

[54] CONTINUOUS FORM ENVELOPE ASSEMBLY

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[51] Int. Cl. B65d 27/10

[58] Field of Search 229/69, 72

[56] References Cited

UNITED STATES PATENTS

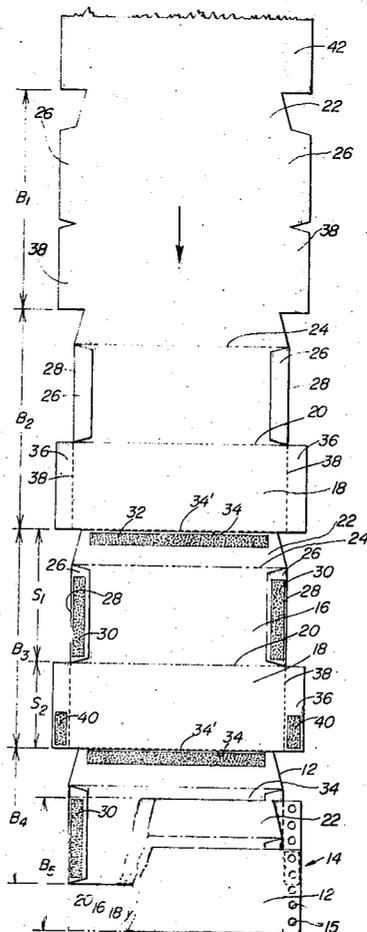
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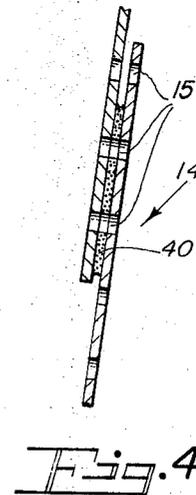
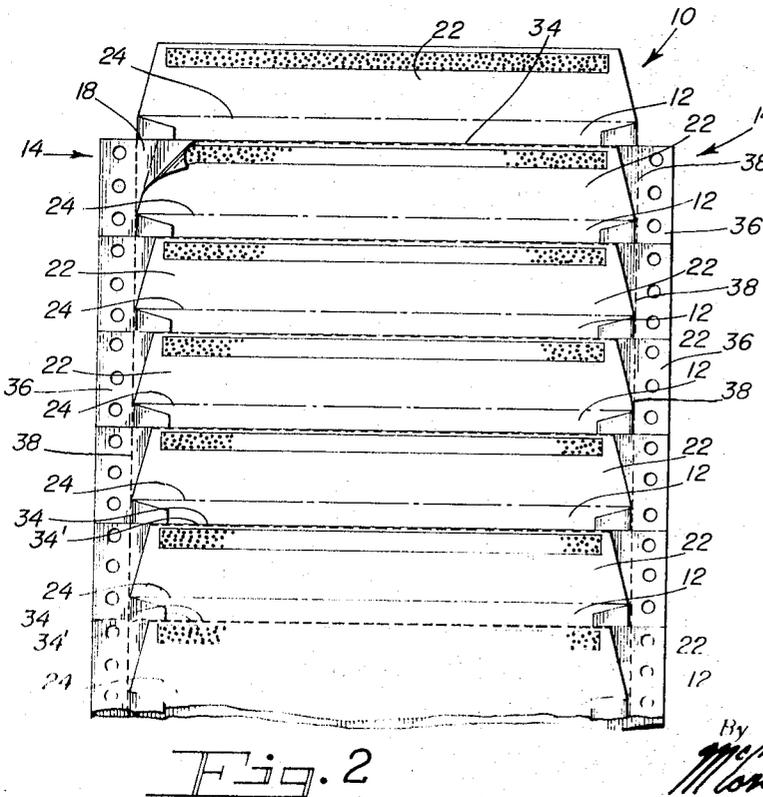
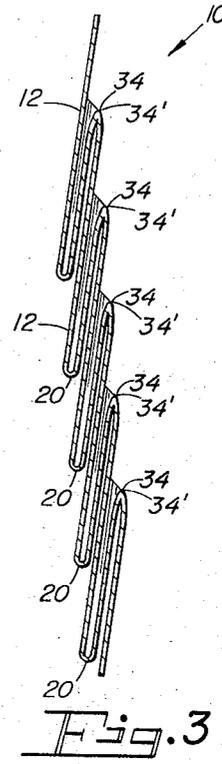
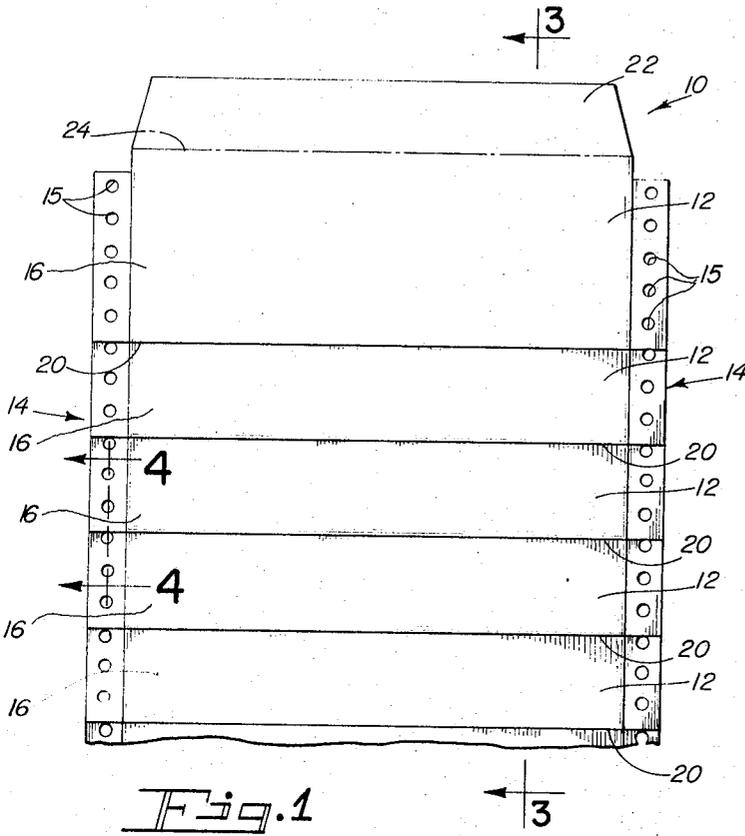
Primary Examiner—Davis T. Moorhead
 Attorney, Agent, or Firm—McCormick, Paulding & Huber

