United States Patent

Kazaros

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[45] **Apr. 4, 1972**

[54] CONTAINER WITH TEAR-TYPE OPENER

[72] Inventor: **Richard H. Kazaros,** 5501 West Colonial Drive, Orlando, Fla. 32808

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[21] Appl. No.: **28,824**

[52] **U.S. Cl.** .....**229/85,** 229/51 S, 229/51 AS, 229/86

[51] **Int. Cl.**.....**B43m 7/00**

[58] **Field of Search**.....229/85, 86, 51 BP, 51 S, 51 AS

[56] **References Cited**

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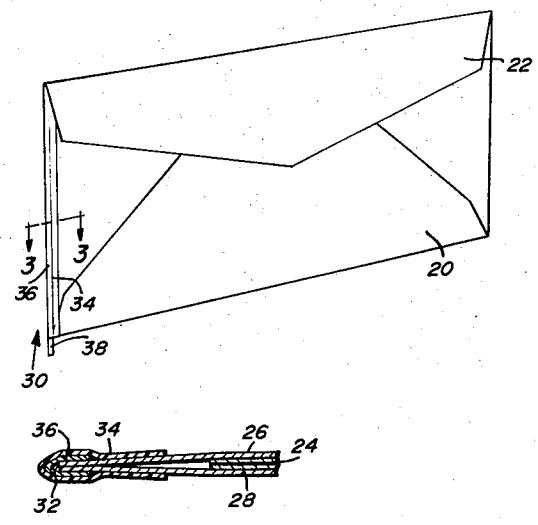
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[57] **ABSTRACT**

An opener for a container such as but not limited to an envelope incorporating a flexible tear strip in the form of a tape, string or other flexible member incorporated into the envelope so that removal of the tear member will open the envelope or other container in which the opener is incorporated.

