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PATENTED DEC 6 1870

D. Y. HOWELL.

FREEZING BOX

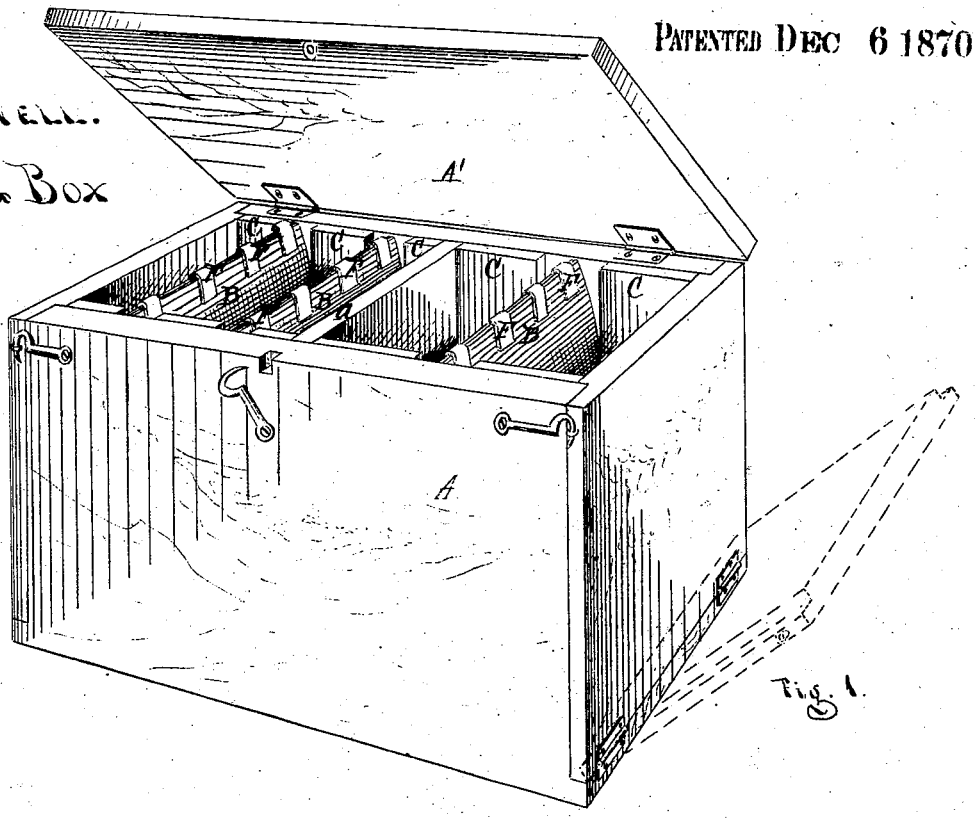

Fig. 1.

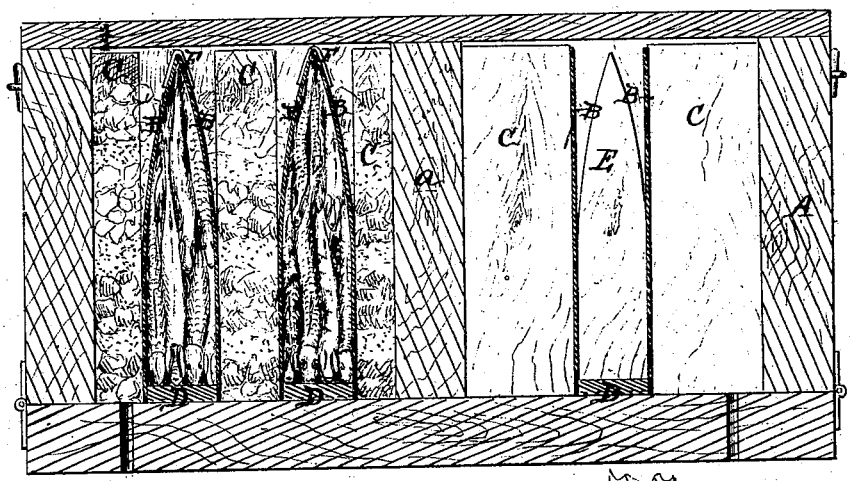

Fig. 2

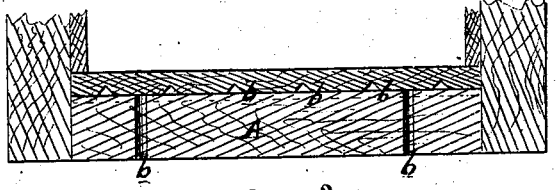

Fig. 3.

