Feb. 15, 1955 A. J. MURRAY 2,701,938

METHOD AND APPARATUS FOR PACKAGING CANS AND BOTTLES IN CARRIER CARTONS

Filed Nov. 30, 1951 3 Sheets-Sheet 1

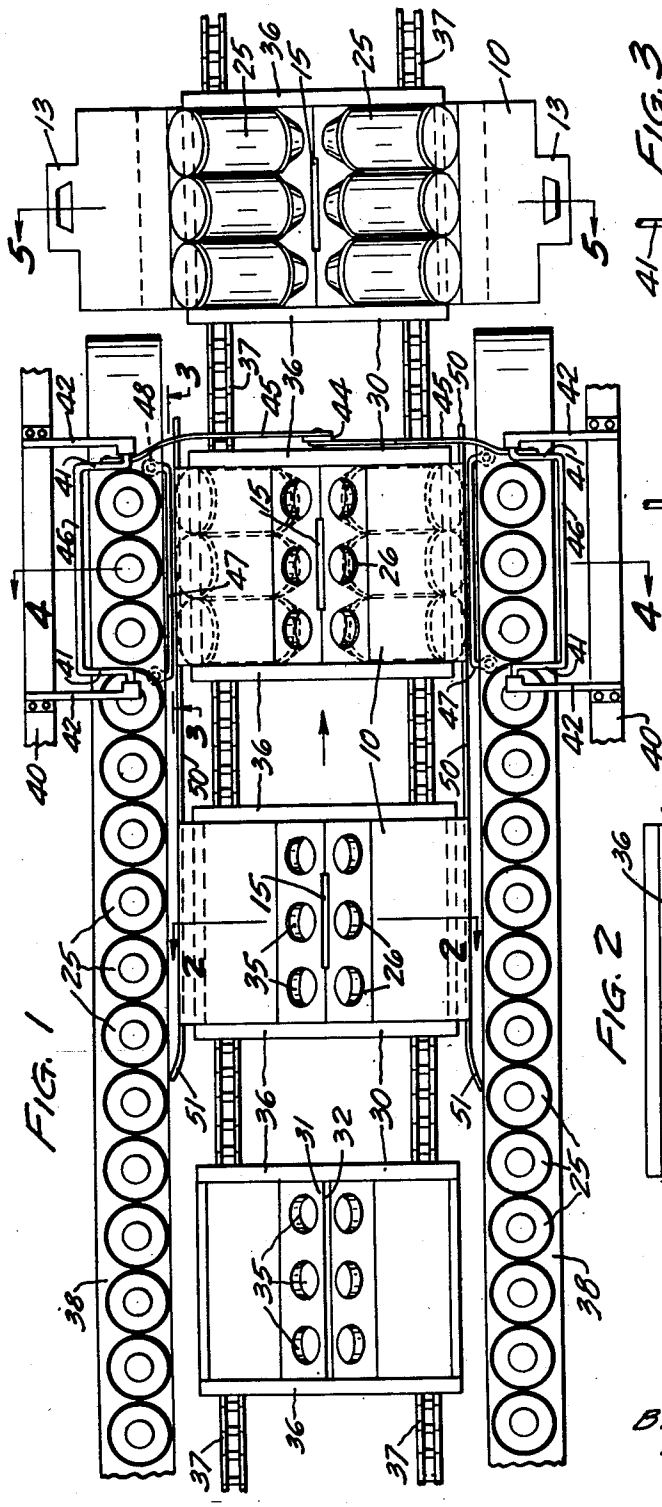


FIG. 1

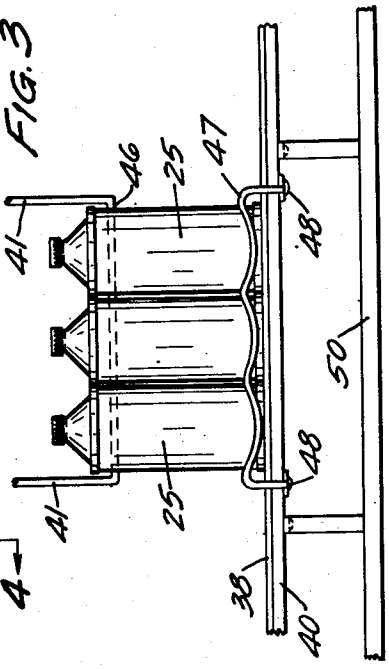


FIG. 3

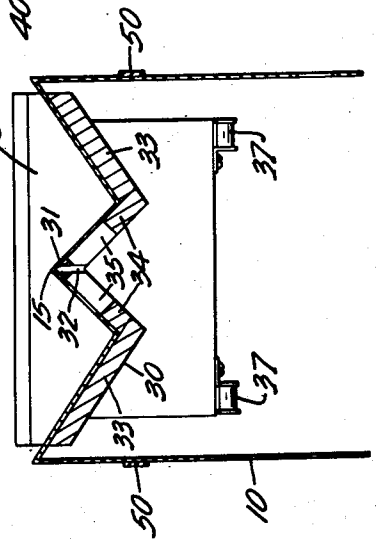


FIG. 2

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METHOD AND APPARATUS FOR PACKAGING CANS AND BOTTLES IN CARRIER CARTONS

