

Feb. 25, 1930.

H. B. BURKE

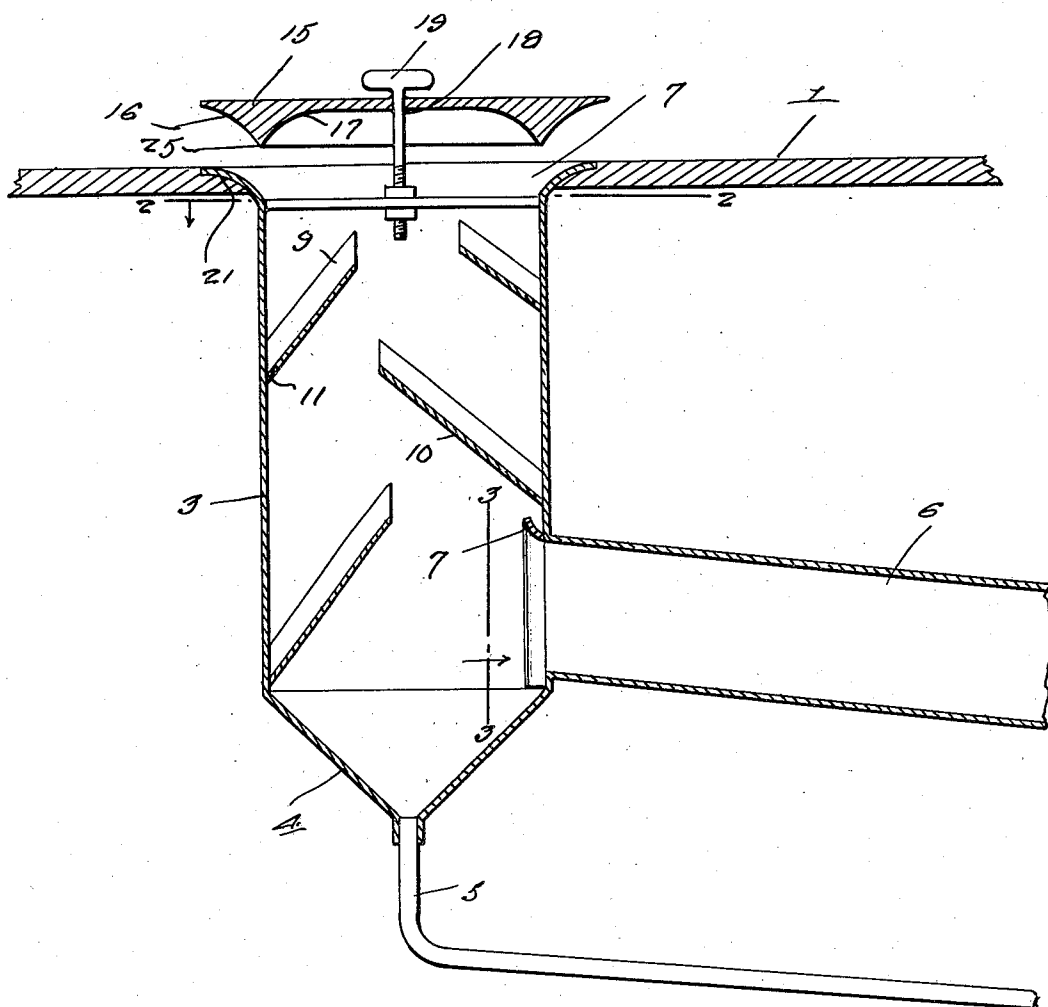
1,748,863

MOISTURE ELIMINATING VENTILATOR

Filed May 31, 1929

2 Sheets-Sheet 1

Fig. 1.



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Fig. 2.

