Sept. 5, 1939. A. WESSELMAN 2,171,615

BOTTLE CARRIER

Filed Oct. 19, 1936 2 Sheets-Sheet 1

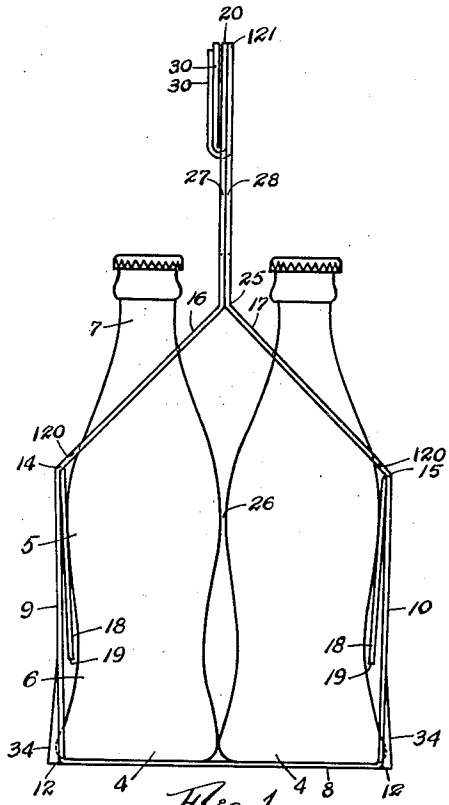


Fig. 1.

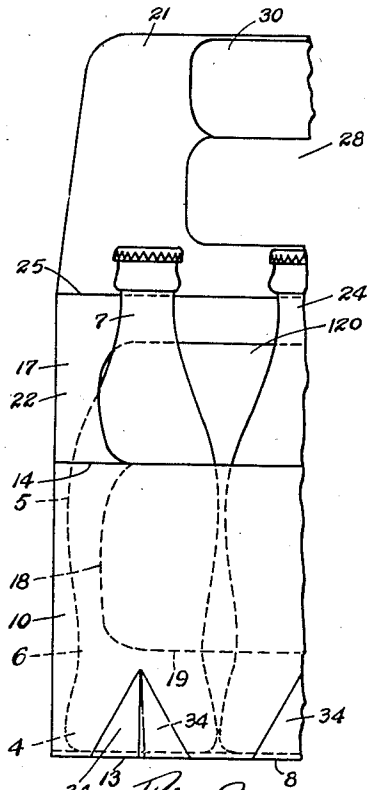


Fig. 2.

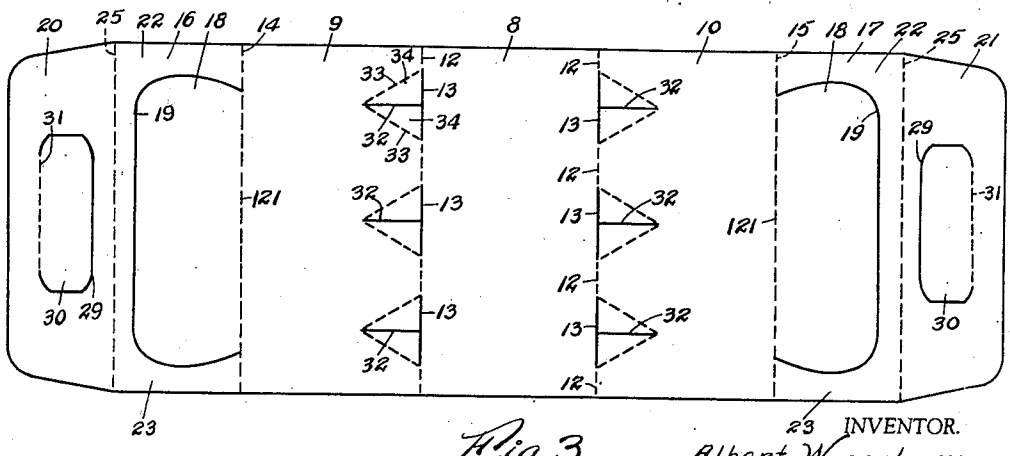


Fig. 3.

