T. M. MYERS.

ICE CAN.

APPLICATION FILED MAR. 21, 1914.

1,166,623. Patented Jan. 4, 1916.

Fig. 1,

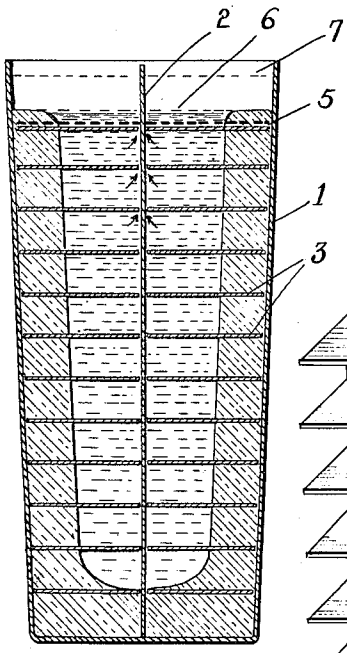


Fig. 2,

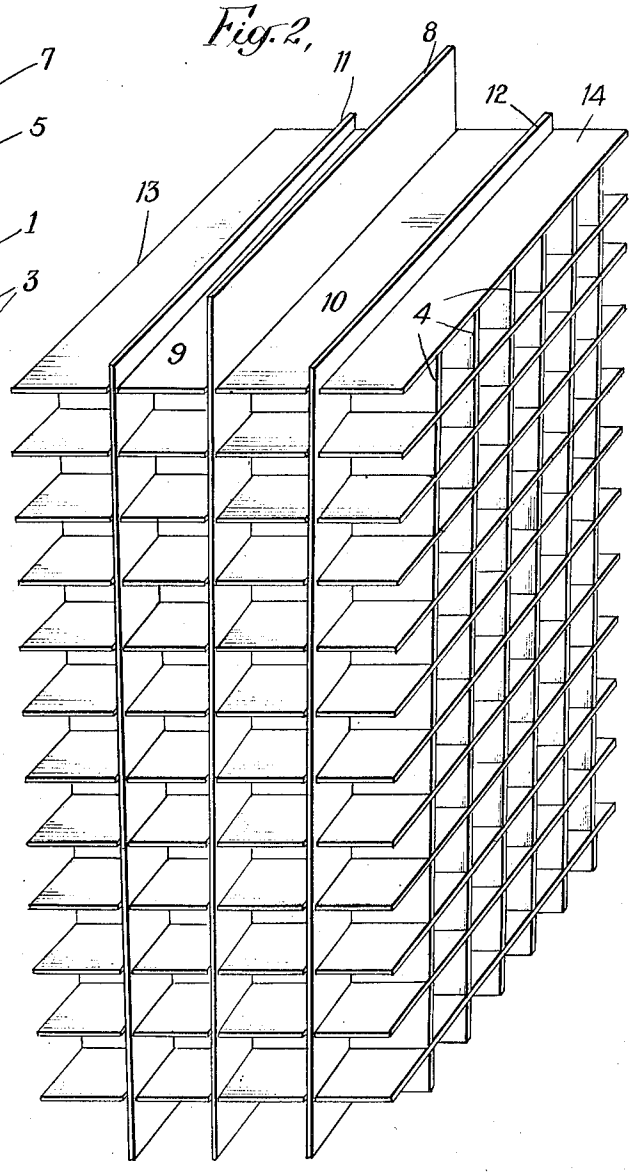
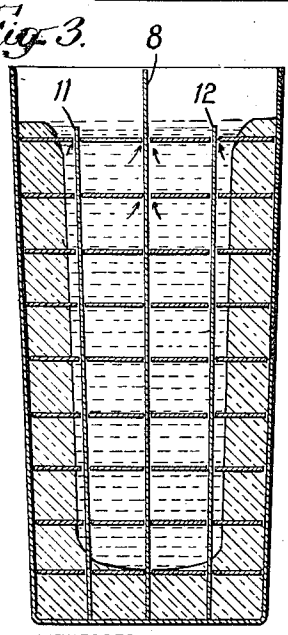


Fig. 3.



WITNESSES

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ICE-CAN.

1,166,623. Specification of Letters Patent. Patented Jan. 4, 1916.

Application filed March 21, 1914. Serial No. 826,252.

To all whom it may concern:

Be it known that I, THOMAS M. MYERS, a citizen of the United States, residing at New York city, county and State of New York, have invented certain new and useful Improvements in Ice-Cans; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

It is the object of the present invention to provide an improved apparatus for freezing ice, and more particularly for the production of small blocks, such as cubes and oblong pieces, suitable for table use without cutting. To accomplish this object the can in which the water is frozen is equipped with partition members so shaped and proportioned as to divide the ice into small blocks of the desired dimensions, adequate provision being made for the change in volume when the water freezes.

