

Sept. 6, 1966

F. G. PAXTON
BAG CLOSURES AND INDIVIDUALLY ATTACHED LABELS
UNITED IN STRIP FORM

3,270,873

Filed April 20, 1965

2 Sheets-Sheet 1

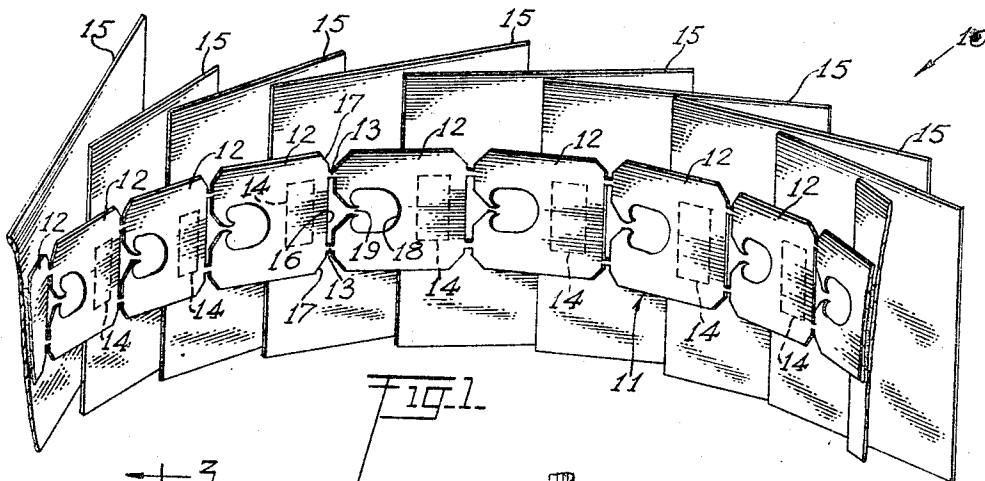


Fig. 1

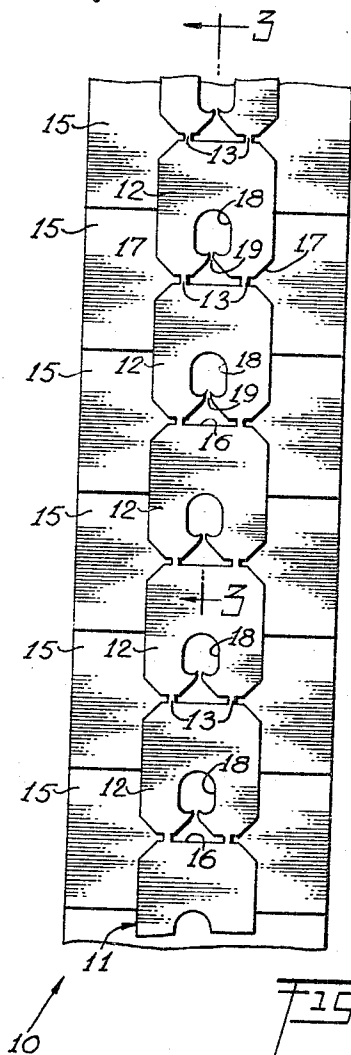


Fig. 2

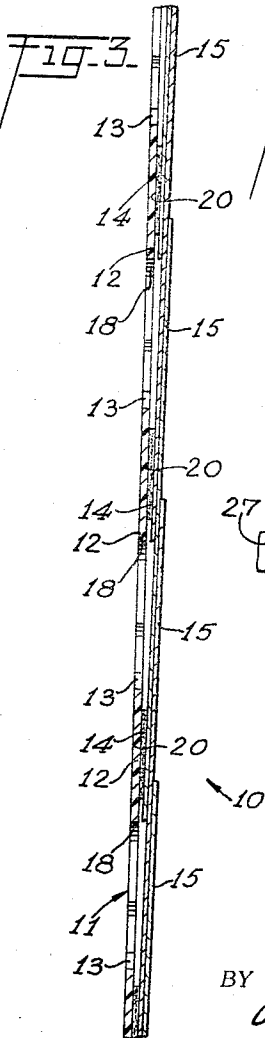


Fig. 3

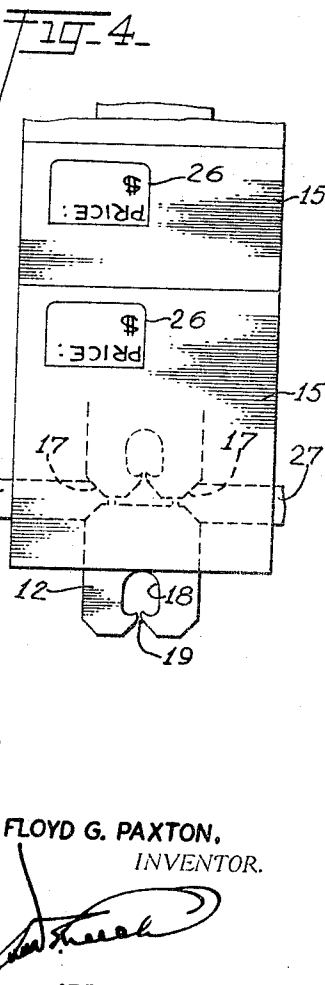


Fig. 4

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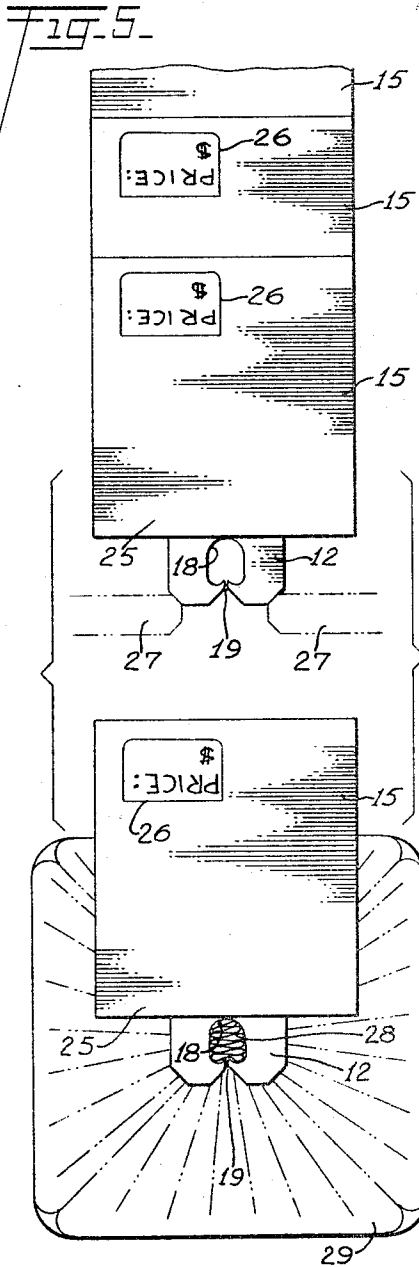
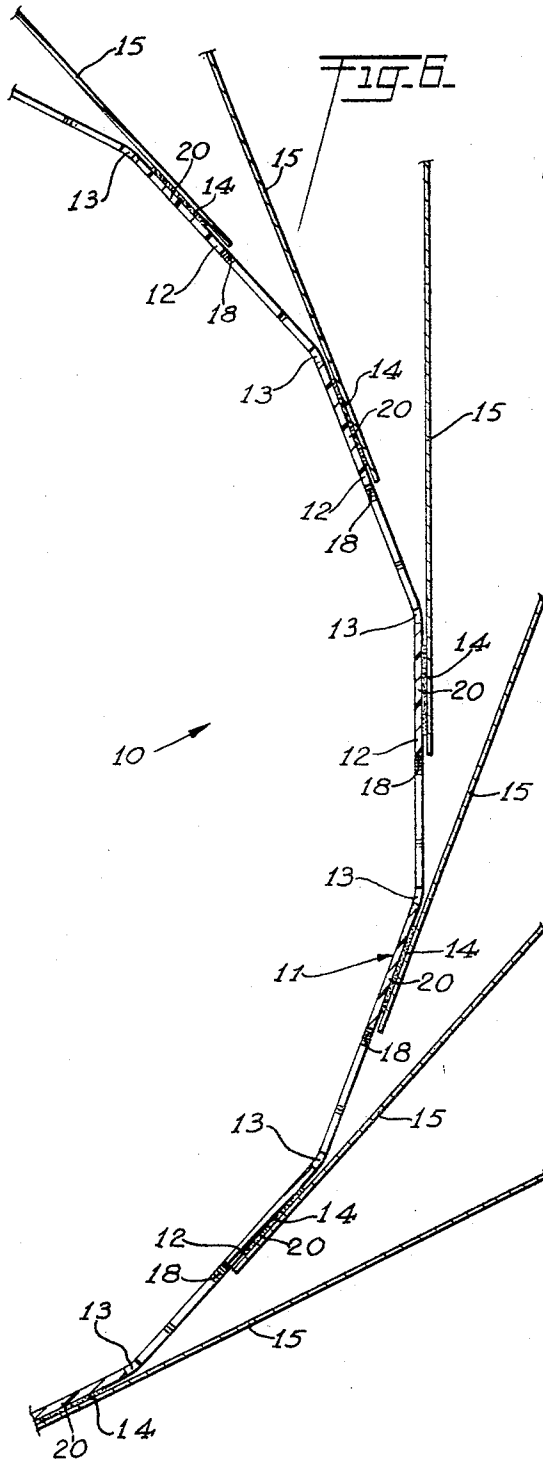
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BAG CLOSURES AND INDIVIDUALLY ATTACHED LABELS UNITED IN STRIP FORM

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Filed Apr. 20, 1965, Ser. No. 449,575

2 Claims. (Cl. 206—56)

This invention relates to and comprises an improvement on a certain matrix in strip form for the production successively of flat sheet bag closures, which is disclosed in U.S. Letters Patent No. 3,164,249 granted to me on January 5, 1965.

