

(No Model.)

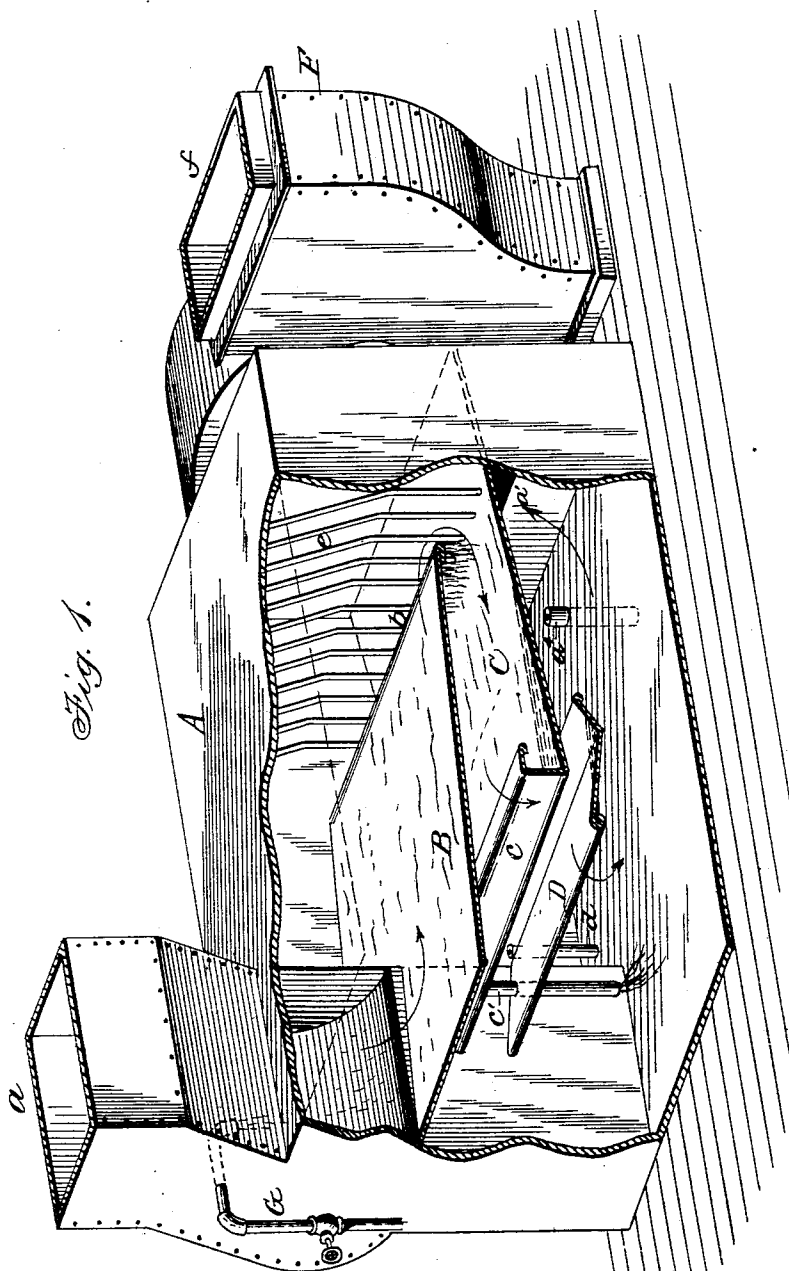
2 Sheets—Sheet 1.

J. McCREERY.

AIR COOLING, CLEANSING, AND VENTILATING DEVICE.

No. 586,365.

Patented July 13, 1897.



