Oct. 6, 1942. H. Z. GRAY 2,298,209

BOTTLE CARRIER

Filed Nov. 21, 1939 2 Sheets-Sheet 1

Fig.-1

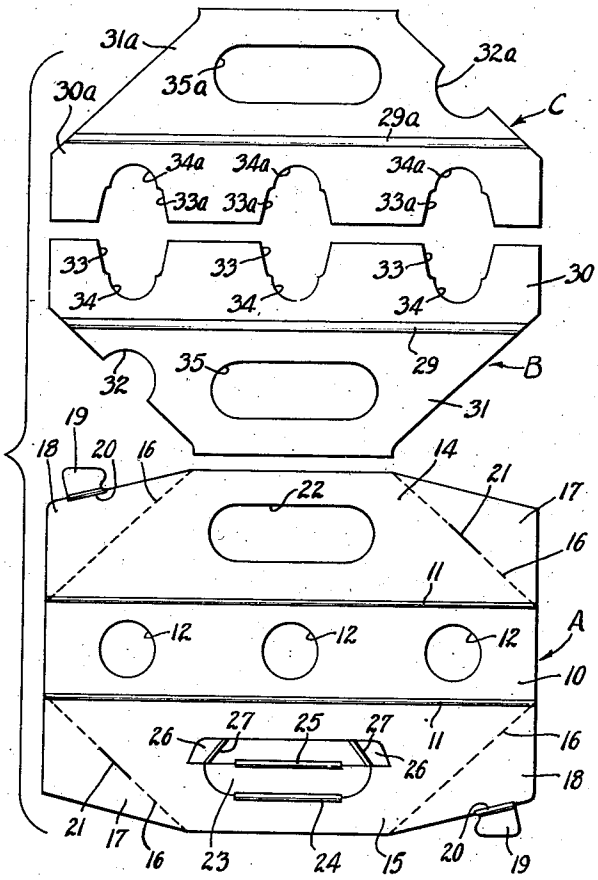


Fig.-2

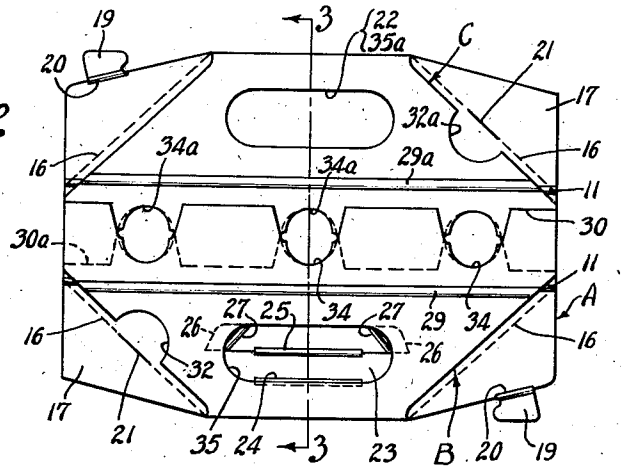
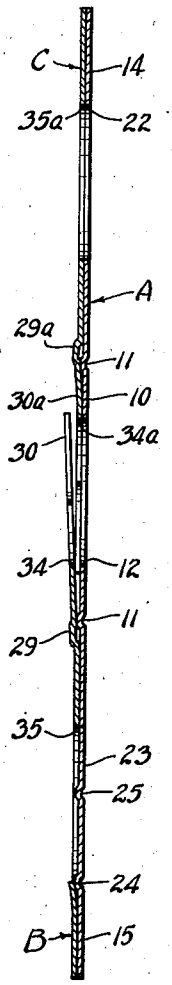


Fig.-3



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Filed Nov. 21, 1939 2 Sheets-Sheet 2

