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(54) Self-opening envelope.

(57) An envelope is provided with a string assembly (22) disposed along the line of fold (18) of the sealable flap. The string assembly is pressed into position with a coating of a pressure adhesive, which is co-extensive with the line of fold. One envelope corner is weakened, so that pulling outwardly from this corner will tear the envelope and will open it along the string assembly, which acts as a knife edge.

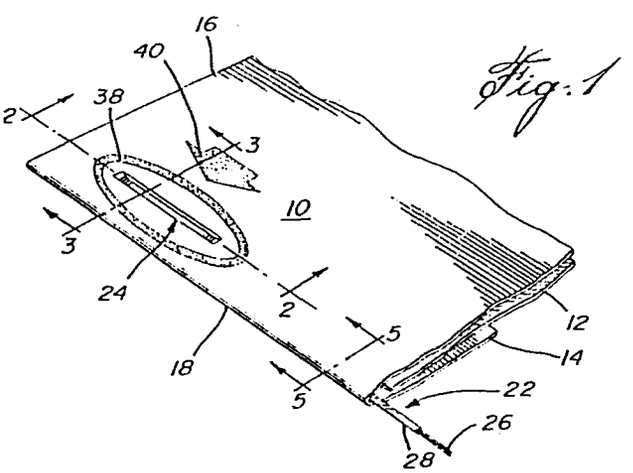

Fig. 1

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Self-opening envelope

Field of the invention

This invention relates to improvements in paper containers with sealable flaps, and particularly to envelopes having means for easy access.

Background of the invention

Previous means for facilitating opening of a sealed envelope had numerous disadvantages. For example, some envelopes have a string on the inner side of one of their fold lines, but only the ends of the string is glued to the envelope; if one end becomes unstuck, the string becomes unusable to open the envelope. Other envelopes comprise a string sewn along fold lines. These envelopes necessitate a long manufacturing process and are too expensive.

It has been consequently felt that simple, efficient, and easy-to-apply means for facilitating opening of a sealed envelope is desirable.

Objects of the invention

The prime object of this invention is therefore to provide a simple, efficient and easy-to-apply string on the inner side of one of the fold lines of an envelope for the opening of this envelope.

Another object of the invention is to provide means to facilitate initiating the envelope-opening operation.

Another object of the invention is to provide a self-opening envelope which is inexpensive to manufacture and which can be handled by post office mail-sorting equipment.

Other objects of the invention will be more apparent from the detailed description of the preferred embodiment of the invention.

Summary of the invention

According to the invention, there is provided an envelope provided with a string assembly disposed along the line of fold of a sealable flap of the envelope at the inner surface, and adhered into position along the entire length of the string by a coating of a pressure adhesive. A paper weakening is provided at one envelope corner, so that pulling outwardly from this paper weakening will tear the envelope and will open it along the string.

Brief description of the drawings

Fig. 1 is a fragmentary, perspective view of one corner of an envelope embodying the invention, showing the indentation and the string assembly;

Fig. 2 is a sectional view taken along line 2-2 of Fig. 1;

Fig. 3 is a cross-sectional view taken along line 3-3 of Fig. 1;

Fig. 4 is a partial perspective view of the envelope of Fig. 1, partially opened;

Fig. 5 is a perspective view, similar to Fig. 1, but for a second embodiment, showing the elongated hole;

Fig. 6 is a cross-section taken along line 6-6 of Fig. 5;

Fig. 7 is a partial perspective view of the envelope panel of the second embodiment, showing the flap in open position;

Fig. 8 is a view similar to Fig. 1 and 5, but for a third embodiment, showing paper weakening slits; and

Fig. 9 is a sectional view of the third embodiment, taken along line 9-9 of Fig. 8.

Detailed description of the preferred embodiments of the invention

A conventional form of paper envelope is shown, consisting of a front and a rear panels 10, 12 and a sealing flap 14. Front panel 10 is connected to rear panel 12 by means of fold lines 16, one of which is shown in Fig. 7, whereas flap 14 is connected to front panel 10 by means of fold line 18. The flap 14 has on its inner surface, and outwardly of the fold line 18, an adhesive coating 20, such as wettable glue, for sealingly connecting the inner surface of flap 14 with the outer surface of rear panel 12, when the flap 14 is to be closed.