5 Claims, 22 Drawing Figures



Patented April 4, 1972 3,653,585

3 Sheets-Sheet 1

Fig. 1

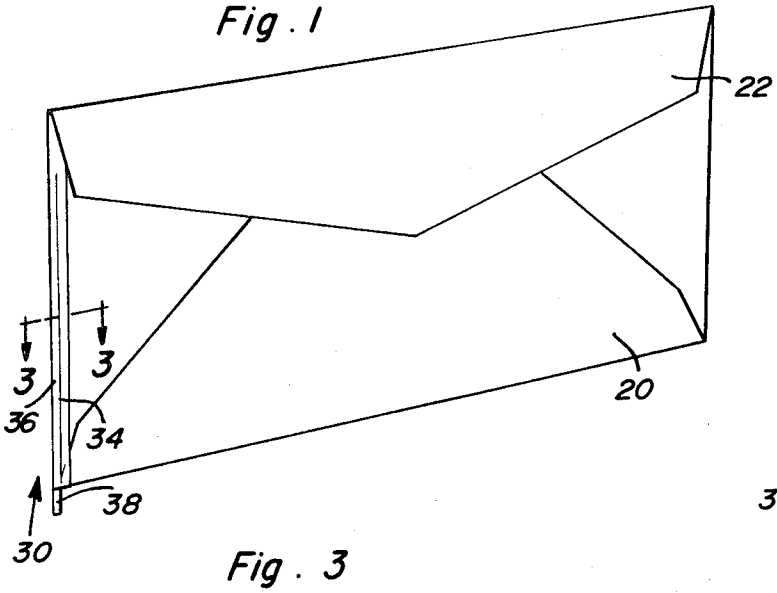


Fig. 2

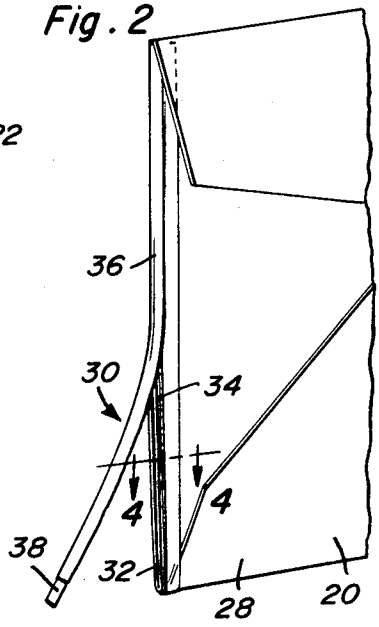


Fig. 3

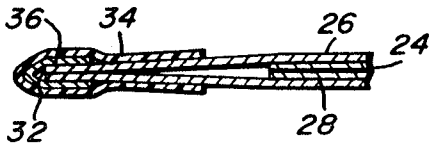


Fig. 4

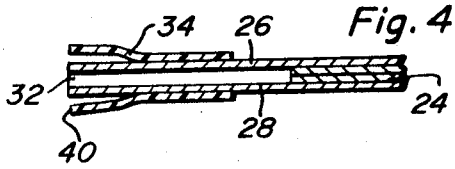


Fig. 5

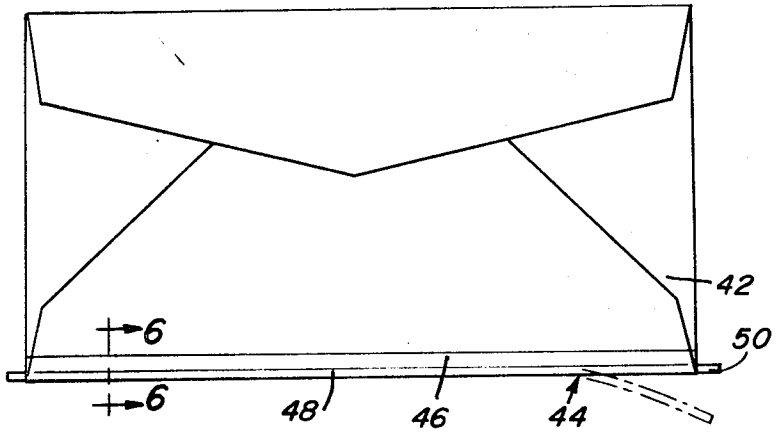
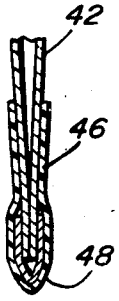