In the aforesaid matrix, the endmost closure has a bag closing aperture provided on the front end thereof, which is open to receive a neck of a bag advanced towards said aperture in a plane bisecting said strip lengthwise, so that pulling on said bag neck separates the endmost closure from the strip and opens the closing aperture of the next closure to receive and close another bag neck.

In the bagging of many products, the closure itself provides adequate space for printing the price of the packaged product and other advertising copy. It has been found preferable in other bag packaging for retail sales, however, to apply a cardboard label to the closure to provide a somewhat larger printing space than is afforded by the closure per se. Heretofore these labels have been glued separately to individual closures and the columnized combination closure-labels packaged for shipment by running a metal strap through the closure apertures of the column.

It is an object of the present invention to provide the aforesaid matrix in strip form for producing individual closures with a feathered layer of cardboard labels which is readily adapted to be coiled with the matrix for packaging and which will not interfere with the separation of the strip into individual closures in the manner above described and which will always expose the front end of the leading closure in the coil and the bag closing aperture thereof so as to permit the neck of a bag to be readily applied thereto.

The manner of accomplishing the foregoing object as well as further objects and advantages will be made manifest in the following description taken in connection with the accompanying drawings in which:

FIG. 1 is a perspective view of a preferred embodiment of the invention illustrating how the cardboard labels which are substantially larger than the individual closures to which they are applied, are so fixed to these closures that the labels lie in feathered relation with each other.

FIG. 2 is a plan view of a section of the invention with the closure strip matrix disposed upwardly.

FIG. 3 is an enlarged detail sectional view taken on the line 3—3 of FIG. 2.

FIG. 4 is a plan view of the invention in a position inverted from that shown in FIG. 2 and shows how the bag neck receiving aperture of the leading closure in the strip is free of obstruction by the label applied to said closure and thus readily accessible for inserting the neck of a bag into said aperture to close said bag and unite therewith said closure and its attached label. This view also shows how stop means are provided which extend into notches formed in the edges of the closure strip to halt longitudinal movement of the entire strip, with the exception of the endmost closure.

FIG. 5 is a view similar to FIG. 4 and illustrates how a bag neck may be employed, after it has been embodied with the endmost closure, to pull forward on the latter and thus separate it from the balance of the strip, endwise movement of which is halted by said stop means. This view also shows how, when such a separation takes

place, the bag closing aperture of the next closure in the strip is disclosed to view and accessible for use in applying this closure to the neck of a bag.

FIG. 6 is an enlarged detail sectional view taken on line 6—6 of FIG. 1 and illustrates the preferred manner in which the individual cardboard labels are applied to the closures of said strip.

Referring specifically to the drawings, the invention is there shown as embodied in a combination closure-label strip 10 which includes a multi-closure strip 11 embodying a series of consecutive closures 12 which are integrally connected by webs 13 and have secured thereto by glue patches 14 a series of cardboard labels 15.

The multi-closure strip 11 comprises a matrix in strip form for consecutively producing a series of the bag closures 12 and consists of a strip of relatively thin and stiff but springy flat sheet plastic material which is weakened at regularly spaced longitudinal intervals along a transverse line normal to the side edges of said strip by the formation of a hole 16 bordering said transverse line and having opposite extremities located along said line, there being also formed, in opposite side edges of said strip on each such line, a pair of notches 17, the inner apices of said notches being separated from the outer extremities of hole 16 by the webs 13 which integrally unite consecutive closures.

Each closure 12 is provided with a bag closing aperture 18 which is disposed adjacent to one of said holes 16 and is connected thereto by a narrow opening 19, said hole, said aperture and said opening being symmetrically related to the lengthwise central axis of said strip. It is thus to be noted that each closure 12 is formed by that portion of strip 11 located between adjacent holes 16 and has a substantial blank portion 20 disposed between the aperture 18 and the opposite end of said closure. It is to this blank portion that the glue patch 14 is applied for securing one of said cardboard labels 15 to each closure 12. This attachment of said label is made along a forward end portion 25 of said label with the balance of the label extending away from the aperture of the closure to which said label is glued. It is furthermore preferable that the labels be applied to said closures with the label in symmetrical relation with the lengthwise central axis of closure strip 11.