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FIG. 4

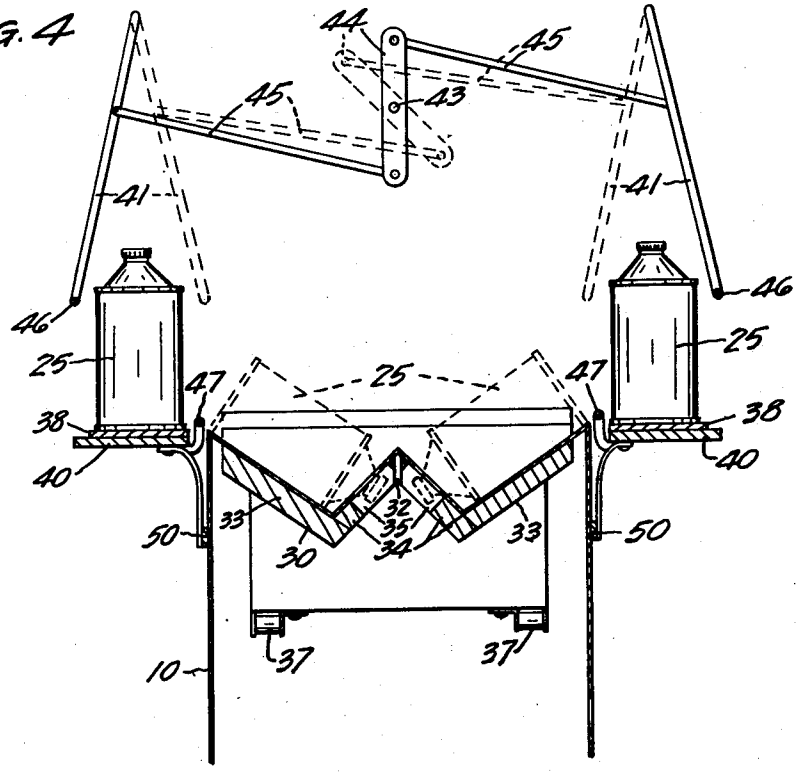


FIG. 5

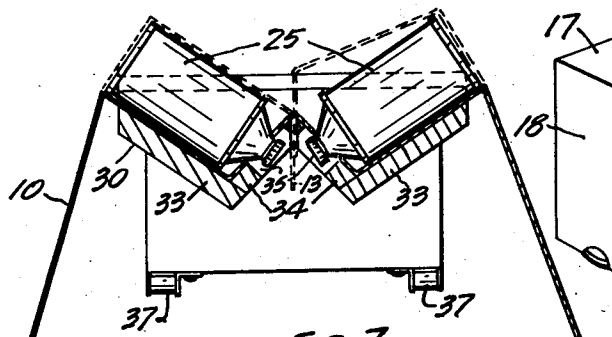


FIG. 6

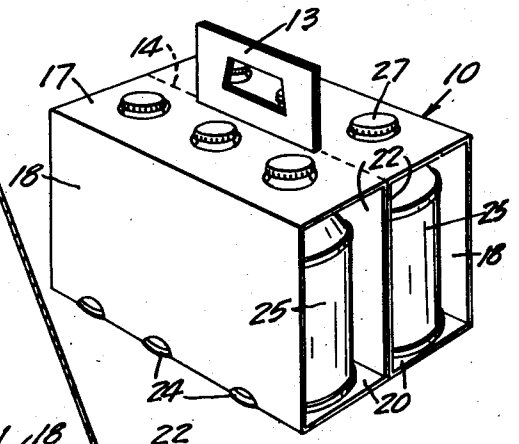
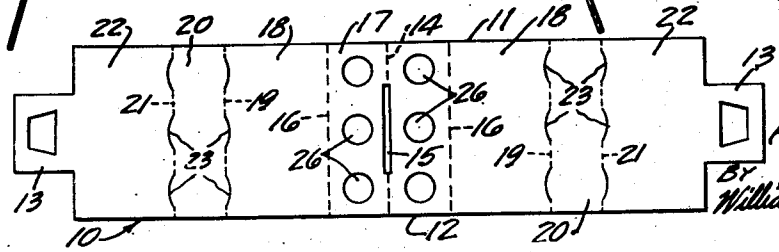


