Oct. 18, 1966 W. H. FREDRICK 3,279,641

CARTON BASKET

Filed May 7, 1962 2 Sheets-Sheet 1

FIG. 1.

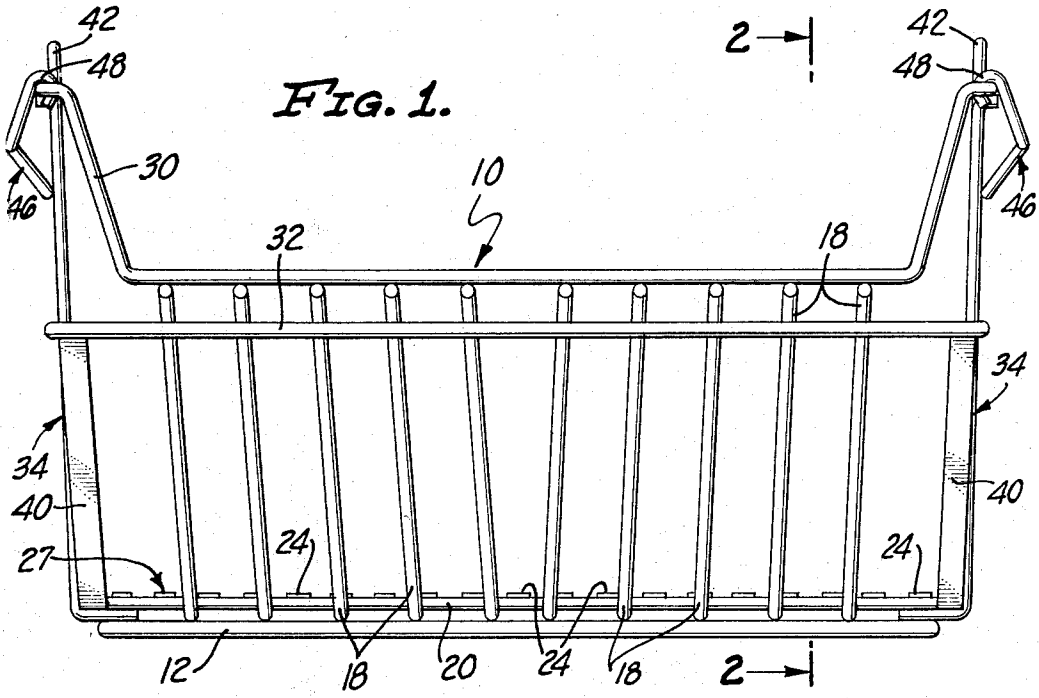


FIG. 2.

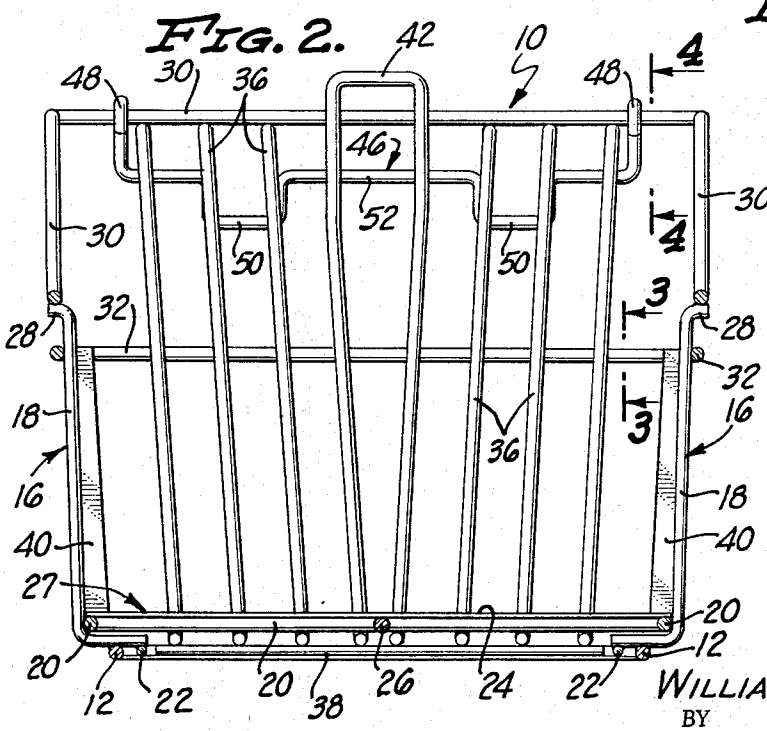


FIG. 3.

