Nov. 18, 1947. J. L. DARNELL 2,431,231

COLLAPSIBLE BOTTLE CARRIER

Filed Jan. 4, 1946 2 Sheets-Sheet 1

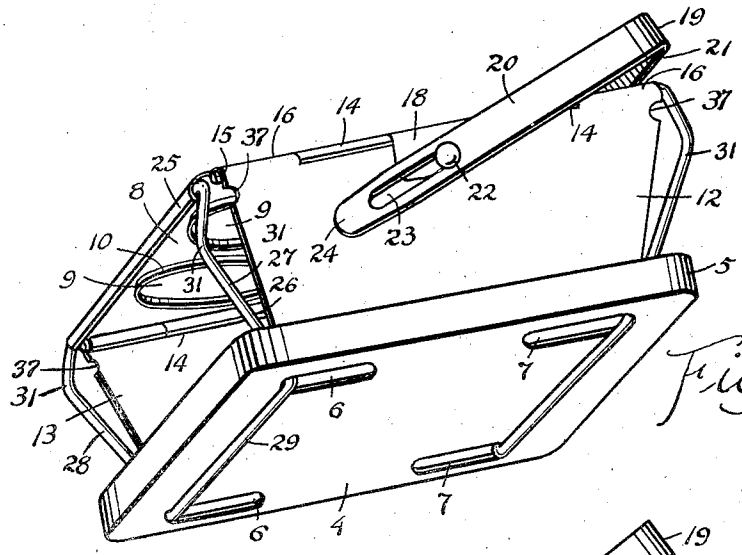


Fig. 1.

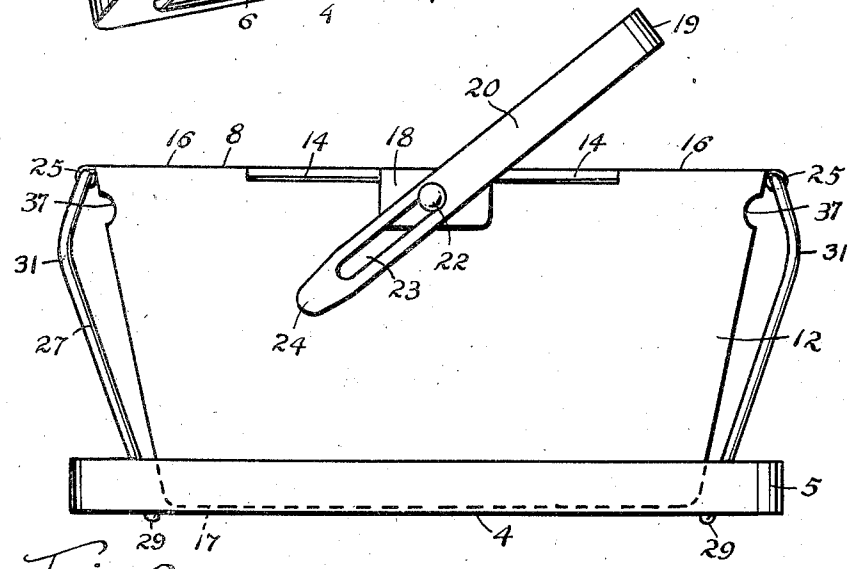


Fig. 2.

