

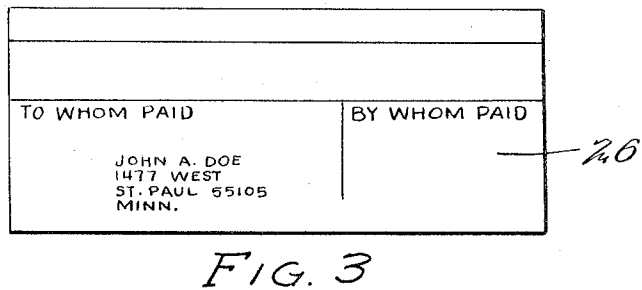
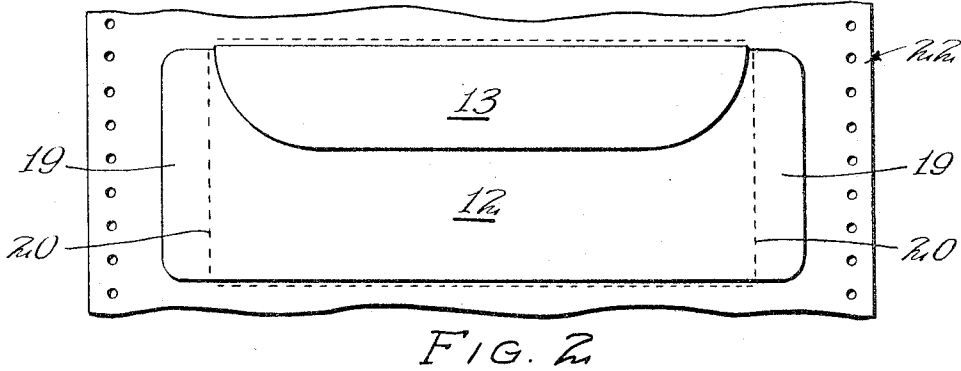
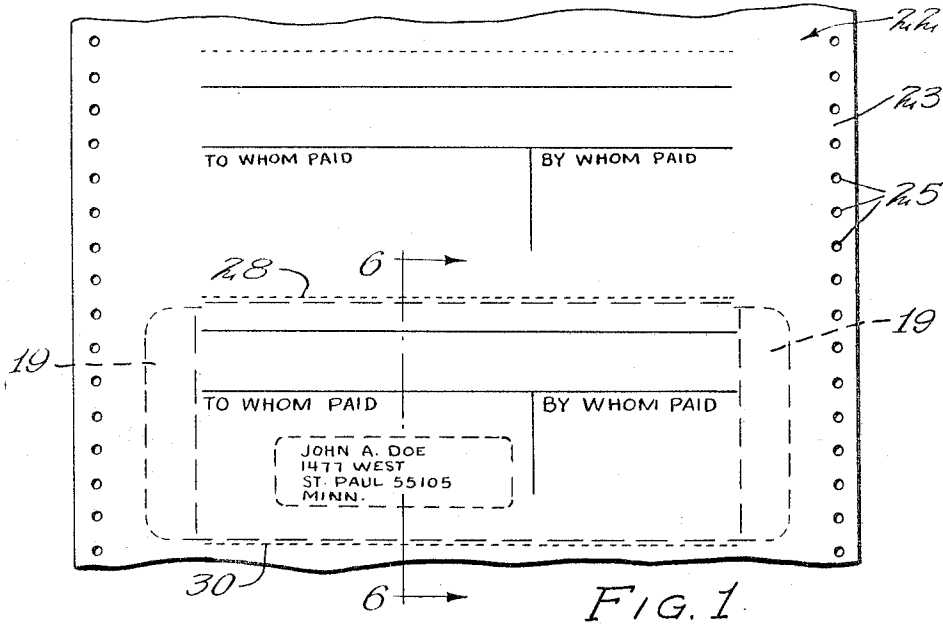
Dec. 27, 1966

