

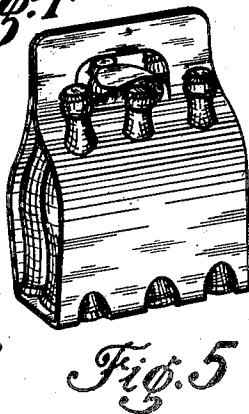
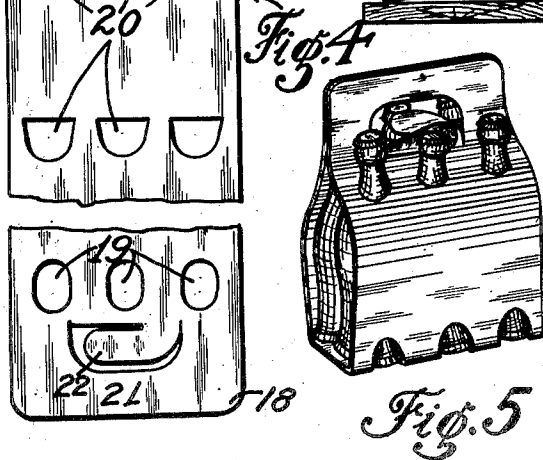
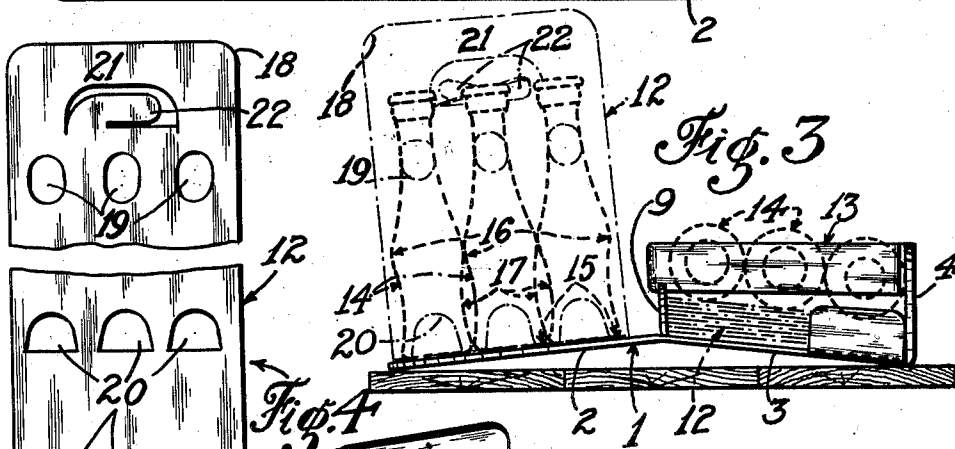
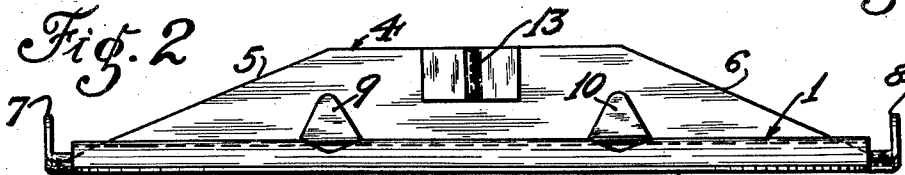
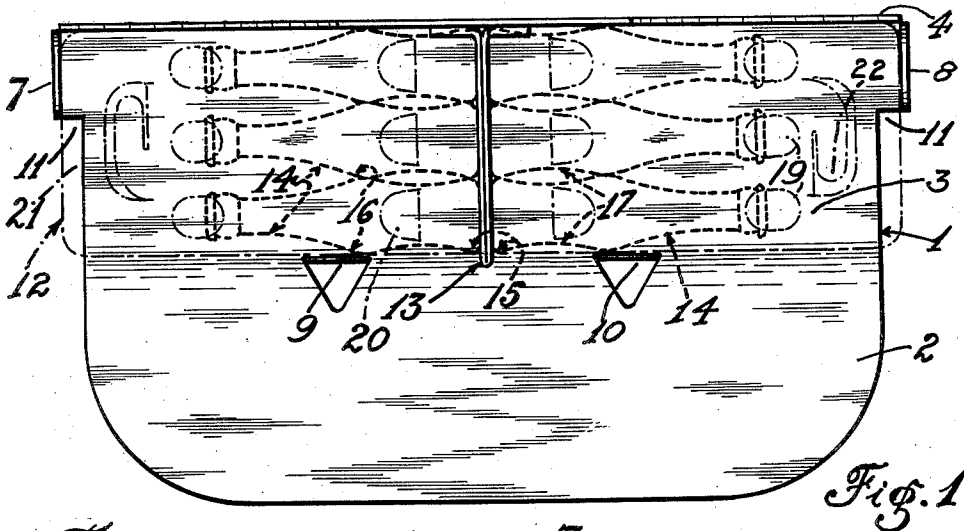
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METHOD AND MEANS FOR LOADING CONTAINERS IN CARRIERS

