

Feb. 18, 1958

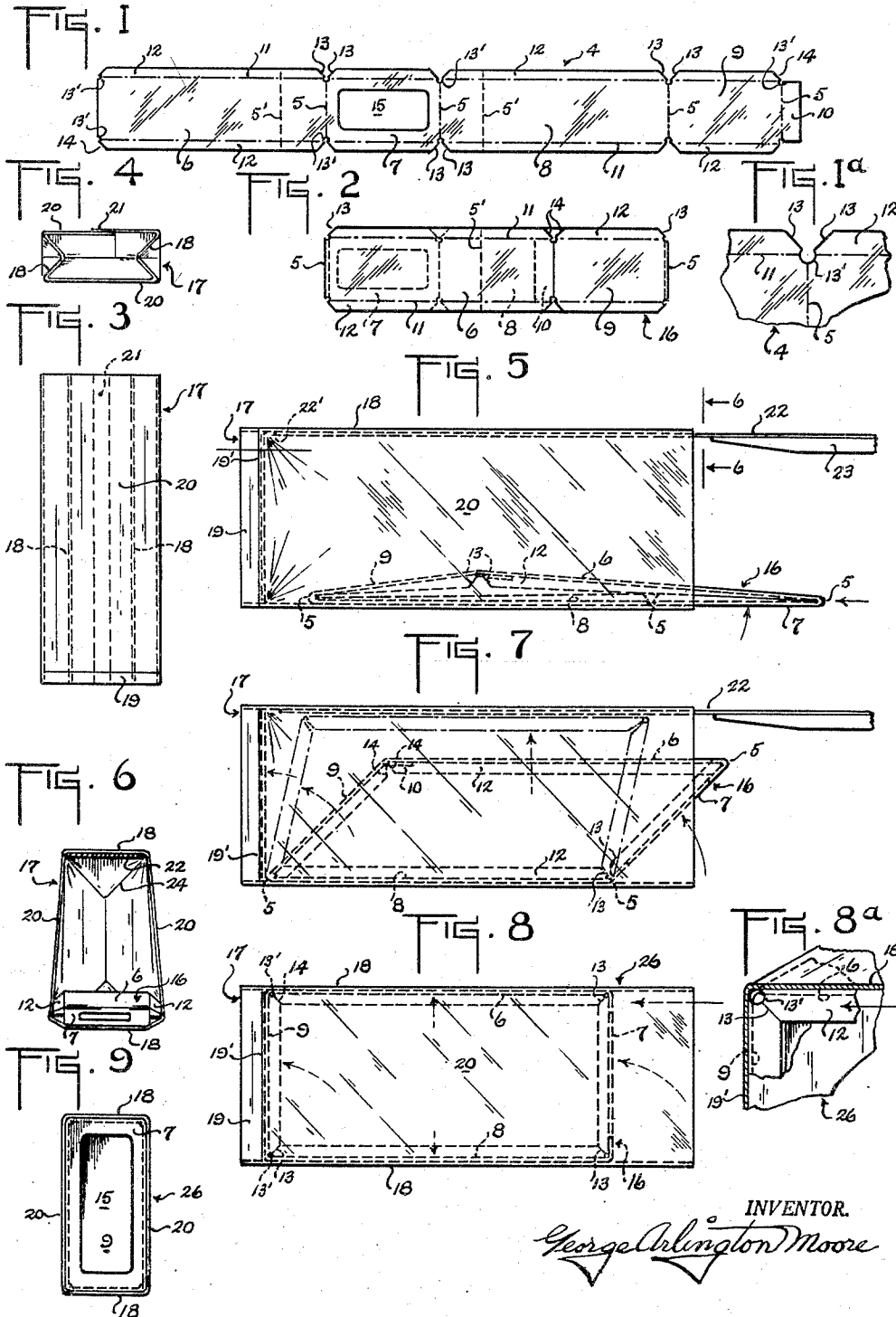
G. A. MOORE

2,823,795

COMPOSITE CONTAINER

Filed March 7, 1955

3 Sheets-Sheet 1



INVENTOR.

