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(54) Portable air-conditioning equipment

(57) Portable air-conditioning equipment (1) which requires an unusually small space for its installation, comprises, in a casing (7), a grille (10) for the intake of air from the environment, a grille (12) for the output of cold air, a hot-air outlet (14) facing upwardly and a flexible tube (15) extending from the hot-air outlet (14) to a free end (17) intended to be associated with a window.

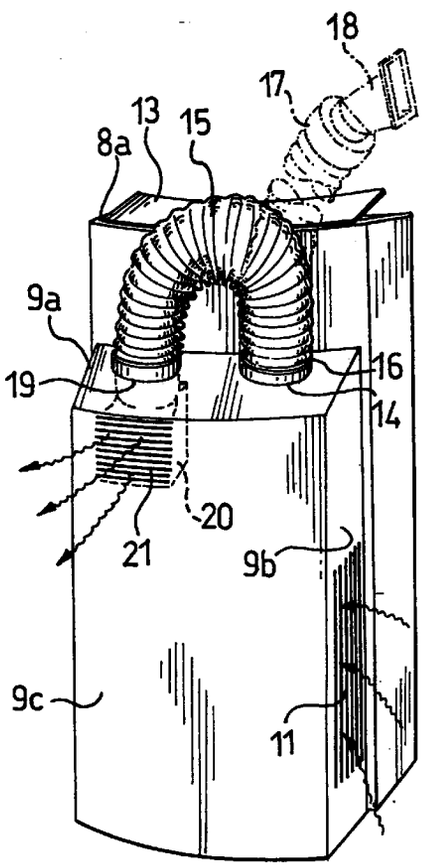

FIG.3

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Description

The present invention relates to portable air-conditioning equipment of the type comprising, in a casing, a grille for taking air in from the environment, an outlet grille for cold air, an outlet for hot air and a flexible tube extending from the hot-air outlet to a free end intended to be associated with a window.

Known portable equipment which is widely used for cooling and dehumidifying environments, although satisfactory from various points of view, does have the recognised disadvantage of occupying a relatively large space within the environment in which it is installed.

The object of the present invention is to provide portable equipment of the type specified which has structural and functional characteristics such as to overcome this disadvantage.

This object is achieved by equipment of the type specified which is characterised in that the hot-air outlet faces upwardly.

Further characteristics and advantages of the portable equipment according to the present invention will become apparent from the description which follows of a preferred embodiment thereof, given purely by way of non-limitative example, with reference to the appended drawings, in which:

Figure 1 is a perspective view of portable equipment according to the present invention,
Figure 2 is a plan view of the equipment of Figure 1 in one phase of its operation, and
Figure 3 is a perspective view of the equipment of Figure 1 in a further phase of its operation.

With reference to the appended drawings, portable air-conditioning equipment generally indicated 1 is located in an environment 2 to be conditioned which is bounded by a wall 3 in which there is a window 4 having two window parts 5 and 6. More particularly, the equipment 1 is of the type for cooling and dehumidifying the environment 2.

The equipment 1 includes a casing 7 which is constituted by a front body 8 and a rear body 9. The front body 8 is essentially in the shape of a rectangular box of predetermined width, height and depth and the top is defined by a face 8a.

The rear body 9 is also basically box-shaped but is narrower and lower than the front body 8, its top being formed by an upper face 9a which slopes slightly while its sides are formed by opposing side faces both indicated 9b and its back by a rear face 9c.

The equipment 1 includes a grille 10 for the intake of air from the environment, which is divided into two identical grilles 11 each arranged in a respective side face 9b of the rear body 9.

The equipment 1 also includes a cold-air outlet grille 12 located in the upper face 8a of the front body 8.

A deflector 13 is hinged to the casing 7 adjacent the grille 12 and is pivotable between a position in which it rests against the grille 12 to close it and an open position in which it is located at a predetermined desired angle to direct the outward flow of cold air.

The equipment 1 further includes a hot-air outlet 14 which faces upwardly and is located on the upper face 9a of the body 9.

A flexible tube 15 has one end 16 firmly inserted in the outlet 14 and a free end 17 to which a diffuser element 18 of generally flat shape may be fitted releasably.

A seat 19 is also provided on the face 9a alongside the outlet 15 and also faces upwardly.

The seat 19 is shaped to receive the free end 17 of the flexible tube 15 in an essentially male-female releasable manner.

