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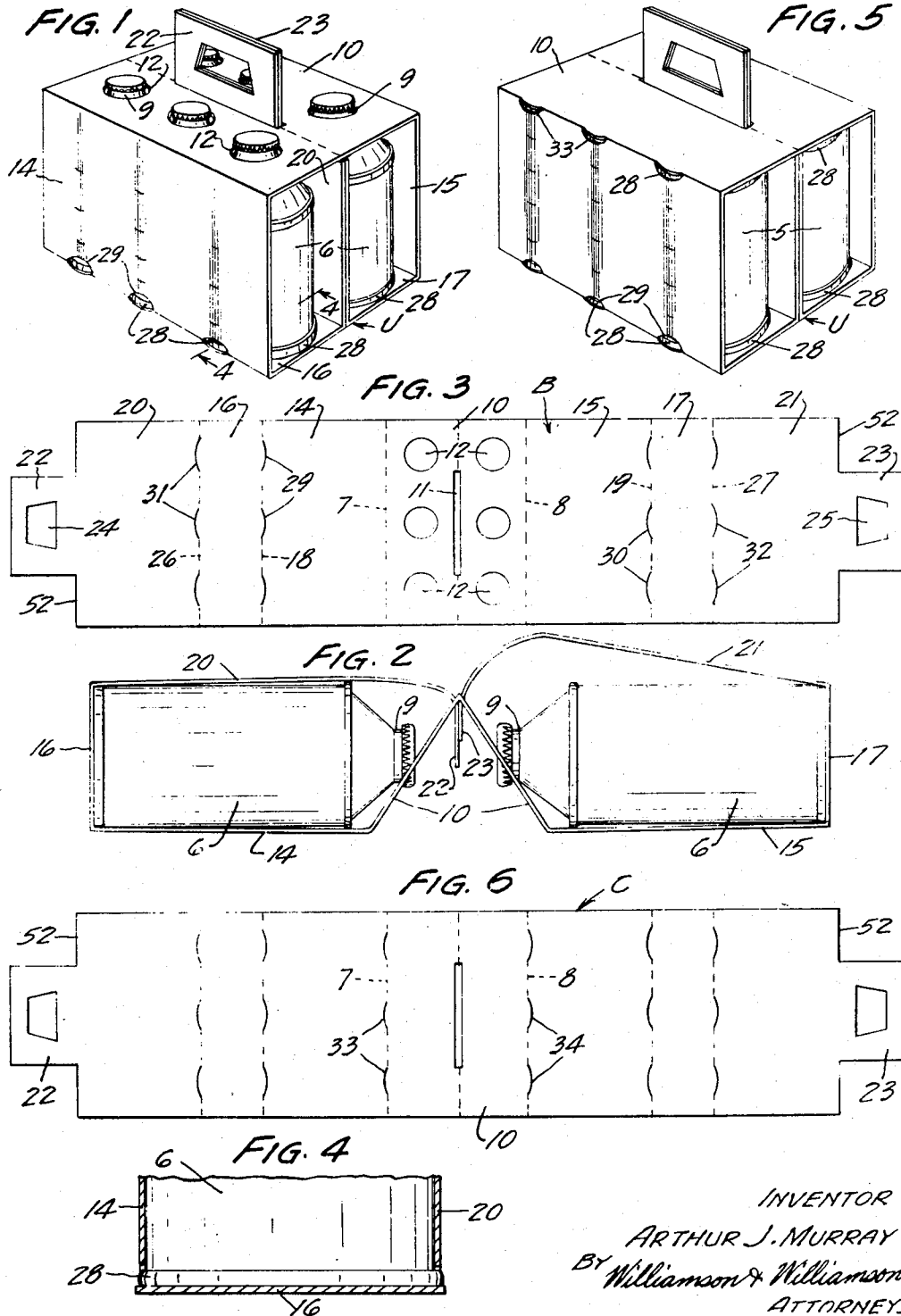
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2,701,661