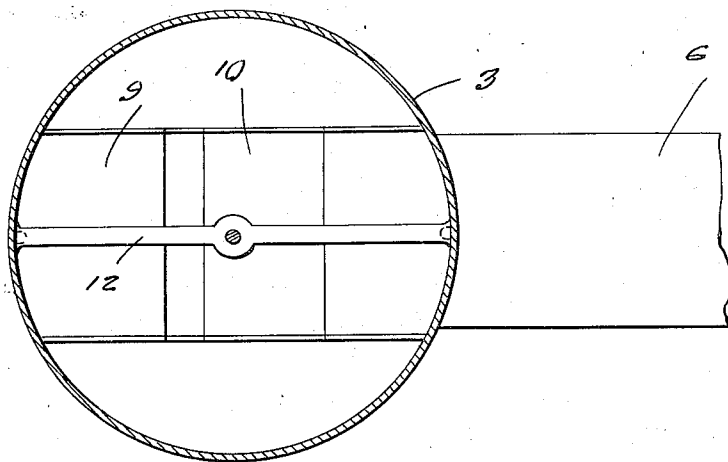


Fig. 5.

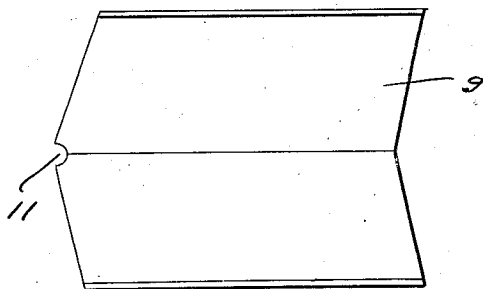


Fig. 4.

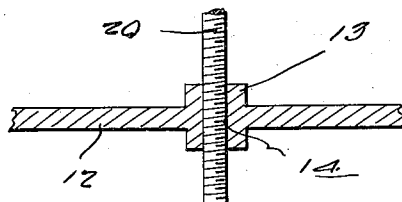
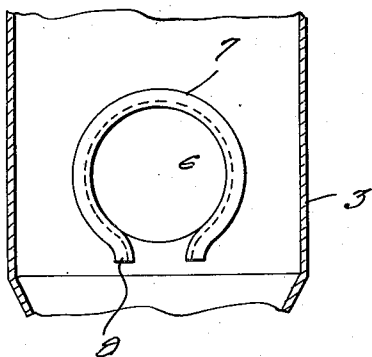


Fig. 3.



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MOISTURE-ELIMINATING VENTILATOR

Application filed May 31, 1929. Serial No. 367,378.

The object of my said invention is the provision of a ventilator for enclosures of various kinds, constructed with a view to distributing fresh air throughout an enclosure or apartment, and synchronously robbing the air of moisture, so that moisture is adequately eliminated from the air that is permitted to pass under pressure into the enclosure or apartment.

Other objects and practicable advantages of the invention will be more fully understood from the following description and claims when the same are read in connection with the drawings, accompanying and forming part of this specification, in which:

Figure 1 is a vertical sectional view illustrative of the preferred embodiment of my invention.

Figure 2 is an enlarged horizontal section taken on the plane indicated by the line 2—2 of Figure 1, looking downward.

Figure 3 is a detail vertical section taken on the plane indicated by the line 3—3 of Figure 1, looking toward the right, and illustrating the gutter arrangement comprised in my improvement.

Figure 4 is an enlarged fragmentary section illustrating the adjustable connection for the crown baffle member of the improvement.

Figure 5 is a detail perspective of one of the baffles disposed in the casing body of the improvement.

Similar numerals of reference designate corresponding parts in all the views of the drawings.

I show in Figure 1 a floor 1 which may be that of an apartment in a building, a car or any other enclosure to which my improvement is applicable.

The floor 1 is provided with an opening 2, and in said opening 2 is arranged the flanged open upper end of the casing body 3 of my improvement. The said casing body 3 is provided with a tapered lower end 4, and in connection with the central portion of the bottom 4 is a pipe 5 designed to carry off moisture in any suitable point of discharge.

Disposed laterally to the casing body 3 is a conduit 6, through which air is forced into the lower portion of the casing body 3.

The end of the conduit 6 within the casing body 3 is shaped to form a gutter 7 with discharge terminals 8, Figure 3, disposed over the tapered bottom 4 of the casing body 3. This provision is advantageous inasmuch as moisture collected from the inflowing air will find its way into the gutter 7 and will be conducted by the said gutter 7 to the tapered bottom 4 from which it will pass through the pipe 5.

