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AIR COOLING MACHINE

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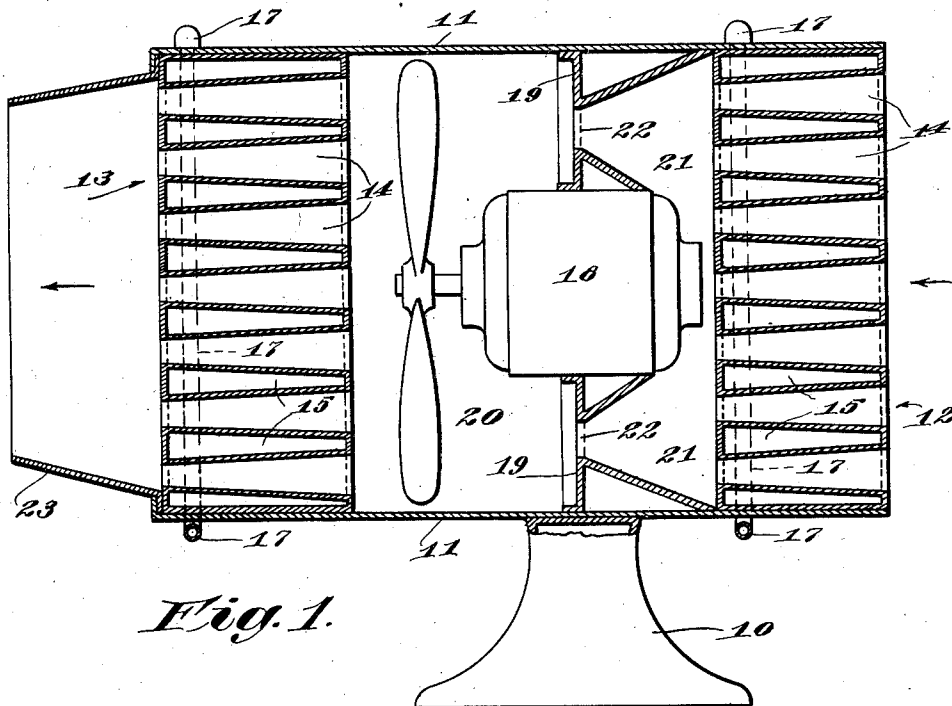


Fig. 1.

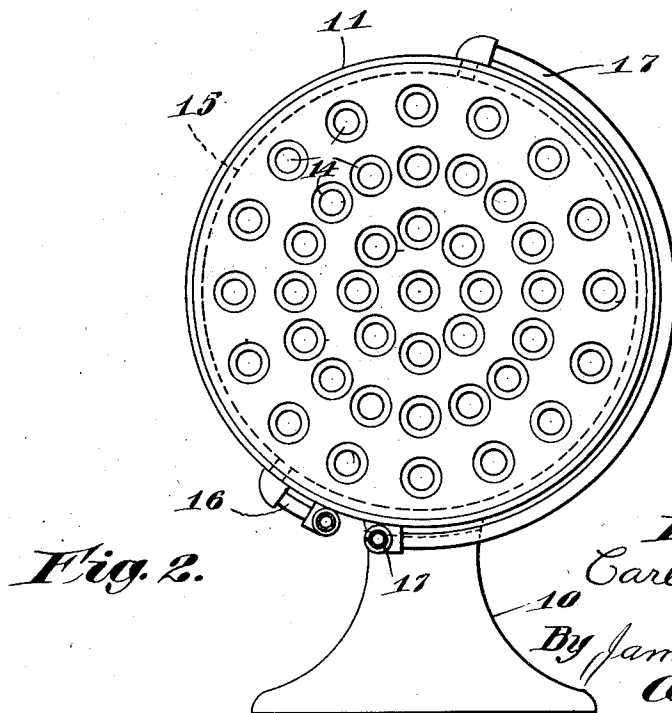


Fig. 2.

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AIR COOLING MACHINE

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My present invention relates to air conditioning machines and more particularly to a machine for cooling or lowering the temperature of the air in its passage through the machine.

In my present invention I pass air through conical passages into an expansion chamber and then force this expanded air through another series of conical passages into the open air. The passages through which the air is passed are arranged in the form of a radiator which is cooled by means of a water jacket surrounding the passages, the passages being constructed in the nature of conical shaped nozzles.

The principal object of my invention therefore is an improved machine for the conditioning of air with respect to temperature;

Another object is an air cooling machine which will reduce the temperature an appreciable amount without the use of expensive equipment and refrigerating fluids;

Other objects and novel features comprising the construction and operation of my device will appear as the description of the same progresses.

