July 22, 1930. R. B. PAYSEE 1,771,232

AIR COOLING DEVICE

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Fig. 4.

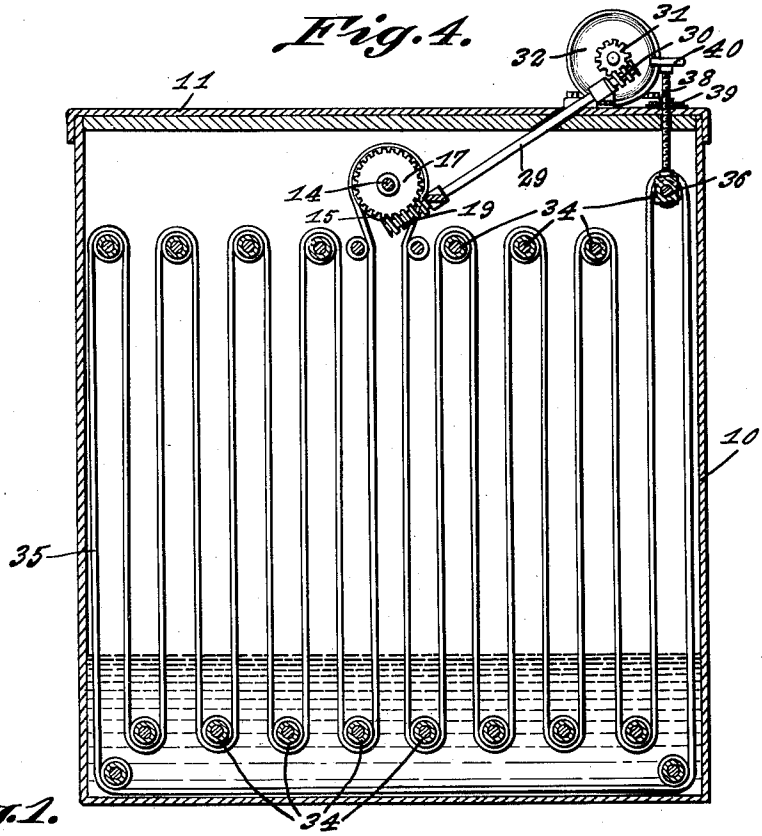
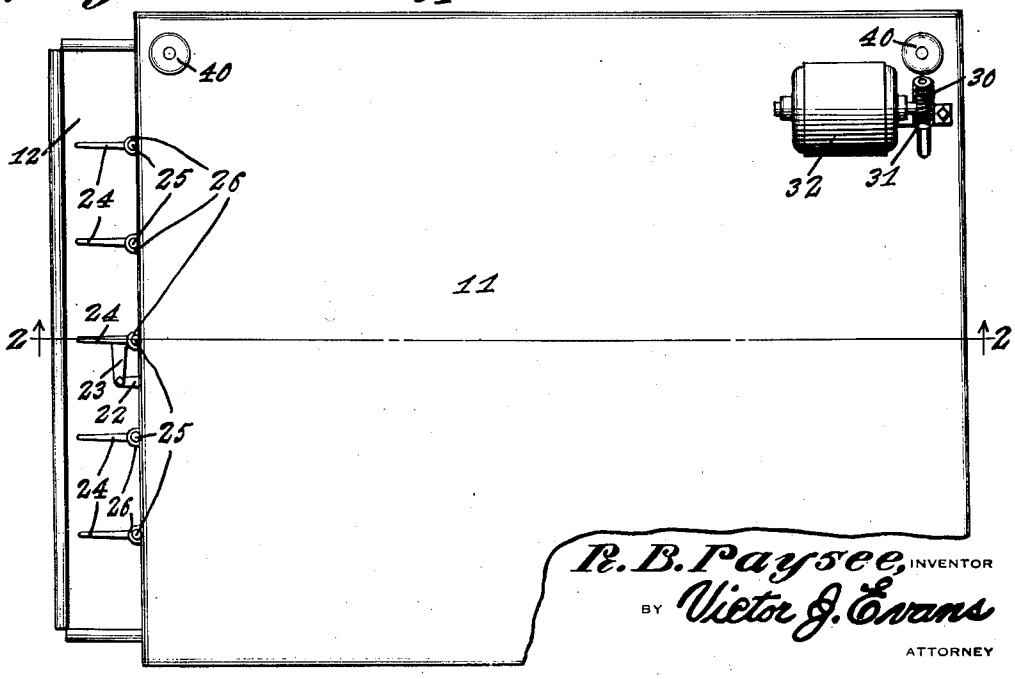


Fig. 1.



