

July 16, 1968

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3,392,908

STATIONERY ENVELOPE

Filed June 9, 1967

2 Sheets-Sheet 1

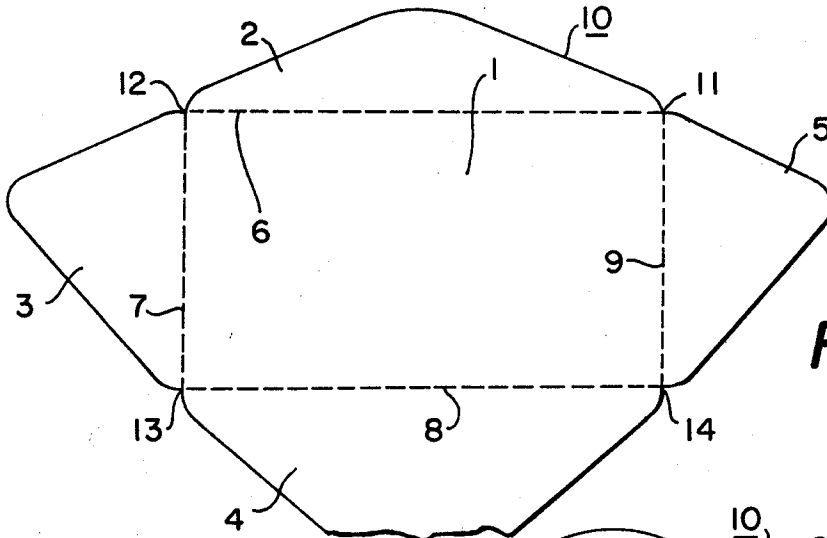


Fig. 1

Fig. 2

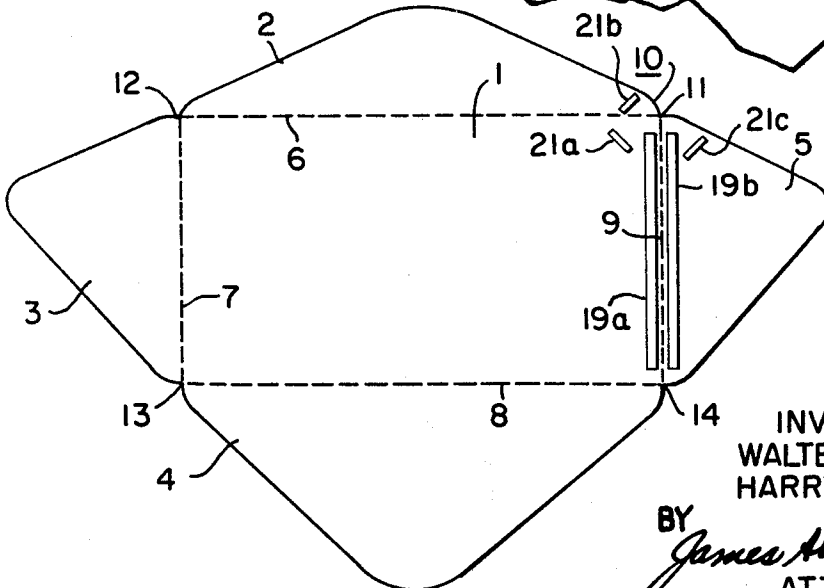
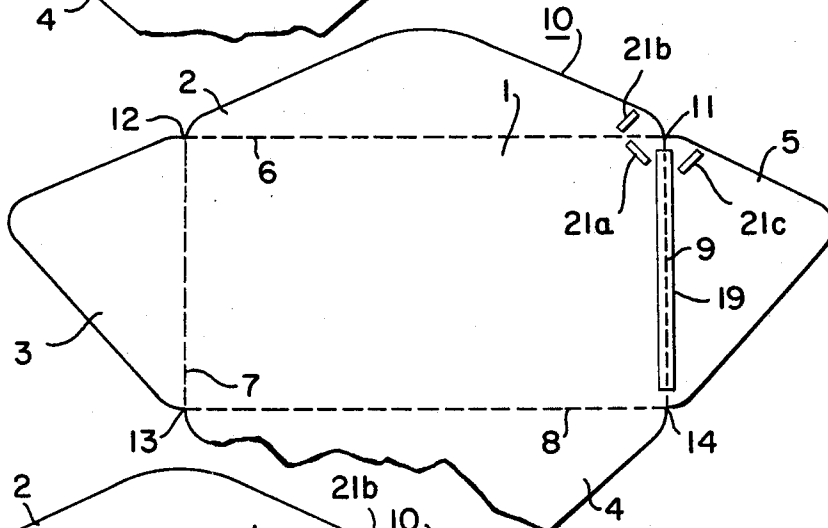


