

PATENT SPECIFICATION (11)

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(54) TWO-BOTTLE PACKAGES

(71) We, ILLINOIS TOOL WORKS INC., a corporation organized and existing under the laws of the State of Delaware, United States of America, of 8501 West Higgins Road, Chicago, Illinois 60631, United States of America, do hereby declare the invention, for which we pray that a patent may be granted to us and the method by which it is to be performed, to be particularly described in and by the following statement:—

Particularly in the beverage industry, various beverages are being packaged in increasingly larger bottles. Two common sizes currently being distributed in the marketplace are 64 oz. and 1 litre bottles. Such bottles when filled with a beverage are relatively heavy, for example in the area of four and half pounds per filled bottle, and present substantial problems when attempts are made to multipackage such bottles with economical packaging materials.

The most common presently used packaging element for such bottles is one made of paperboard generally in a basket form. Paperboard baskets can be made substantially strong to safely carry the weight load of a plurality of such bottles. However, there are at least two noteworthy disadvantages to such paperboard baskets. Firstly, they are relatively high in cost and in many instances uneconomical as a one-way package for non-returnable bottles. Secondly, by rather loosely carrying the bottles, the bottles are subject to movement and vibration during normal transport procedures with the undesirable result that the generally highly decorated bottles are abraded to substantially detract from the aesthetic impression of the bottles.

The features of a package according to the present invention are defined in the claims.

The subject invention represents a unique solution to the noted disadvantages of paperboard baskets for relatively large-sized beverage bottles. The bag in the package of the subject invention is considerably lower in cost than known paperboard baskets of substantially the same weight carrying capacities, and the bottles are substantially enveloped by the bag and firmly held together in a fixed

relationship to protect the bottles and to substantially prevent abrasion of highly decorative bottles in normal transport.

The accompanying drawings show, by way of examples, two packages embodying the present invention. In these drawings:—

Figure 1 is a side elevational view of one package;

Figure 2 is an end elevational view of the package shown in Figure 1;

Figure 3 is a top plan view of the package shown in Figure 1;

Figure 4 is an enlarged side elevational view showing a person carrying the package;

Figure 5 is a plan view of a portion of a connected series of bags for the package of Figures 1 to 3;

Figure 6 is a side elevational view of a partially completed second package;

Figure 7 is a top plan view of the partially completed package shown in Figure 6; and

Figure 8 is a plan view of the bag for the package of Figures 6 and 7 in an initial flat unmounted condition.

In the first embodiment shown in Figures 1 to 5 the package comprises a bag 10 and two bottles 11.

The bottles 11 are preferably a substantially large beverage bottle such as known in the art as the 64 oz. and the 1 litre sizes. The shape of the preferred bottles is such as to have a substantially cylindrical body portion 11a and an inwardly and upwardly tapering neck portion 11b surmounted by a reduced diameter cap portion 12. The particular degree of taper and bottle configuration shown is not critical, except that changes in length and width of the cooperating portions of the bag 10 may have to be made for other bottle configurations. Further, the bottles may be made of glass or of a plastics material. Because of the substantial enveloping condition of the bag about the bottles 11, substantial containment protection is afforded for beverage bottles wherein the contents are pressurized.

The bag 10 is formed from an unreinforced thin elastic plastics material that is substantially incapable of safely supporting the

weight load of the bottles from a single thickness area of the bag. In reductions to practice of the invention it has been found that one suitable film material for two 64 oz. beverage bottles is low-density polyethylene film material of a material thickness of about 3 mils. The bag 10 is made so that in the applied and completed condition of the package, two areas of the bag are in a stretched and tensioned condition in the at rest and carried conditions of the package. The first area is a circumferential band 10a that extends about the body portion 11a of both of the bottles and is generally between the dotted lines 13 and 14 shown in Figures 1 and 2. The band 10a is stretched and tensioned circumferentially about the bottles 11 in the direction indicated by the double-headed arrow 15 in Figures 1 and 2. In the preferred form, the band 10a has a height sufficient to substantially span the body portions 11a of the bottles 11.

