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(54) Self-enveloping forms.

(57) In a continuous form for correspondence of the self-enveloping type, each page has, on at least one of its sides, at least one lateral extension containing an area for the application of an adhesive. After having removed the tear-off sections and having folded and closed the page, the part or the parts containing this adhesive area are the only parts which remain, the said parts having been folded and sealed to one or more prefixed corresponding adhesive carrying areas of the page.

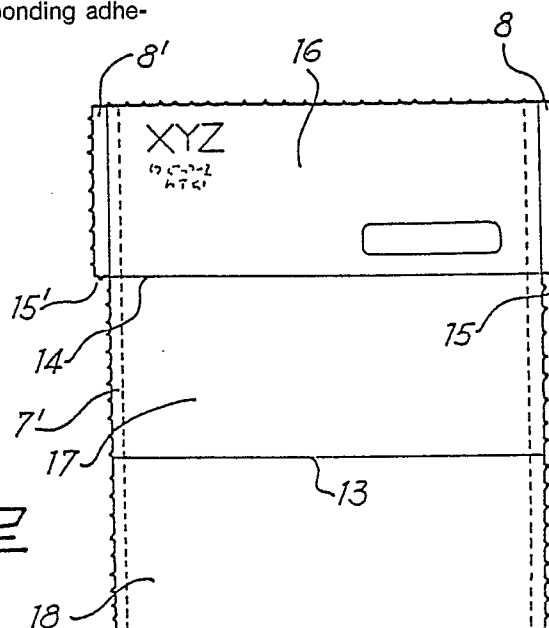


Fig. 2

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SELF-ENVELOPING FORMS

The present invention concerns a continuous correspondence form; such forms have been known for some time and in essentially consist of a number of pre-printed letter formats or pages, each constituting a headed letter, invoice or similar correspondence unit, inked together and accordion superimposed to form a block.

In detail, the present invention concerns a correspondence form of the "self-enveloping" type, in which each page of the continuous form, compiled by a computer, can be folded to give an "envelope" or mailer for the letter, thus speeding up to the maximum the process of sending out correspondence.

Generally, the page is horizontally folded in three sections accordion superimposed, but it can be folded with superimposed extremities or also along a vertical folding line.

In any case, adhesive areas are provided on each page, to permit fast and simple closing of the compiled page. It is precisely these adhesive areas that create the major problems with these forms.

In fact, given the particular structure of the continuous-form block, in which the pages are accordion superimposed, the adhesive areas of two superimposed pages must not overlap. If there is an overlap of the two adhesive areas, then the relating pages will stick to each other, especially if the adhesive used is of the "pressure" type. This has led to forms where the adhesive areas are discontinuously distributed along part of the edge of each page of the block, to avoid such overlapping. However, this solution is not entirely satisfactory, because the discontinuous nature of the adhesive areas of each page leads inevitably to only partial sealing and closure of the page. Since the letter is produced to be used without a proper envelope, its closure or sealing must be particularly secure and reliable to avoid accidental opening during transport and postal distribution.

A continuous form is thus required that overcomes the above mentioned problems and provides a plurality of individual pages which can be folded and closed to securely and reliably form a letter.

The aim of the present invention is the provision of a continuous-form of the type where each of its pages corresponds to an individual letter, invoice or similar, and can be folded so as to provide a number of parts which link together easily, securely and reliably, to form a letter that can be sent without the related envelope.

Another further aim of the present invention is to provide a continuous form which can be compiled on only one side. A further aim of the present

invention is to provide a continuous form in which the adhesive area for the closure of individual pages is separate from the page area which has to be compiled and/or filed.

In greater detail, the present invention concerns a continuous form for correspondence, of the self-enveloping type, formed by a plurality of pages connected at their extremities and accordion superimposed in a pile, characterized in that each page has on at least one of its sides, at least one side band carrying on a pre-selected zone an adhesive area, and in that only the parts of the said side band or bands containing the adhesive area remain on said page after the removal therefrom of one or more preselected tear-off selections and the folding and closing of said page; the said part or parts being folded and sealed to one or more preselected corresponding areas of the said page.