F. X. MUDD, JR  
CONTINUOUS ENVELOPES

3,294,423

Filed June 25, 1965

3 Sheets-Sheet 1



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3,294,423

CONTINUOUS ENVELOPES

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3 Sheets-Sheet 2

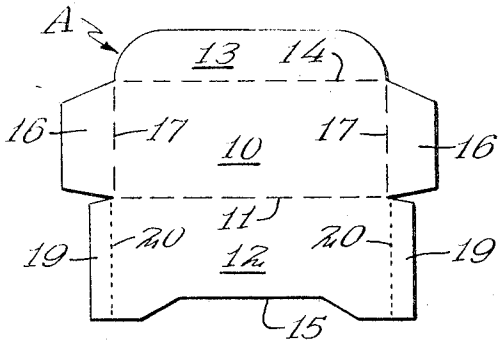


FIG. 4

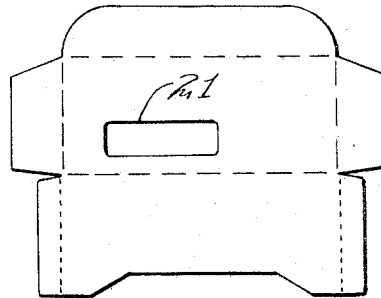


FIG. 5

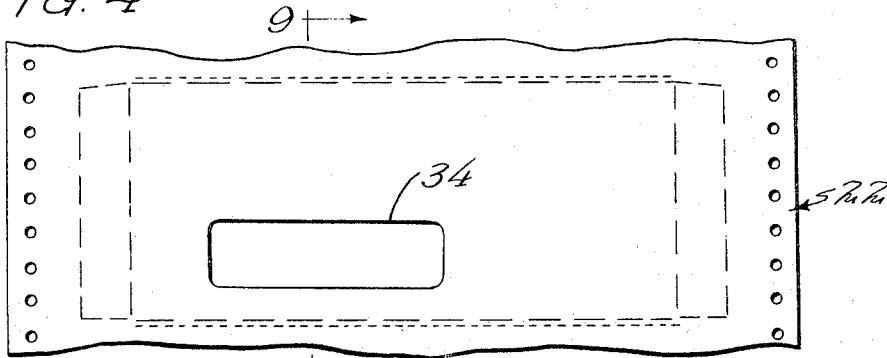


FIG. 8

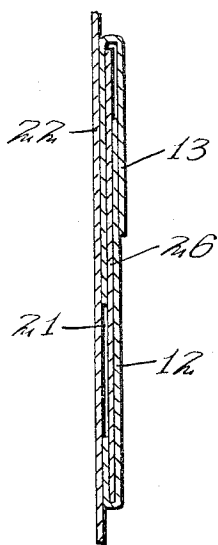


FIG. 6

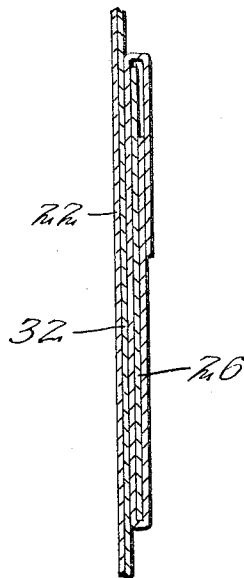


FIG. 7

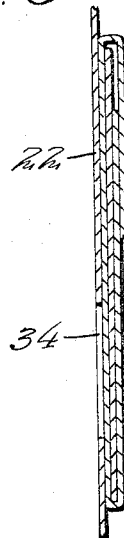


FIG. 9

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CONTINUOUS ENVELOPES

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3 Sheets-Sheet 3

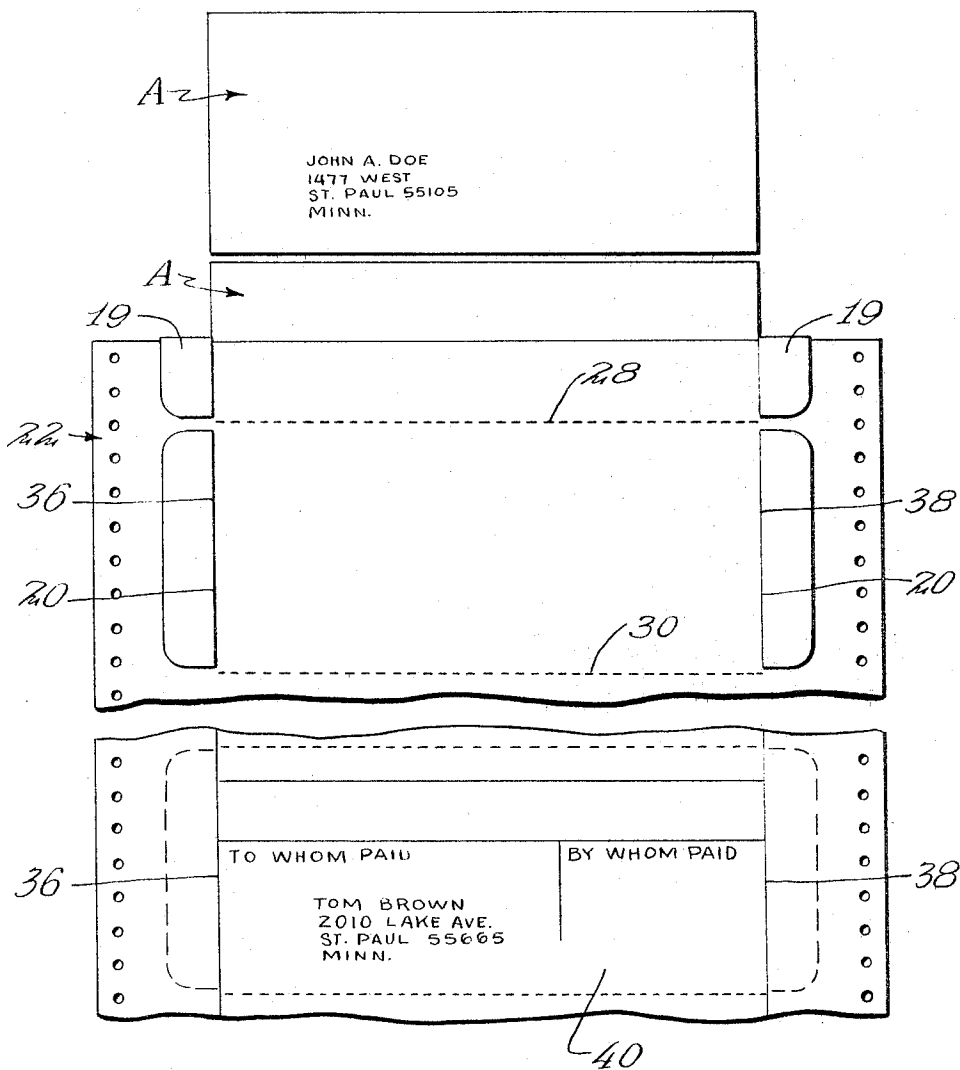


FIG. 10

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3,294,423

CONTINUOUS ENVELOPES

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Filed June 25, 1965, Ser. No. 466,959  
10 Claims. (Cl. 282-25)

This invention relates to an improvement in continuous envelopes and deals particularly with a structure including an elongated carrier sheet or web capable of serving a dual purpose a carrier sheet and a form, and to which is secured a series of envelopes containing duplicate forms which may be simultaneously printed with the original form or carrier sheet.

In the application of Frank X. Mudd, Jr., Serial No. 340,602, filed January 28, 1964, now Patent No. 3,237,970, for mailing envelopes, a structure was shown including a carrier sheet to the face of which was secured a series of equally spaced envelopes. Overlying each envelope was secured an original form, the forms being capable of being printed by a continuous printing apparatus. Inside of the envelope was one or more duplicate forms, each form being made of a material capable of producing visible indicia on discreet areas when subjected to pressure in said discreet areas. Thus, as the original was printed, the duplicate form inside of the envelope was simultaneously printed.

It has been found that considerable expense can be saved by eliminating the original form overlying the face of the envelope, and by using the carrier sheet as the original form. By printing the carrier sheet to provide groups of indicia on the forward surface thereof recurring at regularly spaced intervals, and by attaching the envelopes face forwardly against the rear of the carrier sheet in opposed relation to the forms or indicia printed on the carrier sheet, the material printed on the carrier sheet may be simultaneously printed upon the duplicate forms within the envelope.

