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Ruda

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[54] **METHOD OF MAKING DRAW BAND CLOSURE BAGS**

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[73] Assignee: **Bagcraft Corporation of America,** Chicago, Ill.

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[21] Appl. No.: **273,954**

Related U.S. Application Data

[63] Continuation-in-part of Ser. Nos. 3,761, Jan. 19, 1970, and Ser. No. 104,414, Jan. 6, 1971.

[52] **U.S. Cl.** ..... **93/35 DS**

[51] **Int. Cl.** **B31b 1/86**

[58] **Field of Search** ..... 93/35 DS, 35 R

[56] **References Cited**

UNITED STATES PATENTS

3,196,757	7/1965	Samways	93/35 DS
3,283,672	11/1966	Mueller	93/35 DS
3,010,640	11/1961	Kugler	93/35 DS
3,512,456	5/1970	Meyer	93/35 DS X
3,013,597	12/1961	Moran	93/35 DS

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Assistant Examiner—James F. Coan
Attorney—Benjamin H. Sherman et al.

[57] **ABSTRACT**

Draw band closure bags are made from pliable sheet material folded and sealed into bag form and provided with tubular lip tunnel formation within which a flat draw band comprising only the flexible sheet material initially connected but partially separated along a longitudinal line along one edge thereof with a strip of material enclosed within the tunnel and separable therefrom when the draw band is pulled through an opening provided by incising or nicking a limited portion of the sheet material at the tunnel. In one embodiment a flexible draw band strip is assembled with the sheet material and enfolded in the tunnel. In another embodiment material of the bag body portion which is to form the mouth end of the bag is initially partially separated along one or more lines parallel to its edge to provide for the draw band and is then enclosed either within a separately formed tunnel-providing folded over piece of flexible material heat-sealed to the bag body, or is enclosed within a tunnel made from the bag body material by folding the same upon itself with the draw band portion on the terminal part of the folded material.