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METHOD AND MEANS FOR LOADING
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10 Claims. (Cl. 93—2)

This invention relates to methods and means for loading containers in carriers, and more particularly in carriers for bottles and the like.

In the past it has been the custom of the trade to retail bottles of beverages, especially, in box-like carriers, generally provided with carrying handles; said carriers being usually made to accommodate an even number of bottles. In view of the relatively high cost of such box-like carriers and the vast amounts thereof used in the trade, a new and much cheaper type of carrier has lately been placed on the market, said carrier comprising a single, rectangularly shaped, blank of cardboard provided with suitably shaped and aligned apertures to receive part of the bottoms of the bottles and their necks. Said blanks are also properly pre-created to facilitate their folding into bottle carrying shape, and are also preferably provided with integral carrying handles. The folded blank forms a carrier open at both ends, and the bottles carried therein are held positively in place by the bottoms of the bottles protruding partly through the corresponding apertures provided therefor in the blank, as well as by the bottle-necks which pass through respective apertures in the folded blank and by the pressure of the latter on said bottles.

The loading of bottles, etc., in such simplified carrier requires numerous time wasting manipulations which more than offset the greater cheapness of the carrier. The purpose of our invention is to greatly expedite such loading and, therefore, considerably cut the cost thereof.

By prolonged tests performed by various persons in bottling works, we have found that, with but little practice, the number of bottles loaded by our method and with our device may easily be trebled, thus enabling a bottler to avail himself of both a cheaper carrier and method of loading the same.

Although in the following description our invention is described with relation to its use for packaging beverages in bottles of conventional shape, it may be easily modified for use on other types of containers, such as jars, cans of various shapes, etc., by suitably varying the shape of the apertures in the blanks and correspondingly altering and proportioning our device, in a manner that will be readily conceived by persons versed in the art.

One of the primary objects of this invention is to provide a device whereby the loading of bottles, or other containers, in open ended carriers may be performed expeditiously and with but little prior practice.

Another object of this invention is to provide a device of this character which is very simple in construction, portable, and which may be manufactured at relatively low cost and with very simple tools or machinery.

A further object of this invention is to provide a device in which numerous flat blanks, from which the carriers are made, may be stacked at one time and suitably guided for proper location, thus reducing the time of handling such blanks.

Yet another object of this invention is the provision of a device of this character whereby bottles or other containers to be loaded into a carrier are automatically guided into proper position, prior to the folding of the blanks into carrying shape.

Additional features and advantages of this invention will appear in the course of the following description considered in connection with the accompanying drawing forming part of this application.

In the drawing:

Fig. 1 is a top plan view of the device, in which the blanks for the carriers are shown in light dot and dash lines and the bottles to be loaded are suggested by heavier dotted lines.

Fig. 2 is a front elevation of the device.

Fig. 3 is a side elevation of the device placed on a work-bench and also showing a stack of blanks for the carriers and a completed carrier, indicated by the distinctive lines hereinabove described.

Fig. 4 is a plan view of a carrier-blank, especially intended for the type of bottles shown in the drawing.