The invention further provides a method for folding and closing individual pages of a form such as the above mentioned one characterized by the step of: removing the perforated tractor strip and/or the part or parts of the side band or side bands not containing adhesive areas; folding the said page in a plurality of parts before or after the said removal of the perforated tractor strip and/or parts of the side band; folding the remaining part or parts of the side band and sealing them to one or more preselected corresponding areas of the said page.

The invention will now be described in greater detail with reference to the attached drawings which are of an illustrative, non-limiting nature, in which:

Fig 1 is a plan view of a page according to the invention;

Fig 1a is a plan view of an alternative embodiment of the page according to the invention;

Fig 2 is a plan view of the page in Fig 1 or 1a at a later step of the folding procedure;

Fig 3 is a perspective view of the Fig 2 page at a later step of the folding procedure according to the invention;

Fig 4 is a cross-section of the Fig 2 page in the final step of the folding procedure according to the invention;

Fig 5 is a plan view of the Fig 1 page completely folded;

Fig 6 is a plan view of an alternative embodiment;

Fig 7 is a perspective view of the Fig 6 page in the course of being folded;

Fig 8 is a view of an embodiment alternative to the previous shown pages;

Fig 9 and 11 are perspective, or plan, views of the page shown in Fig 10, during different steps of folding.

According to the invention, each page of the block will have on at least one of its sides a side band containing a preselected adhesive area.

In the below described folded and closed condition of the individual page, only the adhesive carrying areas remain after the removal of the perforated tractor strips and/or tear-off portions. Such remaining parts are folded back and affixed to one or more preselected corresponding adhesive areas of the said page.

Fig. 1 shows an embodiment of a page of the continuous-form according to the present invention. As can be seen the page 1 was separated from the other pages of the continuous-form to which it was attached by two rows of perforations along sides 2 and 2'. Page 1 corresponds to a single letter and for this purpose carries a heading 3 which was printed during production together with the indication 4 of where to put the address of the recipient. Naturally, the preprinted part of the letter, which in this case corresponds to the heading 3, will vary according to the final purpose of the letter 1.

Besides the tractor strips 6 and 6' which are typical of all blocks, in the particular embodiment shown in Fig 1, there are two pairs of side bands on the page sides 5 and 5'.

In detail, there is an internal band 7 and an external band 8 on side 5; and two symmetrical bands 7' and 8' on side 5'.

As can be seen, the internal bands 7 and 7' are joined to page 1 by two lines of tear-off perforations 9 and 9' which extend for the full length of page 1, and to the more external bands 8 and 8' by two lines of perforations 10 and 10' which extend only partly along the sides 5 and 5', the remainder consisting of two fold lines 11, 11'. In the preferred embodiment of Fig 1, the lines 10 and 10' are about two-thirds the length of the page and extend from the lower edge 2' to a selected distance from side 2. For the remainder of the distance to side 2 these lines 10 and 10' are replaced by the fold lines 11 and 11'. The external side bands 8 and 8' and the strips 6 and 6' are separated by two series of perforations 12 and 12' similar to the previously mentioned lines 9 and 9'.

Crossing page 1 perpendicularly to the lines 9, 9', 10, 10', 11, 11', 12 and 12', are two fold lines 13 and 14 similar to the previously mentioned lines 11 and 11'. The fold lines 13 and 14 are located one-third and two-thirds down the length 5, 5' of page 1.

As can be seen, the lines 13 and 14 extend the full distance between the two lines of perforations 10 and 10'; further, the fold line 14 continues to the

lines of perforations 12 and 12' under the form of two short perforated lines 15 and 15'.

The preferred embodiment of Fig 1 has an adhesive area (not shown) on the reverse of the parts of the side bands 8, 8' which extend from side 2 to the perforated lines 15 and 15', and on the reverse of the part of the internal bands 7 and 7' which extend between the fold line 13 and the side 2'.