A feature of the present invention resides in the elimination of the separate original form by printing the carrier sheet to create the original form.

A further feature of the present invention lies in providing a carrier sheet, the carrier sheet being printed to provide groups of indicia on the forward surface thereof at regularly spaced intervals, and in providing perforated lines extending transversely across the sheet between the groups of indicia. The envelopes are secured to the rear surface of the carrier sheet with the forward surface of the envelope against the rear surface of the carrier sheet. After the carrier sheet has been printed to simultaneously print the original and the duplicate forms within the envelopes, the envelopes may be automatically separated from the carrier sheet. The sheet or web may be longitudinally slit to separate the center portion of the carrier sheet in which the forms are printed and the marginal edge portions of the carrier sheet to which the envelopes were attached. The center portion of the carrier sheet may then be split apart along the transverse perforated lines to separate the individual original forms.

A further feature of the present invention resides in the provision of a structure which may be completely formed by automatic machinery, may be printed by automatic machinery, and the envelopes may be separated from the original forms by automatic machinery.

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These and other objects and novel features of the present invention will be more clearly and fully set forth in the following specification and claims:

In the drawings forming a part of the specification;

5 FIGURE 1 is a front elevational view of a portion of a carrier sheet which has been printed with groups of indicia on its forward surface, the indicia recurring at regular intervals, and to show an envelope attached to the rear surface of the carrier sheet in registry with one of the groups of indicia.

10 FIGURE 2 is a rear elevational view of a small portion of the carrier sheet.

FIGURE 3 is a plan view of the duplicate form which is positioned within the envelope.

15 FIGURE 4 is a diagrammatic view of one form of envelope which may be used in the combination.

FIGURE 5 is a diagrammatic view of the blank from which a modified form of envelope may be formed.

20 FIGURE 6 is an enlarged sectional view through a portion of the carrier sheet and envelope thereupon, the position of the section being indicated by the line 6-6 of FIGURE 1.

25 FIGURE 7 is a view similar to FIGURE 6 in which the envelope shown in FIGURE 4 of the drawings is used.

FIGURE 8 is an elevational view of a modified form of carrier sheet in which the carrier sheet is perforated.

30 FIGURE 9 is a sectional view through the structure shown in FIGURE 8, the position of the section being indicated by line 9-9 of FIGURE 8.

FIGURE 10 is a diagrammatic view showing the method of separation of the envelopes and original forms.

35 As indicated in FIGURE 4, the envelope A includes a generally rectangular front panel 10 which is hingedly connected along a fold line 11 to the rear panel 12. A sealing flap 13 is hingedly connected to the edge of the front panel 10 opposite the hinge line 11 along a line of fold 14. Obviously, the shape of the envelope may be varied, the rear panel 12 is shown having a central notch 40 15 along its free edge to simplify the removal of the contents of the envelope. Sealing flaps 16 are hingedly secured to opposite ends of the front panel 10 along parallel fold lines 17. Extension flaps 19 are detachably connected to the ends of the rear panel 12 along generally parallel perforated lines 20. If preferred, the perforated lines 20 may be slightly offset inwardly from the fold line 17 so that the rear panel 12 will not project laterally beyond the front panel 10 after the extension flaps 19 have been removed. It is further obvious that while I have described the flap 16 as a sealing flap and the flaps 19 as extension flaps, together with their being secured to the front and rear panels respectively, if desired the position of these flaps may be reversed.

45 A generally rectangular window opening 21 as shown in FIGURE 5 may be provided at a suitable location in the front panel 10. This window opening 21 is normally closed by a transparent sheet in one form of construction. If a transparent sheet is provided to close the window opening 21, the sheet is adhered marginally to the inner surface of the front panel. This construction is well known. Alternatively, the window opening 21 is not closed as may be seen in the accompanying drawings.