Fig. 5 is a perspective view of a carrier fully loaded with six bottles.

Reference being had to the drawing, our device comprises a base-plate 1 raised longitudinally at approximately the middle of its width to produce the forwardly sloping apron 2 and the rearwardly inclined shelf 3, both of which are horizontal in their longitudinal direction. At the rear of the shelf there is provided a back-stop 4, both ends of which are preferably sloped downwardly, as at 5 and 6, to provide greater accessibility for the worker while loading the bottles onto the carrier-blanks 12. At both lower ends of said shelf are two end-stops 7 and 8, and at about the apex of the base-plate there are provided the two front lugs 9 and 10, spaced apart a distance greater than the width of the carrier, when in folded and loaded condition.

It will be noted from the drawing that the rear of the shelf 3 is extended at both ends a suitable

distance beyond the ends of forward part of the shelf and the apron, thus forming the recesses 11, for the purpose of enabling a worker to more readily take hold of the carrier blanks 12 stacked upon the shelf. These various stops serve to properly locate the blanks on the shelf; but the rear stop 4 also acts to properly position the bottles, while the front-stops 9 and 10 also prevent said bottles from rolling off onto the apron at the time they are deposited on the carrier-blanks.

At the middle of the back-stop 4, there is secured in any desired manner, normal to said back-stop the relatively thin, transversely flexible, guide-blade 13, placed horizontally a sufficient distance above the shelf to allow for the stacking at one time of several carrier-blanks 12. This guide-blade extends forwardly slightly beyond the apex of the base-plate and serves as abutment for the oppositely disposed bottles placed on the uppermost carrier-blank.

The device may be made of any desired and suitable material, but in the drawing we have shown it made of sheet metal, preferably stainless steel, for sanitary reasons and because of its corrosion proof qualities and great relative rigidity. In this embodiment the back-stop, end-lugs 7 and 8 and the front stops 9, 10, may be made integral with the base plate; the front-stops being struck out of the apron and preferably given a substantially triangular shape, as shown in Fig. 1. The guide-blade 13 is also made, preferably, of stainless steel and is secured to the back-stop in any desired manner, such as by welding, as assumed in this embodiment. All exposed corners are preferably rounded off, as suggested in the drawing, to prevent injuries to the workers.

The carrier-blank 12, as shown especially in Fig. 4, is designed especially to accommodate six-bottles 14, the bottoms 15 of which are made preferably equal or slightly larger than the widest part 16 of the body having an intermediate restriction 17 between which the guide-blade 13 generally enters. When bottles without such restrictions are used, it is preferable to make the guide-blade as thin as possible in order to insure a relatively close fit of said bottles within the folded carrier and thus prevent free movement of the bottles therein.

As shown in said Fig. 4, this particular carrier-blank is of rectangular shape with rounded corners 18. Oval apertures 19 adapted to receive the bottle-necks, and substantially semi-circular and co-axially disposed apertures 20 accommodating part of the outward periphery of the bottle-bottoms are stamped out of the blank.

Handles 21 and interlockable ears or flaps 22 are also usually stamped out of the blank to improve the portability of the carrier and lock it into folded position.

The method of loading a carrier with bottles, for instance, is substantially as follows:

A stack of carrier-blanks 12 is first placed on the shelf 3 and the required number of bottles (six in this embodiment) are placed on the uppermost blank in two equal groups disposed in opposite direction and with the bottoms of the bottles abutting against the guide-blade 13. Because of the rearward declination of the shelf, the bottles will roll backwards until arrested by the back-stop 4, thereby bringing the former into correct position for engagement with the blank apertures 19 and 20. The worker now takes hold of both ends of the uppermost blank and, by giving them a combined upward and converging movement, will place the bottles in vertical posi-

tion with the necks and bottoms engaging their respective apertures in the blank. While moving into vertical position, the bottoms of the bottles bear and slide against the guide-blade 13 which now acts substantially as a relatively adjustable fulcrum, because of its inherent flexibility.

