March 28, 1967 M. N. ZALK ETAL 3,311,145

CONTAINER AND CLOSURE STRUCTURE

Filed Aug. 30, 1965 2 Sheets-Sheet 1

FIG. 1

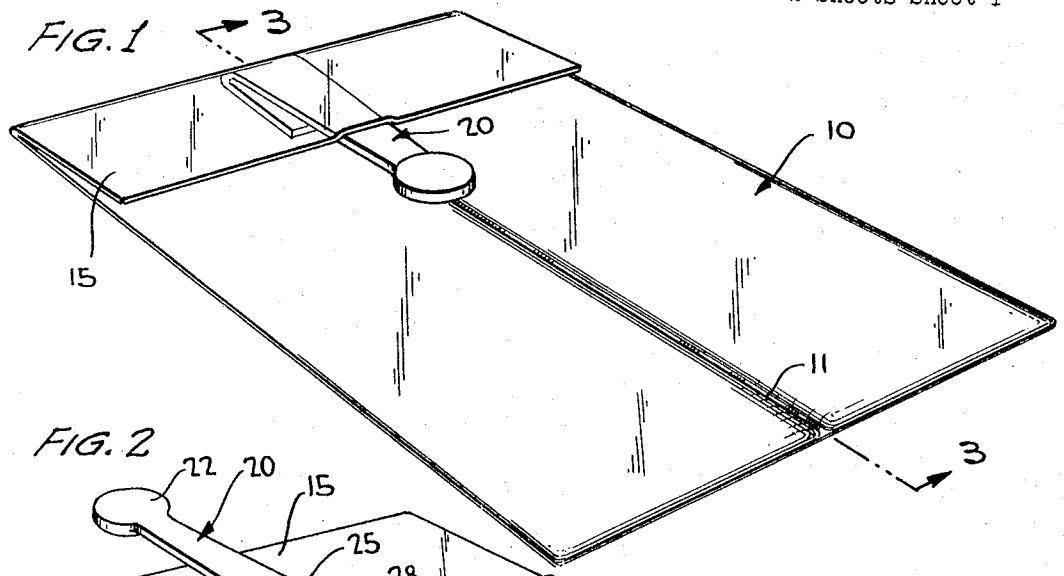


FIG. 2