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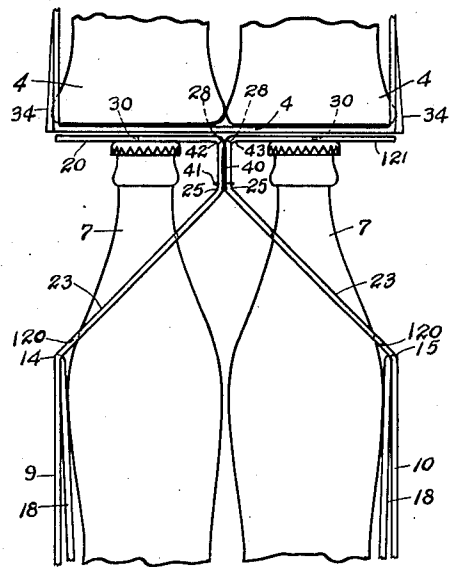


Fig. 4.

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UNITED STATES PATENT OFFICE

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BOTTLE CARRIER

Albert Wesselman, Cincinnati, Ohio

Application October 19, 1936, Serial No. 106,357

4 Claims. (Cl. 224—45)

This invention relates to a bottle carrier such as may be formed of a single sheet of cardboard or like material.

An object of the invention is to provide a bottle carrier of the character stated, which may be manufactured at a minimum cost, and with the elimination of hand work which heretofore supplemented the machine operations upon such devices.

Another object of the invention is to provide means in a device of the kind referred to, which most effectively holds and cushions the bottles carried thereby, while at the same time facilitating a deliberate loading or unloading of the carrier.

A further object of the invention is to provide a bottle carrier construction of unusual strength, and which is designed to display to advantage the bottles contained therein.

Additional objects are to provide a bottle carrier which is convenient to carry, with comfortable handle means, and which so holds the bottles as to reduce to a great extent the chafing and chipping of the bottles resulting from abusive handling and shipment, or stacking.

The foregoing and other objects are attained by the means described herein and disclosed in the accompanying drawings, in which:

Fig. 1 is an end view of the assembled carrier of the invention, with bottles inserted.

Fig. 2 is a side elevational view of the carrier shown in Fig. 1, half thereof being omitted.

Fig. 3 is a plan view of a completed cardboard blank to be folded for constructing the carrier of the invention.

Fig. 4 is a fragmental end view quite similar to Fig. 1, showing a modification of the carrier which enables stacking thereof.

The carrier of this invention is constructed of a blank or single sheet of cardboard or other suitable material fabricated as shown in Fig. 3, wherein all score lines or hinge portions are indicated by means of broken lines, and all through cuts are indicated by means of solid or unbroken lines. An outstanding characteristic of the blank is the absence of punchouts or perforations, that is, no material is removed from the blank within the outline thereof. By so designing the blank to form a carrier, without punching out material therefrom, the manufacture of the blank is greatly facilitated and the cost is materially reduced due to the elimination of labor that would otherwise be necessary in handling the scrap and removing by hand the incompletely severed punch-outs which fail to separate from the blank during the machine operation. This kind of hand work always has been considered a necessary evil in the punching of paper and cardboard, and its effect upon quantity production has been to increase the manufacturing cost by wasting time and labor, and interfering with the stacking and preparation of the blanks for shipment. By designing the blank as disclosed herein, all the advantages of a perforated blank are retained, the disadvantages are obviated, and new advantages are gained resulting in accomplishment of the objects recited in the preceding introduction.

It may be stated that the blank of Fig. 3 may be bent along the various score lines thereof to form a carrier suitable for holding either straight-sided bottles, or bottles of a special type disclosed in Figs. 1 and 2. The special type of bottle is disclosed, because its configuration adapts it most favorably for association with the carrier. The peculiarities of the special bottle are that its base 4 is of greater diameter than any other part, and is set off from the bulge or body 5 by a constricted portion 6. The neck 7 of the bottle is the part of smallest diameter. Thus, when the bottles are placed side by side upon a plane surface, they will contact only at the bases thereof, (see Fig. 1).