Other objects and advantages of the invention will be made clear by the detailed description, which is to be taken in conjunction with the accompanying drawings, wherein—

Figure 1 is a sectional elevation of an ice can equipped with partitions; Fig. 2 is a perspective elevation of partitions suitable for use in a can but differing from the construction of Fig. 1 by the provisions of two additional vertical dividing plates, and Fig. 3 shows the cellular structure of Fig. 2 arranged in a can.

In the construction illustrated the can 1 may be of usual size and dimensions for use in freezing water in usual refrigerating machines. Within this can and forming a loose partition near its middle is a metal dividing plate 2, and on either side of this dividing plate is a cellular structure made up of horizontal metal plates 3 and vertical metal plates 4 (Fig. 2), these horizontal and vertical plates of the cellular structure being rigidly fastened together to form rectangular cells or compartments but fitting loosely against the dividing plate 2 at the points indicated by the arrows (Fig. 1) so that water may pass freely along the face of the plate. This leakage or escape of water from the inner ends of the cells is necessary because of the expansion of the contents of the cell when it freezes. To illustrate, if dotted line 5 indicates the level of the water when the can is introduced into the freezing compartments, then after the water has been frozen around the sides of the can and along its bottom to about the thickness indicated by the shaded portion (Fig. 1), the level of water in the can will have reached the level of dotted line 6, for as each cell begins to fill up with ice the excess of water passes out around the inner ends of the cell walls and leaks up toward the top of the can. When the water has all been solidified, the final level in the can may be as high as that indicated by dotted line 7.

After the water has been frozen the can is lifted out of the freezing compartments and on warming can be slipped off, leaving the entire volume of ice held in the cellular structures. The high heat conductivity of the partition plate 2 soon releases the small blocks from the inner plate, and ultimately they can be shaken out of the cellular structures and will then be ready for use. In this way small cakes or blocks can be made even of a size small enough for use in drinking tumblers without any cutting or sawing of the blocks, though the apparatus is not limited to such small dimensions and may provide for the formation of much larger blocks.

In a modification illustrated in Fig. 2, a central dividing plate 8 is provided with cellular structures 9 and 10 on either side thereof, but in addition two auxiliary dividing plates 11 and 12 are provided outside of which are two additional cellular structures 13 and 14. In this case, as in Fig. 1, all of the cellular structures fit loosely against the dividing plates 8, 11 and 12, and fit loosely against the surrounding walls of the cam.

The expansion of water from the outermost cells is compensated for by leakage upward along plates 11 and 12, and the expansion in the innermost cells is taken care of by leakage along plate 8. The resultant blocks are approximately square in outline and of a size dependent upon the dimensions of the can and the cross-section of the cells.

If desired the can may be made narrow in cross-section so as just to accommodate the central plate 8 and its two adjacent cellular structures 9 and 10, in which event the blocks will be square instead of oblong as in Fig. 1.

Fig. 3 indicates a layer of ice frozen to

the walls of the can and indicates by arrows the openings through which the water may flow when expansion occurs.

Variations in form and dimensions may be made without departing from the spirit of my invention as defined by the appended claims.

I claim:

1. An ice can having a flat central partition loosely mounted therein, and a cellular structure on each side of said partition separate therefrom, and making connection therewith so loose that when the water in the cellular structure is being frozen, leakage of water between the partition and the cellular structure may compensate for expansion.

2. An ice freezing can having a flat metal partition loosely positioned near the center thereof, and cellular structures on each side of said partition and separate therefrom for dividing the ice into blocks, said partition plate and cellular structures being removable from the can with the ice after completion of the freezing operation, and said cellular structures being then separable from said partition to release the blocks of ice.

3. An ice freezing can having a metal partition loosely positioned therein near the middle of the can, a plurality of metal plates on each side of said partition having their edges loosely abutting against said partition and forming cellular structures on each side thereof wherein water may be frozen in small blocks, said partition and cellular structures being removable with the ice from the can on completion of the freezing operation and said cellular structures being separable from said partition to release the blocks of ice.

4. An ice freezing can having a partition loosely positioned therein near the middle of the can, metal plates loosely abutting against said partition and separable therefrom, said plates forming cells in which the water may be frozen into small blocks and from which water may pass upward between the edges of said plates and said central partition to compensate for expansion on freezing, dividing plates forming the outer face of the cells and separable from said cellular structures with provision for leakage of water along the face of the dividing plates, and supplementary cellular structures between said dividing plates and the walls of the can and separable from both, all of said cellular structures and plates being removable from the can when the water has been frozen, the cellular structures being separable one from another to release the blocks of ice; substantially as described.

In testimony whereof I affix my signature, in presence of two witnesses.

THOMAS M. MYERS.

Witnesses:
J. M. JACOBS,
W. J. HART.