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Fig. 3.

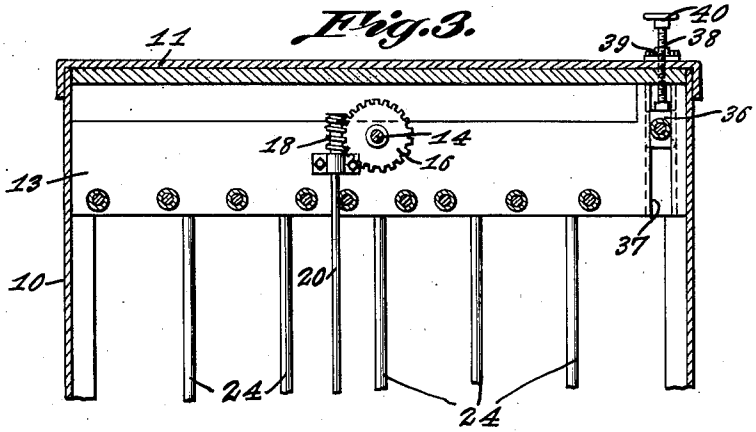
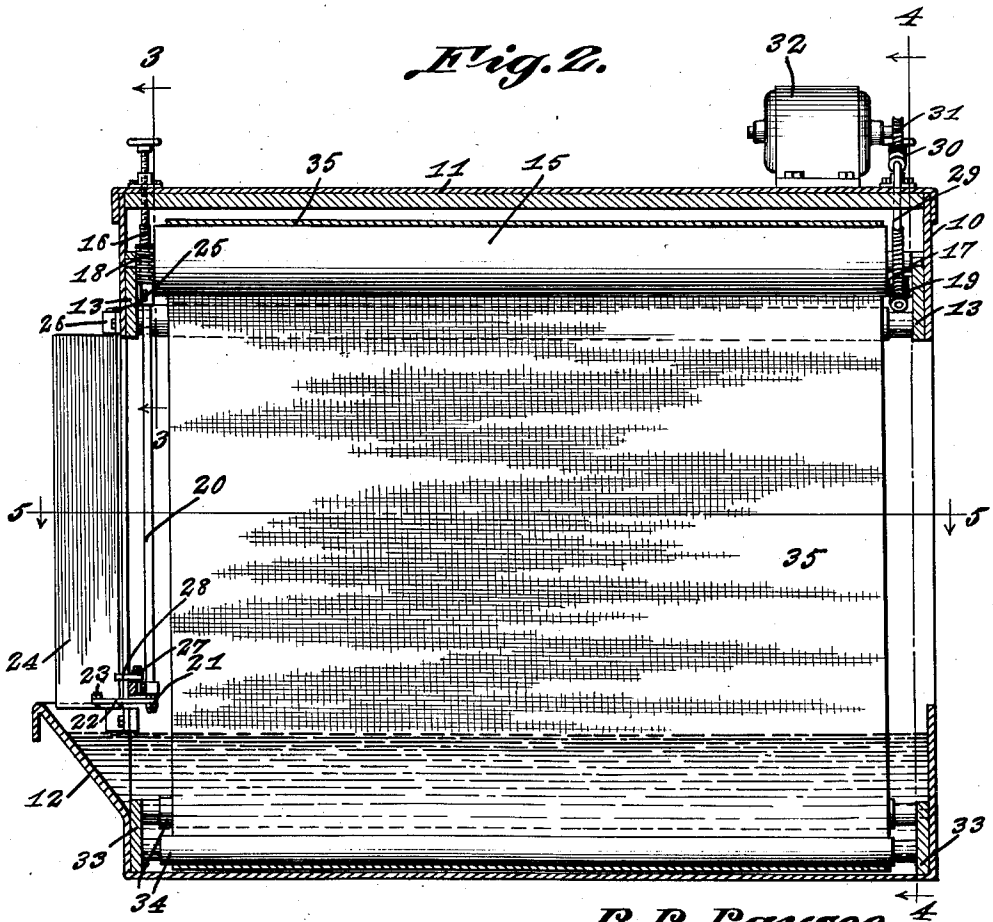


Fig. 2.



