

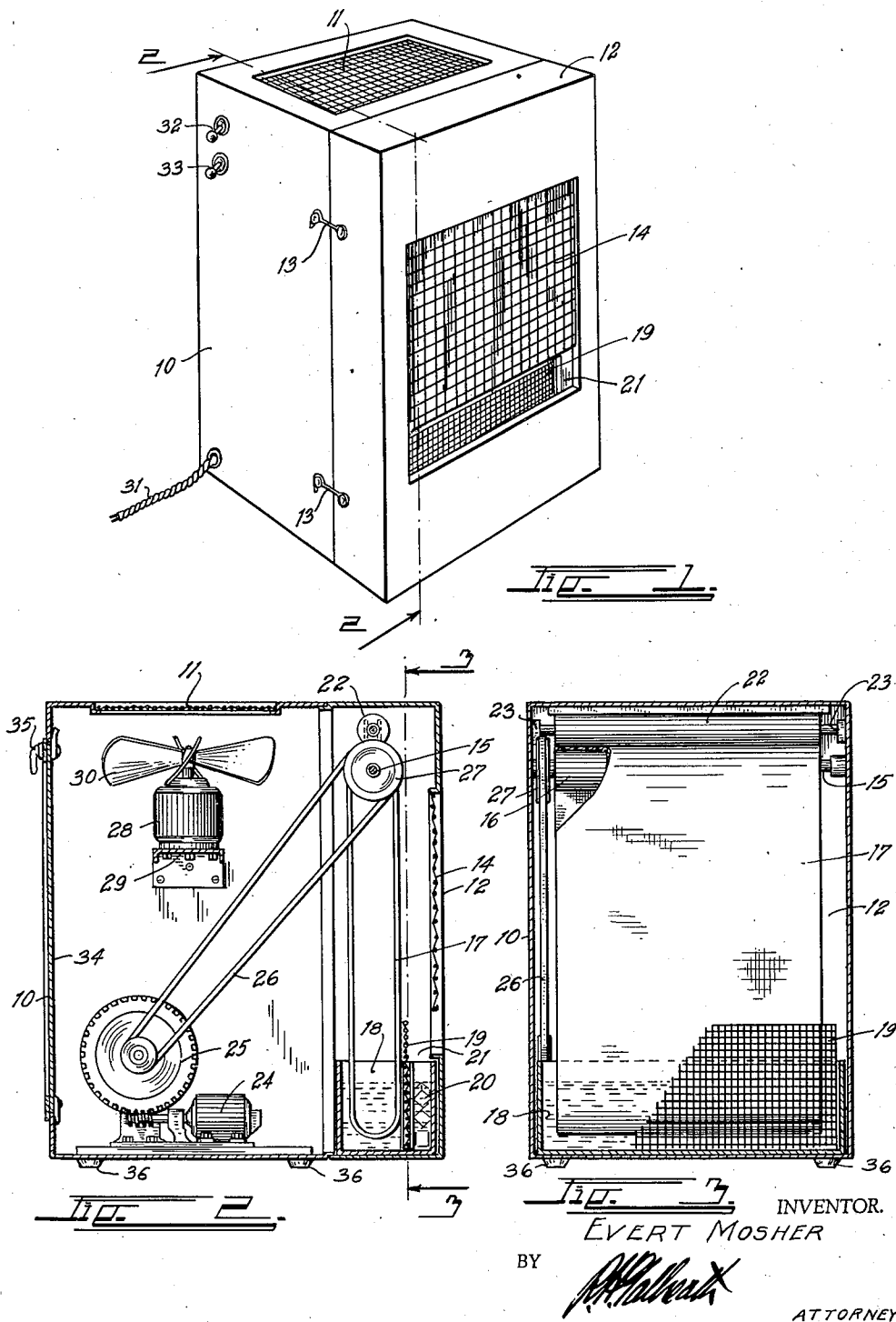
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AIR CONDITIONER

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AIR CONDITIONER

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3 Claims. (Cl. 261—30)

This invention relates to a portable air conditioning unit and has for its principal object the provision of a neat, simple, compact device which will cool, humidify, wash, filter, and circulate the air in a home or office at very little expense and without inconvenience.

Other objects and advantages reside in the detail construction of the invention, which is designed for simplicity, economy, and efficiency. These will become more apparent from the following description.