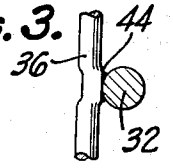
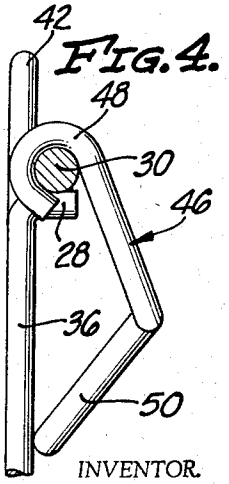


FIG. 4.



INVENTOR.
WILLIAM H. FREDRICK
BY
Thomas P. Mahoney
ATTORNEY

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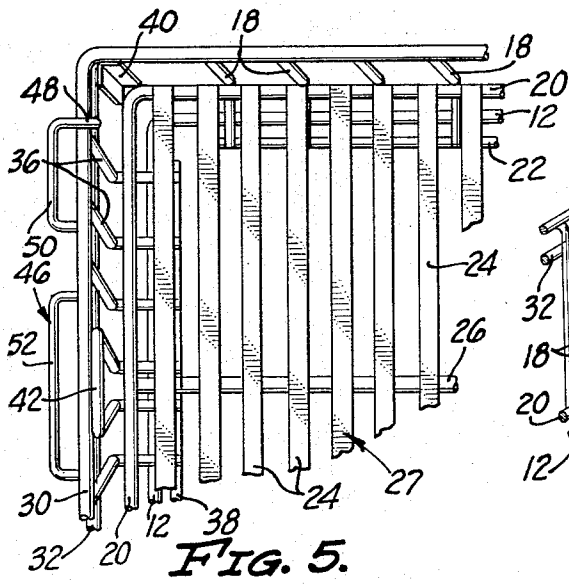


FIG. 5.

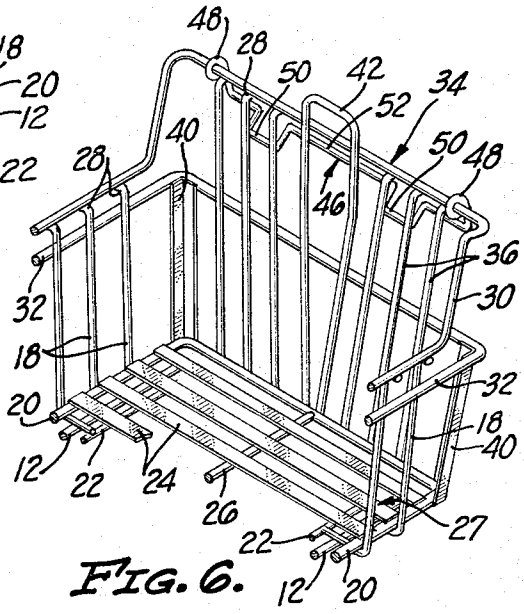


FIG. 6.