FIG. 7



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FIG. 8

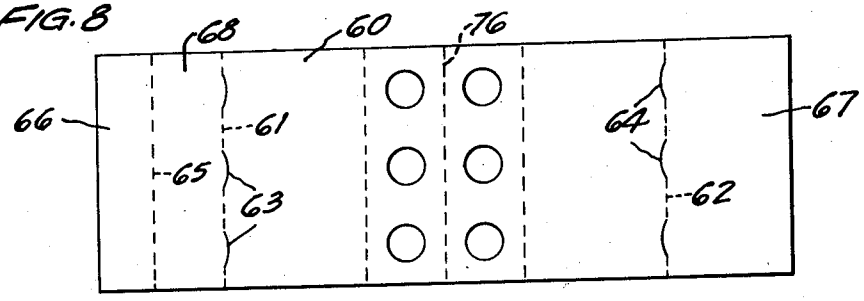


FIG. 9

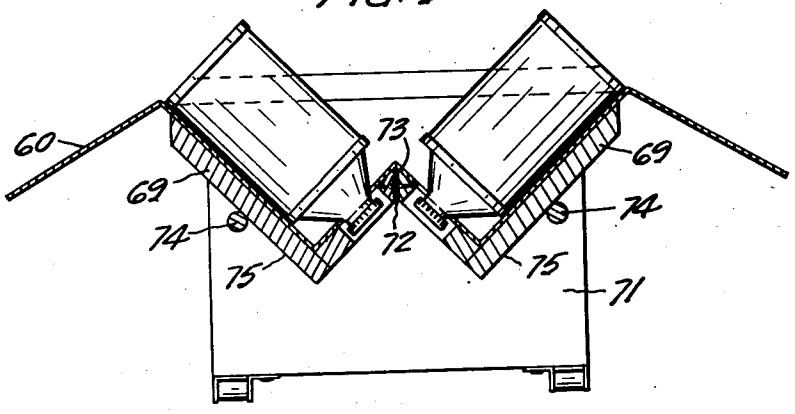


FIG. 10

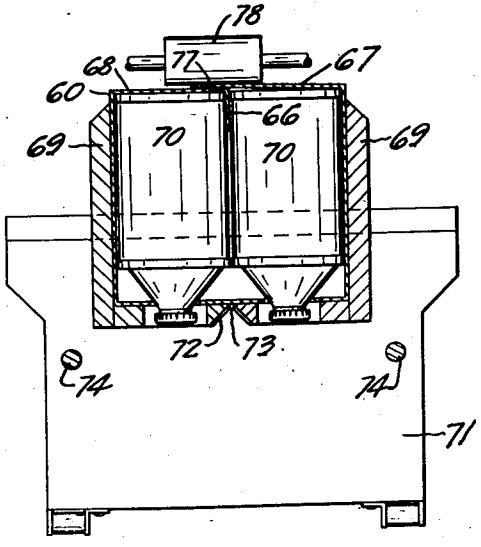
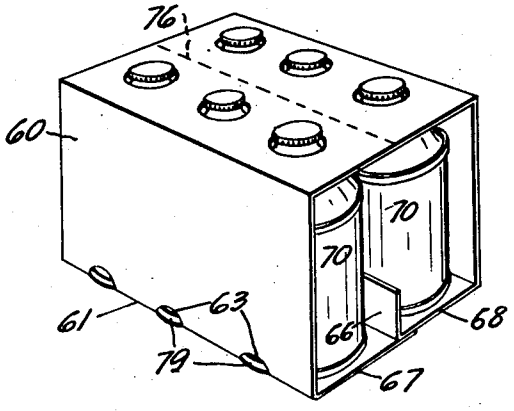


FIG. 11



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METHOD AND APPARATUS FOR PACKAGING CANS AND BOTTLES IN CARRIER CARTONS

Arthur J. Murray, Minneapolis, Minn.

Application November 30, 1951, Serial No. 259,156

12 Claims. (Cl. 53—7)

This invention relates to the art of packaging articles such as cans and bottles and particularly to the packaging of such articles economically at bottling plants and canneries into compact carrier cartons having the articles arranged in two contiguous, short rows.

It is an object of my present invention to provide a highly efficient method and novel apparatus for quickly and economically packaging two rows of symmetrical articles in such manner as to form a protective carrier carton from the packaging material.

At the present time, bottling companies, breweries and certain canneries are supplying carrier cartons often in collapsed form to be set up and compactly filled with usually two short rows of cans or bottles for convenience to the purchaser. In some instances, the cartons in collapsed form are made available to the franchised bottlers who pay for the same, assemble the cartons and after assembly, fill the same with the bottles or other articles.

In some instances, the canneries, breweries or bottlers make and assemble their own carrier packages, but in all cases known to applicant, the carrier carton is first formed and assembled and thereafter, the articles are disposed therein in two contiguous rows. The production of such carrier cartons and the labor required to assemble the cartons and thereafter fill the same, has been very expensive to the manufacturer or distributor, particularly when it is realized that the actual goods sold in such carrier packages command no higher price than that of the goods when sold without packaging. Most carrier cartons now utilized, while constructed for the most part of cardboard or analogous, relatively cheap material, require gluing of parts and flaps or fastening of interconnected parts by staples or other fasteners, thereby adding to the labor and expense of production.

In my co-pending application Serial Number 259,155, filed November 30, 1951, and entitled "Carrier for Canned or Bottled Goods," I disclose in several forms, an improved carrier carton constructed at low cost from a single, elongated sheet or strip of material having continuous, straight, elongated edges and scored and recessed in parts along transverse lines only, to encompass, reinforce, and divide two short, contiguous rows of articles and to also integrally provide a reinforced handle which when used, tightens the encompassing portions of the carton.

The instant invention is particularly concerned with the provision of a simple method and apparatus for simultaneously wrapping the two series of articles while forming the carrier carton for the same. Such a method makes available at the bottling plant or cannery, continuous packaging of the bottles or cans after they emerge from the dispensing and filling machines and are labeled without requiring separate labor to assemble and secure the parts of a carrier and to thereafter arrange the articles in such carriers.

More specifically, it is an object of my present invention to provide a method of packaging articles of the class described which consists in first transversely bending and positioning the central portion of an elongated, preferably pre-scored packaging strip to produce a pair of contiguous, V-shaped article-receiving channels therein with the end portions of the strip depending vertically from the outer edges of the channels, and then while maintaining said double channel formation, tipping a corresponding number of articles from two spaced rows inwardly into the respective contiguous channels to position the tipped articles in angular, upstanding relation and

thereafter folding the remainder of the carton blank or strip to encompass the outer, bottom and inner surfaces of the articles and to divide the two rows, thereby reinforcing the structure, with provision of reinforced carrier handle at the extremities of the integral strip, which handle is projected through the central portion of the strip and when the package is inverted to righted position, projects from the top and center of the package formed.

In carrying out of my improved and novel method I prefer to employ simple but highly efficient apparatus which is particularly adapted for high capacity commercial use to assist in the bending and channel-forming steps of the treatment of the strip or carton blank and to further hold the blank in the channeled form and to facilitate the tipping and guiding of sets of the articles into proper positioning within the channels for subsequent encompassing of the articles by the outer end portions of the continuous strip. One of the essential parts of my apparatus is a jig or form or preferably a plurality of interconnected jigs having a cross sectional shape in the form of a W, thereby providing a pair of contiguous V-shaped, blank-supporting and article-receiving channels. With such a series of jigs or forms, the other parts of my apparatus are cooperatively related thereto to bring into juxtaposition at proper times in the cycle of operation, two sets or rows of upstanding articles with the rows immediately parallel to the longitudinal outer edges of the forms whereby through manually operated or automatically actuated mechanism, a predetermined number of articles from each row may be tipped inwardly and guided to fall and slide into the two contiguous V-shaped channels and whereafter, by manual or automatic operation, the ends of the carton blank may be folded inwardly about the tipped articles to encompass the same and to complete the carrier package.

