W. R. CLOSE.

Molds for Freezing Water.

No. 200,605. Patented Feb. 26, 1878.

Fig. 1

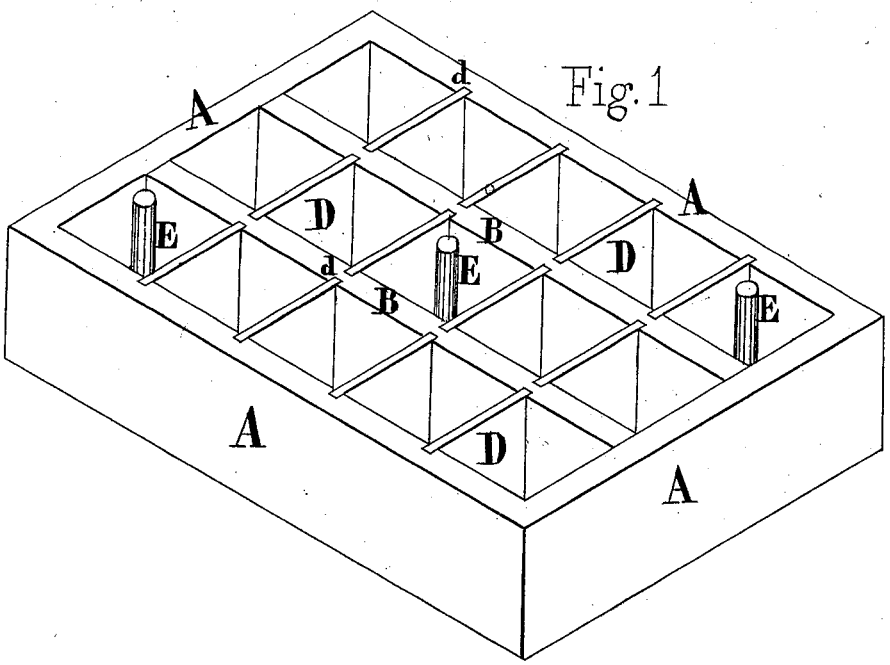
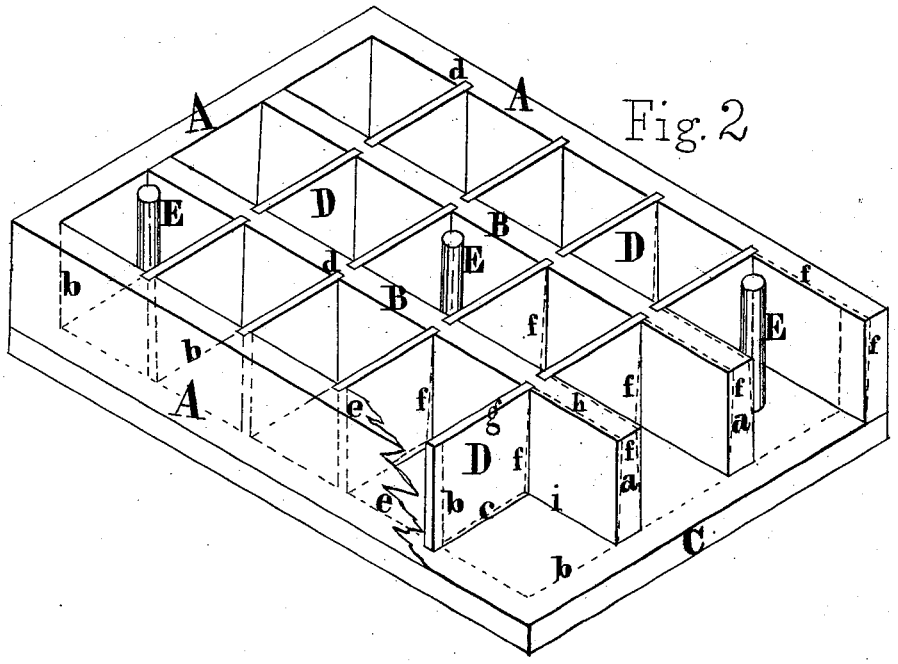


Fig. 2



Witnesses.

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UNITED STATES PATENT OFFICE.

WALTER R. CLOSE, OF BANGOR, MAINE.

IMPROVEMENT IN MOLDS FOR FREEZING WATER.

Specification forming part of Letters Patent No. **200,605**, dated February 26, 1878; application filed December 3, 1877.

To all whom it may concern:

Be it known that I, WALTER R. CLOSE, of Bangor, in the county of Penobscot and State of Maine, have invented certain Improvements in a Device for Freezing Ice in Cakes, of which the following is a specification:

My invention relates to a device and method of freezing ice in a convenient form for handling and in a convenient place for shipping, and also renders it possible to insure the purity of the water from which the ice is frozen.

In the accompanying drawings, Figure 1 is a perspective view of my invention as arranged for actual use. Fig. 2 is a perspective view of my invention, with the forward end piece removed and a part of one side broken away to show more clearly the formation and operation of the parts.

Similar letters refer to corresponding parts in the different figures.

A A A A are sides of a large box or inclosure, which may be of any desired size. B B are longitudinal partitions, of which there may be any number in proportion to the size of the outside inclosure. D D D are iron plates, which are used as cross-partitions to divide the spaces between the outsides, and the longitudinal partitions B B dividing the whole box or inclosure into checks or squares. C is a bottom. E E E are tubes placed vertically in the center of the squares or checks. *a a* are the ends of the longitudinal partitions B B. *b b b* are dotted lines, showing the size and shape of the checks or squares. *c* is the bottom of the plate D. *d d* are grooves or channels, into which the plates D D are fitted and in which they move. *e e* indicate where the side A is broken away in order to show more clearly the inside arrangement of the parts. *f f f* are dotted lines, showing the bevel which it is proposed to have to the partitions in actual practice.