Fig. 6



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Fig. 7

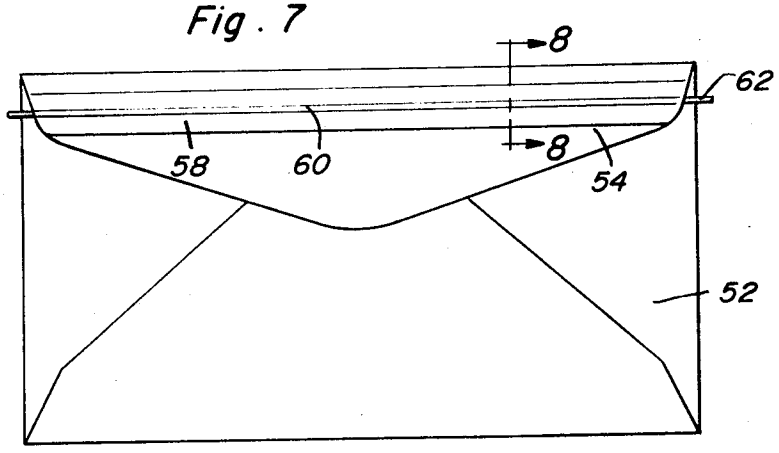


Fig. 8

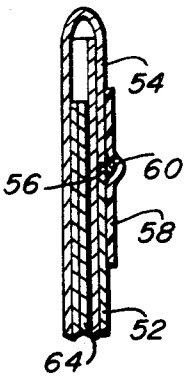


Fig. 9

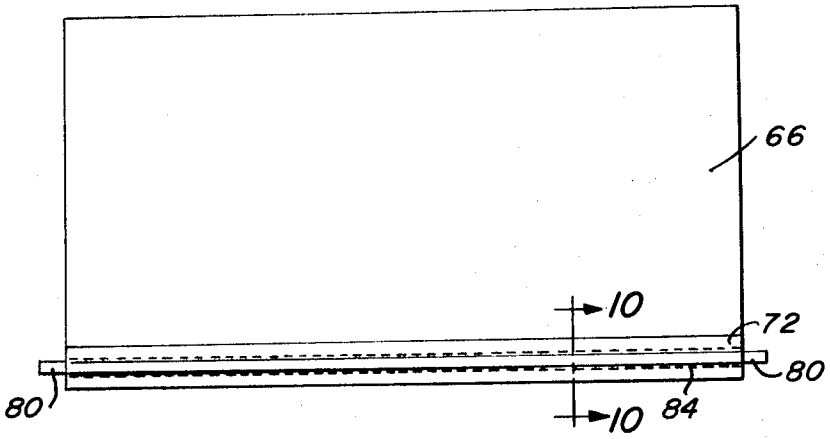


Fig. 10

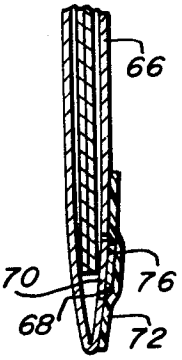


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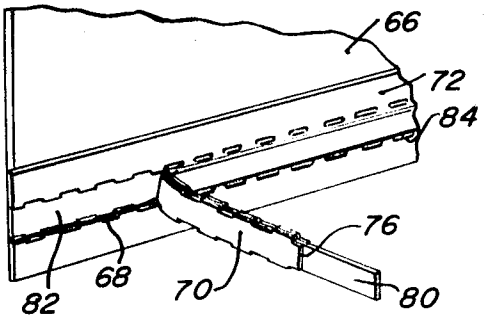
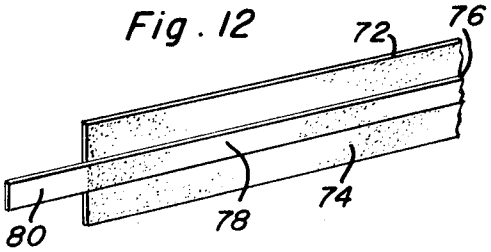


Fig. 12



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Fig. 13

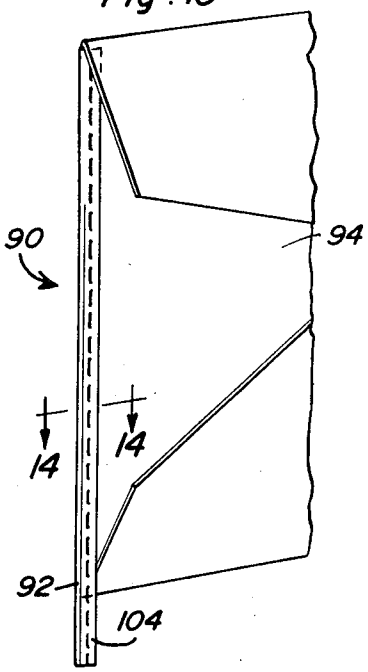


Fig. 15

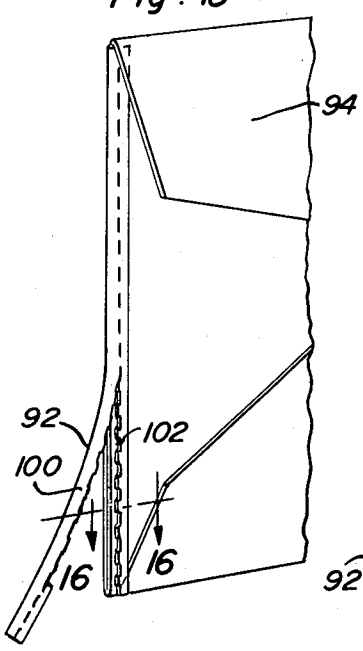


Fig. 14

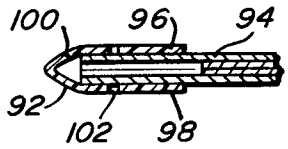


Fig. 16

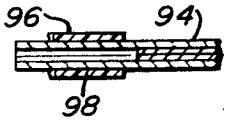


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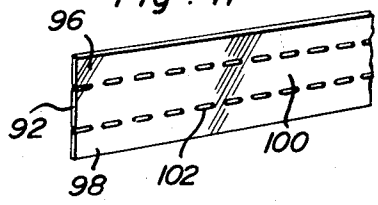


