Nov. 26, 1940. H. W. OHLHAVER 2,223,020

RECEPTACLE FOR REFRIGERATORS

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Fig. 1.

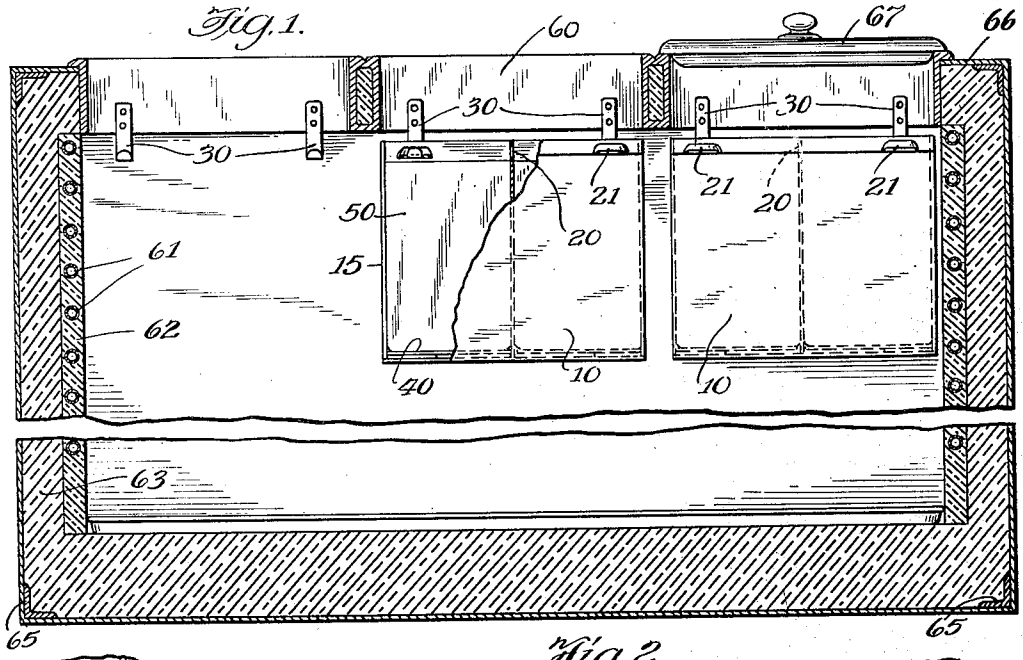
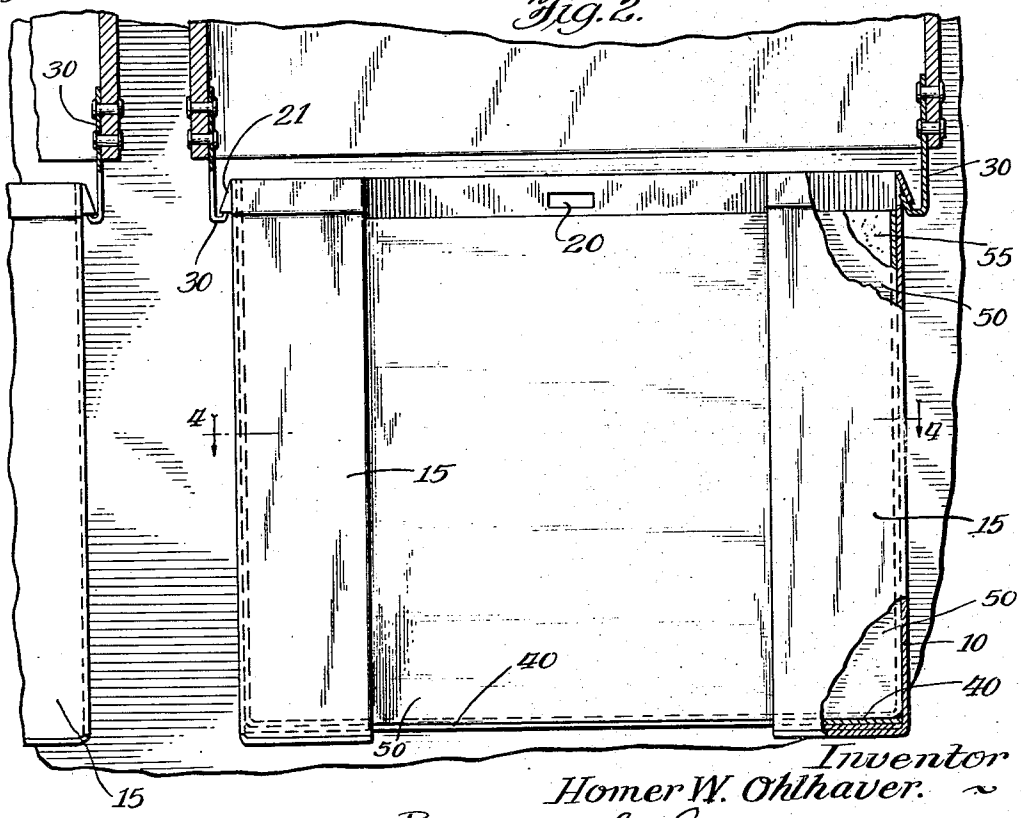