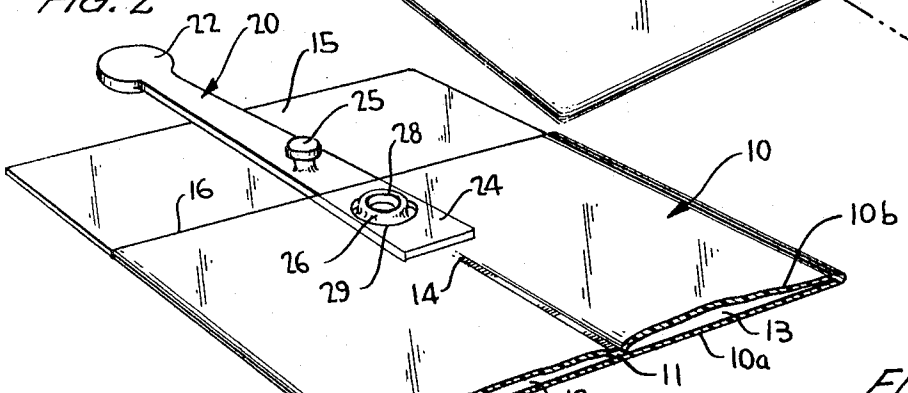


FIG. 3

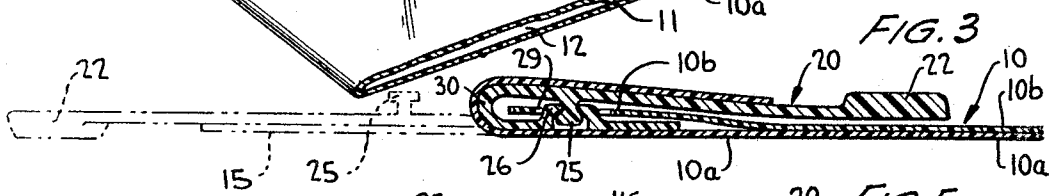


FIG. 5

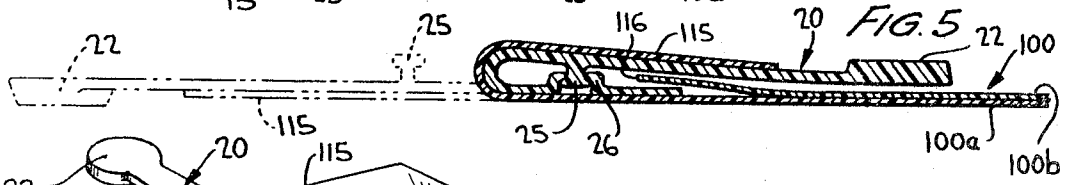
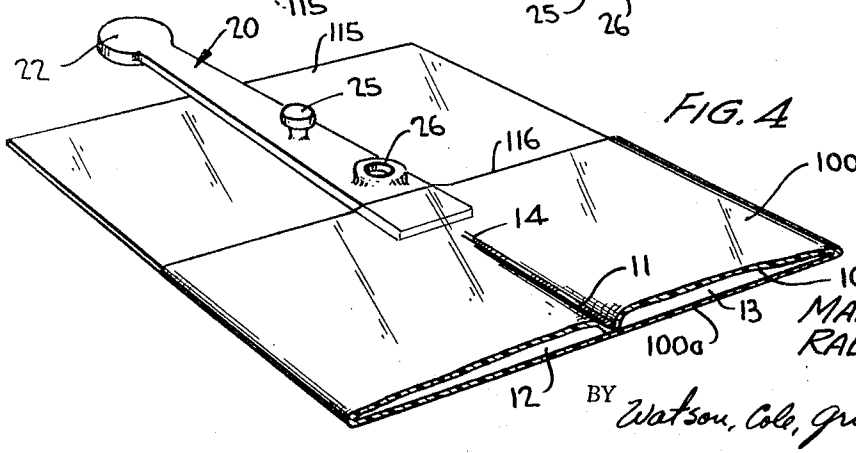


