April 26, 1949. A. GAZDA 2,468,492

ICE BLOCK RELEASER

Filed March 21, 1946

Fig. 1

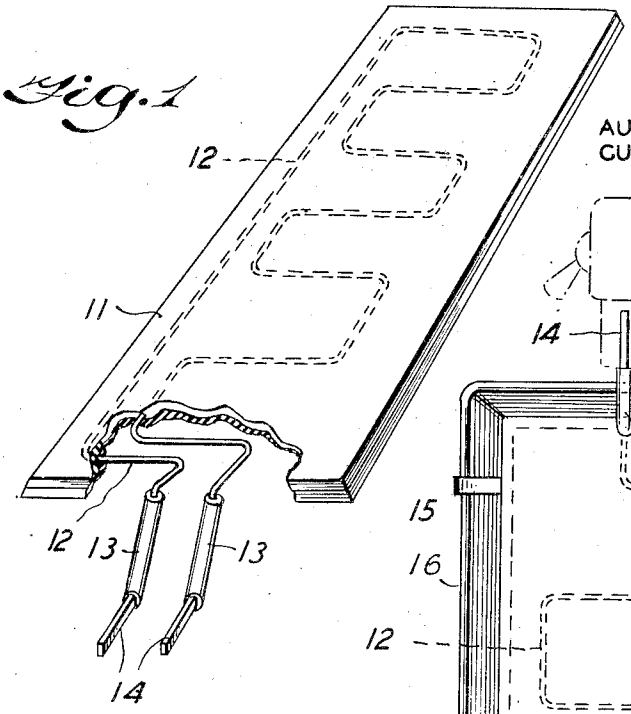


Fig. 2

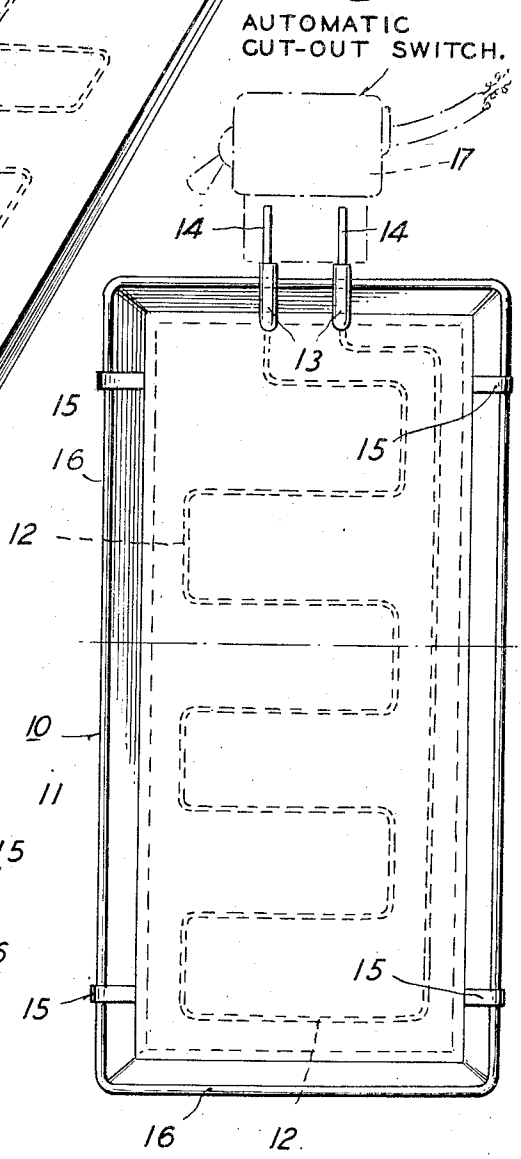
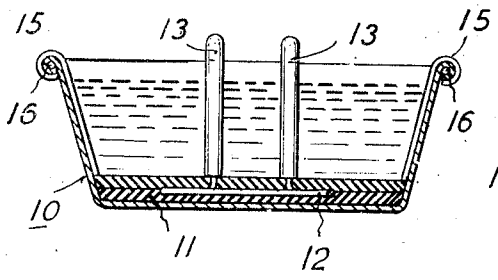


Fig. 3



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ICE BLOCK RELEASER

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1 Claim. (Cl. 219—19)

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The present invention relates to freezing trays for refrigerators, ice-boxes and the like, and more particularly to an ice-cube releasing plate which is readily associable with such trays.

It is a primary object of the present invention to provide an improved plate which is readily associable with a freezing tray (which may be essentially conventional in construction) and which is also readily removable therefrom and which, in operation, functions to supply heat to the freezing tray and to the ice cubes therein in order to release the latter from the tray.

Heretofore, the general procedure in detaching ice cubes from a freezing tray has involved the removal of the latter from the refrigerator freezing compartment, and holding the removed tray under a stream of hot water until the frozen contents thereof—ice cubes, etc.—are released therefrom under the influence of the heat transmitted from the hot water. This is a cumbersome and inconvenient procedure, and is sometimes difficult since it involves the handler's coming into contact with ice and with hot water.

