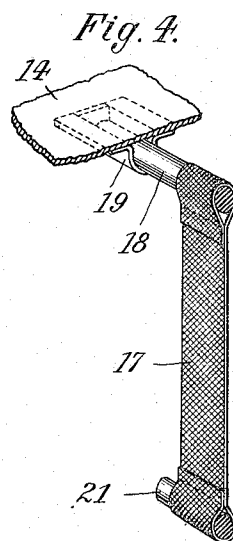
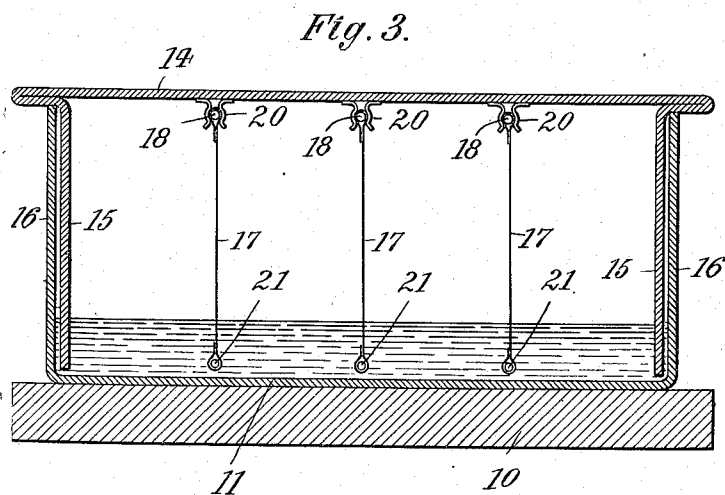
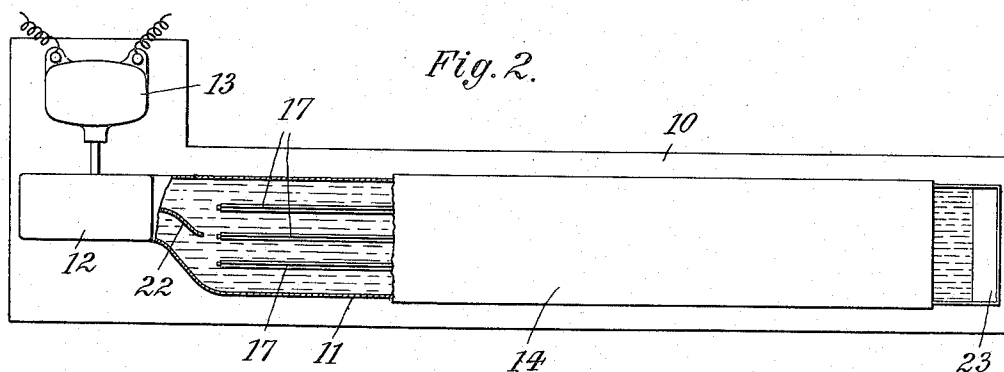
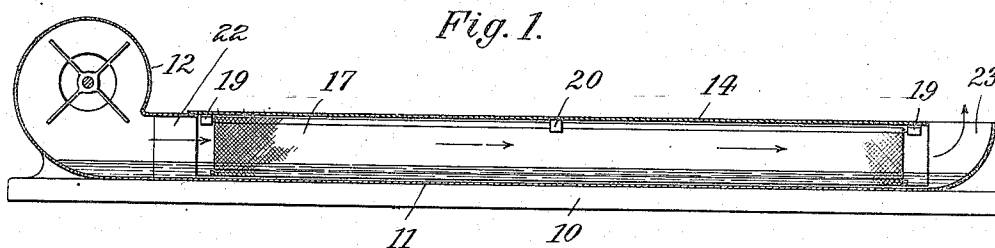


No. 847,840.

PATENTED MAR. 19, 1907.

J. J. SMITH.  
PORTABLE HUMIDIFIER.  
APPLICATION FILED MAY 10, 1906.



Witnesses  
L. J. Shaw  
J. Blake

Inventor  
J. J. Smith  
By his Attorney  
Robert M. Pearson.

# UNITED STATES PATENT OFFICE.

JOSEPH J. SMITH, OF NEW YORK, N. Y.

## PORTABLE HUMIDIFIER.

No. 847,840.

Specification of Letters Patent.

Patented March 19, 1907.

Application filed May 10, 1906. Serial No. 316,060.

*To all whom it may concern:*

Be it known that I, JOSEPH J. SMITH, a citizen of the United States, residing at New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Portable Humidifiers, of which the following specification and accompanying drawings illustrate the invention in a form which I now regard as the best out of the various forms in which it may be embodied.