Fig. 18

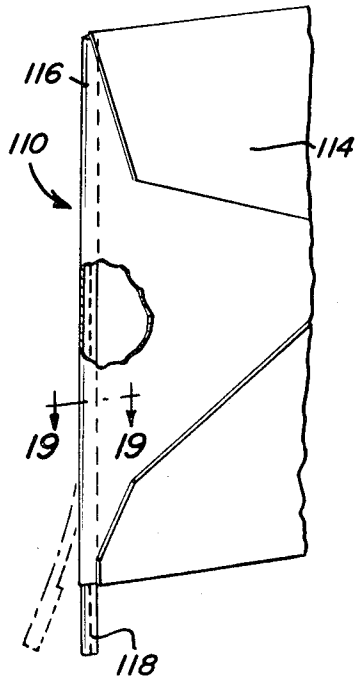


Fig. 21

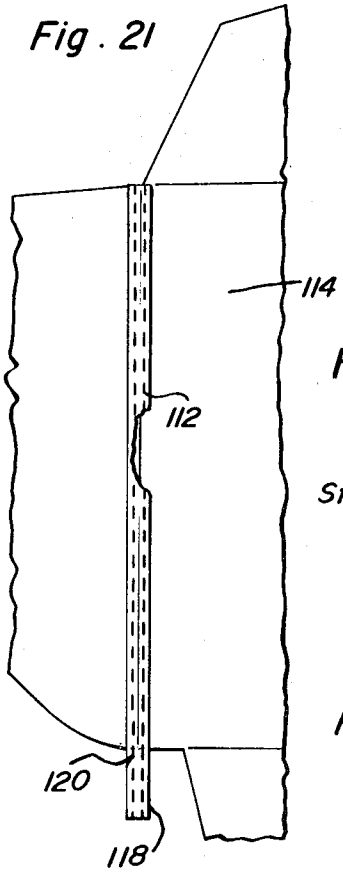


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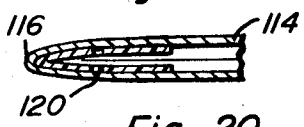


Fig. 20

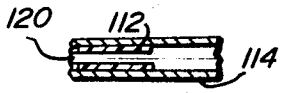
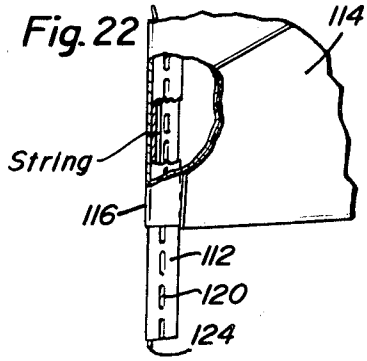


Fig. 22



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CONTAINER WITH TEAR-TYPE OPENER

The present invention generally relates to a tear-type opener for containers and more specifically an opener which does not affect normal usage of the container but facilitates the opening thereof to enable access to the contents of the container without the use of special tools or equipment.

An object of the present invention is to provide a tear-type opener for containers in the form of a tape having an adhesive surface attached to the container in overlying relation to a preformed perforated line or slit in the container together with a flexible tear-out member underlying the tape in registry with the preformed perforated line or slit in the container so that when the tear-out member is pulled laterally away from the container in generally a perpendicular relation thereto, the tape will be severed by forming a longitudinal opening therein and at the same time the container will be opened.

Another object of the invention is to provide a tear-out opener for containers in which the tear-out member actually removes a portion of the overlying tape to form a slot-like longitudinal opening therein to prevent any possibility of the adhesive surfaces of the tape resealing the opening in the container.

A further important object of the present invention is to provide an opener for a container in accordance with the preceding objects in which the tear-out member is in the form of a tape having an adhesive surface on its interior for adhesive attachment to the container between parallel perforated lines of weakening formed in the container so that the tear-out tape will not only form a longitudinal slot in the overlying adhesive tape but also remove a strip of material from the container thereby forming a slot-like opening in the container to prevent any possible resealing thereof.

Another significant object of the invention is to provide a tear-out opener in which the tear-out member is in the form of a flexible thread disposed in overlying relation to a slit formed in a container whereby removal of the thread will from a slit in the overlying retaining tape.