A short, substantially L-shaped duct 20 is provided in the casing 7 extending from the seat 19 to a hot-air outlet grille 21 formed in the rear face 9c of the rear body 9.

In one mode of operation of the portable equipment according to the invention, in which it is required to cool and dehumidify the air in the environment 2, the equipment 1 is placed with its rear face 9c substantially in contact with the wall 3 and the flexible tube 15 is located with its end 16 connected to the hot-air outlet and its free end 17 in correspondence with the window with which it is associated by insertion of the diffuser 18 between the two window parts 5 and 6.

When the equipment 1 is required solely to dehumidify the environment 2, the flexible tube 15, without the diffuser 18, is located essentially in an inverted-U arrangement so that its free end 17 engages the seat 19 in male-female manner. With this arrangement, the hot air flows from the outlet 14 through the flexible tube 15 to the duct 20 and from here escapes to the exterior through the grille 21.

The main advantage of the equipment according to the present invention lies in the unusually small space it occupies in the environment. In fact, it may be arranged with its rear face substantially in contact with the wall since the flexible tube does not occupy any space in plan in its cooling or solely dehumidifying operative position, being housed wholly in the space above the rear body.

A further advantage of the equipment according to the present invention lies in its unusual simplicity of handling. In fact, when it is wished to change from cooling to dehumidifying alone, the flexible tube is located in a firm position on the casing itself by simple manual operations ready to be returned to its position with its free end associated with the window.

A further advantage of the equipment according to the invention lies in the fact that it lends itself to construction in an aesthetically pleasing form, which advantage is not minimal for an article intended to improve the environment in which it is installed.

Obviously numerous modifications and variations may be made to the equipment described above by an expert in the art in order to satisfy particular requirements and specifications without thereby departing from

the scope of protection of the invention as defined in the following claims.

Claims

1. Portable air-conditioning equipment (1) of the type comprising, in a casing (7), a grille (10) for taking in air from the environment, an outlet grille (12) for cold air, an outlet (14) for hot air and a flexible tube (15) extending from the hot-air outlet (14) to a free end (17) intended to be associated with a window, characterised in that the hot-air outlet (14) faces upwardly.

2. Equipment (1) according to Claim 1, characterised in that it includes a seat (19) formed in the casing (7) for coupling with the free end (17) of the tube (15) in an essentially male-female manner.

3. Equipment (1) according to Claim 2, characterised in that the seat (19) faces upwardly.

4. Equipment (1) according to Claim 3, characterised in that it includes a duct (20) extending inside the casing (7) between the seat (19) and a hot-air outlet grille (21).

5. Equipment (1) according to Claim 4, characterised in that the duct (20) is substantially L-shaped and the air-outlet grille (21) faces rearwardly.

6. Equipment (1) according to Claim 5, characterised in that it includes a deflector (13) hinged to the casing (7) in correspondence with the cold-air outlet grille (12).

7. Equipment (1) according to Claim 6, characterised in that the casing (7) includes a rear, lower body (9) and the hot-air outlet (14) and the seat (19) are arranged at the top of the body (9).

8. Equipment (1) according to Claim 7, characterised in that the grille (10) for the intake of air from the environment is divided into two equal grilles (11) located at the sides of the body (9).

