G. W. HAVERSTICK.

AIR COOLING DEVICE.

APPLICATION FILED NOV. 29, 1907.

905,874. Patented Dec. 8, 1908.

Fig. 1.

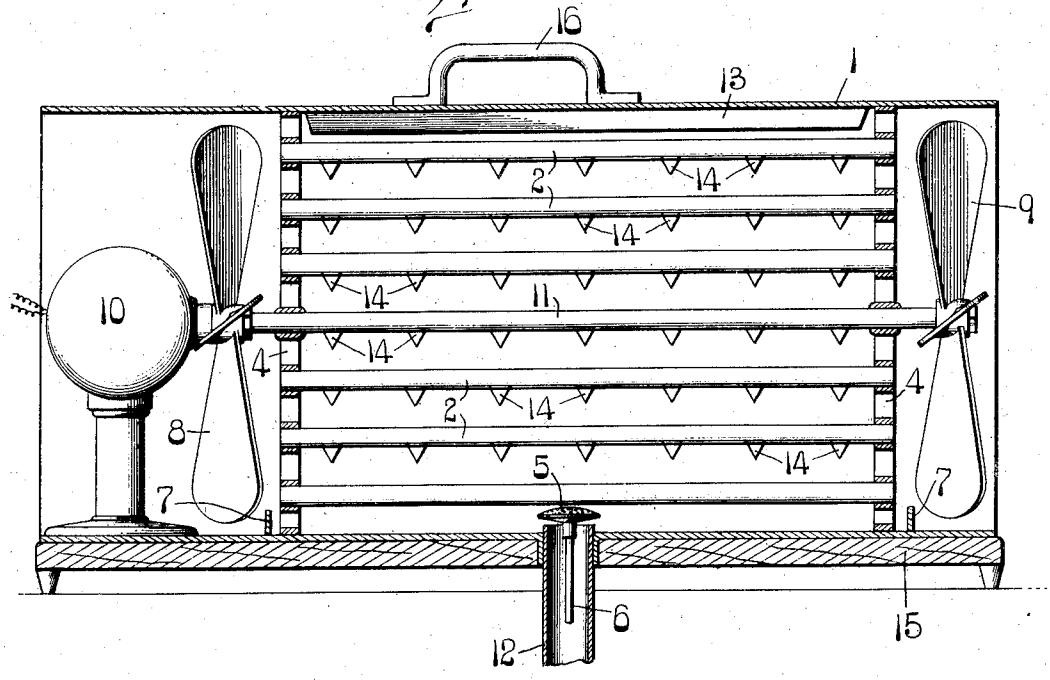
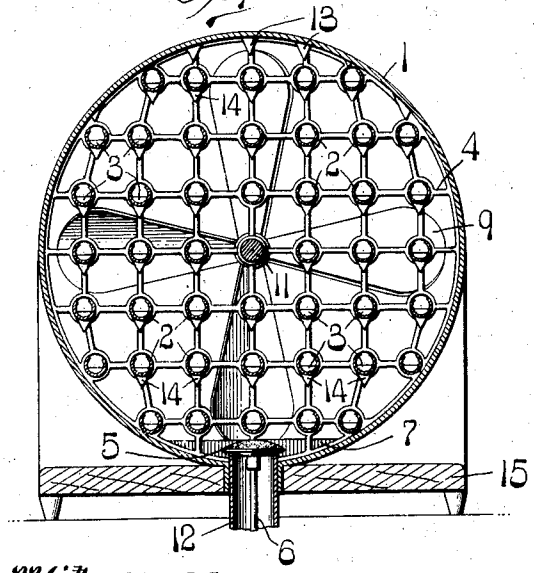


Fig. 2.



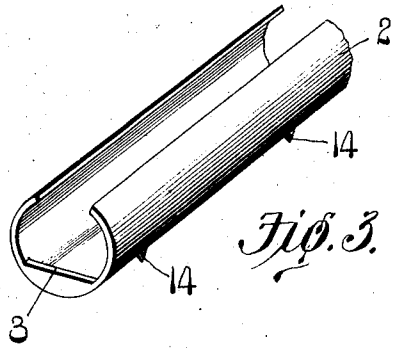


Fig. 3.

Witnesses:

W. J. McCauley.

Wells L. Church

Inventor:

George W. Haverstick.

By Bakewell Cornwall Attys

UNITED STATES PATENT OFFICE.

GEORGE W. HAVERSTICK, OF ST. LOUIS, MISSOURI.

AIR-COOLING DEVICE.

No. 905,874. Specification of Letters Patent. Patented Dec. 8, 1908.

Application filed November 29, 1907. Serial No. 404,343.

To all whom it may concern:

Be it known that I, GEORGE W. HAVERSTICK, a citizen of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Improvement in Air-Cooling Devices, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a longitudinal sectional view of a device constructed in accordance with my invention; Fig. 2 is a transverse sectional view of said device; and Fig. 3 is a detail perspective view of one of the water-containing members with which the device is provided.

This invention relates to air cooling devices, and has for its main object to provide a novel device which will cool and moisten the air in a room and keep it at an approximately even temperature.

Another object of my invention is to provide an air-cooling device that is of simple construction and which presents a neat and ornamental appearance.

Referring to the drawings which illustrate the preferred form of my invention, 1 designates an open-ended hollow shell or casing preferably of cylindrical form, and 2 designates a plurality of approximately tubular-shaped members arranged longitudinally inside of said shell. Each of the members 2 is open at its upper side, as shown in Fig. 3, and the opposite ends of said member are partially closed by dams 3 so that the member can hold a quantity of water. The members 2 can be mounted inside of the shell 1 in any suitable manner, the means herein shown for holding said members in position consisting of two spiders or light-weight castings 4 of skeleton construction. Various means could be employed, however, for retaining the members 2 in position so that I do not wish it to be understood that my invention is limited to the construction herein shown.

