

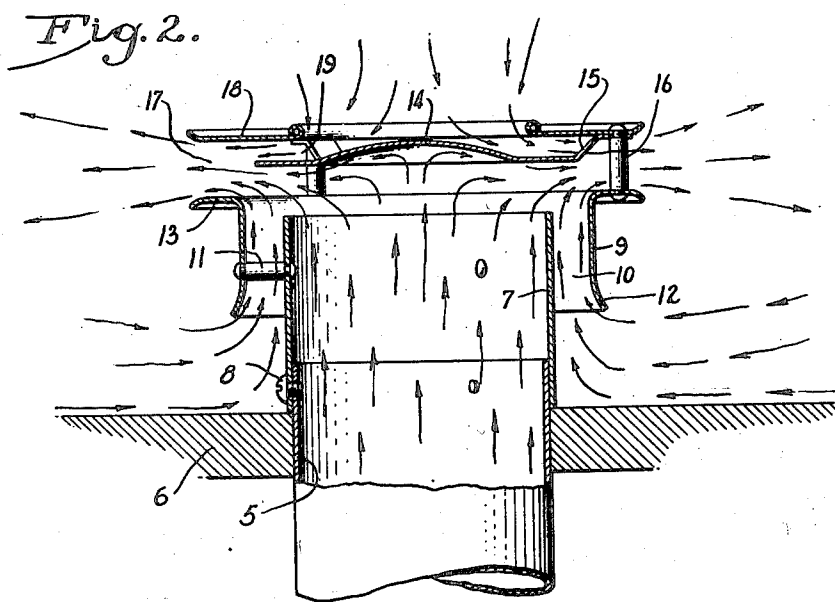
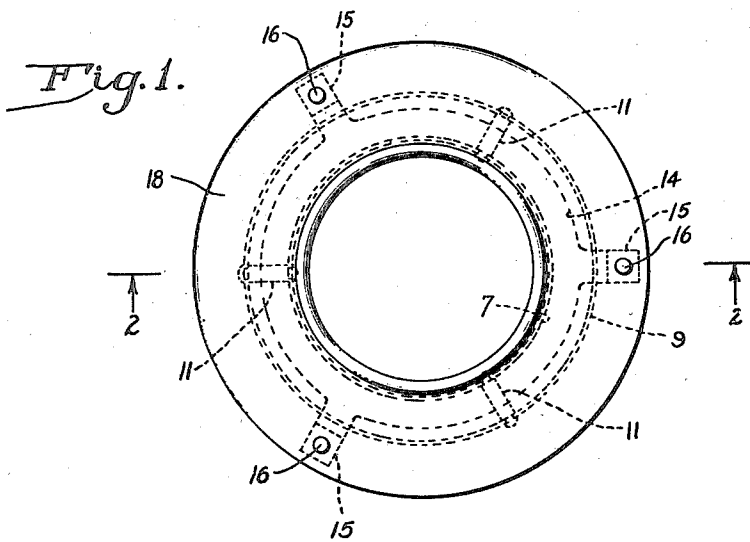
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AIR OUTLET

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AIR OUTLET

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This invention relates to outlets for controlling the discharge of air into a compartment or room into which the outlet projects.

The primary object is to provide an outlet of the above character providing for quick diffusion of the incoming air into the room.

A more detailed object is to provide for aspiration of the room air into the incoming air by aspiration along the outside of the incoming air duct.

Other objects and advantages of the invention will become apparent from the following detailed description taken in connection with the accompanying drawings, in which

Figure 1 is an end view of the improved outlet. Figure 2 is a section taken along the diameter 2-2 of Fig. 1.

In the form shown in the drawings, the invention is embodied in a unit for delivering air into a room from a duct 5 which projects a short distance from the floor 6 or other wall of the room. The unit includes an inner tube 7 telescoping with the duct end and secured thereto by screws 8. Concentric with the inner tube is an outer tube 9 of substantially larger diameter so as to provide an annular passage 10 extending along and around the inner tube. The tubes are rigidly secured together by a plurality of shouldered rivets 11, and the flared inner end 12 of the outer tube is axially spaced from the inner end of the tube 7 so that the passage 10 communicates with an area of the room adjacent the floor 6. The outer end of the tube 9 projects a short distance beyond the end of the tube 7 and is formed with an out-turned substantially right angular flange 13.

