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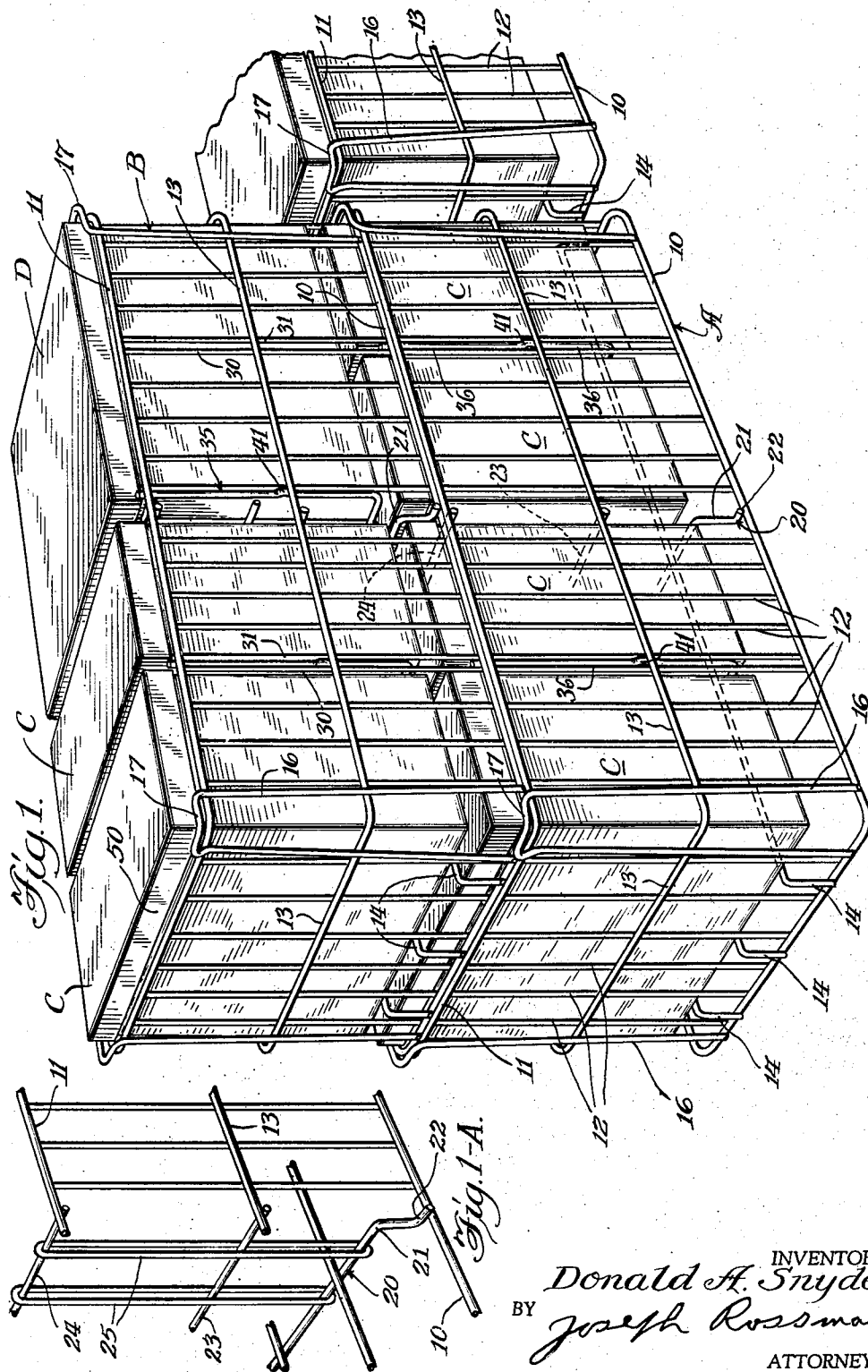
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2,228,787