CARRIER FOR CANNED OR BOTTLED GOODS

Filed Nov. 30, 1951

2 Sheets-Sheet 1



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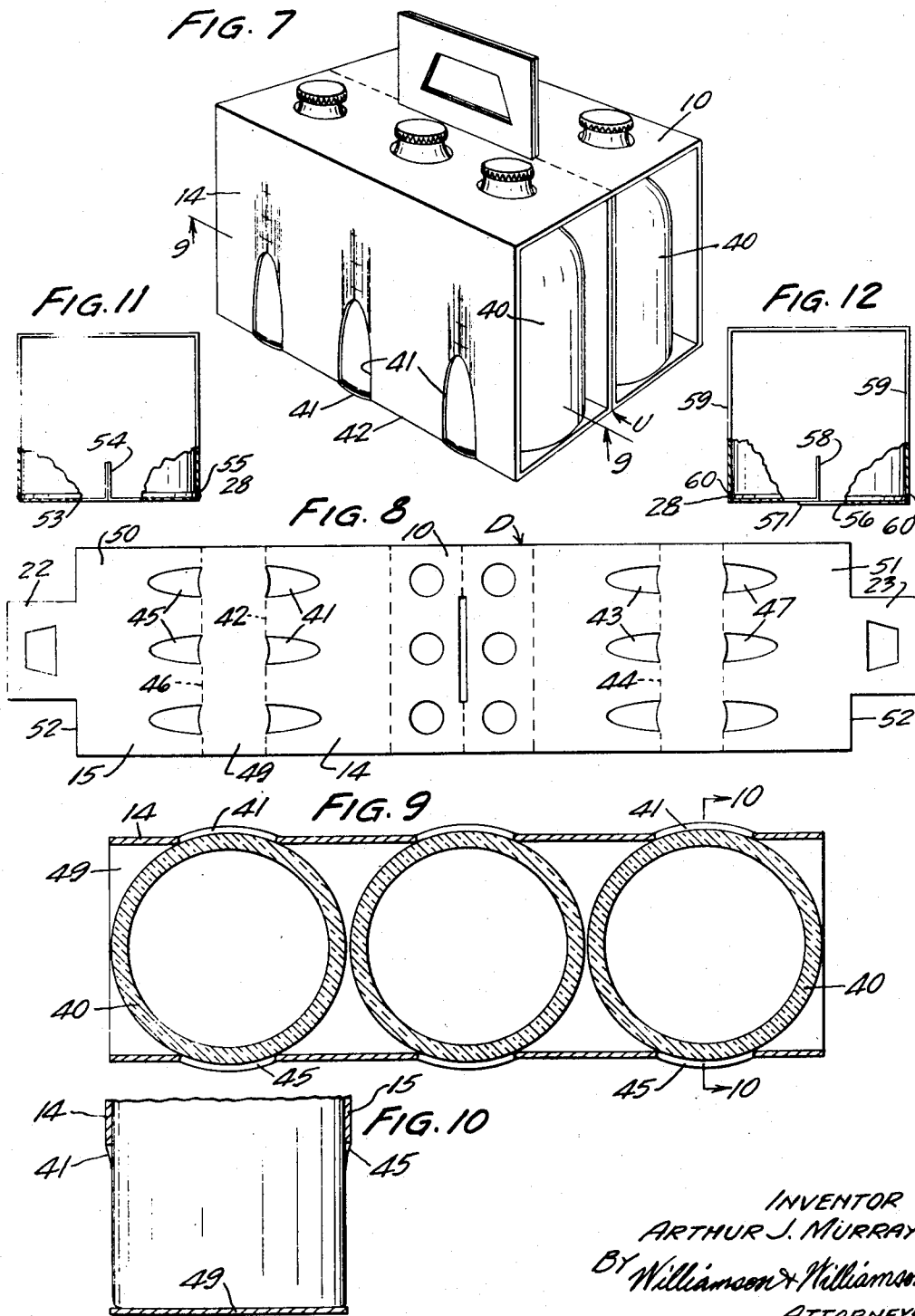
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CARRIER FOR CANNED OR BOTTLED GOODS

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2 Claims. (Cl. 220—113)

This invention relates to foldable cartons and more particularly to carrier cartons constructed of sheet material such as cardboard which are adapted to contain for retail sale a plurality of bottles, cans and the like.

It is a principal object of this invention to provide a carrier carton which is constructed in a simple and economical manner from a single sheet of material which has been prescored for ready assembly.

It is another object of the invention to provide for a carrier carton which is constructed of a single sheet of material in such a manner as to utilize to best advantage the strength of the material comprising the carton.

It is another object of this invention to provide for a simple, open-ended carrier carton which has prescored means associated therewith for cooperating with the articles to be carried in such a manner as to firmly grip the articles and prevent accidental displacement from the open ends thereof.