[57] ABSTRACT

A continuous form envelope assembly made by cutting, folding and joining associated portions of a single web of sheet material and comprising a longitudinal series of connected envelopes arranged in shingled or overlapping relation and further connected together by a pair of longitudinally extending marginal carrier strips. Each envelope in the series has a sufficient portion of the front panel thereof exposed to permit a name and address to be printed thereon when the assembly is fed through a computer-printer or the like. Lines of weakening on the assembly permit separation of the envelopes from the carrier strips and from each other.

17 Claims, 7 Drawing Figures





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CONTINUOUS FORM ENVELOPE ASSEMBLY

BACKGROUND OF THE INVENTION

This invention relates in general to envelopes and envelope making and deals more particularly with an improved continuous form or series-connected envelope assembly and a method for making same. Various types of continuous form envelope assemblies are presently available which are adapted to be fed through automatic typewriters, computer-printers which print out addresses from a computer memory, or like machines.

It is the general aim of the present invention to provide an improved envelope assembly of the aforescribed character and an improved method for making same, as on high-speed envelope making machinery. The assembly of the present invention is made from a single web of sheet material of appropriate width so that the entire manufacturing operation may, if desired, be continuously performed on a single machine which delivers finished envelope assemblies in a form ready for use. A further aim of the invention is to provide an assembly of envelopes arranged in shingled or overlapping series to facilitate automatic or computerized printing with reduced "skip" time. The finished envelopes may, if desired, be full-strength, two-side seam envelopes of standard type adapted to receive a full-length insert, that is, an insert having a length substantially equal to the length of the envelopes.

SUMMARY OF THE INVENTION

In accordance with the present invention, a continuous form envelope assembly is made by alternately folding successive portions of a web of sheet material in one and an opposite direction and into face-to-face relation in accordion-fold fashion along a longitudinal series of transversely extending fold lines and joining associated portions of the web to form a series of envelope pockets and a pair of longitudinally extending carrier strips. Transversely extending lines of weakening formed coincident with some of the fold lines and longitudinally extending lines of weakening formed between each carrier strip and the associated side edges of each envelope facilitate separation of the carrier strips from the envelopes on standard bursting equipment and separation of the envelopes from each other.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a front view of a continuous form envelope assembly made in accordance with the present invention.

FIG. 2 is a rear view of the envelope assembly of FIG. 1.

FIG. 3 is a sectional view taken along the line of 3—3 of FIG. 1.

FIG. 4 is a sectional view taken along the line 4—4 of FIG. 1.

FIG. 5 is a somewhat reduced plan view of a web of sheet material, showing, from top to bottom, successive changes in the material as the envelope assembly of FIG. 1 is formed therefrom.

FIG. 6 is a perspective view and shows the front of an envelope partially separated from the assembly of FIG. 1.

