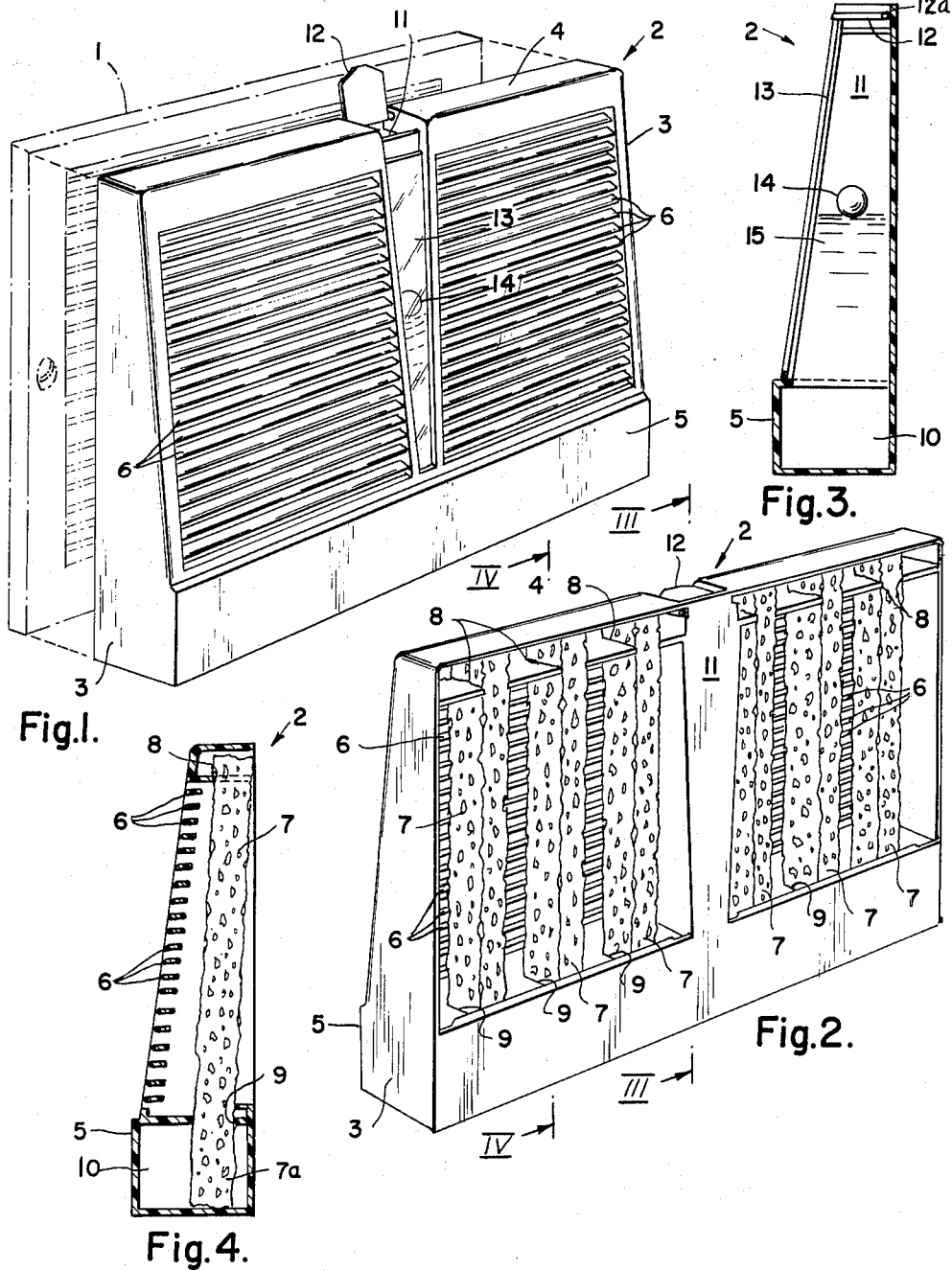


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W. S. SPANGLE  
HUMIDIFIER GRILLE

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## HUMIDIFIER GRILLE

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This invention relates to an air conditioning unit and, more particularly, to a humidifier grille for use as an accessory to a register opening of a hot air heating system.

In the past, many attempts have been made to increase the humidity of hot air furnace systems since they provide heated air of abnormally low humidity.

An outstanding disadvantage of such prior attempts is that they involve bulky units, such as large tanks of water, and necessitate reconstruction of existing hot air systems in order to provide the needed humidity.

Another disadvantage is that such units are awkward, expensive and difficult to maintain.

An object of the present invention is to provide a humidifier unit which is devoid of the above named disadvantages and which can be added to any register opening of a hot air heating system by merely placing the unit against the register opening without the necessity of any fastening means whatsoever.

A more specific object of the invention is to provide a novel auxiliary grille unit having humidifier sponges or the like partly immersed in a trough of water so that when the unit is placed in confronting relationship to the register opening of a hot air system, the air from the register will be humidified before passing out through the grille or louvres of the auxiliary unit and thus provide the required humidity in a room.

Another object of the present invention is to provide a portable humidifier grille for use as an accessory for placement against the register opening of a hot air furnace system so as to humidify the air before entering the room, which unit includes a trough of water and a filling tube therefor, which tube is visible so that the observer can quickly see when the level of the water has gone below a predetermined height so as to require refilling.

Other objects and advantages will become more apparent from a study of the following description taken with the accompanying drawing wherein:

FIG. 1 is a perspective view showing a conventional register 1, shown in dash and dot outline, and a humidifying grille 2 for placement thereagainst and embodying the novel feature of the present invention;

FIG. 2 is a rear view of the humidifier grille 2;

FIG. 3 is a vertical, cross-sectional view taken along line III—III of FIG. 2; and,

FIG. 4 is a vertical, cross-sectional view taken along line IV—IV of FIG. 2.