An important additional object therefore, is the provision of simple and efficient apparatus which is particularly well adapted among other media for carrying out my new packaging method.

The foregoing and other objects and advantages of my invention and improvements will be more apparent 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 is a somewhat diagrammatical plan view illustrating an embodiment of my apparatus as well as the carrying out of several of the steps of my novel method, some parts thereof being broken away and other non-essential elements such as supports, guides and so forth, being omitted;

Fig. 2 is a cross section taken on the line 2—2 of Fig. 1 showing one of the forming and supporting jigs with a scored integral carton blank fitted therein and with the ends of the blank depending vertically and retained by suitable means such as a retaining bar;

Fig. 3 is a vertical elevation taken on the line 3—3 of Fig. 1 showing a row of upright articles in full lines at one side of the jig and showing a portion of the tipping mechanism and guiding rail mounted in stationary relation at the side of the article conveyor and in parallel and contiguous position to the outer edge of one of the V-shaped channels;

Fig. 4 is a cross section taken on the line 4—4 of Fig. 1, the dotted lines indicating the positions of the articles when initially tipped and immediately thereafter when guided into inclined positions within the channels;

Fig. 5 is a cross section taken on the line 5—5 of Fig. 1, illustrating the steps of my novel method which follow the tipping of the articles and guiding of the tipped articles upon the channels of the jigs; this view showing one of the ends of the article-encompassing strip fully projected through the central slotted part of the strip and showing the opposite end of the strip as it is projected through said central slotted portion;

Fig. 6 is a perspective view showing the completed carrier carton in proper position for shipping or handling; and

Fig. 7 is a plan view of one of my scored integral carton

blanks before bending to article receiving position in the form or jig.

Fig. 8 is a plan view of a modification of my scored integral carton blank which has openings associated with certain of the fold lines therein but does not contain the diminished end portions or handles of the preferred form.

Fig. 9 shows a cross section of a form or jig similar to that of Fig. 5 but modified so as to show its contiguous V-shaped channel members hinged at the apex, and so as to be foldable together with the modified carton blank shown in Fig. 8 and articles positioned therein.

Fig. 10 shows the modified form or jig of Fig. 9 in closed position and the modified blank of Fig. 8 closely encompassing the articles while a pressure roller adhesively seals the bottom of the modified carton.

Fig. 11 is a perspective view of my finished modified carton in upright position.

Referring now particularly to the drawings, the packaging strip or blank which is used in my method and in conjunction with my apparatus for packaging articles for carrier purposes, is shown generally at **10** in Fig. 7. The strip or blank **10** has elongated parallel sides **11** and **12** which are continuous and parallel, having no side flaps nor integrally formed members extending outwardly therefrom. The ends of the strip or blank terminate in tabs or diminished end portions **13** which are adapted to be used as handles of the finished carton containing the articles as shown in Fig. 6. The strip or blank **10**, since it forms the subject matter for a co-pending application, will not be described in complete detail but it should be pointed out that there is a central fold line **14** which has means such as an opening or elongated slot **15** at the central part thereof for the purpose of passing the diminished end portions **13** therethrough to form the carton as illustrated in Fig. 6. Oppositely disposed fold lines **16** define the juncture between the top portion **17** of the carton illustrated in Fig. 6 and the side portions **18** which are adapted to extend downwardly and engage the outer periphery of articles **25** placed in two short, contiguous rows therein. In a similar manner, fold lines **19** connect the side portions **18** with bottom portions **20** and fold lines **21** form the juncture for the bottom portions **20** and the separator or inner side portions **22** which in turn terminate in the diminished end portions **13** as previously described. Associated with some of the fold lines such as at **19** are openings **23** formed from slits or cut lines in the blank **10** which are adapted to receive, and the marginal edges thereof to engage, certain protruding portions of articles at the outer surface thereof as at **24** in Fig. 6 whereby such articles as capped cans **25** may thereby be positioned and retained against accidental lateral displacement from the open ends of carton **10**.

The apparatus which I have devised for placing articles into the previously described strip or blank **10** comprises mechanism for advancing a large number of articles such as cans or bottles in filled and labeled condition to a point adjacent the prepared strip or blank **10** and tipping in predetermined and corresponding small numbers of the articles into proper position for completing the packaging operation to form an encased package for carrier purposes as illustrated in Fig. 6.