Fig.-4

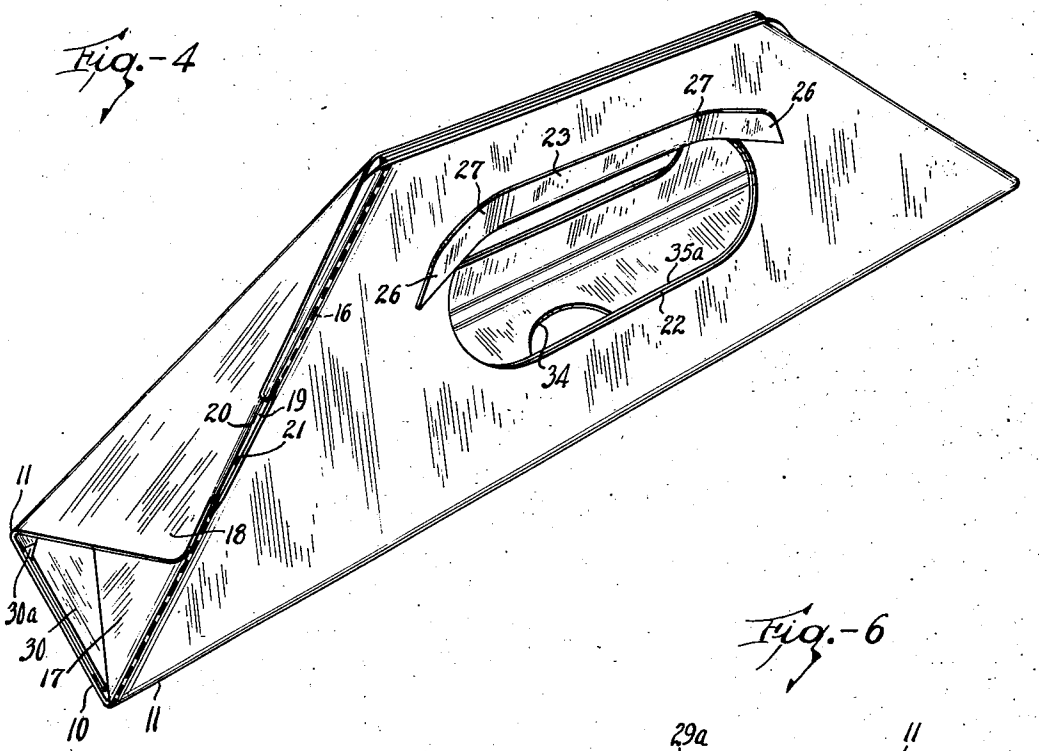


Fig.-6

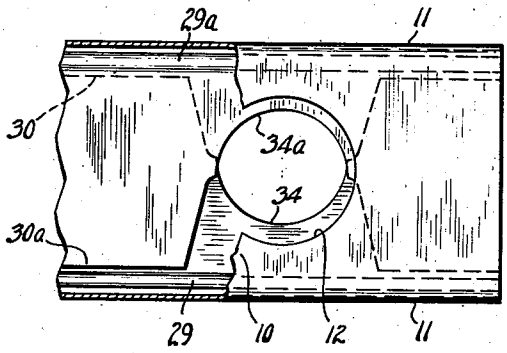
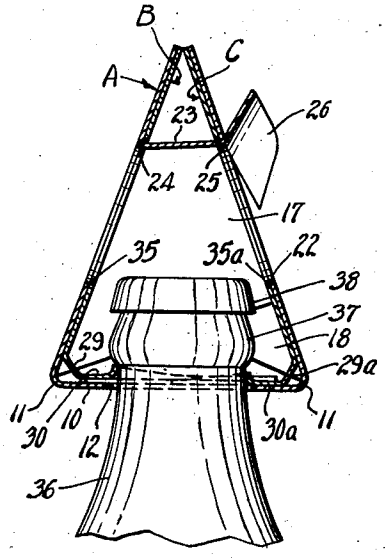


Fig.-5



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2,298,209

BOTTLE CARRIER

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Application November 21, 1939, Serial No. 305,491

2 Claims. (Cl. 224—45)

This invention relates to bottle carriers, and more especially it relates to bottle carriers of the type whereof the bottles are held in suspension by means that engages only the necks of the bottles.

The chief objects of the invention are to provide an improved bottle carrier of the character mentioned that may be manufactured of paper, cardboard, or other inexpensive material; that may be constructed in flat compact condition for packing and shipping, yet readily may be folded to service condition when required; that is formed with hand-grip openings and an element cooperating therewith and adapted to be engaged by the fingers of a person carrying the carrier and to distribute the weight of the carrier over said fingers; and to provide the last mentioned element with means for assisting in maintaining the carrier in folded, service condition. Other objects include the provision of simplicity of construction and relatively low cost of manufacture.

Of the accompanying drawings:

Figure 1 is a plan view of three blanks of which the improved bottle carrier is composed;

Figure 2 is a plan view of the bottle carrier after the three blanks have been assembled;

Figure 3 is a section, on a larger scale, on the line 3—3 of Fig. 2;

Figure 4 is a perspective view of the bottle carrier after being folded to service condition;

Figure 5 is a central transverse section through the folded carrier, and a bottle supported by the carrier; and

Figure 6 is a fragmentary bottom plan view of the carrier, a part being broken away for clearness of illustration.

Referring to the drawings, particularly Fig. 1 thereof, there are shown three blanks A, B and C, respectively, of which the improved carrier is constructed, said blanks preferably being made of heavy cardboard material. In profile the general shape of blank A is a symmetrical octagon, the sides however being of different lengths, and the blank being of greater length than width. When the blank subsequently is folded to service shape, the medial longitudinal region 10 of the blank becomes the bottom of the carrier, said region being defined by parallel, spaced-apart creases 11, 11 that extend longitudinally of the blank. The medial region 10 of the blank is formed with a plurality of apertures 12, 12, herein shown as three in number, said apertures being arranged in spaced apart relation along the longitudinal centerline of the medial region 10, each being of such diameter as readily to enable the capped end of a bottle to be passed therethrough.