Fig 1a shows a simpler, alternative embodiment in which the lines of perforations 12 and 12' extend only from side 2 to the lines of perforations 15 and 15'. In this way, the external bands 8 and 8' are limited, in comparison to the embodiment of Fig 1, to the adhesive area, i.e. the parts between side 2 and the lines of perforations 15 and 15', or between the side 2 and the fold line 14. Thus, two "L" shaped tractor strips 6a and 6a' are produced. It should be noted that by "adhesive area" is meant both the adhesive area actually carrying the adhesive and the corresponding affixing area which may not have adhesive, but will receive it at a later stage. Obviously, a part of the said adhesive area could also be without adhesive. Generally, for practical reasons, the embodiments of this kind have pre-adhesive areas.

The purpose of the perforated lines and the fold lines will be made clear in the following description of the method for folding page 1, shown in Figs 2 - 5, in which reference will be made to embodiment 1a only, for the sake of simplicity.

Fig 2 shows page 1 after the first step of folding, that is the removal of the two "L" shaped strips 6a and 6a' carrying the tractor holes. After the removal of the strips 6a and 6a', page 1 is left with two strips for portions of strips) 8 and 8' projecting from the rest of the page. These parts (which shall be referred to below as "external side bands 8, 8'") extend from the side 2 to the fold line 14, i.e. for one-third of the page length. The page 1 can therefore be accordion folded in three sections 16, 17 and 18, as shown in Fig 3, following the fold lines 13 and 14. These sections overlap as shown in Fig 3, where the front face or recto of section 17 is facing the recto of section 18, while the recto of section 16 becomes the outside of the "envelope" or letter thus formed. As can be seen, the front 16 is provided with an area 4 for the recipient's address 4 and with the letter-heading 3.

The above disclosed folding operations can be reversed, accordion folding the page 1 before removing the "L"-shaped tractor strips 6a, 6a'.

As previously described, the reverse of the band 8, 8' on the section 16 and the reverse of the adjacent internal side bands 7, 7' on the section 18 are pre-spread with adhesive. At this point each external band 8, 8' is turned in along the line 11, 11' until it contacts the band 7, 7' of the lower

section 18, sealing the two reverse edges by the adhesive, as schematically shown in Fig 4. The form page is thus closed and sealed to provide an external appearance as in Fig 5. To obtain a more secure closure or sealing of the letter thus produced, it would be necessary to add more adhesive areas on the reverse of page 1; in particular such pre-adhesive areas would be positioned on the reverse of page 1 along side 2 and along the lower edge of the central section 17, that is along the fold-line 13.

In the preferred embodiment here described, the side bands 7, 7' and 8, 8' used for closing page 1 in the letter form, are distinct from the strips with the tractor holes 6, 6' or 6a, 6a'; nevertheless it may be envisaged an embodiment in which the total number of strips would be two, and the function of band 8, 8' would be carried out by part of the strips 6a, 6a' with the tractor holes.

Figs 6 and 7 show an alternative embodiment to those shown in figures 1 and 1a, from which it differs in the position of the band 8, 8' and in having a window 19. The method for closing is analogous to that above described with reference to the previous embodiment; the only difference is that the form of fig. 6 should be folded as shown in fig. 7 instead of the usual accordion way.

Figs 6 and 7 show a form page stripped of the perforated tractor strips and the parts of the side bands not containing adhesive areas; although there are no plan views of the entire page for this embodiment, the entire page is assumed to have structure similar to those of the embodiments shown in Figs 1 and 1a.

In the case of pre-spreading adhesive in the application areas of the bands 7, 7' and 8, 8' the preferred embodiments of Figs 1 and 1a do not rise any problems of reciprocal adhesion when the continuous form is folded, i.e. during its stocking, while the embodiment in Fig 6 requires the application of adhesive only on part of the recto of the bands 7, 7' on the central section 17, in addition to the usual application on the reverse of the bands 8, 8'.

In Figs 8 to 12 is shown a continuous form page according to the invention, particularly suited to sending of postal bills for payment through the postal giro system. As can be seen from Fig 8, there are the usual provided perforated, tear-off tractor strips 26, 26' along the sides 5 and 5' of the page F, where band 26 on side 5 is a standard perforated tractor strip joined to the rest of the page by the perforations 28, while band 26' on side 5' is "L" shaped in the same way as the strip 6a' in Fig 1a. Band 26' is linked to the rest of page (as well as to the side band 33 on the left of page F) by the line of perforations 28'. Removing both

bands 26 and 26' gives the page as in Fig 9, where only side band 33 remains which, as in the above disclosed embodiments, is defined by a fold line or crease 31.