18 Claims, 11 Drawing Figures

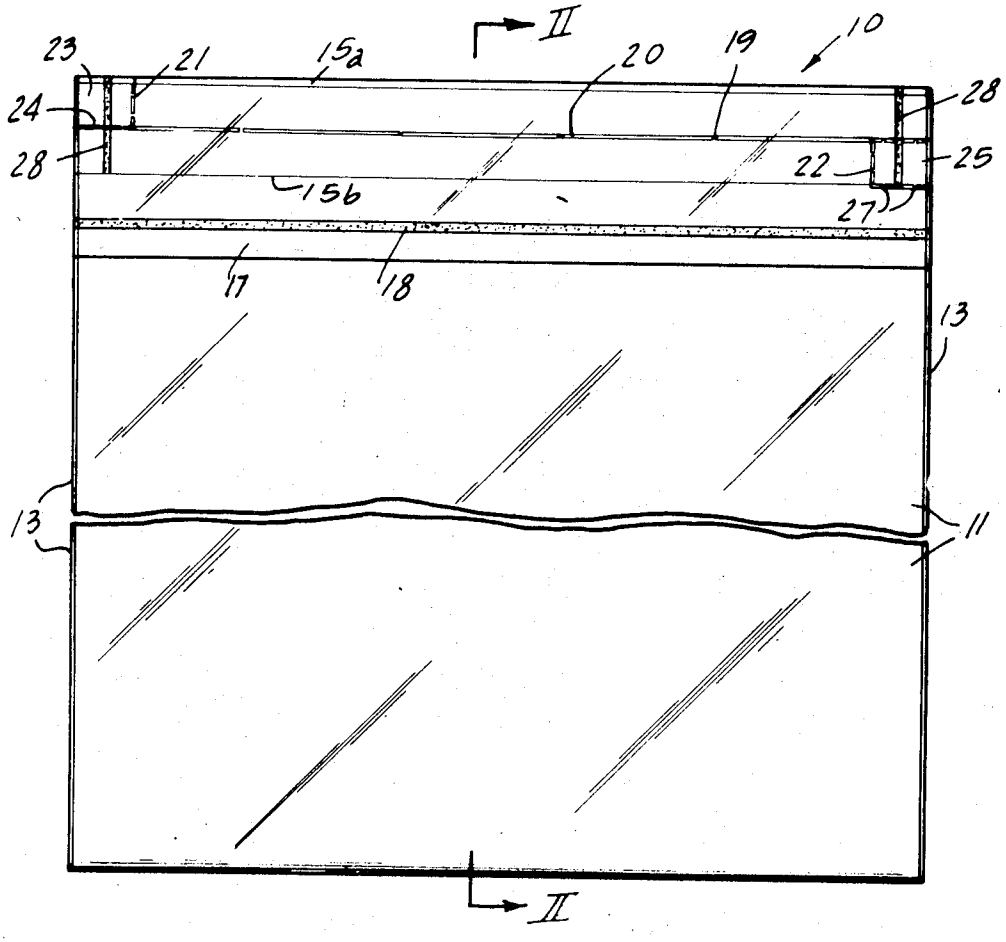


FIG. 1

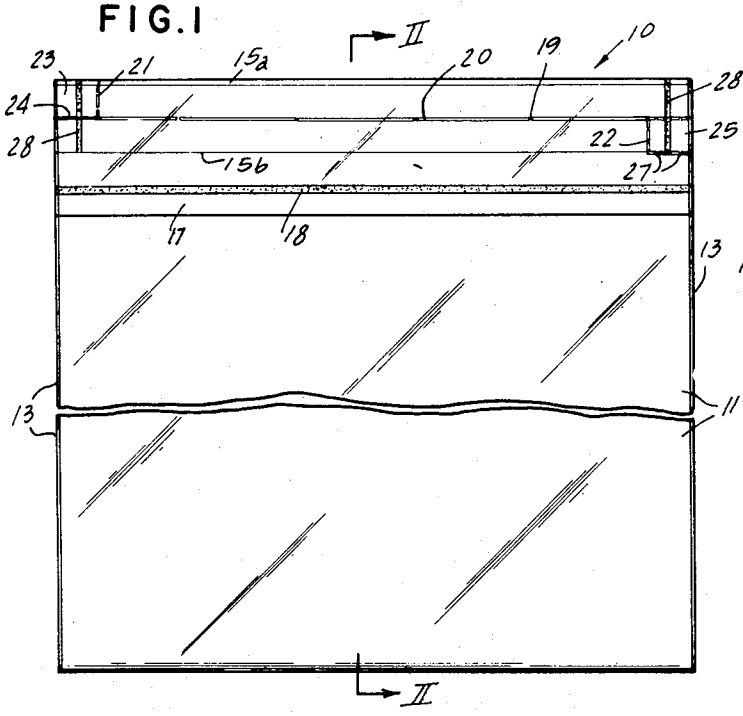


FIG. 2

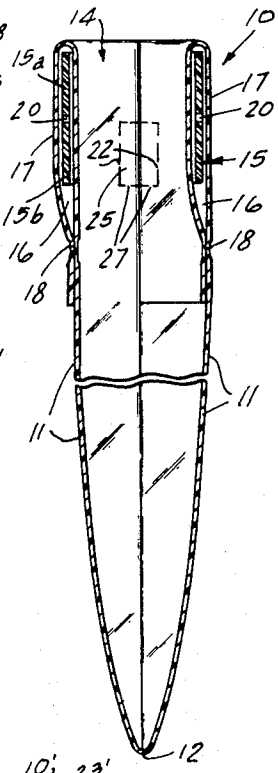
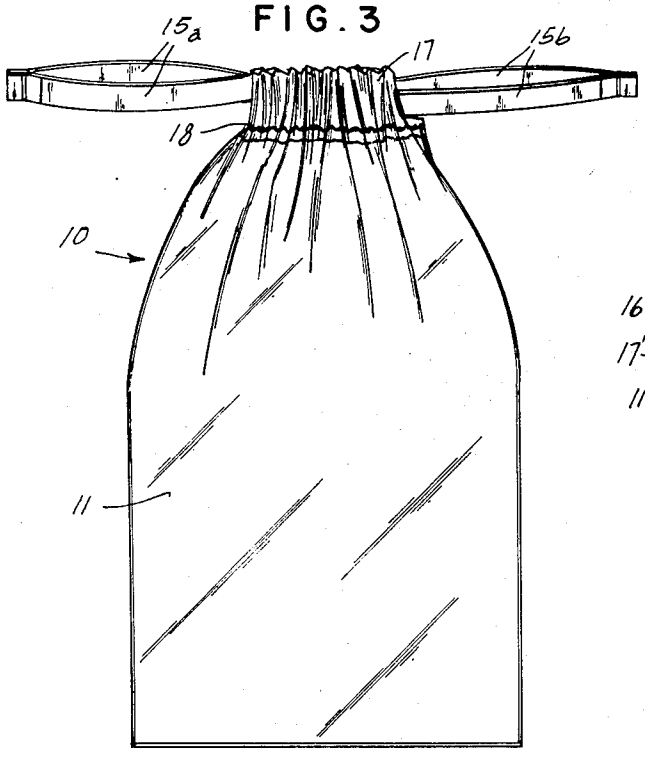