Fig. 2.



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Fig. 3.

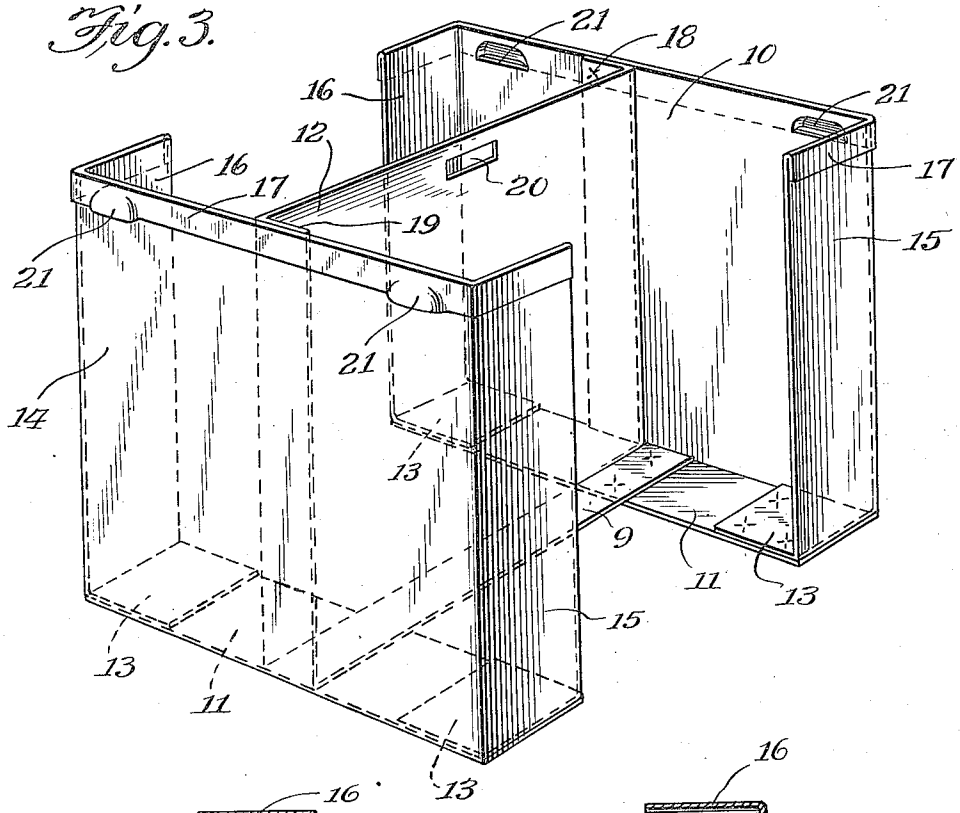
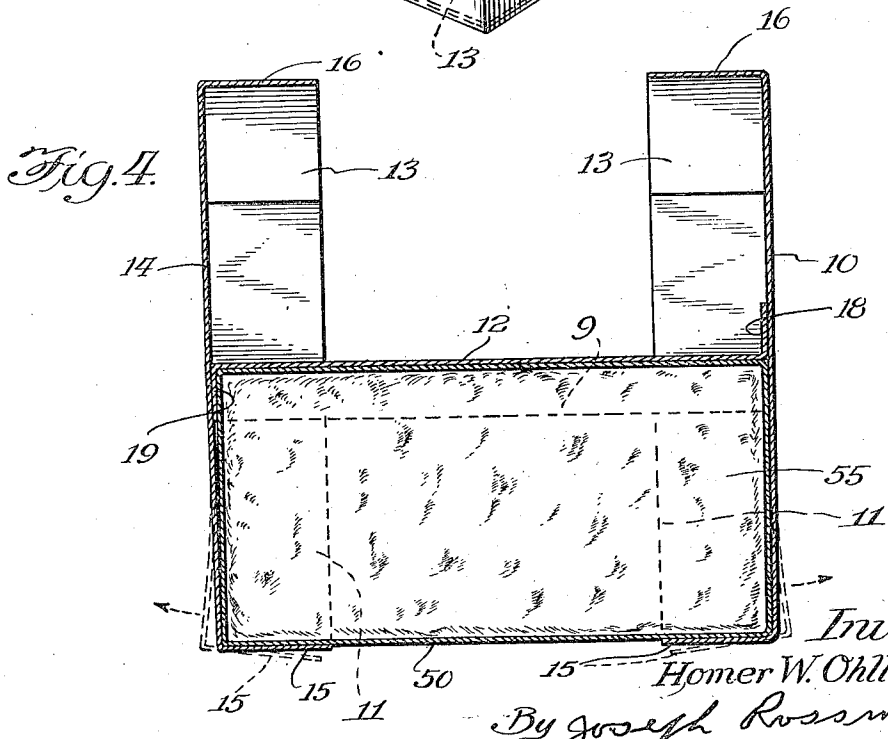


