J. PARISETTE.

REFRIGERATING APPARATUS.

No. 176,146. Patented April 18, 1876

Fig. 1.

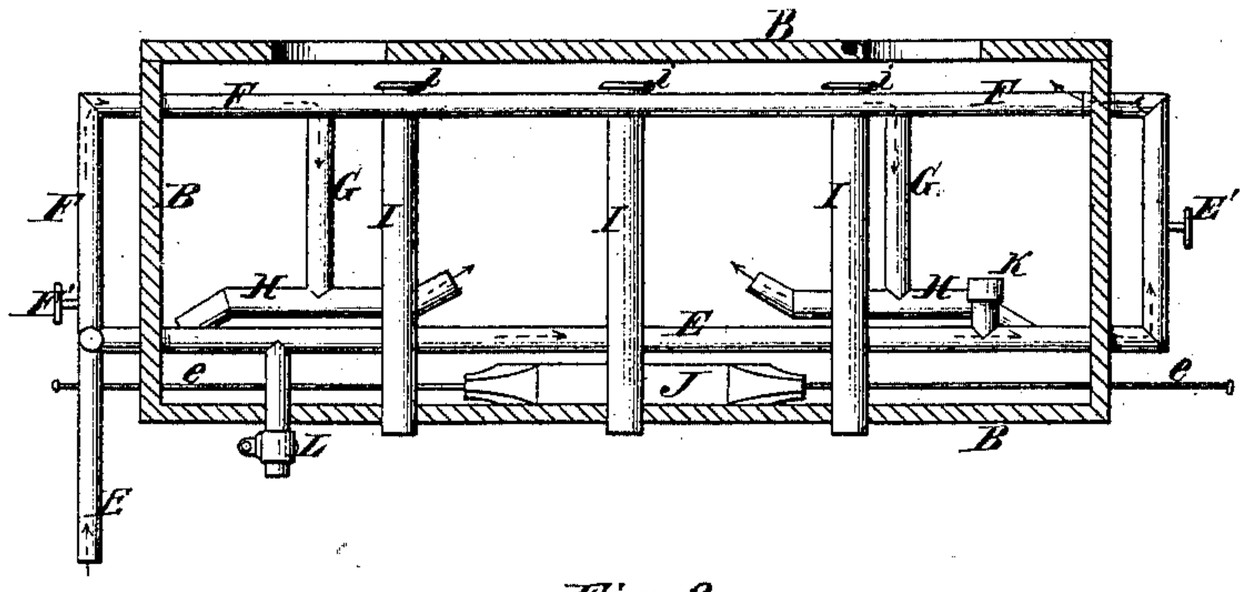


Fig. 2.