The second stretched and tensioned area of the bag 10 in the package comprises, in the embodiment of Figures 1 to 5, a pair of bifurcated upper wall portions 10b. Each of the portions 10b has a base section integrally connected to the upper edge of the band 10a substantially along the dotted line 13 indicated in Figures 1 and 2. Further, the portions 10b are disposed at opposed side edges of the band 10a to include the neck portions of the bottles 11 therebetween as may be seen in Figures 1 to 3. The portions 10b further have a width measured circumferentially of the bottles greater than one-half of the diameter of the body portions of the bottles 11 to provide for a substantial load carrying capability of the wall portions 10b. The bifurcated members of each of the upper wall portions 10b comprise two strips disposed on each side of the reduced neck portion of one of the bottles 11 and gathered together almost to a point at a position midway between the necks of the bottles 11. The opposed portions 10b are stretched and secured together under tension at the point of maximum gathering, a position substantially midway between the necks of the bottles 11b, by some known fastening means such as the clamped metal C-ring 16 shown in Figures 1 and 3. In that stretched, tensioned, and secured condition the upper wall portions may be described as stretched and tensioned along inverted U-shaped lines such as shown by the double-headed U-shaped arrow lines 17 shown in Figures 1 and 2.

The third or bottom area of the bag 10 is shown at 10c in Figures 1 and 2. The bottom area 10c is integrally connected between two opposed sides of the lower edge of the band area 10a substantially along the dotted line 14 indicated in Figures 1 and 2. Preferably the bottom area 10c is connected to the band area 10a along the lower edge thereof between the

circumferential areas that are circumferentially displaced from the dotted lines 13, or in other words, that are not below the segments of the band area 10a to which the portions 10b are connected. The bottom band area 10c in the completed package is an area of minimum stretch and tension relative to the noted stretched and tensioned areas 10a and 10b.

In reductions to practice of the invention in accordance with the first described embodiment, it has been found that the package as shown in Figures 1 to 3 satisfies standard commercial shipping tests for such packages and further, that the package may be carried by a person as shown in Figure 4 with the bottles in a hanging or depending condition, and that in that carried condition the bag material will not tear under the load weight of the bottles and the bottles in the package may be safely carried from a store to a place of use.

In its initial condition the bag 10 is configured substantially as shown in Figure 5. Conveniently, a plurality of bags 10 may be made from a tubular film material that is flattened and cut or punched to produce the configuration shown. In that configuration the first band area 10a is shown between the dotted lines 13 and 14. In Figure 5 the bifurcated members of the portions 10b are formed by cutting away the tubular stock material along the lines 20. The ends of the bifurcated members are initially connected to bottom area 10c of an adjacent bag 10 formed from the tubular stock material. A convenient method of manufacture is to provide a line of heat sealing 21 between the two layers of a bottom area 10c with a weakened tear line 22 formed immediately below the heat seal line 21. Thus, it may be seen that when one bag 10 in the strip is pulled from the next adjacent band, the bifurcated segments of the portions 10b will be pulled free from the heat-sealed line 21 along weekend tear line 22. The open area between the portions 10b and above the band area 10a is formed by punching or cutting out both layers of the tubular stock material along the line 23 as shown in Figure 5.

Advantageously, the bifurcated segments of the portions 10b are longer than the effective lengths of those bifurcated band segments in the completed package shown in Figures 1 to 4 to conveniently permit an overlapping of the ends in the stretching, tensioning and securement with the C-shaped clamp 16. In the completed package, excess overlapped material may be trimmed close to the C-shaped clamp 16 if desired for aesthetic reasons.

