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BED DEODORIZERS

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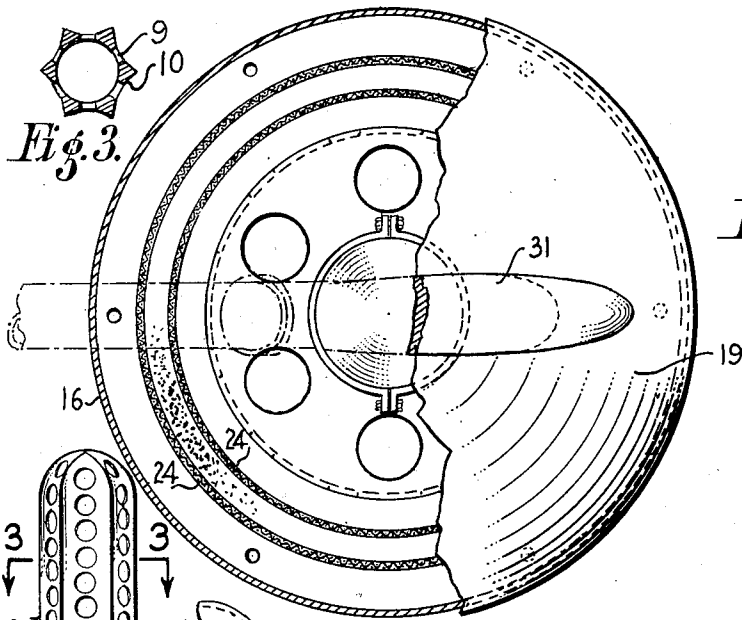


Fig. 2.

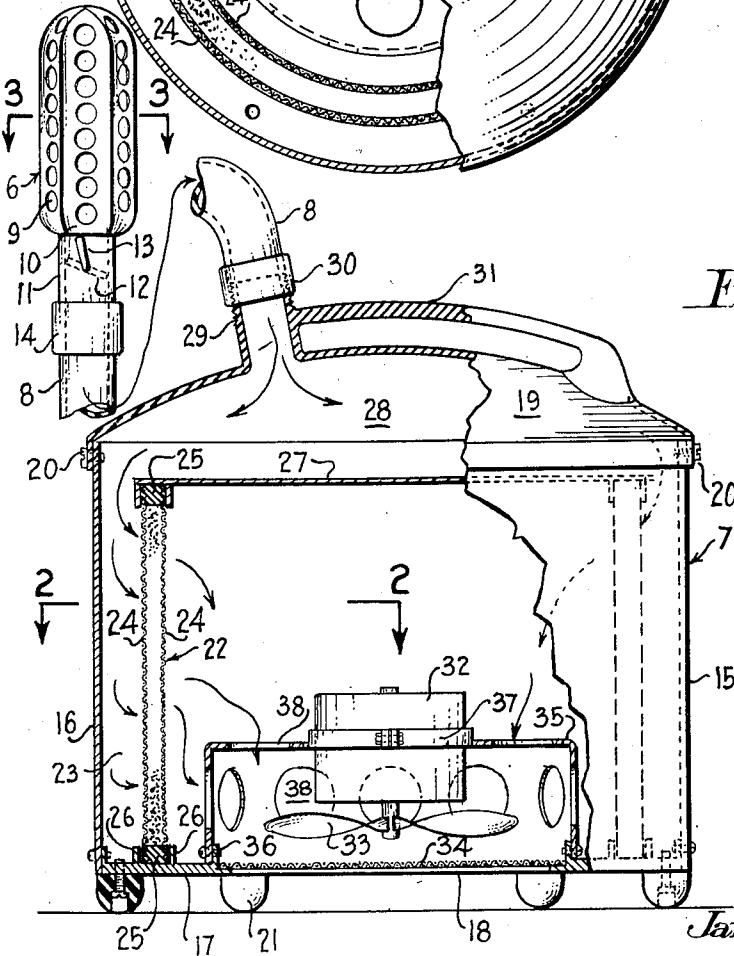


Fig. 1

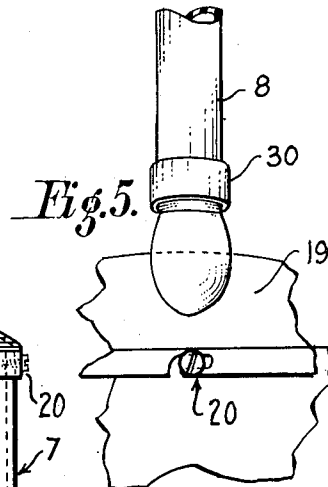


Fig. 5.