In order to maintain and support the single strip or blank **10** in the proper article receiving position I may employ a jig, or preferably a plurality of jigs or forms **30** as shown in Fig. 1. The jig or form **30** may take various dimensions and arrangement of parts but has, as an essential element thereof, an apex **31** shown in cross section in Fig. 2. Since it is an important function of my apparatus that the diminished end or tab portions **13** of the carrier strip or blank be allowed to pass through the slot **15** while the strip or blank still remains in contact with the apex element **31** I provide therein a corresponding slot or opening **32** which allows the tab portions to pass freely therethrough. In order to condense the relatively wide blank **10** I prefer to fold the end portion of the strip in a depending manner as shown in Fig. 2. To facilitate the support of the blank **10** in this position I may provide my form or jig **30** with walls **33** which form, with the central apex **31** and the downwardly disposed sides **34**, a pair of contiguous V-shaped article-receiving channels when the strip **10** is bent and placed as shown in Fig. 2. Where my strip **10** is equipped with openings **26** as shown in Fig. 7 for receiving cans **25** which have upstanding neck and cap portions **27** I also provide the jig **30** with openings **35** to correspond and align therewith. It is understood that I may provide continuous slots and walls in a stationary jig with the strip **10** slidably advanced therealong but prefer to arrange in my apparatus a plurality of jigs **30** which are adapted to have blanks or strips **10** placed consecutively in each of them. When so arranged the jig **30** may be equipped with sides **36** as shown in Figs. 1 and 2 for the purpose of rigidly maintaining the strip **10** against misalignment or lateral movement with respect to the surface of the jig. For the purpose of bringing the jig **30**, together with a blank **10** disposed therein, into juxtaposition with the articles to be packaged I may mount a plurality of the jigs **30** in spaced orderly relation for relative movement with the articles so that at the proper instant two short rows of said articles may be substantially simultaneously tipped into their proper respective positions into the jig **30** supporting the prepared blank **10**. It will be obvious from the drawings that the weight of the cans in their tipped position will assist in bending and maintaining said blank in properly formed position within the jig. In order to advance the jigs to their proper position I may use such means as chain elements **37** which may be guided over a fixed structure or track elements and driven by such means as sprocket wheels mounted on a driving shaft journaled across the line of movement of the chains **37**. The latter structure and mechanism is well known in mechanical science and is not shown herein.

Traveling in close parallel relation at each side of the jigs **30** mounted on their chains or belts **37** are additional traveling or advancing means such as belts **38** for carrying articles **25** in close upstanding relation. The belt **38** and the chains **37** may advance intermittently and at different rates of speed, the only requisite being a simultaneous positioning of a predetermined short row of symmetrical articles at both sides of a properly positioned jig **30** bearing a packaging strip **10**. Such arrangement is shown in Fig. 1 with a jig and strip **10** in proper position for the said rows to be tipped thereinto by a tipping mechanism attached to a fixed framework **40**. The tipping mechanism may take various shapes and forms and can even be eliminated where simplified machinery is utilized in conjunction with manual operation. In such case the operator would merely tip the required number of articles by hand into the jig and strip. Where it is desired to tip the articles mechanically, swinging arms **41** may be pivoted to a supporting structure **42** for simultaneous inward swinging to the dotted line position shown in Fig. 4 and back to the full line position therein. The arms **41** may be actuated by a toggle arrangement operating pivotally about a point **43** which may comprise a shaft fixed to and driving the cross arm **44**. Pivotally interconnecting the ends of cross arms **44** with the tipping arms **41** are rods **45**. The contacting portion of the tipping mechanism may be disposed across pairs of arms **41** at their lower ends as at **46**. When thus actuated the contacting rods **46** will simultaneously tip the articles **25** inwardly to engage guiding means **47** which may comprise a strap or rod having bent portions at the corresponding position for each article to be guided and positioned thereover as they are being tilted inwardly. The guide rod **47** may be fastened to a portion of the fixed structure supporting the packaging equipment as at **48**. Details of the guiding arrangement are shown in Fig. 3. It is understood, of course, that guiding mechanism could be associated with the contacting members **46** or could be otherwise disposed to move forwardly in contacting relation with the articles as they are being tipped into the jig **30** and then could subsequently be removed in order not to interfere with the progressive and successive packaging operation. I prefer, however, to use the rod **47** as shown since there is no moving mechanism associated with the guiding elements and the positions of the bent cradling portions are such as to cooperate with the articles **25** as they are being tipped over, thereby causing them to fall into the proper predetermined position with respect to the blank and its cooperating portions. For the purpose of holding the depending ends of the blank **10** out of the way of moving machinery portions I may employ retaining bars **50** as shown in Figs. 1 and 4. The retaining bars may have flared ends **51** adapted to press inwardly and retain the blank ends in depending relation and likewise retain the bent portions within the jig or form **30** as it is advancing along the machine.

Operation

In the use of my apparatus and while practicing my method of packaging articles for carrier purposes I first position a strip or blank **10** over the form or jig **30** as

shown in Fig. 1 as it is entering the guide bars **50** at the flared ends **51**. As the jig advances by forward movement of the chains **37** in the direction of the arrow from the first position to the second position the depending ends of the packaging strip **10** are frictionally retained in the position shown in Fig. 2. As each jig **30** together with its packaging strip **10** advances, preferably in an intermittent manner, to the third position shown in Fig. 1 it is then in article-receiving position for tipping of two short predetermined rows of articles thereinto. The moving elements such as belts **38** likewise may advance intermittently in such a manner as to simultaneously advance the required number of articles to form a new short row for each jig and carrier strip positioned at the tipping mechanism as shown in Fig. 1. At this point the tipping mechanism is actuated to the dotted line position in Fig. 4 and the articles are caused to rock over the guide rod **47** and fall into the required position as shown in dotted lines in Figs. 1 and 4. As the jig again advances together with its blank **10** and the articles **25** therein to the fourth position shown in Fig. 1 the depending ends of the blank are no longer retained by fixed guiding elements **50** and are clear of the advancing elements **38** which may be terminated or have their directional movements reversed as by passing over a pulley (not shown) positioned immediately beyond the tipping mechanism. The articles in the jig are then in the fourth position shown in Fig. 1 and the prescored end portions of the blank **10** then are bent around the articles **25** to closely encompass them and the diminished tabs or end portions **13** can then be introduced through slot **15** in the packaging strip **10** and through the cooperating slot **32** at the apex **31** of the jig **30**. It is understood, of course, that the encompassing step in my packaging operation may be accomplished by suitable automatic or semi-automatic equipment or may be accomplished by manual operation. Details of the insertion of the diminished portion **13** through the slotted opening **15** in the packaging strip **10** is shown in detail in Fig. 5. Following this step the package is in completely assembled form and when inverted takes the form shown in Fig. 6 with the break at the central fold line **14** again being straightened to form a plane top surface with the diminished tabs **13** extending as handles for the carton carrier.