George Arlington Moore

Feb. 18, 1958

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3 Sheets-Sheet 2

FIG. 10

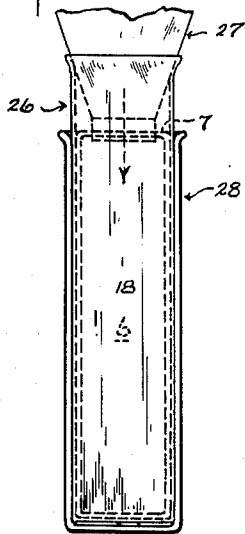


FIG. 11

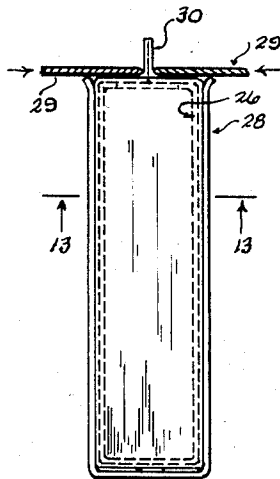


FIG. 12

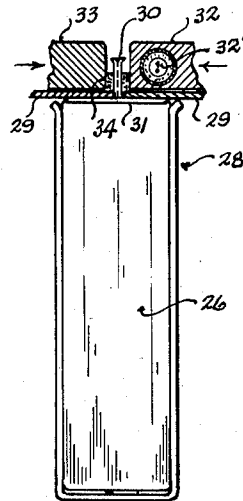


FIG. 14

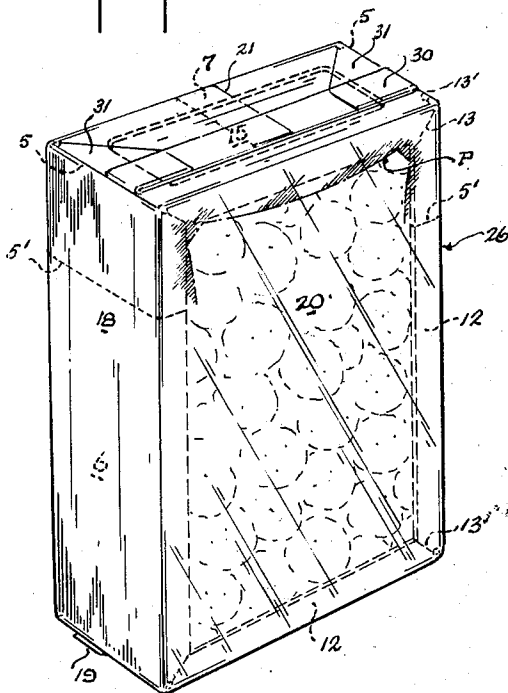


FIG. 13

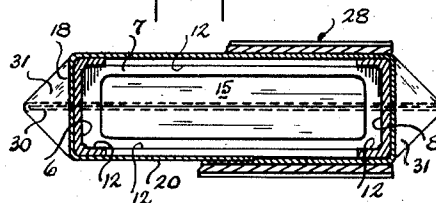
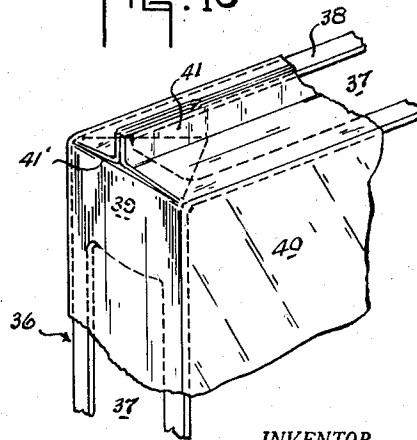


FIG. 15



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FIG. 16

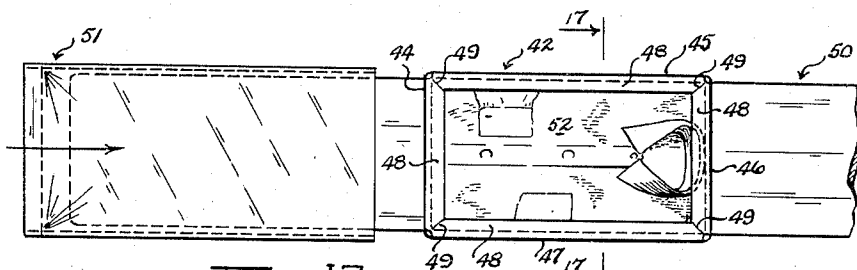


FIG. 17

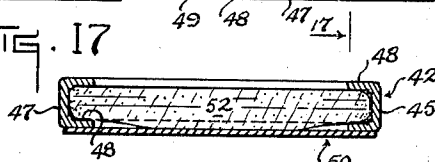


Fig. 18

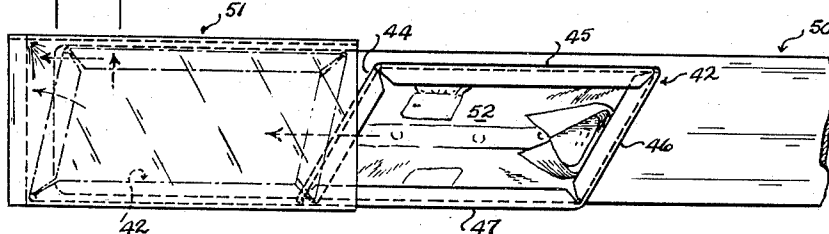
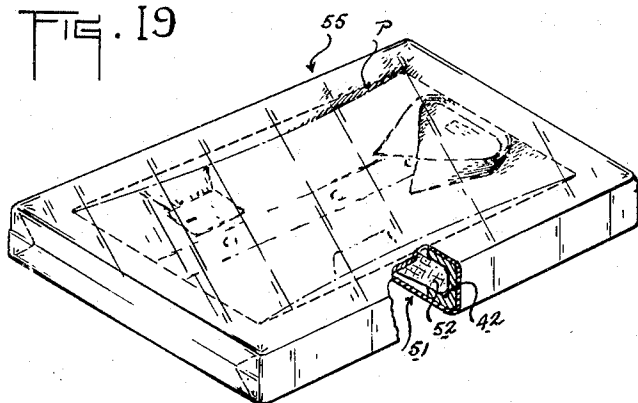


Fig. 19



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COMPOSITE CONTAINER

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4 Claims. (Cl. 206—45.33)

This invention relates to novel means and method of making a composite container to be used in general for distribution of a variety of consumer products including articles of merchandise. The container consisting of an assembly in combination of two pre-fabricated component parts, which includes a flatly finished bag into which is inserted a pre-fabricated initially collapsed mobile frame provided with four continuous wall panels and the frame adapted to be opened within the bag to spread and shape the enclosure walls of the bag rectangular in cross section and a closed bottom end. The constituted top end wall of the frame being provided with a suitable opening through which the container may be filled, the open mouth of the bag component being folded, a portion of which, is seamed to constitute the top end closure of the container. More particularly, the present invention pertains to the novel construction of the above mentioned frame-work, which is provided with means to prevent tearing or otherwise fracturing of the bag material when being expanded therein to form tautly shaped walls thereof and strongly reinforce the assembled structure of the container.