Fig. 4.



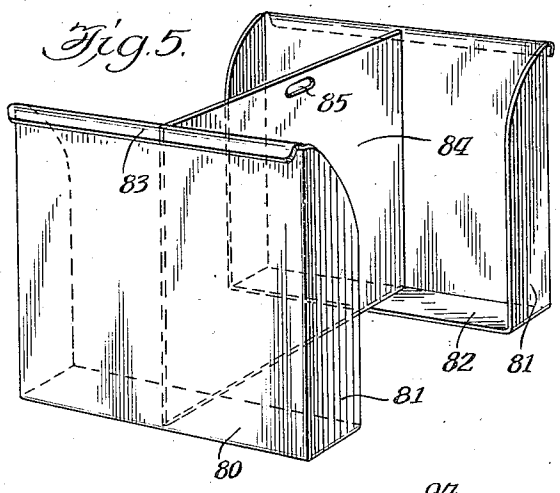
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Fig. 5.



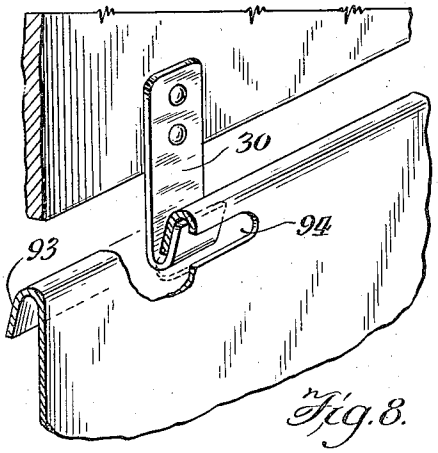


Fig. 8.

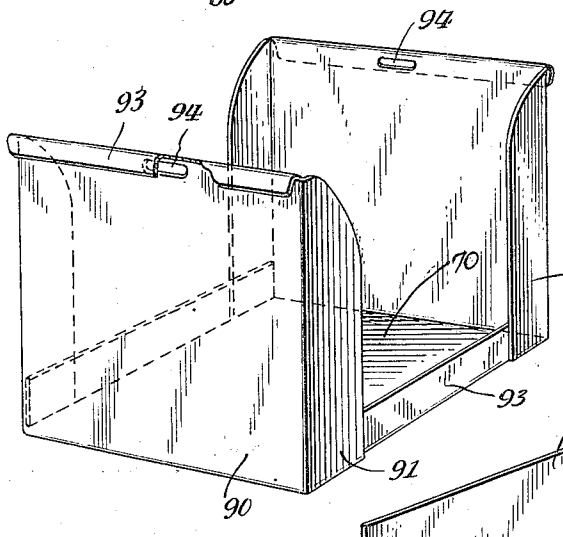


Fig. 6.