FIG. 3



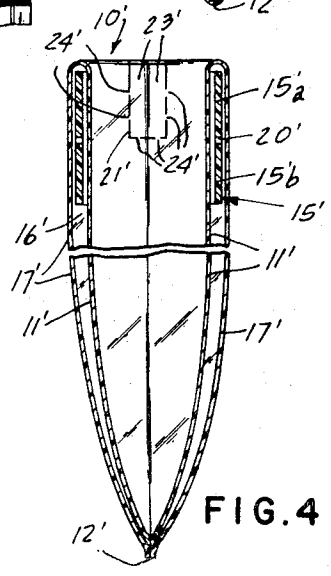


FIG. 4

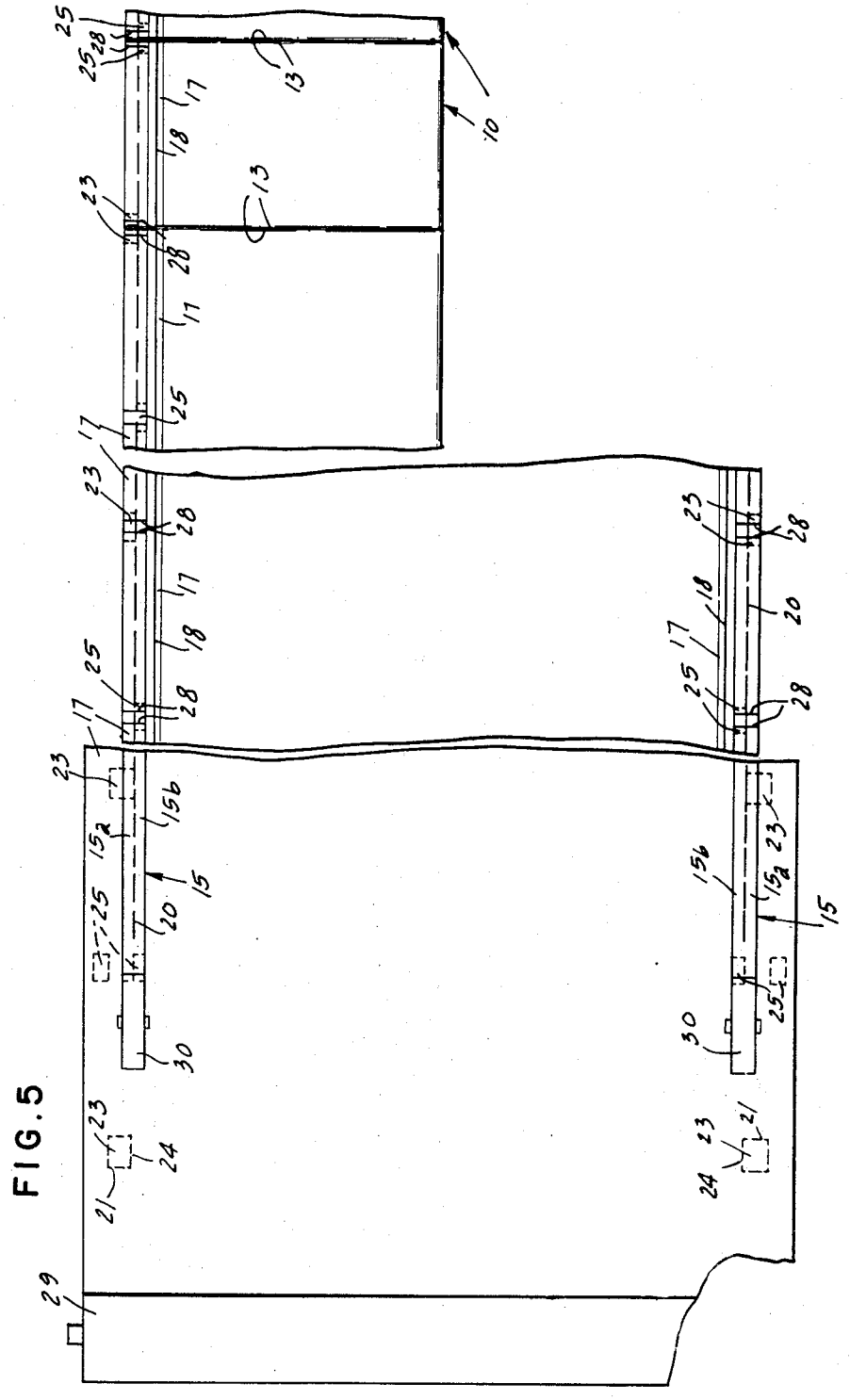
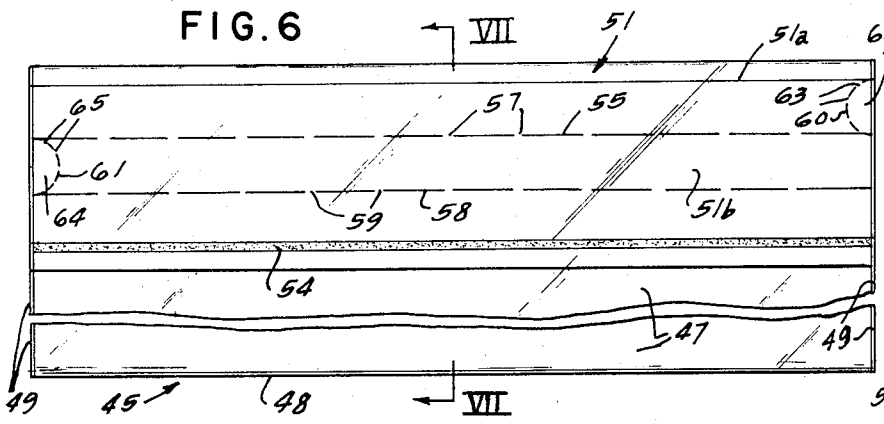