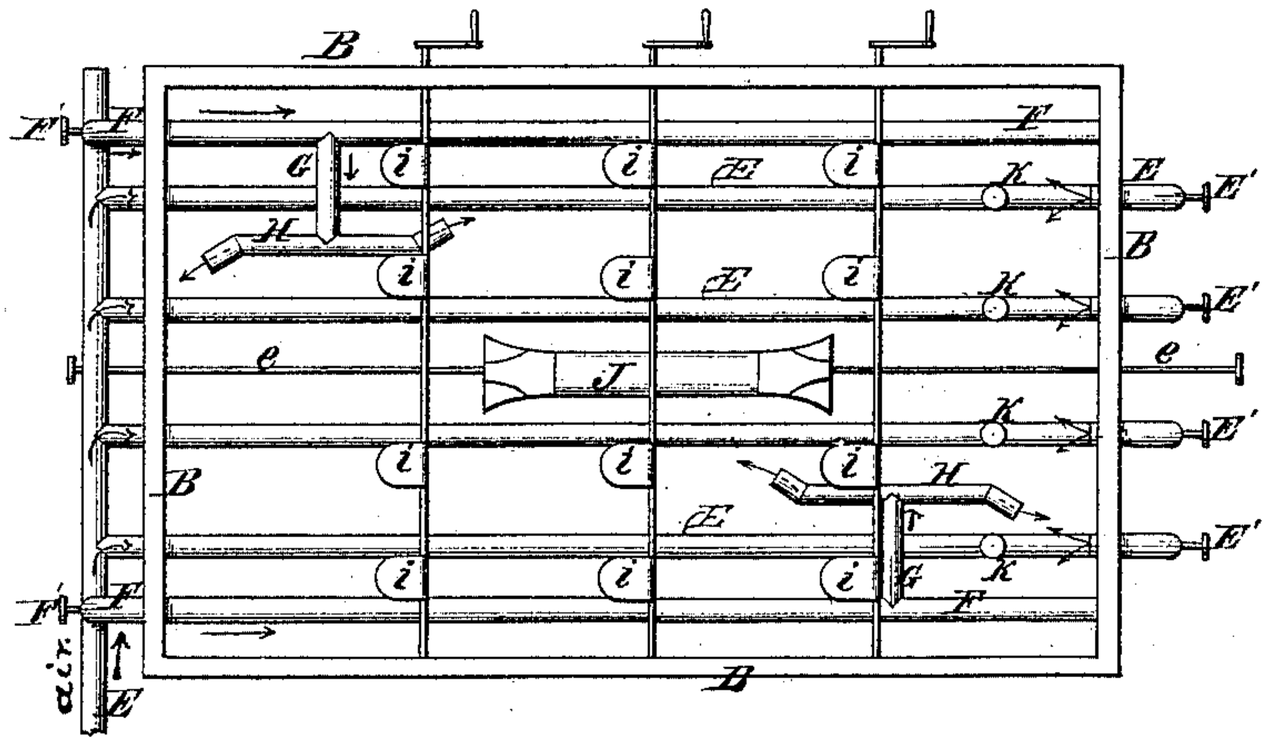


Fig. 3.

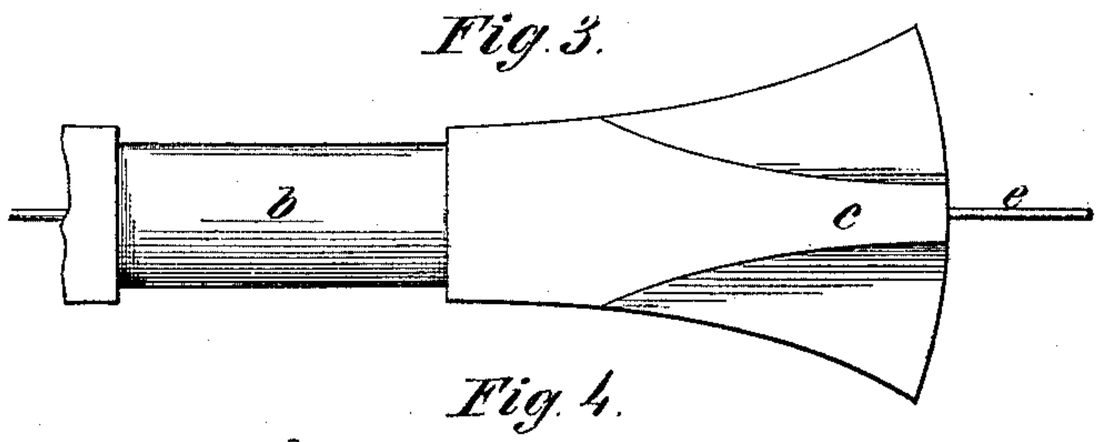
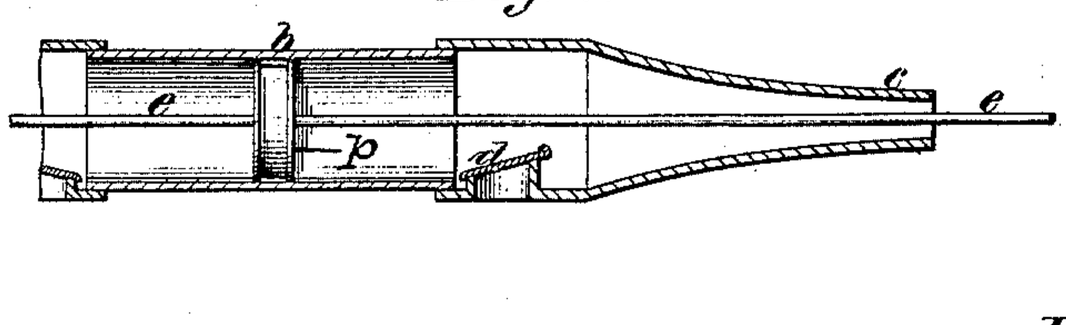


Fig. 4.



Witnesses.

A. F. Mayhew

Sam. F. Rogers

Inventor.

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UNITED STATES PATENT OFFICE.

JOSEPH PARISETTE, OF INDIANAPOLIS, INDIANA.

IMPROVEMENT IN REFRIGERATING APPARATUS.

Specification forming part of Letters Patent No. **176,146**, dated April 18, 1876; application filed February 3, 1876.