Fig. 3

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Fig. 4

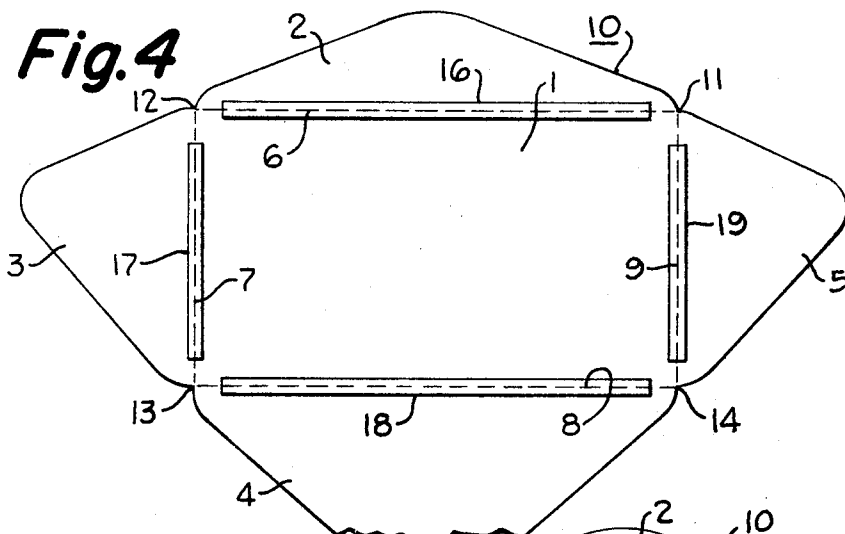


Fig. 5

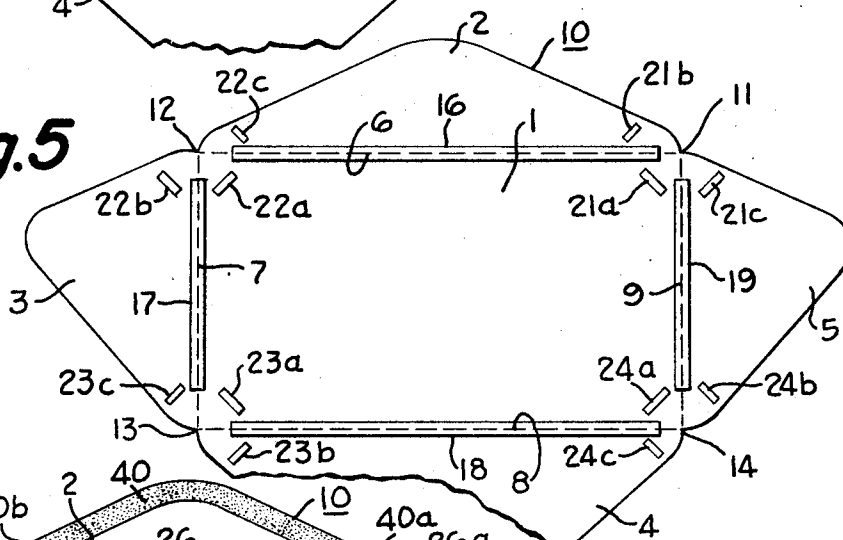
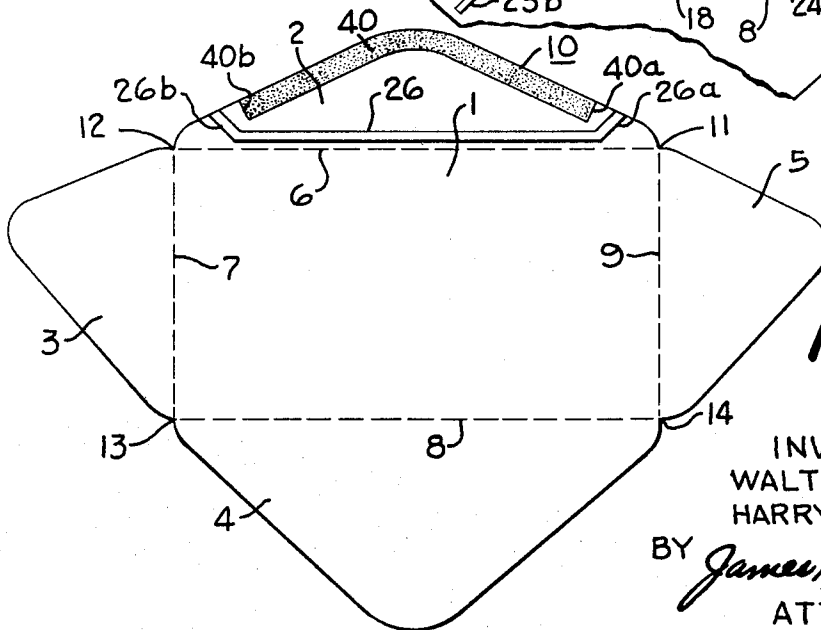