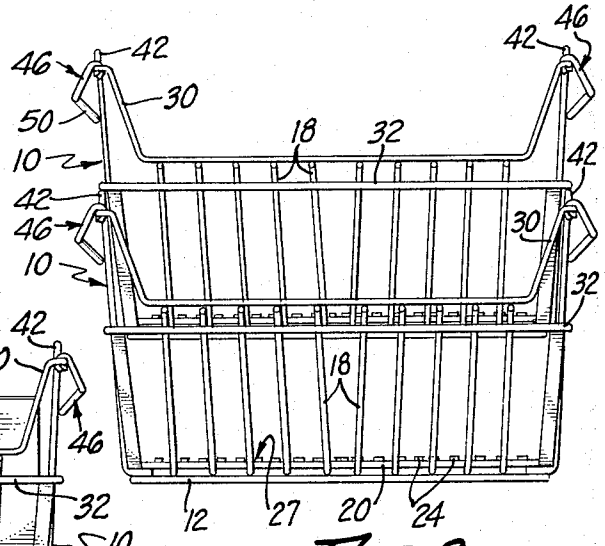
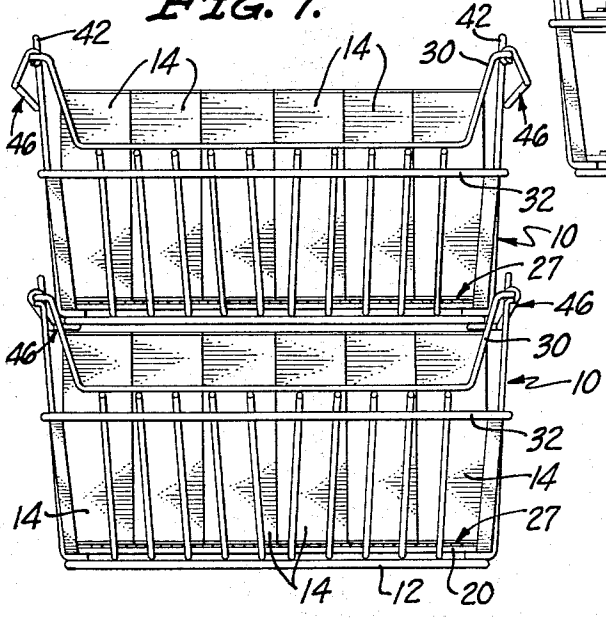


FIG. 8

FIG. 7.



INVENTOR.
WILLIAM H. FREDRICK
BY
Thomas P. Mahoney
ATTORNEY

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CARTON BASKET

William H. Fredrick, North Hollywood, Calif., assignor of one-half to Nathan Gilbert, Encino, Calif.

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4 Claims. (Cl. 220—19)

This invention relates to a stacking and nesting basket preferably formed largely of wire elements and adapted to serve as a container for storing, shipping and dispensing cartons or the like.

Although the basket is primarily intended for the storage and shipment of cartons of predetermined dimensions, it is adapted to be utilized also for dispensing such cartons to customers at the point of sale. The nature of its construction facilities removal of the cartons by customers so that the laborious and time consuming transfer of cartons from shipping containers to dispensing shelves is not necessary.

The basket of the present invention may be stacked upon a like basket or baskets for compact shipment of large numbers of cartons without damaging the contents thereof. Moreover, the present basket is adapted to compactly nest within like baskets to facilitate return and reloading of the baskets subsequent to removal of the cartons. Such nesting of empty baskets is important to enable storage and shipment of the empty baskets in relatively small spaces, although it is equally important that the baskets not nest so tightly that they cannot be readily separated for reuse.

Baskets intended for the storage and transportation of milk cartons must be light in weight to reduce shipping costs, be made of metal or the like to permit sterilization, and be very rugged to withstand handling abuse. Presently, heavy and cumbersome cases made of wood or stamped metal are used for transporting milk bottles and cartons, and for a variety of reasons their use has proved to be unsatisfactory.

Accordingly, it is an object of the present invention to provide a carton basket which is particularly adapted for the storage, shipment, and dispensing of cartons of milk. For this purpose, the carton baskets are characterized by wire frame sides and ends and by inwardly rotatable bails on the ends, with the ends extending upwardly and outwardly to a level greater than the height of a standard milk carton whereby another basket may be stacked upon the first basket in supportive relationship with the bails on the ends thereof, without damaging cartons within the lower basket. In addition, an important aspect of the invention resides in the configuration of the sides of the basket. That is, the basket ends are made higher than the sides so that the bails on the ends can support stacked baskets in positions elevated above the sides, but the sides of the basket are made lower in height than the standard milk carton to permit consumers to easily reach in and remove individual cartons across the upper edges of the depressed sides.

It is another object of the invention to provide a carton basket in which light-weight wire elements constitute the sides and ends of the basket, and in which heavier wire elements are secured to the lighter wire elements to provide the supportive function of carrying the weight of other baskets, both in nested and in stacked relationship. In addition, the heavier wire elements act as "bumpers" for protection against handling abuse, and certain of these elements also serve a strong and durable basket platform for supporting the basket in spaced relationship from the floor, conveyor, or whatever the basket is resting upon. With this arrangement a minimum portion of the basket rests upon the supporting surface, thereby affording a means for draining away any leakage from broken cartons, and also minimizing the degree of

contact of the basket with surfaces which may be unsanitary.

