Sept. 5, 1950 F. J. KURTH 2,521,636

AIR OUTLET DEVICE

Filed Aug. 5, 1946

Fig. 1.

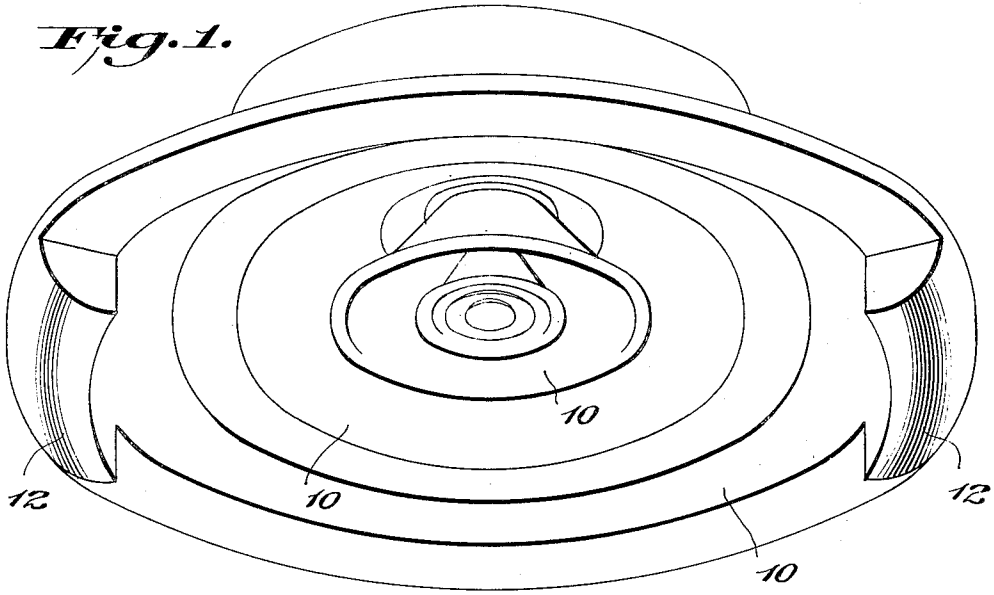


Fig. 2.

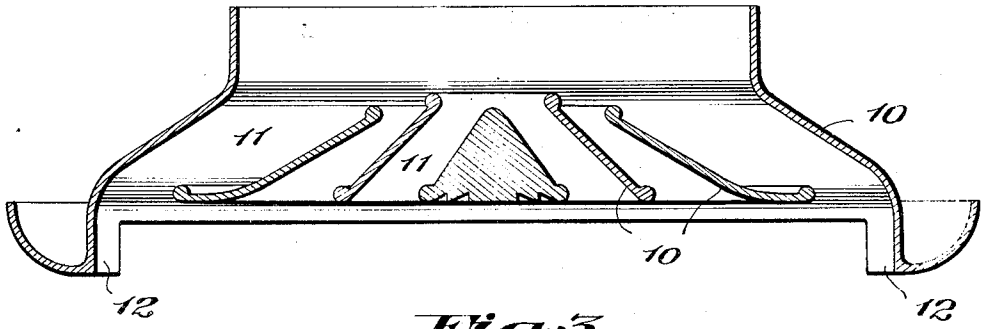
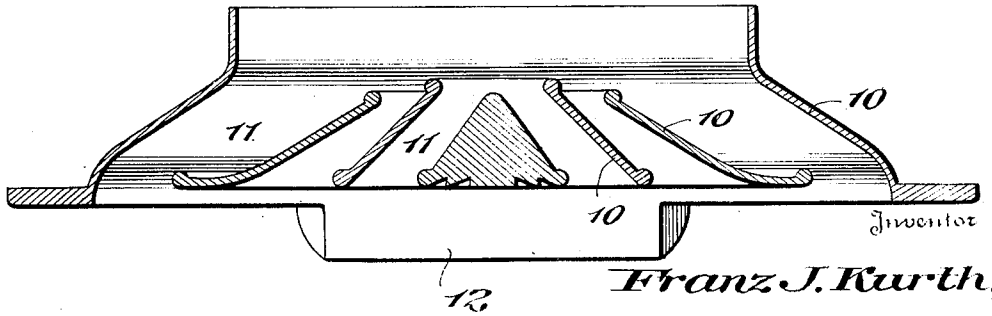


Fig. 3.



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AIR OUTLET DEVICE

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2 Claims. (Cl. 98—40)

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This invention relates to ventilating apparatus, and has particular reference to improvements in devices for effecting diffused delivery of air into rooms and other enclosures.

More particularly, the invention relates to improvements in air delivery devices of the type which effect laterally outward as well as forward delivery of air, one well known device of this type being composed of a plurality of open-ended, hollow, flaring members of different sizes disposed in spaced apart relationship to each other within one another and serving to divide air flowing through the device into separate, flaring streams whereby it is diffused and is delivered from the device substantially draftlessly.