Outside the creases 11 the blank A consists of lateral portions 14, 15 that become the opposite sides of the carrier when it is folded to service shape, and the free corners of said lateral portions are scored or rouletted at 16, 16 to define three sided portions 17, 18 on each portion 14, 15, said portions 17, 18 eventually becoming the ends of the carrier in its service shape. The portions 18 of the sides 14, 15 are disposed at diagonally opposite corners of the blank A, and each is formed with a projecting tongue or ear 19, there being a crease 20 where the ear connects with the blank. The rouletting 16 between each of the portions 17 and the lateral portions 14, 15 includes a slit or incision 21, which incisions receive the tongues 19 for locking the carrier in folded, service condition, as presently will be explained. Lateral portion 14 is centrally formed with a hand opening 22 having the shape of a laterally flattened ellipse. Lateral portion 15 is centrally incised to form a tab or flap 23 that is unsevered along one of its margins, which margin is adjacent the edge of said portion 15, said unsevered portion being creased at 24 for subsequent flexing at this point. The flap 23 also has a central longitudinal crease 25 that is parallel to crease 24. The free marginal portion of the flap 23 has terminal extensions or ears 26, 26, which ears are obliquely transversely creased at 27, 27 to facilitate subsequent flexure thereof.

The blank B roughly is trapezoidal in shape, and is of greater length than width. It is creased longitudinally at 29, which crease divides it into a generally rectangular portion 30, and a portion 31 of trapezoidal shape of somewhat larger area, one of the oblique sides of portion 31 being formed with a semicircular notch or recess 32. Portion 31 also is formed with a central opening 35 of the same size and shape as the opening 22 in blank A. Portion 30 has its free longitudinal margin recessed at three points designated 33, 33, each of said recesses having straight lateral margins that converge toward the bottom of the recess, the bottom of the recess, designated 34, being semicircular and having substantially the same radius as the radius of the neck of a bottle which the carrier is designed to receive. As is clearly shown in the drawing, there is a slight shoulder or offset at the juncture of the arcuate margin of the recess and the straight lateral margins thereof.

The blank C is identical with blank B and the

same numerals, with the exponent *a* are used to designate the parts thereof that are designated in the blank B.

In the assembling of the carrier using the blanks A, B and C described, the blank C is superimposed upon the blank A so that the crease **29***a* of blank C is coincident with crease **11** of blank A, the notch **32***a* is disposed adjacent slit **21**, and the hand openings **35***a* and **22** are coincident. Portion **31***a* of blank C is adhered to portion **14** of blank A, by means of any strong adhesive, portion **30***a* being unadhered to blank A and partly overlying medial portion **10** of the latter, the recesses **33***a* of blank C being coincident with the apertures **12** of blank A, transversely of said blank. In like manner blank B is superimposed upon blank A, creases **29** and **11** being coincident, notch **32** being disposed adjacent slit **21**, hand opening **35** being coincident with the general profile of flap **23**, and portion **30** of blank B overlying a part of portion **30***a* of blank C and portion **10** of blank A therebeneath. Portion **31** only of blank B is adhered to blank A, portion **30** being free. When so positioned, each semi-circular recess **34** of blank B confronts a semi-circular recess **34***a* of blank C, over an aperture **12** of blank A, said recesses together defining an opening that is of the same extent as the diameter of aperture **12** transversely of the carrier, but of somewhat smaller dimension than said aperture along the longitudinal centerline of the carrier. Since the portions **30**, **30***a* of blanks B and C are not adhered to another structure, they are free to flex relatively of each other and of the blank A along their respective creases **29**, **29***a*, and thus constitute flaps. The carrier assembled as described and as shown in Fig. 2 and Fig. 3 is in the condition in which it is stored and shipped. Being flat, it occupies but small space, and may be stored in quantity without requiring extensive storage facilities.