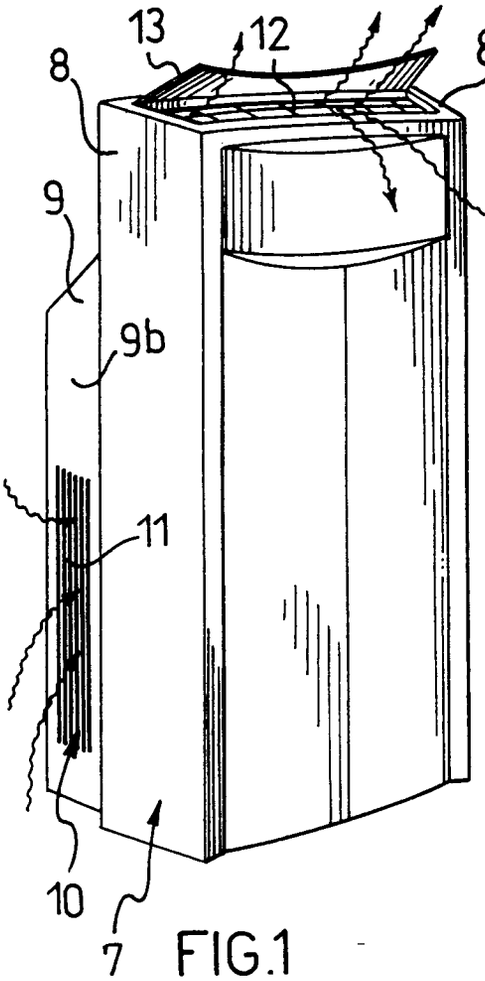

FIG.1

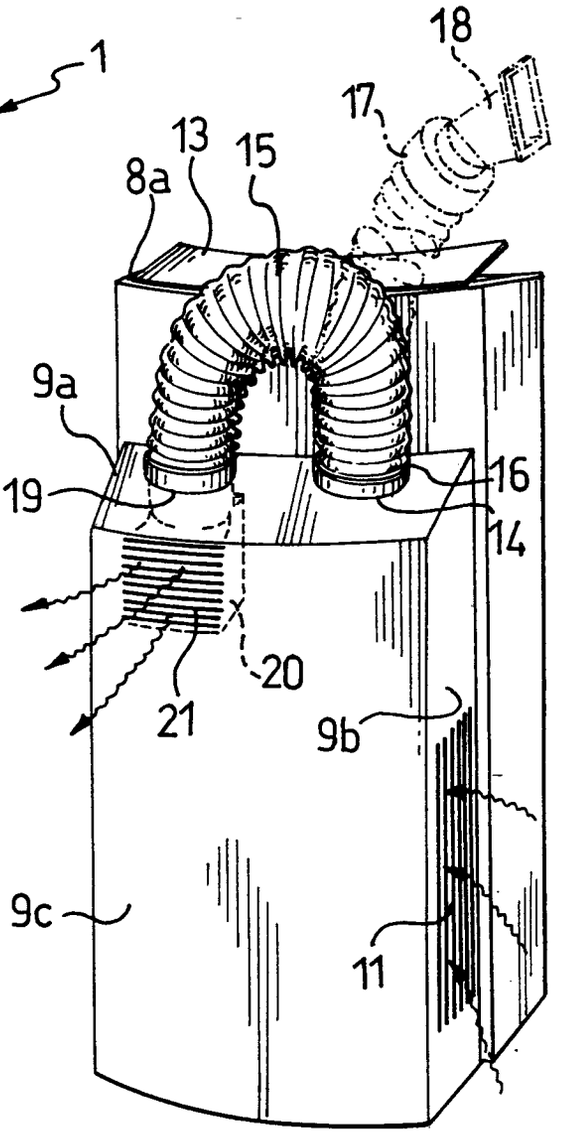

FIG.3

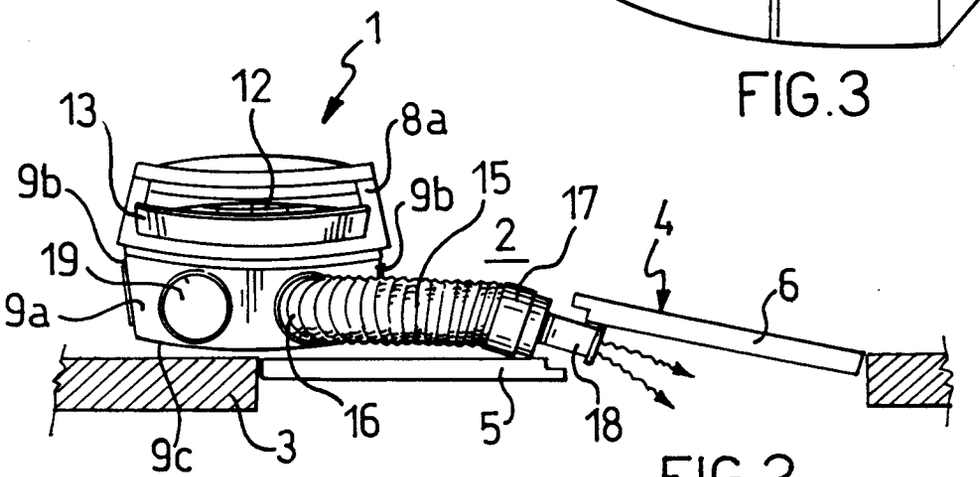

FIG.2