ATTEST

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DANIEL Y. HOWELL, OF TOLEDO, OHIO, ASSIGNOR TO HIMSELF, THOMAS S. SPRAGUE, AND HERMANN F. EBERTS, OF DETROIT, MICHIGAN.

Letters Patent No. 109,820, dated December 6, 1870.

IMPROVEMENT IN DEVICES FOR FREEZING FISH, MEATS, &c.

The Schedule referred to in these Letters Patent and making part of the same.

To whom it may concern:

Be it known that I, DANIEL Y. HOWELL, of Toledo, in the county of Lucas and State of Ohio, have invented a new and useful Improvement in a Box for Freezing Fish, Meats, &c.; and I do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon, and being a part of this specification, in which—

Figure 1 is a perspective view of my improvement;

Figure 2 is a longitudinal vertical section of the same; and

Figure 3 is a cross-section of the bottom and lower part of one of the cells.

Like letters indicate like parts in each figure.

The nature of this invention relates to an apparatus for freezing fish, meats, game, &c., for preservation; and

It consists in the arrangement, within a peculiarly-constructed box, of certain blocks and pairs of metal sheets, in such a manner that cells of various sizes may be formed for the reception of articles to be frozen, the freezing being effected by filling the spaces between the cell-walls with broken ice and salt, or other mixture for producing cold, which will be transmitted by the thin plates to the articles in contact with their other sides; also, in the employment of clamps for holding the top edges of each pair of plates together, forming a closed cell, to prevent the entrance of the refrigerating-mixture in filling the box with it, the whole being arranged to operate in the manner more fully hereinafter set forth.

In the drawing—

A represents the front and back walls and bottom of a box, connected by a transverse partition, *a*, which divides it into two compartments, having their ends hinged to open outward, as shown, the whole being covered with a suitable lid, A'.

In the bottom of the box, a series of grooves converge at drip-openings *b*, to carry off the water from the melting of the ice.

B are rectangular plates, of any suitable non-corrosive sheet metal, with which the cells are formed in the following manner:

Next to the transverse partition, I stand on end, at the front and back of the box, a block of wood, C, against the edge of which I stand one of the plates B. I then lay across the bottom of the box, in contact with the said plate, the bottom block D, grooved on the under side, to permit the water to flow under it, and whose width is that of the proposed cell. Then, on the ends of the block D, I stand the pointed or arched blocks E, and then place the other plate against it; then another parting-block, C, all as shown in the right half of fig. 2, and so continue until the end of the box is reached by a parting-block.

The width of the cells so formed may be varied, to receive articles of various sizes, by having sets of arched blocks of the various widths required. In like manner, the number of cells in a box and the distance between them may be varied by employing parting-blocks of different widths.

To freeze a quantity of fish, for instance, they are placed in the open cells, head downward, as is most convenient. When each cell is full, the top edges of the sheets are brought together and held in that position by the clamps F, which are slipped over them, as shown in fig. 1 and the left half of fig. 2. The spaces between the cells are then filled with broken ice and salt, or other suitable freezing-mixture, and the cover shut down. The intense cold produced strikes through the thin sheet metal to the fish in contact with it, and speedily freezes them. The water from the melting of the ice flows in the grooves to the drip-outlets and passes out, the bottom pieces of the cells keeping the fish dry, which, if wet, would freeze very slowly, or not at all.

When the box is to be emptied, the cover is raised, and the ends of the compartments opened, when their contents may be readily removed.

The principal object I have in the use of the clamps is to close the cells against the entrance of the mixture to their contents. They are not, therefore, essential to the freezing process, as the cells may be left open, care being taken in charging in the freezing mixture to guard against its introduction therein; or the cells may be closed with slats for covers.

Where the articles to be frozen are of uniform size, permanent blocks and strips may be secured to the walls of the box, the plates being made to slide down to place between them.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The employment of sheets of metal, arranged in pairs in a suitable box, in connection with a freezing-mixture, substantially as described, and for the purpose set forth.

2. The arrangement, within the box A, of the sheet-metal plates B and blocks C, D, and E, substantially as and for the purposes herein set forth.

DANIEL Y. HOWELL.

Witnesses:

FREDERICK EBERTS,

M. STEWART.