It is a further object of the invention to provide a carton basket for supporting relatively heavy items, such as cartons of milk, and wherein wire elements are utilized to form the basket sides and ends, the wire elements being utilized in a manner effectively compensating for their light weight compared to wood, stamped metal, or the like, so that the resulting basket is capable of carrying heavy loads. More particularly, the vertically oriented wire elements forming the basket sides and ends are carried under certain horizontally oriented wire elements which form a portion of the carton platform for supporting the cartons. The lower extremities of the vertical wires then extend inwardly to form a plurality of support ledges upon which such horizontal elements rest and are secured. Thus, dependence for strength is not placed solely on load transfers through welds, brazes, or similar connections therebetween.

Moreover, the inward disposition of the lower extremities of the vertical elements provides areas of attachment for heavier, horizontally oriented wire elements which form the previously mentioned basket platform which spaces the basket proper above the floor or other supporting surface.

It is another object of the invention to provide a carton basket of the aforementioned character wherein the upper extremities of the vertically oriented wire elements are outwardly disposed to locate the relatively sharp wire ends away from the carton storage area for eliminating any possibility of puncturing or tearing the cartons stored therein.

It is a further object of the invention to provide a carton basket for supporting relatively heavy items such as cartons of milk, and wherein wire elements of different gages are employed, the gage thereof depending upon the location and weight to be borne by the element, so that an efficient utilization is made of the available material of the basket to thereby support heavy loads despite the relatively light weight of the basket, and wherein heavy gage wire is utilized in the upper edge portions of the basket ends and in a peripheral, horizontally oriented member so that, upon nesting of identical baskets, said upper edge portions and said peripheral member are adapted to efficiently bear and transfer loads which result when identical baskets are nested.

Other objects and features of the invention will be apparent from the following specification and the accompanying drawings, which are for the purpose of illustration only, and in which:

FIG. 1 is a side elevational view showing the basket constructed in accordance with the teachings of my invention;

FIG. 2 is a view taken along the line 2—2 of FIG. 1;

FIG. 3 is an enlarged, detailed view taken along the line 3—3 of FIG. 2;

FIG. 4 is an enlarged, detailed view taken along the line 4—4 of FIG. 2;

FIG. 5 is a fragmentary, top plan view of the basket of FIG. 1;

FIG. 6 is a fragmentary, isometric view which particularly illustrates the construction of the basket end;

FIG. 7 is a side elevational view of a pair of the baskets of the present invention superimposed upon one another in stacked relationship; and

FIG. 8 is a side elevational view of the baskets of FIG. 7, and particularly illustrating the baskets superimposed upon one another in nested relationship.

Referring now to the drawings, and particularly to FIGS. 1 through 6 thereof, I show a wire basket 10 constructed in accordance with the teachings of my invention. The basket 10 is characterized by the fact that it

incorporates a heavy gage, continuous, rectangular perimetrical wire member constituting a planar basket platform **12** engageable with the floor, conveyor, or other surface upon which the basket **10** rests. As will be seen, the basket platform **12** supports the basket proper in spaced relationship with the floor to facilitate drainage of broken or punctured ones of the cartons **14** which the basket **10** is adapted to carry. In addition, the basket platform serves to maintain the cartons **14** above the floor so that there is minimum contact between the cartons and what might be an unsanitary surface.

The basket **10** includes oppositely disposed side walls **16** which, as best shown in FIGS. 1 and 2 of the drawings, include a plurality of side bars **18** inclined from a vertical axis and also slightly inclined outwardly from a vertical plane. That is, the side bars **18** of each side wall **16** are upwardly divergent from the center line of their associated side wall **16**, the side bars **18** of each side wall **16** also falling generally in a plane which is tapered slightly in an upward and outward direction from bottom to top.

The lower extremities of the side bars **18** pass outwardly of and beneath a rectangular bottom wire frame or carton support member **20** which is coextensive and coplanar with the basket platform **12** although the carton support member **20** is of greater dimensions. The lower extremities of the side bars **18** are brazed, welded, or otherwise suitably secured to the wire member **20**, and the lower ends of the side bars **18** are inwardly oriented to pass over the basket platform **12** for brazed or welded securement to a pair of light gage, longitudinally extending tie wires **22**, the wires **22** being arranged in opposed relationship along opposite sides of the basket **10** in parallel relationship with the adjacent portions of the basket platform **12**. The lower extremities of the side bars **18** are not only secured to these longitudinal tie wires **22**, but are also brazed or welded to the basket platform **12** at the points where they pass over the platform **12**.