It is a further object of the invention to provide for prescored openings at certain of the foldable corners to engage the sides or other portions of container articles placed therein so as to firmly grip the articles and at the same time to strengthen the carton structure thereby making a sturdy and efficient carton with a minimum of cost in material and preparation.

It is a still further object of the invention to provide for a single and simple prescored carton blank all of the fold lines of which will be parallel and ready for easy assembly into the completed carton.

These and other objects and advantages of my invention will more fully appear from the following description made in connection with the accompanying drawings wherein like reference characters refer to similar parts throughout the several views and in which:

Fig. 1 shows my carton in assembled condition holding a plurality of capped cans ready for manual transportation;

Fig. 2 shows a similar carton with cans in position in a partly assembled condition;

Fig. 3 illustrates the single blank from which the carton is constructed;

Fig. 4 shows an enlarged segmental view of a can in the carton taken on lines 4—4 of Fig. 1 with the can in full view and the carton in vertical section;

Fig. 5 shows a slightly modified carton employed for cans not having a neck portion;

Fig. 6 shows the blank from which the carton in Fig. 5 is constructed;

Fig. 7 illustrates a modification of my carrier as adapted to carrying bottles;

Fig. 8 shows the single sheet blank from which the carton in Fig. 7 is constructed;

Fig. 9 shows a cross section of one compartment of the carrier shown in Fig. 7 taken on the lines 9—9 of Fig. 7;

Fig. 10 shows a vertical section of a lower segment of one of the bottles in the container taken on the line 10—10 of Fig. 9;

Fig. 11 shows another modification of my carrier without handle construction; and

Fig. 12 shows another modification of my carton without handle construction.

Referring now more particularly to the drawings, the carrier carton which comprises my invention is formed from a single blank as shown in Fig. 3. The material from which it is made can be laminated paper, card-

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board, plastic material or any other suitable sheet material which will maintain sufficient strength at the fold lines to make it practical for my purpose. It will be observed that the blank B in Fig. 3 is of a general rectangular shape and may be cut from sheet stock in such a manner as to eliminate or minimize waste of the stock material. The absence of side flaps or panels is a measure of economy and simplification which makes my carrier carton an extremely desirable article and especially where the carton is intended to be thrown away after a single usage. It is, of course, understood that more sturdy and expensive sheet material may be employed where it is desired to adapt the carton to repeated usage. At a generally central position in the carton blank B is the top wall or section 10 having a slot 11 in the modification as shown. Where the carton is adapted for use with bottles and cans having a narrow neck 9 I may punch out openings 12 for the purpose of having such neck or top extend therethrough. At opposite sides of the top section 10 are fold lines 7 and 8 which may be prescored during the formation of the blank B to cause the material to fold easily thereon when it is bent. Joining the carton top section 10 are two side sections 14 and 15 which form the vertical sides of my container when it is assembled and standing in upright position as in Fig. 1. Adjoining each of the side sections 14 and 15 is a bottom structure U which may be formed of bottom sections 16 and 17 which likewise have scored fold lines at 18 and 19. As a means for separating the rows of articles carried in my carton I have provided a separator upstanding from the bottom structure which may comprise a separator sheet 20 and may have in addition an oppositely disposed separator 21. Where the separators extend for the full height of my carton I may employ handles 22 and 23 containing hand holes or openings 24 and 25 which form a convenient method of carrying the carton by one hand. The separator 20 may be attached to bottom section 16 at the fold line 26 and separator 21 likewise may be attached to bottom section 17 at fold line 27.