FIG. 4



INVENTORS,
MARK N. ZALK
RALPH A. WELCH

BY Watson, Cole, Grindle & Watson
ATTORNEYS

March 28, 1967 M. N. ZALK ETAL 3,311,145

CONTAINER AND CLOSURE STRUCTURE

Filed Aug. 30, 1965 2 Sheets-Sheet 2

FIG. 6

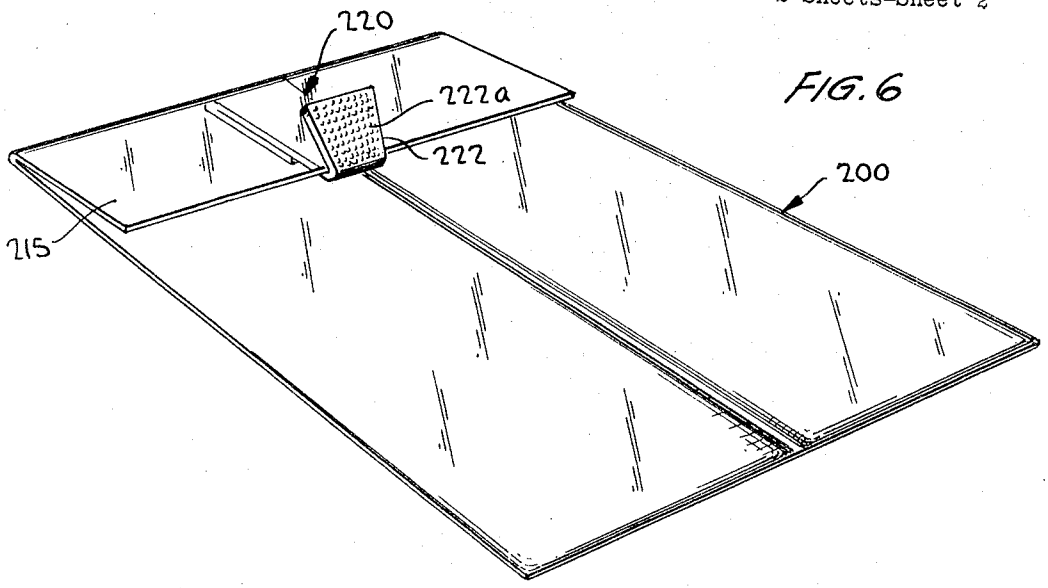


FIG. 9

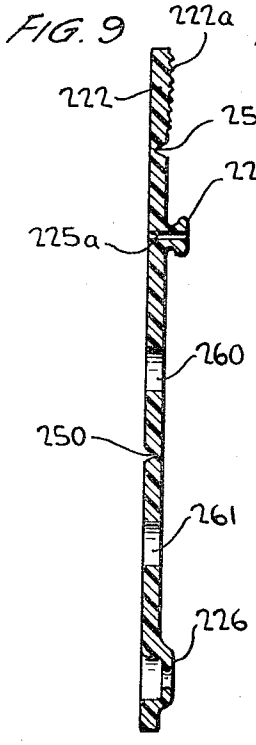


FIG. 8

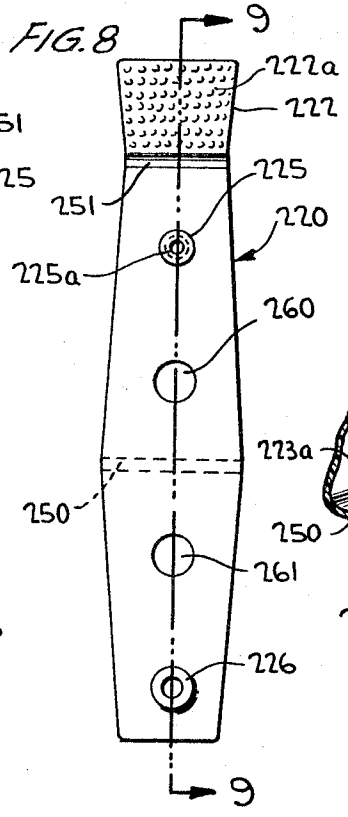
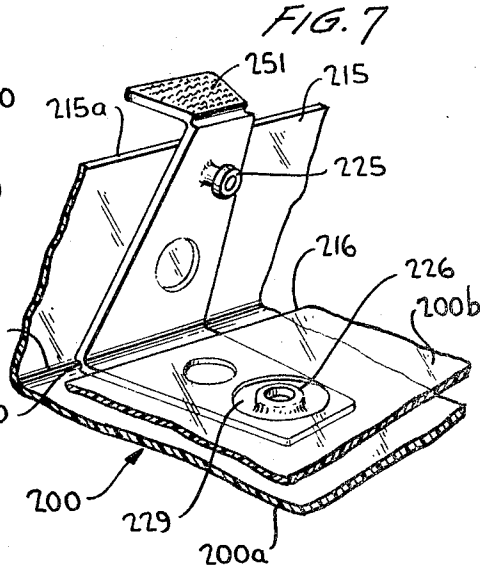


FIG. 7



INVENTORS,
MARK N. ZALK
RALPH A. WELCH

BY Watson, Cole, Grindle & Watson
ATTORNEYS

United States Patent Office 3,311,145 Patented Mar. 28, 1967

3,311,145

CONTAINER AND CLOSURE STRUCTURE

Mark N. Zalk, 2425 Brentwood Road 43209, and Ralph A. Welch, 2470 Lane Road 43221, both of Columbus, Ohio

Filed Aug. 30, 1965, Ser. No. 483,449
11 Claims. (Cl. 150—7)

This invention relates to containers and the closure means therefor, and more particularly to flat envelope-type bags or containers and snap fastener devices for the closures of such containers.