In constructing the composite container of the instant invention, any conventional type of pre-fabricated bag may be employed in combination with the frame work, such as gusset pleated flatly folded bags having flat marginal seams or bags made with flat satchel bottoms. Flat envelope type bags having marginal side seams may be employed including gusset folded tubing. Preferably, bags or tubing made of transparent plastic film material may be advantageously employed as a component part to provide the composite container with a structural feature which adapts the container to provide neat and attractive display of the product packaged therein. The plastic film bags or tubing may be made of polyethylene, Pliofilm, vinyls, cellophane or of any other similar suitable film material. A combined film of polyethylene and cellophane laminated together may be advantageously employed in making the composite container. The above materials have thermoplastic properties, thereby providing means for utilizing wall portions of the bag component with which to form an effective top end closure of the composite container in seam forming relationship in a simple and expeditious manner.

Large volume of the above bags are in constant commercial use for the distribution of various products. However, these bags are limp, fragile and must depend upon their filled contents to give shape to the bag which is usually erratic and intangibly formed. Bags are made with double walls to provide added strength, yet, they are still limp, fragile and more costly to use. Bags that are well made have been popular for use by packers because they afford a good display of products packaged therein. However, being limp and fragile they afford little protection for breakable products and therefore require careful handling and rather expensive case packing in multiples for shipping and distribution to retail outlets.

The present invention contemplates novel means and

method that improves bag packaging in general, providing strong reinforcement for the bag, converting same into a composite container of uniform rectangular form that may be considered comparable with the stability and shape of carton type containers but, with added features that provides better utility, neat appearance and general efficiency to sell products packaged therein.

Another object of the present invention is to provide a composite bag container that may be formed economically and be self supporting without dependence upon filled contents. The container being made in uniform shape and more compact than limp bags, thereby affording economy in multiple packing for shipping and distribution.

A further object of the invention is to provide a composite container made in combination with a transparent bag component having walls tautly spread in smooth uniform surface plane to provide neat and orderly display of the product or article of merchandise packaged therein and in a manner contemplated to stimulate eye sales appeal.

A still further object of the invention is to provide novel means and method for use in combination with a bag component, another component made of substantially rigid frame-work material folded in the form of a co-acting parallelogram being adapted to open within the bag component, and thereby form the composite container to provide smoothly taut walls and tight converging corners thereof without danger of tearing or otherwise fracturing any portion of the fragile walls of the bag when being tautly spread by the latter component. The converging corner edges of the bag component when being shaped by the frame parallelogram component having freedom to stretch over corner edges of the latter component because of open converging corners being provided therein.

Another object of the present invention is to provide novel means and method of making a composite bag container whereby the component parts that are adapted to be assembled together to form the container may be purchased from manufacturers who are already equipped with machinery that may pre-fabricate both of the above component parts and which are adapted to be shipped in collapsed form to a locale for assembly thereof and packers use.

Other objects and novel features of the invention will appear more fully hereinafter from the following detailed description when considered in connection with the accompanying drawings. It is to be expressly understood, however, that the drawings are utilized for purposes of illustration only, and are not to be taken as a definition of the limits of the invention, reference being had for this purpose to the appended claims.

In the drawings, wherein similar reference characters refer to similar parts throughout the several views;

Fig. 1 is a reduced plan view of an elongated strip blank to be formed into a frame component part of the composite container of the above type;

Fig. 1a is an enlarged fragmentary view showing a detail part of the blank of Fig. 1;

Fig. 2 is a reduced plan view of the blank of Fig. 1 folded and secured in flatly collapsed component form;

Fig. 3 is a side elevation of a pre-fabricated type of bag that may be utilized as a component part in making the composite container;

Fig. 4 is a plan view showing the mouth of the bag of Fig. 3, partially open;

Fig. 5 is an enlarged side elevation of the bag and frame component parts in a position of initial relationship to begin assembly, a fixture within the bag component being shown with broken end;

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Fig. 6 is an end elevation of the open end of the assembly of Fig. 5 and showing a portion of the fixture in cross section taken on line 6—6 of Fig. 5;

Fig. 7 is another similar view of Fig. 5 showing the frame component part within the bag component in stages of parallelogram mobile transitory position shown in both dotted and dot and dash lines;

Fig. 8 is still another similar view of Fig. 5 showing the frame component in final position within the bag component which has established the shape of the composite container;

Fig. 8a is an enlarged fragmentary view in perspective with a portion in cross section showing the structural form taken in the converging corners of the opened frame in Fig. 8 constructed by the detail illustrated in Fig. 1a of the blank;

Fig. 9 is an end elevation looking into the open mouth of the assembled container of Fig. 8;

Fig. 10 is a side end elevation of the assembled container being supported in position for filling with intended contents, a fragmentary portion of an engaging filling hopper being shown;

