

W. P. WOOD & F. DUPUIS.
 ATOMIZER OR HUMIDIFIER.
 APPLICATION FILED FEB. 7, 1911.

1,005,094.

Patented Oct. 3, 1911.

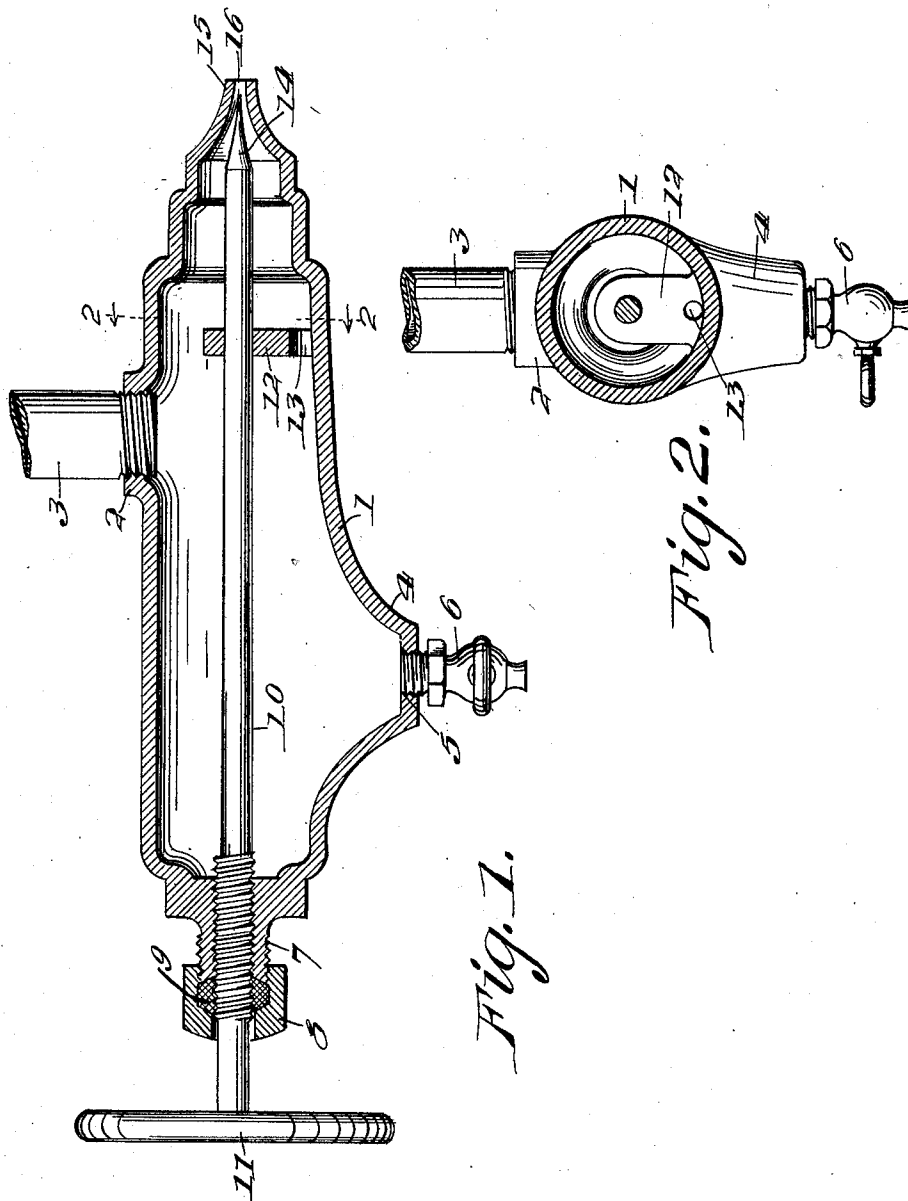


Fig. 1.

Fig. 2.

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UNITED STATES PATENT OFFICE.

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1,005,094.

Specification of Letters Patent.

Patented Oct. 3, 1911.

Application filed February 7, 1911. Serial No. 607,170.