Witnesses
Frank L. Orand
George J. Weber

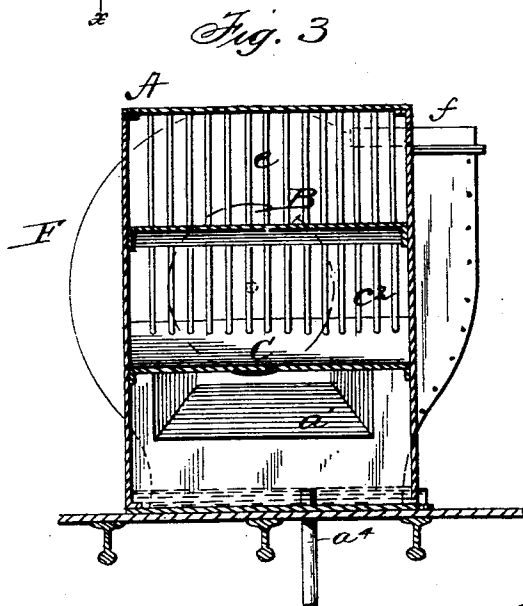
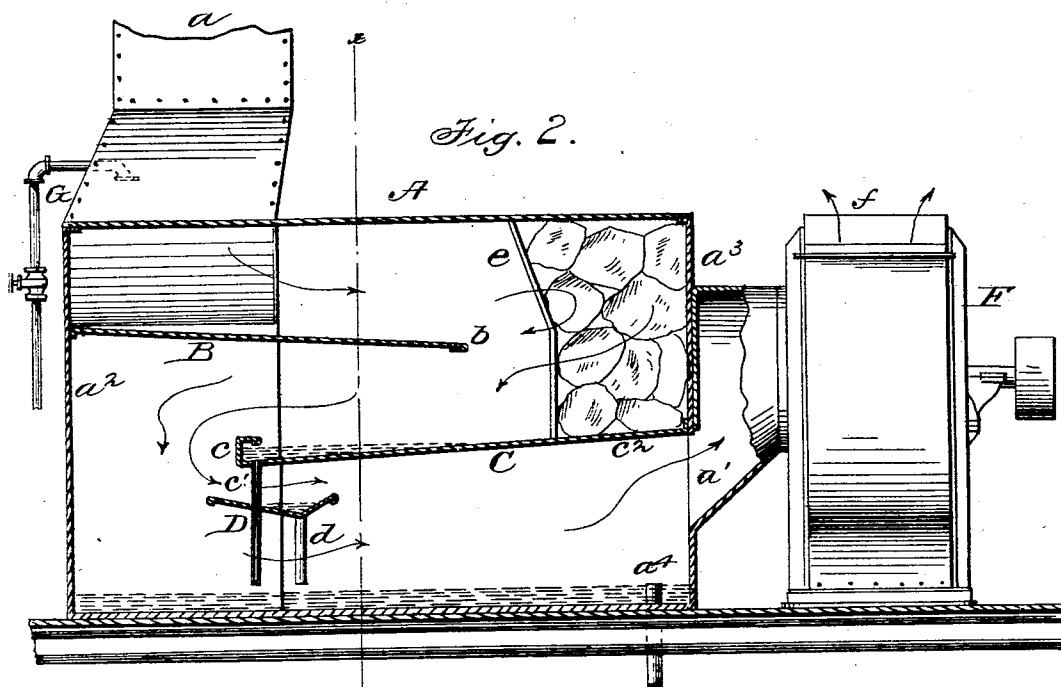
Inventor.
Joseph McCreery,
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UNITED STATES PATENT OFFICE.

JOSEPH McCREERY, OF TOLEDO, OHIO.

AIR COOLING, CLEANSING, AND VENTILATING DEVICE.

SPECIFICATION forming part of Letters Patent No. 586,365, dated July 13, 1897.

Application filed February 17, 1897. Serial No. 623,819. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH McCREERY, a citizen of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented certain new and useful Improvements in Air Cooling and Cleansing Devices; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to an improvement in an air cooling and cleansing device to be used in a system of ventilation; and the drawings show only enough of the ventilating system to illustrate the invention, the other parts of the system being such as would be ordinarily employed.

The invention consists of a case or receptacle provided with the details of construction hereinafter set forth.

In the annexed drawings, Figure 1 represents a perspective view of the device, the case being broken away to show the interior construction. Fig. 2 represents a longitudinal vertical section. Fig. 3 represents a transverse vertical section on the line X X, Fig. 2, looking in the direction of the arrow.

In the drawings the letter A represents a case of any suitable size and construction. (Shown in the drawings as rectangular.) This case is provided at one end with an air-inlet a and at the other end with an air-outlet a' , the inlet being above the plane of the outlet. Attached to the end of the case, a^2 , under the air-inlet a , is an inclined shelf or baffle-plate B. This baffle-plate is also attached at its side to the sides of the case, but its inner end b stops short of the end of the case opposite to the end a^2 . Secured to this opposite end a^3 is the edge of another inclined shelf or baffle-plate C, the sides of which are secured to the sides of the case A. The other end c of the baffle-plate C stops short of the end a^2 , but passes beyond the end b of the baffle-plate B, so that these baffle-plates overlap each other, as shown in the drawings. The end b of the baffle-plate B is in the same plane as the upper surface of the baffle-plate, but the end c of the baffle-plate C is turned up and back upon itself, forming a trough at that end of

the baffle-plate C. Just within this end c the baffle-plate C is provided with a down-pipe c' , which opens from the top of the baffle-plate down below. Just below the inner end of the baffle-plate C a trough D extends from side to side of the case A and is provided with a down-pipe d , which opens near the bottom of the case A.