Still another significant concept employed in this invention is the provision of the tear-out opener oriented around an edge portion of the envelope in which the edge has been previously slit and the adhesive tape forms a closure thereof and the tear-out member is a U-shaped tape member disposed inwardly of the adhesive tape so that upon removal thereof, the envelope will be opened at an edge thereof.

It is another object of the present invention to provide a tear-out opener for containers which is relatively simple in construction, easy to assemble and will not alter normal use of containers such as envelopes thereby enabling envelopes to be handled and cancelled in the usual manner with the entire assembly being relatively inexpensive to manufacture and incorporate into various types of containers.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being has to the accompanying drawings forming a part hereof, whereby like numerals refer to like parts throughout, and in which:

FIG. 1 is a perspective view of an envelope with the tear-type opener of the present invention incorporated in an end edge thereof.

FIG. 2 is a fragmental perspective view of the construction of FIG. 1 illustrating the tear-out element being torn away from the end edge of the envelope.

FIG. 3 is a detailed sectional view taken substantially upon a plane passing along section line 3—3 of FIG. 1 illustrating the structural details of the tear-type opener and its relationship to the end edge of the envelope.

FIG. 4 is a detailed sectional view taken substantially upon a plane passing along section line 4—4 of FIG. 2 illustrating the relationship of the components of the envelope when opened.

FIG. 5 is an elevational view of the tear-type opener incorporated in the longitudinal bottom edge of an envelope illustrating the tear-out member projecting from both ends thereof.

FIG. 6 is a detailed sectional view taken substantially upon a plane passing along section line 6—6 of FIG. 5.

FIG. 7 is a plan view of an envelope incorporating a tear-type opener employing a flexible thread as the tear-out member.

FIG. 8 is a sectional view taken substantially upon a plane passing along section line 8—8 of FIG. 7 illustrating the structural details thereof.

FIG. 9 is a plan view of an embodiment of the invention in which the tear-out member is in the form of a tape associated with a planar portion of the container.

FIG. 10 is a sectional view taken substantially upon a plane passing along section line 10—10 of FIG. 9 illustrating the structural details of this embodiment of the invention.

FIG. 11 is a fragmental perspective view illustrating the tear tape embodiment of the invention being pulled away from the container.

FIG. 12 is a perspective view of the interior surface of the tear-tape opener illustrated in FIGS. 9–11.

FIG. 13 is a perspective view of another embodiment of the invention employing a tape that is bonded to the container or envelope only along the outer edge surface portions of the tape.

FIG. 14 is a sectional view taken substantially upon a plane passing along section line 14—14 of FIG. 13 illustrating the relationship of this tear-tape to the envelope.

FIG. 15 is a perspective view similar to FIG. 13 but illustrating the tear-tape being removed to open the envelope.

FIG. 16 is a sectional view taken substantially upon a plane passing along section line 16—16 of FIG. 15 illustrating the residual portion of the tape on the envelope after the envelope has been opened.

FIG. 17 is a perspective view of the tape.

FIG. 18 is a perspective view of another embodiment of the invention in which the tear-tape is disposed interiorly of the end fold of the envelope.

FIG. 19 is a sectional view taken substantially upon a plane passing along section line 19—19 of FIG. 18 illustrating the structural details thereof.

FIG. 20 is a sectional view similar to FIG. 19 but illustrating the envelope in opened condition.

FIG. 21 is an elevational view of an envelope containing the tear-tape of FIG. 18 oriented in the fold of the envelope before the end flap on the envelope has been folded into closed position.

FIG. 22 is a fragmental perspective view of another embodiment of the invention similar to that illustrated in FIGS. 18–21 but with a tear string being incorporated into the tear-tape.

