Oct. 22, 1940. H. B. RUDD 2,218,724

RECEPTACLE FOR REFRIGERATOR USE

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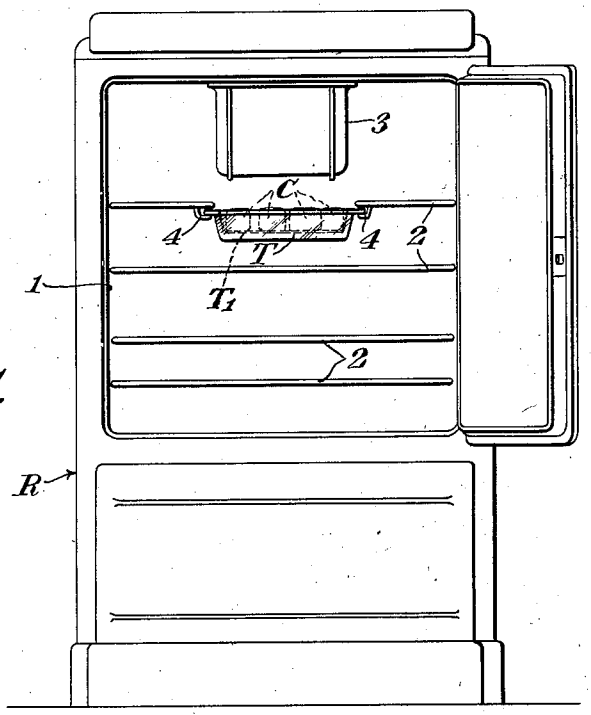


Fig. 1.

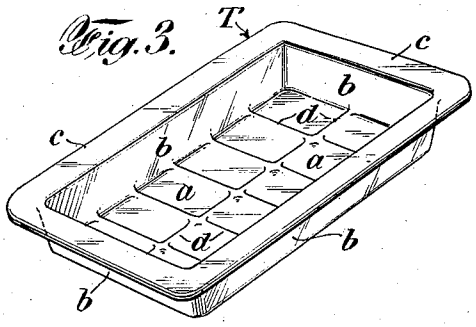


Fig. 3.

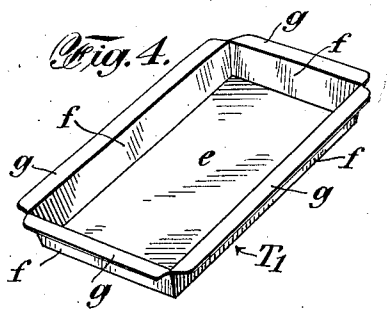


Fig. 4.

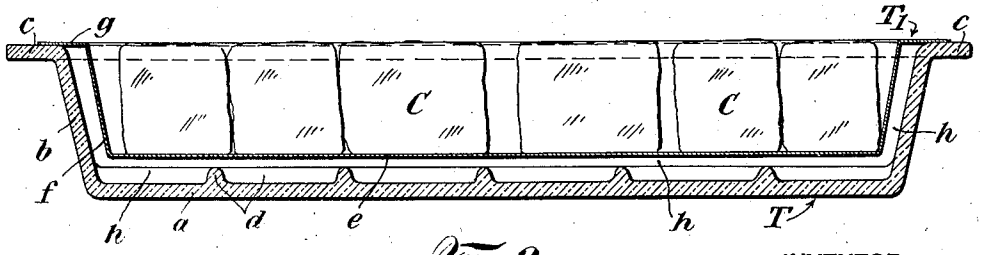


Fig. 2.

INVENTOR
Harry B. Rudd
BY
Ward, Crosby & Neal
ATTORNEYS

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RECEPTACLE FOR REFRIGERATOR USE

Harry B. Rudd, Flushing, N. Y.

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1 Claim. (Cl. 62—1)

My invention relates to a receptacle adapted for refrigerator use such, for example, as a container for ice cubes or other frozen material, or for substances to be refrigerated.

My invention has particular reference to a receptacle or container which comprises an inner surface formed from thin, flexible sheet metal or other sheet material from which the frozen material may readily be separated.

Various other objects, advantages and features of my invention will become apparent from the following description.

My invention resides in the receptacle or container, combinations and arrangements of the character hereinafter described and claimed.

For an understanding of my invention and for an illustration of one of the forms thereof, reference is to be had to the accompanying drawing, in which:

Figure 1 is an elevational view showing the interior of a modern electrical refrigerator;

Fig. 2 is a vertical sectional view, partly in elevation, showing a receptacle as constructed in accordance with my invention;

Fig. 3 is a perspective view showing the outer tray of my novel receptacle; and

Fig. 4 is a perspective view showing the inner tray of my novel receptacle.

Referring to Fig. 1, I have shown an interior view of a modern electrical refrigerator R which, as will be understood, may be a gas refrigerator, or equivalent. As well known in the art, the refrigerator R comprises an upper compartment 1 utilizable principally for the storage of foodstuffs, said compartment 1 having a plurality of shelves 2 supported therein in suitable manner. Disposed in the top area of the compartment 1 is a freezing unit 3 which, as well understood, comprises a chamber within which a plurality of trays, not shown, are received, these trays being provided individually with grids so that water disposed therein may be frozen to form the well-known ice cubes. In the type of refrigerator herein shown, the upper shelf 2, on the lower surface thereof, carries a pair of tracks 4 utilizable for slidably supporting the usual glass tray T, Fig. 3, which, as shown, comprises a bottom wall *a* and upright walls *b*, the pairs of oppositely related walls *b* having the respective sections *c* extending horizontally therefrom. Further, the bottom wall *a* preferably may be provided with the conventional upwardly extending glass ribs *d* which form integral parts of said tray T. As well understood, the tray T serves as a receptacle wherein ice cubs are stored after the latter have been removed from one or more of the freezing trays which are received in the unit 3.