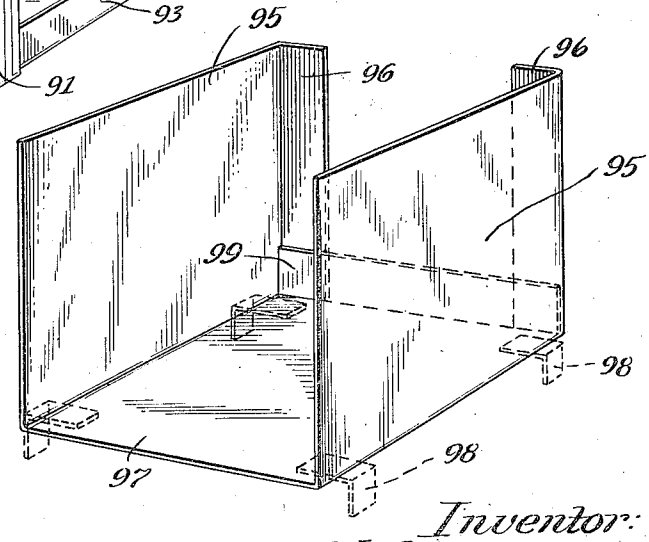


Fig. 7.

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UNITED STATES PATENT OFFICE

2,223,020

RECEPTACLE FOR REFRIGERATORS

Homer W. Ohlhaver, River Forest, Ill., assignor to Marathon Paper Mills Company, Rothschild, Wis., a corporation of Wisconsin

Application August 18, 1938, Serial No. 225,649

3 Claims. (Cl. 220—20)

This invention relates to receptacles to be placed in refrigerators for holding articles therein.

More specifically this invention relates to receptacles for reinforcing and snugly supporting paper cartons of predetermined contour within a refrigerator cabinet.

One of the objects of the invention is to provide light weight metal receptacles which are adapted to be removably suspended or retained in the usual refrigerator cabinets for receiving cartons of the same size and complemental contour as the receptacles whereby the walls of the cartons will be rigidly supported when the contents are scooped out or otherwise removed from the cartons.

Another object of the invention is to provide removable receptacles adapted to be placed in refrigerator cabinets, the receptacles being adapted to snugly receive cartons of complemental contour and size and containing frozen ice cream or other comestibles which are to be dispensed in small quantities at a time from the cartons while retained and supported in the receptacles.

A further object of the invention is to provide receptacles adapted to be removably retained in refrigerator cabinets, the receptacles being so constructed as to have the same contour as paper cartons containing frozen ice cream or other comestibles which are placed in the receptacles so as to rigidly support the walls of the carton when frozen ice cream or other comestibles are dispensed therefrom.

A still further object of the invention is to provide receptacles for snugly receiving cartons of complemental contour, the receptacles having slightly yieldable or springy walls for facilitating removal of the empty cartons therefrom.

The receptacle constructed according to this invention is adapted to be used in conjunction with a method disclosed in Cocks Patent No. 2,109,102, February 22, 1938, for packaging bulk ice cream and similar freezable comestibles in cartons of abnormally large size having, for example, a capacity of two gallons, the capacity thus being much greater than the usual pint and quart cartons now sold for individual serving. The cartons are made of comparatively thin cardboard stock so that they can be thrown away after being used. The cartons are preferably rectangular in shape whereby a great economy of space is secured in storing the ice cream in refrigerated dispensing cabinets used in stores, soda fountains and similar places where ice cream is dispensed from bulk containers.

When these rectangular cartons each having a capacity of two gallons are employed, it is possible to place two such cartons in the same space in the refrigerator cabinet occupied by a round bulk ice cream can now generally used having a capacity of 2½ gallons. The great saving in space is thus obvious for it is possible using such cartons to increase the total product storage volume anywhere from 40% to 60% depending upon the particular cabinet adapted for such cartons. Furthermore, by having a different flavor in each rectangular carton the number of flavors which it is possible to have accessible is increased 100% or more in the types of cabinets in present day use.

In employing these abnormally large cartons it is necessary to prevent distortion of the cartons by the pressure of the fluid when they are filled, or on account of expansion of the ice cream or other comestibles during freezing which bulges or distorts the carton from its original shape. Any suitable means may be used for this purpose so that when the contents are frozen within the carton it will assume a predetermined contour. Such cartons can therefore be readily inserted in the receptacles constructed according to this invention, and while so supported, ice cream or other comestibles can be dispensed from the cartons.

The receptacles constructed according to this invention have the same contour as the cartons containing the frozen comestible and they are adapted to be placed in refrigerating cabinets for dispensing the comestibles from the cartons. These receptacles have rigid walls and serve to retain the carton and support the walls thereof when the ice cream or other frozen comestible is dispensed or scooped therefrom. The receptacles also rigidly retain the walls of the cartons and prevent puncture and collapse of the carton walls during dispensing. The receptacle walls also serve to retain the walls of the carton placed therein and prevents movement or displacement of the carton during the dispensing operation.