50 As is commonly known, papers have been produced which permit duplicate copies to be made without the use

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of carbon paper. This paper, when placed beneath an original, provides a duplicate copy by pressure upon the surface of the paper, as during printing, addressographing, and typing and the like. As a result, information typed upon the original appears also on the duplicate copy. Usage of such paper in simplifying the preparation of duplicate forms for mailing is contemplated herein.

It is known that envelopes may be automatically produced which enclose the duplicate copy of a form, and the original of the form may be automatically attached to overlie the front surface of the envelope. The original form may be filled in in the usual manner either by typing the information on the form or applying the information through any apparatus capable of filling out the necessary information on the original. As the original is printed, the information is duplicated on the form sealed within the envelope. Where a window is provided in the envelope through which a selected area of the duplicate form may be seen, the form is complete for mailing as soon as the original is detached from the face of the envelope. On the other hand, where a window is not provided, printing of the original duplicates on the outer surface of the envelope.

In the formation of the envelope A, the sealing flaps 16 are folded along their fold line 17 to overlie the surface of the panel to which they are attached, which in the construction illustrated comprises the front panel 10. Adhesive is applied to the exposed surface of the sealing flaps 16, and the rear panel 12 is folded to overlie the sealing flap 16 and is adhered thereto. Obviously, if the sealing flaps 16 are hinged to the rear panel 12, the application of adhesive to the flaps 16 will adhere these flaps to the front panel 10. This procedure leaves the projecting flanges or extension flaps 19 projecting laterally behind the remainder of the envelope.

The extension flaps are adhered to a carrier sheet 22 which will be further described.

FIGURES 1 and 2 show the envelopes A of the drawings mounted upon an elongated carrier sheet 22 for delivery to an addressing machine or bookkeeping machine. The backing web 23 of the carrier sheet is provided with spaced perforations 25 extending longitudinally of the web and adjacent sides thereof for engagement by pin wheels or sprockets of the addressing or printing apparatus.

Various means are available and are well known in the art for securing the extension flaps 19 to the carrier sheet.

As may be seen in FIGURE 1, the envelopes secured to the elongated carrier sheet 22 provide a series of envelopes in parallel relationship.

As has been pointed out, it is an object of the present invention to eliminate the considerable expense previously encountered by eliminating the original form which formerly was used between the carrier sheet and the face of the envelope by using the carrier sheet itself as the original form.

FIGURE 1 illustrates a carrier sheet 22 on which groups of indicia on the forward surface thereof recur at regularly spaced envelopes, the relationship of the envelope to the rear surface of the carrier sheet being shown in dotted outline.

FIGURE 2 views the carrier sheet and attached envelope from the rear of the carrier sheet.

FIGURE 3 illustrates a form similar to the form on the forward surface of the carrier sheet. This form may be carried within the envelope A and printed at the time that the information is typed or otherwise printed on the carrier sheet by the pressure of the type or other imprinting mechanism used. Action papers suitable for this purpose are made commercially by a number of companies and any of several are suitable for use as forms to be inserted within the envelope A prior to imprinting of the carrier sheet with the desired information by the user. The duplicating form 26 may be seen in relation to the envelope and carrier sheet in the section of FIGURE 6.

It will be understood that the duplicate form 26 is of a material capable of producing visible indicia on discrete areas thereof when subjected to pressure in said discrete areas whereby information typed on the carrier sheet 22 among the indicia in one of the groups on the carrier sheet will be visibly duplicated on the duplicate form. The duplicate form 26 within the envelope A has indicia thereon corresponding in arrangement to that appearing in the indicia groups on the carrier sheet 22 or in such a manner that the information typed or otherwise imprinted on the carrier sheet will be reproduced on the duplicate form.

As previously indicated, the surface of the envelope in face contact with the rear side of the carrier sheet may include a window opening 21 through which a portion of the duplicate sheet 26 may be viewed when the envelope A is detached from the carrier sheet 22.

As previously indicated, a plurality of duplicate forms similar to that described are provided in each envelope where an enclosure is desired.

Returning to FIGURE 2, it is evident that the envelope A is held in relation to the carrier sheet 22 by the extension flaps 19. The envelope A is detachable from the extension flaps 19 along the weakened or perforated lines of separation 20.