Fig. 11 is another similar view of the supported container of Fig. 10 as provided with a folded end closure and showing parts of apparatus in vertical cross section with ends broken away;

Fig. 12 is still another similar view of the supported container showing an example of heat sealing a marginal portion of the closure folds of Fig. 11 and showing fragmentary portions of sealing apparatus in cross section;

Fig. 13 is an enlarged plan view of the container taken in cross section on line 13—13 of Fig. 11 and showing fragmentary portions of the two opposed walls in cross section of the container supporting means;

Fig. 14 is an enlarged view in perspective showing a preferred form of the completed composite container;

Fig. 15 is an enlarged fragmentary view showing a modification of the composite container;

Fig. 16 is a reduced plan view showing the relative positions of component parts supported by a fragmentary piece of apparatus prior to assembly, one of the component parts being packed with a selected article of merchandise to be packaged;

Fig. 17 is an enlarged view in cross section taken on line 17—17 of the packed component part of Fig. 16;

Fig. 18 is a similar view of Fig. 16 showing stages in assembling the component parts with which to form the container, and

Fig. 19 is an enlarged view in perspective showing the complete packed article of merchandise to be displayed in retail outlets, a fragmentary portion of the wall of the container being broken and shown in cross section.

The present invention is particularly directed to novel means and method for converting conventional pre-fabricated bags of various types into tangibly shaped self supporting containers when empty, and by doing so, materially strengthen the bag component part thereof, which component is relied upon to hermetically close the composite container in a simple and expeditious manner substantially free of usual complications involved in effecting hermetic closures upon other forms of tangibly shaped self supporting containers of the carton variety. The means employed in converting a transparent bag component into uniform rectangular shape provides flatly taut and tight enclosure walls that are neatly devised in arrangement for efficient sales appeal by effecting an orderly display of the product or article of merchandise packaged therein including efficient protection.

To this end, a relatively narrow width elongated strip of suitable sheet material is cut and scored to provide a flat blank having four integral elongated foldable panels, each provided with foldable longitudinal flange portions. Two of the panels of the blank are folded over flatly upon the other two panels. A marginal end edge portion of two panels overlapping and being adhesively secured to-

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gether. Thereby, forming a mobile collapsed frame component part adapted to be used in making the composite container. The collapsed frame is inserted into the open mouth, the frame moving transitorily in the form of a leading corner and edge of the partially collapsed frame being adapted to shape a lower transverse corner edge of the bag walls which spreads a lower portion of the bottom end wall thereof. The opposite end wall panel of the frame is then pushed upwardly and inwardly of the bag mouth, the frame moving transitorily in the form of a parallelogram which expands a longitudinal horizontal panel portion thereof upwardly while remaining in parallel with a lower horizontally disposed panel portion. Just prior to the completion of the movement of the frame within the bag component, the initial support of the bag thereof is withdrawn. The upper leading end corner edge of the raised horizontal panel of the frame then contacts the inner surface of the upper horizontal side wall of the bag component and upon completing the movement of the frame-work, the top corner end edge of the bottom wall of the bag is completed to form a substantially flat end wall thereof strongly reinforced by the end wall of the frame. The converging corner end edges of the frame-work are provided with open corners co-operating with panel flange portions which prevent tearing or otherwise fracturing the relatively fragile wall portions of the bag component especially at these corners. The walls of the bag are tautly drawn to spread uniformly smooth by action of the expanding effects of the co-acting panel walls of the mobile frame-work. The end wall of the frame disposed within the open mouth walls of the tautly shaped bag component of the assembled container is provided with a suitable opening through which it may be filled. After filling the container with the intended product, wall portions of the bag component may be folded over and upon the end wall panel of the frame-work and thereby close the opening and lock the mobile frame in stationary position within the bag. The folded closure having marginal portions adapted to be hermetically heat sealed to secure the closure.

The present invention also contemplates novel means and method of providing a composite display container adapted to be assembled with articles of merchandise and be sealed for protection. The method providing a mobile frame work having four side walls disposed in vertical position and flange portions along top and bottom corner edges thereof disposed in substantially horizontal plane to form channel shape walls. The frame-work is opened to be in square rectangular shape being flatly supported upon the upper surface of an elongated blade fixture. The left end surface portion of the blade supporting thereover a pre-fabricated transparent bag positioned in outwardly spaced longitudinal alignment with the opened-frame. The article of merchandise is placed within the frame. The frame is then articulated at four converging corner ends thereof in oblique parallelogram form to reduce the width between two opposed horizontal panels of the frame which remain in parallel. The reducing width being substantially less than the width of the bag component over the blade. The filled frame is then inserted into the open mouth of the bag while flexed and the frame being articulated to expand vertically and form the shape of the composite container in much the same manner hereinbefore described for the assembly of the first mentioned composite container. The latter being closed and sealed in a similar manner.

Referring more particularly to Fig. 1, the present invention is illustrated therein as including a generally elongated blank 4 which is separated by means of scored lines 5, into integral rectangular wall panels 6, 7, 8 and 9, the wall panel 9 being provided with an end marginal portion 10 adapted to be adhesively bonded to the left marginal edge of panel 6 when the blank is to be folded. Panels 6, 7, 8 and 9 are further defined with two parallel longitudinal scored lines 11 which extend across the blank.