With this arrangement, the weight of the basket **10**, and the loads imposed thereon by the plurality of cartons **14**, are transferred from the carton support member **20** directly to the inwardly projecting ledge portions of the side bars **18**, and thence directly to the basket platform **12**. Thus, the loads are not transferred by shear through a braze or weld connection, and consequently a very strong and efficient structural arrangement is provided in the wire elements at the base of the basket **10**. The weight of the cartons **14** is carried to the carton support **20** by a plurality of transversely disposed, and equally spaced apart metal slats or strips **24** which are connected at their extremities, as by welding, brazing or the like, to the upper sides of the carton support **20**, the slats **24** being braced against bending at their middle portions by a longitudinally disposed, heavy gage wire brace **26** which is secured at its extremities to the end portions of the carton support **20**. The brace **26**, slots **24**, and carton support thus constitute a carton support platform **27** for the cartons **14**.

The upper extremities of the side bars **18** are displaced outwardly, as best shown at **28** in FIG. 2 of the drawings, and are secured to the underside of a top wire frame member **30** forming the upper periphery of the basket **10**. The displacement outwardly of the upper extremities of the side bars **18** orients the upper ends of the side bars away from the cartons **14** so that the sometimes sharp, sheared ends of the side bars **18** are unable to puncture or damage the cartons **14** within the basket **10**. In addition, the outward displacement of the upper extremities of the side bars **18** permits the location of the top frame member **30** outwardly of the carton support **20** to facilitate nesting of identical baskets **10**.

An intermediate perimetrical and planar wire frame member **32** is arranged about the periphery of the basket **10** substantially coextensive with the carton platform **27**, but located outwardly thereof so as to accept the carton platform **27** of an identical basket **10** within it, as best illustrated in FIG. 8 of the drawings. However, the intermediate member **32** lies in substantially the same vertical planes as the top wire frame member **30** so that the intermediate frame member **32** of an upper basket constitutes a limiting means for engaging a subjacent identical basket **10** during nesting thereof, as will be more particularly described hereinafter, to prevent the internested wire frame members from becoming jammed together and difficult to separate. Thus the intermediate member **32** facilitates the nested support of one basket in superimposed relationship above another, but it also prevents undesirable jamming between superimposed baskets.

The basket **10** also includes oppositely disposed end walls **34** which include a plurality of elongated end bars **36** substantially similar to the side bars **18**. The end bars **36** are oriented in a manner identical to that of the bars **18** of the side wall **16**, the upper and lower extremities thereof being secured and arranged, with respect to the carton support **20**, basket platform **12**, and top frame member **30**, in a manner identical to that of the bars **18** of the side walls **16**.

The end bars **36** are longer than the side bars **18** because of the unique configuration of the top wire frame member **30**. More particularly, the top member **30** includes end portions which extend substantially parallel to the subjacent portions of the intermediate frame member **32**, but at the sides of the basket **10** the top member **30** dips angularly downwardly to a level just above the side portions of the intermediate wire frame member **32**. Thus, the major part of the sides of the top member **30** constitute depressed, saddle portions which extend in coplanar, parallel relationship with the intermediate member **32**, the sides **16** of the basket **10** thereby being lower than the level of the tops of standard milk cartons, enabling consumers to easily reach in and remove individual cartons **14** across the upper edges or periphery of the depressed side portions of the top member **30**.

The lower extremities of the end bars **36** are formed inwardly beneath the carton support member **20**, as previously mentioned, and further extend inwardly to connection with a pair of transversely disposed tie wires **38** arranged opposite and parallel to each other in coplanar relationship with the basket platform **12**. This arrangement of tie wires **38**, together with the tie wires **22**, provides a secure anchorage for the inner ends of the end and side bars **36** and **18**, respectively.

The corners of the basket **10** are reinforced by vertically oriented, elongated corner angle brackets **40** which are secured at their extremities to the intermediate member **32** and the carton support member **20**, thereby providing reinforcement for the corners of the basket **10** which also provides a means for properly locating the corners of adjacent cartons **14**.

