

R. J. PATTERSON.
ELECTRIC HUMIDIFIER.
APPLICATION FILED JAN. 2, 1919.

1,313,832.

Patented Aug. 19, 1919.
3 SHEETS—SHEET 1.

Fig. 1.

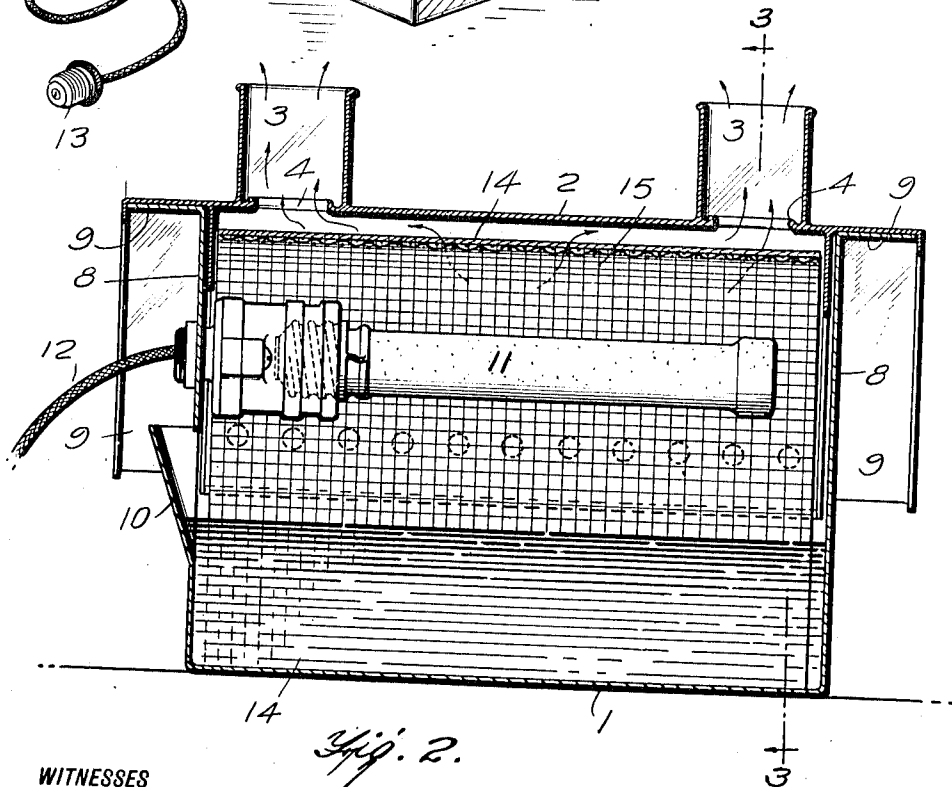
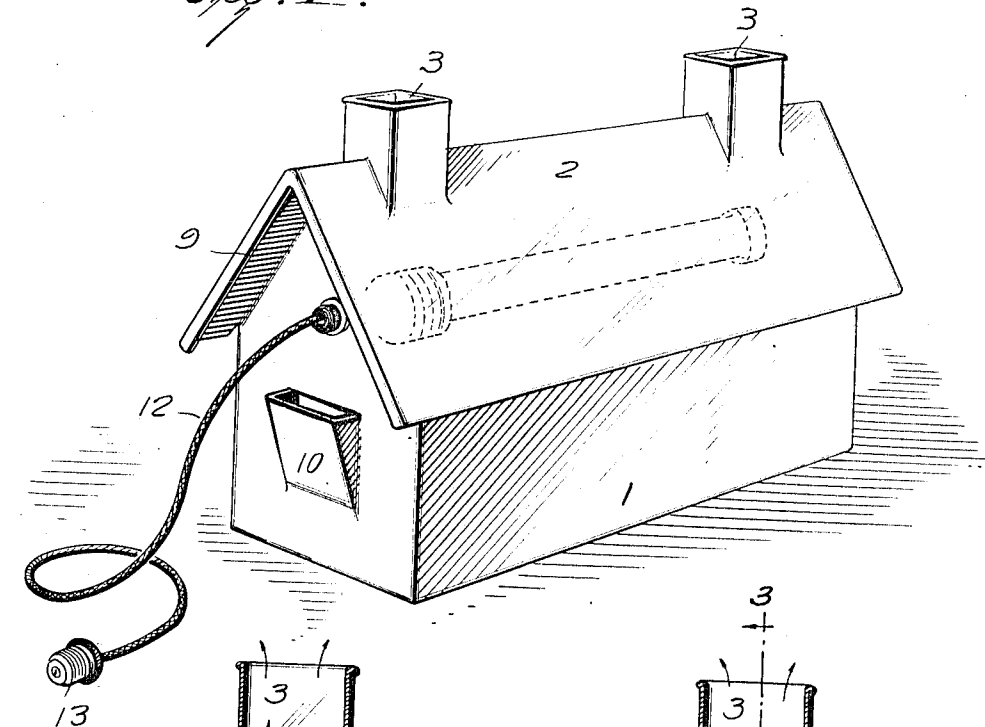


Fig. 2.