To all whom it may concern:

Be it known that we, WILLIAM P. WOOD and FRANK DUPUIS, citizens of the United States, residing at Pawtucket, in the county of Providence and State of Rhode Island, have invented a new and useful Improvement in Atomizers or Humidifiers, of which the following is a specification.

This invention pertains to certain new and useful improvements in atomizers or humidifiers, and the object thereof is to generally improve, simplify and cheapen the cost of manufacture of devices of this character, by the employment of a minimum number of parts assembled in compact manner, to produce a maximum efficiency therefrom.

Further and other objects will be later set forth and evidenced later.

In the drawings, Figure 1 is a vertical sectional view taken through the device, and Fig. 2 is a cross section on the line 2—2 of Fig. 1.

In practice a body portion 1 is employed which may be of substantially cylindrical form, and which is provided at its top with a screw-threaded collar 2 into which is threaded a steam inlet pipe 3. A chamber or depression 4 is formed at the bottom of the body at a point out of alinement with the steam inlet pipe 3, and is formed with a threaded opening into which is engaged a pet cock, or other draw-off connection. The rear end of the body 1 is extended and formed with an exteriorly threaded collar 7, which receives thereover a stuffing box 8, packing 9 being interposed between the stuffing box 8, and the collar 7, for an obvious purpose.

10 designates the spindle which is provided on its outer end with a hand wheel 11, the spindle having a screw-threaded portion which engages with the interior threads of collar 7. The forward end of the spindle is passed through an opening provided therefor in the plate 12, which latter forms a bearing for the spindle in an obvious manner. The plate 12 is secured to the bottom of body 1 and is provided with an opening 13 at its base for the purpose of permitting the water of condensation to drain there-through to reach the drain chamber 4. Spindle 10 has its free end formed with a tapering needle point 14 which operates in the funnel shaped nozzle part 15, the latter being formed with the outlet mouth 16. It

will be seen that the outlet end of the body is formed to provide a series of annular portions which decrease in diameter as they approach the nozzle 15, thereby providing a somewhat stepped arrangement in which each step is of annular form. The purpose of this stepped arrangement is to provide abutments or projections which encounter the steam as it approaches the outlet 16, and serves to deflect same toward the spindle, breaking the steam up and resulting in its leaving the outlet 16, and meeting the surrounding atmosphere in the form of vapor which will be projected for a considerable distance humidifying the air.

Obviously the handwheel can be rotated to advance or retract the point 14, so that the amount of steam egressing through the outlet 16 may be regulated or controlled as desired. It will be furthermore seen that the drain chamber 4 which extends below the bottom of the body 1 has its side walls tapering and merging into the bottom wall of the body 1, so that water from the steam will be positively drained or caused to gravitate to enter chamber 4. Since the body 1 is of substantial circular cross section it will be apparent that, as seen in Fig. 2, the water will be drained toward the lowest point thereof, and thence to the drain chamber 4.

Having thus described our invention, what we claim as new and desire to secure by Letters Patent is—

1. In a humidifier, a body, said body being of circular cross section, a steam pipe entering the body, a drain chamber integral with the bottom of the body and depending therefrom, said drain chamber being located out of alinement with the steam pipe, a plate carried by the body and formed with an opening at its base, a spindle having a needle point carried by the body and extending through the plate, a series of annular steps carried by the body, a nozzle carried by the outermost step, said needle point of the spindle operating in said nozzle, and means to rotate the spindle.

2. In a humidifier, a body, said body having an interiorly threaded collar at one end and having a nozzle at its other end, a perforated plate carried by the body on the interior thereof, a spindle passed through said collar and said perforation of said plate, and having a needle point located in said nozzle, said plate being formed with an ap-

erture at its base, and means to drain water from said body.

3. In a humidifier, a body of circular cross section having one end thereof formed with
5 a series of annular steps terminating in a nozzle, a steam pipe entering the body from the top thereof, the opposite end of said body being formed with a threaded collar, a spindle having a threaded portion engag-
10 ing in said threaded collar, a needle point on the free end of the spindle extending in the nozzle, a plate perforated to receive the free end of the spindle and rigidly se-

cured to the bottom of the body, said plate at the bottom thereof having a drain open- 15 ing, and a drain chamber integral with the body and depending therefrom.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

WILLIAM P. WOOD.
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Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."