Water is thrown up over the members 2 by means of a spray or nozzle 5 connected to a supply conduit 6, and the shell 1 is provided adjacent its ends with dams 7 that retain or hold a small quantity of water in the bottom of the shell. An electric fan 8 is arranged inside of the shell 1 adjacent one end of the members 2 for the purpose of drawing the warm air in a room into said shell and forcing said air over the members 2 and out of the opposite end of the shell, the air becoming cooled and moistened in its passage through the shell by the low temperature of the water with which it comes in contact and also by the evaporation of the water in the members 2 and in the bottom of the shell. I prefer to arrange a second fan 9 in the front end of the casing adjacent the front ends of the members 2 and drive said fan by the same electric motor 10 that is employed for driving the fan 8, this being accomplished by providing said motor with a long armature shaft 11 to which both of the fans are secured. With a construction of this description the fan 8 will operate to draw the heated air in a room into the shell 1 and force it over the members 2 so that the evaporation of the water in said members will cool and moisten the air, the fan 9 creating a suction that helps to draw the cooled air through the shell and also operating to force this cooled air out of the front end of the casing into the room.

I prefer to form the water supply conduit 6 from a piece of rubber hose or flexible tubing that can be attached to a water faucet in the room so that fresh water will be supplied continually to the device, the shell being supplied with a drain-pipe or discharge-pipe that preferably consists of a flexible conduit 12 that surrounds the supply conduit 6 and enters the bottom of the shell 1. As shown in Fig. 1, the end of the discharge conduit 12 projects slightly above the bottom of the shell so that a small quantity of water will always remain in the lower portion of the shell. If desired, the shell or casing 1 can be provided in its interior with tapered ribs or projections 13 arranged in alinement with the members 2 in the upper portion of the shell so that the water which is thrown onto the inner surface of the shell will drip down into the upper row of members 2. I also prefer to form tapered ribs or projections 14 on the lower sides of the members 2 so that the water which is thrown onto the exterior of said members can drain down to the projections 14 and then drip into the members 2 arranged below same.

The shell or casing 1 is mounted on a base-piece or stand 15 and is provided with a handle 16 so that the device can be carried conveniently from one place to another and the shell is made long enough to receive the motor 10 and fans 8 and 9 so that the device will be compact and present a neat appear-

ance. While it is preferable to use members 2 that are open at their upper sides, as shown in Fig. 3, I do not wish it to be understood that my broad idea is limited to such a construction as my invention broadly stated, consists of a cooling device comprising an open-ended shell or casing provided with members on which water can collect, means for throwing water, preferably in the form of a spray, over said members, and a fan for forcing air over said members so that said air will be cooled and moistened by the evaporation of the water on said members.

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

1. A portable device for cooling the air in a room, comprising a hollow shell or casing open at both ends, approximately tubular-shaped members arranged horizontally inside of said shell and having their upper sides open, means for spraying water on said members, means for causing water to collect in said members and also in the bottom of said shell or casing, and means for drawing air into one end of said casing, forcing it over said members so that the air will be cooled by the evaporation of the water which collects in said members and in the bottom of the casing, and thereafter forcing said cooled air from the opposite end of said casing and distributing it in the room in which the device is located; substantially as described.

2. A portable device for cooling the air in a room, comprising a cylindrical-shaped shell or casing open at both ends, horizontally disposed troughs arranged inside of said casing and extending longitudinally therethrough, a nozzle projecting into said casing for throwing a spray of water into same, means for causing water to collect in the bottom of the casing, and electric fans arranged adjacent the opposite ends of said casing, one of said fans being adapted to draw air into said casing and force it through same so that it will be cooled by the evaporation of the water in said troughs and in the bottom of the casing and the other fan being adapted to distribute said cooled air in the room in which the device is located; substantially as described.

3. A device for cooling the air in a room, comprising a horizontally disposed shell or casing which is open at both ends, tubular-shaped troughs arranged horizontally inside of said casing and extending longitudinally thereof, means for supporting said troughs, means for throwing a spray of water into said casing so that water will collect in said troughs, a drain-pipe leading from the bottom of the casing for conducting away the water that overflows from said troughs, and means for drawing air into said casing so that it will be cooled by the evaporation of the water in said troughs and thereafter forcing said cooled air out of said casing and into the room in which the device is located; substantially as described.

4. A portable device for cooling the air in a room, comprising a cylindrical-shaped shell or casing open at both ends, approximately tubular-shaped members arranged horizontally inside of said shell and having their upper sides open, dams arranged adjacent the ends of said tubular-shaped members for causing water to collect therein, dams extending transversely of the casing for causing water to collect in the bottom thereof, a pipe extending into said casing and provided with a nozzle which throws a spray of water upwardly into the casing, a drain-pipe extending into the bottom of the casing and surrounding said pipe, an electric motor provided with a shaft or armature that extends through said casing, and fans connected to said shaft adjacent the opposite ends of the casing; substantially as described.

5. A portable device for cooling the air in a room, comprising a horizontally disposed cylindrical-shaped shell or casing open at both ends, approximately U-shaped troughs arranged inside of said casing and extending longitudinally therethrough, projections on the underneath sides of said troughs, means for throwing a spray of water over the troughs in said casing, means for causing water to collect in the bottom of the casing, a drain-pipe for conducting water away from said casing, and a fan located adjacent one end of said casing for drawing air into the casing and forcing it through same; substantially as described.

In testimony whereof I hereunto affix my signature in the presence of two witnesses, this twenty seventh day of November 1907.

GEORGE W. HAVERSTICK.

Witnesses:
WELLS L. CHURCH,
GEORGE BAKEWELL.