WITNESSES

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Fig. 3.

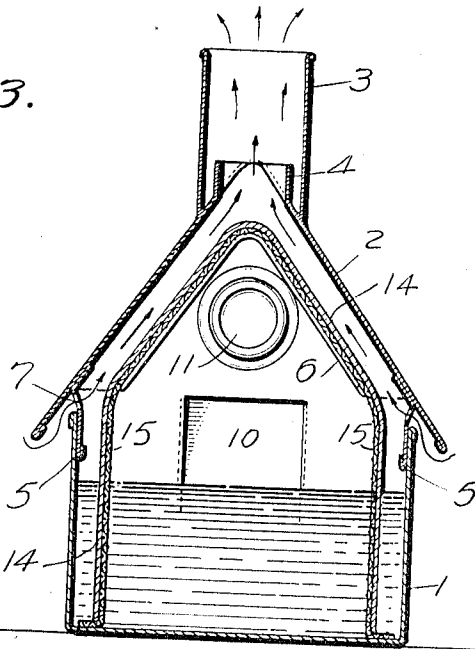


Fig. 4.

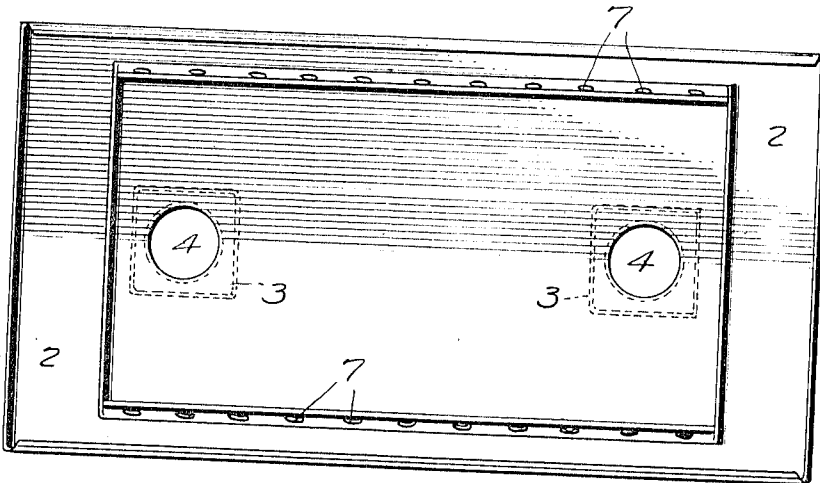
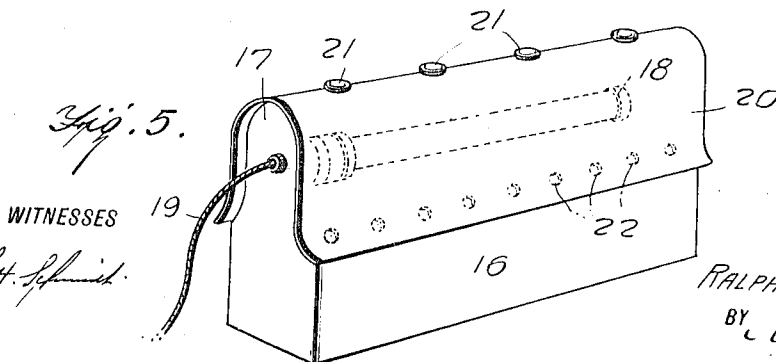


Fig. 5.



