2 Sheets—Sheet 1.

E. C. TOZER.

FREEZING APPARATUS.

No. 170,498. Patented Nov. 30, 1875.

Fig. 1.

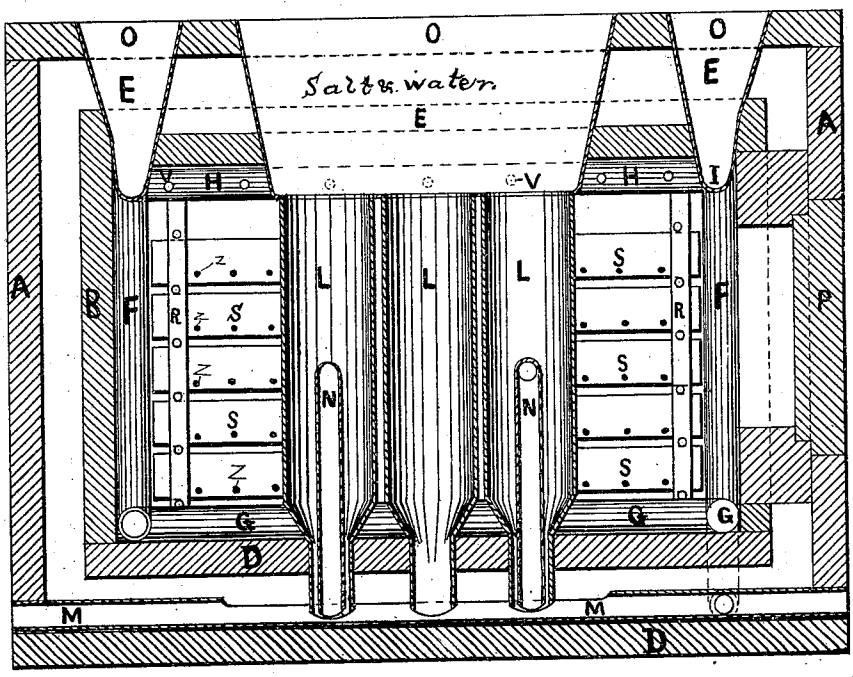
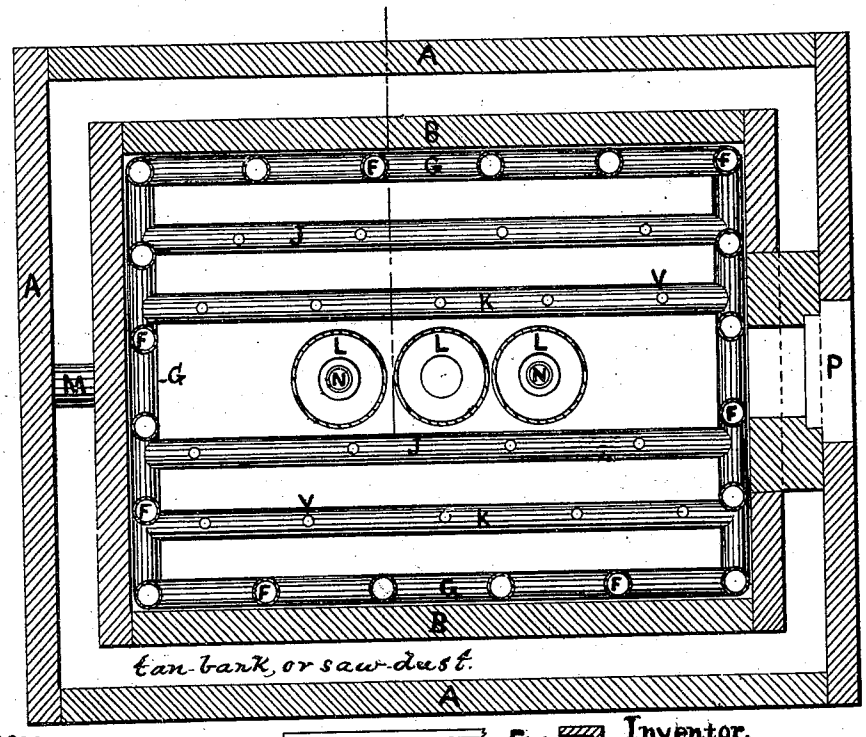


Fig. 2.