Fig. 6



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STATIONERY ENVELOPE

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Continuation-in-part of abandoned application Ser. No. 618,077, Feb. 23, 1967. This application June 9, 1967, Ser. No. 655,976

5 Claims. (Cl. 229—86)

ABSTRACT OF THE DISCLOSURE

Paper envelope for stationary use having a narrow tear strip adhered to the interior surface of the envelope adjacent to, or superimposed upon, substantially the entire length of one or more edge folds. A narrow guide strip of shorter length can be adhered similarly in the position of an hypotenuse adjacent one or both of the corners formed by said edge fold. A preferred embodiment utilizes a single, continuous narrow strip adhered, along its central portion, either adjacent to or superimposed upon the inner edge fold formed by the sealing flap and, at one or both ends, outwardly from such edge fold to the nearby side of the sealing flap. In the latter embodiment, the adhesive on the sealing flap is either omitted or rendered ineffective such as by masking in the general area surrounding each such flared end of the narrow strip. The tear and guide strips are made from a sheet material, such as paper, cloth or plastic, having a significantly greater resistance to tear than the paper of the envelope. The use of the edge tear strips, with or without corner guide strips, and particularly of a single, continuous strip in association with the sealing flap, facilitates the manual opening of the envelope.

This application is a continuation-in-part application of our co-pending application, Ser. No. 618,077, filed Feb. 23, 1967, which was abandoned on Nov. 24, 1967.

Background of the invention

Since prehistoric time, man has been concerned with the opening of wrappers and containers. Although his first efforts centered on nature's products, more recently he has had to contend with many coverings designed by fellow man. One such artificial wrapping, the stationary envelope, is admirable in design for the achievement of its primary protective role. Nevertheless, the envelope commonly fails to function faultlessly in the hands of the individual who wishes to open it. Given no mechanical aids such as letter openers, the average person finds that opening a sealed envelope may be: (1) time consuming—since repeated tearing motions along the ends or sides are required if one is to avoid or minimize the chance of tearing the enclosure; (2) destructive—since the envelope is often torn in a way which renders it unsatisfactory as a storage or filing cover, and since the enclosure may be torn; and (3) hazardous—since "paper cuts" may occur when the finger is inserted and forced against the sharp edge of the external sealing flaps of the envelope.

Our invention provides an envelope construction which eliminates the above disadvantages associated with envelopes of conventional design and construction. Our envelope construction in no way alters the external appearance or shape of the envelope, thus not interfering with postal handling, cancellation, or other manipulation. The envelope space is not significantly reduced or changed. Indeed, the opening device is virtually invisible and impalpable from the outside. It does not involve a foreign object which would catch on letters. In addition, the envelope is in no way pretreated to produce an area of local weakness which might lead to inadvertent tearing under

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the stress and strain of mail handling and transportation. Finally, the invention allows the user to perform the usual reflex instinctive motion of manual opening.