Referring more particularly to the drawing, numeral 1 denotes a grille or register of conventional construction forming one of the outlets, immediately above the floor level, of a hot air furnace system. As is well known, heated air is forced through the grille or louvres of such registers, by a fan or by gravity to heat a room.

In accordance with the present invention, an auxiliary humidifier grille 2 is provided which is readily portable and which is supported on the floor immediately against and in confronting relationship to the register 1. For sake of clarity, however, the auxiliary grille is shown somewhat spaced away from register 1, although it will be understood that the rear surface of the grille is placed immediately adjacent and substantially in contact with the grille or register 1.

The auxiliary humidifier grille 2 may be made of any suitable material, such as metal or plastic, and comprises sidewalls 3, a top wall 4 and a front base panel 5, the

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latter defining the front portion of a trough 10 which is normally filled with water. A plurality of louvres 6, forming a grille, are provided in the front open spaces between panel 5 and the top panel integral with top wall 4, so that air may freely flow through the openings of the louvres 6.

As shown more clearly in FIGS. 2 and 4, a plurality of sponges 7, in the form of vertical strips, are supported in vertical, spaced parallel relationship in the grille unit 2 with the lower end portions of the sponges immersed in trough 10 which is filled with water or other liquid. For example, medicants may be added to the liquid to provide an inhalant to relieve nasal congestion or to provide perfumed or deodorized air. Holes 9 are provided in the top panel or cover of the trough 10 through which the sponge strips are closely fitted. Similarly, a top panel having cut-out portions 8 closely fit about the sides of the top portions of sponges 7 so as to provide support therefor.

It should be noted that sponges 7 may be joined together as a unit by horizontally extending sponge strips to form a grid shape of sponge, if so desired. Or the sponge assembly may be a single body provided with uniformly spaced holes of any desired shape, such as round, rectangular, diamond shape, etc., so long as air can pass through the holes thereof. It should be further noted that instead of making strip 7 of sponge material, they may be made of other materials providing capillary action for drawing water from trough 10, such as synthetic foam rubbers, foam plastic materials, etc.

Centrally of the grille 2 there is a vertically extending filler tube 11 which is open at the top for filling and which is provided with a lid 12 which may be hinged to the closed position to provide a cover for the filler tube 11. In FIG. 1, lid 12 is shown in the open position in readiness for filling, such as by pouring a pitcher of water therein. The front panel portion 13 of filler tube 11 may be made of transparent plastic material or glass so that the level of liquid therein may be readily observed, particularly by the aid of a float ball 14, so that one may quickly note when the unit needs refilling. By providing a head of water, the filler tube 11 sponge strips 7 may be more quickly saturated with water.

Grille 2 is held in the vertical position closely adjacent register 1 merely by the weight of the liquid in trough 10 at the base thereof, thus requiring no fastening means for attaching it to the register. If desired, however, permanent magnets may be placed at spaced intervals along the rear panels of trough 10 or of filler tube 11, or on any other portions of the rear surface of grille 2 so as to be held by magnetic attraction to the metal grille 2 or register 1. Of course, if desired, more positive means of attachment may be used, such as screws and the like.

From the above, it will be noted that the humidifier grille embodying the present invention is relatively light and very portable and may be selectively placed against any register of a hot air system for increasing the humidity of the heated air passing therethrough. Moreover, in appearance, it looks very much like the ordinary register or grille of existing hot air systems and involves no necessity of attaching means or for reconstructing any part of the hot air furnace system for its installation.

Thus it will be seen that I have provided an efficient humidifier grille in the form of a self contained unit including humidifying sponges and a trough of water, which unit may be placed against the ordinary register of a hot air furnace so as to effect a substantial increase in humidity—also which may be easily filled and which has a window for giving a continuous visual indication of the level of the water so as to denote when refilling is necessary; furthermore, I have provided a humidifier unit having sponge strips arranged in a manner so as to hu-

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modify the heated air from the register by a very substantial amount so as to provide comfort to the occupant of the room.

While I have illustrated and described a single specific embodiment of my invention, it will be understood that this is by way of illustration only, and that various changes and modifications may be made within the contemplation of my invention and within the scope of the following claims.

I claim:

1. In combination with the register of a hot air furnace system, an auxiliary humidifier grille unit held by gravity on the floor and in immediate confronting relationship to said register, said grille unit comprising a trough extending along the base portion thereof, a filler tube extending vertically upwardly from said trough, a grille disposed on each side of said filler tube, a lid pivotally mounted on top of said filler tube, a plurality of strips of water-absorbing material having bottom end portions immersed in said trough, so that when the trough is filled with water, said strips will become saturated so that heated air emanating from said register and flowing through the spaces between said strips and through said

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grilles will become humidified so as to condition the air in a room.

2. A humidifier grille as recited in claim 1 wherein the front panel portion of said filling tube is of transparent material so that the level of the water in said filler tube may be readily observed.

3. A humidifier unit as recited in claim 2, together with a float ball in said filler tube for floating on the water therein to give a quick indication of the water level.

#### References Cited by the Examiner

##### UNITED STATES PATENTS

|           |         |           |          |
|-----------|---------|-----------|----------|
| 170,990   | 12/1875 | Colburn   | 98—109   |
| 309,771   | 12/1884 | Davis     | 98—109   |
| 310,116   | 12/1884 | Beale     | 261—104  |
| 1,250,280 | 12/1917 | Carpenter | 261—104  |
| 1,841,536 | 1/1932  | Jordahl   | 261—99   |
| 2,865,469 | 12/1958 | Lyden     | 261—99 X |

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