The details of construction of the receptacles utilized for receiving the cartons having a predetermined contour and containing ice cream and other frozen comestibles will be apparent from the following description and annexed drawings, wherein—

Figure 1 is a sectional view of a refrigerator cabinet containing the receptacles constructed according to this invention for receiving cartons having ice cream or other frozen comestibles.

Figure 2 is a side view taken on lines 2—2 of

Figure 1, of a receptacle positioned in a refrigerator cabinet,

Figure 3 is a perspective view of a receptacle,

Figure 4 is a sectional view of the receptacle taken on lines 4—4 of Figure 2,

Figure 5 illustrates a modified construction of the receptacle,

Figure 6 illustrates a further modification of the receptacle construction, and

Figure 7 is a perspective view of still another modification of the receptacle adapted to be placed in a refrigerator cabinet.

Figure 8 is an enlarged fragmental perspective view of the receptacle illustrated in Figure 6.

Referring to the drawings, the preferred construction of the receptacle is illustrated in Figure 3. The receptacle is preferably made of three metal plates bent into suitable shape and welded together to form the complete receptacle.

Side wall 14, lateral flange portions 15 and 16, and a bottom flange portion 11 are formed from a single metal plate by suitably cutting and bending same. Portions 13 are integral with flange portions 15 and 16 respectively and are bent into contact with bottom flange 11 and welded thereto as shown in Figure 3. The upper edge portion of the plate is folded over to form a collar portion 17. Portions of the collar are bent out and shaped to form integral spaced suspending means 21 for the receptacle.

Side wall 10, lateral flanges 15 and 16, and a bottom flange 11 are similarly formed from a single metal plate. The two side walls 10 and 11 are joined together by a rigid partition 12 having longitudinal flanges 18 and 19 welded to the medial portion of the side walls. The partition 12 also has a lower flange portion 9 integral therewith welded to the bottom flange members 11 integral with walls 10 and 11 as shown in Figure 3. A perforation 20 is provided adjacent the upper edge of the partition 12 to receive a hook or other means for lifting the receptacle.

The receptacle so constructed consists of two adjacent compartments, the dimensions of which are so designed as to have the predetermined contour of cartons 50 which can be snugly received in each compartment as shown in Figure 4. If desired, a removable supporting plate 40, as shown in Figures 1 and 2, may be supported by the lower flange portions 11 upon which the carton rests.

The receptacle is adapted to be removably positioned in a refrigerator cabinet as shown in Figure 1 which is of any suitable construction, and is provided with means to suitably suspend the receptacles. The cabinet consists of outer walls 66 reinforced by angle irons 65 and provided with insulation 63. Refrigerator units having refrigerator coils 61 are positioned within the inner walls of the cabinet, the coils being held in place by a suitable binder 62. The refrigerator cabinet is closed with the usual covers 67.

The upper portion of the cabinet is provided with collar members 60 having suspending hooks 30 which extend into the cabinet for receiving the suspending means 21 of the receptacles as shown in Figures 1 and 2.

The space beneath the receptacles may be utilized for storing any desired articles. Access to the lower space of the cabinet is possible by simply manually lifting the receptacles out of the cabinet. If desired the cabinet may be so constructed as to hold two receptacles in superimposed relation.

The walls of the cartons 50 are rigidly supported by the walls of the receptacle thus facilitating the dispensing of the ice cream 55 or other frozen material in the cartons without breaking, tearing or distorting same during the dispensing operation. The receptacle thus reinforces the walls of the carton when ice cream and the like is scooped out of the carton. Side walls 10 and 14 of the receptacle, together with their respective integral flange portions 15 and 16 being made of comparatively thin sheet metal, are slightly yieldable or springy as shown by the dotted lines in Figure 4 when forced apart manually in the direction of the arrows, to permit removal of the cartons 50 placed within the compartments.

The construction of the receptacle shown in Figure 3 provides two compartments for snugly receiving and supporting cartons of predetermined contour, with a rigid partition therebetween. If desired the partition may be slidable instead of integral with the receptacle. Receptacles may also be constructed having more than two compartments for receiving cartons.