Arranged in staggered relation in the casing body 3 are baffles 9, of obtuse angle form, Figures 1 and 5, and varied in size. The said baffles 9 are arranged with their apices 10 downwardly, and are generally inclined as brought out in Figure 1, and each baffle 9 is fixed to the wall of the casing body 3 and is provided adjacent to said wall with a drain aperture 11, Figures 1 and 5, said aperture 11 being preferably afforded by notching of the end of the baffle continuous to the casing wall, as shown.

Disposed diametrically across the upper portion of the casing body 3 is a bar 12 with a central enlarged portion 13 in which is a threaded bore 14, Figure 4.

At 15 is the crown baffle of the improvement. The perimeter of the said baffle 15 is preferably shaped as indicated by 16 to conform to the flared discharge end of the casing body 3, and so that said perimeter 16 will serve in conjunction with the flared upper end of the casing body 3 to distribute air radially from the upper end of the casing body 3 to various parts of the enclosure or apartment in which the crown baffle 15 is disposed. The under side of the crown baffle 15 is concave as designated by 17, in order to catch moisture and precipitate the same back to the side portion of the casing body 3.

Appropriately fixed to and extending through the crown baffle 15 is a stem 18 with an appropriate handle 19 at its upper end. The said stem is threaded as designated by 20 and is arranged in the threaded bore of the bar 12, and consequently the crown baffle 15 may be expeditiously and easily adjusted, and may be positioned at various points above the upper discharge end of the casing body 3.

In the practical operation or use of my

novel ventilator or air distributor and moisture eliminator, air under pressure is appropriately supplied through the conduit 6, and when such air enters the casing body 3 it strikes the lower baffle 9 and is diverted against the next upper and opposite baffle 9, and so on until it reaches the upper end of the casing body 3. At this latter point the air brings up against the crown baffle 15 with the result that the air is discharged from the upper portion of the ventilator radially and is evenly distributed throughout the apartment or other enclosure. The downwardly disposed flange 25 of the crown baffle 15 prevents moisture from escaping with the air and causes the moisture to drip back into the casing body 3. The air under pressure bringing up against the under side of the baffles 9 will be robbed of excess moisture, and by virtue of the obtuse angle form of the baffles 9 the baffles afford large surfaces and at the same time promote the drainage of moisture downward against the inner side of the casing body 3. It will also be appreciated that the inclination of the baffles 9 is such that the air passing upwardly in the casing body 3 will strike against the concavity in the crown baffle 15 which crown baffle will obviously assist in robbing the air of moisture. Such moisture as gathers at the upper side of the baffle 9 will be drained to the apertures 11, and will pass down the inner side of the casing body 3 to the tapered bottom 4 by which the moisture will expeditiously be conducted to the drain pipe 5.

The discharge end of the conduit 6 is disposed in the casing body 3, but this will not interfere with the downward passage of moisture to the drain pipe 5 inasmuch as the gutter 7 will receive a portion of the descending moisture and will facilitate the downward passage of the same. Manifestly all the moisture passes down at the side of the casing body 3 and hence there is no liability of moisture dripping across the discharge end of the air conduit 6 which is an important advantage.

By virtue of the connection described complementary to the crown baffle 15 said baffle 15 may be entirely closed, or may be opened and maintained in open position at various points above the discharge end of the casing body 3.

Obviously any desired number of my improved devices may be used in conjunction with a single room or other enclosure, and in the discretion of a person in authority some of the crown baffles may be opened to a greater extent than others, or some of the crown baffles may be left closed, while others are open, according to the condition to be met with respect to the adequate supply of fresh, dry air to the room or other enclosure.

In addition to the practical advantages ascribed to my improvement, it will be ap-

parent that the improvement is simple and inexpensive in construction, is well adapted to withstand the usage to which devices of corresponding character are ordinarily subjected, and is entirely free of delicate parts such as are likely to get out of order after a short period of use.