RECEPTACLE

Filed March 28, 1939

3 Sheets-Sheet 1



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3 Sheets-Sheet 3

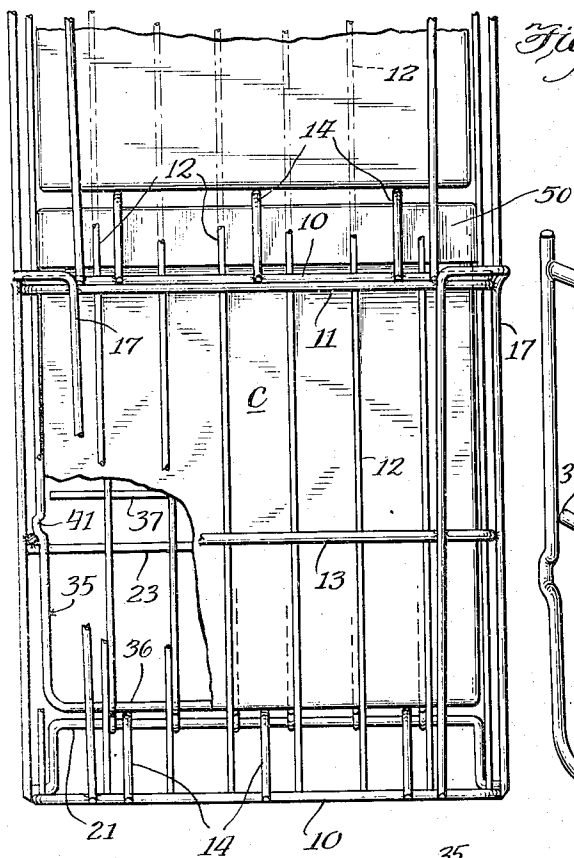


Fig. 4.

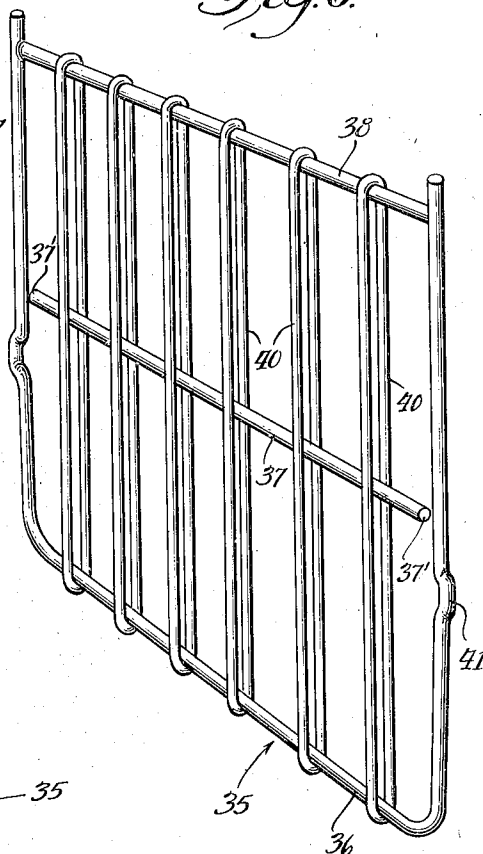


Fig. 6.

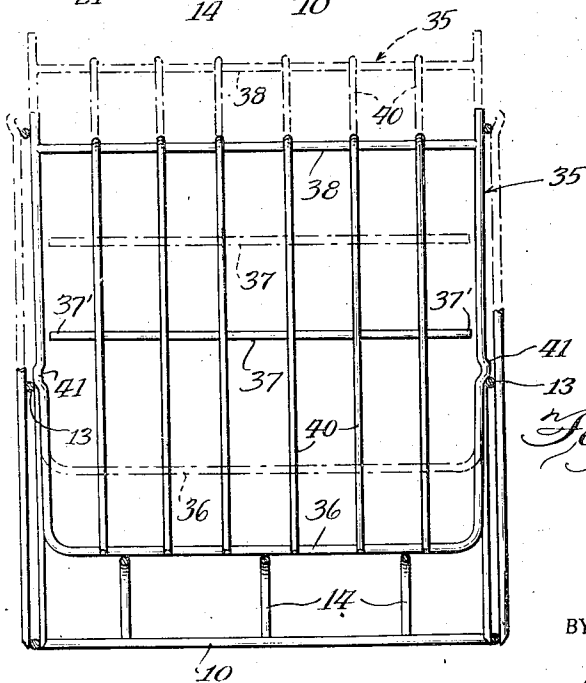


Fig. 5.

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RECEPTACLE

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3 Claims. (Cl. 220-19)

This invention relates to a receptacle adapted for receiving and retaining cartons therein.

One object of the invention is to provide a receptacle which has a plurality of partitions therein, each of said partitions forming a plurality of compartments in said receptacle, each compartment having a predetermined contour.

Another object of the invention is to provide a receptacle having removable partitions therein and means for retaining said partitions in position so as to provide compartments of a predetermined contour adapted for receiving cartons having a complementary predetermined contour.

Still another object of the invention is to provide a receptacle adapted to receive and retain therein cartons of a predetermined contour containing a material which expands upon subjection to freezing temperatures, whereby said cartons will retain their predetermined contour during the freezing condition.

Details of the invention are given in the following specification and appended drawings wherein:

Figure 1 is a perspective view of a plurality of receptacles constructed in accordance with the present invention, supporting cartons therein,

Figure 1A is a fragmental perspective view illustrating a detail of the receptacle construction,

Figure 2 is a plan view of the receptacle showing the partitions,

Figure 3 is a side elevational view of the receptacle shown in Figure 2,

Figure 4 is an elevational end view of the receptacle, showing a second receptacle stacked thereon,

Figure 5 is a view taken along lines 5-5 of Figure 2, and

Figure 6 is a perspective view of one of the movable partitions.