An important feature of my packaging method and apparatus is the simplified operation required to construct the finished carrier carton together with the articles contained therein. Since all the fold lines in my packaging strip are parallel to the continuous elongated straight edges thereof, there being no laterally extending flat or integral portions thereof, all movements and motions actively contacting the articles or the packaging strip are lateral to the said fold lines. Thus the articles may be simultaneously tipped into the jig and against the folded packaging strip **10** in a single simultaneous movement lateral to the direction of advancement of each jig unit and likewise the encompassing and folding operation may be a single movement lateral to the same intermittent line of travel to cause the articles to be completely packaged with handle element formed therein and the articles secured against lateral displacement, all without a sequence of various movements in different directions such as for folding flaps, gluing margins, and so forth.

Where it is desired to economize on material used in forming the carton the modified blank or strip **60** shown in Fig. 8 may be employed. This blank has no diminished end portions and utilizes a gluing operation in order to seal the encompassed sides of the carton in its finished condition. The modification is extremely simple in structure and is similar to the form of blank **10** in its intermediate portions including the top section and side sections. Likewise the bottom fold lines **61** and **62** are designed to cooperate with the bottom surface edges of the canned or bottled goods retained therein and have the openings formed from slits or cut lines **63** and **64** to cooperate with protruding portions thereof in the same manner as in the alternate embodiment. The fold line **65**, however, need not have openings since the end section **66** of the strip **60** is designed to be a partition common to both short rows of articles. The bottom portion **67** at the opposite end of the strip or blank **60** has no additional fold line at all since it is glued in a flat manner to the cooperating bottom portion **68** lying between fold lines **65** and **61**.

The jig or form **69** which I may employ to package the articles **70** cooperates with the remainder of the apparatus in the same manner as disclosed in my preferred embodiment. In this case, however, I prefer to arrange my contiguous V-shaped channel portions shown in Fig. 9 so as to be pivotally mounted across end portions **71** by means of hinge elements **72** it being understood that the pivot **73** of the hinge **72** may extend at either side into the fixed sides **71**. Stops such as pins **74** cooperate with the contiguous V-shaped elements **75** so as to limit the downward movement thereof and to assist in supporting the weight upon the hinges.

When using the modified form of strip or blank **60** in my modified jig or form **69** the blank **60** is placed therein in the same manner as previously described. Articles **70** may be placed in the jig containing the strip or blank **60** by manual or automatic means and then the contiguous V-shaped portions of the jig **69** may be swung upwardly about pivot **73** on hinges **72** so that the apex at the hinged portions is eliminated and the transverse center line **76** which, in the form shown in Fig. 9 need have no slot associated therewith, will again be bent back to its original flat or plane form so as to constitute the top of the carton. Before attaining this position the bottom **68** of the blank **60** is first bent over the row of articles **70** disposed at the left side as shown in Fig. 10 with the partition **66** bent downwardly to closely encompass the articles and then the end section **67** is bent over to contact a portion of the area **68**. An adhesive coating **77** may be placed upon the end portion **67** or the portion **68** so as to adhesively secure the contacting surfaces as shown in Fig. 10. A roller element **78** may then compress the adhesive joint so as to finish the packaging operation. Where the modified device is used in conjunction with automatic equipment the roller **78** may be positioned in such a manner that the folded carton will pass over and in contact with it during its forward travel. When the jig **69** is returned to its original open position and the packaged carton is removed therefrom in finished condition it has the appearance shown in Fig. 11. It should be noted that even though there are no handle portions to cooperate with the remainder of the carton there nevertheless will tend to be a similar augmented gripping or binding action if the rectangular configuration of the entire carton becomes slighly distorted. The protruding surface portions **79** which already cooperate with the openings produced at slit or cut lines **63** and **64** in the carton will thus be further forced into binding cooperation therewith to prevent accidental lateral displacement.

It may thus be seen that I have provided a new method and apparatus therefor which may utilize a single, economical sheet of foldable material and may quickly and efficiently package a large number of canned or bottled articles in a manner such that the packaging operation may be economically accomplished directly at the bottling plant or cannery. Since the number of mechanical moving parts and the number of sequences of operation have been minimized the cost and maintenance problems of such operation and apparatus as herein described will be surprisingly low.

It will, of course, be understood that various 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. The method of packaging, for carrier purposes, two short rows of symmetrical articles, which consists in first transversely bending and positioning the central portion of an elongated, bendable packaging strip or blank to produce a pair of contiguous, V-shaped, article-receiving channels therein with the end portions of said strip depending from the outer edges of such channels; reinforcing from below said double channel formation; bringing two spaced, upstanding rows of the articles to be packaged into positions adjacent the respective outer edges of said channels; tipping predetermined and corresponding numbers of said articles from said rows inwardly to cause the tipped articles to fall and slide down the declines at the outer wall of said V-shaped channels with ends of said articles contacting against the inner walls of said channels to then position the two short rows in angular, upstanding relation in said channels and with the bent central portion of said strip between said articles exposed; then folding the ends of said strip or blank to encompass the outer sides, ends and inner sides of said articles and securing the extremities of said strip

by engagement thereof through the central portions of said strip.