Referring now specifically to the drawings, the container in which the tear-out opener of the present invention is illustrated is in the form of a conventional envelope 20. It is pointed out that the tear-out opener may be employed in combination with various types of envelopes, containers or the like which are normally opened by destruction of a portion of the material from which the container is constructed. In FIGS. 1–4, the envelope 20 includes the usual closure flap 22 for closing the opening at the top edge of the envelope to enable insertion of a message carrying panel 24 between the front panel 26 and rear panel 28 thereof. The tear-type opener generally designated by the numeral 30 is disposed along one end edge of the envelope 20 which has the end edges of the front panel 26 and the rear panel 28 separated from each other rather than being connected to each other along a fold line as in conventional practice. This area of separation is designated by the numeral 32 in FIGS. 3 and 4.

The tear-type opener 30 includes a flexible tape 34 which has an adhesively coated inner surface and which is folded around the end edge of the envelope 20. The tape 34 may be of transparent material or colored in any suitable color and constructed of any suitable materials such as normally employed in adhesively applied tapes such as plastic strips or the like. Underlying the tape 34 is a tear-out member 36 which also is in the form of a flexible tape having a substantially nar-

rower width than the tape **34** and which is secured to the longitudinal center of the tape **34** and is folded around the end edge of the envelope **20**. The bottom end edge of the tear-out tape **36** projects below the bottom edge of the envelope and forms a tab or handle **38** for removal of the tear-out tape **36**.

As illustrated in FIG. **2**, the tab or handle **38** of the tape **36** is grasped and pulled away from the end edge of the envelope **20** so that it severs the tape **34** along tear lines **40** which are spaced away from each other by the end edges of the panels **26** and **28** of the envelope as illustrated in FIG. **4**. The tear-out tape **36** has strength characteristics greater than the strength characteristics of the tape **34** and if desired, the tape **34** may have weakened lines or perforated lines coinciding with the edges of the tape **36**. The tear-out tape **36** is adhesively secured to the inner surface of the tape **34** by the adhesive coating on the tape **34** but is free of the envelope panels **26** and **28**.

With this construction, the envelope is initially prepared with the slit **32** between the end edges of the panels **26** and **28** and the tape **34** is applied with the tab or handle **38** projecting from either the top or bottom edge thereof. As the tab or handle **38** is pulled laterally outwardly, the tape **34** will be severed and the end edge of the envelope opened to enable access to the message carrying panel **24** therein.

In the embodiment of the invention illustrated in FIGS. **5** and **6**, the envelope is designated by the numeral **42** and the tear-type opener **44** is oriented along the bottom edge of the envelope. In this construction, the tape **46** which corresponds with the tape **34** extends along the bottom edge of the envelope and folds around the bottom edge of the envelope and the tear-out tape **48** which corresponds with the tear-out tape **36** had tabs or handles **50** projecting from both end edges or either end edge of the envelope **42** as illustrated in FIG. **5**. Operation of this embodiment of the invention is substantially the same as that illustrated in FIGS. **1–4**.

In the embodiment of the invention illustrated in FIGS. **7** and **8**, the envelope **52** includes a closure flap **54** in which has been preformed a longitudinally extending slit **56**. Disposed in overlying relation to the longitudinal slit **56** is an elongated flexible adhesive tape **58** which connects to the two components of the flap **54** together and forms a closure for the longitudinal slit **56** formed in the closure flap **54**. Underlying the adhesive tape **58** and in overlying registry with the longitudinal slit **56** is an elongated tear-out member **60** in the form of a flexible string, thread or the like. The end edges of the tear-out member **60** project beyond the end edges of the envelope **52** and define tabs or handles **62** with the ends of the string or thread projecting from either or both ends of the envelope. In this construction, when the handle **62** of the thread or string is pulled in a generally perpendicular relation to the envelope, the tape **58** will be severed by forming a longitudinal slit therein thus a opening the envelope and enabling the contents **64** therein to be removed. The adhesive surface on the tape will retain the string in position during assembly and also retain the string in position during normal insertion of the contents **64**, handling and the like and will not effect movement of the envelope through cancelling machines and the like. If desired, the tab ends **62** of the string or tape **60** may be provided with a covering tab to retain it adhesively against the surface of the envelope to further enhance the passage of the envelope through the cancelling machines and the like.