Witnesses.
H. S. Talbot
E. C. Harvey

Inventor.
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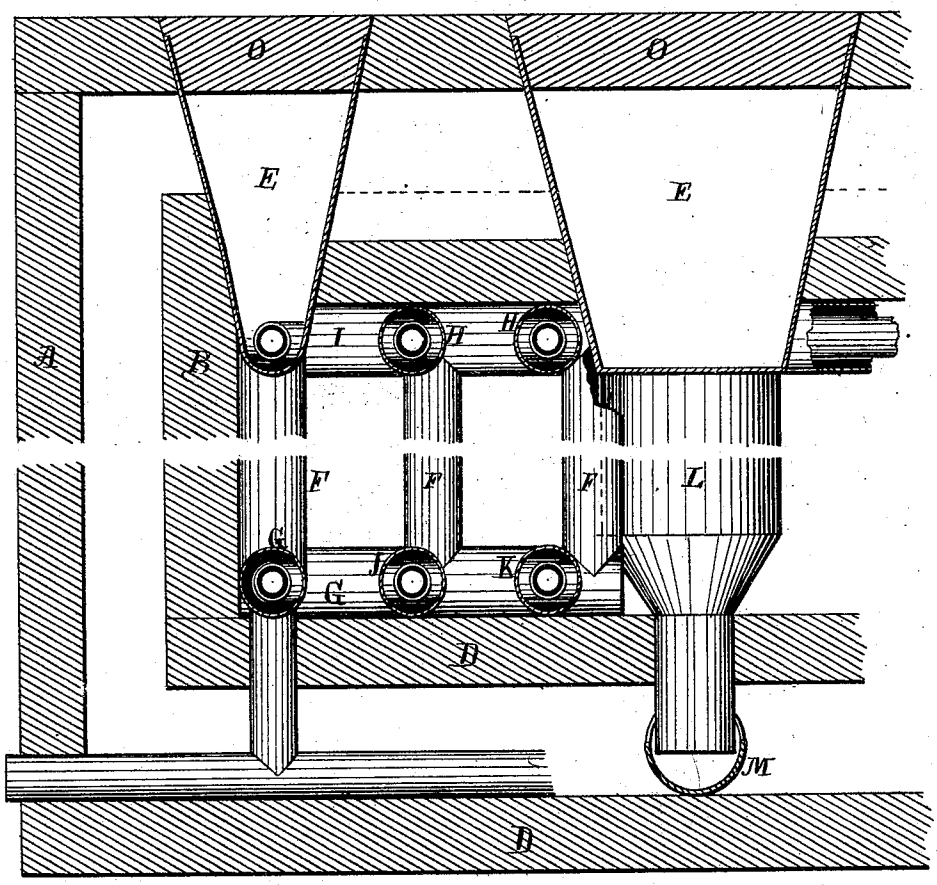
2 Sheets—Sheet 2.

E. C. TOZER.

FREEZING APPARATUS.

No. 170,498. Patented Nov. 30, 1875.

Fig. 5.



Witnesses:

H. L. Talbot.

E. C. Harvey.

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UNITED STATES PATENT OFFICE.

EDMUND C. TOZER, OF NEWCASTLE, CANADA.

IMPROVEMENT IN FREEZING APPARATUS.

Specification forming part of Letters Patent No. **170,498**, dated November 30, 1875; application filed March 19, 1875.