Referring now to Fig. 1 to 4 inclusive, a first embodiment of the invention is shown, including a string assembly 22 and an envelope indentation 24 as a paper weakening.

The string assembly 22 is disposed along and inwardly of the fold line 18. As best seen in Fig. 1 and 6, the string assembly 22 consists of one or more monofilaments 26, of synthetic resin, adhered side by side to one side of a flexible strip 28 of synthetic material by a coating of a pressure adhesive 30, which also serves to adhere the string assembly 22 to the paper of the envelope. Coating 30 is coextensive with monofilaments 26 and strip 28. Monofilaments 26 can be replaced by one or more strings made of twisted fibers. Therefore, the string assembly 22 is simply pressed into position onto the fold line 18 The string assembly 22 is coextensive with the lateral flap 14 and adheres to the paper over its entire length. The string assembly 22 is cut at both ends flush with fold lines 16, so as not to protrude from the sealed envelope.

The indentation 24 is made by a punch-machine on one corner of the envelope, to decrease the original thickness of each of the three layers of paper by about one-half. This produces a groove extending parallel to but at a distance from fold line 18 and the adjacent fold line 16, and determining a tearable portion 34. Indentation 24 produces a paper weakening sufficient to allow easy tearing of portion 34. Upon holding the opposite end of the envelope with one hand and holding portion 34 of the envelope with the other hand, and pulling in the direction indicated by arrow A, the envelope will tear along dotted lines 36. The envelope will therefore open along the string assembly 22 following arrows B. Portion 34 remains adhered to string assembly 22 and the latter acts as a knife edge to tear open the envelope along fold line 18; it remains attached to portion 34 but becomes detached from the envelope.

Preferably, but not necessarily, the indentation 24 is indicated by an ovoidal colored circle 38 outwardly surrounding the indentation 24, and by a large, colored arrow 40 directed towards the circle 38.

The first embodiment does not form any opening within the sealed envelope and cannot become inflated by pressurized air used in mail-sorting equipment of Government Postal services.

It is a simple matter to make indentation 24 and to apply the string assembly 22 from a continuous reel of such pressure-adhesive string assembly 22. This is also true for the other embodiments as well.

Referring now to Fig. 5 to 7, a second embodiment is illustrated. An elongated hole 42 is made at one corner of the envelope, parallel to the fold line 18, and through the front wall 10, the rear wall 12, and the sealing flap 14, and inwardly of the string assembly 22.

The procedure to open the envelope is the same as for the first embodiment. The hole 42 may be indicated by the arrow 40.

A third embodiment is shown in Fig. 8 and 9. Two adjacent and mutually-inclined slits 44, 46 are made at one corner of the envelope, again through the front wall 10, the rear wall 12 and the lateral flap 14 and inwardly of the fold line 18. The envelope may be opened by tearing a tearable portion 48, inbetween slits 44, 46 and fold line 18, that is similar to portion 34 of the first embodiment, and following the procedure already described in previous embodiments with the string assembly 22.

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Claims

1. A paper envelope comprising self-opening means for the envelope, said envelope being of the flap-closable type and having a flap (14) and front and rear walls (10, 12), said flap determining a fold line (18) with said front wall, characterised in that the said self-opening means comprises :

a) a string assembly (22) disposed along and inwardly of said fold line (18) and comprising at least one string (26),a flexible strip (28) and a coating of pressure adhesive (30) co-extensive with said string, said coating adhering said string to one side of said strip and also to the paper of said envelope along the entire length of said string and fold line; and

b) envelope walls and flap-weakening means (24,42,44,46), disposed at one of the flap corners of said envelope inwardly of said string assembly, to allow easy tearing of the envelope portion in-between said weakening means and said fold line; whereby upon holding the opposite end of said envelope with one hand and holding said portion with the other hand, and pulling outwardly, said envelope will tear open along said string assembly.

2. A paper envelope according to claim 1, wherein said weakening means consists of a paper indentation (24) made in said walls (10,12) and flap (14) and to decrease the original thickness of said paper by at least one-half.

3. A paper envelope according to claim 1, wherein said weakening means consists of an elongated hole (42) made parallel to said fold line (18) through said walls (10,12) and flap (14).