Further fold lines or creases 27 and 29 are provided on page F parallel to side 2 and 2'; said fold lines divide the page F into three equal parts which are in turn halved by a fold line or crease 32 perpendicular to line 27 and 29, and equidistant from the fold line 31 and the perforated line 28.

The fold lines or creases 27, 29 and 32 thus divide the page F into six essentially equal areas. Zone 30 carries the heading 3 and the space for the recipient's address 4. Zone 30, as can be seen from Fig 9, also carries along the full length of its side and external to itself, the single side band 33, which carries the adhesive area on at least its reverse. An area corresponding to the adhesive area on side band 33 is found along the line 28 between the side 2 and the fold line or crease 27. The positioning of this second adhesive area will become clearer with reference to Figs 10, 11 and 12.

When the page F of fig 9 is folded along fold lines or 27 and 29 as shown in Fig 10, the lower section 24 is superimposed the central section 23 and the upper section 22 is in its turn superimposed to section 24.

The form page thus folded appears as in Fig 11, where it can be seen how the upper section 22 acts both as front and back of the letter to be sent. As above disclosed, section 22 is divided into two zones 30 and 25 by the fold line or crease 32, both of them having an adhesive area. The adhesive area of zone 30 is the reverse of the side band 33, while that of zone 25 is the shaded area 34 provided along the edge of zone 25.

At this point, page F is folded along the fold line or crease 32 as shown in Fig 11 so that the side band 33 can be folded over and sealed to the said adhesive area 34, thus closing the letter.

As for the embodiments previously described, for a better closure of the page F, it would be preferable to apply adhesive also to other areas of page F; in particular to the recto of the central section 23 along the fold line 27 or along the fold line 29, so as to close the letter along two of its three free sides, leaving one side open for postal inspection.

The method for the folding and closing provides also in this case for the reversal of the steps of removal of the perforated tractor strips and folding of page F.

The layout and shape of the side bands 26, 26' and 33 can obviously vary without losing the protection of the present patent, e.g. the side band 33 and the adhesive area 34 may be joined to the rest of the page F by a line of perforations, and could

thus be tear-off removed when opening the letter.

Moreover, in this case, too, page F can be folded in more ways than the one above disclosed, e.g. page F can be accordion folded, thus requiring a minor change in the position of the adhesive areas.

In any case, the self-enveloping continuous form according to the invention provides individual pages capable of being compiled by computer and then folded into a plurality of sections, which are mutually adhesive, to form a "sealed" letter with simple, secure and reliable closure.

Claims

1. Continuous form for correspondence, of the self-enveloping type, formed by a plurality of pages connected at their extremities and accordion superimposed in a pile, characterized in that each page has on at least one of its sides, at least one side band carrying on a pre-selected zone an adhesive area, and in that only the parts of the said side band or bands containing the adhesive area remain on said page after the removal therefrom of one or more preselected tear-off sections, and the folding and closing of cited page; the said part or parts being folded and sealed to one or more preselected corresponding areas of the said page.

2. Form according to Claim 1, characterized in that said side bands are distinct from the perforated tractor strip and their adhesive area are pre-spread with adhesive.

3. Form according to Claim 1, or 2, characterized in that each page has two pairs of side bands symmetrically arranged on opposite sides of the said page, and in that, in the final folded and closed condition of said page, the adhesive bearing parts of the external side band are folded and sealed to analogous adhesive areas of the adjacent internal side band, the said internal side band being linked to the rest of the page by a perforated line.

4. Form according to Claim 1 or 2, characterized in that in the said folded and closed condition, the adhesive bearing parts of the said side band are folded and sealed to a corresponding area on the opposite side of the said page.

5. Form according to Claim 3, in which each page can be accordion folded into three sections, characterized in that the adhesive bearing area of the external side band is positioned on the reverse of the upper section of the said page and, in said folded and closed condition of said page is folded and sealed behind to the internal side band of the lower section of the said page, which is also adhesive bearing on its reverse.

