serves to hold it normally in an upright position. The ends of the casing are formed with suitable bearings within which a shaft 3 is journaled, the said shaft being designed to receive motion from a suitable motor or other source of power, and the portion of the shaft within the casing having a centrifugal fan mounted thereon. One or both ends of the casing are provided at a point toward the center thereof with a series of air inlet openings 4, while the periphery of the casing is provided at the top thereof with an outlet pipe 5; the centrifugal fan operating to suck air through the in-

lets 4, and discharge it through the outlet 5.

Specifically describing the centrifugal fan, the said member comprises a pair of end plates 6 which are formed with corresponding radial arms 6^a, the said arms upon the two plates being connected by the transverse plates or walls 7 so that the fan has a hollow formation. It will also be observed that the central points of the end plates 6 are connected by a sleeve 8 which fits over the shaft 3. A suitable opening is provided in the point of one of the wings of the star shaped fan for filling the interior of the fan with some liquid such as water, the said opening being normally closed in some suitable manner as by means of a plug 9. The water or other liquid which may thus be placed within the star shaped centrifugal fan will assist in changing the temperature of the air before it is finally discharged from the ventilating device.

A strip of fabric or tissue 10 is extended around the fan and fits closely against the sides of the various blades thereof. This strip of fabric preferably has substantially the same width as the fan and is held in position thereon by means of a series of retaining rods 11, which are arranged between the blades of the fan at the inner ends thereof. These rods 11 may be held in position in any suitable manner, and in the present instance, the ends thereof are shown as engaging portions of the end plates 6, which are suitably exposed at the points where the sides of the various blades intersect each other. For the purpose of enabling this tissue or fabric 10 to be placed in position or removed therefrom as may be found desirable, a door 12 is provided in one side of the casing 1, the said door being air tight when closed so as not to interfere in any manner with the action of the centrifugal fan. A water pipe 13 leads from some suitable receptacle to the top of the casing 1 and is provided at a suitable point in its length with a stopcock 14 for controlling the flow of water therethrough. The water receptacle is preferably placed in an elevated position so that water will flow through the pipe 13 by the action of gravity. A perforated plate or screen 15 is provided at the point where the water pipe 13 enters the casing 1, so that the water brought to the casing through the pipe 13 will be sprinkled upon the fabric 10 covering the

centrifugal fan. A water outlet pipe 16 leads from the bottom of the casing 1 and may be suitably curved as shown so as to act as a siphon and form a water seal.

- 5 When the fan is in operation, air will be drawn into the casing through the air inlet openings 4 from the exterior atmosphere and will produce an evaporation of moisture from the wet fabric 10. This evaporation
10 of the water will serve to absorb heat and lower the temperature of the air so that the said air will be effectively cooled before being finally discharged into the room or apartment through the air outlet pipe 5.
15 In summer months, the air drawn in through the inlets 4 will be warm and dry and will produce a rapid evaporation of water until the air has been saturated with moisture. The warm dry air will thus be cooled and
20 moistened before entering the room or apartment.

Having thus described the invention, what I claim as new, and desire to secure by Letters Patent, is:

- 25 1. In a ventilating and cooling apparatus, the combination of a casing, a fan for producing a circulation of air through the casing, and means on the fan for cooling the air forced through the casing.
30 2. In a ventilating and cooling apparatus, the combination of a casing, a fan mounted within the casing for producing a circulation of air therethrough, and moisture absorbent material applied to the fan.
35 3. In a ventilating and cooling apparatus, the combination of a casing, a fan mounted within the casing for producing a circulation of air therethrough, a strip of absorbent material applied to the blades of the fan,
40 and means for moistening the said strip of absorbent material.
4. In a ventilating and cooling apparatus, the combination of a casing, a centrifugal fan mounted within the casing for producing
45 a circulation of air therethrough, a strip of absorbent material extending around the fan and fitting against the blades thereof, and means for moistening the said strip of absorbent material.
50 5. In a ventilating and cooling apparatus, the combination of a casing, a centrifugal fan mounted within the casing and formed

with radial blades, a strip of absorbent material extending around the fan, retaining rods engaging the absorbent strip for holding the same against the sides of the blades, and means for moistening the absorbent strip. 55

6. In a ventilating and cooling apparatus, the combination of a casing, a hollow fan 60 mounted therein, a strip of absorbent material applied to the exterior of the hollow fan, and means for moistening the said strip of absorbent material.

7. In a ventilating and cooling apparatus, 65 the combination of a casing, a centrifugal fan mounted within the casing and having a hollow construction, a cooling medium within the hollow fan, absorbent material applied to the exterior of the hollow fan, 70 and means for moistening the absorbent material.

8. In a ventilating and cooling apparatus, the combination of a casing, a centrifugal fan mounted within the casing for producing a circulation of air therethrough, a strip 75 of absorbent material extending around the fan, retaining rods engaging the absorbent strip for holding the same against the sides of the blades, a water pipe entering the upper portion of the casing, and a screen over 80 the end of the pipe whereby the water is sprinkled over the absorbent strip.

9. In a ventilating and cooling apparatus, the combination of a casing, a centrifugal 85 fan mounted within the casing for producing a circulation of air therethrough, a strip of absorbent material extending around the fan, retaining rods engaging the absorbent strip for holding the same against the sides 90 of the blades, a water pipe entering the upper portion of the casing, a screen over the end of the pipe whereby water is sprinkled over the absorbent strip, and means for draining the casing without permitting the 95 entrance of air.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GENNARO DRAMIS.

Witnesses:

GIUSEPPE CADICAMO,
DOMENIO BELSITO.