Figure 5 illustrates a modified form of the receptacle construction having side walls 80, lateral flange portions 81 and bottom flange portions 82 formed from sheet metal. The upper edges of side walls 80 are bent to provide flange portions 83 which are adapted to engage hooks 30 in the cabinet for supporting the receptacle therein. Partition 84 is rigidly affixed to side walls 80 and provides two compartments in the receptacle which have a predetermined contour for snugly receiving and supporting cartons of the same predetermined complemental contour.

Figure 6 illustrates another modified construction of the receptacle having side walls 90, lateral flange portions 91, a bottom 70 and lower side flanges 93' formed from suitable metal plates. The upper edges of side walls 90 are bent to provide flange portions 93 which are adapted to engage hooks 30 in the cabinet as shown in Figure 8 for supporting the receptacle. Slots 94 are provided adjacent the flange portion in which a lifting tool or other grasping means may be manually inserted for lifting the receptacle out of the cabinet. This receptacle has a predetermined contour for snugly receiving and supporting a carton of the same complemental contour. This receptacle construction may be formed from a single metal blank. If desired a partition may be provided to divide the receptacle into compartments.

A further modification of the receptacle construction is illustrated in Figure 7, wherein the receptacle is made of a single metal blank bent and secured together so as to form side walls 95, lateral flange portion 96, a bottom 97 and lower side flange 99. This receptacle is adapted to be supported upon brackets 98 provided in a refrigerator cabinet instead of being suspended on hooks as in the receptacle constructions. This receptacle has a predetermined contour for snugly receiving and supporting a carton having the same complemental contour. If desired a partition may be provided to divide the receptacle into two compartments.

The construction of the receptacle as herein disclosed in the different embodiments provides an efficient and simple means for supporting cartons of large size within a refrigerator cabinet.

The springy or slightly yieldable side walls of the receptacles permit a snug fit of the cartons within the receptacles as any slight irregularities in the carton contour are thereby compensated for. The springy side walls also facilitate removal of the cartons from the receptacle as any ice formed between the carton and the walls of the receptacle formed by moisture freezing therebetween can be cracked apart by slightly springing the walls away from the adjacent carton walls. It will also be noted that the receptacle construction provides open sides thereby facilitating removal of the empty cartons as well as the placing new cartons therein.

The details of the construction above disclosed constitute some exemplifications of the invention but they are not to be considered as restrictive of the novel features of the invention. Obviously many changes and variations are possible embodying the principles of the invention herein disclosed.

I claim:

1. A receptacle for reinforcing and snugly supporting cartons of predetermined contour within a refrigerator cabinet comprising two opposed side walls, opposed side and bottom flanges integral with each of said side walls, said opposed side and bottom flanges extending toward each other and terminating short and in spaced relation to each other, and a vertically positioned connecting member constituting a separator plate joining the said side walls at the medial region of same and forming the sole connecting means between said side walls, whereby said side walls are slightly yieldable to permit removal of cartons supported in said receptacle, said separator plate having longitudinal flange portions joined to said side walls and forming compartments of predetermined contour for snugly receiving cartons of the same contour as said compartments.

2. A receptacle for reinforcing and snugly supporting cartons of predetermined contour within a refrigerator cabinet comprising two opposed side walls, suspending means adjacent the upper edges of said side walls, opposed side and bottom flanges integral with each of said side walls, said opposed side and bottom flanges extending toward each other and terminating short and in spaced relation to each other, and a vertically positioned connecting member constituting a separator plate joining the said side walls at the medial region of same and forming the sole connecting means between said side walls, whereby said side walls are slightly yieldable to permit removal of cartons supported in said receptacle, said separator plate forming compartments of predetermined contour for snugly receiving cartons of the same contour as said compartments.

3. A receptacle for reinforcing and snugly supporting cartons of predetermined contour within a refrigerator cabinet comprising two opposed side walls, an upper collar portion integral with said side walls, said collar portion having portions protruding therefrom for suspending the receptacle in a refrigerator, opposed side and bottom flanges integral with each of said side walls, said opposed side and bottom flanges extending toward each other and terminating short and in spaced relation to each other, and a vertically positioned connecting member constituting a separator plate joining the said side walls at the medial region of same and forming the sole connecting means between said side walls, whereby said side walls are slightly yieldable to permit removal of cartons supported in said receptacle, said separator plate forming compartments of predetermined contour for snugly receiving cartons of the same contour as said compartments.

HOMER W. OHLHAVER.