6. Form according to Claim 4, in which each page is foldable into three sections, with extremities overlapping, along fold lines or creases across the page itself, and is further foldable in two section along a vertical fold line or crease in the said page, characterized in that the said adhesive areas of the side band are positioned on the reverse of the upper section of the said page and in said folded and closed condition of said page, are can be folded and sealed to a second adhesive area on the recto of the page upper section, on the opposite side to that having the said adhesive bearing part of the said side band.

7. Form according to Claim 4 or 6, characterized in that the said side band and corresponding area on the opposite side of the page are linked to the rest of the page by a perforated line.

8. Form according to any of the preceding Claims, characterized in having on the recto and/or reverse of each page, adjacent to the edges of the said sections, at least one further adhesive carrying area.

9. Method for folding and closing individual pages of a form according to Claims 1 to 8, characterized by the step removing the perforated tractor strip and/or the part or parts of the side band or side bands not containing adhesive areas; folding the said page in a plurality of parts before or after the said removal of the perforated tractor strip and/or parts of the side band; folding the remaining part or parts of the side band and sealing them to one or more preselected corresponding areas of the said page.

10. Method according to Claim 9, in which each page has at least one pair of internal and external side bands, characterized by folding and sealing said remaining parts of the external side band to corresponding areas on the adjacent internal side band.

11. Method according to Claim 9, in which each page has at least one side band, characterized by folding each page horizontally and vertically, and folding and sealing in the remaining parts of the side band to a corresponding area on the opposite side of the said page.

12. Method according to any of the preceding Claims 9 to 11, characterized by pre-spreading with adhesive all of the adhesive carrying areas of the side band and/or of the page which will come in contact with each other.