2. The method of packaging, for carrier purposes, two short rows of symmetrical articles, which consists in first transversely bending and positioning the central portion of an elongated, bendable packaging strip or blank to produce a pair of contiguous, V-shaped, article-receiving channels therein with the end portions of said strip depending from the outer edges of such channels; reinforcing from below and maintaining said double channel formation; bringing two spaced, upstanding rows of the articles to be packaged into positions adjacent the respective outer edges of said channels; tipping predetermined and corresponding numbers of said articles from said rows inwardly to cause the tipped articles to fall and slide down the declines at the outer wall of said V-shaped channels with ends of said articles contacting against the inner walls of said channels to then position the two short rows in angular, upstanding relation in said channels and with the bent central portion of said strip between said articles exposed; then folding the respective free ends of said strip upwardly, inwardly and then downwardly about the bottom and inner sides of said articles so disposed; then projecting diminished extremities of said strip through the exposed, bent, transverse central portion of said strip leaving tabs to constitute a handle for the package; and thereafter swinging the article surrounding portions of said strip with the articles therein together and inverting the package so formed so that the projecting tabs are disposed at top and center of the package.

3. The method of packaging, for carrier purposes, two rows of symmetrical articles such as bottles and cans which consists in first transversely bending and positioning the central portion of an elongated packaging strip constructed of relatively stiff but foldable material such as cardboard to produce a pair of contiguous V-shaped channels with the end portions of said strip initially extending in depending positions from the outer edges of said channels, maintaining and reinforcing from below said double-channel formation of said strip; then through relative movement between said strip and two spaced upstanding rows of the articles to be packaged, positioning a predetermined number of the articles of said rows just outwardly of the outer edges of said respective channels, said rows extending parallel to said outer edges, then tipping said predetermined number of articles from said parallel rows inwardly to cause the articles to fall and slide top foremost down the declines at the outer portions of said channels with the upper ends of said tipped articles contacting against the inner walls of said V-shaped channels and limited in movement thereby, then folding the end portions of said strip first along lines to cause the folded portions to first overlie the bottoms of said articles and thereafter further folding said end portions of the strip inwardly to overlie the inner side peripheral portions of the articles thereby forming divider and reinforcer walls between the two series of articles and then passing diminished ends of said strips through the central portion of said strip to complete the package leaving tabs to constitute a handle for the package and thereafter removing the package and swinging the two series of articles and the article surrounding portions of said strip together into the formation of rectangular blocks and inverting the resulting package to position the tabs at the top and center thereof.

4. The method of packaging, for carrier purposes, two short rows of symmetrical articles, which consists in transversely scoring an elongated continuous strip of bendable material such as cardboard along two sets of parallel lines to provide for central bending of said strip and bending of the two portions from the transverse central line to provide successively upper end-engagement packaging portions, outer side-engaging portions, bottom end-engaging portions and inner side-engaging portions; forming two series of recesses corresponding in number to the number of articles to be packaged, said recessed portions being disposed near certain of said transverse fold lines to engage protruding portions of the articles for the purpose of preventing lateral displacement of the articles in the package; bending and folding the central portion of said strip along five of said fold lines to produce in said strip, a pair of contiguous, V-shaped article-receiving channels with the end portions of said strip depending from the outer edges of said channels; maintaining and reinforcing from below, said double channel formation; then bringing two, spaced, upstanding rows of the articles to be packaged into positions parallel with and adjacent the respective outer edges of said channels; then tipping predetermined and corresponding numbers of said articles from said rows inwardly to cause the tipped articles to fall and slide down the declines at the outer walls of said channels with ends of said articles contacting against the inner walls of said channels to then position the two selected rows of articles in angular, upstanding relation in said channels; and then folding the respective free ends of said strip along the transversely scored lines, first upwardly, then inwardly, then downwardly about the bottom and inner side of said articles.

5. In apparatus for forming a carrier package about two short rows of symmetrical articles, a form or jig comprising a central upstanding ridged apex for facilitating the transverse bending at a first line and positioning thereat of an elongated bendable packaging strip, said form or jig having a pair of upstanding edges spaced equal distances from said apex and disposed substantially parallel thereto for facilitating the transverse bending of said packaging strip along lines widely spaced and parallel to said first bending line to cause the central portion of said strip in conjunction with said apex to be bent and positioned in the form of a pair of contiguous V-shaped article receiving channels, and mechanism disposed at both sides of said form for substantially simultaneously tipping articles disposed in two parallel rows inwardly to cause the same to drop and slide transversely into said V-shaped channels.

6. In apparatus for forming a carrier package about two short rows of symmetrical articles, a form or jig comprising a central upstanding ridged apex for facilitating the transverse bending at a first line and positioning thereat of an elongated bendable packaging strip, said form or jig having a pair of upstanding edges spaced equal distances from said apex and disposed substantially parallel thereto for facilitating the transverse bending of said packaging strip along lines widely spaced and parallel to said first bending line to cause the central portion of said strip in conjunction with said apex to be bent and positioned in the form of a pair of contiguous V-shaped article receiving channels, and mechanism comprising a laterally moving contacting member disposed at each side of said form for substantially simultaneously tipping articles disposed in two parallel rows inwardly and a guide rail for positioning the tipped articles to cause the same to drop and slide transversely in an orderly fashion into said V-shaped channels.

