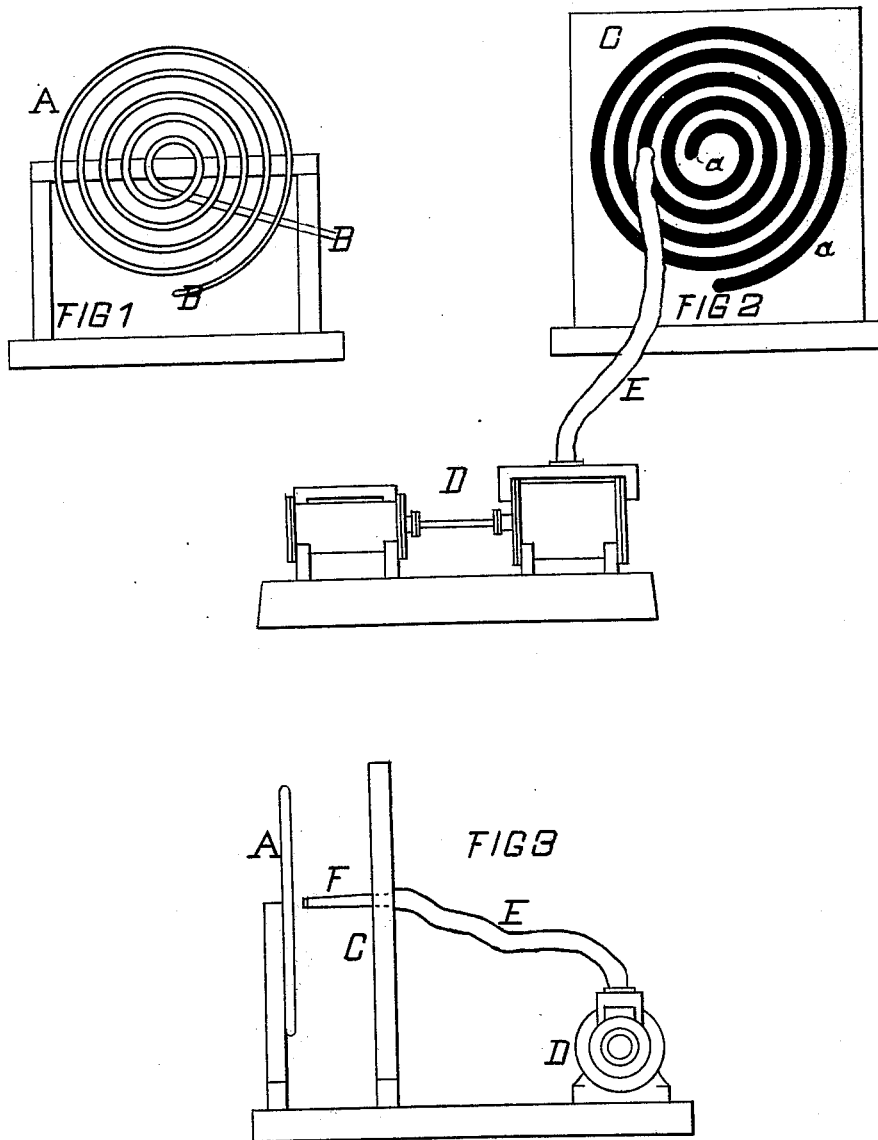


J. HORTON.
Refrigerating and Ice-Making Apparatus.
No. 218,630. Patented Aug. 19, 1879.



WITNESSES:
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UNITED STATES PATENT OFFICE.

JOHN HORTON, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN REFRIGERATING AND ICE-MAKING APPARATUS.

Specification forming part of Letters Patent No. **218,630**, dated August 19, 1879; application filed April 23, 1879.

To all whom it may concern:

Be it known that I, JOHN HORTON, of the city and county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Cooling, Refrigerating, and Ice-Making Apparatus, which is fully set forth in the following specification, reference being had to the accompanying drawings.

The invention consists in combining with the machine an apparatus for applying thereto an air-blast for removing the frosty, snowy deposit which forms on the refrigerating-surfaces of cooling, refrigerating, and ice-making apparatus, which, when permitted to remain, retards the process of refrigeration.

Figure 1 is a front elevation of a refrigerating-coil used in the class of apparatus to which my invention is preferably applied. Fig. 2 is a front view in elevation, showing the invention. Fig. 3 is an end elevation, showing the invention and its application.

A is a refrigerating-pipe, through the ends B of which any suitable refrigerating-fluid is passed. C is a guide-plate, having a coil-slot, *a*, opposite to and corresponding with the direction of the pipe A.

D is a blast-engine, and E its air pipe or hose, which leads to the guide-plate C, and has its nozzle F passed through the slot *a*, opposite the coil A, at any point.

The operation of removing the frosty or snowy deposit or formation from the refrigerating-coil A is as follows: The blast-engine, fan, or other air-forcing apparatus having been put in motion, air is forced therefrom through the hose E and nozzle F. The said nozzle rests in the convoluted slot *a*, and points at all times against a section of the coiled pipe A, and is in close proximity thereto. The nozzle is moved around in the slot, and thereby ultimately brought opposite the entire surface or length of the coiled pipe, the degree of speed with which the nozzle is so moved being determined by existing circumstances and necessities. The mechanical force

of the body of air ejected from the nozzle removes the light deposit or accumulation which otherwise would remain upon the refrigerating-coil. The ice produced by this machine is, therefore, deprived of all spongy additions, and is formed solidly and compactly.

The velocity with which the air is projected from the nozzle, and with which it strikes against and departs from the refrigerating-coil, obviates the danger of any moist element which said air may contain adhering to or freezing upon said coil, while its mechanical force is sufficient to remove the aforementioned light deposit.

The blast may be applied to fixed or movable pipes, and to one or both sides thereof.

It is obvious that the air must be used with sufficient velocity to exert the required mechanical force against the formation of the deposit, or to remove it when formed. The air used may, if desired, be artificially dried; but this I have not found necessary.

I do not confine myself to the specific mechanism herein illustrated for putting the invention into practice, knowing that any skilled mechanic can devise and construct other apparatus embodying the main principles of my invention for accomplishing the same result.

I claim as my invention—

In an ice-making apparatus, the combination, with the refrigerating coil or plates of said apparatus, of an air-forcing apparatus and suitable air-conduits leading therefrom to said coil or plates, for ejecting air therefrom under pressure, whereby the snowy or frosty formation or deposit on said coil or plates is removed or prevented from forming, substantially as specified.

In testimony whereof I hereunto sign my name in presence of two subscribing witnesses.

JOHN HORTON.

Witnesses:

FRANCIS D. PASTORIUS,
W. W. DOUGHERTY.