Our invention provides for the application of a directional linear shearing force, at an appropriate location in the envelope, by the user as he holds the envelope in one hand and tears an edge of the envelope with the thumb and forefinger of the other hand. More particularly our invention permits of the tearing off of a minimal portion (1–2 millimeters (mm.) or less) of the envelope end or other edge with no appreciable risk of damage to any enclosures. Such a directional linear force cannot regularly and consistently be achieved manually with envelopes now in use. The user typically tears bits of the envelope end in a repeated effort to minimize the amount torn off and thereby reduce the chance of damaging or destroying the enclosure. In contrast, our invention permits the user to remove a narrow strip of an end, the top or bottom of the envelope with a single, simple, safe, assured tear. Furthermore, our invention is applicable to envelopes of any shape, size, design or color as well as to envelopes made of papers of all thicknesses, textures, strengths, coatings and finishes as now used.

Summary of the invention

Our invention consists of the application by suitable adhesives of a narrow (e.g., 1 mm.) strip of a suitable sheet material such as paper, plastic, or cloth, to the interior surface of the envelope along substantially the entire length of one or more edge folds of the envelope. A critical feature is the employment of a sheet material which has a resistance to tearing substantially greater than that of the paper material from which the envelope is made.

Thus, as the user tears along an envelope edge containing the internal tear strip, he tears the envelope precisely in a linear fashion, opening the envelope neatly only along this edge, and removing only a narrow (e.g., 1 to 2 mm. or less) strip of the envelope edge. The user should tear toward the tape, i.e., away from the enclosure. However, to eliminate any need for user skill in directing the tearing force, an additional optional element may be used in this envelope construction. This consists of the application of an additional narrow strip on the interior surface of the envelope in the position of an hypotenuse adjacent at least one of the corners of the envelope formed by the edge fold having the tear strip and another intersecting edge fold. So that the opener may tear up or down, i.e., toward or away from himself, it is preferable that corner or guide strips be placed in the corresponding positions on all overlapping layers of the envelope corners.

Moreover, the edge strips should extend along substantially the entire length of the edge fold of the envelope to which it is applied. However, the edge strip is still functional if it extends to within approximately 5 mm. of the corner where the opener begins his tearing of the envelope. Still another optional placement of the edge strips requires that separate strips be applied along each of the four edge folds of the envelope, so that the envelope may be manually opened along any of the four edges (beginning at any corner, front or back). Such strips should extend along substantially the entire length of the envelope edge fold to within approximately 5 mm. of the corners. Unless a terminal free space of about 5 mm. is provided at each end, tearing is difficult or impossible due to the resistance of the tear strip. To permit directional linear tearing along any edge, it is necessary to have a guide strip on each of the flaps of a corner so that a maximal total of four tear strips and twelve short diagonal guide strips are required. Lesser numbers of tear strips and with or without guide strips may be used.

The tear and guide strips most satisfactory range in width from about 0.5 to about 2 mm. The use of wider strips leads to the removal of correspondingly larger strips of envelope, and hence to greater chance of tearing the enclosure. However, the use of narrower tear strips has proven satisfactory with light weight envelopes. The guide strips may be wider, but 1 to 2 mm. is a satisfactory width. They may be 1 to 2 centimeters (cm.) in length as employed in a regular sized stationery envelope. Larger or smaller envelopes would require proportionately sized guide strips. The guide strips may be made of the same or similarly suitable sheet material since they also must be able to resist tearing. The guide strips preferably should extend to within about a millimeter of the tear strip at either end.

The tear strip may be placed or superimposed upon the internal edge fold, or adjacent to either or both of the sides of the edge fold. Preferably, the tear strip should be in reasonably good alignment, and it itself should have edges uniform and without tears.

In a preferred embodiment of this invention, the envelope is provided with a single, continuous narrow strip, positioned so as to function with respect to the edge fold formed by the sealing flap. The central portion of the single strip is either superimposed upon such edge fold or adjacent thereto and on either side, but preferably on the sealing flap side. In any case, the strip is mounted with at least one of the two terminal portions thereof oriented outwardly from the edge fold to a near side of the sealing flap. It is essential in this embodiment that the adhesive customarily provided on the sealing flap either be eliminated or rendered ineffective through masking or the like in the general area surrounding each such flared end portion of the single strip. This is necessary to permit of the insertion of a finger between sealing flap and envelope body at those areas, so that the portion of the sealing flap surrounding the area of each such end portion can readily be grasped for utilization of the strip through tearing.