Referring to the drawing illustrating the preferred embodiment of my invention;

Fig. 1 shows a symmetrical vertical section through the machine, and

Fig. 2 is an end elevation of the machine.

Referring more in detail to the drawing, 10 indicates a base upon which is mounted a cylindrical casing 11. At either end of the cylinder 11 is mounted a radiator member 12 or 13. These radiator members 12 and 13 are composed of a plurality of cone-shaped nozzles 14 having their major axes horizontally disposed and being attached to the ends of the outer shell of the radiator, as indicated at Fig. 1. It will be noted that the restricted ends of the nozzles are on the discharge end as indicated by the arrow which indicates the direction of air flow through the machine. Surrounding the nozzles 14 I have provided a water jacket 15 through which water is circulated by means of the respective inlet and outlet pipes 16 and 17.

Both radiators 12 and 13 are connected by the same water pipes in parallel relation.

In the central portion of the casing 11 I have mounted an electrical motor 18 having suspended the same from a partition 19 such that the fan end of the motor operates in a compartment 20 and draws the air from an expansion compartment 21 at its rear and adjacent the discharge end of the nozzles 14 in the radiator 12 through ports 22 located in the partition 19. On the discharge end of the radiator 13 I have mounted a large conical shaped nozzle 23 which receives all the air being discharged from the nozzles 14 in the radiator 13 and restricts it again to a lesser amount. The large nozzle 23 is not absolutely essential to the operation of the machine and may if desired be dispensed with especially where the additional drop in temperature is not desired.

In operation, the motor 18 by means of its fan draws the air into the chamber 21 through the nozzles 14 in the radiator 12 which due to the conical shape of the nozzles 14 causes the air to be slightly compressed at the discharge end of the nozzles and then the air is allowed to expand into the chamber 21 at a lesser temperature than the air surrounding the casing 11. The heat produced in the nozzles 14 is dissipated from the radiator into the water within the water jacket 15 which is circulating all the time. The air in the chamber 21 is again drawn through the openings 22 in the partition 19 and further expanded into the large chamber 20 where the fan of the motor 18 drives it into the large end of the nozzles 14 in the radiator 13 the heat being dissipated again in the same manner as in radiator 12. The air now is discharged into the large cone casing 23 and thence into the surrounding atmosphere.

Although I do not claim that my device will reduce the temperature of the air passing through it to extreme degrees such as have been accomplished by other methods yet I do claim that it will reduce the temperature an appreciable amount very quickly and inexpensively, and where I have shown my preferred embodiment somewhat in detail yet it is to be understood that I am entitled to alter

the design within wide limits without departing from the spirit of the invention.

Having thus described my invention what I claim as new is:

5 1. An air cooling machine comprising a casing provided with a series of water cooled passages at each end, said passages having restricted openings at their discharge ends, a
10 central compartment located within said casing provided with a partition member therein and disposed between the said passages located at each end of said casing, an air propulsion member located within said central
15 compartment adapted to draw air from the restricted ends of the passages located on one end of said casing and force said air into the unrestricted ends of the passages located on the discharge end of said casing.

20 2. An air cooling machine comprising a casing, radiators located at either end of said casing, said radiators comprising a series of passages surrounded by a water jacket, said passages being restricted at one end and all passages in both radiators being restricted in
25 the same direction, a central compartment separating said radiators, a sub compartment located within said first compartment and adjacent to the discharge end of said passages on the air intake end of said casing, orifices located in the wall between the said sub-compartment and the said first compartment, an
30 air propulsion member located in said first compartment adapted to draw air through the passages in the inlet end of said casing and propel said air against the unrestricted ends
35 of said passages in the radiator in the discharge end of said casing, substantially as shown and described.

40 3. An air cooling machine comprising a casing provided with a series of water cooled passages at either end and a bi-sectioned chamber area located between said ends, an air propulsion member located within said chamber area adapted to induce air through
45 the machine.

4. A machine for cooling air comprising a casing, a series of restricted passages located in one end of said casing, the restricted
50 portion of said passages internally disposed within said casing, a second series of restricted passages located in the opposite end of said casing, the restricted portions of said second series of passages located on the exterior side
55 of said casing, a partition member and an air propeller connected with said partition between the first series of said passages and the second series of passages adapted to draw air through the first said series and expel said
60 air through the second said passages, water jackets surrounding the passages of both series, and means for circulating water through said water jacket.

In testimony whereof I have affixed my signature.

65 CARL H. SCHMIDT.