The carrier itself is a one-piece structure comprising an elongated sheet or strip having no tabs or extensions projectig from the substantially rectangular outline thereof. The strip has a central portion which provides a bottom 8 of single thickness, and sides 9 and 10 set off from the bottom by alternate aligned scores and cuts 12 and 13, respectively, extending transversely of the strip. At a line above the bulges of the bottles, the strip is scored transversely as at 14 and 15, and from these score lines the angularly inclined cover parts 16 and 17 extend upwardly. Each cover part has an enlarged flap 18 formed by cutting through the material of the strip along an irregular line 19 which forms all but one edge of a window aperture 120, said one remaining edge being formed by a hinge 121 along the score line 14, or 15. These flaps, when turned inwardly along the score lines 14 and 15, extend downwardly inside the carrier and their lower edges 19 each contact the constricted portion 6 of a bottle above the base, to furnish a cushion and to retain the bottle in place by resisting an upward pull upon the bottle as said edge bears upon the bottle just above the enlarged base. Moreover, the long hinge connection of the flap to the side of the carrier stiffens the lower edge of the window to prevent the carrier being drawn

out of shape when lifted by means of the handle portions 20 and 21. In punching and cutting the material at 18, there results the formation of lift straps 22 and 23 at the ends of the cover pieces 16 and 17, which straps define the extent of the single continuous windows 18.

The construction set forth in the preceding paragraph is particularly desirable in that it provides a single elongated window at each side of the carrier for displaying the contents of the bottles sufficiently to have a certain degree of sales value, and, moreover, there is secured the further advantage that the bottles may be removed from the carrier through the window openings without disassembling the carrier, the middle bottle 24 being removed prior to removal of the end bottles. It should be noted further that the spacing between each window and its adjacent score line 25 is such as to prevent contact of adjacent bottles at the location 26 where the bulges or intermediate portions of the bottles would otherwise come into contact. By referring to Fig. 1, it will readily be appreciated that the necks of the bottles will quite forcefully engage the upper edges of the window openings when the handle portion is grasped to lift the carrier. This results in effectively retaining the bottles and preventing relative movement thereof within the carrier, so that chafing and chipping of the bottles is greatly reduced or entirely eliminated. The handle portions 20 and 21 preferably are provided with hand holes 27 and 28 formed by an incomplete cut defined by the line 29, to provide a hinged handle flap 30 set off from the handle portion by means of a score line 31. The foregoing applies to both handle portions 20 and 21. As indicated in Fig. 1, the flaps 30 may be pushed through the openings 27 and 28 to one side of the adjacent handle portions, for strengthening and providing a comfortable hand grasp for that portion of the carrier. From the disclosure of Fig. 3, it will be noted that bottle retaining flaps 18 and the handle flap 30 are so hinged as to extend toward one another with their hinges disposed at the remote edges of the flaps. It is of course possible to punch out the flaps 30 entirely, if desired, but the reasons for not doing so have been given in a previous paragraph hereof.

When the enlarged base type of bottle is to be associated with the carrier of this invention, it is desirable to make the bottom 8 somewhat smaller in width than the combined diameters of two adjacent and contacting bottle bases, and to provide in the side walls 9 and 10 a series of spacer-cushions designed to fix the position of the bottle bases upon the bottom 8 and to afford a protective cushion therefor along the sides of the carrier. This is accomplished by forming through cuts 32 in each side wall, to bisect the series of cuts 13 that are formed along the score line 12. The number of cuts 13 and 32 corresponds to the number of bottles the carrier is to accommodate. The cuts 32 extend lengthwise of the strip which forms the carrier, and terminate an inch or more from their associated through cuts 13. The cuts as thusly arranged have their free ends connected by means of score lines 33 which results in the formation of a pair of triangles in each instance. The triangles are indicated at 34, and may be considered to be adjacent hinged triangular tabs capable of being outwardly distended by the bases of adjacent bottles as disclosed in Fig. 1. The openings provided by the hinged triangles receive a portion of the circumference of each bottle base, so as to provide a means for spacing the bottles along the bottom of the carrier, while the triangular tabs cover such portions of the bottle bases at all times, thereby to provide cushions precluding damage or injury during transportation or shipment of the filled carriers, or such damage as might result from carelessly placing the assembly upon or against a hard surface. The inherent resiliency of the material forming the spacer-cushions functions to maintain the bases of adjacent bottles in firm contact, and precludes accidental displacement of the bottles from the open ends of the carrier. This function is assigned also to the cuts or slots 13 which permit a portion of each bottle base to overhang the bottom 8 which, as before state, is of itself narrower than the combined diameters of two adjacent contacting bottle bases. In constructions wherein the material of the carrier is quite soft or flexible, it may be unnecessary to supply the score lines 33 of the spacer-cushions.