Fig. 1

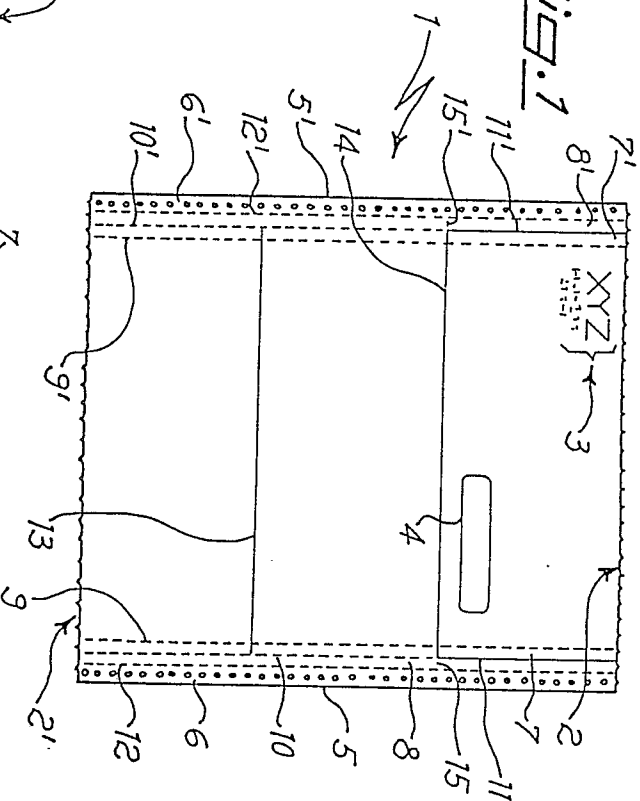


Fig. 1a

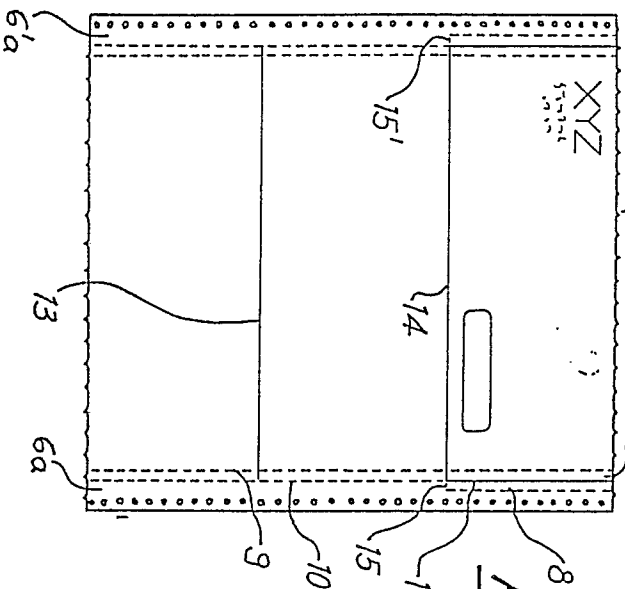


Fig. 2

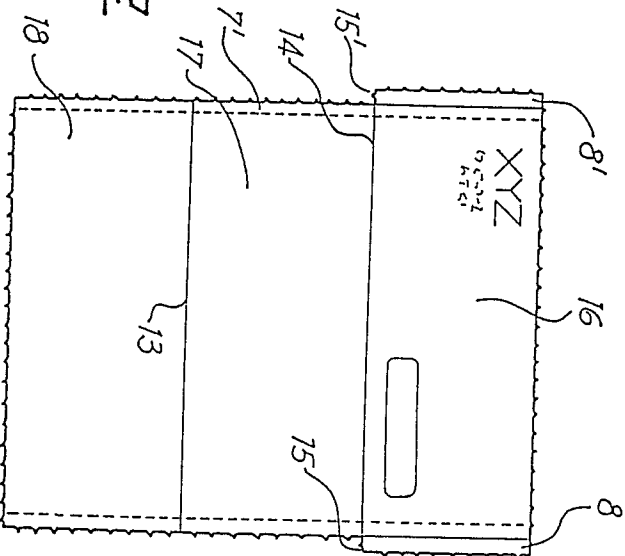


Fig. 3

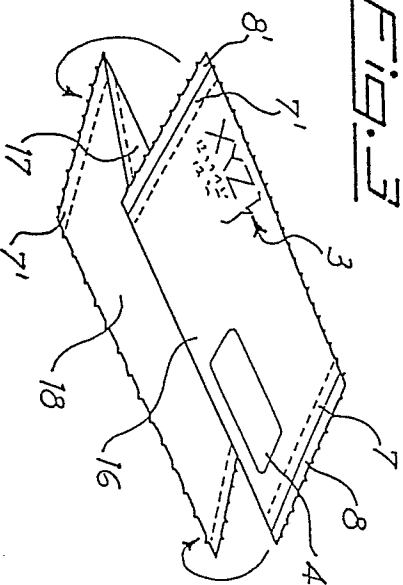


Fig.4

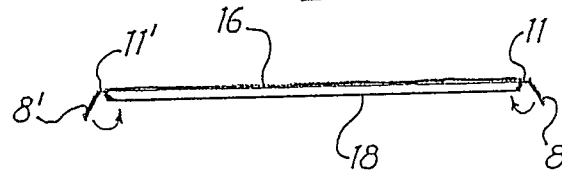


Fig.5

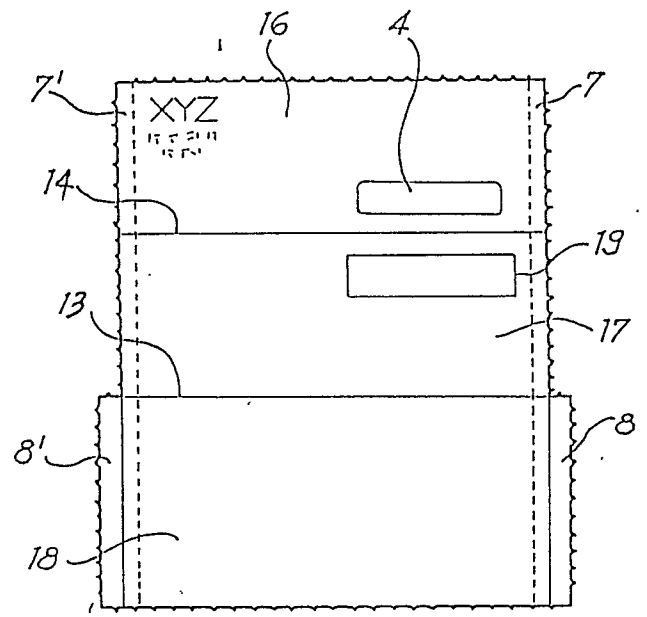
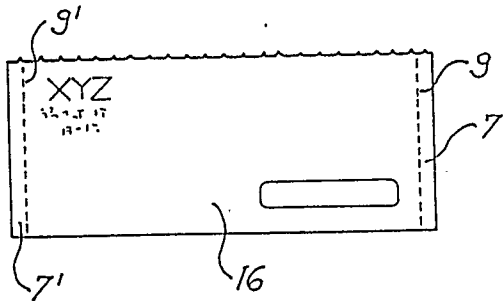