Since there are no side flaps or panels such as will close the ends of my completed carton as viewed in Figs. 1 and 5 I have provided means for retaining the packaged articles such as bottles or cans in the proper position in the carrier without danger of them becoming accidentally detached and falling out of the carrier. Where the articles are in the nature of capped cans 6 such as appear in Fig. 1 or plain cans 5 such as shown in Fig. 5, I have utilized the beaded bottom 28 for the purpose of positioning and retaining the can in place. Thus, I have provided for openings 29 at fold line 18 and corresponding openings 30 at fold line 19 which are pre-cut at the time the blank B is formed. In addition to the openings 29 and 30, or in place of the openings 29 and 30 I may employ similar corresponding openings at 31 on fold line 26 and 32 on fold line 27. Provision for said several openings is preferably made, as clearly shown in Figs. 3 and 6 of the drawings, by slitting the stock of blank B along appropriate curved and preferably arcuate lines, the ends of the respective slits preferably terminating in the respective transverse fold lines with which they are associated. The mere slitting of the cardboard or other stock of the blank along appropriate lines may be carried out with conventional slitting dies requiring no removal of material from the cut blank as clearly shown. The provision of the several series of arcuate slits when the carton is folded as herein described opens up the apertures or openings for receiving, centering and retaining the beaded edges of the cans or other containers so that with said slits each can is "keyed" in properly retained relation. As shown in Figs. 1 and 5 of the drawings, the said slits in said folding action also define and leave outwardly projecting lips which extend laterally of the side walls of the carton and serve to engage against the ends of cans or like container held. The carton blank B is so designed that the bottom sections 16 and 17 are of a width slightly less than that of the diameter of the can to be inserted in my carrier carton. Thus, it may be seen that when the handles 22 and 23 of the blank B are formed into the carton by bringing the sides around

the containers to encompass them as in Fig. 2 followed by insertion of said handles into the slot 11 the completed carton with contents is formed as shown in Fig. 1. A portion of the outer surface of the can including the bead or bottom edge 28 projects slightly through the openings 29 and 30 so as to key each can 6 in its respective position in the carrier. Where the can is shaped like a bottle as in Fig. 1 the cooperation of the openings 12 in the top section 10 form a means for retaining the upper portion or neck 9 of the can 6 in position. However, where the can 5 is of ordinary form having a bead 28 at both top and bottom as shown in Fig. 5 then I prefer to have openings 33 at fold line 7 and openings 34 at fold line 8. Thus, the completed carton as in Fig. 5 will have openings to engage both the top and the bottom beads of the cans 5 and to securely retain them in proper position regardless of the lack of projecting necks such as shown in Fig. 1. When adapted for carrying cans of ordinary structure the blank C from which the carton is constructed has the appearance of that shown in Fig. 6. The cooperation of the bead or rim 28 of the bottle type can 6, as well as the can 5, is shown in detail in Fig. 4. It will be observed that the openings 29, 30, 31, 32, 33 and 34 all allow the cardboard or other sheet material to bulge slightly because of the contact with the outer surface of the articles within the carton. This slight bulging effect additionally positions the article within the carrier and adds strengths to the side walls or sections 14 and 15 by virtue of a slight corrugating effect which is well known in the art of strengthening paper and cardboard where glued laminations are formed. This special application of corrugation in a carrier carton in combination with the openings and fold lines as herein described is a distinct contribution to the art which makes possible the use of a smaller quantity of sheet material to serve a purpose equivalent to that requiring a greater amount in cartons constructed in conventional form.

Where it is desired to carry articles such as bottles 40 which do not have beads, as do the cans shown in Figs. 1 and 5, I find that a modification of my carrier is desirable and such modification is illustrated in Fig. 7. The blank D as shown in Fig. 8 is the form for the carton shown in Fig. 7 before construction thereof. In this case, the carton blank D is formed similarly to that of blank B shown in Fig. 3 except that larger openings at the fold lines are formed as at 41 in connection with fold line 42, openings 43 at fold line 44 and, in addition thereto, or as an alternative therefor, as at 45 on fold line 46 and 47 at fold line 48. When the blank D of Fig. 8 is formed into a carton containing the bottles 40 as shown in Fig. 7 the openings such as at 41 will cooperate with the side walls and bottom 49 so as to retain the bottle in its correct position during carrying and handling of the assembled carton. In this case it will be observed, as in the case of the cartons shown in Figs. 1 and 5, that the side section 14 and 15 will bulge from contact with a portion of the outer surface of the bottles 40 to give additional security for the positioning of the bottles and to add strength to the structure of the carton through the slight corrugation effect as previously mentioned. The cooperation of the bottle surface with the side 14 of the container D is shown in the cross sectional view of Fig. 9. In this modification opposite openings 45 are formed in the separator sheets 50 and 51 for additional strength and security. It is to be understood, of course, that one set of openings at any one of the fold lines joining a side section or bottom section will be sufficient to retain the can or bottle in accordance with the teaching of my disclosure.