From the foregoing, it should be evident that I have provided an improved and simplified bottle carrier which provides adequate protection to bottles contained therein while at the same time providing for a substantial display of the contents, the carrier being stiffened and strengthened where necessary, so that it will hold its shape, prevent rattling of the bottles and the resulting chipping or defacing thereof, all at a substantial reduction in manufacturing costs.

Attention is now directed to the modification shown in Fig. 4, wherein the sole difference as to physical structure is the application of fastening means for holding the lower region of the handle portions rigidly in contact along and above the score lines 25. The fastening means may be of any suitable character, there being shown in Fig. 4 a long narrow band 40 of glue or adhesive, and/ or a stitch or staple connection 41. If desired, adhesive or glue alone may be used for securing the connection, by applying a narrow ribbon thereof along the full length of the handle portions 20 and 21 between the score lines 25 and the hand hole apertures 28. Such an application of glue or adhesive obviously does not interfere with disposition of the hand hole flaps to the position indicated by Fig. 1, nor does it prevent bending of the handle portions laterally outwardly in accordance with Fig. 4, to overlie the bottle tops and permit vertical stacking of the filled carriers to an indefinite height, as indicated. If desired, the handle portions 20 and 21 may be scored horizontally from one end of the carrier to the other, along the bends indicated at 42 and 43, at a proper elevation for inducing and facilitating the flatwise extension of the handle portions 20 and 21 along the tops of the bottles. This improvement renders feasible the assembly and charging of the carriers with bottles at the bottling plant rather than in the numerous retail sales establishments; and in the assembled condition, the packages may readily be shipped with a considerable saving of space and without damage to the handle portions of the carriers. To unstack the carriers of Fig. 4, it is necessary only to lift off the upper carriers, returning the handle portions to the Fig. 1 position at which they will be retained by the flaps 30—30.

The modification just described does not necessarily alter the formation of the blank shown in Fig. 3, except that an additional transverse score may be applied to each handle portion

parallel to or as a continuation of the longest cut **29** which defines the flap **30**. Such score lines are not absolutely necessary, however.

The modification form disclosed in Fig. 4 has all the advantages ascribed to the form disclosed in the remaining drawing views, in addition to those specifically mentioned in the two preceding paragraphs.

Attention is directed to my copending application, Serial No. 118,621, filed December 31, 1936 and showing a similar and related structure. In the instant disclosure, as also in said copending application Serial No. 118,621, it will be noted that the width of each window opening **120** is in excess of one half the width of the base or bottom **8**. Or, as pointed out herein, the window openings are wide enough to permit the bottles to be removed from or be inserted in the carrier by passing the bottles through such window openings. This is particularly important as a commercial feature. By reason thereof, the assembling of filled bottles in the carriers is simplified and expedited.

By reference to Fig. 2, it will be noted that the end wall of the window or aperture **120** follows the outer contour or configuration of the bottle neck, whereby the strap like portion **22** of the top member has extended contact upon the bottle neck and the strap **22** is sustained against twisting, or turning by reason of the weight of a filled bottle carrier being transmitted through such restricted strap like portions of the device. Thus the bottle neck cooperates with the strap for restraining the action of forces that otherwise would tend to distort the straps and cause rupture of the straps.