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Each of the four panels are provided on two opposed longitudinal side edges with marginal flange portions 12 disposed outwardly of scored lines 11. The terminal ends of each marginal flange being defined with inwardly sloping cut edges 13 which form V-notches at each converging junction of scored lines 5 and 11. The outermost terminal ends of the flanges 12 of panels 6 and 9 having inwardly and outwardly sloping cut edges 14. The theoretical apex of each V-notch is disposed at each converging corner junction of scored lines 5 and 11 as illustrated in Fig. 1 and detailed in 1a. A substantially circular shape hole 13' is cut around the theoretical center of each apex of the V-notches including the theoretical center of the converging junction of the sloping cut edges 14 at each end of the blank. Panel 7 of the blank is provided with a substantially central opening 15 cut therethrough having lateral marginal wall surface portions surrounding the edges of the opening. Panels 6 and 8 including flange portions 12 thereof are each provided with a perforated line 5' spaced outwardly of and parallel with each score line 5 defining two side boundaries of panel 7.

The material of blank 4 may be of paper board of any suitable guage thickness determined by the packaging duty required of the container when formed. The material if desired may be composed of aluminum foil laminated to paper board or any other suitable sheet material. The paper board material may be treated for conditioning to render the material moisture or grease resistant. The blank may be printed or otherwise colored for decorative purposes. The blank as above described may be economically provided by being made on conventional machinery and equipment used in making folding cartons or boxes.

The major component part 16 illustrated in Fig. 2, which part is to be used in forming the composite container is provided by folding the blank 4 on the left scored line 5 of panel 9, which panel is folded upwardly and downwardly upon a right side upper surface portion of the lower disposed panel 8. Panel 6 is folded on the left scored fold line 5 upwardly and downwardly upon the upper surface portion of panel 7 including a left side upper surface portion of panel 8. An inner surface margin adjacent the end corner edge of the folded panel 6 overlaps the upper surface of the margin 10 of the folded panel 9. The engaging surfaces of these marginal portions being adhesively bonded together. The above described folding of the blank 4 may be accomplished by hand or by use of existing conventional carton folding machines extensively used by manufacturers of folding cartons. The marginal flanges 12 of the blank panels may be bent and articulated on score lines 11 thereof prior to or after the blank 4 is folded as above described. This articulating of the flange portions of the panels will facilitate the subsequent adjustment of the fabricated component part 16 when being put to use to form the fixed shape of the composite container when being assembled with the other component part thereof.

The other component part may comprise any type desired of a pre-fabricated bag. For purposes of illustration, a conventional transparent bag 17 shown in Figs. 3 and 4 may constitute the bag component part to be used with the frame-work component 16, which when articulated provides uniform tautly drawn walls of the bag. The type of bag 17 illustrated is usually fabricated with gusset pleated side walls 18 and a flat marginal bottom seam 19 across two flatly opposed front and back side walls 20. The back wall is usually provided with a longitudinal overlapped seam margin 21. Plastic film tubing as formed with two opposed gusset folded side wall portions may be employed as a substitute component in forming the composite container should it be desired to eliminate the marginal seam 21 usually required in fabricating the type of bag 17 illustrated.

To form the composite container, the component parts thereof may be assembled by hand. Preferably however,

the assembly may be facilitated by placing bag 17 over the flat surface of a blade fixture 22 which is supported in position by a fixture bracket 23. The bag may hang freely suspended from the blade as illustrated in Figs. 5 and 6. The suspended transverse end 22' of the blade disposed within the walls of the bag may be utilized to square an upper transverse corner edge to the bottom end thereof to partially shape a portion of the end wall of the bag. The frame component 16 in collapsed form is inserted through the open mouth of bag 17 to engage and spread the lower suspended side wall portion thereof as shown in Figs. 5 and 6. The walls 20 of the bag as suspended from blade 22 are flexibly limp and therefore will spread outwardly to accommodate the extended flanges 12 of the collapsed frame as illustrated in Fig. 6. Panel 7 of the frame as initially inserted is disposed upon the inner surface of the lower side wall thereof and a portion of the panel projects outwardly of the bag mouth. This panel portion is pushed upwardly to swing inwardly from its lower inner hinged junction 5 as illustrated in Fig. 7. The bottom disposed panel 8 of the frame remains in parallel with the upper moving panel 6 and moving panels 7 and 9 remain in parallel with each other. Flat surface portions of flanges 12 of the frame panels overlap each other adjacent the left leading lower corner end and upper right corner end thereof during transitory movement of these panels. Hence, the four panels of the frame 16 articulate in the form of a parallelogram while shaping the enclosure walls of the bag component 17. During the transitory wall panel movement of the parallelogram the top wall 18 of the bag should be retained in its position upon blade 22. Panel 8 is pushed inwardly so that the leading transverse corner end edge thereof forms a corresponding corner edge of the bag 17 to square a bottom end wall 19' thereof. When the frame reaches the approximate position shown in dot and dash lines in Fig. 7, the blade or bag is withdrawn from its initial supporting relationship. Panel 7 continues inwardly raising panel 6 to expand the frame and draw the enclosure walls of the bag tautly smooth and uniformly square in relationship. The articulating of the upper transverse corner end edge of the frame panel completes the square formation of the flat bottom end wall of the bag component at the end of the transitory movement shown in dotted lines of Fig. 8.