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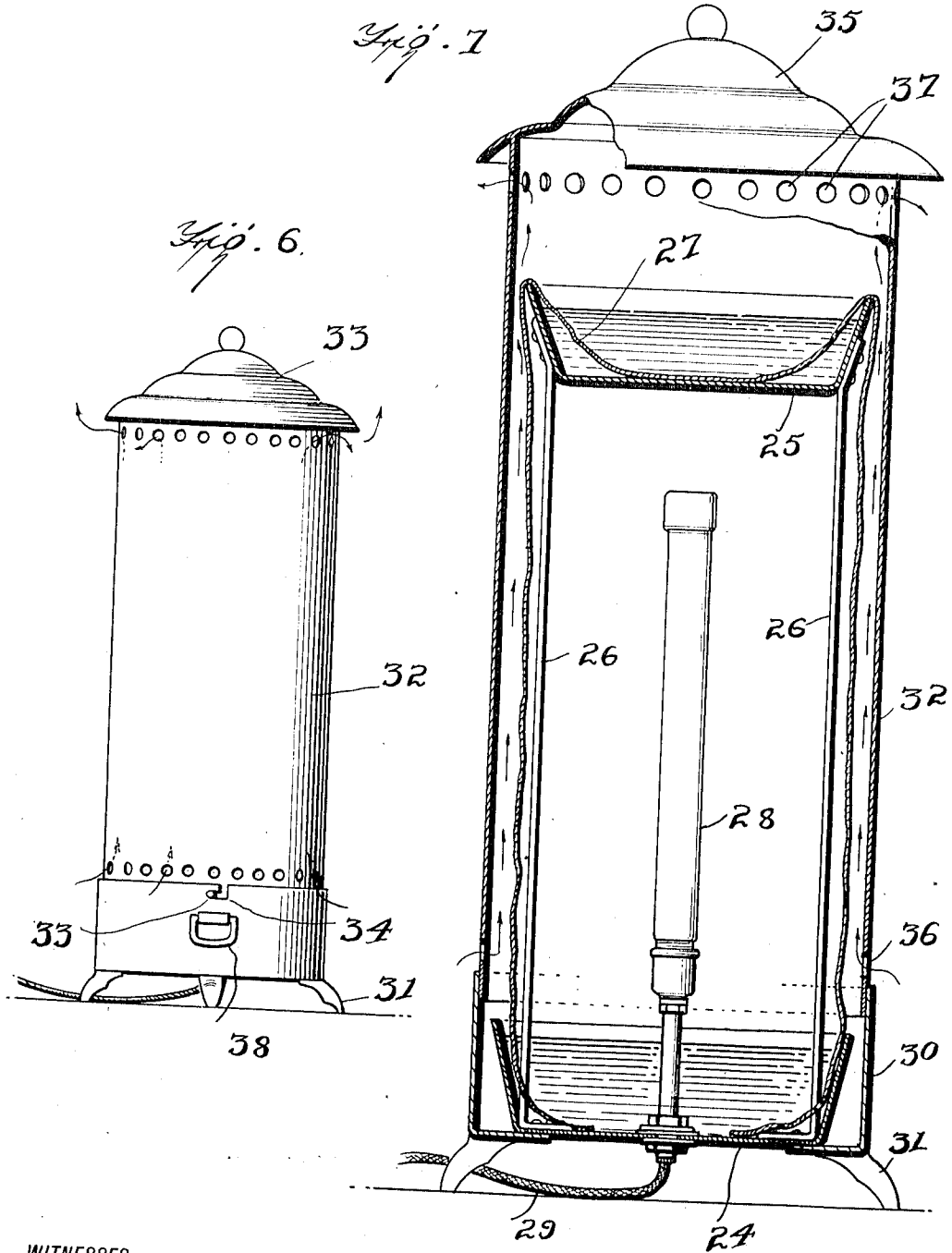
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3 SHEETS—SHEET 3.



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ELECTRIC HUMIDIFIER.

1,313,832.

Specification of Letters Patent.

Patented Aug. 19, 1919.

Application filed January 2, 1919. Serial No. 269,194.

To all whom it may concern:

Be it known that I, RALPH J. PATTERSON, a citizen of the United States, and a resident of Berlin, in the county of Coos and State of New Hampshire, have invented certain new and useful Improvements in Electric Humidifiers, of which the following is a specification.

My invention is an improvement in electric humidifiers, and has for its object to provide a simple, inexpensive device of the character specified capable in small sizes of attachment to an ordinary lighting circuit and by means of which the amount of moisture in the air of a room may be held at any desired degree.

In the drawings:—

Figure 1 is a perspective view of the humidifier,

Fig. 2 is a longitudinal vertical section,

Fig. 3 is a section on the line 3—3 of Fig. 2, looking in the direction of the arrows adjacent the line,

Fig. 4 is a bottom plan view of the cover,

Fig. 5 is a perspective view of a modified construction,

Fig. 6 is a front view of a modified construction, and

Fig. 7 is a vertical section through the same.

In the embodiment of the invention shown in Figs. 1 to 4, the improved humidifier consists of a box-like body 1 and a cover 2, the said body and cover being formed of sheet metal of suitable weight and the cover is composed of two integral portions extending at an acute angle with respect to each other, somewhat similar to the shape of a house roof.

This cover has outlets, one near each end at the apex thereof, and each outlet consists of an outer wall 3 and an inner wall 4 spaced apart from the outer wall and of less height, as shown in Fig. 3. The cover has a depending flange 5 near each side edge, the said flanges fitting within the side walls of the body 1, and the cover also has end flanges 6 which fit within the end walls of the body.