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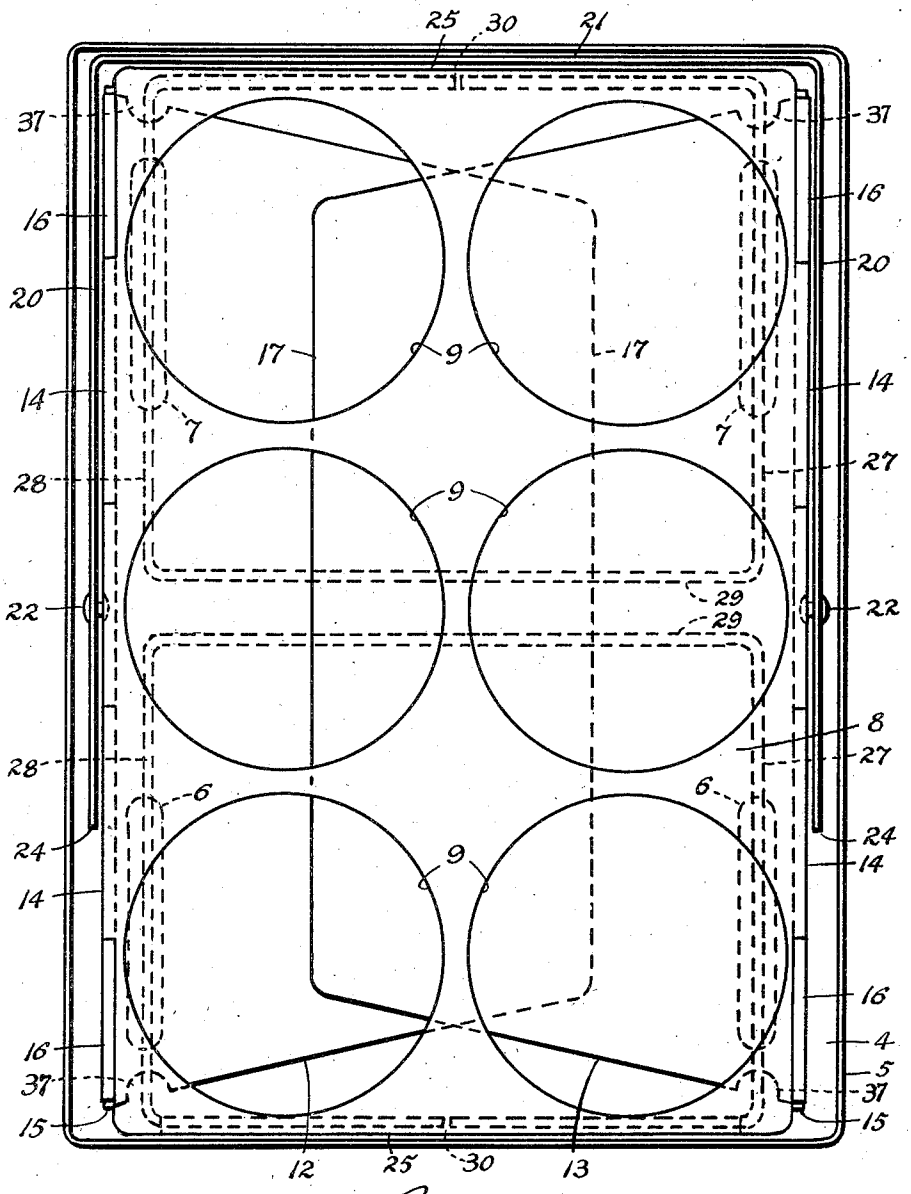


Fig. 3.

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UNITED STATES PATENT OFFICE

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COLLAPSIBLE BOTTLE CARRIER

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8 Claims. (Cl. 224—48)

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This invention relates to a collapsible bottle carrier, fabricated primarily from metal or other durable material as distinguished from paper, cardboard, or the like.

An object of the invention is to provide a device of the character referred to, which may be produced at low cost due to simplicity of its parts and the ease with which the parts may be assembled.

Another object is to provide a bottle carrier which in the collapsed state is compact and light in weight, so that the user may conveniently store it, or carry it when empty, with a minimum of effort and inconvenience.

Another object of the invention is to provide an improved collapsible bottle carrier which, in the operative or extended condition, safely supports a number of bottles in upright position for carrying, and provides adequate surface bearing advertising matter relating to the commodity carried.

Another object is to provide a novel and effective means to be easily manipulated for locking the operating parts of the carrier in extended or use position, and for unlocking them without effort to collapse the carrier to a substantially flat condition.

These and other objects are attained by the means described herein and illustrated in the accompanying drawings, in which:

Fig. 1 is a bottom perspective view of the collapsible bottle carrier shown in extended position.

Fig. 2 is a side elevational view of the same.

Fig. 3 is an enlarged top plan view of the carrier, shown in the collapsed condition.

The bottle carrier of the invention is intended for use by purchasers of bottled beverages or other commodities similarly packaged, the purpose thereof being to avoid inconvenience in carrying such articles to and from the retail store. The device is durably fabricated from metal sheet and rod stock, with provision being made for collapsing the carrier to substantially flat form so that it may easily be transported when not in use, or shipped for distribution to prospective users. When in the collapsed condition, the carrier is so compact as to be readily stored in any appropriate space of limited dimensions. In addition to the foregoing advantages, the carrier is furnished with solid side panels or aprons of adequate area, to which may be applied any desired advertising material relating to the articles accommodated by the carrier.