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FIG. 5

FIG. 6



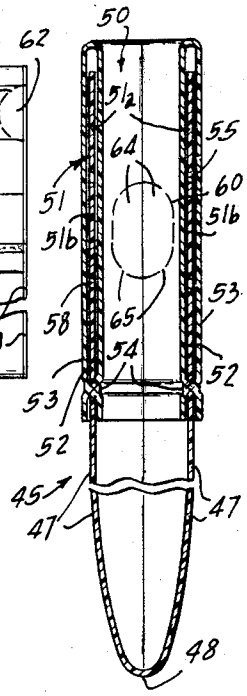


FIG. 7

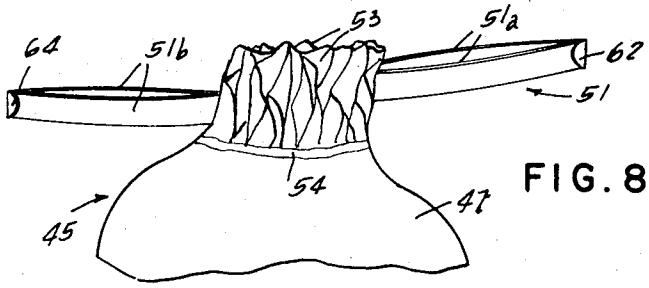


FIG. 8

FIG. 10

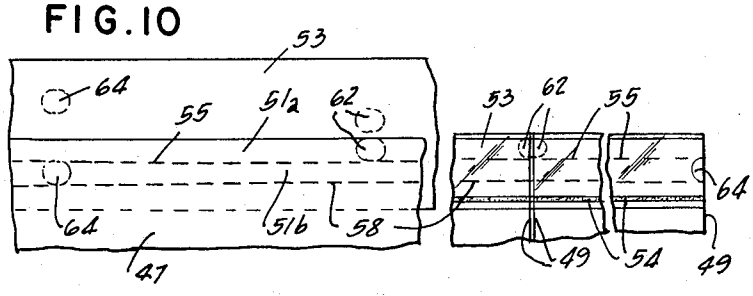


FIG. 9

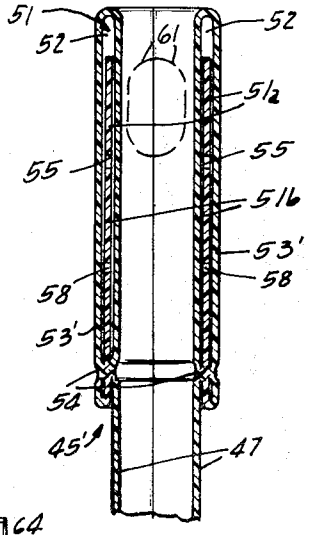
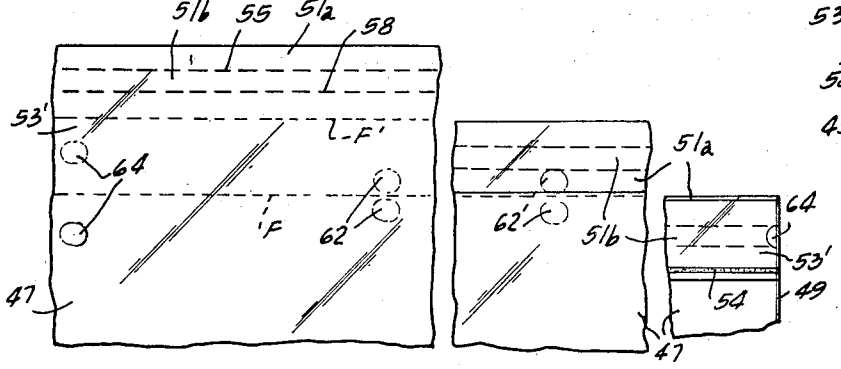


FIG. 11



METHOD OF MAKING DRAW BAND CLOSURE BAGS

The present application is a continuation-in-part of my copending applications, Ser. No. 3,761 filed Jan. 19, 1970 and Ser. No. 104,414 filed Jan. 6, 1971 and contains subject matter divided from both of those applications.

This invention relates to new and improved method of making draw band closure bags from sheet material.

Draw strings have generally required time-consuming threading or lacing of cords through loops or grommet eyes, stapling, and the like after the bags have been otherwise completed. These are costly and generally prohibitively expensive procedures, especially when low-cost throw-away bags are involved, such as may be supplied with consumer products in retail markets, and particularly impractical for bags made from material having the pliability and heat-sealing qualities of plastic sheet material of the film type. Customarily the draw strings have been made of different kinds of materials from the material of the bags, and generally of a cord structure. Such draw strings cannot be incorporated with the bags during continuous process manufacture from thermoplastic material employing the usual techniques of heat-sealing (including, but not limited to, heated reciprocating die or roller sealing, so-called electric welding, hot wire or wheel cut-off and sealing). Non-plastic materials will not respond to and will interfere with heat-sealing.

Another disadvantage of equipping bags of the type normally packed and shipped to the user in collapsed condition with cord-type draw strings is that the draw strings interfere with compact bundling when packaging for storing and shipping.

According to the present invention, the foregoing and other disadvantages, short-comings, defficiencies and problems are overcome by providing economical draw band closure bags according to new and improved method of making the same wherein both the bags and the draw bands are of sheet material.

Another object of the invention is to provide new and improved continuous high speed production method of manufacturing draw band closure bags made from pliable sheet material and having flat draw band means comprising only flexible sheet material incorporated therewith.

A further object of the invention is to provide a new and improved method employing heat sealing techniques for producing draw band closure bags in which the materials of the bags and the draw bands are thermoplastic.

Still another object in the invention is to provide a new and improved method of making draw band closure bags and adapted to be practiced with utmost economy utilizing high speed continuous mass production apparatus.

A still further object of the invention is to provide a new and improved method of making draw band closure bags with both the bag material and the draw band material in sheet strip form fed from rolls, assembled and joined, completely avoiding any hand assembly operations, but resulting in complete, ready-to-use bags as delivered from an automatic high-speed, continuous production line.

Yet another object of the invention is to provide a new and improved method of making draw band closure bags which are flat in collapsed condition and enabling compact bundling for storage and shipment.

Other objects, features and advantages of the present invention will be readily apparent from the following description of certain preferred embodiments thereof, taken in conjunction with the accompanying drawings, although variations and modifications may be effected without departing from the spirit and scope of the novel concepts of the disclosure, and in which:

FIG. 1 is a fragmental side elevational view of a draw band closure bag embodying features of the invention;

FIG. 2 is an enlarged vertical sectional detail view taken substantially along the line II—II of FIG. 1, and for illustrative purposes showing the walls of the bag spread apart from the normal flat condition;

FIG. 3 is a side elevational view of the bag showing it after the draw bands have drawn the area about the mouth of the bag into puckered, mouth-closing relation;

FIG. 4 is a vertical sectional detail view similar to FIG. 2 but showing a slight modification;

FIG. 5 is a fragmental schematic view illustrating steps in a method of making draw band closure bags of the type shown in FIG. 1, but which may readily be adapted to produce the herein disclosure and other modifications;