The flanges 5 are formed by strips which are secured to the underface of the cover, one edge of each strip being secured to the cover while the other edge depends free, and it is the depending edges that fit within the body. The arrangement is such that the body does not fit down closely against the upper

edges of the side walls as shown, in Fig. 3, but are spaced apart to form air passages, and the flange has a longitudinally extending series of openings 7 at this point, for permitting the passage of the air. It will be noticed referring to Figs. 2 and 3 that the wick is spaced apart from the cover and from the side walls of the body, so that there is a free circulation of air upwardly from the openings 7 between the wick and the cover walls and out at the outlets 4. Referring to Fig. 3, it will be noticed that the body 1 has at each end a species of gable 8, and each gable has outwardly extending flanges or webs 9, upon which the cover rests at its ends. These flanges 9 hold the cover in spaced relation, so that there is a free passage of air through the openings 7.

The body 1 is adapted to contain water, and in one end wall the body has an inlet chute 10 formed from material of the end, for permitting water to be inserted in the body. The end provided with the outlet also carries an electric heater, indicated generally at 11, and this heater, which may be of any usual or desired construction, is supplied with current from a lighting circuit by means of a cable 12 having a screw plug 13 which may be inserted in a light socket. The heater extends almost the full length of the body, as shown, above the water level, and a wick is provided, indicated at 14, for raising the water by capillary attraction. This wick, as shown, is of a length to extend from one end of the body to the other and of a width to extend from the bottom of the body up near the side wall and near the roof to the top thereof, and thence down along the opposite side again to the bottom of the casing, dipping into the water at both side edges.

The wick is held in place by a sheet 15 of foraminous material, as, for instance, wire cloth, the said wire cloth being of sufficient stiffness to hold its shape and to hold the wick in proper relative position with respect to the remaining parts. Referring to Figs. 2 and 3, it will be noticed that this wick extends beneath the outlet passages 3, so that the air passing upwardly through these passages must pass over the wick impregnated with moisture.

In the operation of the heater it is placed upon a suitable support, as, for instance, a table or radiator, and the plug 13 is engaged with an electric light socket. A suitable

amount of water is placed within the body and the device is ready for operation. When the current is turned through the heater, a portion of the water absorbed by the wick will be evaporated, and will be carried away by the warm air passing out through the outlets 3.

Referring to Figs. 2 and 3, it will be noticed that the edges of the side walls of the body and the edges of the side walls of the roof are beaded, and that the webs 9 have lateral flanges at their free ends for the purpose of strengthening and reinforcing these parts.

When it is desired to clean the device or to gain access to the interior for any purpose, the cover may be removed by slipping out the flanges 5 and 6.

In the embodiment of the invention shown in Fig. 5, the body 16 which carries the water has the gables 17 which, however, instead of being triangular, are rounded at their tops. The heater 18 is carried by one end wall or gable and is supplied with current by the cable 19. A cover 20 is shaped to fit over the gables and over the open top of the body, and this cover has ventilating openings 21 corresponding to the outlets 3-4 of Fig. 1. Other openings 22 are provided at the junction of the body with the cover, the said openings 22 being in the flanges beneath the overhang of the cover as in Fig. 3.

In the embodiment of the invention shown in Figs. 6 and 7, a trough 24 is provided, for containing water, and this trough supports a second trough 25 by means of uprights 26 which connect the two troughs, the uprights being secured at their tops to the side wall

of the top 25, and at their bottoms to the trough 24.

A wick indicated at 27, to which may be secured a strip or series of strips with its central portion dipping into the water into the trough 25 and with its ends depending into the trough 24. The trough 24 carries a heater 28, which in the present instance is an electric heater supplied with current by the cable 29.

The trough 24 seats within a cup-shaped base 30 which has supporting lugs 31, and which has a central opening through which the cable 29 may pass. A body 32 engages within the base at its lower end, and is detachably connected therewith, by means of pins 33 and bayonet slots 34.

A cover 35 is connected with the top of the body, and this body has annular series 36 and 37 of openings near its bottom and top, respectively, and it will be evident that air may circulate through the inclosing casing and over the wick, through the openings 36-37 entering through the opening 36 and being discharged from the opening 37. The air is thus thoroughly humidified in its passage. The base 30 has handles 38 for convenience in handling the same.

I claim:

A device of the character specified, comprising a pair of tanks arranged in vertically spaced relation and rigidly connected, the tanks being adapted to contain water, a wick dipping into both tanks, and a casing inclosing the tanks and the wick and having ventilating openings near the top and bottom of the same.

RALPH JOSHUA PATTERSON.