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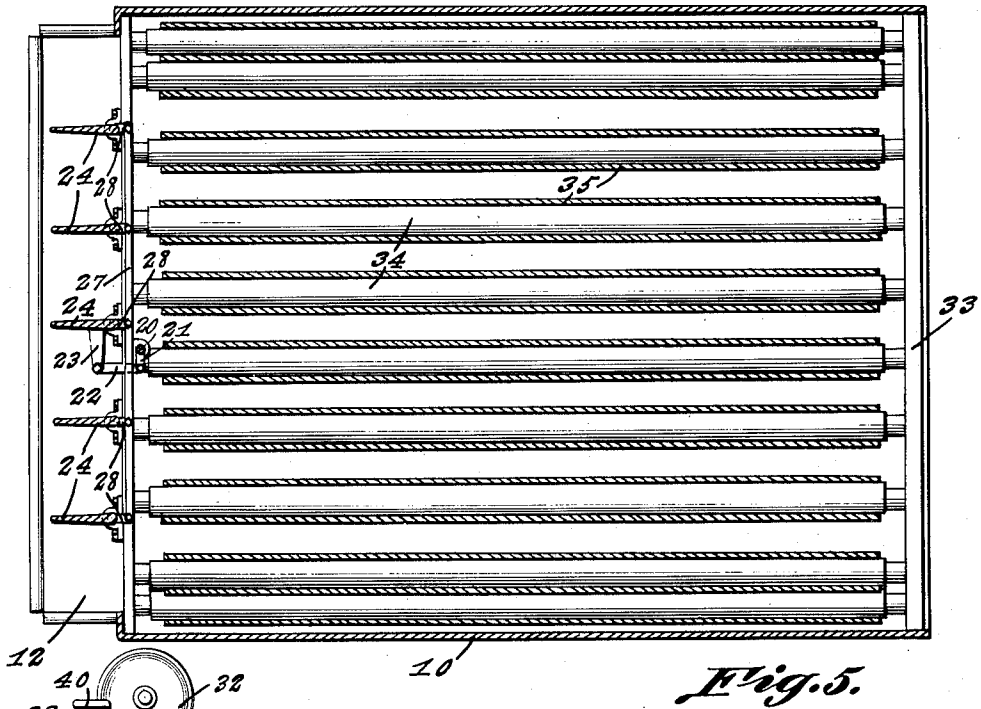


Fig. 5.