Referring to Fig. 1, the carrier comprises a base tray or bottom member 4 which has an upstanding marginal edge or rim 5 extending peripherally thereof, and within the confines of the rim are punched two pairs of elongated slots 6—6 and 7—7. Each slot 6 is aligned with an opposite slot 7 at a location near and parallel to one of the

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longitudinal sides of the bottom member. The outer ends of the slots preferably are spaced from the ends of the bottom member, as shown.

Above the bottom member is supported a top plate member 8 of substantially the same shape as the bottom member, but of slightly lesser dimensions, so that the top member when lowered onto the bottom member, will fit within the area bounded by the upstanding rim 5. The top plate member is furnished with a series of apertures 9 to embrace the shoulder portions of bottles inserted therethrough as the bottoms of the bottles rest upon the tray or bottom member 4. The edges of the several apertures 9 may be nicely finished by flanging them downwardly as indicated at 10. Although the bottle carrier illustrated by way of example is furnished with six bottle receiving apertures, it should be understood that any suitable number of such apertures may be provided, depending upon the capacity desired.

The longitudinal side edges of the top plate member are provided with means for suspending a pair of swinging aprons or side panels 12 and 13, which in the extended or operative condition of the carrier, form suitable sides therefor. These panels or aprons preferably are of solid sheet metal or other durable sheet material, and will accordingly provide substantial areas to which advertising matter or any other indicia may be applied. As a means of swingingly suspending the aprons or panels, the longitudinal side edges of the top plate member may be furnished with hinge barrels 14 adapted to receive suitable hinge pins 15 that pass through cooperative hinge barrels 16 formed at the upper edges of the aprons or side panels. By reason of the hinge arrangement mentioned, the side panels or aprons may be swung inwardly so as to rest upon one another in flatwise relationship against the underface of the top plate, this condition being clearly illustrated upon Fig. 3. When the side panels or aprons are swung to the depending position of Figs. 1 and 2, however, their lower edges 17 rest upon the base tray or bottom member, with the lowermost portions of the aprons contacting the inside face of rim 5. Thus, the side panels or aprons are limited in the extent to which they may be swung away from one another.

Integral ears 18 depending from the side edges of the top plate member at opposite sides thereof may be utilized for supporting a swinging handle 19. This handle may be of substantial U-shape, the legs 20 thereof being parallel and spaced apart a distance slightly greater than the width of the top plate member, the spacing, however, being so limited that the handle will fit within the confines of the rim 5 when the carrier is collapsed to the flat form. The spread of the handle is determined by the length of the hand grasp portion 21 which spans the legs 20—20.

To mount the handle upon the carrier, a stud or rivet 22 may be fixed to each ear 18, with its head sufficiently spaced from the ear to accommodate the thickness of the handle member. The shank of the stud in each instance slidingly accommodates an elongated slot 23 formed in a leg of the handle near its terminal end 24. By means of the slotted connection referred to, the handle may be in effect reduced in height, so that when it is disposed in the depressed condition of Fig. 1, its hand grasp portion 21 may be lodged closely adjacent to the opposite end portions of the top plate member. With the handle in this position, it will rest within the space defined by the rim of the base tray or bottom member when the structure is collapsed as illustrated by Fig. 3. On the other hand, when the handle is extended to the limit permitted by the slot 23, and disposed in an upright position, the hand grasp portion 21 will clear the tops of any bottles placed within the carrier.

At the opposite ends of the top plate member 8, hinge barrels 25 may be formed integrally therewith for the purpose of swingingly supporting the locking frames 26, one of which is furnished at each end of the carrier. Each locking frame comprises a length of wire or rod stock bent to substantial rectangular form, to provide spaced parallel arms 27 and 28 which are connected at their lower ends by means of a cross member 29 formed integrally with the arms. The upper ends of the arms are turned inwardly to enter the opposite ends of a hinge barrel 25. Said ends may terminate well within the interior of the hinge barrels, at locations such as are indicated at 30. Intermediate the hinge barrel and the cross member 29 of each locking frame, the arms 27 and 28 may be slightly bent, at the locations 31—31, so that when the structure is collapsed, the arms and the connecting members of the locking frames may rest flatwise against the underface of the base tray or bottom member 4. This position of the locking frames is clearly illustrated upon Fig. 3 of the drawings.