The exact material to be used for the guide and tear strips varies with the tear strength of the envelope paper. In principle, the sheet material may be any of a large number of paper, cloth or plastic materials, and suitably can be one of the commercially available tapes. We have found the tapes to vary greatly in their tear strength. The best tapes for the purpose described are cloth in nature, since they have a tear strength well above paper. Plastic tapes or plastic-coated cloth tapes are also excellent. Cellophane tape is useful for light weight envelopes but not for those with heavier paper. Reinforced paper tapes are also moderately effective. The strips can be applied or adhered to the interior surface of the envelope by any suitable adhesive, such as the pressure-sensitive adhesives commonly provided on commercially available tapes.

The best tape is that described as box strapping tape. It consists of a cellophane tape reinforced with nylon or glass filaments or fibers. It will permit controlled tearing of any or all envelope papers when used in a suitable width such as about 1 mm. A commercially available tape of this type is that currently marketed under the designation, "Scotch Brand Strapping Tape, Catalog No. 44." It is said to be covered or made under one or more of U.S. Pat. Nos. 2,532,011, 2,607,711 and 2,708,192 and possibly others. Binding tape of a cloth nature with or without plastic coating is almost as effective. Ordinary cellophane tape is satisfactory for light weight envelopes. The width of the tape is not critical after a certain point since the edge tearing strength is the limiting factor.

The opening technique we have discovered is of especial value for opening V-mail or any envelope which serves as stationery by virtue of folding techniques. In these forms, the receiver is often confused as to which edge or edges should be opened. The application of the tear strip across the top edge fold and an appropriate exterior printed indicator permits safe, rapid opening.

In summary, our invention consists of an envelope construction which permits of ready and easy manual opening of any sealed envelope. The opening created is adequate, regular and neat. The act of opening is rapid, certain and without risk to the enclosures or the person opening the envelope. The envelope remains intact for use as a protective or filing wrapper. Thus, our invention is based on the principle of directing the normally-induced shearing force along a straight line at or close to the edge of the envelope to be opened. The thin, narrow and virtually invisible internal strip affords the necessary counter-resistance since it is far more difficult to tear than paper. Additional guidance can be provided by the similar application of short diagonal corner guide strips, or of one or both terminal portions of a continuous strip. With very narrow strips the strip may act as a cutting force itself. The tear strip may be applied at any or all edge folds, but for right-handed individuals it should be adequate to have the tear strip along the edge fold to the right of the address. External printing can be used to identify the hidden aid to opening.

Our invention differs from previously patented devices for opening wrappings in that the external appearance and/or tensile strength of the closure is unaltered. No tapes, tags, strings, ties or folds extrude externally. The paper is in no way altered by chemical treatment, serration, stamping, perforation or binding to produce a weakness critical to the opening process.

Brief description of the drawings

In the accompanying drawings, FIGURE 1 illustrates a typical paper blank from which a conventional envelope is made by folding and sealing. FIGURES 2 and 3 show the same blank and illustrate the practice of two, alternative embodiments of the basic invention, together with a third, optional but preferred, feature. FIGURE 4 illustrates a similar blank incorporating one specific embodiment of the invention, while FIGURE 5 shows another specific embodiment incorporated therewith. FIGURE 6 illustrates a preferred embodiment of the envelope of the invention.

In FIGURES 1 through 6, a paper blank 10 of the shape indicated illustrates a typical blank as used in the manufacture of a conventional envelope. Blank 10 is adapted to be folded along fold lines 6, 7, 8 and 9, so as to produce a rectangular front panel 1, end panels or flaps 3 and 5, bottom flap 4 and top flap 2. In the manufacture of the conventional envelope, end flaps 3 and 5, and top and bottom flaps 2 and 4, are coated in a narrow band along their free edges with a suitable adhesive, and end flaps 3 and 5 and bottom flap 4 are sealed. The top or sealing flap 2 is left unsealed until the envelope is used. When folded as described, the envelope has corners 11, 12, 13 and 14.