Fig.6

Fig.7

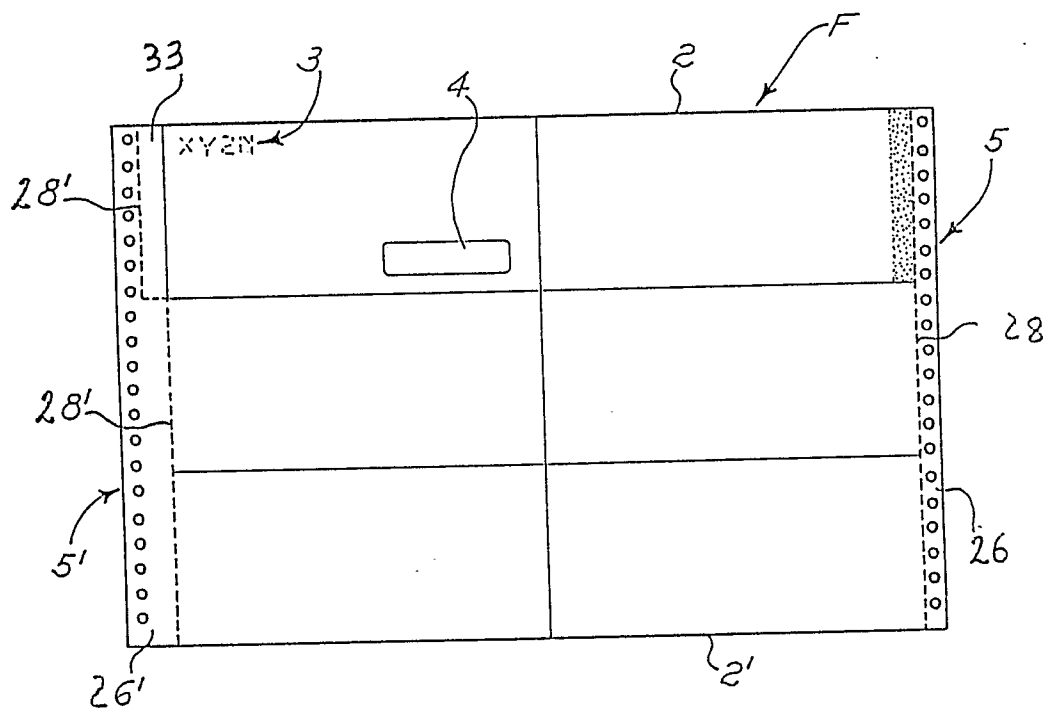
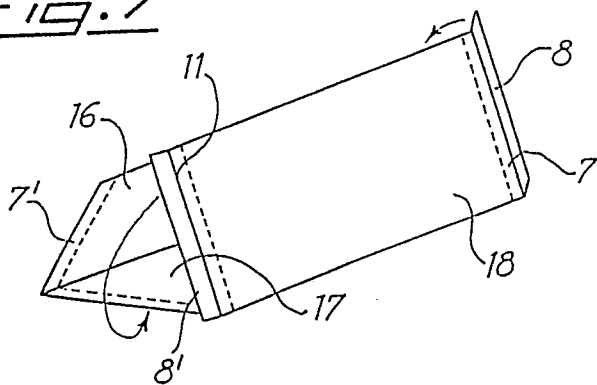