The height of the locking frames, or the length of their bent arms, is so gauged that the top plate member may not be raised to an elevation above the base tray exceeding the height of the aprons or side panels 12 and 13. In other words, the aprons or side panels will have their lower edges 17 rather firmly engaged with the base tray by the limiting action of the locking frames, whenever the aprons or panels are in the vertical extended position. It will thus be apparent that the aprons as well as the wire frames, cooperate to furnish a locking means holding the structure rigid when extended to the operative position. To collapse the carrier, it is necessary only to fold the aprons or side panels inwardly about their hinge pins 15, whereupon the top plate member may be lowered into the base tray as the cross members 29 of the locking frames approach each other along the bottom face of the tray. In the fully collapsed condition, the aprons, the top member, and the handle member are all confined within the limits of the base tray rim 5 to provide a substantially flat assembly. The characters 37 indicate recesses formed in the edges of the aprons or side panels, which permit the locking frames to clear the panels in moving to the substantially flat position against the bottom of the base tray.

A multiplicity of carriers, when fully collapsed as above explained, may readily be stacked one upon another so as to provide a highly compact parcel which may be shipped or placed in storage with a minimum of expense and inconvenience. Convenience and compactness of stacking is achieved likewise when the carriers are filled with beverage bottles or the like, since by dropping the hand grasp portion of the handle between adjacent bottles, with the handle in an inclined but lowered position upon the handle pivots, the tops of all the bottles will be exposed so as to provide a level support for a filled carrier to be superposed upon them. It will be noted that the distance between the cross members 29 of the locking frames exceeds the length of each row of bottles at their cap ends, so that the cross members of the frames may not interfere with perfect stacking of the filled carriers upon one another.

Another desirable feature of the improved carrier, and one which is highly desired by the bottlers of beverages, is that the bottles above their shoulders are exposed to view from all angles, thereby enhancing the advertising value of the carrier and bottle assembly. The bottles likewise are recognizable through the ends of the carrier, since there is nothing at the ends to obstruct the view. At the sides of the carrier, where the aprons conceal the lower portions of the bottles, the eye of the observer will at once meet the advertising matter printed or otherwise applied prominently upon the outer surfaces of the aprons. As the result of the improved construction of the carrier taken as a whole, the carrier constitutes an effective and attractive advertising medium for the contents of the bottles carried therein.

From the foregoing, it will be apparent that the collapsible bottle carrier of this invention presents many advantages over carriers which heretofore have been constructed of cardboard, wood, and other materials of a similar nature. It is to be understood that various modifications and changes in the structural details of the device may be made, within the scope of the appended claims, without departing from the spirit of the invention.

What is claimed is:

1. A collapsible bottle carrier comprising in combination, a horizontal bottom member, an apertured overlying top plate member, the apertures of which are receptive of bottles to be supported upon the bottom member, means for vertically guiding and limiting movement of the top plate member from a position of substantial flatwise contact upon the bottom member, to an elevated position in substantial spaced parallelism therewith, and means automatically operative to lock and maintain said members in the spaced position last mentioned.

2. A collapsible bottle carrier comprising in combination, a bottom member, an apertured top plate member, the apertures of which are receptive of bottles to be supported upon the bottom member, and means for limiting movement of the top plate member from a position of substantial flatwise contact upon the bottom member, to an elevated position in substantial spaced parallelism therewith, said limiting means comprising a pair of locking frames pivoted upon the top plate member and extending through the bottom member, and a pair of swinging aprons pivoted upon the top plate member for movement into edgewise contact with the bottom member in the operative extended condition of the carrier.

3. A collapsible bottle carrier comprising in combination, a bottom member, an apertured top

plate member, the apertures of which are receptive of bottles to be supported upon the bottom member, and means for limiting movement of the top plate member from a position of substantial flatwise contact upon the bottom member, to an elevated position in substantial spaced parallelism therewith, said limiting means comprising a pair of locking frames pivoted upon the top plate member and extending through the bottom member, and a pair of swinging aprons pivoted upon the top plate member for movement into edgewise contact with the bottom member in the operative extended condition of the carrier, the bottom member including a marginal upstanding rim confining the top plate member and the aprons when the structure is collapsed.