FIGURES 2 and 3 illustrate two alternative embodiments of the invention, and, in each case, a third, optional embodiment. In FIGURE 2, as one embodiment of the invention, the narrow strip of suitable sheet material 19 is superimposed upon substantially the entire length of an edge fold as at fold line 9. In FIGURE 3, as an alternative embodiment of the invention, one or preferably two narrow strips of suitable sheet material, designated 19a and 19b, are applied adjacent or contiguous to substantially the entire length of an edge fold as at fold line 9, and on opposite sides thereof. FIGURES 2 and 3 also illustrate an optional but desirable feature in the use of one, two or three narrow strips of similar sheet material, designated 21a, 21b and 21c, in superimposable diagonal fashion at a corner 11. Similarly, one, two or three guide strips could be correspondingly located at the other corner as at corner 14.

FIGURE 4 illustrates one specific embodiment of the invention, in which a narrow edge or tear strip of suitable sheet material is adhered to the interior surface of the envelope in a position superimposed upon substan-

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tially the entire length of each of the four edge folds, as shown at fold lines 6, 7, 8 and 9. It is to be noted that each of the edge or tear strips ends short of intersecting the projection of the edge or tear strips superimposed upon edge folds at right angles thereto.

FIGURE 5 illustrates another specific embodiment of the invention, in which each of the edge folds represented by fold lines 6, 7, 8 and 9 contains a superimposed edge or tear strip of suitable sheet material, designated 16, 17, 18 and 19, respectively, and, in addition, each of the four corners 11, 12, 13 and 14, of the envelope has three corner or guide strips, as shown at 21a through 21c, 22a through 22c, 23a through 23c and 24a through 24c, respectively, so positioned as to become superimposed upon folding the envelope.

FIGURE 6 illustrates a preferred embodiment of the invention, in which the envelope blank is provided with but a single, continuous, narrow strip. This single continuous strip 26 preferably is adhered, along its central portion, to the sealing flap 2 adjacent a substantial portion of the edge fold formed by fold line 6. The terminal portions 26a and 26b of strip 26 are flared outwardly on the sealing flap 2 from such edge fold. Alternatively, the central portion of single strip 26 can be superimposed upon such edge fold, or can be adhered adjacent or contiguous to the side thereof opposite that shown in FIGURE 6. Also, and alternatively, only one of such terminal portions is flared outwardly on the sealing flap 2. In any case, the narrow band of adhesive coating 40 terminates short of the terminal portions, 26a and 26b, as shown at 40a and 40b, respectively, so as to provide unsealed areas of the sealing flap surrounding portions 26a and 26b adapted to be grasped and pulled by the fingers.

Description of preferred embodiments

In one specific embodiment, illustrated in FIGURE 4, an edge or tear strip is superimposed over substantially the entire length of each of the four edge folds. Thus, in FIGURE 4, tear strips designated 16, 17, 18 and 19 are respectively superimposed over the edge folds indicated by fold lines 6, 7, 8 and 9. Each of the tear strips 16, 17, 18 and 19 is of such length that it extends to within approximately 5 mm. of the nearest corners of the envelope. For example, tear strip 16 is of such length that it extends to within approximately 5 mm. of each of the corners 11 and 12.

The tear strips employed in this example are fabricated from a glass-filament-reinforced cellophane tape, having utility as a box strapping tape, which is obtainable commercially from the Minnesota Mining & Manufacturing Company under the trade designation "Scotch Brand Strapping Tape, Catalog No. 44." This tape in its commercially-available form is of suitable thickness and contains a pressure-sensitive adhesive which is satisfactory for use in the practice of this invention. Strips of this tape having a width of approximately 1 mm. are used to make the tear strips which are applied as above described.

When a conventional envelope having adhering tear strips as above described is sealed and used in a customary manner, it is found that manual opening of the envelope without damage to the enclosure or unnecessary destruction of the envelope is greatly facilitated.

In a second specific embodiment, illustrated in FIGURE 5, the material, size, positioning and application of the edge or tear strips are identical to those in the specific embodiment described above with reference to FIGURE 4. However, in addition, the embodiment illustrated in FIGURE 5 also employs three diagonal guide strips at each of the four corners of the envelope. Thus, as illustrated in FIGURE 5, corner or guide strips 21a through 21c, 22a through 22c, 23a through 23c and 24a through 24c are applied respectively at corners 11, 12, 13 and 14. At each of these corners, three strips are applied diagonally as shown, in positions such that upon

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folding of the adjacent two flaps, they will to the extent practicable become superimposed one upon the other. For example, at corner 14, guide strips 24a, 24b and 24c are positioned so that, upon folding of flaps 5 and 4, respectively, along fold lines 9 and 8, guide strips 24b and 24c will become substantially superimposed upon guide strip 24a.