This invention relates to apparatus for moistening air. Devices of this class have heretofore been somewhat bulky and expensive to construct; and it is the object of the present invention to furnish a humidifier which may be cheaply made and having such a construction that it may be readily placed in a restricted inclosure, such as a counter display-case for cigars or a stock-room where cigar-boxes are kept or in other situations.

My improved humidifier in its preferred construction includes a long trough for holding water provided with a removable top or cover sealed in a novel manner, from which cover are suspended a series of absorbent mantles mounted in an improved way and having their lower edges immersed in the water in the partially-filled trough, the height of said mantles being such that they will be saturated by capillarity. At one end is a motor-driven fan which blows a current of air through the trough and against the mantles, whereby the air-current emerging from an outlet at the opposite end of the trough attains a suitable degree of moisture and the air in the counter-case, compartment, or room is constantly circulated and kept uniformly moistened.

Of the accompanying drawings, Figure 1 represents a longitudinal vertical section of my improved humidifier. Fig. 2 represents a plan view, partly broken away. Fig. 3 represents an enlarged cross-section. Fig. 4 represents a detail perspective view showing the attachment of one of the mantles.

The same reference characters indicate the same parts in all the views.

In the drawings, 10 is a base on which is mounted a long trough 11, a fan 12 for blowing a current of air through the trough, and an electric motor 13 for driving the fan.

14 is a cover for the trough having depending flanges 15, which project down into the trough substantially to the bottom thereof on the inner sides of the side walls 16 of the

trough, so as to be immersed by the body of water which covers the bottom of the trough, whereby the trough is completely sealed, its body and cover forming an air-tight conduit open only at the ends.

17 17 represent a series of parallel longitudinal mantles composed of a suitable capillary material, such as woven absorbent cotton, and having their lower edges immersed in the water, so that the mantles become saturated by capillary attraction. These mantles are supported at their upper ends by rods 18 run through looped pockets formed on the upper edges of the mantles, each rod projecting beyond the two ends of the mantle and supported in sockets 19, fixed on the under side of top wall of cover 14, the rods being inserted in and removed from the sockets by bowing the rods. The middle portions of the rods are supported by spring-clips 20 on the under side of the cover, which may be one or more in number for each mantle, according to the length and resiliency of the rod. Similar rods 21 occupy looped pockets in the lower edges of the mantles for weighting the mantles to keep their lower edges in the water and maintain the mantles vertical.

Any or all of the mantles may be easily and quickly removed from the cover and may be replaced or cleaned whenever necessary.

22 is a deflector for dividing the fan-delivery into two air-currents which pass through the trough above the surface of the water and along the mantles 17 and emerge in a moistened condition from the outlet 23.

The water may be renewed from time to time by hand or may be maintained automatically by any well-known or suitable means.

What I claim as new, and desire to secure by Letters Patent, is—

1. A humidifier comprising an elongated trough adapted to contain a body of water, a removable cover for said trough having depending flanges extending to the bottom region of said trough so as to be sealed by the water therein, a series of capillary mantles mounted in said trough, and having their lower edges in said bottom region so as to be immersed in said water, an air-inlet and an air-outlet located respectively at opposite ends of the trough, and a blower adapted to create a current of air through the trough along the surface of the water and among the mantles.

2. A humidifier comprising an elongated

horizontal trough adapted to contain a body of water and having an inlet at one end and an outlet at the other end, a blower at one end of the trough for creating an air-current therethrough, a removable cover forming the top wall of the trough, and a series of capillary mantles suspended from said cover and having their lower edges in the bottom region of the trough for moistening the air-current.

3. A humidifier comprising an elongated horizontal trough adapted to contain water, means for forcing an air-current through said trough, mantle-holding means in the upper region of the trough, and a freely-suspended mantle detachably secured to said means and having a weighted lower edge near the bottom of the trough.

4. A humidifier comprising an air-conduit, means for inducing a current of air there-through, a mantle in the path of the air-current for moistening said current, a flexible rod attached to the upper edge of said man-

tle, sockets into which the ends of said rod are slipped, and a spring-clip sustaining the intermediate portion of the rod.

5. A humidifier comprising a horizontal trough adapted to contain a body of water and having an air-outlet at one end, an air-inlet at the opposite end, and a fan-blower in connection with said air-inlet, a removable cover forming the top wall of said trough and having rod-holders, a series of longitudinal vertical mantles freely suspended in said trough, rods detachably mounted in said rod-holders and attached to the upper edges of said mantles, and weighting-rods attached to the lower edges of said mantles for keeping said lower edges immersed.

In testimony whereof I have hereunto set my hand, in the presence of two subscribing witnesses, the 3d day of May, 1906.

JOSEPH J. SMITH.

Witnesses:

G. W. HOPKINS,  
G. BLAKE.