

Sept. 24, 1929.

H. T. ODEAN

1,729,119

HUMIDIFIER

Filed Jan. 11, 1927

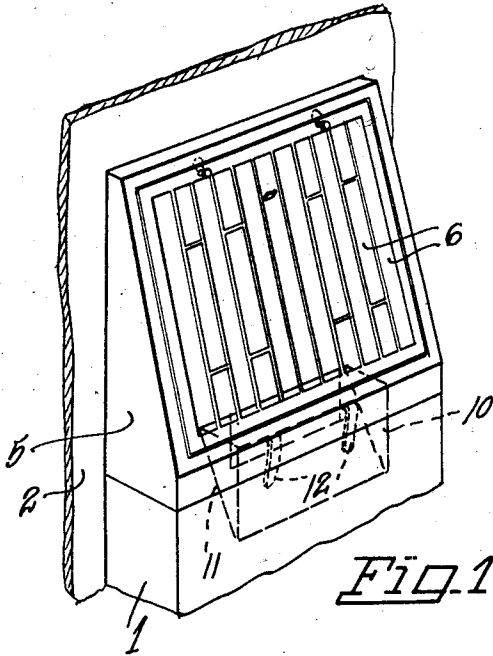


Fig. 1

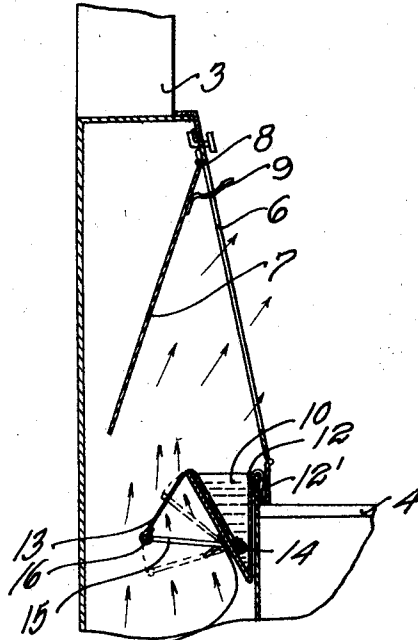


Fig. 2

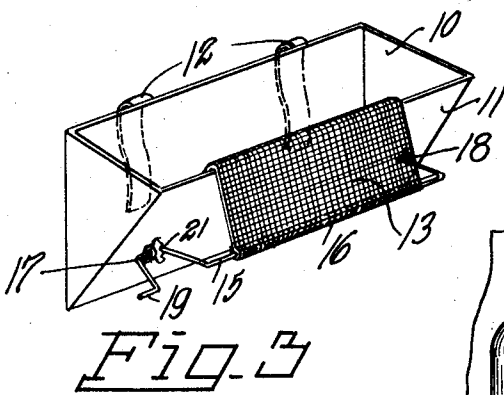


Fig. 3

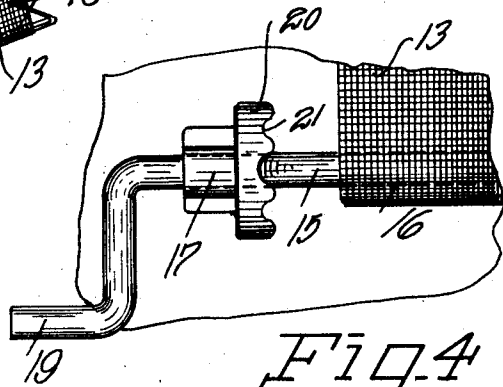


Fig. 4

Inventor

Henry T. Odean

Herbert E. Smith

By

Attorney

UNITED STATES PATENT OFFICE

HENRY T. ODEAN, OF SPOKANE, WASHINGTON

HUMIDIFIER

Application filed January 11, 1927. Serial No. 160,364.

My present invention relates to improvements in humidifiers for use in connection with heating systems for dwelling houses and other places. While the device of my invention, as an attachment, is well adapted for use in connection with radiators of hot water and steam heating systems as a humidifier for the air to be heated by the radiators, it is especially designed and adapted for use in connection with hot-air systems. Thus the humidifiers are adapted for use in the hot air flues of the heating system of a house and therefore are invisible, yet readily accessible when it is necessary to replenish the supply of water to the humidifier.