The centrally located pair of end bars **36** at each end of the basket **10** extends upwardly beyond the adjacent end portions of the top member **30** to provide an uppermost portion **42** at each end of the basket **10**. The opposed portion **42** are spaced apart a distance substantially equal to the distance between the opposed ends of the intermediate member **32**, enabling the uppermost portions **42** to engage and support the intermediate member **32** of an identical, superjacent basket in nested relationship, as best illustrated in FIG. 8. In this regard, it is noted that the rectangular dimensions of the basket platform **12** and the carton platform **27** are less than the corresponding dimensions of the top member **30** and the intermediate member **32**, so that the bottom portion of an identical superjacent basket easily passes within the top and intermediate members **30** and **32** to achieve the nested relationship illustrated in FIG. 8. In addition, this nested relationship is facilitated by the angular relationship of the end bars **36** with respect to the end walls **34**, and by the angular disposition of the side bars **18** with respect to the side walls **16**. The upwardly divergent orientation

or taper of the side and end walls **16** and **34**, also facilitates nesting by permitting the bars of superimposed baskets to slide past one another during nesting.

The side and end bars **18** and **36** are slightly outwardly offset at their points of connection to the intermediate member **32**, as best illustrated at **44** in FIG. 3, to place the intermediate member **32** in substantially the same vertical planes as the portions **42** of the end walls **34** to thereby insure engagement between the intermediate member **32** of one basket and the portions **42** of an identical, superjacent basket.

The nesting capability the basket **10** permits the shipment of a great plurality of such baskets in economical fashion, the compact, nested relationship requiring comparatively little storage space. Once the shipped nested baskets **10** reach their destination, the clearances afforded between the nesting components, as above-described, permits the baskets to be easily pulled apart for re-use.

The ends of the basket **10** are each provided with an elongated, transversely disposed, and rotatable bail **46**, which is illustrated in detail in FIG. 4, adjacent the end portions of the top member **30**. The bails **46** each include a pair of looped extremities **48**, FIG. 6, which rotatably engage the end portions of the top member **30** to facilitate rotation of the bail **46** between inner and outer positions.

More particularly, the bails **46** are rotatable from an outer position, illustrated in the upper basket **10** of FIG. 7, into an inner position, illustrated in the lower basket of FIG. 7, and each bail **46** incorporates a pair of inwardly formed ledge portions **50** which engage upon adjacent surfaces of the end bars **36** to establish the inner position of the bail **46**. In the inner positions of the bails **46**, the ledge portions **50** thereof are adapted to engage and support the basket platform **12** of an identical superjacent basket to maintain the same in stacked relationship, thereby providing a desired clearance between the basket platform **12** of the upper basket and the top of the cartons **14** carried in the lower basket.

In addition to serving as retractable supports for a superjacent basket, the bails **46** can be utilized to lock adjacent baskets in side-by-side relationship, the bail **46** of one of the baskets being rotated to its outer position, bringing a central portion **52** thereof into overlying, wedged engagement with the portion **42** of the basket next to it, the portion **42** serving as a detent means in this connection. The adjacent baskets are thus locked to each other, preventing inadvertent relative movement therebetween while the baskets are being supported or moved upon a pallet or the like.

In summary, a rigid basket **10** has been described which is adapted to support, store and dispense a plurality of cartons **14**. Identical baskets **10** are nestable, one within the other, because of the provision of a basket platform **12** and a carton support platform **27** which are of smaller rectangular dimensions than the top and intermediate members **30** and **32** within which they must fit for proper nesting. In addition, the tapered orientation of the side and end walls **16** and **34** facilitates the internesting of the adjacent side and end bars **18** and **36** of nesting baskets, and prevents undesirable jamming.

A particularly noteworthy feature of the basket **10** is the configuration of the top member **30** which provides opposed, depressed saddle portions located substantially below the level of the end portions of the top member **30**, to thereby permit cartons **14** in the basket **10** to be easily removed over the upper edges of such saddle portions. Moreover, positive assurance against undesirable interlocking of nested baskets is provided by the engagement between superposed intermediate members **32** and portions **42** when the baskets are being nested.

While the invention has been described by means of specific examples and specific embodiments, the invention is not limited thereto since obvious modifications and variations will occur to those skilled in the art without departing from the spirit and scope of the invention as defined by the appended claims.