Actual and repeated use has shown that better results are obtained with a flexible guide-blade than with a rigid one, in so far as the automatic alignment and engagement of the bottles with their respective apertures in the blanks is concerned.

After the blank has been folded, the now vertical carrier is slid along the guide-blade onto the apron 2, where the ears 22 are interlocked and bent downwardly to hold the carrier into closed position. This is preferably done by a second worker, while the first one, the so-called "loader", places a new supply of bottles on the next following top blank on the shelf.

The size of the carrier blank, as well as the size and shape of the holding apertures 19, 20 therein will, of course, be determined by the type of containers which are to be loaded in the carrier. It is not thought necessary to herein describe such structural variations for all possible uses of our invention, since they will be apparent to persons versed in this art.

As will be understood, there may be changes made in the construction and arrangement of the details of our invention without departing from the field and scope of the same, and we intend to include all such variations, as fall within the scope of the appended claims, in this application in which the preferred embodiment of our invention has been disclosed.

We claim:

1. The method of loading containers of the character described into a carrier made of a flat foldable blank having apertures engageable by the bottoms and tops of said containers, which consists in laying said containers on said blank in co-axial relation with said apertures and placing the bottoms of the containers against a common abutment, and then raising the ends of said blank to bring said containers into vertical position and into engagement with their respective apertures using said abutment as a fulcrum for said containers.

2. The method of loading containers of the character described into a carrier made of flat foldable blank having apertures engageable by the bottoms and tops of said containers, which consists in laying said containers on said blank in co-axial relation with said apertures and placing the bottoms of the containers against a common flexible abutment and then raising the ends of said blank to bring said containers into vertical position and engagement with the respective apertures in said blank, using said abutment as a fulcrum for said containers.

3. The method of loading containers of the character described into a carrier made of a flat foldable blank having apertures engageable by the bottoms and tops of said containers, which consists in laying two oppositely disposed groups of containers on said blank in co-axial relation with said apertures and placing the bottoms of the containers against a common transversely flexible abutment, and then raising the ends of said blank to bring said containers into vertical position and engagement with the respective apertures in said blank, using said abutment as a self-adjusting fulcrum for said containers.

4. In a packaging device of the character described, a base-plate comprising a forwardly declining apron and a rearwardly declining shelf; a back-stop positioned longitudinally of said shelf, and a guide-blade positioned normally on said back-stop and extending over said shelf.

5. In a packaging device of the character described, a base-plate comprising a forwardly declining apron and a rearwardly declining shelf, said apron and shelf being horizontal in a longitudinal sense; a back-stop positioned longitudinally of said shelf, and a guide-blade positioned normally on said back-stop and extending over said shelf.

6. In a packaging device of the character described, a base-plate comprising a forwardly declining apron and a rearwardly declining shelf both horizontal in a longitudinal sense; a vertical back-stop positioned longitudinally on said shelf and a flexible guide-blade positioned normally on said back-stop and extending transversely above said shelf.

7. In a packaging device of the character described, a base-plate comprising a forwardly declining apron and a rearwardly declining shelf both longitudinally horizontal; a vertical back-stop with downwardly sloping top edges positioned longitudinally on said shelf, and a horizontal guide-blade positioned normally on said

back-stop and extending above and beyond said shelf.

8. In a packaging device of the character described, a base-plate comprising a forwardly declining apron and a rearwardly declining shelf both longitudinally horizontal; a vertical back-stop positioned longitudinally on said shelf and a horizontal transversely flexible guide-blade positioned normally on said back-stop and extending centrally above and beyond said shelf.

9. In a packaging device for containers of the character described, a unitary base-plate comprising a front apron and a rear shelf; a back-stop positioned longitudinally of said shelf, and a guide-blade positioned normally on said back-stop, extending over said shelf and adapted to serve as abutment for the bottoms of said containers.

10. In a packaging device for containers of the character described, a unitary base-plate comprising a front apron and a rear shelf; a back-stop positioned longitudinally of said shelf and integral therewith, and a guide-blade positioned normally on said back-stop, extending transversely over said shelf and adapted to serve as common abutment for the bottoms of said containers positioned on both sides thereof.

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