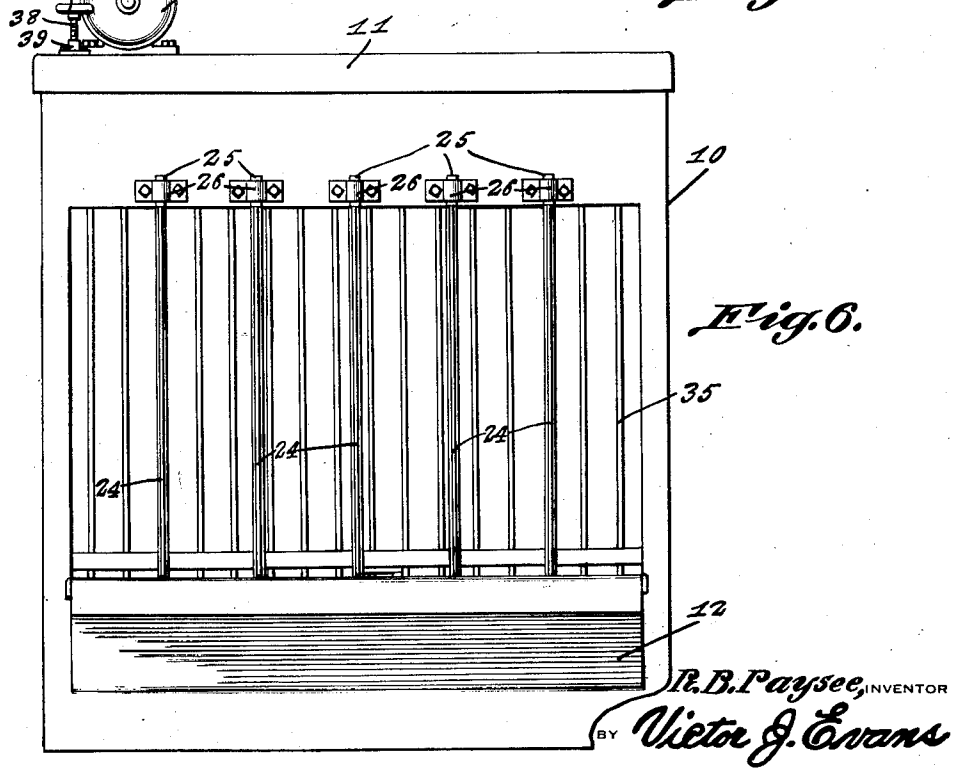


Fig. 6.

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Patented July 22, 1930 1,771,232

UNITED STATES PATENT OFFICE

ROBERT B. PAYSEE, OF OKLAHOMA CITY, OKLAHOMA

AIR-COOLING DEVICE

Application filed October 23, 1929. Serial No. 401,882.

This invention relates to new and useful improvements in air cooling devices primarily designed for use in conjunction with a form of forced draft mechanism in order that the air within a room will be suitably dampened both for the convenience and health of the occupants thereof and the preservation of the furniture.

Another object of the invention embodies a liquid receptacle housing the air cooling device.

An additional object of the invention consists of an endless absorbing element designed to be submerged in the water of the receptacle and to absorb quantities thereof above the water line for mixing with air currents directed through the housing.

A further object of the invention contemplates the provision and arrangement of register fins upon the discharge end of the apparatus and designed for oscillatory movement thereon to direct the humidified air about the entire room.

With the above and other objects in view, the invention further consists of the following novel features and details of construction, to be hereinafter more fully described, illustrated in the accompanying drawings and pointed out in the appended claims.

In the drawings:

Figure 1 is a fragmentary top plan view of the invention.

Figure 2 is a sectional view taken on line 2—2 of Figure 1.

Figure 3 is a vertical sectional view taken on line 3—3 of Figure 2.

Figure 4 is a view similar to Figure 3 taken on line 4—4 of Figure 2.

Figure 5 is a longitudinal sectional view taken on line 5—5 of Figure 2.

Figure 6 is a front elevation of the invention.

Referring to the drawings in detail wherein like characters of reference denote corresponding parts, the reference character 10 indicates generally a form of housing including a closure lid 11. The housing, as manifest from the illustrations of my invention in Figures 2 and 4 of the drawings is filled to a predetermined level with a quantity of water. A lip or flange of the configuration designated as at 12 extended from one end of the housing and in communication with the interior thereof provides a convenient means whereby the operator may readily inspect the apparatus to ascertain the quantity of water in the housing and to replenish same as required. Spaced plate members 13, arranged in the manner shown in Figures 2 and 3 of the drawings, have the respective ends of the axle 14 of a master drive roller 15 journaled therein. Worm gears 16 and 17, carried upon the ends of the axle 14, are designed for meshing engagement with worms 18 and 19 respectively. The worm 18 is carried upon the uppermost projecting end of a standard 20 vertically disposed adjacent the forward end of the housing.

A crank arm 21, carried by and operable in conjunction with the standard 20 upon the lowermost end thereof, is joined with a pivoted link 22 carried at its opposite end upon a crank arm 23 laterally projecting from one side of a form of ventilator or register fin 24. A multiplicity of such fins are arranged upon the front of the humidifier, each of which being provided with trunnions 25 upon the ends thereof adjacent their innermost edges and journaled within bearings 26 conveniently located upon the housing.