In accordance with my invention, an inner tray T1 is associated with the aforesaid tray T and the surface of this tray T1, rather than the surface of the glass tray T, is engaged by and supports the ice cubes C, Fig. 2, when the latter are disposed in my novel receptacle for storage purposes.

The tray T1, advantageously, may be of the character illustrated in Fig. 4, wherein said tray T1 is shown as being substantially the same in configuration as the tray T, the tray T1, however, being somewhat smaller than the tray T so that the smaller tray may be disposed within the larger tray as shown in Fig. 2. The tray T1 comprises a bottom wall *e* and upright walls *f*, the pairs of oppositely related walls *f* being provided with the respective horizontal sections *g*. Preferably the walls *e* and *f* together with the sections *g* are all formed, by a stamping or other suitable operation, from a single piece of sheet material. As shown in Fig. 2, the dimensions and configuration of the tray walls *e* and *f* are such that the bottom wall *e* of the tray T1 is spaced a suitable distance above the bottom wall *a* and the ribs *d* of the tray T while the upright walls *f* extend upwardly preferably in spaced relation as regards the respective upright walls *b* of the tray T. Further, as shown in Fig. 2, the sections *g* of the inner tray T1 rest upon the respective sections *c* of the outer tray T and thereby serve as a support for said tray T1.

Thus, the tray T1 is adequately supported by the tray T and, as shown, said tray T1, preferably although not necessarily, is readily detachable from said tray T. It will be understood that any suitable means, not shown, may be employed for holding the tray T1 in a desired position with respect to the tray T and, further, it will be understood that the invention is not to be limited to the precise structural details described above.

In accordance with the invention, the tray T should be formed from material suitable for the intended purpose such as glass, crockery, a phenol condensation product, or equivalent. The tray T1 may be molded from a plastic or phenol condensation product or said tray T1 may be formed from flexible sheet material such, for example, as Celluloid, rubber, phosphor bronze, an alloy of aluminum, stainless steel, etc., this sheet material having a thickness which, for example, may range between 0.004 inch and 0.01 inch and upwardly, more or less and the wall thickness of the tray T usually being much greater than this,

said tray T, for example, having a wall thickness the same as that of the usual glass trays at present used in the art.

As clearly illustrated in Fig. 2, an important feature of the invention involves the disposition of the tray T1 relative to the body of the tray T in such manner that a space *h*, usually occupied by air or other suitable gaseous medium hereinafter generically termed "air," is formed between the adjacent tray walls *a* and *e*, *b* and *f*. It shall be understood that spacing arrangements other than as herein disclosed may be utilized for producing the desired air space *h* and, further, it shall be understood that the thickness or depth of this air space *h* may be substantially different than as illustrated in Fig. 2 wherein it is shown as having approximately the same thickness as that of the bottom wall of the tray T. Further, it shall be understood that, in lieu of an air space between the trays T and T1 as described above, suitable insulating material such, for example, as rock wool, asbestos or the like may be used to prevent passage of heat from the tray T toward the tray T1.

Experience has demonstrated that a receptacle of the character herein described, when supported interiorly of a refrigerator R, for example, as shown in Fig. 1 or in any other suitable manner, serves in an advantageous manner as a container for the storage of ice cubes. When thus stored, the melting rate of the ice cubes is greatly decreased compared with that which occurs when ice cubes are stored in the usual glass tray of the prior art.

In the event that the storage interval continues over a long period, the ice cubes, by frozen connections, may adhere to each other and to the surface of the tray T1. If so, it will be found that the frozen bond is weak and that the application of slight pressure will result in the separation of the ice cubes from each other and from the surface of the tray T1.

When the ice cubes are separated in this manner from the tray T1, an action similar to a peeling action occurs. That is, the application of manual pressure to an ice cube causes the frozen connection to break along one narrow surface whereupon the continued application of manual pressure causes the frozen connection to be progressively broken along the adhering surface of the ice cubes. As this action occurs, it usually happens that the surface of the tray T1 flexes or moves with respect to the adjacent surface of the tray T. This is highly advantageous in connection with the separation of the ice cubes from their supporting tray T1 and is a feature of my invention of distinct importance.

While the invention has been described with respect to a certain particular preferred example which gives satisfactory results, it will be understood by those skilled in the art after understanding the invention, that various changes and modifications may be made without departing from the spirit and scope of the invention and it is intended therefore in the appended claim to cover all such changes and modifications.

What is claimed as new and desired to be secured by Letters Patent is:

A receptacle adapted for refrigerator use, said receptacle comprising inner and outer trays disposed in nested relation, means carried by said receptacle for holding said trays in spaced apart relation and providing a substantially dead air space therebetween, said inner tray being adapted to receive a plurality of ice cubes and the bottom wall of said inner tray being formed of thin sheet-like material of sufficient flexibility to yield when pressure is applied to a cube frozen thereto to break the bond between said cube and said inner receptacle.

HARRY B. RUDD.