The humidifier is adapted for use with air in circulation when applied to a radiator of a steam-heating or hot-water heating system, and when used in a hot-air flue the humidifier utilizes the upwardly moving hot air-currents for the purpose of evaporating water from the humidifier, as the air currents pass from the flue to the room to be heated, thus maintaining the heated air in a sanitary condition.

The invention consists in certain novel combinations and arrangements of parts as will hereinafter be more fully pointed out and claimed. In the accompanying drawings I have illustrated one complete example of the physical embodiment of my invention wherein the parts are combined and arranged according to the best mode I have thus far devised for the practical application of the principles of my invention.

Figure 1 is a perspective view showing a "register" or outlet of a hot air flue of a house heating system, with the humidifier indicated in dotted lines within the hood of the flue.

Figure 2 is a vertical sectional view through the hooded portion of the flue, showing the humidifier in section.

Figure 3 is a perspective view of the humidifier.

Figure 4 is an enlarged detail view of means for locking in adjusted position the foraminous, absorbent, wick of the humidifier.

It will be understood that the humidifiers are adapted for use throughout the house and in connection with the various hot air flues,

one of which is indicated in Figure 1 where the general relation and assembly of parts are illustrated. The flue may have a back wall 2, and in Figure 2 an upper extension of the flue is shown at 3 for supplying heat to another story of the house. The floor line of the room is indicated at 4 in Figure 2 and the "register" for controlling the entrance of hot air to the room is comprised of a hood 5 forming a part of the flue 1, and provided with slots 6 in its front wall. The entrance to the room of the hot air currents through these slots 6 is controlled and regulated by the interior gate 7, hinged as at 8 at its upper edge, and provided with a handle 9 by means of which it may be moved and retained in adjusted position to control and regulate the hot air currents indicated by the arrows in Figure 2.

The humidifier includes a reservoir or tank 10 which is V-shape in cross-section, the inclined or angular wall 11 of the reservoir being utilized as a deflecting wall when the reservoir is suspended or supported by means of the hangers 12 within the hot air flue. As best seen in Figure 2 the reservoir for water is suspended at the front of the flue, the hangers 12 being engaged over a suitable support or ledge as 12' and the deflecting wall 11 of the reservoir projects some distance into the flue 1 in the path of air currents flowing up through the flue as indicated by the arrows. The air currents, after striking the wall 11 are deflected and caused to pass through a foraminous, absorbent wick 13 which is made of suitable fabric having an open mesh so that the air-currents may pass through this foraminous wick. The wick is anchored at one end 14 within the reservoir, which is constantly supplied with water, and by capillary attraction the water passes from the reservoir, over the wick portion that is exposed to the passage of air currents, and these air currents evaporate the water, carrying with them the moisture as they enter the room or other part of the house being heated.

The exposed, foraminous part of the wick 13 is adjustable with relation to the deflecting wall 11 for the purpose of exposing a varied surface area to the evaporating air currents

and for this purpose I utilize a U-shape bar 15 retained in a casing 16 at the edge of the wick, and this bar is fashioned of resilient material. At its ends the bar is journaled or pivoted in bearings 17 and 18 secured on the deflecting wall of the reservoir, and one end of the U-bar is fashioned as a crank handle 19 by means of which the bar may be turned in its bearings to extend the wick toward the horizontal or bring it to a more vertical position with relation to the upwardly flowing air currents in the flue 1.

When the crank handle is turned, the U-bar, because of its resiliency may be retained in adjusted position by means of a collar or disk 20 preferably formed integral with the bearing 17 and provided with an annular series of notches 21 in one of its faces. The U-bar 15 as best seen in Figure 4 is adapted to engage a selected one of these notches and in that manner the foraminous wick is retained in position.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent is—

The combination in a humidifier, of a reservoir, a foraminous, absorbent wick anchored in the reservoir and having a portion exterior thereof, a deflecting wall forming part of said reservoir whereby air currents are deflected by the wall through the exterior portion of the wick, an adjustable U-shaped bar of resilient material pivoted on said wall and connected with the free end of the exterior wick portion, and means for holding the bar in adjusted position.

In testimony whereof I affix my signature.

HENRY T. ODEAN.

40

45

50

55

60

65