For additional bracing I prefer to construct my blanks B, C, and D in such a manner that the shouldered portion 52 will abut against the underside of the top section 10 thereof when the handles 22 and 23 are extended through the slot 11. When the carton is raised by grasping the handles 22 and 23 the shouldered portion 52 will engage the underside of top 10 which will in turn have a tendency to bend at the point of contact. The general rigidity of the carton with the packaged articles in place will resist this bending. If, however, there is a slight amount of play in the sheet material encompassing the packaged articles the top section 10 will bend slightly so as to allow the sides and separator sheets to form a parallelogram with the top and bottom sections of the carton, thus bringing the side and separator sheets into closer

proximity and again squeezing or binding the outer surface of the container against the side walls and into closer cooperation with the openings provided at the fold lines.

At the sacrifice of this binding effect through lifting of the handles 22 and 23 I may provide two further modifications as shown in Figs. 11 and 12 where the emphasis is upon a still greater saving of material. The blanks from which the cartons of these modifications are made are not shown in extended condition but may be understood to be folded in a manner analogous to the blanks which have been described and illustrated. Fig. 11 shows an end view of a carton containing no slotted top or handle arrangement. Where the separator between rows of packaged articles is formed from the bottom structure 53 by an upstanding member 54 the arrangement makes for a less rigid carton but the material and construction cost is further minimized. A portion of the surface of the packaged article as at 28 projects from the openings 55 in the same manner as in the previous modification shown.

The modification illustrated in Fig. 12 likewise does not have the advantage of the handles for added rigidity but the bottom structure 56 provides a glued overlap 57 and an upstanding separator 58 which urges the packaged articles against the outer walls 59 so as to cooperate with the openings 60 in the same manner as previously set forth.

The foregoing specification and drawings show the novel contribution which I have made to the art of carrier cartons in that an extremely efficient and simple device has been formed from a single sheet of material comprising various sections which are arranged in end to end fashion, and, that in spite of the open ends resulting from the formation of a carton out of such a blank I have been able through the careful design of openings associated with the surface of my carton blanks to provide means for cooperation of the carton wall sections with portions of the outer surfaces of the packaged articles to retain them in a secure and rigid fashion adequate for handling and carrying. The elimination of end elements, of course, achieves a great saving in material and labor in that the sheet blanks can be cut straight across the sheet stock from which they are formed to define the longitudinal parallel sides of the blank, and more blanks can thus be obtained from an equivalent amount of stock than where end panels are required for boxing in the packaged articles.

It should be pointed out that any one of the described openings for cooperation with each article is within my contemplation, but two or more of the openings at their respectively described positions may be employed to suit the shape, size and weight of the packaged articles. It is also possible for me to eliminate all special positioning and retaining means from the portions of the carton associated with articles intermediately held by others which are specially positioned and retained.

It will, of course, be understood that various other changes may be made in the form, details, arrangement and proportions of the parts without departing from the scope of my invention.

What I claim is:

1. A carton for snugly packaging and for carrying, in row formation, a plurality of cans or the like having closed tops and bottoms and outturned beaded edges at the top and bottom ends thereof, said carton comprising a continuous strip of foldable sheet material having as integral portions thereof a top section, a bottom section and side walls connecting said top and bottom sections and extending perpendicularly thereto, said side walls extending between transverse fold lines in said continuous strip at top and bottom portions of said carton, said side walls each having a series of similarly spaced slits at their connections with said top and bottom sections, said slits extending transversely of said continuous strip and with their ends terminating at said fold lines and extending inwardly short distances from the related fold lines into said side walls at the top and bottom portions thereof, said slits because of the perpendicular folding of said sections and walls along the fold lines forming apertures for receiving and retaining protruding portions of the respective tops and bottoms of the cans, said slits also forming in the continuous portions of the top section and the bottom section of said carton projecting lips for engagement with the closed ends of the tops and bot-

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toms respectively of the cans which protrude through said apertures, and the width of the top and bottom sections with respect to the diameter of the top and bottom of each can being such that when the cans are in the carton the slits forming the said apertures terminate at the said fold lines and the apertures are only in the upper and lower portions of the side walls.

2. The carton as defined in and by claim 1 wherein handle means for carrying the carton extends outwardly beyond the top section thereof.

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2,106,276
2,134,627
2,331,038
2,441,134
2,527,025
2,559,948
2,656,959

6

References Cited in the file of this patent

UNITED STATES PATENTS

Heineman	Jan. 25, 1938
Turner	Oct. 25, 1938
Meller	Oct. 5, 1943
Brogden et al.	May 11, 1948
Morgan	Oct. 24, 1950
Currie	July 10, 1951
Currie	Oct. 27, 1953