To all whom it may concern:

Be it known that I, EDMUND C. TOZER, of Newcastle, in the county of Northumberland, in the Province of New Brunswick, Canada, have invented certain new and useful Improvements in Freezing Apparatus, of which the following is a specification:

My invention consists in the arrangement and combination of double pipes, one within the other, the outer ones being pierced with holes. These are arranged across the floor, and under the ceiling overhead, for the purpose of condensing moisture arising from food stored in freezing-chamber, and from the pipes containing the freezing-mixture; also, in the combination and arrangement of double pipes connecting with vertical and horizontal pipes, combined with troughs for freezing-mixture; also, in the combination and arrangement of waste-water pipes with double pipes and cylinders having ventilating-pipes, so as to allow waste-water to run off and air to circulate through the same into the interior of the freezing-chamber; also, in the combination and arrangement of cylinders centrally located within the chamber having ventilating-pipes, in combination with troughs, vertical pipes, horizontal pipes, and double pipes within a freezing-chamber, so as to distribute a freezing-current toward the center of the chamber, and from the center toward the sides uniformly.

These pipes and cylinders may be charged with any suitable freezing-mixture—as salt and water—and the outer walls of the apparatus or building are to be constructed double, and filled with sawdust or other non-conductors heretofore employed for such purposes.

Figure 1 is a vertical central section of a freezing apparatus showing my invention. Fig. 2 is a horizontal section of the same. Fig. 3 is a plan view of one of the boxes. Fig. 4 is a vertical section of the same. Fig. 5 is a vertical section taken at right angle to Fig. 1.

A are the outer walls, and B the inner walls; D, the upper and lower floors of the building. The spaces between said walls, ceiling, and floors are to be filled with tan-bark, sawdust, or other non-conducting material heretofore employed for such purposes. E is a trough in the ceilings, arranged around the walls to contain the freezing-mixture, and from which troughs the vertical tubes or pipes F are charged. Said vertical pipes F are arranged around the walls of the preserving-chamber, their upper ends connecting with the troughs E, and their lower ends with the horizontal pipes G around the walls of the preserving-chamber near the floor D. H I are horizontal double pipes connecting with the trough E, passing across to the trough E on the opposite side, being arranged near the ceiling overhead, the outer one being provided with holes *v*. Connecting with the horizontal pipes G are also similar double pipes J K, running across from opposite sides near the floor D, the outer one being perforated. These outside perforated pipes condense moisture, which arises from the food stored in the chamber, or from the freezing-mixture. L are one or more tubular cylinders, centrally located, extending from the ceiling overhead, their lower ends connecting with a pipe, M, between the upper and lower floor, which pipe M also connects with a pipe connecting the whole series of vertical and horizontal pipes, so as to allow all waste-water to run off from the dissolving ice in the freezing-mixture with which the troughs, pipes, and cylinders are charged. The cylinders are provided with a pipe, N, centrally located within the same until it reaches about half-way to their top, where it bends at a right angle, and passes through its sides in opposite directions. N N N are pipes to allow a circulation of air through the waste-water pipe M and cylinders L with the interior of the freezing-chamber. O are trap-doors arranged in the floor above the troughs E and cylinders L, so as to permit of being opened to fill the same with the freezing-mixture. P is a side door for entering the chamber to store or remove food from the same, the interior of the chamber being provided with racks R for holding tiers of boxes S, which are so constructed and arranged as to allow a free circulation of cold air through and between them. These boxes S have several partitions or bars, T, running lengthwise of the same, but not extending to the bottom of the box. The ends and sides are provided with holes *x* to admit a free circulation of air through the same. These boxes are designed for packing fresh

fish, which are placed between the partitions, with their backs upward, two in each compartment. Their tails are lapped by each other, according to their size, more or less, in which condition they remain frozen until required for exportation or transportation and use.

Having thus described my invention, what I claim is—

1. The horizontal double pipes H I under the ceiling, in combination with troughs E, as and for the purposes set forth.

2. The horizontal double pipes J K near the floor D, in combination with horizontal pipes G, substantially as and for the purposes set forth.

3. The waste-water pipe M beneath the floor D, in combination with the horizontal pipes G, vertical pipes F, and cylinder or cylinders L, and ventilating-pipes N, as and for the purposes set forth.

4. The combination and arrangement of troughs E, vertical pipes F, horizontal pipes G, double pipes H I J K and cylinders L with a preserving or freezing chamber, as set forth.

EDMUND C. TOZER.

Witnesses:
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