Figures 6, 7 and 8 show another embodiment of the invention and particularly contemplate a bag 30 shaped as shown in Figure 8. In that embodiment, a band area 30a is formed in two layers of a punched or cut lay-flat tubular stock extending between the fold

lines at the dotted lines shown at 31 and further between the dotted lines 13 and 14 shown in Figure 8. The upper wall portions 30b are formed as two identical layers of the tubular stock joined to the upper edge of the band area 30a along the dotted lines 13. The two layers of upper wall portions 30b are further joined along the fold line indicated by the dotted line 31 which at its upper end terminates at points 32 so that the upper margin of the portions 30b may be described as open or slotted along the line 33 extending between the two points indicated at 32 as shown in Figure 8.

Figure 8 further shows the bottom area 30c as two layered flaps, each of which is connected to the lower edge of the band area 30a along the dotted line 14.

In assembling the package of the second embodiment of the invention, the bottles 11 are inserted into the bag 30 from the open bottom end thereof to produce the partially completed package shown in Figures 6 and 7. In the partially completed bag arrangement shown in Figures 6 and 7, it may be seen that, as in the first embodiment of the invention, the band area 30a encircles the body portions of both of the bottles, and the portions 30b are disposed to include the neck portions of the bottles therebetween, as may be seen in Figures 6 and 7, with the line 33 at the upper edge of the bag 30 extending about the reduced neck portions of the bottles 11 immediately below the cap portions 12 of the bottles 11.

After the bag 30 has been firmly applied to the bottles 11 as shown in Figures 6 and 7, the depending flaps of the bottom area 30c may be brought together beneath the bottles 11 and heat sealed together. Thereafter, any undesirable excess material may be trimmed therefrom. Alternatively, the flaps of the bottom area 30c may merely be overlapped and adhesively secured together to form the completed bottom area 30a.

The opposed segments of the bifurcated portions 30b, which in the embodiment of Figures 6 and 7 are joined together and encircle the line 33, are then gathered together and secured by a known fastener such as the C-shaped clamp 16 of the first embodiment at a position substantially midway between the neck portions of the bottles 11. That final securing step aids in further stretching and tensioning the portions 30b and, in the completed condition, the top of the package will be substantially identical to the view of the first embodiment of the invention shown in Figure 3.

In the completed condition of the package in the embodiment of Figures 6 to 8, substantially the same stretched and tensioned

areas are produced as in the first embodiment to result in a package substantially equal in operation and result to the operations and results of the package of the first described embodiment.

Having described the invention it should be understood that changes can be made in the described embodiments by one skilled in the art within the scope of the claims.

WHAT WE CLAIM IS:—

1. A package of two bottles, comprising a bag substantially enveloping two bottles, in an upstanding side-by-side abutting relationship, each bottle including a bottom wall, a body portion, a neck portion, and a cap portion, said bag being formed of an elastic plastics material and comprising a band portion encircling a substantial vertical extent of the body portions of both of said bottles and tensioned horizontally circumferentially about the body portions of both of said bottles, a bottom area connected to the lower edges of at least two opposed sections of said band portion and extending beneath a substantial portion of the bottom walls of both of said bottles, a pair of upper wall portions, each of said upper wall portions comprising a bifurcated member of two strips integrally joined to a common base section, the common base sections of said upper wall portions being integrally connected to opposed sections of the upper edge of said band portion, the two strips of each bifurcated member straddling the upper neck portion of a respective one of said bottles beneath the cap portion thereof, and the four strips of both of said bifurcated members being gathered and connected together at a point substantially midway between the upper neck portions of said bottles, with tension in said bifurcated members between said point and said band portion.

2. A package of two bottles as defined in claim 1, wherein the common base section of each of said upper wall portions extends circumferentially about one of said bottles more than one-half of the diameter of the body portion of said bottles and on each side of a line perpendicular to and through the longitudinal axes of said bottles.

3. A package of two bottles as defined in claim 1, wherein said bottom area comprises two flaps which extend from opposed lower edges of said band portion and have lengths sufficient to enable the extending ends thereof to be heat sealed together beneath said bottles.