FIG. 6 is a fragmental side elevational view of a draw band closure bag embodying additional features of the invention;

FIG. 7 is an enlarged fragmental vertical sectional detail view taken substantially along the line VII—VII of FIG. 6, and for illustrative purposes showing the walls of the bag spread apart from the normal flat condition;

FIG. 8 is a fragmentary side elevational view of the bag of FIGS. 6 and 7 showing it after the draw bands have been worked to draw the area about the mouth of the bag into puckered mouth-closing relation;

FIG. 9 is a fragmentary vertical sectional view similar to FIG. 7, but showing a further modification;

FIG. 10 is a fragmental schematic plan view illustrating steps according to the present method of making draw band closure bags of the type shown in FIGS. 6 and 7; and

FIG. 11 is a similar schematic illustration showing steps in the method according to the present invention of making draw band bag closures resulting in the structure of FIG. 9.

On reference to FIGS. 1, 2 and 3, a bag 10 of generally single ply construction is depicted embodying features of the invention in a construction especially adapted to be made from flexibly pliable plastic film or sheet material. To this end, the bag 10 has respective wall panels 11, in this instance joined along a bottom fold 12 where the body of the bag is made from a single sheet of the pliable material, but which may be a heat-seal seam if the wall panels 11 are joined along a side fold or made from separate sheets of material. To complete the pocket provided by the bag, opposite side heat-seal seams 13 join the walls 11 from the bottom fold 12 to and inclusive of a lip portion about an openable mouth 14 at the top of the bag. If preferred, the bag could be made with only one side seam 13, while the opposite side may be a fold.

According to the present invention, a draw band 15 of a flat flexible strip sheet material is provided in the lip portion of the bag which conprises a flat tunnel 16 conveniently formed by folding over upper end portion

flanges 17 of the respective wall panels 11 to either the outer or inner sides thereof and securing the free end portions of the flanges as by means of respective heat-seals 18 to neck areas of the associated wall panels. If preferred, of course, the flanges 17 may be separate sheet material strips secured both along upper and lower edges to the wall panels. Although the draw band 15 may be a single strip, it is preferably of dual strip construction comprising coplanar and coextensive sections 15a and 15b. For manufacturing covenience, the draw band sections are supplied and incorporated with the bag in the form of a unitary strip of twice the width of the respective sections partially separated and connected at their contiguous edges by spaced tear connections 19 separated by elongated perforation or nicks 20. Through this arrangement, the sections 15a and 15b can be readily separated by pulling them in respectively opposite directions.

To enable pulling the draw band sections from the tunnel 16, respective openings 21 and 22 are provided at the respectively opposite sides of the lip portion of the bag, and more particularly at the side seams 13. In each instance these openings are large enough to enable grasping of the accessible portion of the associated draw band section between the thumb and forefinger for pulling it out of the tunnel. In respect to the opening 21 a limited area 23 of the respective wall panels 11 and adjacent parts of the flanges 17 aligned with the upper draw band sections 15a at one of the side seams 13 and the adjacent top edge of the lip portion is at least partially separated as by incising, perforating or nicking and for convenience is attached at small tear point connections 24 to the wall panels and flanges so as to be separable therefrom on pulling the draw band section out through the opening 21. Similarly, the opening 22 is provided in alignment with and of a size to permit pulling of the lower draw band section 15*b* therethrough and is formed by at least partial separation of an area 25 from the wall panels 11 and the flanges 17, with tear separable small connections 27 between the separable area and the panels and flanges.

By having the draw band 15 constructed of plastic material adapted to be heat-sealed and cut off by the same mechanism and coincident with and fusible to the bag material, such as both materials being polyethylene sheet, the draw band is adapted to be secured in heat-sealed relation to the material of the bag defining the tunnel 16. More particularly, the draw band material in the tunnel portions 16 of both of the panels 11 is heat-sealed into and to the panels in the side seams 13. This also heat-seals together the contiguous ends of the draw band material at the seams to provide a draw band structure which, in effect, entirely encompasses the mouth of the bag. Thereby, in each instance, the respective draw band sections are secured at one side of the bag fixedly in the seam 13 while the seam 13 which extends across the draw band material at the opposite side of the bag secures the draw band material together to complete the draw band. In order to retain the draw band 15 in place while the material of the bag is manipulated into bag form and until the side heat-sealed seams 13 are made and the material cut from a continuous sheet, respective tacking seals 28 are desirably impressed across the band to secure it to the bag material adjacent to the seams 13, such tacking 28 also serving as auxiliary securing means for the draw band sections in the completed bag.

As thus constructed, the bag 10 is adapted to lie flat, inclusive of the built-in draw band, which facilitates packing in quantity for storage and shipment. There are no tag ends of draw band projecting from the neck of the bag and there are no loops or exposed portions of the draw band which may be caught or snagged on one another or other objects. When it is desired to close the bag, the pre-perforated areas 23 and 25 are grasped between thumb and forefinger of the opposite hands and then by pulling laterally thereon such areas are separated from the bag material and the draw band sections are separated from one another and are pulled out of the respective openings 21 and 22 while the opposite anchored portions of the draw bands draw the bag neck into puckered bag mouth closing relation on the other respective draw band section in each instance, as shown in FIG. 3. The draw band loops may then be used as carrying handles. To open the bag, the anchored portions of the draw band sections are grasped and pulled apart, thus drawing the draw band sections back into the tunnel 16.