The receptacle of the present invention is particularly adapted for use in carrying out the process described in Cocks Patent No. 2,109,102, February 22, 1938. According to the process disclosed in said patent, bulk ice cream and similar comestibles are packaged in cartons of large capacity, anywhere from 1 gallon or more. When such large cartons are filled with semi-liquid ice cream or other fluid substances the walls of the cartons tend to bulge out. It is therefore necessary during the filling operation to support the side walls of the carton in order to retain the initial contour of same. After the cartons have been filled with ice cream or other comestibles, the cartons are subjected to freezing conditions in order to harden the contents. The cartons are retained in the receptacle provided in accordance

with this invention during the freezing operation whereby they will maintain their predetermined contour. After the freezing operation, it is possible to remove the individual cartons supported within the receptacle and to place same in another suitable receptacle within a refrigerator for dispensing purposes.

The receptacle construction in accordance with the present invention is advantageously made of rigid metal rods, bars, wire and the like. As shown in Figure 1, the receptacle is constructed of a lower 10, and upper 11 rectangular frame members. These upper and lower frame members are retained in spaced relation by means of a plurality of spaced vertical rigid rod members of suitable dimension. These rod members 12 are affixed to the frame members at their contacting portions by welding or by any other suitable means. As shown in Figure 1, the rod members 12 are placed within the interior of the frame members 10 and 11, thereby forming foraminous continuous walls of the receptacle. An intermediate rectangular frame member 13 is positioned on the outside of the vertical members 12 and suitably affixed at their contacting portions by welding and the like.

Spaced horizontal U-shaped supporting bars or cross-members 14 are affixed to the lower frame member 10 as shown in the drawings. These cross-members 14 provide the bottom wall of the receptacle for supporting cartons 15. These spaced cross-members are U-shaped in contour whereby a raised bottom is provided for the receptacle spaced above frame member 10. At each corner of the receptacle, reinforcing corner members 16 are provided which are U-shaped in contour and are affixed by welding or by any other suitable manner to the outer contacting portions of the frame members 10, 11 and 13. As shown in Figure 1, the upper portion 17 of the reinforcing corner members extends beyond the upper frame member, thereby providing projections extending from each corner of the receptacle. These projections serve to receive the corner portions of the bottom or lower frame member 10 of a second receptacle 2 which may be stacked or superposed upon the lower receptacle 1 thus retaining same in place.

The receptacle is provided with a medial fixed partition 20 which is rigidly affixed. Said partition 20 comprises a lower strut member 21 affixed at each end 22 thereof to the lower frame member 10. A tie member 23 is also affixed at its ends to the middle frame member 13 and another tie member 24 affixed at its ends to the upper frame member 11 as shown in Figure 1A. The fixed

middle partition 20 thus consists of three main spaced tie or strut members 21, 23 and 24, affixed at the ends thereof to the three rectangular frame members of the receptacle. A series of spaced members 25 are affixed to the three strut members thereby forming the completed fixed middle partition 20.

As illustrated in Figure 2, auxiliary fixed vertical members 30 and 31 are provided in the receptacle for forming guides which are adapted to slidably receive removable partitions 35 within each of the compartments of the receptacle.

The removable partitions 35, as shown in Figure 6, are formed from a U-shaped frame member 36 and spaced rod members 37 and 38. The ends 37' of rod member 37 are not welded to frame member 36 but are slightly spaced therefrom so as to permit the sides of frame member to yield slightly at 41. A series of spaced members 40 are affixed to the frame and rod members at their contacting areas whereby the completed partition is provided. As illustrated in Figure 6, the U-shaped frame member 36 of each partition is provided with a projection 41 which is adapted to slide past the central frame member 13, thereby removably locking the partition in place (see Figure 5).

In accordance with the present construction a receptacle is provided adapted to have four compartments of predetermined contour, each of said compartments being of the same dimensions. Each of these compartments is adapted to receive a carton C of the same contour therein (see receptacle B in Figure 1). As previously explained, the cartons are constructed of paper or other similar material which will tend to bulge out upon being filled with ice cream or similar liquid material prior to hardening same. It is the function of the compartment provided by the present receptacle to support the lateral walls of the cartons while they are being filled with ice cream, and the like, as well as during the freezing or hardening operation. The cartons are, therefore, maintained in their predetermined contour while being filled as well as during the freezing operation.

It is advantageous to so proportion the rectangular frame members of the receptacle so that the upper frame member 11 is slightly larger than the lower frame member 10, whereby a slight downward taper is provided which facilitates removal of the filled cartons from the receptacle.