During the articulated movement of the related panels of the frame, the flange portions 12 of each panel are drawn inwardly at substantially right angles to their respective corresponding panel wall portions by the inward pressing of the tautly drawn walls of the bag component 17. Cut edges 13 and 14 adjacent the converging corner junctions of the frame-work close together in edge to edge abutment. The circular cut edges 13' disposed around the base ends of the abutment edges form open corners providing means that remove otherwise sharply barbed converging corner edges of the frame-work at these junctions that would puncture or otherwise fracture portions of the fragile walls of the bag component when being drawn in relatively high tension over the frame work. The circular cut edges 13' through each corner junction of each panel including flange portions thereof removes the otherwise corner peak that would form a sharp apex when fabricating the frame 16, the sharp corner peak would be disposed at each converging corner thereof. The structural embodiment of these open corners 13' in the frame work is illustrated in Fig. 8a. The raised panel 6 of the frame-work is moved upwardly to make surface contact with the upper disposed side wall 18 of the bag just prior to panel 9 moving into stationary vertical position within the bag. Therefore, the upper lead corner edge formed by panels 6 and 9 will tautly draw all wall portions of the bag uniformly smooth. Converging corner edges of the relatively fragile walls having smooth contact over the open converging corners of frame-work as it is disposed into final position within the

bag as shown in Figs. 8 and 8a. Converging corner end edges of the relatively fragile bag are freely disposed over these open corners of the frame work hence, will not puncture. The corner end edges of the bag may displace inwardly of the open corners of the inner frame should the container be roughly handled.

The open mouth of the assembled container 26 of Fig. 8 is shown in Fig. 9. The opening 15 in the panel wall 7 of the frame is preferably cut in rectangular shape to provide maximum space through which to fill the container, yet, leave a surrounding wall surface area which structurally holds the frame-work together. The flange portions 12 on two opposed sides of panel 7 rigidly reinforces this end panel in shaping the open mouth of the container and support wall portions of the bag component which project outwardly of the end panel 7 to be utilized in forming the end closure of the assembled container and lock the frame in fixed position.

It is not considered feasible nor practical to attempt the taut stretching of a bag over a rectangular shaped object such as a tray or carton. The bag walls would tear, the converging corner edges thereof would be punctured. Bags therefore, are utilized in general to remain in limp flexible shape except as influenced by filling contents. Beyond this limited utility of bags, trays and cartons are employed being packaged by utilizing fragile transparent plastic film sheet with which they are overwrapped to afford protection of the product by expended capital equipment such as relatively expensive wrapping machinery. The quality of taut form of the wrapped film material is limited especially upon trays because of the susceptibility of the film to easily puncture or tear especially at the converging sharp corner folded ends of these trays. The structural feature of open corners 13' of the present invention contemplates useful embodiment in the structure of trays used in packaging so that they may be overwrapped tautly with less vulnerability to possibility of wrapper fracture.

Contrary to the above mentioned limited use of bags, the novel means and method of the present invention herein described teaches how to obtain new results in the utilization of bags to form a component part of the composite container and thereby extend their potential use for packaging commercial products in the above container. The co-acting effects of the mobile frame 16 upon the walls 18, 19' and 20 of bag component 17 during assembly produces a new result in the form of an efficiently constructed composite container 26 illustrated in Fig. 8 that is rendered structurally self supporting by being strongly reinforced when the frame is positioned squarely within the tautly drawn enclosure walls of the bag component.

In the preferred form of body structure of the container shown in Fig. 8, the side walls 20 are opposed and transparent, being framed and flexibly supported on four marginal sides by inner flanges 12. These walls 20 have been drawn under tension and maintained so by the inner frame panels thereby providing two opposed substantially wrinkle free window panels through which to neatly display the product when packaged in the container.

The composite container 26 is self supporting when empty and may be filled in the usual manner employed in filling bags or cartons as illustrated in Fig. 10 showing the open mouth of the bag component spread over a lower neck portion of a filling head hopper 27. The outlet mouth of the hopper being disposed in the opening 15 through end wall panel 7 of the frame 16. During the container filling operation it is preferred to have the container positioned in a portable holder 28 consisting of three walls formed U-shape similar to a clip having spring action to the two vertical side walls which extend upwardly of the transverse bottom wall thereof upon which the container rests. The clip will retain support of the container and flatly support the transparent opposing

walls 20 thereof while being filled with the intended product released from the hopper 27. In this manner of supporting the container walls 20 the product deposited into the container can not have any influence to bulge these walls. The channel shape walls of the frame work shown in Fig. 13 rigidly supports a substantial portion of the product inserted within the enclosure walls of the container while the fragile walls 20 are flatly supported by the vertical walls of the holder 28.

The filled container is closed by folding extended wall portions of the bag component and drawing these portions tautly over and downwardly upon the inner end wall 7 of the frame-work 16. Upper portions of two opposed walls 20 may thus be drawn tautly over the end wall by the function of two opposed flat blades 29 as illustrated in Fig. 11. This manner of folding the closure tightly covers the opening 15 in the end wall 7 and the surrounding wall surfaces thereof providing support for these tautly folded wall portions which cause vertically disposed marginal portions 30 of the folds to form in surface to surface opposing relationship centrally across the panel wall 7 and opening 15. This marginally formed seam 30 may be heat sealed in any suitable manner as may be employed in sealing the closed mouth of conventional bags. However, the closure fold in a preferred form is illustrated in Figs. 11 and 13. The marginally folded seam 30 extends centrally across the end of the container and projects outwardly of two opposed side walls supported by lateral triangular folded portions 31. The folded seam margin 30 is then heat sealed as shown in Fig. 12 by closing sealing irons 32 and 33 upon a lower longitudinal portion of the folded seam leaving upper edges thereof freely disposed. Teflon strips 34 are usually employed upon the face of the irons to prevent fouling when contacting the plastic film material of the bag. The irons are usually heated with electrical heating elements such as element 32' embodied in iron 32. The closure folded in the preferred form illustrated in Fig. 13 may be heat sealed by conveying the container 26 by holder 28 to co-ordinate in movement with a pair of tape sealing belts that are heated and which may clamp seam 30 during the conveying movement of the container thus effectively heat sealing the closure. The sealing of the end closure firmly locks the frame 16 in permanently squared position within the bag component.