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lines at the dotted lines shown at 31 and further between the dotted lines 13 and 14 shown in Figure 8. The upper wall portions 30b are formed as two identical layers of the tubular stock joined to the upper edge of the band area 30a along the dotted lines 13. The two layers of upper wall portions 30b are further joined along the fold line indicated by the dotted line 31 which at its upper end terminates at points 32 so that the upper margin of the portions 30b may be described as open or slotted along the line 33 extending between the two points indicated at 32 as shown in Figure 8.

Figure 8 further shows the bottom area 30c as two layered flaps, each of which is connected to the lower edge of the band area 30a along the dotted line 14.

In assembling the package of the second embodiment of the invention, the bottles 11 are inserted into the bag 30 from the open bottom end thereof to produce the partially completed package shown in Figures 6 and 7. In the partially completed bag arrangement shown in Figures 6 and 7, it may be seen that, as in the first embodiment of the invention, the band area 30a encircles the body portions of both of the bottles, and the portions 30b are disposed to include the neck portions of the bottles therebetween, as may be seen in Figures 6 and 7, with the line 33 at the upper edge of the bag 30 extending about the reduced neck portions of the bottles 11 immediately below the cap portions 12 of the bottles 11.

After the bag 30 has been firmly applied to the bottles 11 as shown in Figures 6 and 7, the depending flaps of the bottom area 30c may be brought together beneath the bottles 11 and heat sealed together. Thereafter, any undesirable excess material may be trimmed therefrom. Alternatively, the flaps of the bottom area 30c may merely be overlapped and adhesively secured together to form the completed bottom area 30a.

The opposed segments of the bifurcated portions 30b, which in the embodiment of Figures 6 and 7 are joined together and encircle the line 33, are then gathered together and secured by a known fastener such as the C-shaped clamp 16 of the first embodiment at a position substantially midway between the neck portions of the bottles 11. That final securement step aids in further stretching and tensioning the portions 30b and, in the completed condition, the top of the package will be substantially identical to the view of the first embodiment of the invention shown in Figure 3.

In the completed condition of the package in the embodiment of Figures 6 to 8, substantially the same stretched and tensioned

areas are produced as in the first embodiment to result in a package substantially equal in operation and result to the operations and results of the package of the first described embodiment.

Having described the invention it should be understood that changes can be made in the described embodiments by one skilled in the art within the scope of the claims.

WHAT WE CLAIM IS:—

1. A package of two bottles, comprising a bag substantially enveloping two bottles, in an upstanding side-by-side abutting relationship, each bottle including a bottom wall, a body portion, a neck portion, and a cap portion, said bag being formed of an elastic plastics material and comprising a band portion encircling a substantial vertical extent of the body portions of both of said bottles and tensioned horizontally circumferentially about the body portions of both of said bottles, a bottom area connected to the lower edges of at least two opposed sections of said band portion and extending beneath a substantial portion of the bottom walls of both of said bottles, a pair of upper wall portions, each of said upper wall portions comprising a bifurcated member of two strips integrally joined to a common base section, the common base sections of said upper wall portions being integrally connected to opposed sections of the upper edge of said band portion, the two strips of each bifurcated member straddling the upper neck portion of a respective one of said bottles beneath the cap portion thereof, and the four strips of both of said bifurcated members being gathered and connected together at a point substantially midway between the upper neck portions of said bottles, with tension in said bifurcated members between said point and said band portion.

2. A package of two bottles as defined in claim 1, wherein the common base section of each of said upper wall portions extends circumferentially about one of said bottles more than one-half of the diameter of the body portion of said bottles and on each side of a line perpendicular to and through the longitudinal axes of said bottles.

3. A package of two bottles as defined in claim 1, wherein said bottom area comprises two flaps which extend from opposed lower edges of said band portion and have lengths sufficient to enable the extending ends thereof to be heat sealed together beneath said bottles.

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