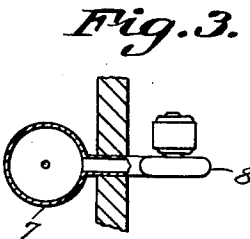
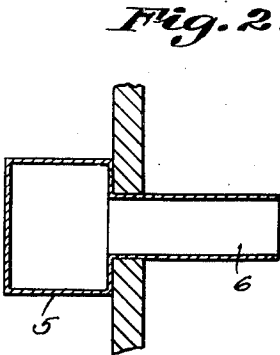
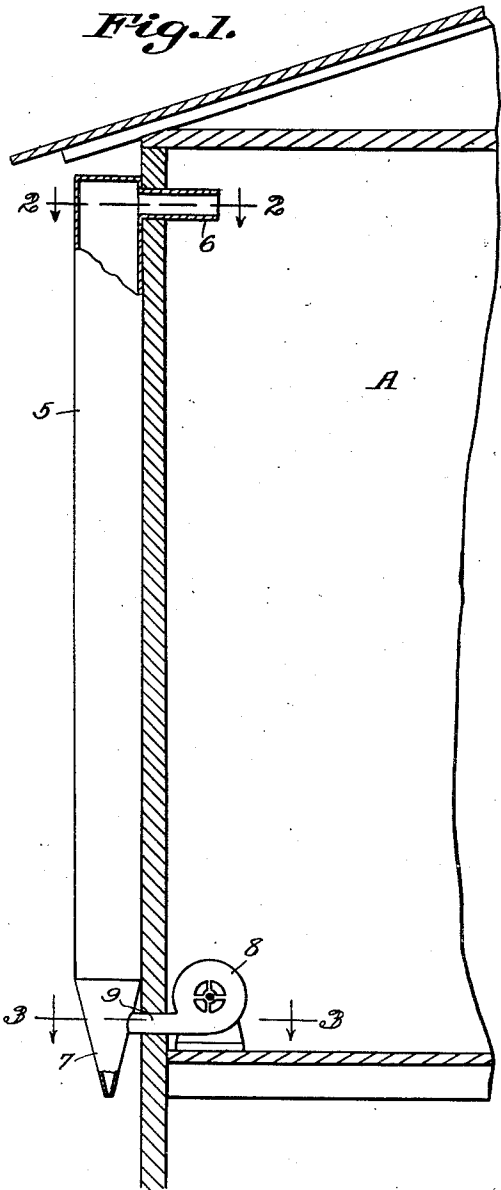


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T. GORDON
DEHUMIDIFIER

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2,707,526

DEHUMIDIFIER

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2 Claims. (Cl. 183—32)

This invention relates to air conditioners, and more particularly to dehumidifiers.

An important object of the invention is to provide a dehumidifier wherein room air is forced from a building and passed through a cooling pipe disposed exteriorly of the building, causing condensation within the pipe, which condensation being freed from the air is carried on through an outlet opening at the lower end of the pipe, the dehumidified air being returned to the room.

Another important object of the invention is to provide a dehumidifier which may be used in cold climates, and because of the simplicity of the dehumidifier, the cost of operation will be reduced to a minimum, the operation of the apparatus relying on the action of the cold atmosphere to accomplish the dehumidifying result.

Still another object of the invention is to provide a dehumidifier which will discharge dry air into the upper room area, resulting in the warm air, naturally trapped in the upper room area, being forced downwardly into the lower area of the room, thereby resulting in a substantial saving in heat.

With the foregoing and other objects in view which will appear as the description proceeds, the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claims, it being understood that changes may be made in the construction and arrangement of parts without departing from the spirit of the invention as claimed.

Referring to the drawing:

Figure 1 is a fragmental sectional view illustrating a dehumidifier constructed in accordance with the invention, as positioned exteriorly of a building and communicating with a room of the building.

Fig. 2 is a sectional view taken on line 2—2 of Fig. 1 of the apparatus.

Fig. 3 is a sectional view taken on line 3—3 of Fig. 1.

Referring to the drawing in detail, the apparatus comprises a tube 5 which is of a length to reach from a point adjacent to the floor of a room with which the dehumidifier is used, to a point adjacent to the ceiling thereof, as clearly shown by Fig. 1 of the drawing.

At the upper end of the tube 5 is an outlet pipe 6 which extends into the room A of the building, the pipe 6 establishing communication between the tube 5 and room, adjacent to the ceiling. The lower end of the

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tube 5 tapers as at 7, the tapered end having a discharge opening through which condensation in tube 5 may pass therefrom and be discharged to the atmosphere.

The reference character 8 indicates a blower which is electrically operated and which has communication with the lower tapered end of the tube 5, at a point above the discharge end thereof, the blower acting to draw air from the room at a point adjacent to the blower and direct the air into the tube 5 through the inlet pipe 9.

In operation, the blower is set in motion which draws air from the room and directs the air into the tube 5, the air rising within the tube 5 and passing from the tube 5 into the room A, through pipe 6 at a point adjacent to the ceiling of the room.

In view of the fact that this dehumidifier is designed for use in cold climates, the tube will necessarily be several degrees colder than the warm air passing into the lower end of the tube from the room. As the warm air strikes the cold tube 5, condensation is set up and the moisture in the air is separated, the moisture passing downwardly by gravity and discharging from the lower end of the tube, while the dehumidified air passes upwardly and is discharged into the room area at the ceiling through pipe 6.

Due to the fact that dry air is discharged into the upper part of the interior of the room it is obvious that the warm air naturally trapped in the upper room area will be forced downwardly into the lower area of the room, thereby resulting in a substantial saving in heat.

Having thus described the invention, what is claimed is:

1. A dehumidifier embodying a vertical tube disposed exteriorly of a building, an air outlet pipe communicating with the tube and interior of the building extending laterally from the upper end of said tube, an inlet pipe extending laterally from the lower end of the tube and extending through the wall of the building establishing communication between the interior of the building and tube, a blower communicating with the inlet pipe for directing warm air from the building into said tube, and the lower end of said tube being tapered partially closing the lower end of the tube, and through which moisture flows from said tube.

2. A dehumidifier for use in cold climates embodying a vertical tube disposed exteriorly of a building, an outlet pipe establishing communication between the building and upper end of said tube, the lower end of said tube being tapered downwardly providing a discharge opening, an inlet pipe establishing communication between the building and tapered end of said vertical tube at a point above the lower discharge end of said tube, and a blower connected with said inlet pipe for drawing warm air from the building directing the warm air into said tube, from which said air passes into the building at the upper end of said tube.

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