After sealing the seam 30 of the folded closure the seam margin may be folded downwardly upon the flat end wall of the container body. The projected portions 31 of the folds may be folded upwardly, inwardly and downwardly upon the end wall and be tacked with heat and pressure to secure these re-folded margins of the closure and provide a substantially flat finished top to the container as illustrated in Fig. 14. The bag component has thus been converted structurally into a composite container of uniform rectangular shape strongly reinforced by the inner frame component which keeps the transparent walls of the bag tautly smooth over the frame to provide two opposed marginally framed transparent windows through which to neatly display the product in the container. The bag and/or the frame may be decoratively printed in appropriate design and color to enhance the sales appeal of the attractive and compactly made container. Flanges 12 of the panels of the frame may be covered if desired by a color frame pattern design, an example being defined in part by letter P in Fig. 14, which design may be printed on the bag film material prior to being fabricated. Such printing will add to the distinguished appearance of the container. The bottom seam margin 19 of the bag component may be folded and tacked with heat to lie flatly upon the bottom wall of the container as shown in Fig. 14. The uniform rectangular shape of the composite container facilitates economical multiple packing thereof in cases for shipment and distribution to retail outlets.

The completed composite container 26 (Fig. 14) may

be opened by finger lifting of the re-folded portions of the closure and break the seam 30 by using the upper free edges thereof to shear the seam apart and open the closure folds for container dispensing purposes. Dispensing the product from the container may be facilitated by tearing the end panel 7 from the folded corner edges 5 and thereby remove this panel from the container. These folded corner edges 5 may be initiated in blank 4 (Fig. 1) by being provided with perforated score lines. After removing a portion of contents from the container, upper wall portions of panels 6 and 8 of the inner frame may be easily torn free on perforated lines 5' and be removed from the container. By removing these wall portions of the frame an ample upper portion of the bag walls is made available to be re-folded to open and close the container periodically. The lower remaining wall portions of the frame will continue to sustain shape to the bottom and sides of the container.

A slight modification in the structure of the container is illustrated in Fig. 15. The frame 36 may be formed of rigid sheet material sufficiently strong yet be flexible to bend on scored lines and dispense with marginal flanges if desired for special purpose in packaging. The frame may be provided with four flat panel walls scored to be separated and function in the form of a parallelogram in the same manner as hereinbefore described for frame work 16. Two opposed vertical panels and end panel 38 of frame 36 may be provided with cut openings 37 and thereby increase transparent wall area of the container for display of the product packaged when tautly covered by transparent walls 40 of the bag component. The top end closure of the container thus formed may be folded with conventional end gussets 41, the vertically disposed marginal seam being heat sealed as hereinbefore described for sealing the closure of container 26.

The fibrous sheet material of the frame component of the composite container may be treated before or after being folded as shown in Fig. 2. The treatment may consist of coating, spraying or dipping the frame using suitable liquid compound with which to render the above material grease or moisture resistant. Paper board laminated with aluminum foil may be advantageously employed in making the frame work. In some particular instance, aluminum or other metallic sheet material provided with turned in corner edges may be employed in making the composite container to be adapted for a particular packaging duty. Any desired type of non-transparent prefabricated bags may be embodied with the frame component 36 omitting cut openings except through the top end panel thereof. The mouth of such bags when used may be folded over the end panel of the frame to form a gable top to the bag. The major body portion of the bag being strongly reinforced and sustained in carton-like shape.

The present invention contemplates useful purpose in providing novel means and method for packaging articles of merchandise such as, textile made articles and other similar types of soft goods in general. The method provides a neat display container illustrated in Fig. 19 showing an article of wearing apparel packaged therein accomplished in the following manner: a prefabricated frame 42 illustrated in Figs. 16 and 17 is made of a blank similar to blank 4 hereinbefore described. The frame being provided with wall panels 44, 45, 46 and 47. Each panel is provided with upper and lower opposed folded flanges 48 and thereby provide walls that are channel shape as shown in Fig. 17. The converging corner end junctions 49 of the frame is provided with cut edges which form open corners as illustrated in Figs. 1a and 8a. The opened frame 42 is placed upon the upper flat surface of a thin fixture blade 50, which blade may be supported on the right end thereof in any suitable manner. A prefabricated transparent bag 51 is placed over a surface portion of the suspended end of

