

(No Model.)

C. WURSTER.

APPARATUS FOR MOISTENING AND PURIFYING AIR.

No. 329,115.

Patented Oct. 27, 1885.

fig. 1.

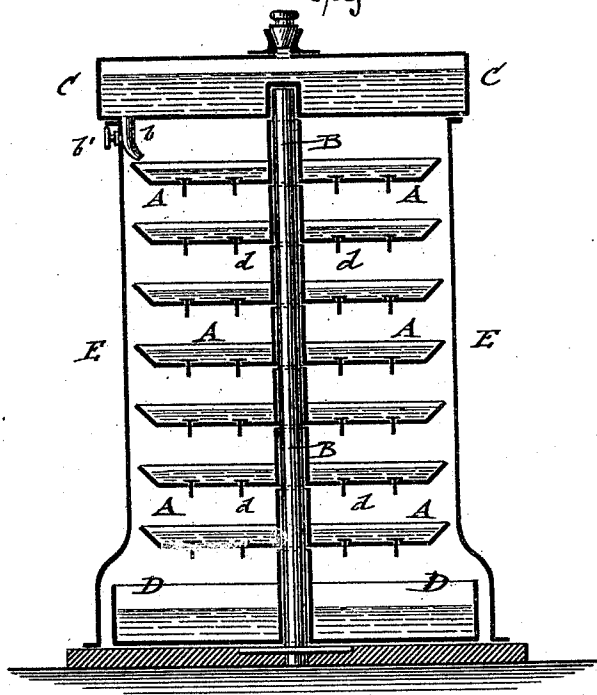
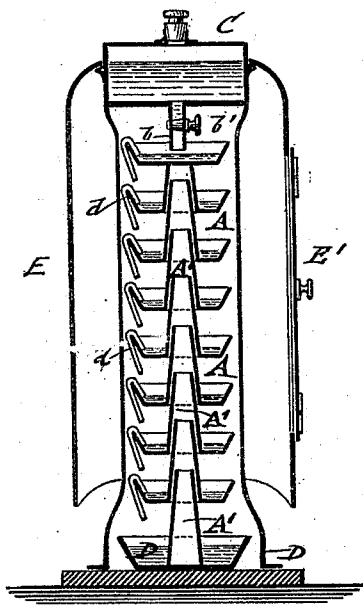


fig. 2.



WITNESSES:

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APPARATUS FOR MOISTENING AND PURIFYING AIR.

SPECIFICATION forming part of Letters Patent No. 329,115, dated October 27, 1885.

Application filed February 2, 1885. Serial No. 154,627. (No model.)

To all whom it may concern:

Be it known that I, CASIMIR WURSTER, of the city, county, and State of New York, have invented certain new and useful Improve-
5 ments in Apparatus for Moistening and Purifying Air, of which the following is a specification.

This invention has reference to an apparatus for moistening and purifying air in dwellings,
10 steam-cars, and other closed spaces, so as to prevent the injurious influence of hot and dry artificial or natural air on the respiratory organs, and make them less subject to colds, catarrhs, diphtheria, and affections of the bron-
15 chial tubes and lungs.

In the accompanying drawings, Figures 1 and 2 represent vertical central sections of two forms of my improved apparatus for moisten-
ing and purifying air.

20 Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents a series of superposed plates made of galvanized sheet-iron, brass, earthenware, or other
25 non-oxidizable material. The plates are supported either by a central pillar, B, as shown in Fig. 1, or by conical center pieces, A', made integral with the plates, as shown in Fig. 2.

The apparatus is made of a size corresponding to the size of the room in which it is to be used. Above the series of superposed plates is arranged a reservoir, C, for supplying the water, which reservoir is provided with a discharge-pipe, *b*, having a stop-cock, *b'*, by which
30 the flow of the liquid is regulated or stopped at will. At the base of the apparatus, below the evaporating-plates, is arranged a collecting-pan, D, of larger diameter than the plates and of a suitable size to receive the water
35 from the reservoir B. To increase the evaporating-surface, pieces of glass, pumice-stone, asbestos, mineral wool, or similar substances may be arranged on the plates. The water to be evaporated is conducted from the upper
40 to the lower plates, either by simple overflow over the rims of the same or, preferably, by using a suitable drip device, *d*, such as headed pins fitted into drip-holes of the plates, as shown in Fig. 1, or small bent pieces of glass,
45 metal, or other non-oxidizable material, that rest with their bends on the edges of the plates, as shown in Fig. 2, and act as siphoning de-

vices, or by capillary attraction. The system of superposed plates is surrounded by a sheet-metal casing, E, provided with folding or other
55 doors, so as to interrupt the working of the apparatus when required. When the apparatus is to be used, the doors are opened, so that the air can pass over the surface of the liquid on the plates.

60 The apparatus is preferably placed in the hot-air flue or in front of the register through which the hot air is supplied to the room; or in the summer season it is used by being placed in the open window. The air in passing over
65 the liquid evaporates the same and takes up sufficient moisture, so as not to dry or otherwise affect injuriously the mucous membrane of the nose, mouth, larynx, and lungs. The dust
70 carried along by the air is retained by the liquid.

For purifying the air passed through the apparatus, it is mixed with suitable chemicals by which ozone is generated. A solution of
75 common table-salt will produce ozone in small quantities, while the use of permanganate of potash, peroxide of hydrogen, chromic acid, or other suitable chemicals, generates ozone in
80 larger quantities. The alkali formed by the permanganate of potash, for instance, will unite with the carbonic acid contained in the air, and thereby produce a purer air that is better adapted for being taken up by the respiratory
85 organs. If a still larger quantity of ozone is required—as, for instance, in sick-rooms—a small quantity of sulphuric or phosphoric acid is added to the water, whereby the free permanganic acid is decomposed quicker by the action of the air than the salt of potassium.
90 The ozone generated by the chemicals in the plates imparts to the air the invigorating quality of sea or woodland air and neutralizes the deleterious influence of carbonic acid, oxide of carbon, (coal gas,) sewer-gas, and other ob-
95 noxious gases present in the atmosphere of inhabited rooms.

I am aware than an apparatus has heretofore been constructed in which the surfaces of vertically-arranged plates are connected with
100 superposed troughs by means of bent strips which conduct liquid from the interior of the troughs against the surfaces of the plates connected therewith, while in my apparatus a series of horizontal plates, arranged one

above another, are provided with siphons which conduct the liquid from one plate to the next succeeding plate below. As the drops must pass through the open air a considerable distance between the plates, the air and the liquid are more thoroughly mingled than they would be in the apparatus referred to.

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

1. An apparatus for moistening and purifying air, consisting of a series of superposed plates, in combination with bent pieces of glass or other non-oxidizable material that rest on the edges of the plates and project downwardly therefrom, acting as siphoning devices, substantially as described.

2. The combination of a series of superposed plates provided with bent pieces of glass or other non-oxidizable material having the bent portion resting on the edge of a plate and extending downward over the next succeeding plate, substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

CASIMIR WURSTER.

Witnesses:

PAUL GOEPEL,
CARL KARP.