The general object of the invention is to provide a novel and improved container and fastening structure of the type described, which is more easily and economically manufactured than comparable bags having applied metallic snap fasteners. Also, the contemplated use of a novel one-piece flexible fastener element of molded or fabricated construction affords a closure fastener which may be very readily applied to a plastic bag or envelope and which can be easily made in any desired color or ornamentation.

Another feature of novelty is the formation and attachment of the unitary interengaging snap fastener device with a projecting tongue such that it may function not only as a reinforcing means for the closure flap of the container but as a finger-piece or a handle tab for manipulation particularly in disengaging or opening the snap securing elements embodied therein.

Other features of novelty include the knurling and creasing of portions of the fastening element for better manipulation, certain modifications of the closure flaps and body portion of the container complementing the fastening element, and the provision of a certain stiffness and resiliency in the element itself tending to urge the closure toward open position when the snap securing parts are disengaged; and still further objects and features of novelty will be apparent from the following specification when read in connection with the accompanying drawings in which certain embodiments of the invention are illustrated by way of example.

In the drawings:

FIGURE 1 is a view in perspective of an envelope-like bag or container embodying the principles of the invention, the closure and snap fastening device being in closed and secured condition;

FIGURE 2 is a similar view showing the closure in open position, and the lower portion of the container sectioned, with an exaggerated thickness;

FIGURE 3 is a view in longitudinal medial section taken on line 3—3 of FIGURE 1, and with the opened positions of the closure parts indicated by broken lines;

FIGURE 4 is a view similar to FIGURE 2 showing a modified form of closure structure;

FIGURE 5 is a view similar to FIGURE 3 but illustrating in section the modified form of FIGURE 4;

FIGURE 6 is a perspective view similar to FIGURE 1 of a still further modified form of the invention;

FIGURE 7 is a fragmentary view in perspective of the latch or snap fastener device of this embodiment as applied to the closure portions of the container;

FIGURE 8 is a plan view of the combined snap fastener and finger-piece device which characterizes the embodiment illustrated in FIGURES 6 and 7; and

FIGURE 9 is a view in longitudinal central section of the device of FIGURE 8.

In the first illustrated embodiment the bag or envelope illustrating the general type of container to which the invention is best applicable is indicated at **10**, and comprises preferably a flat envelope of very thin transparent texture made of some suitable kind of plastic composition such as, for example, of the vinyl or polyethylene type. Thus, the envelope is well adapted to receive articles of merchandise, for example, notions and items of wearing apparel, and display them to good advantage in stores.

For example, the particular container used for illustrative purposes herein may be utilized to contain paired items such as house-slippers, scuffs, or the like; and for this purpose the bag or envelope illustrated at **10** is divided into two parallel compartments, by means of the line of "welding" indicated at **11** and effected by known means, for example, by heat treatment or the use of plastic solvent or cementing material, to secure the wall panels **10***a* and **10***b* together along the line **11**. The compartments themselves are suggested at **12** and **13** in FIGURE 2 of the drawings.

Of course, within the broader aspects of the invention the dividing securement feature **11** may be omitted, and in any case it is preferred to terminate this line of attachment somewhat short of the closure end of the container as at **14**.

The envelope **10** has its upper or front wall **10***b* terminating at **16**, but the opposite or rear wall **10***a* is extended to provide a flap **15** which is adapted to be folded over the upper portions of the upper wall **10***b* as clearly shown in FIGURES 1 and 3.

The interlocking snap fastener device for effecting the desired closure of the flap **15** and securing it in closed position is given the general reference character **20** in the embodiment illustrated in FIGURES 1–3, and comprises a strip of plastic material of considerably thicker gauge than the material of which the envelope itself is made, and thus having a greater degree of stiffness, although of a quite resilient nature. This material can also be some type of vinyl or polyethylene plastic having the proper gauge and resiliency. The fastener device **20** is secured as by cementing or welding to the bottom wall **10***a* of the envelope including the flap **15**, and has a finger grip portion or tab **22** projecting beyond the edge of the flap **15**. A portion **24** while adhering to the inner surface of the back panel **10***a* of the envelope underlies the medial portion of the upper panel.