4. A paper envelope according to claim 1, wherein said weakening means consists of two adjacent and mutually inclined slits (44,46) made through said walls (10,12) and flap (14).

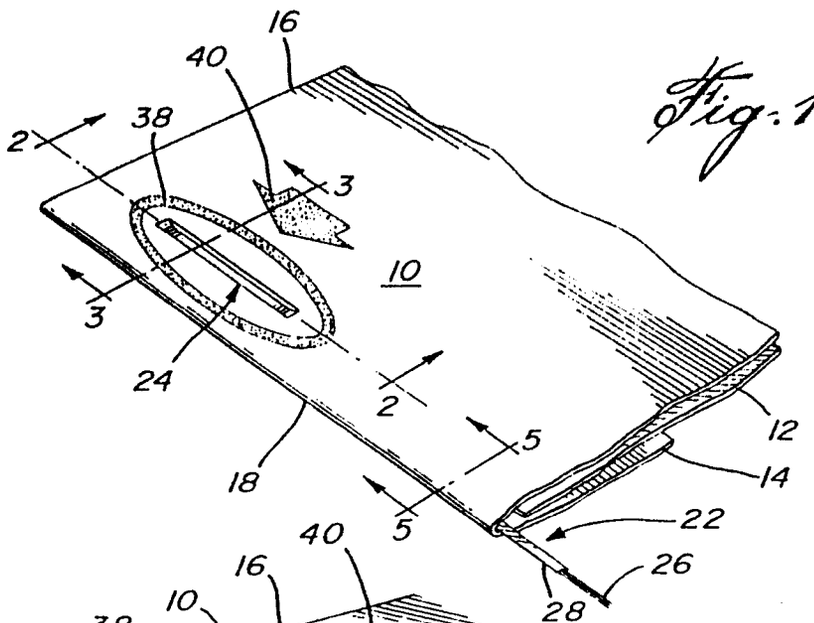

Fig. 1

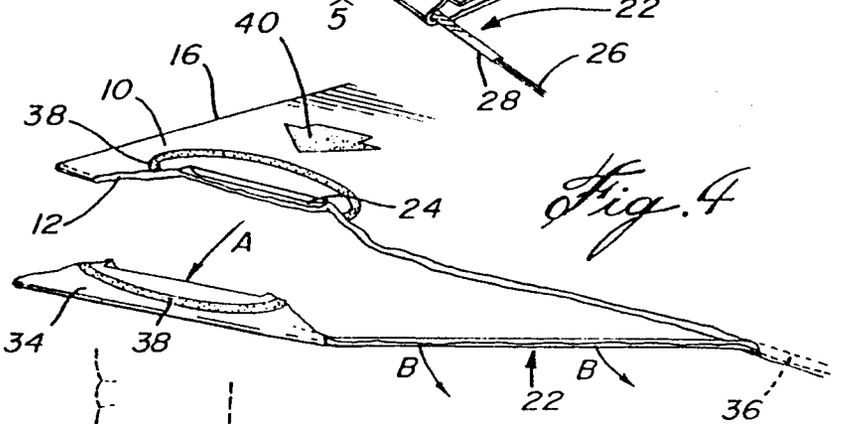

Fig. 4

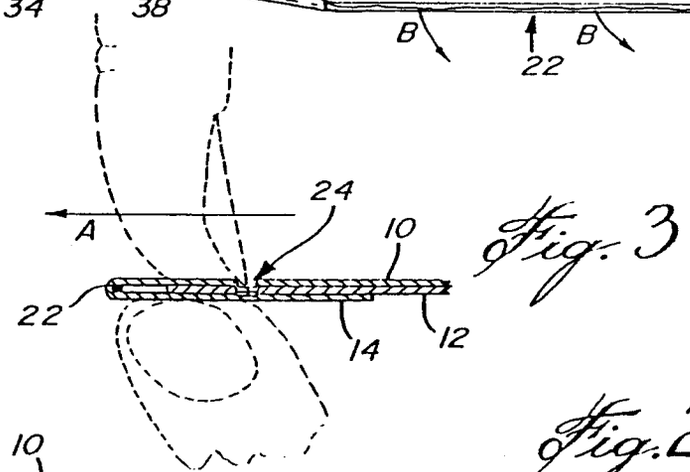

Fig. 3