the blade as illustrated in Fig. 16 thereby being positioned in longitudinal alignment with the outwardly positioned frame. The article of merchandise 52 to be packaged is placed within frame 42, marginal sides of the article being tucked into the channel walls thereof as shown in cross section of Fig. 17. At this stage of packing the article, blade 50 affords major support to the bottom side of the article. Frame with article is then flexed as shown in Fig. 18, the article being retained in the channel walls thereof to afford assembly with the bag component part of the composite container. The articulating of the frame while containing the article to be packaged and its insertion while flexed into the bag component 51 is accomplished in the same manner as hereinbefore described for the illustrations given in Figs. 7, 8 and 8a. The initially oblique parallelogram frame 42 co-acts with bag 51 in the manner previously described to provide tautly drawn transparent walls thereof over the panels and flange portions of the frame after which, the assembly is withdrawn from blade 50. The open end of the container may be closed by folding a closure of the bag walls upon the end wall of the frame and heat seal a margin of the folds as previously described and shown in Fig. 15. The bottom sealed margin of the bag and top end closure folds thereof may be re-folded and tacked flatly to the end wall portions covering the inner frame panel in either manner hereinbefore described for the illustrations given in Figs. 14 and 15 respectively.

The completed composite container 55 with packaged article is shown in Fig. 19. The bag component 51 thereof is shown in its converted form having been adapted to efficiently protect the article within and at the same time being strongly reinforced to neatly and attractively display the article to stimulate sales appeal. Lateral marginal borders of the bag component material, prior to fabrication, may be printed in color decoration which may cover the flange portions 48 of the inner frame-work and thereby attractively frame the tautly drawn transparent window wall panels over each side of the article as shown by letter P in Fig. 19. One or more such articles of merchandise may be packed in a single container as above described. Plastic sheet tubing may be employed if it is desired to substitute for the bag component 51. The opposing open ends of the assembly of the tube component may be folded and seamed in the manner illustrated and described for closing the open end of the component 51.

Within the concepts of the present invention, the articulated frame component of the composite container constitutes an article of manufacture that may be fabricated and supplied by capital expended equipment already possessed by manufacturers of card board boxes and folding cartons. The fabricated frames as made in flatly collapsed form may be purchased from these suppliers and be shipped either to the packers direct or to a local assembler adjacent thereto having rigged facilities adapted as previously described to economically assemble the composite containers. The prefabricated bags of any type selected to serve as the other component part may be purchased from numerous well known bag manufacturers and be shipped like-wise to the same destination and be used in the assembly of the composite containers for packers use. Hence, a new article of manufacture is provided by the invention plus a new potential use for pre-fabricated bags of various types and sizes made of various compositions of different sheet materials of which the bags desired for component use may be selected. The above, when assembled in combination, providing a new article of manufacture in the form of a rectangular shape self supporting composite container to be used commercially for economical distribution of foodstuffs and articles of merchandise through trade channels and retail sales.

The composite display container of the type illustrated

in Fig. 19, may be closed by folding the wall portions constituting the mouth of the bag component flatly upon the full end panel wall of the frame and flatly heat seal a marginal seam portion thereof upon this firm supporting end wall of the container. In general, when folding the end closures of the herein described composite containers, the bag walls should be drawn longitudinally taut over the corner edges of the adjacent end wall of the inner frame-work while effecting the formation of the end closure.

The corner construction herein described for the frame-work, may be advantageously embodied in receptacles of various types made of substantially rigid sheet material when these receptacles are intended to be wrapped or otherwise covered with fragile sheet material. The above novel construction will prevent puncturing of the fragile sheet material when being tautly drawn over these smoothly formed blunt corners.

While several modifications of the invention have been illustrated and described for packaging both product commodities and articles of merchandise, it will be understood, by those skilled in the art, that various changes may be made therein without departing from the spirit of the invention. Reference will therefore be had to the appended claims for a definition of the limits of the invention.

What is claimed is:

1. A rectangular reinforced transparent bag container comprising a reinforcing articulated frame of substantially rigid sheet material consisting of two side wall panels and two end wall panels being hingedly connected in end to end succession so that said frame may be adjusted from a collapsed oblique parallelogram condition to an expanded rectangular condition, an outer bag composed of flexibly stretchable transparent heat-sealable material and having heat-sealed seamed side walls and a seamed closed end wall including an opposite closable end wall, said frame being insertable into said bag in partially collapsed condition and expandable to stretch the side and closed end wall of the bag tautly against the corresponding wall panels of the expanded frame, and narrow flanges hinged to the opposite free edges of each of said frame panels and pressed by said taut bag walls into disposition substantially at right angles to the panels to which they are hinged, thereby rigidifying said frame to prevent inward buckling of the frame panels, the bag walls tautly spread over said flanges defining op-

posite open sides of frame panels constituting two transparent window panels provided for the visible display of the particular product intended for said bag container, one of said end wall panels traversing the open end of the bag and being substantially cut away inwardly of the side edges thereof to provide an opening for inserting said particular product into said bag container, said last named panel being spaced inwardly of the free end edges of the open end of the bag.

2. A rectangular bag container as set forth in claim 1 wherein said narrow flanges being provided with opposite ends having substantially mitred edges and the converging corners of said frame panels adjacent the mitred edges being cut away to avoid rupturing of the bag walls when inserting the frame into said bag.

3. A rectangular bag container as set forth in claim 1 wherein said frame wall panels and flanges are treated with protective plastic material to render the frame substantially impervious to absorption that may be otherwise caused by said particular product intended for said bag container.

4. A rectangular bag container as set forth in claim 1 wherein after filling said container with intended product said open end of the bag is folded against said cut away end wall panel and hermetically sealed in closed position thereby locking said frame against articulating movement.

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