As has been indicated, the portion of the carrier sheet 22 which overlies any particular envelope has indicia upon it similar to that which is to be duplicated on the duplicating form 26 in the envelope. To enable the carrier sheet to be separated from adjacent carrier sheet portions, parallel lines of separation 28 and 30 separate one portion of the carrier sheet from the next succeeding portion overlying the next succeeding envelope. Accordingly, since the carrier sheet contains the information which has been duplicated on the duplicate form 26, this carrier sheet portion may be separately transmitted or filed depending upon its particular purpose. The particular manner in which the carrier sheet is separated from the envelopes, and the manner by which adjacent portions of the carrier sheet are separated will be disclosed in connection with the drawings of FIGURE 10 subsequently.

FIGURE 7 illustrates a carrier sheet 22 to which a modification in the form of a carbon backing 32 has been provided so that information imprinted on the carrier sheet may be duplicated on the underlying or attached envelope. This particular form of construction is particularly advantageous where the envelope does not have a window. In such instance, the carbon 32 imprints desired information on the envelope including address and whatever else is desired. Obviously, the carbon paper 32 may be so positioned so as to be capable of imprinting only in a relatively restricted area. It is additionally obvious that a duplicating form 26 may be inserted in the envelope as well.

FIGURE 9 discloses another modification in which the carrier sheet 22 embodies a window 34 whereby the usage of the carbon 32 for purposes of addressing may be eliminated.

From the foregoing, it is apparent that the carrier sheet may contain an opening such as the window described, and may additionally have a carbon paper backing for the purposes of duplication, or may be used in various combinations to provide the desired results.

FIGURE 8 illustrates the plan view of the drawing of FIGURE 9, the attached envelope being shown in dotted outline.

FIGURE 10 is a view diagrammatically illustrating the method of separation of the envelope and the carrier portions. It is to be noted that in the preferred construction the transverse lines of separation 28 and 30 do not extend completely across the carrier sheet 22, although they could if desired. Preferably, these transverse lines of separation correspond to the width of the envelope attached to the carrier sheet. The lines of

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separation 20 along each side of the envelope are aligned with similar lines of separation on adjacent envelopes. In normal practice, the envelope would be processed through a regular continuous printer for imprinting desired indicia information on the carrier sheet and the duplicating forms. These continuous printers are well known, and it is not believed necessary to describe them. Automatic stripping equipment would then strip off the envelopes from the carrier sheet, the envelopes separating from the carrier and extension flaps along the lines of separation 20. While the carrier sheet is usually longitudinally slit along the lines of separation 20, the carrier sheet could be longitudinally perforated in registry with the lines 20, and the marginal edges of the carrier sheet could be torn off rather than cut. This would leave the central portion of the carrier sheet 22 still intact. The upper portion of the drawing 10 illustrates the carrier sheet back after the envelope has been removed. The carrier sheet would then be run through a forms buster which would automatically cut the carrier sheet along the generally parallel lines 36 and 38. At the same time that the forms burster automatically cuts along the two lines 36 and 38, a snapping or separating action is provided to burst each form apart along the transverse lines of separation or perforation such as 28. The separated envelope form 40 is shown at the upper end of the drawing 10 after having been separated from the connecting adjacent portions.

It is apparent that my construction provides a carrier sheet which may serve as a form rather than just a carrier sheet alone. Obviously, many advantages accrue from such construction not the least of which is a greatly reduced amount of bulk and obviously lessened cost. Additionally, by eliminating the requirement of providing additional thicknesses in relationship to the envelope, less difficulty is likely in automatically processing the envelopes because of the lessened bulk due to elimination of the additional previously required form. Again, it is to be emphasized that elimination of this previously required form further enables the carrier sheet itself to be used in a manner which is far more adaptable than had previously been considered possible.

It is also obvious that the carrier sheet may be used with a variety of envelope forms without any difficulty whatsoever. Additionally, the present structure enables the carrier sheet itself to be greatly strengthened since the carrier sheet portions which are separated will actually be used for filing or other purposes, and therefore it is apparent that variation may be provided in having the carrier sheet of greater or lessened weight depending upon the usage to which the carrier portion is to be used.