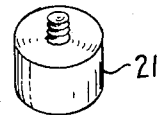


Fig. 4.

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4 Claims. (Cl. 183-4)

The present invention relates to improvements in bed deodorizers, and its principal object is to provide a means for deodorizing beds, especially in connection with hospital beds, and it is particularly effective in withdrawing foul air from between the sheets of a bed, in deodorizing the same and discharging the purified air back into the bed room.

A further object of the invention is to provide a deodorizer of the character described which is simple in construction, portable and may be readily carried from bed to bed.

A further object of my invention is to provide a deodorizing medium in the form of a cylindrical magazine interposed in the line of draft and mounted in a housing in such a manner that it may be readily removed for replacement purposes.

It is still further proposed, in the present invention, to provide a novel suction head adapted for placing between the sheets of a bed, and in which suction apertures are provided in such a manner that they may not easily be closed by the material of the sheets.

And finally, it is proposed to provide a deodorizer in which the purified air is discharged against the floor supporting the deodorizing unit for uniform distribution in all directions over the floor area.

Further objects and advantages of my invention will appear as the specification proceeds, and the new and useful features of my deodorizer will be fully defined in the claims attached hereto.

The preferred form of my invention is illustrated in the accompanying drawing, forming part of this application, in which:

Figure 1 shows a side elevation of my deodorizer with a portion of the deodorizing unit shown in central vertical section and with a portion of a connecting unit broken away;

Figure 2, a top plan view of the deodorizing unit, with a portion shown in horizontal section, taken substantially along line 2-2 of Figure 1;

Figure 3, a section through a suction head taken along line 3-3 of Figure 1;

Figure 4, a perspective view of one of a series of bumpers used for supporting the deodorizing unit; and

Figure 5, a fragmentary detail view showing a side elevation taken at a right angle to Figure 1.

While I have shown only the preferred form of my invention, it should be understood that various changes or modifications may be made within the scope of the claims attached hereto, without departing from the spirit of the invention.

Referring to the drawing in detail, my deodorizer comprises in its principal features, a suction head 6, a deodorizing unit 7 and a conduit 8 connecting the two parts. The suction head is intended for placing between the sheets of a bed, and the unit is normally placed on the floor beside the bed, the conduit being sufficiently

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long, say approximately six feet, to allow for this arrangement.

The suction head 6 is in the form of an elongated, hollow, cylindrical body formed with lengthwise arranged rows of perforations 9. The head is formed with a series of longitudinal channels 10 in the outer surface thereof, and the perforations are located in these channels to prevent the sheet material from being drawn into the perforations when suction is applied to the head, whereby clogging of the perforations is avoided.

The suction head terminates in a nipple 11 which may carry a flap valve 12 operable by a handle 13 for regulating the draft on the suction head. One end of the conduit 8 is suitably fastened upon the nipple, as by a coupling 14.

The deodorizing unit 7 comprises a housing 15 having a cylindrical side wall 16, a ring-shaped bottom 17 with a large central opening 18 and a removable cover 19 secured upon the side wall by any suitable means, as by the bayonet joint 20, shown in Figure 5. The bottom is supported by means of a series of bumpers 21, one of which is shown in detail in Figure 4, to maintain the bottom in spaced relation to the floor surface on which the housing rests.

There is provided, inside of the housing, a deodorizing or filtering unit 22, which is cylindrical in form, of a diameter somewhat less than the diameter of the housing wall, and located concentrically therewith, so as to leave an annular space or passage 23 between the filter and the housing wall.

The filtering unit comprises a pair of concentric screens 24 suitably spaced by top and bottom rings 25, and the space between the screens is filled with a suitable filtering medium, such as charcoal.

The bottom end of the filter is mounted in an annular channel formed by a pair of annular flanges 26 rising from the bottom of the housing in concentric relation to the wall thereof. The filter unit is covered on top, by a disc 27.

The height of the filter is somewhat less than that of the housing, as shown, and the removable cover for the housing is concaved, as shown, to provide ample space above the filter unit, as shown at 28.

The cover 19 is provided with an intake nipple 29 to which the second end of the conduit 8 is attached, as at 30. The cover is also provided with a handle 31 extending across the major portion of the cover and of convenient size and shape for allowing the fingers of a hand to pass underneath the same.

Over the opening 18 in the bottom of the housing there is mounted a motor 32 having a fan 33 facing downwardly. The opening may be covered by wire netting 34 to prevent accidental contact with the revolving fan.