In a double ply draw band closure bag 10′ as shown in FIG. 4, details of structure may be substantially the same as for the bag 10 and are identified by primed reference numerals with the description applying thereto with equal force and effect. In making the double ply bag, the principal difference resides in that there is a double wall panel 17′ parallel to the wall panel 11′ in each instance, instead of merely a turned over upper marginal flange or a tunnel-forming flange portion as in the bag 10. The panels 11′ and 17′ are secured together at the bottom seam 12′ to complete the closed bottom of the bag. While, as shown, the wall panels 11′ and 17′ are of integral construction folded over at the top of the bag, they may be separate pieces if preferred, or both of the wall panels 11′ may be in one folded piece while the remaining panels 17′ are separate pieces or another folded piece and all secured together at the top and bottom of the bag, or any other initial arrangement of the panel material, but in which the bag as completed will have the same characteristics as the bag 10 except that the tunnels 16′ will be part of the between-panel area of the double ply structure.

By way of example and to illustrate the simplicity and efficiency of the method according to the present invention by which draw string bags made be made, reference is invited to FIG. 5. Thus, thermoplastic pliable sheet material is fed from a roll 29 supplying a web of the desired width and which if it is to provide bags according to the specific structure of FIGS. 1 and 2 is wide enough for the entire material of the bag body. As a first step, the tunnel openings 21 and 22 are outlined at the proper places in the respective opposite margins of the web by incising, perforating or nicking about the areas 23 and 25, respectively, to partially separate the same but to retain these areas in place by means of the tear away connections 24 and 27 so as to facilitate subsequent manipulation of the material. In order to accommodate the double ply construction of the lip tunnel and the dual draw band sections, the area 23 of the opening 21 is of twice the width of the draw band sections and is located to be bisected by the bag mouth fold line. Since the opening 22 is spaced from the fold line, two areas 25 for the opening 22 are nicked in transverse alignment equidistantly spaced from the fold line so as to be matched when the margin of the sheet is folded to provide the bag lip tunnel. Further, each of

the tunnel opening areas **23** and **25** is initally formed to be twice as long as in the final bag assembly and located to be bisected by the respective side seams when the bags are subsequently severed from the web. Of course, if only a single section draw band is to be incorporated with the bags, only the tunnel opening areas **23** need be nicked, since only one tunnel opening will be needed in one upper corner of the bag instead of two such openings at the opposite sides of the bag, one at the upper corner and one spaced from the upper corner in accordance with the dual section draw band construction exemplified herein.

Material for the draw band **15** is desirably of heavier gauge flexible plastic or plastic-coated material heavier in gauge than the material from which the bag body is made so as to provide a strong band or bands to pull the bag closed or opened and to provide a carry loop-handle. For each of the subsequently joined lip tunnel portions of the bag a strip of draw band material is supplied from a single roll **30** for the draw band **15** having the separable sections, with the strip sheet material either prenicked in the roll, or nicked to provide the partial separation **20** as fed from the roll and before laminating the strip with the bag body web material and with the partially separated sections **15***a* and **15***b* properly registered on the nicked areas **23** and **25**. Then the marginal flange **17** is folded over across the draw band strip **15** and heat-sealed along the line **18** to the bag body web. Coincident with the heat-sealing **18**, or separately a spaced pair of the transverse tacking heat-seals **28** is effected across the draw band strip at each of the nicked areas **23** and **25**. The bag web is then folded upon itself to bring the folded-over tunnel margins into registering face-to-face relation, and the thus folded material is heat-sealed along transverse lines to provide the heat-seal seams **13** and separation of the folded web into the individual bag units **10**. Each of the heat-seal seams and the cut-off is effected midway across the respective double-length tunnel opening areas **23** and **25** so that each adjacent bag in the series will contain one-half of such area with the aligned ends of its respective draw band portions sealed together. As thus finished, the bags **10** are adapted to be packed flatwise one on the other for storage or shipment.

In FIGS. **6**, **7** and **8**, a bag **45** is depicted having a body comprising respective wall panels **47** joined along a bottom fold **48** where the bag is made from a single sheet of flexibly pliable plastic film or sheet material, but which may be a heat-sealed seam if preferred. To complete the pocket provided by the bag, opposite side heat-sealed seams **49** join the wall panels **47** from the bottom fold to and inclusive of a lip portion of the bag about an openable mouth **50** at the top of the bag. If preferred, the bag could be made with only one side seam **49**, while the opposite side may be a fold.

Draw band means **51** are provided about the mouth **50** to enable draw-up closing of the bag, and in this instance comprising at least one, but desirably two draw bands comprising an upper draw band **51***a* and a lower draw band **51***b*. These draw bands are normally enclosed with a flat tunnel **52** formed by respective folded over strips **53** of suitable plastic sheet material heat-sealably compatible with the material of the bag body, and doubled over to lap the bands and an adjacent portion of each of the body panels **47** to which the marginal portions of the tunnel strips lapping the inner and outer sides of the wall panels preferably are secured by respective heat-seals **54**. At their opposite ends, the tunnel strips are sealed in heat-seal seams **49**.