To all whom it may concern:

Be it known that I, JOSEPH PARISETTE, of Indianapolis, in the county of Marion and State of Indiana, have invented certain Improvements in Refrigerating Apparatus, of which the following is a specification:

My present invention relates to improvements in the refrigerating apparatus for which Letters Patent No. 147,281 were issued to me February 10, 1874, but it may also be applied to other similar apparatus; and consists, first, in the construction, arrangement, and mode of operation of an agitating apparatus, shown at J, Figs. 1 and 2, and in detail in Figs. 3 and 4, the object of which is to agitate the salt or heavier portions of the frigorific mixture that settles to the bottom of chest B, and, at the same time, to loosen and detach the crystals of ice that form on the tubes E, and thereby cause a more rapid and certain solution of the salt and icy crystals, whereby heat becomes latent and greater cold is produced; second, in the improved construction and arrangement of the air-circulating pipe or pipes E, by which the air, instead of being forced directly through said pipes into the chamber A to be cooled, is returned into the upper part of the frigorific chest B, and from thence flows down through pipes I, thus commingling with the air that is forced in through pipes F G H, and being thereby additionally cooled, aids to still further cool the air of the refrigerated chamber A; third, in the arrangement shown at K L, by which any salt may be introduced at K for the absorption of moisture that may be condensed in pipes E from the air in its passage through said pipes, and thereby prevent its condensation and crystallization on the interior of said pipes, and which would obstruct the free passage of the air; and the tap or draw-off cock L, by which the water of condensation may be conveniently drawn off; and, fourth, in the arrangement of dampers *i* to the top of pipes I, by means of which the air that is returned and injected into the frigorific chest B through pipes E F H G may be regulated in its descent through said pipes I back into the refrigerated chamber, and thereby distributed, as may be required.

Figure 1 is a vertical longitudinal section of a refrigerating-chest for cooling rooms, &c., embodying my invention. Fig. 2 is a plan view of the same, the cover being removed. Fig. 3 is an enlarged top view of one end of the agitator J; and Fig. 4 is a vertical longitudinal section of the same.

The agitating apparatus J is composed of a barrel, *b*, of any suitable diameter, in which the piston *p* moves, and the end pieces *c* are flattened at the ends and formed, as shown, to spread the ejected liquid. It has a common clack-valve, *d*, and piston-rod *e*, the latter running through a stuffing-box in the ends of the refrigerating-chest B, so that it may be operated by hand or power, as may be desired. The same piston-rod may be employed to operate two or more of the agitators, J, as the refrigerating-chest B may be long, and it is contemplated to use any number of them required to effect the agitation of the frigorific mixture over the entire bottom of chest B, and, at the same time, detaching the crystals of ice that form on the pipes E. It is contemplated to place these agitators about two inches above the bottom of the chest B.

The air-circulating pipes E and F are furnished with valves or stop-cocks E′ and F′, by which to control the circulation of the air.

Any suitable ice-forming or air-condensing apparatus may be used in connection with this refrigerating apparatus by connecting it with the induction end of pipe E, so that the compressed air, whether previously cooled or not, will, on escaping into the larger tubes E, expand and take up heat from said tubes, and also from the surface of the frigorific mixture in tank B, thereby congealing the mixture on the exterior of the tubes, and also condensing and congealing the moisture from the air in chamber A as it circulates through the upright tubes I upon the inner surface of these tubes, and upon the exterior of tank B.

When it is desired to use other frigorific mixture in chest B than ice and salt to cool the chamber A or to form ice in connection with any suitable ice-machine, the top of the chest B must be closed as nearly air-tight as practicable, but when used with ice and salt this is not necessary.

I claim as my invention—

1. The agitator J, composed of the barrel *b*,

flattened end pieces *c*, provided with valve *d*, piston *p*, and piston-rod *e*, constructed and arranged to operate in the manner substantially as set forth.

2. The pipes E, furnished with stop-cocks E′, passing through and returning the air to the top of the ice-chest B, in combination with the vertical pipes I, either with or without the valves *i*, substantially as set forth.

3. In combination with pipes E, the caps K, for introducing any suitable deliquescent salt, and the draw-off cocks L, constructed and arranged substantially as and for the purpose set forth.

4. The vertical pipes I, furnished at their tops with the valves or dampers *i*, in combination with the pipes E F G H, arranged and operating substantially as set forth.

5. The air-tight refrigerating-chest B, furnished with the air-circulating pipes E F G H I, and the agitators J, in combination with any suitable air-condensing or air-refrigerating apparatus, substantially as set forth.

JOSEPH PARISETTE.

Witnesses:

O. F. MAYHEW,

SAM. P. ROGERS.