In the following detailed description of the invention reference is had to the accompanying drawing which forms a part hereof. Like numerals refer to like parts in all views of the drawing and throughout the description.

In the drawing:

Fig. 1 is a perspective view of the improved portable air conditioning unit;

Fig. 2 is a vertical section therethrough, taken on the line 2—2, Fig. 1; and

Fig. 3 is a vertical section, taken on the line 3—3, Fig. 2.

The improved air conditioning unit comprises a cabinet 10 provided at its top with an air discharge grill 11 and at its bottom with supporting feet 36. The front of the housing 10 is open to receive a humidifying casing 12 which is detachably secured thereover in any desired manner, such as by means of suitable latches or hooks 13.

The inner face of the casing 12 is entirely open to the interior of the cabinet 11 and the outer face of the casing is provided with a window partially covered by means of an intake screen 14. A roller shaft 15 extends across the upper portion of the casing 12 to which a roller 16 is secured.

A wide endless fabric belt 17 depends from the roller 16 into a reservoir 18 which, when in use, is partially filled with water. A partition screen 19 forms an ice compartment 20 in the front of the reservoir. Ice may be placed in this compartment through an icing opening 21 below the screen 14.

The fabric belt 17 is constantly pressed against the roller 16 by means of a weighted press roll 22, the shaft of which rides in vertical guide members 23 so as to allow the entire weight of the roller 22 to rest against the fabric belt 17. This press roll serves a double purpose, first it prevents slipping of the belt 17 on the roller 16 and second it acts to squeeze the water from the more saturated portions of the belt onto the drier portions thereof so as to uniformly distribute the water over the entire belt.

The roll 16 is driven from a suitable drive motor 24 through the medium of a speed reducing mechanism 25. An endless belt 26 connects the speed reducing mechanism with a belt pulley 27 on the roller shaft 15.

A fan motor 28 is mounted on a shelf member 29 in the cabinet 10. This motor is preferably positioned with its shaft vertical to rotate a blower fan 30 immediately below the discharge screen 11. Current is supplied to both the motors through a flexible conductor cord 31 and the motors are controlled through the medium of suitable switches 32 and 33 on the cabinet 10.

It can be readily seen that with both motors operating, air will be forced upwardly through the grill 11 and will be drawn inwardly through the screen 14. The incoming air strikes the wet belt 17 and flows through and around it, absorbing the evaporating moisture therefrom. The evaporation of this moisture serves to cool the belt and the flowing air. The belt is constantly maintained humidified due to the fact that it is continually traveling with a portion thereof submerged in the water in the tank 18.

The cabinet 10 may be provided with an entrance door 34 held in place by a suitable latch member 35. This door, however, is not ordinarily necessary since access to the internal mechanism can be had by simply removing the casing 12.

While a specific form of the improvement has been described and illustrated herein, it is desired to be understood that the same may be varied, within the scope of the appended claims, without departing from the spirit of the invention.

Having thus described the invention, what is claimed and desired secured by Letters Patent is:

1. An air conditioning unit comprising: a cabinet having an air discharge opening, one face of said cabinet being open; a humidifier casing secured over the open face of said cabinet; an intake opening in said casing; a water reservoir extending across said casing below said opening; a belt roller extending across said casing below said opening; an endless absorbent belt suspended from said roller and depending into said reservoir; motor means for rotating said belt roller; and a pressure roller acting to press said belt against said belt roller.

2. An air conditioning unit comprising: a cabinet having an air discharge opening, one face of said cabinet being open; a humidifier casing secured over the open face of said cabinet; an intake opening in said casing; a water reservoir extending across said casing below said opening;

a belt roller extending across said casing below said opening; an endless absorbent belt suspended from said roller and depending into said reservoir; motor means for rotating said belt roller; a pressure roller acting to press said belt against said belt roller; and a motor driven fan supported in said cabinet below said discharge so as to propel air therethrough.

3. A portable air conditioning unit comprising: a cabinet; a discharge grill on the top of said cabinet; a motor driven fan below said grill to

5 force air upwardly therethrough; an intake screen; a roller positioned across said cabinet above said screen; an endless sheet of absorbent material surrounding and depending from said roller into said reservoir; motor driven means for rotating said roller; a weighted roller positioned above said first roller and resting by gravity against said sheet; and bearing guide members holding said weighted roller in place yet allowing 10 free, vertical movement thereof.

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