Simply and economically, the draw strips **51***a* and **51***b* are formed from the terminal portions of the mouth margins of the bag wall panels **47**. Where only one of the draw bands is desired, a preferred width of the marginal extremity of each of the wall panels **47** is partially severed along a transverse line **55**, desirably by relatively long discontinuous aligned incisions or elongated perforations or nicks with intervening narrow tear connections **57**. Where, as shown in FIGS. **6–8**, two of the draw bands **51***a* and **51***b* are provided, a second line of partial separation **58**, with narrow tear connections **59** is provided in suitably spaced relation to the separation line **55** such that both of the draw bands comprises material of the bag wall panels. To facilitate separation of the draw band strips **51***a* and **51***b* from one another and from the bag wall panels, and to enable pulling the draw bands from the tunnel **52**, respective openings **60** and **61** are provided in the tunnel strips **53** at the respective opposite sides of the lip portion of the bag, and more particularly at the side seams **49**. In each instance, these openings are large enough to enable grasping of the accessible end portion of the associated draw band between the thumb and forefinger for pulling the band out of the tunnel. In respect to the openings **60**, a limited area **62** of the tunnel strips **53** aligned with the upper draw band section **51***a* at one of the side seams **49** is at least partially separated as by incising, perforating or nicking and for convenience is attached at small tear point connections **63** to the tunnel strip members **53** so as to be separable therefrom on pulling the draw band **51***a* out through the opening **60**. Similarly, the opening **61** is provided in alignment with and of a size to permit pulling of the lower draw band section **51***b* therethrough and is formed by at least partial separation of an area **64** from the tunnel strip members **53**, with narrow tear point, separable small connections **65** between the separable area and the tunnel strips **53**. Through this arrangement, the bag **45** is adapted to lie flat, inclusive of the tunnel area thereof and the draw bands, which facilitates packing in quantity for storage and shipment.

When it is desired to close the bag **45**, the preperforated areas **62** and **64** are grasped between thumb and forefinger of the opposite hands and then a lateral pull is applied causing such areas to be separated from the tunnel strips **53** and at the same time causing the draw bands **51***a* and **51***b* to be separated from one another and from the side wall panels **47** and pulled out of the respective openings **60** and **61**, while the opposite anchored ends of the draw bands draw the bag neck into puckered bag mouth closing relation on the other respective draw band in each instance, as demonstrated in FIG. **8**. Since the ends of the draw band sections in each of the wall panel portions of the tunnel **52** are sealed together at their ends, the draw bands provide loops which after they are pulled out as shown in FIG. **8** may be used as carrying handles. To again open the bag, the anchored portions of the draw bands are grasped and pulled apart, thus drawing the loop portions of the draw bands back into the tunnel **52**.

A desirable arrangement as shown in FIG. **9** has the draw band structure **51** as well as the tunnel structure made in one piece with the bag body panels **47** by folding of the bag material. To this end, the material of the bag walls is extended at the mouth end and folded over

onto itself to provide the tunnel structure **53'**, instead of providing the separate tunnel strips **53** of FIGS. **6–8,** and the draw band structures **51** comprise a return bent terminal flange portion which is folded in between the inner and outer portions of the tunnel structures **53'**, wherein one of the wall panels of the tunnel structure at each wall of the bag comprises a continuation of the respective body wall panel **47.** The folded flange parts are secured together by the heat-seal or welded seams **54.** Separability of the band sections **51***a* and **51***b* from the in-folded flange portions is accomplished in the same manner as previously described by lines of partial separation **55** and **58,** and other features of the bag structure are the same as already described.

Any form of the bag according to FIGS. **6–9,** is simply, efficiently and economically producible by high speed, on-stream manufacturing process wherein thermoplastic pliable sheet or strip material is fed from suitable rolls to continuous fabricating apparatus including any preferred nicking or punching means, folding means, heat-sealing and cut-off means. In FIG. **10** a representative method of making the bag of FIGS. **6–8** is depicted, wherein the tunnel strip material **53** having the properly placed and dimensioned draw band opening tear-out areas **62** and **64** pre-nicked therein is assembled with the margin of the selected body **47** which has been pre-nicked along the separation lines **55** and **58.** It will be understood that one of the tunnel strips **53** is assembled with each opposite longitudinal margin of the web **47** to provide the opposite walls of the completed bag. After the tunnel strips **53** have been folded onto their respective draw band margins of the bag body web **47** and secured thereto by means of the seam **54,** the body web is folded upon itself to bring the tunnel sections together, and then the heat-sealed side seams **49** are formed across the folded web by hot wire or other method, and across the tear-outs **62** and **64** so that each tear-out area remains half on one and half on the next succeeding finished bag. This completes manufacture of the bags and they can be bundled or otherwise packed as they come off of the production line, one flat upon the other.

In FIG. **11** steps in a method of making a bag resulting in the structure of FIG. **9** are depicted, wherein the entire bag, including the tunnel structure and the draw bands are adapted to be constructed from a single sheet or web of plastic sheet or film material. Accordingly, the body web **47** is pre-nicked along both longitudinal marginal portions thereof to provide, at properly spaced intervals and of proper size, the draw band tear-out areas **64** and **62** at respectively opposite sides of a longitudinal line F along which the web will eventually be folded to provide a section of the tunnel for the bag mouth. Also pre-nicked in the respective marginal areas are the lines of partial separation **55** and **58** for the draw band sections **51***a* and **51***b*. As the web **47** progresses along the production line, the terminal marginal portion having the draw band sections **51**a and **51**b is folded along a longitudinal parallel line F' onto the section **53'** which will provide the outer flange portion of the tunnel, whereafter the portion **53'** is folded over along the line F to the adjacent portion of the web **47,** and secured by the heat-seal seam **54,** and then the two opposite formed marginal tunnel sections of the web brought together by folding the two halves of the web **47,** and the individual bag severed along side edge seams **49** provided. As thus completed, the bags are readily stacked or bundled or otherwise packed in flat condition one upon another.

Although the method has been particularly illustrated and described in relation to only a few of the basic configurations in making the bags, it will be understood that other configuration may be made involving substantially the same method, with additions or folds or strip material, all of which lend themselves quite readily to on-stream continuous, high speed, low cost, efficient mass production manufacture.