What is claimed is:

1. A bottle carrier of the class described comprising an elongated flexible cardboard sheet turned on itself and having the end portions thereof developed into handle members extending in the same direction, said handle members having contact with one another along lines of connection of said handle members to the intermediate portion of said sheet, means for positively securing said handle portions together along said lines of connection, whereby the sheet, intermediate said handles is developed into a continuous or endless body portion, the endless intermediate portion being formed into a bottom, a pair of side members and a pair of inclined cover members, said bottom being disposed diametrically opposite to said handle portions, and a side member and a cover member being disposed at each side of the bottom and intermediate the bottom and said lines of connection, the cover members each having an elongated opening therein, said openings extending transversely of the carrier being of a width greater than the widest diameter of the bottles to be assembled in the carrier, the edges of the sheet at the ends of the said openings being formed along a line defining the intersection of the plane of the cover members and the surface of the end bottles adjacent their neck portions, each of said openings being of a length greater than two but less than three bottle bottom diameters so that two bottles may be inserted bottom end foremost through said openings and the subsequent insertion of a third bottle, bottom end foremost between and in contact with the first two bottles, will dispose the first two inserted bottles in contact with the inclined end walls of said openings, whereby said extended contact of the opening wall on the bottle, supports the portions of the carrier cover member portions from distortion incident to the transmission of the weight of a loaded bottle carrier through said carrier cover member portions.

2. A bottle carrier of the class described comprising an elongated flexible cardboard sheet turned on itself and having end portions connected together to provide an endless or continuous body portion, a handle therefor, said body portion being scored transversely to establish lines of fold defining a bottom, a pair of side members, a pair of inclined cover members, and an upper apex formed by the meeting of the cover members at an angle near the tops of bottles inserted in the carrier, said bottom being disposed opposite to said apex with a side member extending upwardly from each of two opposite sides of the bottom, and the cover members extending inwardly and upwardly from the side members to form the apex aforesaid, said cover members each having an elongated opening therein extending lengthwise of the cover members being of a width greater than the widest diameters of bottles to be assembled in the carrier, each of said openings being of a length greater than two but less than three bottle bottom diameters so that two such bottles may be inserted bottom end foremost through said openings and the subsequent insertion of a third bottle, bottom end foremost between and in contact with the first two bottles, will dispose the first two inserted bottles in contact with the inclined end walls of said opening, the edges of the sheet at the ends of the said openings being formed along a line defining the intersection of the plane of the cover members and the surface of the end bottles adjacent their neck portions, whereby said extended contact of the opening wall on the bottle, supports the portions of the carrier cover member disposed laterally from said openings and sustains said cover member portions from distortion incident to the transmission of the weight of a loaded bottle carrier through said carrier cover member portions.

3. A bottle carrier as set forth in claim 1, including a pair of one-piece extensive flaps each of substantially the same large area as the bottle-receiving opening, one of said flaps being hinged along a lower edge of each of said openings for movement to a position along the sides of the bottles of the assembly to perform a cushioning function.

4. A bottle carrier of the class described comprising an elongated flexible cardboard sheet turned on itself and having end portions connected together to provide an endless or continuous body portion, a handle therefore, said body portion being scored transversely to establish lines of fold defining a bottom, a pair of side members, a pair of inclined cover members, and an upper apex formed by the meeting of the cover members at an angle near the tops of bottles inserted in the carrier, said bottom being disposed opposite to said apex with a side member extending upwardly from each of two opposite sides of the bottom, and the cover members extending inwardly and upwardly from the side members to form the apex aforesaid, said cover members each having an elongated opening therein extending lengthwise of the cover members being of a width greater than the widest diameters of bottles to be assembled in the carrier, each of said openings being of a length greater than two but less than three bottle bottom diameters so that two such bottles may be in-

serted bottom end foremost through said openings and the subsequent insertion of a third bottle, bottom end foremost between and in contact with the first two bottles, will dispose the first two inserted bottles in contact with the inclined end walls of said opening, the edges of the sheet at the ends of the said openings being formed along a line defining the intersection of the plane of the cover members and the surface of the end bottles adjacent their neck portions, whereby said extended contact of the opening wall on the bottle, supports the portions of the carrier cover member disposed laterally from said openings and sustains said cover member portions from distortion incident to the transmission of the weight of a loaded bottle carrier through said carrier cover member portions, said carrier including a pair of one-piece extensive flaps each of substantially the same large area as the bottle-receiving opening, one of said flaps being hinged along a lower edge of each of said openings for movement to a position along the sides of the bottles of the assembly to perform a cushioning function.

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