The embodiment of the invention illustrated in FIGS. **9–12** is incorporated into an envelope **66** in which the front panel is provided with a pair of parallel perforated lines **68** which form parallel lines of weakening and define a tear-out strip **70** in the envelope panel. Overlying the tear-out strip **70** and the perforated lines **68** is a flexible tape **72** having an adhesive coating **74** on its inner surface. Underlying the tape **72** and attached thereto by the adhesive coating and also provided with an adhesive coating is a tear-out tape **76** with the adhesive coating on the tear-out tape **76** being designated by the numeral **78**. One or both ends of the tear-out tape **76** project beyond the ends of the tape **72** and beyond the ends of the envelope **66** and form tabs or handles **80** for removing the tear-out tape by pulling in a direction generally perpendicular to the envelope **66**. The adhesive coating **78** on the tear-out tape **76** adhesively secures the tear-out tape **76** to the tear-out strip **70** with the bond therebetween being greater than the strength of the perforated lines **68** so that when the tear-out tape **76** is removed, it will tear-out the strip **80** thus leaving an enlarged slot-like opening **82** in the envelope **66**. In this construction, there is no possibility that the slot **82** will be resealed since the adhesive surface **78** of the tear-out tape **76** will be engaged completely by the tear-out strip **70** and the adhesive surface **74** of the tape **72** will engage the envelope **66** along either side of the slot **82**. The tear-out tape **76** may be distinguishably colored from the tape **72** and the envelope and the tape **72** may also be provided with lines of weakening **84** if desired to facilitate tearing of the tape **72**. The tear-out tape **76** is of flexible material and may be constructed of various materials which will not effect operation of the envelope nor movement of the envelope through cancelling machines and the like.

The embodiment of the invention illustrated in FIGS. **13–17** of the drawings is generally designated by the numeral **90** and is similar to the arrangement illustrated in FIGS. **1–4** in that a tape **92** is disposed around the open end edge of the envelope **94** and forms a closure therefor. In this construction, the tape **92** has only the longitudinal edge portions **96** and **98** adhered to the envelope **94** so that the central portion **100** of the tape is free of the envelope and may be separated from the edge portions **96** and **98** along two perforated lines **102**. This structure is especially useful when a thermosetting tape is used with heat being applied only to the outside edge portion **96** and **98** thus leaving the center portion **100** completely dry and free of the envelope inasmuch as it does not make a bond with the envelope. The thermosetting tape **92** extends beyond one edge of the envelope into a gripping portion **104** by virtue of which the tape may be easily stripped from the end of the envelope as illustrated in FIG. **15**. Also, the tape **92** may be employed without a flexible tear-out member inasmuch as the central portion **100** thereof is not connected with the envelope and thus is easily removed when torn along the perforated lines **102**. One advantage of using thermosetting tape in this construction is that the open edges of the envelope cannot reseal due to the fact that the underside of the central portion **100** of the tape is completely dry. Thus, each form of the invention disclosed may be employed with a thermosetting tape or adhesive where heat is applied only to the edge portions of the tape. In addition, various other types of tape may be employed such as plastic tapes or paper tapes having a water activated adhesive coating on the inner surface thereof or on the outer edge portion only of the inner surface. The use of paper tape and a water activated adhesive materially reduces the cost of the tape and still serves to provide an effective tear-type opener which will not reseal when the tape has been torn in such a manner to open the envelope.

The embodiment of the invention illustrated in FIGS. **18–20** is generally designated by the numeral **110** and includes a tape **112** disposed interiorly of the envelope **114** in which the envelope has the usual end fold **116** and the tape is folded in the interior of the end fold **116** when the envelope is being formed as illustrated in FIG. **21**. The tape **112** is adhesively secured to the interior surface of the envelope with one end extending beyond the edge of the envelope into a gripping portion **118** to enable the tape to be pulled outwardly to open the end of the envelope. In this arrangement, the tape is applied to the surface of the envelope before the folding operating of the envelope during its manufacture. Any type of tape may be employed and perforated lines **120** may be provided therein to provide a separation zone in the tape and only the surface portions of the tape outwardly of the perforated lines **120** may be bonded to the envelope by pressure sensitive adhesive, thermosetting adhesive, water activated adhesive or the like or the entire surface of the tape may be bonded to the envelope structure. In any event, when the tape is pulled, it will separate along the perforated line as illustrated in FIG. **18**. Also, the

tape 112 may be with a tear string 124 (FIG. 22) oriented between the tape and the end of the envelope or oriented internally of the tape with the envelope being perforated or not perforated as desired, thus further facilitating opening of the envelope without the open end edge thereof resealing.