The motor may be supported over the opening in any suitable manner, as by brackets or by a cap structure 35 secured upon the inner rim of the bottom ring, as at 36, and upon the motor by a ring 37, the cap structure having ample openings 38 in the side and the top thereof to allow of free access of air to the bottom opening 18.

In operation, the suction head 6 is placed inside the bed, preferably between the sheets, while the deodorizing unit 7 is placed on the floor alongside of the bed.

As the motor 32 is set in motion, air is drawn from between the bed sheets through the suction head 6 and the conduit 8 into the upper space 28 of the housing, where it is deflected by the plate 27 to spread into the annular space 23 between the housing wall and the filter unit and to pass through the latter and the perforations 38 for final discharge against the floor on which the deodorizing unit rests.

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The peculiar shape of the suction head prevents the perforations from being closed by the bed sheets so that air from within the bed may readily enter.

The large area of the cylindrical filter provides ample filtering medium, and due to the construction shown, the entire filter area is used with substantial uniformity.

When the filter has become ineffective, a new one may be readily substituted upon removal of the cover 19.

I claim:

1. In a bed deodorizer, a housing having a cylindrical side wall, a ring-shaped bottom with a central opening therein and having a cover with a suction intake therein, means for supporting the bottom of the housing in spaced relation to a supporting surface, a cylindrical deodorizing magazine mounted on the bottom in concentric relation to the housing wall so as to leave an annular space between the latter and the magazine, and having a deflecting cover thereon, and a motor mounted inside the magazine and near the bottom thereof and having a fan facing the bottom opening, whereby air sucked through the intake is made to pass through said annular space and through the magazine and is discharged through the bottom opening.

2. In a bed deodorizer, a housing having a cylindrical side wall, a ring-shaped bottom with a central opening therein and having a cover with a suction intake therein, means for supporting the bottom of the housing in spaced relation to a supporting surface, a cylindrical deodorizing magazine mounted on the bottom in concentric relation to the housing wall so as to leave an annular space between the latter and the magazine and having a deflecting cover thereon, and a motor mounted inside the magazine and near the bottom thereof and having a fan facing the bottom opening, whereby air sucked through the intake is made to pass through said annular space and through the magazine and is discharged through the bottom opening, the cover having a hand grip therein whereby the housing may be carried.

3. In a bed deodorizer, a housing having a cylindrical side wall, a ring-shaped bottom with a central opening therein and having a cover with a suction hose connection, means for supporting the bottom of the housing in spaced relation to a supporting face, a cylindrical deodorizing magazine mounted on the bottom in concentric relation to

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the housing wall so as to leave an annular space between the latter and the magazine and having a deflecting cover thereon, the magazine being shorter than the housing so as to leave an air distributing chamber between the two covers, and a motor mounted in the lower end of the magazine and having a fan facing the bottom opening, whereby air sucked through the hose connection is made to spread through the chamber and said annular space and to pass through the magazine from the outside for final discharge through the bottom opening.

4. In a bed deodorizer, a housing having a cylindrical side wall, a ring-shaped bottom with a central opening therein and having a cover with a suction hose connection, means for supporting the bottom of the housing in spaced relation to a supporting face, a cylindrical deodorizing magazine mounted on the bottom in concentric relation to the housing wall so as to leave an annular space between the latter and the magazine, and having a deflecting cover thereon, the magazine being shorter than the housing so as to leave an air distributing chamber between the two covers, and a motor mounted in the lower end of the magazine and having a fan facing the bottom opening, whereby air sucked through the hose connection is made to spread through the chamber and the said annular space and to pass through the magazine from the outside for final discharge through the bottom opening, the cover for the housing being dome-shaped to facilitate distribution of the air below the same and having a handle mounted transversely across the same.

References Cited in the file of this patent

UNITED STATES PATENTS

855,433	Freeman	May 28, 1907
1,051,714	Edwards	Jan. 28, 1913
1,053,665	Spencer	Feb. 18, 1913
1,614,817	Andrew	Jan. 18, 1927
1,954,924	Engberg et al.	Apr. 17, 1934
2,114,761	Crider	Apr. 19, 1938
2,214,737	Dauphinee	Sept. 17, 1940
2,362,933	Schaefer	Nov. 14, 1944
2,420,707	Hinger	May 20, 1947
2,505,378	Belgau et al.	Apr. 25, 1950
2,562,167	Bilde	July 31, 1951
2,637,540	Rowe	May 5, 1953