The present invention overcomes these difficulties and simplifies the manipulation of emptying trays of their frozen contents. To this end, the aforementioned plate is provided in the form of a heatable plate or false bottom which fits into the bottom of the tray, between the latter and the conventional ice cube-molding partition member. The heatable element is preferably of heat-transmitting material and has heating elements—resistance wires or the like—incorporated therein. Means is also provided whereby the element is readily connected to and disconnected from a source of electric current. It is also desirable to provide means, in the form of clamps or the like, for preventing undesired dissociation of the tray and plate, as when the tray is turned upside down.

When the heating element is in operation, the heat generated therewithin is transmitted to the adjacent tray parts and to the adjacent partition member and the frozen contents of the tray thaw out and are quickly released. As a result, the tray can easily and quickly be emptied of its frozen contents.

Further objects and advantages of the invention will be apparent to those skilled in the art from the following detailed description of a presently preferred embodiment thereof, reference being had in this regard to the accompanying sheet of drawings.

On the said drawings:

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Fig. 1 is a perspective view of a heating plate in accordance with the present invention;

Fig. 2 is a top plan view of an ice tray with a heating plate according to the invention in place therein; and

Fig. 3 is a sectional view taken along line 3—3 of Fig. 2.

Reference numeral 10 designates an essentially conventional form of ice freezing metallic tray of the type which may contain a conventional metallic partition element (not shown) adapted to define ice cubes therein. The tray 10 as shown includes the usual bottom and side and end walls. The walls preferably, but not necessarily, flare outwardly as shown.

Shaped to fit snugly into the bottom of the tray is the heating plate or false bottom 11. When used in association with a tray having outwardly flaring walls, the ends and sides of plate 11 are correspondingly beveled.

The plate 11 may be made of metal, glass, plastic material or the like and has embedded therein the resistance wire 12 which, conveniently, is arranged in undulant configuration so as to extend effectively over the entire area of the plate. The latter may be of laminated construction with the resistance wire between the laminations, or else it may be hollow with one side thereof constituting a cover therefore. The cover may be integrated with the remainder of the plate in any suitable and conventional manner, as for instance, by spot welding after assembly of the parts.

The resistance wire 12 extends through insulated leads which fit against the adjacent tray wall and are sufficiently closely arranged so as not to interfere with the insertion of a conventional partition member into the tray. The ends of wire 12 terminate respectively in a terminal prong 14.

In order to associate the heating plate 11 with the tray, on the bottom of which the plate is laid, and to hold the plate and tray against undesired disassembly, the plate is preferably provided with upstanding spring bars 15 the free ends of which resiliently fit over and engage the beading 16 provided at the top of the tray walls; see Fig. 3. The bars 15 may however yield for detachment from the tray walls, when it is desired to remove the plate 11 from the tray 10.

In removing ice cubes or the like from the freezing tray 10, it is merely necessary to fit a socket 17, connected to a source of electric current, over the terminal prongs 14; see Fig. 2. In a very short time, e. g. of the order of about 30

seconds, a sufficient quantity of heat will have been transmitted from the resistance wire 12 to the plate 11 and from the latter to the tray walls and to the usually present compartment-forming partition member (which rests on the plate 11) to start incipient melting of the adjacent ice cube surfaces whereupon by merely inverting the tray the ice cubes will drop out.

Socket 17 may be provided with a manually operable switch or with an automatic cut-out switch of conventional construction whereby, after current has passed for a predetermined period of time, the circuit is broken.

After the cubes have been removed, the socket 17 is detached and the tray is ready for re-use in the usual way.

The removability of the heating plate 11 facilitates cleaning thereof when necessary. Close fit between the parts is desired in order to enhance the transmission of heat between the parts.

It is seen from the foregoing that the present invention provides an improved means, readily adapted to conventional ice freezing trays, whereby removal of frozen ice cubes therefrom is made possible in simple and rapid manner.

While the drawings illustrate and the specification describes a particular embodiment, this is not intended to be limitative, the invention being circumscribed only by the scope of the following claim.

Having disclosed the invention, what is claimed is:

An ice block releaser consisting essentially of a plate of heat transmitting material, said plate being configured to fit snugly within an ice freezing tray on the bottom thereof extending over the entire bottom and being interposed between the material to be frozen and the tray bottom, heat generating means embedded in and contained within said plate and having two ends extending therefrom, insulated leads secured on said ends, said leads extending upwards over the side of said tray and terminating in a terminal prong, said leads being configured to lie in close relationship with the side of the tray and relatively close to one another, and means for operatively integrating said plate and the tray with which it may be associated while allowing dissociation thereof comprising upstanding spring bar members secured at one end thereof to said plate and extending upwardly for lying along the sides of an associated tray, the free ends of said members resiliently engaging the top of such tray.

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