At the secured end c^2 of the baffle-plate C is placed an ice-receptacle just above the baffle-plate. In the present instance this is made by securing a number of bars e , extending in the nature of a rack from the baffle-plate C to the top of the case A, there being a space left between these bars e and the end b of the baffle-plate B. The case A is provided with an overflow-pipe a^4 . The outlet a' is connected with any ordinary blower F, having an outlet f . To the air-inlet a at or near the top of the case A is secured the pipe G, leading from a water-supply.

In use this apparatus is placed in connection with a system of ventilation, the air-inlet a being connected with an air-shaft extending to the source of air-supply and the outlet f being connected to the pipe through which the air is to be forced to the apartment to be ventilated. If desired, ice is to be placed in the ice-receptacle, as shown in Fig. 2. As soon as the fan F is put in operation air is drawn through the inlet a , around the baffle-plates B and C, out of the outlet a' , and out through the outlet F. At the same time water is admitted through the pipe G and commingles with the air as the latter is drawn through the inlet a . The water and air thus commingle, pass down the baffle-plate B, around the edge b , and against the baffle-plate C. The air becomes thoroughly saturated with moisture, which not only cools it, but also cleanses it. The surplus water, carrying with it the matter taken from the air, falls upon the baffle-plate C and runs down into the trough at the end c , part running through the pipe c' to the bottom of the case, the main portion running into the trough D, thence through the pipe d' to the bottom of the case and through the overflow a^4 . The air, thoroughly cleansed and cooled so far as the temperature of the water may affect it, and deprived of surplus moisture at the trough D, where the separation of air and

water occurs, passes through the outlet *a'*. If desired to cool the air to a lower degree than that which may be obtained by the temperature of the water alone, the ice-receptacle is used. The air and water, passing down the baffle-plate B, strike against the ice in the ice-receptacle and both air and water are reduced in temperature, the air becoming cooled by its contact with the ice and kept cool by its being commingled with the water, also cooled by contact with the ice.

While only two baffle-plates are shown in the drawings, for the sake of simplicity, it is obvious that a case may be made with any number that is desired, the number depending somewhat upon the place and climate in which the device is to be used; also, an ice-receptacle may be placed at the end of each baffle-plate except the last.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. An air-cleansing device provided with a number of baffle-plates, the last of which has a trough at one end, and an outlet-pipe at such trough, as set forth.

2. An air-cleansing device provided with a number of baffle-plates, the last of which has a trough at one end, an outlet-pipe at such end, and a trough below such end, as set forth.

3. An air-cleansing device provided with a number of baffle-plates, the last of which has a trough at one end, an outlet-pipe at such end; and a trough below the lower end of said baffle-plate, the latter trough also having an outlet-pipe, as set forth.

4. An air-cleansing device provided with baffle-plates, and an ice-receptacle placed opposite the end of one of the baffle-plates, there

being a space between such end and the ice-receptacle, as set forth.

5. An air-cleansing device provided with baffle-plates, and an ice-receptacle placed opposite the end of one of the baffle-plates, there being a space between such end and the ice-receptacle, and there being no ice-receptacle between the end of the last baffle-plate and the side of the air-cleansing device, as set forth.

6. An air-cleansing and cooling device provided with baffle-plates, and an ice-receptacle opposite to the end of one of the first baffle-plates, as set forth.

7. The air-cleansing and cooling device, A, having the baffle-plates, B and C, overlapping each other, the end, *c*, of the baffle-plate, C, being turned back to form a trough, and having the outlet-pipe, *c'*; the trough, D, across the case and under the lower end of the baffle-plate and having the down-pipe, *d*, as set forth.

8. The air-cleansing and cooling device, A, having the baffle-plate, B, secured at one end of the case, but stopping short of the other end, and the ice-receptacle placed between the baffle-plate, B, and the end of the case, as set forth.

9. The case, A, provided with the baffle-plates, B and C, the latter having a trough at one end, and the air-inlet, *a*, and air-outlet, *a'*, with a water-supply pipe, G, connected to the air-inlet, *a*, as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JOSEPH MCCREERY.

Witnesses:

CHAS. A. LANGDON,
Mrs. R. B. BRYANT.