It will also be understood that while for illustrative purpose the several bags have been illustrated as made from transparent material, which is acceptable, and desirable for certain purposes, any degree of opacity may be present in the material or any portion thereof, as may suit particular preferences. Further, the material may be imprinted, such as in individual bag sections thereof in any feasible manner desired.

It will be understood that variations and modifications may be effected without departing from the spirit and scope of the novel concepts of the invention.

I claim as my invention;

1. A method of making a pliable sheet material bag about the mouth of which is a lip tunnel having therein a draw band adapted to be grasped and pulled out of an opening at an edge of the bag, comprising:

preforming a tunnel opening area in pliable sheet material;

partially separating a draw band strip of flat sheet material along a longitudinal line along one edge thereof with respect to an integral strip of material;

placing said draw band strip in laminar relation to said pliable sheet material having the opening area preformed therein and with the draw band strip extending across said opening area; and

shaping a tunnel formation about said draw band strip.

2. A method according to claim **1,** comprising supplying said draw band strip and the partially separated integral strip from a roll to provide separable oppositely drawable draw bands, and securing respectively opposite ends of the separable draw bands strips to the bag.

3. A method according to claim **1,** comprising supplying the pliable sheet material from a continuous web, and severing the bag from the web across said opening area to provide tunnel openings in two succeeding bags.

4. A method according to claim **1,** comprising at least partially separating tunnel opening areas at longitudinally spaced relatively off-set locations in the lip tunnel portion of a bag sheet material web, assembling the draw band material as a pair of coextensive partially severed contiguous sections with said lip tunnel portion and respectively aligned with said spaced areas, forming the web into bag condition, severing the bag from the web along side edges in line with the respective opening areas, and respectively securing said draw band sections to the wall panels at the side edge opposite to the area with which the respective draw bands sections are aligned.

5. A method of making a pliable sheet material bag about the mouth of which is a lip tunnel having therein a draw band adapted to be grasped and pulled out of an opening at a side edge of the bag, comprising

supplying pliable sheet material from a continuous web;

enclosing a draw band strip of flat sheet material partially separated from a contiguous coextensive strip of material within a tunnel formation along a marginal portion of said sheet material web and across a tunnel opening area in said formation; and

forming the web into bag wall relation with said opening area and a manipulating portion of said draw band strip at a side edge of the bag.

6. A method according to claim **5**, comprising assembling said draw band strip and a contiguous coextensive strip of material as a separate strip of material into said tunnel formation.

7. A method according to claim **1**, comprising effecting the partial separation of said draw band material as an integral section of said sheet material comprising a bag body member.

8. A method according to claim **7**, comprising enfolding a separate piece of material about the partially separated draw band material to provide the tunnel.

9. A method according to claim **7**, comprising enfolding the partially severed draw band material in an integral fold portion of the body member material to provide the tunnel.

10. A method according to claim **1**, comprising severing the bag from a continuous line-produced assembly, including: providing sections of the tunnel formations and the draw band strip in transversely spaced longitudinal portions of a plastic sheet web of the pliable sheet material, forming the bag by bringing the sections into confronting relation at mouth-providing portion of the assembly, and severing the bag from the assembly along a transverse line and effecting sealing of the bag at a side seam.

11. A method according to claim **6**, comprising forming a line of partial separation along the marginal portion of said sheet material web to provide said draw band strip and the contiguous coextensive strip of material.

12. A method according to claim **11**, comprising providing a separate strip of material and shaping the separate strip of material into the tunnel formation enclosing said draw band strip and coextensive strip of material.

13. A method according to claim **11**, comprising folding a portion of said sheet material web about said draw band strip and the contiguous strip of material to provide said tunnel formation.

14. A method of making a pliable sheet material bag about the mouth of which is a lip tunnel having therein a pair of draw bands adapted to be grasped and pulled out of openings at respective opposite side edges of the bag, comprising:

at least partially separating tunnel opening areas at longitudinally spaced relatively off-set locations in the lip tunnel portion of a bag sheet material web;

enclosing the draw band material as a pair of coextensive partially separated continguous sections within a lip tunnel formation and respectively aligned with said spaced opening areas;

forming the web into bag condition;

severing the bag from the web along side edges in line with the respective opening areas; and

respectively securing said draw band sections to the lip tunnel portion at the bag side edge opposite to the area with which each respective draw band section is aligned.

15. A method of making a pliable sheet material bag about the mouth of which is a lip tunnel having therein a draw band adapted to be grasped and pulled out of an opening in the tunnel, comprising:

partially separating a longitudinal integral strip of a bag body member along a line whereby the section is connected by spaced tear connections with an integral portion of the body member to provide a draw band that can be separated from the integral body portion by pulling longitudinally on the draw band;

enfolding a tunnel formation about said integral portion of the body member and said draw band; and securing the enfolded formation in place on the body member.

16. A method according to claim **15**, comprising enfolding and securing a separate piece of material about said integral portion of the body member and said draw band section to provide said tunnel formation.

17. A method according to claim **15**, comprising enfolding the draw band section in an integral fold portion of said body member and thereby providing the tunnel formation.

18. A method according to claim **15**, comprising severing said bag from a continuous line-produced assembly including providing the draw band section and integral portion of the body member on respective transversely spaced longitudinal portions of a plastic sheet strip, effecting said enfolding of tunnel formation about each of said portions of the sheet strip, forming the bag by bringing said portions into confronting relation with the tunnel formations aligned at a bag mouth, severing the bag from the sheet strip along a transverse line, and effecting sealing of the bag at a side seam.

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