7. In apparatus for forming a carrier package about two short rows of symmetrical articles, a form or jig comprising a central upstanding ridged apex for facilitating the transverse bending at a first line and positioning thereat of an elongated bendable packaging strip, said form or jig having a pair of upstanding edges spaced equal distances from said apex and disposed substantially parallel thereto for facilitating the transverse bending of said packaging strip along lines widely spaced and parallel to said first bending line to cause the central portion of said strip in conjunction with said apex to be bent and positioned in the form of a pair of contiguous V-shaped article receiving channels, guiding means for maintaining said packaging strip in bent position within said form or jig, and mechanism disposed at both sides of said form for substantially simultaneously tipping articles disposed in two parallel rows inwardly to cause the same to drop and slide transversely into said V-shaped channels.

8. In apparatus for forming a carrier package about two short rows of symmetrical articles, a form or jig having at its central portion an upstanding ridged apex for facilitating the transverse bending at a first line and positioning thereat of an elongated bendable packaging strip, said form or jig having a pair of upstanding edges equally spaced from said apex and disposed substantially parallel thereto for facilitating the transverse bending of said packaging strip along lines widely spaced and parallel to said first bending line to cause the central portion of said strip in conjunction with said apex to be bent and positioned in the form of a pair of contiguous V-shaped article receiving channels, mechanism for advancing articles constituting two short rows in spaced parallel relation with said packaging strip while positioned in said form or jig, a laterally moving contacting

member disposed at each side of said form or jig for substantially simultaneously tipping articles constituting the said two short rows from said advancing mechanism and into said V-shaped channels for positioning within said packaging strip and prior to completing the formation of said carrier package.

9. The method of packaging, for carrier purposes, two short rows of symmetrical articles, which consists in scoring an elongated continuous strip of bendable material such as cardboard along transversely disposed parallel fold lines to provide end-engaging packaging portions and, simultaneously therewith, outer side-engaging portions, preforming in said continuous strip two series of cut lines corresponding in number to the number of articles to be packaged, said cut line portions being disposed adjacent said fold lines to form openings to receive protruding portions of the articles for the purpose of preventing lateral displacement in the package, depositing two spaced upstanding rows of the articles into end engagement each with a portion of the strip between the transverse center line of said strip and an adjacent parallel fold line and in so doing retaining the stock of each side of said strip outwardly of said parallel fold lines in an angulated relation to said portions between said parallel fold lines and said transverse center line, bending said strip transversely and centrally to form a central upwardly disposed bend in said strip with the respective rows of articles separated at their upper ends, and then bending and wrapping the outer extremities of the two ends of said strip inwardly with at least one end of said strip angularly bent again inwardly and downwardly between the upper ends of said two rows of articles.

10. The method of packaging, for carrier purposes, two short rows of symmetrical articles, which consists in scoring an elongated continuous strip of bendable material such as cardboard in a pair of fold lines equally spaced in parallel relation with the transverse center line across said strip to provide end-engaging packaging portions, scoring a second set of parallel transverse fold lines each equally spaced outwardly in parallel relation from a first mentioned fold line to provide outer side-engaging portions together with said first mentioned fold lines, preforming in at least one of said sets of parallel fold lines two series of openable curved slits juxtaposed to the respective fold lines of said one set for receiving protruding portions of the articles to prevent lateral displacement in the package, depositing two spaced upstanding rows of the articles into end engagement with a portion of the strip between the transverse center line between said first set of fold lines while retaining the ends of said elongated continuous strip outwardly of both sets of parallel fold lines and in angulated relation to the strip portions between said parallel fold lines of said first set and the transverse center line, bending said strip about said transverse center line to form an upwardly disposed bend in said strip with the respective rows of articles separated at their upper ends, and then bending the ends of said strip about said second set of fold lines inwardly with at least one terminal end of said strip angularly bent again inwardly and downwardly between the upper ends of said two rows of articles.

11. The method of packaging, for carrier purposes, two short rows of symmetrical articles, which consists in prescoring an elongated continuous strip of bendable material such as cardboard along parallel fold lines spaced equidistant from a transverse center line to provide end-engaging packaging portions and, simultaneously therewith, outer side-engaging portions, preforming in said continuous strip two series of openable curved slits corresponding in number to the number of articles to be packaged, said slit portions being disposed in juxtaposition to at least one fold line at each side of said center line to engage protruding portions of the articles for the purpose of preventing lateral displacement in the package, depositing two spaced upstanding rows of the articles into end engagement with a portion of the strip between the transverse central line of said strip and said parallel fold lines and in so doing, retaining the stock of each side of said strip outwardly of said parallel fold lines in an angulated relation to said end-engaging packaging portions, flexing said strip transversely and centrally to form a central upwardly disposed bend in said strip with the respective rows of articles separated at their upper ends, bending and wrapping the outer extremities of the two ends of said strip inwardly with one end of said strip angularly bent again inwardly and downwardly between the upper ends of said two rows of articles and the other end overlying an area adjacent the first end, pressing the two rows of articles toward one another to close said separation and fastening said other end of the strip to an area adjacent the first end overlying the upper ends of said articles.

12. A method of packaging, for carrier purposes, two short rows of symmetrical articles, which consists in scoring an elongated continuous strip of bendable material such as cardboard along transversely disposed parallel fold lines to provide end-engaging packaging portions and, simultaneously therewith, outer side-engaging portions, preforming in said continuous strip two series of generally curved slits corresponding in position to at least a portion of the articles to be packaged, said slits being disposed adjacent said fold lines to define edges for engaging protruding portions of the articles to prevent lateral displacement thereof in the package, depositing two spaced upstanding rows of the articles into end engagement, each, with a portion of the strip between its transverse center line and one of the adjacent parallel fold lines, then subsequently bending and wrapping the outer ends of said strip first upwardly along said fold lines while utilizing the weight of the deposited rows of articles to bend and retain said outer side engaging portions in angular relation to the central portions of said strip and then wrapping the outer extremities of the ends of said strip inwardly and securing the same together to complete the package.

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