4. A collapsible bottle carrier comprising in combination, a bottom member, an apertured top plate member, the apertures of which are receptive of bottles to be supported upon the bottom member, and means for limiting movement of the top plate member from a position of substantial flatwise contact upon the bottom member, to an elevated position in substantial spaced parallelism therewith, said limiting means comprising a pair of locking frames pivoted upon the top plate member and extending through the bottom member, and a pair of swinging aprons pivoted upon the top plate member for movement into edgewise contact with the bottom member in the operative extended condition of the carrier, the bottom member including a marginal upstanding rim confining the top plate member and the aprons when the structure is collapsed, and a pivoted handle upon the top plate member, swingable into substantial parallelism with the top plate member in close proximity therewith, whereby in the collapsed condition of the carrier said handle rests within the confines of the marginal rim of the bottom member.

5. A collapsible device of the class described comprising in combination, a substantially flat top plate member including openings for receiving bottles, a base tray having a slotted bottom and an upstanding rim, the base tray being of slightly larger size than the top plate member to accommodate the latter within the area defined by the rim of the base tray, a pair of locking frames pivotally mounted at opposite ends of the top plate member, and each comprising a pair of depending arms passing through a pair of the base tray slots, stop means on the ends of said arms remote from the top plate member for precluding withdrawal of the arms from the slots, and means to maintain the stop means in contact with the base tray when the top plate member is elevated to an extended position of spaced parallelism with the base tray.

6. A collapsible device of the class described comprising in combination, a substantially flat top plate member including openings for receiving bottles, a base tray having a slotted bottom and an upstanding rim, the base tray being of slightly larger size than the top plate member to accommodate the latter within the area defined by the rim of the base tray, a pair of locking frames pivotally mounted at opposite ends of the top plate member, and each comprising a pair of depending arms passing through a pair of the base tray slots, stop means on the ends of said arms remote from the top plate member for precluding withdrawal of the arms from the slots, and means to maintain the stop means in contact with the base tray when the top plate member is elevated to an extended position of spaced parallelism with the base tray, the means last mentioned being in the form of depending aprons swingingly suspended from opposite sides of the top plate member to assume a substantially perpendicular relationship to the base tray and in edgewise contact thereon, in the extended condition of the structure.

7. A collapsible device of the class described comprising in combination, a substantially flat top plate member including openings for receiving bottles, a base tray having a slotted bottom and an upstanding rim, the base tray being of slightly larger size than the top plate member to accommodate the latter within the area defined by the rim of the base tray, a pair of locking frames pivotally mounted at opposite ends of the top plate member, and each comprising a pair of depending arms passing through a pair of the base tray slots, stop means on the ends of said arms remote from the top plate member for precluding withdrawal of the arms from the slots, and means to maintain the stop means in contact with the base tray when the top plate member is elevated to an extended position of spaced parallelism with the base tray, the means last mentioned being in the form of depending aprons swingingly suspended from opposite sides of the top plate member to assume a substantially perpendicular relationship to the base tray and in edgewise contact thereon, in the extended condition of the structure, and a handle pivoted upon the top plate member for disposition to a state of substantial parallelism therewith, whereby the handle enters with the top plate into the area defined by the base tray rim.

8. A collapsible device of the class described comprising in combination, a substantially flat top plate member including openings for receiving bottles, a base tray having a slotted bottom and an upstanding rim, the base tray being of slightly larger size than the top plate member to accommodate the latter within the area defined by the rim of the base tray, a pair of locking frames pivotally mounted at opposite ends of the top plate member, and each comprising a pair of depending arms passing through a pair of the base tray slots, stop means on the ends of said arms remote from the top plate member for precluding withdrawal of the arms from the slots, and means to maintain the stop means in contact with the base tray when the top plate member is elevated to an extended position of spaced parallelism with the base tray, and a handle pivoted upon the top plate member for disposition to a state of substantial parallelism therewith, whereby the handle enters with the top plate into the area defined by the base tray rim.

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