Each of the labels 15 may be provided with suitable advertising copy on the lower face as well as the upper face thereof and the upper face of each such label is preferably provided with a marked off area 26 for use in printing the price of the product packaged in the bag closed by said closure. The areas 26 are exposed to view throughout the length of the closure-label strip 10 so that the price may be printed in these areas as a strip 10 is being fed through suitable apparatus for presenting the endmost closure 12 with the aperture 18 exposed forwardly as shown in FIG. 4 for the application of a bag neck to said closure for closing said bag and uniting said closure therewith so that this closure and the label thereon will accompany said bag to market.

Such an apparatus is not included as a part of the present invention but certain elements thereof are shown diagrammatically in FIGS. 4 and 5 to illustrate the manner in which the individual closures 12 are separated from the closure-label strip 10 in the application of these closures to the necks of flexible plastic bags. An essential element of such apparatus is a stop means 27 which extend into a pair of the notches 17 provided in the strip 11 which are located to the rear of the endmost closure 12 of the strip as shown in FIG. 4. The neck 28 of a plastic bag 29 confining a product to be packaged thereby such as a loaf of bread, is then advanced by any desired method through the opening 19 of the endmost closure into the aperture 18 thereof while said closure is still an integral part of the

closure strip 11 as shown in FIG. 4. A simple method of separating the foremost closure from the next closure thereto in strip 11, after bag neck 28 has thus been applied thereto, is to simply pull forwardly on said bag neck, as shown in FIG. 5, to rupture the webs 13 connecting said closure to the balance of the strip and freeing the foremost closure to be carried away by the bag to which it has been connected.

The removal in this manner of the endmost closure 12 and its label 15 from the strip 11 uncovers the forward portion of the next endmost closure 12 in the strip 11 which contains the aperture 18 of said closure so that the latter is available for the application of the neck 28 of another bag 29. This step is deferred, of course, until the strip 11 has been advanced to locate the stop means 27 in the next pair of notches 17 of the strip so as to halt endwise movement of the strip when separating the next endmost closure from the balance of the strip, in the manner just described for the first endmost closure in said strip.

A continuation of this process permits all of the closures 12 in the strip 11 being made available successively for application to the neck 28 of a plastic bag 29.

While the cardboard labels 15 overlap each other substantial distances, these labels are made of relatively flexible cardboard which does not offer sufficient resistance to bending to prevent the closure-labels strip 10 being readily coiled for storage and shipment.

While the method of applying the closures 12 of the invention to necks of plastic bags above described involves the rupture of the closure uniting webs 13 by endwise traction on the foremost closure while locking the balance of the strip, against lengthwise movement it is to be noted that the closures 12 of the strip 11 are united by webs 13 which have a greater length than the width of said webs and are therefore susceptible to separation from the closures which are connected thereby by laterally shifting one of said closures relative to the other closure so as to crack the material of the strip in the areas of union between opposite ends of said webs and said closures so as to completely separate said webs from said closures as disclosed in my U.S. Patent No. 3,164,250 issued January 5, 1965, on Polystyrene Multi-Closure Strip Adapted for separation into Individual Closures.

While only a single preferred embodiment of the subject invention is disclosed herein, it is to be understood that this for illustrative purposes only, and that various modifications and changes may be made in this without

departing from the spirit of the invention or the scope of the appended claims.

The claims are:

1. A matrix in strip form for consecutively producing a series of bag closures each of which carries a stiff label substantially larger than said closure, said matrix comprising a strip of relatively thin and stiff but springy flat sheet plastic material, said strip being weakened at regularly spaced longitudinal intervals along a transverse line normal to the side edges of said strip by means eliminating the material of said strip bordering said transverse line, with the exclusion of a pair of narrow webs located on said line, said means including a hole bordering on said line and having opposite extremities located on said line, said webs being readily frangible upon the imposition of a moderate amount of traction to said strip from opposite sides of said line, said strip having, adjacent to each of said holes, an internal aperture which communicates in one direction with said hole through a narrow passageway, said strip also having a blank space in the opposite direction from said aperture, said strip also including a series of labels, each of which has an end portion thereof glued to said strip in one of said blank spaces so that said label extends symmetrically with said strip away from the aperture adjacent said blank space, whereby the separation of said strip along a given line as aforesaid, converts the portion of said strip adjacent said line having said aperture into a bag closure having a label glued thereon as aforesaid, with the end portion of said closure having said aperture extending forwardly from said label and thus being accessible for use in applying said closure to the neck of a plastic bag.

2. A matrix as recited in claim 1 wherein the transverse dimension or width of said webs is substantially less than the length thereof, whereby said webs are susceptible of being completely separated from the closures united thereby, by shifting one of said closures laterally in the plane of said strip relative to the other closure, thereby cracking the material of said strip in the areas of union between opposite ends of said webs and said closures.

References Cited by the Examiner

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LOUIS G. MANCENE, *Primary Examiner.*