Most devices of the type mentioned are of a circular shape in end elevation and are effective to deliver air forwardly and laterally outwardly therefrom at the same angle relative to their longitudinal axes at all points around the devices. There are, however, many instances where it is desirable to have a device of the type mentioned deliver air both forwardly and laterally outwardly only within certain limits angularly with respect to the device and substantially only forwardly within certain other limits angularly with respect to the device.

Accordingly, the object of the present invention is to provide a device of the type mentioned with simple, practical air deflecting means offering no interference with forward and laterally outward flow of air from the device within certain limits angularly with respect to the device, but serving to cause the air to flow substantailly only forwardly from the device within certain other limits angularly with respect to the device.

With the foregoing general object in view, the invention consists in an air delivery device embodying air deflector means for the purpose stated, as will be hereinafter more fully described, illustrated in the accompanying drawings and defined in the appended claims.

In the accompanying drawings, wherein like characters of reference denote corresponding parts in the different views:

Fig. 1 is a perspective view of an air delivery device constructed in accordance with the invention.

Fig. 2 is a central, longitudinal section through the device; and

Fig. 3 is a central, longitudinal section through the device at right angles to Fig. 2.

Referring to the drawings in detail, it will be observed that the air delivery device illustrated is of the well known general type comprising a plu-

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rality of open-ended, hollow flaring members 10 of different sizes disposed in spaced apart relationship to each other within one another to divide air flowing through the device into a plurality of separate, flaring streams, thereby to cause the air to be diffused and to be delivered from the device substantially draftlessly. In this connection it will be understood, of course, that the air to be diffused by and delivered from the device is supplied to the device through the open, rear end of the larger or outermost flaring member 10, passes through the flaring passageways 11 between the flaring members 10 and is discharge from the device at its front end.

The device may comprise any desired number of the flaring members 10 and these may be secured together in any desired manner. Moreover, while said members ordinarily are of circular shape as viewed in end elevation, they may be of other shape in end elevation if desired. In any event, in accordance with the invention, the larger or outermost flaring member 10 is provided at its front end with at least one air intercepting and deflecting element 12 for the purpose of intercepting air attempting to flow laterally outward from the device and deflecting it forwardly.

The element 12 may be of any desired length or angular extent relative to the device and, in cross section, may be of any desired shape and dimensions. It extends forwardly from the outermost member 10 into the path of air attempting to flow laterally outward from the device in order to accomplish its purpose. There may, of course, be only a single element 12 or any desired plurality of said elements of the same or different lengths and cross sectional sizes and shapes, depending upon just how it may be desired to control the flow of air from the device in particular instances. In this connection the drawings illustrate by way of example two of said elements of equal lengths and cross sectional sizes and shapes disposed diametrically opposite each other so as to confine the air stream laterally in one direction and not interfere with its lateral outward flow in a right angular direction.

The members 10 may either be cast from metal or any other suitable material or formed from sheet metal or any other suitable sheet material, and the element, or elements, 12, as the case may be, may either be cast or otherwise formed integrally with the larger or outermost member 10 or may be formed separately from said member and be fastened thereto in any desired manner.

If desired, any of the members 10 other than, or in addition to, the larger or outermost of said

members, may be provided with one or more of the air intercepting and deflecting elements 12.

From the foregoing description considered in connection with the accompanying drawings it is believed that the invention will be clearly understood and its advantages appreciated. It is desired to point out, however, that while only a single, specific embodiment of the invention has been illustrated and described, the same is readily capable of various other specifically different embodiments within its spirit and scope as defined in the appended claims.

I claim:

1. An air delivery device comprising a first member, a second member spaced inwardly from said first member to provide an air passageway between said members, said second member being formed to cause air flowing through said passageway to be deflected laterally outward, the front end of said second member being disposed within and spaced from the front end portion of said first member so that air deflected laterally outwardly by said second member is directed against said first member, and an air intercepting and deflecting element of lesser angular extent than said first member carried by the latter at its front end and extending beyond the front end thereof into the path of air tending to flow laterally outward from said passageway so as substantially to prevent laterally outward flow of air from said passageway within the angular extent of said element, said element being disposed in its entirety laterally outward with respect to said passageway so as not to obstruct flow of air from said passageway and to serve to direct part of the air forwardly from the device.

2. An air delivery device comprising an outermost open-ended hollow flaring annular member, a second annular member spaced inwardly from said outermost member to provide an annular air passageway between said members, said second member being flared to effect laterally outward deflection of air flowing through said passageway, the front end of said second member being disposed within and spaced from the front end portion of said first member so that air deflected laterally outwardly by said second member is directed against said first member, and an air intercepting and deflecting element of lesser angular extent than said outermost member carried by the latter at its front end and extending beyond the front end thereof into the path of air tending to flow laterally outward from said passageway so as substantially to prevent laterally outward flow of air from said passageway within the angular extent of said member, said element being formed to effect forward flow from the device of the air which it prevents from flowing laterally outward from the device, said element being disposed in its entirety laterally outward with respect to said passageway so as not to obstruct flow of air from said passageway and to serve to direct part of the air forwardly from the device.

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