

J. G. GARLAND.

Apparatus for Moistening the Atmosphere.

No. 140,410.

Patented July 1, 1873.

Fig. 1

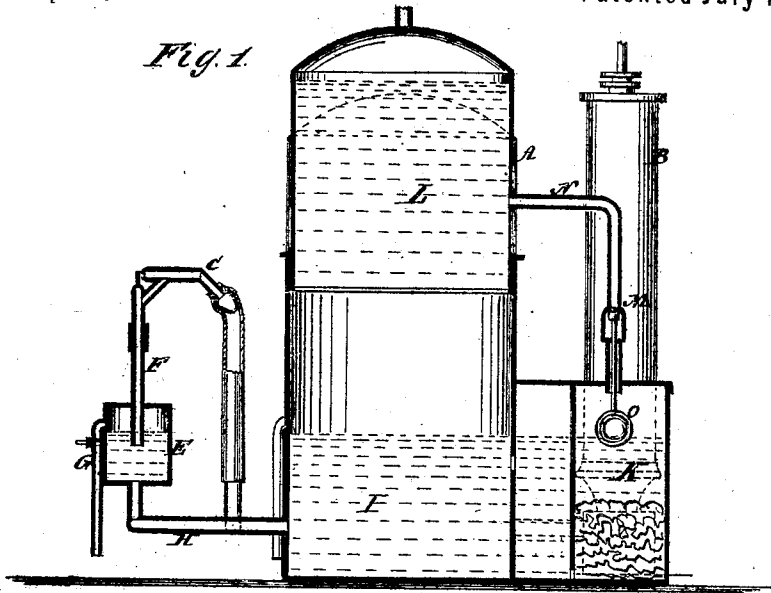
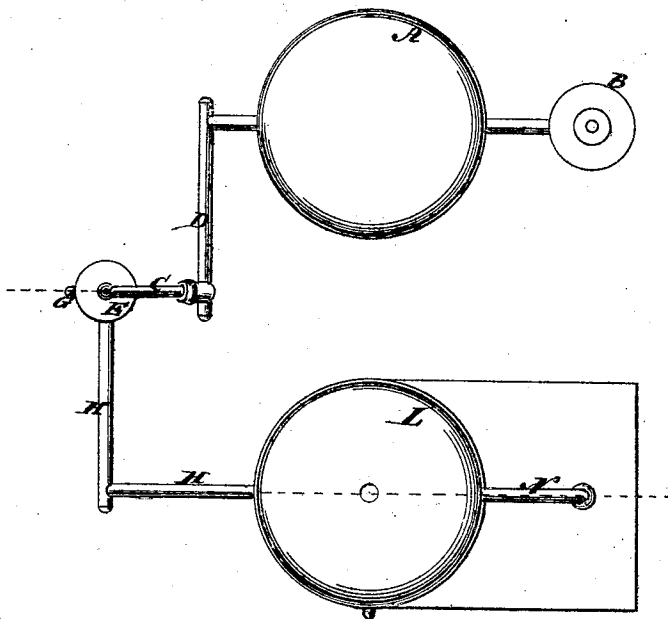


Fig. 2



Witnesses:

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UNITED STATES PATENT OFFICE.

JAMES G. GARLAND, OF BIDDEFORD, MAINE.

IMPROVEMENT IN APPARATUS FOR MOISTENING THE ATMOSPHERE.

Specification forming part of Letters Patent No. **140,410**, dated July 1, 1873; application filed January 11, 1873.

To all whom it may concern:

Be it known that I, J. G. GARLAND, of Biddeford, in the county of York and State of Maine, have invented a new and useful Improvement in Apparatus for Moistening the Atmosphere, of which the following is a specification:

For moistening the atmosphere in weaving-rooms and others where it is desirable for mechanical and other purposes to have the air charged with more than the natural proportion of aqueous vapor, I propose to employ an atomizer, air-chamber, and condensing-pump, a water-cistern, reservoir, and an automatic apparatus for supplying the cistern and the atomizer from the reservoir regularly and uniformly, to be expelled to the atmosphere by the air from the air-pressure chamber, in which it is condensed by the pump; and in combination with the reservoir and cistern I have a filter to separate from the water any solid particles that might obstruct the pipes of the atomizer; also to purify it. The pump will, in practice, be run by power, and as many atomizers will be applied to one air-chamber and cistern as may be demanded by the capacity of the room to be charged.

Figure 1 is a sectional elevation of my improved moistening apparatus taken on the line *xx* of Fig. 2, and Fig. 2 is a plan view.

Similar letters of reference indicate corresponding parts.

A represents the air-chamber, in which the air for actuating the atomizer is conducted by a pump, B, which, as before stated, will, in practice, be operated by power. C represents the air-tube of the atomizer, which has a connection, D, with the air-chamber. E is the fluid-chamber of the atomizer; F, the pipe for discharging the vapor. G is an overflow-pipe with a cock, to be used in regulating the height of the water at starting. H is a pipe-connection of the atomizer-chamber E, with the water-supply cistern I. K is a filter from which the water flows into the cistern I, and into which it is automatically supplied from the reservoir L through a pipe, N, which has a

valve, M, which is closed by a float, O, when the water rises in the filter and cistern, and opens it when the water falls, to maintain a regular and uniform supply to the atomizer. The water-chamber E must be arranged relatively to the water-cistern as to height, to regulate the water-level with the tube F. The air-chamber may have a safety-valve to allow the air to blow off when the pressure reaches the maximum and when the pipes get choked.

With this apparatus I am enabled to vaporize the air of a room to any degree I wish, using, as aforesaid, the requisite number of atomizers. In weaving-rooms it is desirable to maintain an atmosphere containing about eighty per cent. of moisture, to enable the operation of weaving cotton cloth to be carried on successfully. A moist atmosphere toughens the yarn, and lessens the liability of breaking in the operation of weaving, and hence enables cloth to be woven from five to twenty-five per cent. faster than when, in consequence of a dry atmosphere, the threads break, rendering it necessary to stop the looms to tie or "mend" up the broken threads.

In other departments of manufacturing, and for sanitary purposes, it is also desirable to moisten the atmosphere mechanically.

Having thus described my invention, I claim as new, and desire to secure by Letters Patent—

1. The combination, with the atomizer, pressure-blower, and water-supplying cistern, of a reservoir for supplying the cistern, and an automatic-supply regulating-valve, substantially as specified.

2. The combination of the filter with the reservoir, the cistern, and the atomizer, substantially as specified.

3. The combination of the overflow-pipe G with the atomizer, cistern, and the water-supply cistern, substantially as specified.

JAMES G. GARLAND.

Witnesses:

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A. D. RIGGS.