Axially spaced outwardly beyond the end of the tubes 7 and 9 is a disk 14 of a diameter larger than the inner tube 7 but smaller than the outer tube. Lugs 15 projecting from the outer periphery of the disk are secured by shouldered rivets 16 to the flange 13. The disk serves to divert the air stream discharged from the tube 7 laterally in all directions as indicated at 17 and across the outlet end of the passage 10 so that the incoming air aspirates the room air through the passage 10 and into the other side of the laterally directed air stream.

Provision is also made for aspirating room air into the radiating air stream 17 on the upper or outer side thereof. This is effected by a generally flat ring 18 having an upwardly flared outer periphery substantially equal in diameter to that of the flange 13 and an inner beaded periphery somewhat smaller than the outer periphery of

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the disk 14. This ring is secured by the rivets 16 to the upwardly bent lugs 15 so as to be spaced from the disk 14 and provide an annular laterally radiating passage 19 through which room air is aspirated since the main air stream 17 flows across the outer or outlet edge of the edge of this passage.

By thus discharging the incoming air laterally in an annular outwardly radiating stream of large area and aspirating the room air into both sides of this stream, the delivered air is diffused quickly into the room thereby avoiding objectionable drafts. The outlet unit is of simple and sturdy construction when made of light weight materials, and provides for efficient mixing of the room and incoming air without objectionable noise.

I claim as my invention:

1. An air discharge outlet comprising a central inner tube, a larger outer tube concentric with and rigidly connected to the inner tube to provide an air passage surrounding the inner tube with its outlet disposed adjacent the outer end of the inner tube, the inlet being axially spaced from the inner end of the inner tube, an out-turned flange at the outer end of said outer tube, a deflector disk axially spaced from the outer ends of said tubes and having outwardly projecting lugs rigidly mounted with respect to said flange, said disk being of a diameter smaller than said outer tube and larger than the inner tube, and a substantially flat ring axially spaced from said disk on the side thereof opposite said tubes and rigidly secured to said lugs, said ring having an outer diameter substantially equal to that of said flange and an inner diameter smaller than that of said disk.

2. An air discharge outlet comprising a central inner tube adapted for attachment at its inner end to an air duct, an outer tube concentric with said inner tube with its inner end axially spaced from the inner end of the inner tube and its outer end projecting approximately to the outer end of the inner tube, an out-turned substantially right angular flange on the outer end of the outer tube, a disk of a diameter smaller than the outer tube and larger than the inner tube axially aligned with said tubes and spaced outwardly beyond the outer end of the outer tube a short distance therefrom so as to deflect laterally the air discharged axially from the outer end of said inner tube, a generally flat ring having an outer diameter substantially the same as said flange and an inner diameter smaller than said disk, and means supporting said ring rigidly with respect to said disk and tubes

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and axially spaced outwardly a short distance from said disk to define an annular outwardly radiating air passage between the disk and ring.

3. An air discharge outlet comprising a tube adapted for the discharge of air outwardly from one end, a second tube surrounding said first tube and sufficiently larger than the latter to define between the tubes an aspirating passage having an inlet axially spaced from the inner end of the first tube and an outlet substantially at the outer end of the first tube, and a disk larger in diameter than said first tube axially spaced from the outer end thereof so as to be impinged upon by the air discharged from the inner tube whereby to direct such air laterally, the outer periphery of said disk projecting at least partially across the open outlet of said aspirating passage and acting to direct the laterally moving air across the outlet to effect aspiration of the air outwardly through said passage.

4. An air discharge outlet comprising a tube adapted for the discharge of air outwardly from one end, a second tube surrounding said first tube and sufficiently larger than the latter to define between the tubes a passage having an inlet axially spaced from the inner end of the first tube and an outlet substantially at the outer end of the first tube, a disk larger in diameter than said

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first tube axially spaced from the outer end thereof to deflect air delivered axially through said inner tube laterally and form the same into an annular stream flowing outwardly across the end of said outlet whereby to aspirate air therefrom into said stream, and a generally flat annular plate axially spaced outwardly from the outer side of said disk and cooperating therewith to form an annular second aspirating passage having an inlet smaller in diameter than said disk, said second passage radiating outwardly to an outlet on the side of said air stream opposite said first outlet whereby the air stream serves to aspirate air through both of said passages.

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