It is also advantageous to space the lower cross-members 21 of the receptacle at a sufficient distance above the lower frame member 10 whereby when the cartons C or D are supported upon said lower cross-members the upper portion of the cartons will extend slightly out of the receptacle so that covers 50 may be placed thereover for closing the cartons while supported in the receptacle.

The receptacle constructed according to the present invention is adapted to receive cartons of different sizes, each of the sizes being proportioned so as to be a multiple of the smallest compartment provided in the receptacle. For example, the two removable partitions 35 may be entirely removed from the receptacle. Thereby two compartments are provided in the receptacle separated by the fixed central partition 14. Each of these compartments is adapted to receive a carton D which has twice the size of the smaller carton C adapted to be received in the smallest compartment, as shown in the receptacle B in Figure 1. In order to compensate for the space produced by the removal of the slidable parti-

tions, it is necessary to insert the slidable partitions adjacent the central fixed partition 14. The upper receptacle B in Figure 1 has one of the slidable partitions 35 positioned adjacent the fixed partition in order to provide a compartment for snugly receiving carton D. The vertical bars 50 and 51 adjacent each side of the central fixed partition 14, are so spaced as to provide a channel for retaining the slidable partition 35 inserted therein.

By means of the slidable partitions, it is thus possible to obtain compartments within the receptacle of equal unit dimensions or of dimensions which are a multiple or aliquot of the unit dimension. The lower receptacle A in Figure 1, for example, has the two slidable partitions 35 placed so as to form four compartments which snugly receive and support four cartons C of the same contour and dimensions.

It will be noted that the present receptacle by virtue of being constructed of spaced rod members is provided with foraminous side and bottom walls. The partitions similarly are foraminous in construction. Circulation of air about each of the cartons supported within the individual compartments is thereby assured. This feature is particularly advantageous when ice cream is being frozen within the cartons contained in the receptacle. Circulation of cold air is assured around each of the cartons in stacked relation. The corner construction of the receptacle as well as the lower bottom of each receptacle permits stacking of the plurality of these receptacles upon each other within the hardening room, as shown in Figure 1, without having a crushing force exerted upon the cartons in the lower receptacles beneath.

The receptacle constructed according to the present invention is adapted not only for supporting the cartons during filling and freezing operations but also for supporting the cartons during storage. The receptacle also serves for conveying the cartons from the ice cream factory to the retail stores. The receptacles are extremely light in weight yet very rigid and comparatively inexpensive.

It is to be understood that numerous modifications and changes may be made in the construction of the receptacle herein disclosed and that it is intended to include all such changes within the scope of the appended claims.

I claim:

1. A receptacle for receiving and supporting therein paper cartons of insufficient rigidity to be self-supporting during the process of filling said cartons with fluid or semifluid ice cream and during the further process of freezing, hardening or congealing the said ice cream, said cartons each having a selected size and being rectangular in shape, said receptacle comprising a foraminous bottom wall, opposed foraminous end and opposed foraminous side walls, a fixedly retained foraminous central partition within said receptacle and forming with said bottom wall, side walls and end walls, a pair of adjacent compartments, a pair of foraminous, removable partitions each adapted to be arranged in one of said compartments, spaced fixed vertical members extending from the top to the bottom of the receptacle and adjacent each side of the central partition thereby providing means for receiving and retaining in each one of said compartments one of said slidable partitions adjacent said central partition, each slidable partition thereby forming with the said bottom and side walls and the end wall of the

compartiment in which the said slidable partition is received and retained a compartment of size and shape complementary to and adapted to snugly receive and rigidly support therein a said carton, and a pair of cooperating spaced fixed vertical members extending from the top to the bottom of said receptacle and arranged on each of said side walls in each of said first mentioned compartments at a predetermined and equal distance from each of the end walls and midway between the said central partition and end wall to provide means in each first mentioned compartment for receiving and retaining a said slidable partition within a said compartment to thereby form with the said central partition bottom wall, side walls and respective end wall, adjacent subcompartments in each of said first-mentioned compartments, each sub-compartment having a unit size and contour which are aliquot parts of the second-mentioned compartment to snugly receive and rigidly support therein during said process a paper carton having a unit size and

contour which is an aliquot part of a said first-mentioned carton.

2. A receptacle as defined in claim 1 wherein the walls and partitions thereof are comprised of wires spaced apart to provide sufficient rigidity of support for the walls of the cartons received in the receptacle.

3. A receptacle as defined in claim 1 wherein the walls of the receptacle are comprised of spaced apart wires, the wires comprising the end and side walls extending a selected distance below the bottom wall to thereby form a raised bottom for the receptacle, the wires forming the corners of the receptacle extending beyond the upper edges of the end and side walls to form corner projections to seat a second such receptacle stacked or superposed on it with the bottom wall of said second receptacle spaced above a carton received in the compartment of the first receptacle.

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