R. W. SANBORN.

Apparatus for Cooling Air in Rooms.

No. 152,519. Patented June 30, 1874.

Fig. 1.

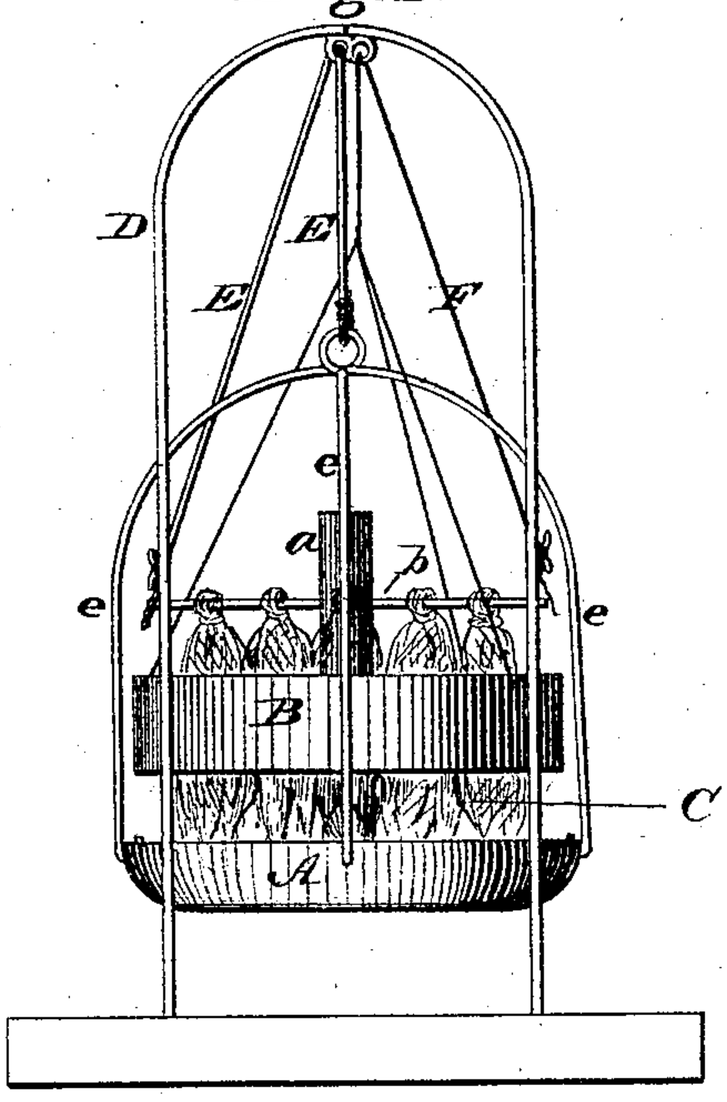

Fig. 2.

WITNESSES:

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RODMAN W. SANBORN, OF ROCHESTER, NEW YORK.

IMPROVEMENT IN APPARATUS FOR COOLING AIR IN ROOMS.

Specification forming part of Letters Patent No. **152,519**, dated June 30, 1874; application filed January 12, 1874.

To all whom it may concern:

Be it known that I, RODMAN WILCOX SANBORN, of Rochester, in the county of Monroe and State of New York, have invented certain Improvements in Apparatus for Cooling Rooms, &c., of which the following is a specification:

My invention relates to an apparatus for cooling rooms or buildings by bringing the incoming air in contact with a large moistened surface, or ice, or both; and it consists in a vessel to receive the ice or water or other fluid, provided with porous material to absorb the water and expose a large evaporating surface, and with a hoop or ring, by which the amount of exposed evaporating surface may be varied.

Figure 1 is a side elevation of my apparatus with the hoop or ring raised, and a large evaporating surface exposed. Fig. 2 is a vertical central section of the apparatus with the ring lowered.

A represents a wide shallow vessel to receive ice or water or any volatile fluid, provided at its center with an upright post, *a*, having radial arms *b*, from which are suspended numerous bunches of yarn, cloth, sponge, or other light porous material, C, the lower ends of which touch the surface of the vessel A. B is a circular hoop or band surrounding the material C, and of such size that it will fit down closely within the vessel A. D is a skeleton frame or cage, in which the vessel A and hoop C are suspended by means of cords E and F, the vessel being provided with arms *e*, to which the cord E is attached.

In using the apparatus, I place it at a window, door, or other opening through which air enters the apartment, and close all other inlets. I then place in the vessel A ice, water, or any volatile fluid. The porous material hanging down into the vessel absorbs the fluid placed therein, or the water resulting from the melting of the ice, and remains constantly saturated, exposing a very large moist surface. The air entering the apartment passes around and among the bunches of absorbent material and over the surface of the ice; and, by absorbing and evaporating the fluid, and coming in contact with the ice, its temperature is greatly reduced. The air thus cooled passes into the apartment, and, displacing the warm air therein, of course reduces the temperature of the apartment. As the cool air, of course, descends, it is necessary to have the cooling apparatus as high or higher than the required level of cool air in the apartment. By lowering the hoop B the amount of evaporating surface exposed to the air-current may be reduced, and the temperature thereby varied and controlled, as required.

When the apparatus is not required for use, but contains ice which it is desired to preserve, the hoop is lowered into the vessel, as shown in Fig. 2, thereby preventing the current of air from striking the ice, and at the same time exposing the upper portion of the absorbent material so that the water will be evaporated from, and the temperature reduced in, the vessel.

It is obvious that the form of the vessel and hoop may be varied; that they may be made of wood, *papier-maché*, metal covered with cloth, or other suitable material.

When used as a portable apparatus it may be mounted on caster-wheels. When used as a permanent apparatus the frame or cage may be dispensed with, and the vessel and hoop suspended from the ceiling.

The apparatus may be made of any size desired, adapted either for cooling single apartments or whole buildings.

The porous material may be suspended from any suitable support, and the post *a* and arms *b* dispensed with. The evaporating material may be suspended to good advantage in an opening in the ceiling of the apartment to be cooled, or even in the chimney.

Having thus described my invention, what I claim is—

In combination with the vessel A and the absorbent material C suspended therein, the adjustable hoop or ring B, arranged substantially as shown and described.

RODMAN W. SANBORN.

Witnesses:

PHILIP T. DODGE,

JOS. T. K. PLANT.