The various embodiments of the invention may be oriented in various positions on the envelope and prevent resealing of the envelope after the tear-out opener has been operated. In addition, the tear-out opener may be employed in the envelope in an expedient manner thus enabling envelopes to be constructed with substantially no addition or a very small additional cost. The additional convenience to recipients of the envelope is substantial and in all instances, the tear-type opener does not effect normal handling of the envelope. In addition to being incorporated into envelopes, the tear-type opener may be disposed in various types of containers such as those for use in packaging various commodities and the like and the tear-out opener may extend only partially across an envelope, container, package or the like or extend completely from edge to edge thereof as desired.

Another variation in construction includes an adhesive tape similar to that disclosed in FIGS. 1–6 which has a light coating of talcum powder over the adhesive coating on each side of the slit in the envelope to reduce adherence to the envelope and enable the tape to be stripped away from the envelope without requiring the tear-out tape or string such as 36 and 48. The tape has tabs extending beyond the end or ends of the envelope to facilitate manipulation of the envelope. Also, a light coating of wax could be used over the adhesive in lieu of the talcum powder with the same result of reducing the adherence of the tape. These arrangement can also be used with a thread or tear tape employed with the closure tape.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. A tear-type opener for a container having a panel, said opener comprising a retaining member secured to the panel, and a tear-out member underlying the retaining member with a portion of the tear-out member being exposed to enable grasping thereof whereby the tear-out member may be pulled outwardly from the retaining member thereby severing the retaining member and providing access into the container through the panel, said retaining member being in the form of a flexible tape having an adhesive inner surface adhesively securing the retaining member to the panel, said tear-out member being a flexible member adhesively secured to the retaining tape with at least one end of the flexible tear-out member extending beyond the end edge of the retaining tape, said panel of the container having a slitted end edge, said tear-out member being disposed in folded and bridging relation over said slitted end edge of the panel and being free of the panel whereby removal of the tear-out member will sever the retaining tape member.

2. A tear-type opener for a container having a panel comprising a retaining member in the form of a flexible tape having an adhesive inner surface securing said retaining member to said panel, and a flexible tear-out member underlying and adhesively secured to said retaining member and having at least one end extending beyond the end edge of said retaining member, said panel of the container having a slitted edge portion, said tear-out member bridging in a folded relation, said slitted edge portion of said panel and being free of said panel whereby removal of said tear-out member will sever said retaining member.

3. The structure as defined in claim 2 wherein said container is in the form of an envelope having a front and rear panel with the edges being slitted in the area thereof receiving the folded tear-out member.

4. The structure as defined in claim 2 wherein said flexible tear-out member is in the form of a tape having edge portions overlying the surfaces of the panel adjacent the slitted edge whereby only that portion of the retaining member laterally outwardly of the tear-out tape is secured to the panel.

5. In combination with an envelope constructed to include front and rear panels and an access opening for enabling insertion and removal of material with an edge portion of the envelope being slitted after formation of the envelope with the slitted edge portion being separate from the access opening, a tear-type opener comprising a retaining member in the form of a flexible tape having an adhesive inner surface disposed in folded relation over the slitted edge portion of the envelope and being adhesively secured to the front and rear surfaces of the envelope adjacent the slitted edge portion thereof, a flexible tear-out member in the form of a flexible tape underlying the retaining tape and disposed in folded relation over the slitted edge portion of the envelope and being free of the front and rear surfaces of the envelope, said tear-out tape member being secured to the inner surface of the retaining tape member by the adhesive on the inner surface of the retaining tape member, said tear-out tape member extending laterally inwardly of the front and rear surfaces of the envelope a distance less than the retaining tape member whereby only that portion of the retaining tape member outwardly of the tear-out tape member is adhesively secured to the envelope, said tear-out tape member extending beyond an end portion of the retaining tape member to provide a tab to enable the tear-out tape member to be removed thereby opening the slitted edge portion of the envelope.

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