In operation a box or inclosure is made with the sides A A A A. This may be made of any size to suit the convenience of the parties using it or the particular branch of ice-making for which it is employed. This box or inclosure is so proportioned as to be partitioned off into regular and equal sized checks or squares by means of the longitudinal partitions B B and the cross-partitions D D, and it will generally be found convenient to have the depth equal to the size of the squares, and, although there is no exact limit to or rule governing the size of the checks, it is presumed that two feet square and two feet deep will be the most convenient size to have the ice for handling and packing, and also a proper size for freezing in ordinary locations where it will be practicable to use my invention. Should it be desirable, however, to increase the size of the cakes, every other one of the iron plates may be left out, thus doubling the size of the cakes.

In order to insure the squares to properly freeze in the center when the weather may happen not to be quite cold enough to freeze the squares in the ordinary way, I have provided the tubes E E, to be placed in the center of each of the squares, the lower ends of the tubes being closed, or made sufficiently tight to exclude the water and allow the caloric to escape from the center of the cake.

The longitudinal partitions B B have the channels or grooves *d d* cut in them at the proper distances apart, and the iron plates D D, which form the cross-partitions, are fitted to slide up and down in these channels or grooves, so that the plates can be removed and replaced at pleasure. The plates D D have a bevel to each side from the top to the bottom, so that the bottom of the plate at C is not so thick as the top of the plate at *g*, and this is designed to allow the plates D D to be drawn out at pleasure when the box and squares are full of solid ice. The longitudinal partitions are beveled from the bottom *i* to the top *h* to allow the cakes of ice to be lifted out, the bevel in the longitudinal partitions B B being from the bottom to the top, and in the cross partitions or plates D D the bevel being from the top to the bottom.

Now, in filling the box or inclosure with water, the plates D D may be removed and the whole section or the whole box or inclosure filled with water at once. The plates may then be inserted in place, and thus the trouble and labor of filling each check or square avoided and saved. By this method, also, ice may be frozen wherever fresh water can be obtained, either from wells, springs, ponds, brooks, or cisterns, not only enabling the operator to select and

choose what water he prefers, but also to freeze fresh-water ice on the wharf at salt-water navigation, if necessary or desirable, and if fresh water can be obtained from wells, cisterns, or any source whatever. In this way no ice need be frozen from impure river or pond water, and the labor of cutting the ice and carting it after it is cut may be saved. Anywhere where water can be conducted in pipes or collected in cisterns this invention will allow ice to be frozen or manufactured. It also saves the expense of cutting and packing in sawdust or any other material, for it may be frozen on the wharf where the vessel lies, and delivered directly from the box into the vessel.

In taking the ice out of the box or inclosure, the plates or cross-partitions D D being made of iron and beveled from top to bottom, it is only necessary to strike a heavy blow on top to loosen them from the ice; and after the first plate is drawn out there is room to move the adjoining cakes of ice. Should it be deemed more convenient in getting out the ice from the box, one end may be made movable for that purpose.

The cakes, being all of a uniform and convenient size for handling, are cheaply and easily moved and packed.

Another advantage in this invention will be found in the fact that the size of the cakes may be adjusted to any given weight which will be found most desirable for either shipping or home consumption, and thus avoid all necessity for weighing. The ice may also be kept clear of snow, and spongy ice may be wholly avoided. The boxes, if necessary, may be placed one above another, and the whole protected by a roof to keep out the snow, thereby avoiding any accumulation of snow in the water before freezing, snow in the water before freezing being what makes the ice spongy, and also avoiding an accumulation of snow on top of the ice, which requires great labor to remove. There is also a great advantage gained by this method in keeping a body of snow from accumulating on top of the ice before it is of sufficient thickness, which prevents the ice from freezing rapidly. Again, if the weather is mild, and ice will not freeze to sufficient thickness in the ordinary way, it may be frozen in layers in the squares until it attains sufficient thickness, and the box may be so raised as to have an air-space underneath it, thus allowing the cold air to get at the bottom of the squares and freeze from the bottom and top simultaneously.

By this invention, also, private individuals who do not need a large supply of ice can make their own ice in their own door-yards.

To summarize: This invention enables the operator to manufacture ice with certainty when, under ordinary circumstances, he would be unable to get it of sufficient thickness from ponds and other usual sources. It enables him to manufacture solid ice of any desired proportions for handling and packing, and in such sizes as to wholly obviate the necessity for weighing. It insures his ice to be solid, and not spongy or porous, and enables him to make his ice in the most convenient spot for shipping. It saves the labor of cutting, hauling, and shoveling snow, and produces the ice clean and of good regular shape for handling and packing.

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

1. A box, A A A A, for freezing ice in cakes from pure water, having the longitudinal partitions B B beveled from the bottom *i* to the top *h*, into which are cut grooves *d d*, and the iron plates D D beveled from the top to the bottom, and fitted into and sliding in the channels or grooves *d d*.

2. A box, A A A A, for freezing ice, divided into regular and uniform sized squares or checks by the longitudinal partitions B B and the movable iron plates or cross-partitions D D, sliding in the channels or grooves *d d*, so as to be removed and replaced at pleasure.

WALTER R. CLOSE.

Witnesses:
FRED. H. COOMBS,
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