Each of the guide strips employed in this embodiment is approximately 1.5 cm. in length, and is positioned so as to extend at either end to within about 1 mm. of the adjacent tear strip. These guide strips are made from a strip 2 mm. in width of the same box strapping tape utilized in making the above-described tear strips.

When a conventional envelope embodying the tear and guide strips as herein described is sealed and subjected to normal use, it is found that manual opening of the envelope without injury to contents and unnecessary damage to the envelope is greatly facilitated, and further that the proper course for the initial tear force is more readily assured.

Although each of the two specific embodiments hereinabove described with reference to FIGURES 4 and 5 facilitates the manual opening of an envelope, both require in order to avoid the risk of damaging its enclosure, that the enclosure not completely fill the envelope space on all sides. Thus, if either or both of these embodiments is to operate without significant risk of damage to the enclosure, an unoccupied space of at least a few millimeters (e.g., 6 mm.) should exist at the location where the envelope is initially grasped and torn. For example, the enclosure may fill the envelope space completely throughout its length, but in depth allow 6 mm. or more of unoccupied space at the top or bottom of the envelope for grasping and tearing of the envelope to initiate operation of the tear strip.

In a preferred embodiment of the invention, illustrated in FIGURE 6, the opening of an envelope is facilitated free of significant risk of damage to its enclosure even though the enclosure substantially or completely fills all of the envelope space. In this embodiment, a single and continuous narrow strip is utilized in association with the sealing flap of the envelope. Thus, as shown in FIGURE 6, a continuous narrow strip 26 of approximately 1 mm. in width is adhered to sealing flap 2. The central portion of strip 26, up to within approximately 2 centimeters (cm.) of each of its ends, is positioned adjacent to the edge fold formed by the sealing flap at fold line 6, and each of such end portions 26a and 26b is oriented outwardly from fold line 6 and at an angle of approximately 45 degrees therewith to the near free side of sealing flap 2. In this embodiment, the narrow band of adhesive coating 40 provided along the free side of sealing flap 2 is ended, as at 40a and 40b, a substantial distance from terminal portions 26a and 26b, respectively, of strip 26. The single strip employed in this embodiment is fabricated from the same box strapping tape used in the specific embodiments described hereinabove with reference to FIGURES 4 and 5.

When a conventional envelope having an adhering, single strip, as above described, is fitted with an enclosure which substantially completely fills the envelope space, and such envelope is sealed and used in a customary manner, it is found that the envelope can be opened manually, as herein described, with greater facility and free of any risk of damage to the enclosure and of unnecessary destruction of the envelope. More particularly, the envelope is opened by inserting a finger underneath the sealing flap at the location of either of the terminal portions 26a and 26b, grasping the sealing flap and underlying strip at such location and tearing same along the line of the strip to provide a neat and even access opening in the envelope. Preferably, the sealing flap locations intended for grasping to initiate action of the strip are indicated externally by suitable means such as markings.

Other embodiments of this invention will be apparent to

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those skilled in the art, and it is expressly contemplated that all such embodiments are within the scope of this invention.

The invention claimed is:

1. In a stationary envelope made from paper, the improvement comprising a narrow strip of a sheet material adhered to the interior surface of the envelope along substantially the entire length of at least one edge fold, and at least one narrow strip of a sheet material adhered to the interior surface of the envelope in the position of a particular hypotenuse adjacent at least one of the corners formed by said edge fold and another intersecting edge fold, said sheet material having a resistance to tear substantially greater than the paper from which the envelope is made.

2. Envelope according to claim 1 wherein said narrow strip of a selected sheet material is located adjacent to said edge fold.

3. Envelope according to claim 1 wherein said narrow

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strip of a selected sheet material is superimposed upon said edge fold.

4. Envelope according to claim 1 wherein said sheet material is selected from the group consisting of paper, cloth, plastic and cellophane.

5. Envelope according to claim 4 wherein said sheet material is a filament-reinforced cellophane tape.

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