

J. & V. H. STOTT & L. SCHOFIELD.

AIR MOISTENER.

APPLICATION FILED JULY 17, 1911.

1,057,895.

Patented Apr. 1, 1913.

Fig. 1.

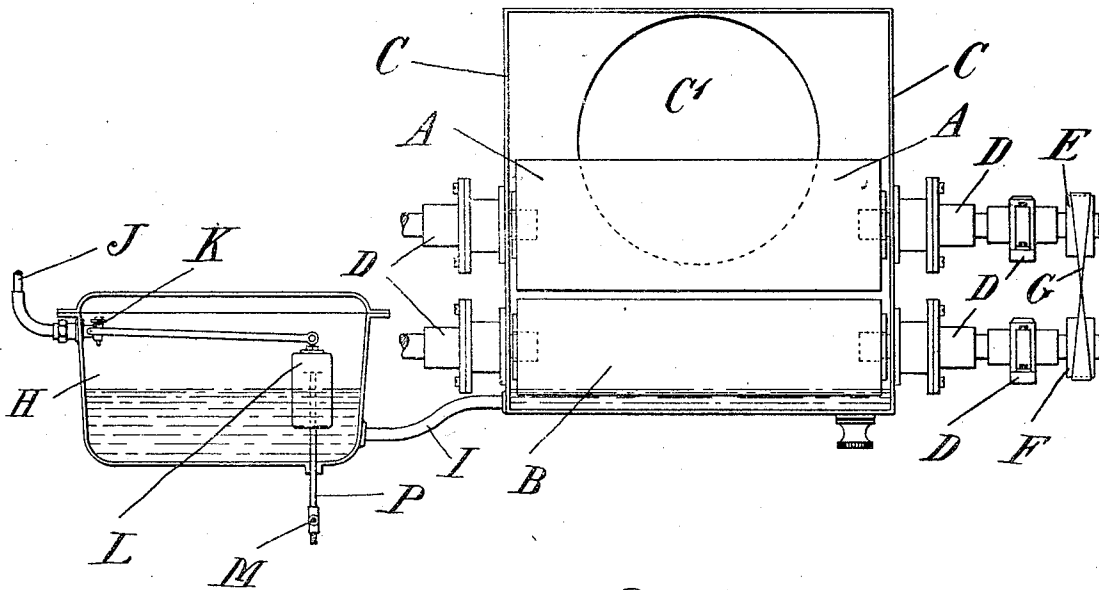
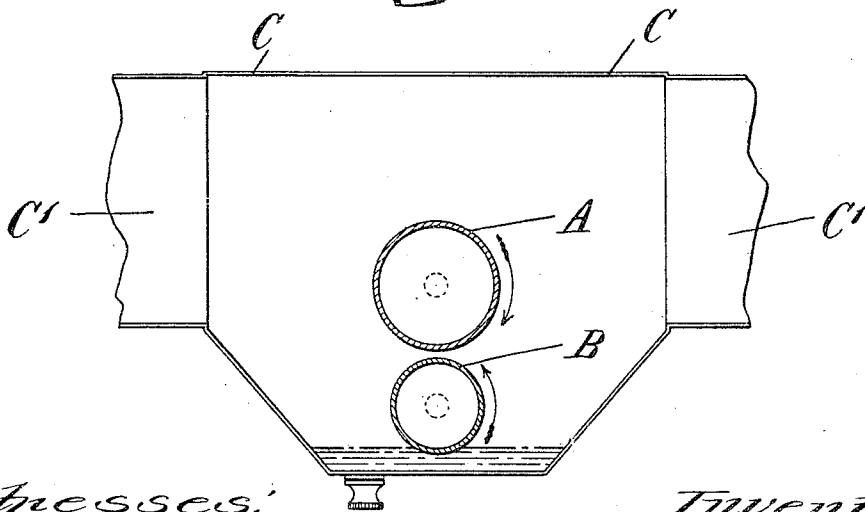


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

JAMES STOTT, VERNON HEYWOOD STOTT, AND LEE SCHOFIELD, OF OLDHAM, ENGLAND.