The actual snap fastener interengaging elements of the device are constituted by the headed male projection **25** and the female portion **26**. One construction of these interengaging parts is shown very clearly in the sectional view constituting FIGURE 3 of the drawings. The opening **28** in the part **26** is of course of a slightly smaller diameter than the diameter of the head of the part **25** and thus it requires some slight degree of force to engage the part **25** within the socketed snap part **26** and similarly to disengage the parts. It will be noted that the dimensions of the male part **25** and the raised socket portion **26** are such that the part **25** does not protrude and tend to puncture the rearward bag wall.

In order to make the part **26** accessible for interengagement with the part **25**, an opening **29** is cut in the upper wall or panel **10***b* of the bag.

The operation of the device will be readily apparent from FIGURES 1, 2 and 3 of the drawings, the fastener device **20** and flap being clearly shown in open position in FIGURE 2 and in the broken line showings in FIGURE 3. To effect the closure the device **20** is bent along the intermediate portion **30** and the male part **25** of the snap fastener feature snapped into the female part **26** whereupon the parts will occupy the closed position as shown in FIGURE 1 and in the solid line sectional showing in FIGURE 3 of the drawings. The effective completion of the closing and releasing of the fastener elements is recognized by the distinct snapping sound or click just as in the case of the more complicated multipart metal fasteners.

It will also be understood how, upon release of the snap elements **25** and **26** from engagement with each other, the relative stiffness and resiliency of the device **20** will cause the device to tend to straighten out toward the position shown in FIGURE 2 and thus facilitate the opening of the flap **15** of the envelope.

In FIGURES 4 and 5 of the drawings a slightly modified version of the device is illustrated wherein the envelope **100** is provided with a bottom wall **100***a* and an upper wall panel **100***b*, the termination of the bottom wall **100***a* at **116** being lower down than the corresponding edge **16** of the previously described embodiment, this making for a longer flap **115** and exposing both of the snap elements **25** and **26** for interengagement without the necessity of providing an opening such as that indicated at **29** in the earlier figures of drawing. Otherwise this embodiment is constructed and operated in the same way as the one earlier described.

In FIGURES 6–9 of the drawings there is illustrated an envelope **200** having a lower wall panel **200***a* and an upper wall panel **200***b*, the upper wall panel terminating at **216** as in the embodiment first described and shown in FIGURES 1–3 of the drawings, leaving a flap extension **215** at the upper end of the bottom panel **200***a*. The novelty in this embodiment is involved in the peculiar and advantageous construction of the fastener device designated **220**. In this case the male snap element **225** is provided with a bore of quite small caliber as shown at **225***a* through the element **225** which facilitates the yielding of this headed element in its application to the mating member **226** which is of generally the same construction as in the other embodiments. The extended tab portion **222** of this fastener device is of a generally flat construction but is knurled or otherwise roughened as indicated at **222***a* for facilitating the gripping of the projecting tab by the fingers of the user, either in supporting the bag or operating the fastening elements.

If desired, the tab **222***a* may be laid down flat upon the flap **215** and sealed or cemented thereto to provide further reinforcement to the edges of the flap.

Other refinements evidenced by this embodiment include the scoring of the member **220** as at the intermediate transverse line **250** and also upon the opposite side of the element at **251**. The scoring at **250** is along the fold **230** of the flap **216**, and the score line **251** is adjacent the extreme edge **215***a* of the flap **215**. Thus the finger tab portion **222** will tend to stand away from the device in a position to be somewhat more readily seized for opening the closure.

Another feature of this embodiment involves the holes **260** and **261** formed in the device **220** at equal distances upon opposite sides of the score line **250**, so that they will register when the device is closed. If desired, these registering openings may be used to hang the envelope upon a peg or hook, and for this use, corresponding holes could be made in the panels **200***a* and **200***b* and the flap **215**, or holes could be punched in these thin areas by the hook or peg from which the device may be suspended.