I have entered into a detailed description of the construction and relative arrangement of parts embraced in the present and preferred embodiment of my invention in order to impart a full, clear, and exact understanding of the said embodiment which is preferred. I do not desire, however, to be understood as limiting myself to the precise construction and relative arrangement of parts as disclosed, my invention being defined by my appended claims within the scope of which modifications may be made without departure from my invention.

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

1. A combined air supply and moisture eliminating device comprising a casing body open at its upper end, a crown baffle opposed to the upper end of the casing body and connected therewith, an air inlet conduit disposed laterally to the casing body and extending into the same and having interiorly of the casing body and adjacent to the side thereof a gutter with pendent end portions, and inclined baffles arranged in staggered relation in the casing body, the lowermost baffle opposite the discharge end of the air conduit, and all of the baffles of obtuse angle form in cross section, and with discharge apertures adjacent to the inner side of the wall of the casing body.

2. A combined air supply and moisture eliminating device comprising a casing body open at its upper end, a crown baffle opposed to the upper end of the casing body and connected therewith, an air inlet conduit disposed laterally to the casing body and extending into the same and having interiorly of the casing body and adjacent to the side thereof a gutter with depending end portions, and inclined baffles arranged in staggered relation in the casing body, the lowermost baffle opposite the discharge end of the air conduit, and all of the baffles of obtuse angle form in cross section, and with discharge apertures adjacent to the inner side of the wall of the casing body; the upper end of the casing body being flared and the crown baffle having a correspondingly shaped perimeter and also having a concavity in its under side serving in conjunction with said perimeter to form a pendent flange for the discharge of moisture back into the casing body.

3. A combined air supply and moisture eliminating device comprising a casing body open at its upper end, a crown baffle opposed

to the upper end of the casing body and connected therewith, an air inlet conduit disposed laterally to the casing body and extending into the same and having interiorly of the casing body and adjacent to the side thereof a gutter within pendent end portions, and inclined baffles arranged in staggered relation in the casing body, the lowermost baffle opposite the discharge end of the air conduit, and all of the baffles of obtuse angle form in cross section, and with discharge apertures adjacent to the inner side of the wall of the casing body; the lower end or bottom of the casing body being tapered downwardly, and being equipped at the center of its lowermost portion with a drain pipe.

4. In a device for supplying air and eliminating moisture from the same, the combination with a casing body having a moisture discharge at its lower end, of baffles arranged in said casing body and having depressed central portions and discharge apertures adjacent to the inner side of the wall of the casing body, and an air supply conduit disposed laterally to the lower portion of the casing body and having within the casing body and adjacent to the inner side of the wall thereof a gutter with pendent end discharge portions.

5. In a device for supplying air and eliminating moisture from the same, the combination with a casing body having a moisture discharge at its lower end, of baffles arranged in said casing body and having depressed central portions and discharge apertures adjacent to the inner side of the wall of the casing body, and an air supply conduit disposed laterally to the lower portion of the casing body and having within the casing body and adjacent to the inner side of the wall thereof a gutter with pendent end discharge portions; the said casing body being provided with a downwardly tapered bottom, and the discharge end portion of said gutter being arranged adjacent said tapered bottom.

6. A device for supplying air and eliminating moisture therefrom comprising an upright casing body open at its upper end and having said end flared and also having a downwardly tapered bottom, a drain pipe leading from said bottom, a lateral air supply conduit entering the lower portion of the casing body and having adjacent to the inner side of the casing body wall a gutter with discharge end portions arranged immediately above said tapered bottom, inclined baffles of obtuse angle cross section arranged in staggered relation in the casing body with the lowermost baffle opposite the discharge end of the air conduit and all of said baffles centrally depressed and having immediately adjacent the side wall of the casing body discharge apertures for moisture, a cross bar disposed in the upper portion of the casing

body and having a threaded bore, a crown baffle having a perimeter shaped in conformity with the flared end of the casing body and also having a concavity formed in conjunction with said perimeter, a pendent annular flange, and a stem fixed to said crown baffle, and disposed in the threaded bore of the cross bar and threadedly engaging said bore and having at a point above the crown baffle a handle.

In testimony whereof I affix my signature.
HORACE B. BURKE.