I claim:

1. In a rigid basket for the transportation, storage, and dispensing of cartons, the combination of: a planar, rectangular carton platform for supporting said cartons; a perimetrical wire frame top spaced above said carton platform; a perimetrical wire frame intermediate member larger than said carton platform, located between said top and said carton platform, and substantially parallel to said carton platform; and a plurality of elongated wire bars extending between said top and said carton platform to define basket sides and basket ends, each of said bars being secured to the inner periphery of said intermediate member, the upper extremities of said bars being secured to said top, the lower extremities of said bars being right-angularly bent outside and below and connected to said carton platform, and the portions of said bars between said carton platform and said intermediate member tapering upwardly and outwardly; said top including opposed side portions configured to provide depressed saddle portions located substantially below the remainder of said top but above said intermediate wire frame member and over which cartons in the basket may be easily removed; the uppermost portions of said basket ends, respectively, being spaced apart a distance such that said uppermost portions are adapted to engage and support said intermediate member of an identical, superjacent basket, the tapered portions of said bars of said identical basket fitting within said top and said intermediate member.

2. In a rigid basket for the transportation, storage, and dispensing of cartons, the combination of: a planar, rectangular carton platform for supporting said cartons; a perimetrical wire frame top spaced above said carton platform; a perimetrical wire frame intermediate member larger than said carton platform, located between said top and said carton platform, and substantially parallel to said carton platform; and a plurality of elongated wire bars extending between said top and said carton platform to define basket sides and basket ends, each of said bars being secured to the inner periphery of said intermediate member, the upper extremities of said bars being secured to said top, and the lower extremities of said bars being right-angularly bent outside and below and connected to said carton platform; said top including opposed side portions configured to provide depressed saddle portions located substantially below the remainder of said top but above said intermediate wire frame member and over which cartons in the basket may be easily removed; the uppermost portions of said basket ends, respectively, being spaced apart a distance such that said uppermost portions are adapted to engage and support said intermediate member of an identical superjacent basket.

3. In a rigid basket for the transportation, storage, and dispensing of cartons, the combination of: a planar, rectangular basket platform; a planar, rectangular carton platform spaced above, substantially parallel to, and larger than said basket platform for supporting said cartons; a perimetrical wire frame top spaced above said carton platform; a perimetrical wire frame intermediate member larger than said basket platform, located between said top and said carton platform, and substantially parallel to said carton platform; and a plurality of elongated wire bars extending between said top and said basket platform to define basket sides and basket ends, each of said bars being secured to the inner periphery of said intermediate member, the upper extremities of said bars being outwardly offset and secured to the lower periphery of said top, the lower extremities of said bars being inwardly formed beneath and enclosing and supporting said carton platform and extending inwardly to connection with said basket platform; said top including opposed side portions configured to provide depressed saddle portions located substantially below the remainder

of said top but above said intermediate wire frame member and over which cartons in the basket may be easily removed; the uppermost portions of said basket ends, respectively, being spaced apart a distance such that said uppermost portions are adapted to engage and support said intermediate member of an identical superjacent basket.

4. In a rigid basket for the transportation, storage, and dispensing of cartons, the combination of: a perimetrical wire frame basket platform; a perimetrical wire frame carton support spaced above, substantially parallel to, and larger than said basket platform; elongated cross members connected at their extremities to said carton support to form a planar carton platform for supporting said cartons; a perimetrical wire frame top spaced above said carton platform; a perimetrical wire frame intermediate member larger than said basket platform, located between said top and said carton platform, and substantially parallel to said carton platform; and a plurality of elongated wire bars extending between said top and said basket platform to define basket sides and basket ends, each of said bars incorporating an outwardly offset portion secured to the inner periphery of said intermediate member, the upper extremities of said bars being outwardly offset and secured to the lower periphery of said top, the lower extremities of said bars being inwardly formed beneath and enclosing and supporting said carton platform and extending inwardly to connection with the upper periphery of said basket platform; said top including opposed side portions configured to provide depressed saddle portions located substantially below the remainder of said top but above said intermediate wire frame member and over which cartons in the basket may be easily removed; the uppermost portions of said basket ends, respectively, being spaced apart a distance such that said uppermost portions are adapted to engage and support said intermediate member of an identical, superjacent basket.

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THERON E. CONDON, *Primary Examiner.*

EARLE J. DRUMMOND, *Examiner.*

G. E. LOWRANCE, *Assistant Examiner.*