Obviously, the flexibility provided whereby the carrier sheet itself serves as the originally imprinted form and carbon papers or papers of a material capable of producing visible indicia on discrete areas thereof when subjected to pressure in these areas are utilized to duplicate the information imprinted on the carrier portion enables a variety of usages which are believed within the skill of other craftsmen in the field after this disclosure. For example, the carrier sheet as described in the foregoing drawings may include a window opening in which case typing of an address may be made directly upon the envelope itself, with subsequent duplication taking place within the envelope, or a combination of action papers and carbon copy paper may be employed to produce an endless variety of accomplishments depending upon the needs and purposes of the user.

In accordance with the Patent Office statutes, I have set forth the best embodiments of my invention, and I desire to have it understood that obvious changes may be made within the scope of the accompanying claims without departing from the spirit of my invention.

I claim:

1. In combination, an elongated carrier sheet having groups of indicia on one surface thereof recurring at regularly spaced intervals,

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an envelope detachably secured to the opposite surface of said carrier sheet rearwardly of each group of indicia on said one surface thereof, and a duplicate form within each said envelope having indicia thereon corresponding in arrangement to that appearing in each said group on said carrier sheet, said duplicate form being of a material capable of producing visible indicia on discrete areas thereof when subjected to pressure in said discrete areas, whereby information typed on said carrier sheet among the indicia in one of said groups will be visibly duplicated on said duplicate form.

2. The structure of claim 1 and in which the surface of said envelope in face contact with the other side of said carrier sheet includes a window opening through which a portion of said duplicate sheet may be viewed when said envelope is detached.

3. The structure of claim 1 and in which the envelope includes a pair of foldably connected panels marginally connected together.

4. In combination, an elongated carrier sheet having wording printed on a surface thereof arranged in recurring similar regularly spaced areas,

a series of envelopes each including a pair of panels marginally connected,

one of said panels including a detachable area secured to the other surface of said carrier sheet to position an envelope in opposed relation to each of said printed areas with one said panel in face contact with said carrier sheet,

each said envelope including at least one duplicate form enclosed thereon and printed in an arrangement similar to that in said recurring areas of said carrier sheet,

said duplicate form being made of a material capable of producing visible indicia on discrete areas thereof when subjected to pressure in these discrete areas, whereby indicia imprinted in said one of said spaced areas of said carrier sheet will be duplicated on the duplicate form within said envelope opposite one of said spaced areas.

5. The structure of claim 4 and in which the panel of said envelope which is in face contact with the other surface of said carrier sheet is provided with a window there-through through which a portion of said duplicate form is visible.

6. The structure of claim 4 and in which said detachable area extends from opposite sides of said envelope.

7. In combination, an envelope including a generally rectangular front panel and a rear panel foldably connected along an edge,

means connecting said panels together, an elongated carrier sheet having spaced indicia on one surface thereof recurring at regular intervals, means securing said envelope in spaced relation to the other surface of the carrier sheet in opposed relation to said indicia,

means between said carrier sheet and the adjoining surface of each said envelope adapted to duplicate information typed on a selected areas of said carrier sheet upon said envelope, and

a duplicate form between said panels of said envelope and of a material capable of producing visible indicia on discrete areas thereof when subjected to pressure in these areas.

8. In combination, an elongated carrier sheet, a series of envelopes including front and rear panels connected in parallel relation,

means detachably securing said envelopes to the carrier sheet with the front panels in face contact with said carrier sheet,

a duplicate form within each said envelope, said duplicate form being of a material capable of producing visible indicia on discrete areas thereof when subjected to pressure in said discrete areas,

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whereby information typed on said carrier sheet will be visibly duplicated on said duplicate form.

9. The structure of claim 8 and in which said carrier sheet includes apertures intermediate the side edges thereof exposing a portion of the surface of said front panels. 5

10. The structure of claim 9 and in which the front panel of the envelope includes a window element through which a portion of the duplicate form may be viewed when said envelope is detached.

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