T. COOK.

ICE AND REFRIGERATING-MACHINE.

No. 192,233. Patented June 19, 1877.

Fig 1.

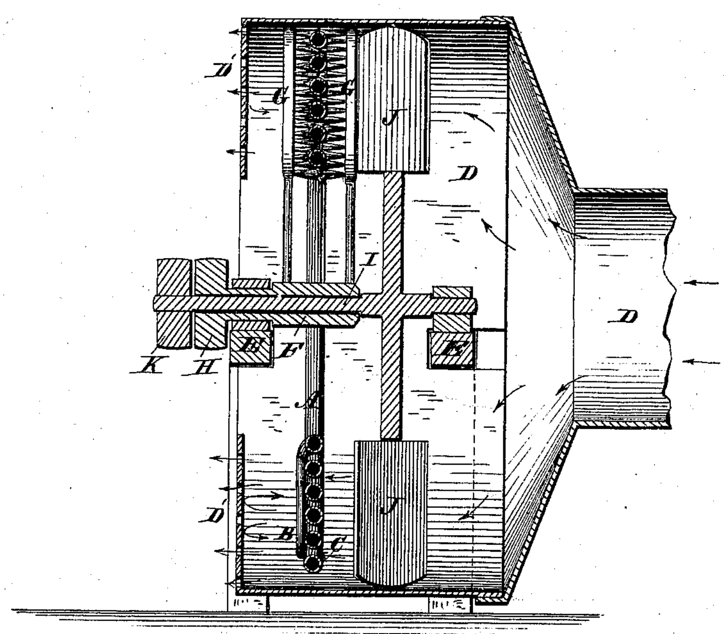
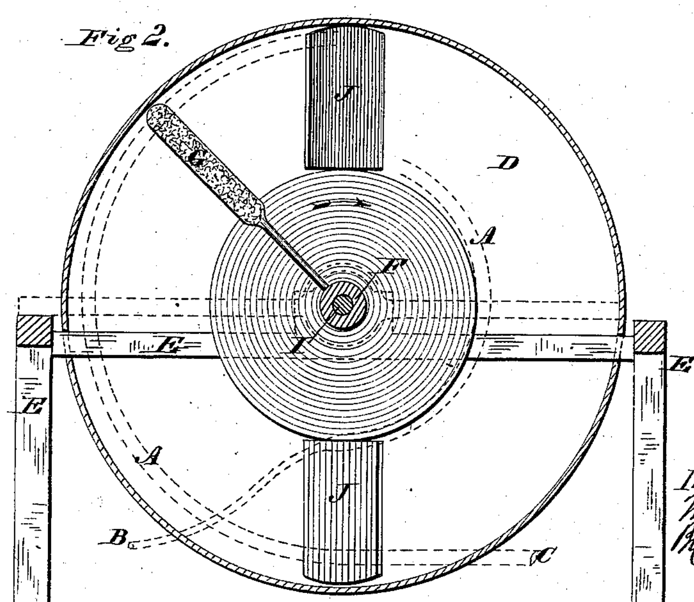


Fig 2.



Witnesses
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UNITED STATES PATENT OFFICE.

THOMAS COOK, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN ICE AND REFRIGERATING MACHINES.

Specification forming part of Letters Patent No. **192,233**, dated June 19, 1877; application filed June 13, 1877.

To all whom it may concern:

Be it known that I, THOMAS COOK, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Refrigerating and Ice-Making; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a longitudinal vertical section of the mechanism for carrying out my invention; and Fig. 2 is a transverse vertical section of the same.

Similar letters of reference in the accompanying drawings denote the same parts.

My invention has for its object to improve the process and means for artificially producing cold for refrigerating purposes, and in the manufacture of ice; and to these ends it consists in the employment of scraping-surfaces, to prevent the accumulation of frost and snow upon the refrigerating-surface, which would otherwise retard the radiation of cold from such surface, and therefore materially interfere with a reduction of the temperature within the room or compartment to be cooled.

In the process of cooling air, for which I have heretofore filed an application for Letters Patent, I employ any kind of movable or stationary coil or vessel, through which a refrigerant circulates, so that its surface will readily absorb latent heat from air-currents directed against it; and to prevent the accumulation of frost and snow upon the refrigerating surface, I keep the latter moist with brine or other incongealable liquid.

The use of an incongealable liquid for this purpose is, however, objectionable to a certain degree, because it oxidizes the refrigerating-surface, which is usually of iron, and so retards the radiation of cold therefrom. To avoid this objection, as well as to prevent the accumulation of frost and snow, I employ scraping-surfaces, as above stated, and dispense with the use of the liquid.

One means for carrying out the invention is shown in the accompanying drawings, wherein A is a stationary coil of pipe, having an entrance at B and an exit at C, through which any suitable refrigerant is passed, substantially on the principle of my invention shown in Letters Patent No. 171,267, dated December 21, 1875.

This coil is fixed within a casing, D, secured upon a frame, E, of suitable construction, one end of the casing being open at the center sufficiently to admit a current of air to the coil.

The opposite end is also open at the center, but this opening is surrounded by an annular perforated plate, D′, which, while it permits the passage of certain quantities of air, receives the impact of other quantities and directs them back against the coil.

F is a hollow shaft, extending through the center of the coil and having its bearings in one of the side timbers of the frame E. This shaft carries two or more brushes, G G, on each side of the coil, as shown, so that when the shaft is rotated by any suitable connection with its pulley H, the brushes shall sweep over the surfaces of the coil and keep them free from snow and frost.

The brushes may be made of metal or other suitable material, but should be stiff enough to take a firm hold upon the coil.

I is a shaft, extending through the hollow shaft F, with its bearings in the side timbers of the frame, and carrying within the case two or more radial fans, J J, by the rotation of which the air-currents are drawn into the case, and through the coil, as shown by the arrows in Fig. 1.

The fans are also driven from the pulley K upon the end of the shaft I, as shown.

Instead of brushes, any other form of scraping-surfaces may be employed, the invention consisting not in the use of brushes, particularly, but in any form of scraping-surface that will prevent the accumulation of frost and snow upon the refrigerating-surface.

Instead of employing a stationary coil and rotary brushes, the former may be made to rotate while the latter are held stationary, as will be readily understood.

I claim as my invention—

1. The combination of scrapers with a refrigerating-surface, A, to prevent the accumulation of frost and snow thereon, substantially as described.

2. The combination of brushes with the refrigerating-surface to sweep over the latter, substantially as described, for the purpose specified.

THOS. COOK.

Witnesses:
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