By the use of plastic material for both the bag or envelope proper and the snap fastener device, these parts may be readily cemented or welded together, and the tough yet resilient nature of the fastener device makes possible the production of an integral member including the body portions of the fastener as well as both of the interengaging snap fastener parts.

It is understood that various changes and modifications may be made in the embodiments illustrated and described herein without departing from the scope of the invention as defined by the following claims.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

1. A container and closure structure comprising a bag including a front wall and a rear wall, said rear wall extending beyond said front wall at the closure end of the bag to provide an extended flap adapted to fold along a transverse fold line over said front wall to provide a closure for the mouth of the bag; a closure fastener member extending longitudinally of the bag and secured along both the flap extension and the adjacent body portion of said rear wall and adapted to be itself folded transversely along substantially the same line of fold as the flap when the closure is effected; and interengageable snap fastener parts on said member one upon either side of said transverse fold line and adapted to snap into engagement with each other when the closure flap and the attached fastener member are folded to closed position.

2. The container and closure structure as set forth in claim 1 in which the folding of said closure flap is effected along a fold line outwardly of the extreme edge of the front wall and the inward one of said snap fastener parts is positioned outwardly of said extreme edge, whereby the snap fastening is accomplished entirely exteriorly of said rear wall.

3. The container and closure structure as set forth in claim 1 in which the folding of said closure flap is effected fected along a line adjacent to the extreme edge of the front wall, and the inward one of the snap fastener parts is positioned inwardly of said extreme edge, and an opening is provided in the front wall through which the interengagement of the snap fastener parts may be effected.

4. The container and closure structure as set forth in claim 1 in which said closure fastener member is extended beyond the extreme outward edge of the closure flap to provide a finger tab for grasping in effecting the opening and closing of the flap and interengagement of the snap fastener parts.

5. The container and closure structure as set forth in claim 4 in which transverse score lines are applied to said closure fastener member at its said fold line and also at the junction of the extended finger tab and the body of the member, the latter score line effective to permit bending of the member in the opposite direction from that for effecting the closure of the flap, whereby the finger tab tends to extend away from the structure for easier grasping.

6. The container and closure structure as set forth in claim 1 in which holes are provided through inward and outward portions of the closure fastener member, each at the same distance from the transverse fold line so that they are in substantial registry when closure is effected, whereby said structure may be readily suspended from a peg or equivalent support.

7. The container and closure structure as set forth in claim 1 in which said closure fastener member is composed of a resilient plastic material of greater stiffness than the material of which the bag itself is composed, whereby when the fastener parts are released the member tends to resume its straight position and urge the flap toward open position.

8. The container and closure structure as set forth in claim 7 in which said bag is composed of a plastic material of thin pliable consistency and the plastic closure fastener member is integrally secured to the rear wall and flap of the bag substantially throughout its area of contact therewith.

9. The container and closure structure as set forth in claim 7 in which the respective interengaging snap fastener

parts comprise male and female portions formed integrally in the plastic member, the male portion having a head of somewhat greater diameter than the shank portion thereof, and the female portion having an opening of somewhat less diameter than the head of the male portion, the snap action of the interengaging parts being effected by the inherent resiliency of the plastic material of which the integral fastener member is composed.

10. The container and closure structure as set forth in claim 9 in which a hole of small caliber is formed through said closure fastener member axially of said male portion to slightly increase the compressibility of the latter to facilitate engagement and disengagement.

11. The container and closure structure as set forth in claim 4 in which said member is composed of plastic material and at least one surface of the extended finger tab is roughened for better gripping thereof.

References Cited by the Examiner

UNITED STATES PATENTS

1,117,992	11/1914	Fleming	229—78
1,405,636	2/1922	Stark	229—78

FRANKLIN T. GARRETT, *Primary Examiner.*