In Fig. 4 the carrier is shown in service condition, ready to receive three bottles that are to be carried. The transition of the carrier from the flat condition shown in Figs. 2 and 3 to the service condition shown in Fig. 4 is effected in the following manner; first, the carrier is folded along the longitudinal creases **11**, **29** and **11**, **29***a*, the free margins of the lateral portions of the structure being brought into juxtaposition so as to define a three-sided figure in transverse section, as shown in Fig. 5, with the blanks B and C of the folded structure disposed interiorly of the same. Then triangular portions **17**, **18** are folded toward each other along the rouletting **16** to provide ends for the carrier, the portions **18** overlying the respective portions **17**. Ears **19** are then flexed along creases **20** and inserted in the respective slits **21**, thus retaining the structure in its folded condition, the presence of the notches **32**, **32***a* beside said slits enabling the ears **19** readily to pass through said slits and to lie along the inner faces of lateral portions **15** of blank A without encountering the margins of blanks B and C. Finally, the flap **23** is flexed along crease **24** and pressed inwardly through the opening **35** of blank B, and then is pressed through openings **35***a*, **22** on the opposite side of the carrier, the terminal tabs **26** of the flap flexing along their creases **27** to facilitate this operation. Thereafter the flap may be flexed upwardly along its crease **25**, and this feature together with the fact that the terminal tabs **26** of the flap extend beyond the margins of the hand openings **22**, **35***a*, effectively prevent retraction of the flap, except when it is intentionally done to open the carrier. The presence of the flap **23** not only supplements the locking ears **19** in holding the carrier in folded, service condition, but it provides a broad, smooth hand-engaging surface that makes the carrying of the carrier, with bottles therein, less arduous.

When the carrier is folded as described, with the blanks B and C on the inside, the folds at creases **29**, **29***a* of the latter blanks traverse a smaller radius than the folds at creases **11** of the blank A, with the result that the flap-like portions **30**, **30***a* of the blanks B and C are moved toward each other and their overlap increased. This causes the openings defined by the arcuate recesses **34**, **34***a* of said flaps to be reduced in width transversely of the carrier to such an extent as to be slightly less than the diameter of the neck of a bottle to be received by the carrier. This condition is best shown in Fig. 6, wherein also is shown the relative size of each opening defined by the flaps **30**, **30***a* and the apertures **12** in the bottom of the carrier.

The mounting of bottles in the carrier is easily and quickly effected, simply by placing three bottles in a row, and then pushing the carrier down upon the bottles. When the bottles are in a row, each bottle is in axial alignment with an aperture **12** in the bottom of the carrier, and since the apertures **12** are larger than the cap and the bead at the top of each bottle, the latter readily pass through said aperture. However, the apertures defined by the recesses **34**, **34***a* of the flaps **30**, **30***a* are smaller than the end of a bottle, so that the bottle tops flex said flaps upwardly about their hinges at **29**, **29***a*, until the openings defined by recesses **34**, **34***a* in said flaps are sufficiently enlarged to enable the caps and upper ends of the bottles to pass therethrough. Thereafter the carrier may be lifted, the weight of the bottles on the flaps **30**, **30***a* forcing the latter downwardly against the bottom of the carrier, and even slightly deforming the material at the margins of the recesses **34**, **34***a* of said flaps. This condition of the carrier is shown in Fig. 5 of the drawings wherein one of the bottles is shown at **36**, the bead of the bottle and the cap thereon being designated **37** and **38**, respectively. The arrangement is such that the bottles are securely locked in the carrier, and can be removed therefrom only by opening the carrier and unfolding it substantially to its original flat condition.

The invention provides a bottle carrier that is relatively simple in construction and relatively inexpensive to manufacture. The three blanks used in the construction of the carrier may be made by single die operations, and the assembling of the blanks may be performed mechanically. The carrier holds the bottles securely, it is easily carried without discomfort to the bearer, and it achieves the other advantages set out in the foregoing statement of objects.

Modification may be resorted to without departing from the spirit of the invention, or the scope thereof as defined by the appended claims.

What is claimed is:

1. A bottle carrier adapted to be folded along parallel lines to provide a substantially flat bottom and side members extending upwardly therefrom, said carrier comprising a blank of foldable material formed with an aperture in its medial region, a second blank of similar material and smaller size overlaid upon one lateral region of the first mentioned blank and a major

portion of the medial region thereof, and a third blank of similar shape and material overlaid upon the other lateral region of the first blank and over the major portion of the medial region thereof and overlapping a substantial marginal portion of the second blank, said second and third blanks being adhered to the first blank solely in the lateral regions of the latter, the overlapping marginal portions of the second and third blanks being formed with confronting recesses that together define an opening, which opening is coincident with the aperture in the medial region of the first blank and of smaller size than the latter.

2. A bottle carrier adapted to be folded along parallel lines to provide a substantially flat bottom and side members extending upwardly therefrom, said carrier comprising a blank of cardboard or similar material formed with an aperture in its medial region, which aperture is larger than the bead end of a bottle to be passed therethrough, a second blank of similar material and smaller size overlaid upon one lateral region of the first mentioned blank and a major portion of the medial region thereof, and a third blank of similar shape and material overlaid upon the other lateral region of the first blank and over a major portion of the medial region thereof and overlapping a substantial marginal portion of the second blank, the overlapped free marginal portions of the second and third blanks being formed with confronting recesses that together define an opening that is coincident with the aperture in the medial region of the first blank and of smaller size than said aperture, said second and third blanks being disposed interiorly of the folded carrier and their overlapping portions constituting flaps that rest upon the bottom of the carrier and are supported thereby.

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