A drag or connecting link 27, mounted for oscillatory movement across the front of the housing, is pivotally joined at intervals with ears 28 rearwardly projecting from the aforementioned inner side edges of the fins whereby simultaneous opening and closing action of the fins, and incidentally the discharge end of the humidifier, will be facilitated.

The worm 19 is carried by a shaft 29 having a complemental worm 30 upon its opposite end which in turn is meshingly engaged and operated from a worm gear 31 included upon the armature shaft of a motor or other source of power indicated as at 32. Plates 33, complemental to the plates 13 and arranged within the water compartment of the housing coact therewith in the journaling of

the trunnions or pintles projecting axially from the ends of successions of roller members 34.

An endless belt or conveyor, such as indicated at 35, is preferably composed of absorbent material to become saturated, incident to its absorption qualities to elevate the water from the compartment in the housing as same is submerged and elevated therefrom. The motor or source of power is continuously operable and so joined with the master roller 15 and standard 20 that the endless conveyor will be simultaneously operated in conjunction with the ventilator fins 24.

It may be found both desirous and necessary at times to adjust the endless conveyor or belt to remove slack therefrom or loosen same when the latter shrinks, persuant to the characteristics and composition of the form of belt employed. Such adjustment is afforded through the provision and arrangement of vertically sliding bearing members 36 receiving the trunnions or pintles upon the ends of one of the roller members 34. Said bearing members are vertically slotted to accommodate the adjacent edges upon the opposite sides of openings 37 in the plates 13 whereby the bearing members may afford adjustment to the particular roller member in a true vertical plane. Adjusting shafts 38 threadedly engaged with anchorage plates 39 upon the uper surface of the closure or lid 11 are swivelly connected with the upper sides of the bearing members 36 and operated exteriorly of the housing through the provision and arrangement of hand wheels or finger engaging portions 40.

It is obviously apparent that the present invention may be located immediately in advance of an electric fan or shifted against a register plate of a hot air heating system. The oscillating actions of the vertical fins 24 will direct the humidified air leaving the housing, to all parts of the room. It has been found that humidified air is more beneficial from a hygienic standpoint due to the fact that it is likened to the outside atmosphere. The nostrils will not smart nor burn and the adhesives employed in furniture and for wall papers will not be dried out. It is furthermore believed that the invention will prove more effective of the purpose than the radiator pans and the receptacles of water generally placed upon the top of gas, electric and other forms of heaters.

The invention is susceptible of various changes in its form, proportions and minor details of construction, and the right is herein reserved to make such changes as properly fall within the scope of the appended claims.

Having described the invention, what is claimed is:—

1. An air cooling device for use in conjunction with fans and the like comprising a liquid receptacle open at both ends, a multiplicity of roller members arranged within the top and submerged within the liquid, an absorbent element of continuous formation passed around and about the roller members and through the liquid, a plurality of fins vertically mounted for lateral swinging movement upon the discharge end of the receptacle, a drag link having pivotal connection with each of the fins to effect simultaneous oscillatory movement thereof, and an operating mechanism having connection with the rollers and fins whereby air currents passing between the saturated faces of the element and humidified thereby will be directed laterally from the receptacle over a substantial area.

2. An air cooling device for use in conjunction with fans and the like comprising a liquid receptacle having both ends open, a multiplicity of roller members journaled within the liquid compartment and within the top of the receptacle, an absorbent element of continuous formation trained around and about the roller members and designed to pass through the liquid, a master roller for the absorbent element, a plurality of ventilating fins vertically disposed and bearingly mounted for lateral swinging movement upon the discharge end of the receptacle, a drag link having pivotal connection at intervals with the fins to effect simultaneous oscillations of said fins, a standard operated from the master roller having a crank arm upon its opposite end, a crank arm mounted upon one of the ventilating fins, and a pivoted link establishing connection at its ends between the crank arms whereby the roller members and fins may be simultaneously operated from a single source of power to humidify and increase the consistency of air currents passing between the dampened walls of the absorbent element and to direct the humidified air currents laterally of the receptacle over a substantial area.

In testimony whereof I affix my signature.

ROBERT B. PAYSEE.