AIR-MOISTENER.

1,057,895.

Specification of Letters Patent.

Patented Apr. 1, 1913.

Application filed July 17, 1911. Serial No. 639,001.

To all whom it may concern:

Be it known that we, JAMES STOTT, VERNON HEYWOOD STOTT, and LEE SCHOFIELD, subjects of the King of Great Britain, residing at Oldham, England, have invented certain new and useful Improvements in Air-Moisteners, of which the following is a specification.

Inside a circular or other shaped trunk or air-shaft we place two cylinders or elongated drums or series of drums, in suitable bearings, one or one set over the other and revolving on parallel shafts but in opposite directions, a space of say one inch (but more or less according to circumstances) separating them. It is arranged for the lower cylinder or cylinders or drum or drums to revolve partially in water, the bottom portion of the air trunk being constructed accordingly. As both cylinders are revolving at high speed the lower one carries the entrained water on to the top cylinder, the force of impact together with the wind pressures set up by the cylinders moving in opposite directions causing the water to be broken up and pulverized into a very fine spray which is also increased by the minute particles of water thrown off tangentially from the wet surfaces of the rapidly revolving cylinders, particularly the upper one. The air-trunk or shaft is usually connected with a fan or propeller which draws or forces air through the spray and in so doing the air becomes charged with the required degree of moisture as well as causing the lighter vapor to be dispersed in to the atmosphere of the room to be humidified. The denseness of the spray may be increased or diminished by increasing or decreasing the quantity of water in the air-trunk thereby allowing the bottom cylinder to rotate in a greater or less depth of water.

The annexed drawings illustrate our invention.

In said drawings:—Figure 1 is a sectional view taken transversely through the air trunk or shaft and showing the humidifying apparatus and its appurtenances; Fig. 2 is a sectional view of the humidifying apparatus taken longitudinally through the air trunk or shaft.

Similar characters of reference designate corresponding parts throughout the several views.

Parallel suitably spaced cylinders A, B, are disposed in a metal or other casing C forming a portion of an air conduit or channel C' through which the air is forced or drawn by a suitable fan (not shown) but positioned in the channel C' at some distance from the casing C. These cylinders A, B, are mounted in suitable bearings D and provided with pulleys E, F, connected by belt G so that they revolve together, either of the cylinders being driven from some prime mover.

To maintain the water in the casing C at any desired height so as to control the denseness of the spray and in turn the degree of humidity imparted to the air, we connect such casing C with an ordinary automatic supply cistern H by a pipe I, the pipe J connecting the cistern H with the main supply.

Instead of using the usual ball to operate the water valve K, we employ an inverted cup or bell L into which in the portion above the water line is pumped air through valve M and pipe P.

By pumping more air into the bell L, it will naturally rise and on the other hand by opening valve M and allowing air to escape the bell will fall. In this way the water line in the cistern H may be raised or lowered with the result that the water line in the humidifier is similarly affected.

What we do claim as our invention and desire to secure by Letters Patent is:—

An apparatus of the type set forth, com-

prising, in combination with a shaft through
which air is drawn or forced, a chamber
suitably located in the shaft and having its
lower portion formed as a water container,
5 and a pair of parallel suitably spaced rapidly revolving cylinders located in the path
of the air which passes through the shaft,
the lower of said cylinders being partially
submerged in the body of water which is
10 contained in the lower portion of said chamber.

In testimony whereof we have hereunto

set our hands in presence of two subscribing witnesses.

JAMES STOTT.

VERNON HEYWOOD STOTT.

LEE SCHOFIELD.

Witnesses to signature of James Stott:

JAMES PORTER,

WM. R. JONES.

Witnesses as to signatures of Vernon Heywood Stott and Lee Schofield:

JOHN WILLIAM THOMAS,

GEORGE WEAVER.