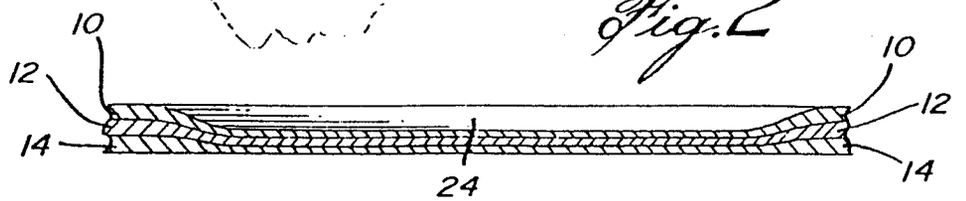

Fig. 2

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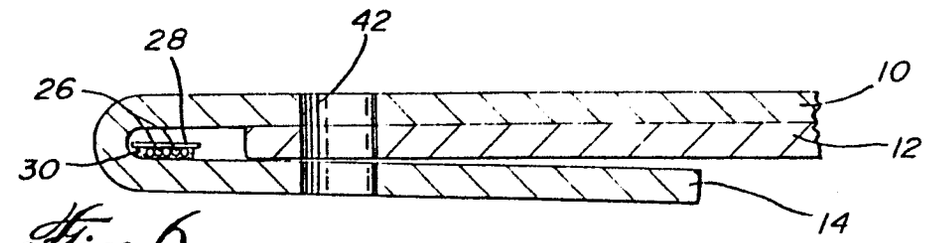

Fig. 6

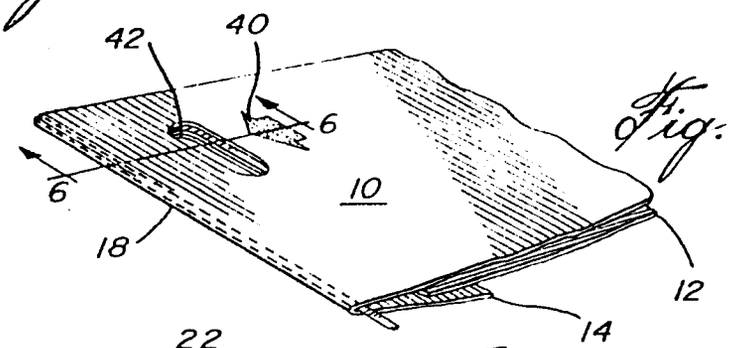

Fig. 5

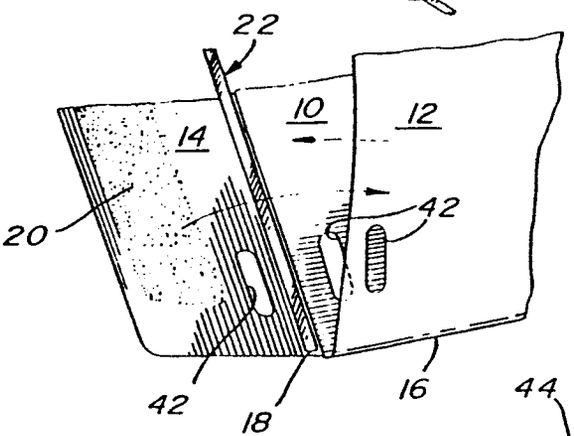

Fig. 7

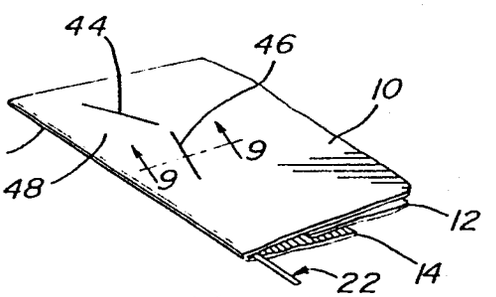

Fig. 8

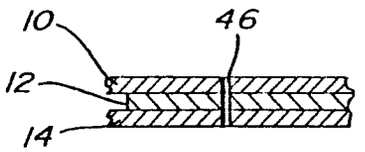

Fig. 9