Fig.8

Fig. 9

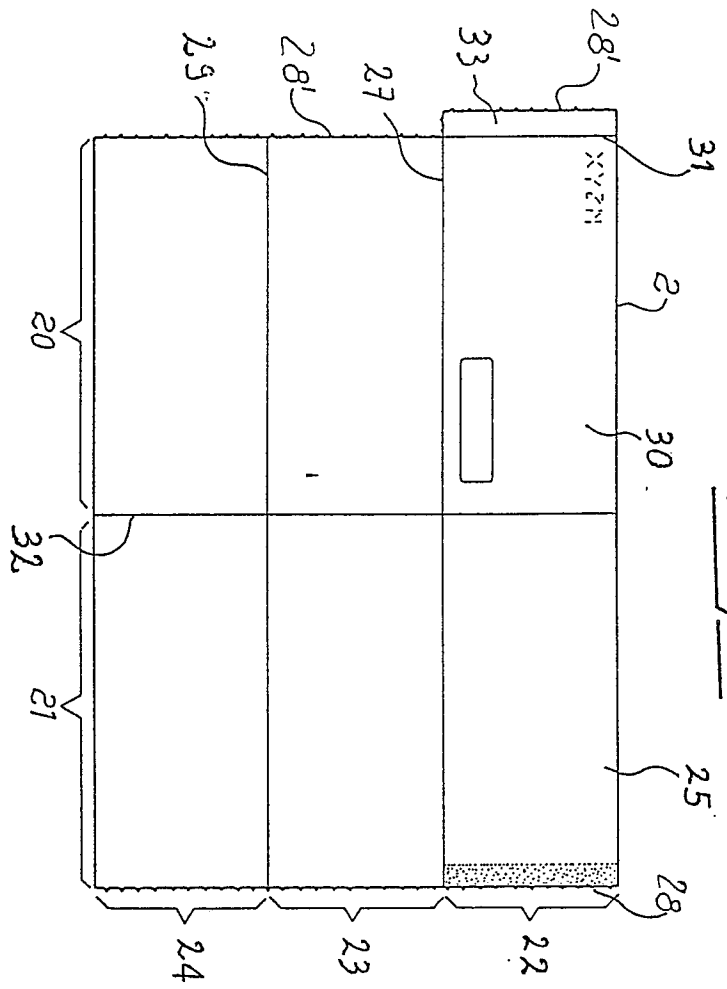


Fig. 11

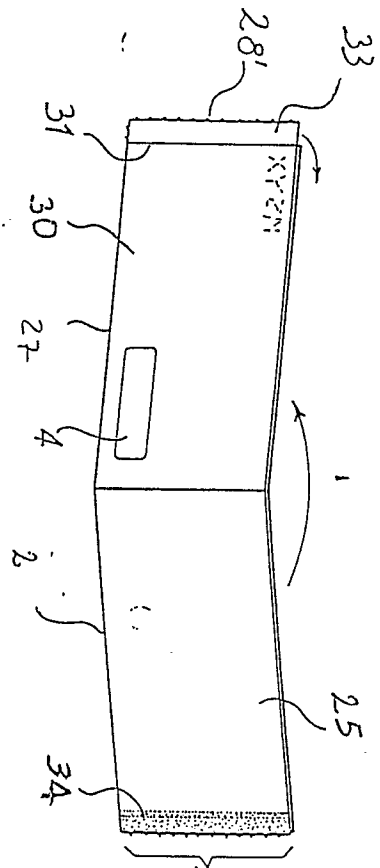


Fig. 12

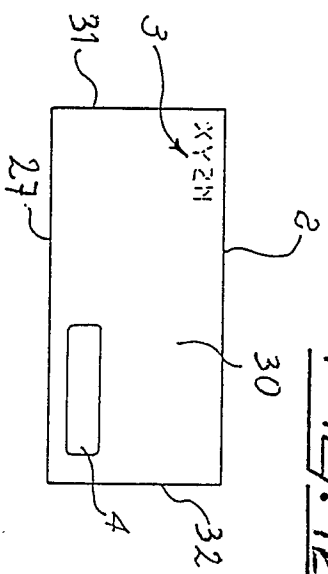


Fig. 10