FIG. 7 is a perspective view and shows the rear of the envelope of FIG. 6 after separation from the envelope assembly of FIG. 1.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT AND METHOD FOR MAKING

Turning now to the drawings and referring first particularly to FIGS. 1-4, an assembly of continuous form or series connected envelopes made in accordance with the present invention is indicated generally by the reference numeral 10 and includes a plurality of individual envelopes 12, 12 connected together in longitudinal series. Each successive envelope in the series is directly connected to an associated part of a preceding envelope in the series, as will be hereinafter further discussed. A pair of longitudinally extending marginal carrier strips indicated generally at 14, 14 serve to further connect the envelopes 12, 12 which comprise the assembly 10. Each carrier strip 14 has a longitudinal series of configurations or sprocket holes 15, 15 formed therein for engaging a sprocket feed mechanism on an automatic printing machine or the like.

Referring now to FIGS. 6 and 7, a typical envelope 12 comprises a full-strength, two side seam envelope of standard type and includes a front panel 16, a back panel 18 connected to the lower edge of the front panel along a transversely extending fold line 20 and a closing panel or flap 22 connected to the upper edge of the front panel 16 along a transversely extending score or fold line 24. Side flaps 26, 26 joined to the side edges of the front panel 16 along fold lines 28, 28 and folded inwardly or toward each other are connected to the back panel 18 by lines of adhesive 30, 30 so that an envelope pocket is formed between the front panel 16 and the rear panel 18. Another line of adhesive 32 carried by the closing flap 22 is provided for sealing the closing flap to the back panel 18 after the envelope 12 has been separated from the assembly 10.

Referring again to FIGS. 1-4 and considering particularly FIG. 2 as viewed from top to bottom, each succeeding envelope 12 in the series partially overlies a preceding envelope 12 and has its closing flap 22 connected to the rear panel of the preceding envelope along a transversely extending fold line 34 and a coincident line of weakening 34'. Each envelope 12 has a pair of carrier strip portions 36, 36 integrally connected to the opposite side edges of its rear panel 18 along lines of weakening 38, 38. As viewed in FIG. 2, each succeeding carrier strip portion 36 partially overlies a preceding carrier strip portion 36. Spots or patches of adhesive 40, 40 join the overlapping carrier strip portions to form continuous carrier strips 14, 14 each strip being connected to all of the envelopes comprising the assembly 10 along a generally continuously extending line of weakening 38.

Considering now FIG. 1 as viewed as bottom to top, it will be noted that each succeeding envelope 12 in the series partially overlies an associated portion of the front panel 16 of a preceding envelope in the series. However, a sufficient area of the front panel 16 of each envelope is exposed below the fold line 20, which defines the lower edge of the next succeeding envelope in the series, to permit the envelopes to be addressed on an automatic computer-printer or the like before being separated from the assembly 10. Due to the overlapping arrangement of the envelopes, address areas on the front panels 16, 16 thereof are positioned in closely spaced longitudinal series. This arrangement permits the envelopes to be addressed on automatic equipment with minimum "skip" time. After addresses or other

messages have been imprinted on the envelopes 12, 12, the envelopes are preferably separated from each other along the lines of weakening 34', 34' after which the carrier strips 14, 14 are separated therefrom.

A method for making the envelope assembly 10 from a single elongated web of sheet material 42 is illustrated in FIG. 3. The illustrated method is particularly adapted to be practiced with a conventional automatic envelope making machine of the type capable of continuously advancing the web at high speed through a plurality of work stations where a variety of operations are performed thereof, as, for example, blanking, gumming, scoring, folding and imprinting messages thereon. However, for clarity of illustration, the machine is not shown. The sequence of operations may vary and will, of course, depend upon the arrangement of the various work stations and the order in which these stations are encountered by the web as it advances through the machine. A preferred sequence of operation is illustrated and successive changes in the web 42 will be evident from consideration of the web as viewed from top to bottom in FIG. 5 or in the direction of web advance as indicated by the directional arrow thereon.

In accordance with the presently preferred method for making the assembly 10, the web 42 is cut or notched inwardly of its side edges at longitudinally spaced points, as by blanking, to form an individual envelope blank such as indicated at B₁. The aforesaid cutting operation shapes an envelope closing flap 22 and separates a pair of side flaps 26, 26 from an associated pair of carrier strip portions 26, 26. Considering now the blank, as it appears at B₂ after further operations have been performed thereon, it will be noted that the side flaps 26, 26 are folded inwardly or toward each other along fold lines 28, 28. A line of weakening 34' is formed on the web 42 to separate the envelope blank B₂ from the preceding one. Lines of weakening 38, 38 are also formed which separate carrier strip portions 36, 36 from the envelope back panel 18. As shown at B₃, lines of adhesive 30, 30 are next applied to the side flaps 26, 26 and patches of adhesive 40, 40 are simultaneously applied to the carrier strip portions 36, 36. A line of adhesive or seal gum 32 is preferably applied to the closing flap 22 at this time. If desired, fold or score lines 20, 24 and 34 may also be formed on the web at this time. The blank as it appears at B₃ is ready to be folded and joined to form an associated portion of the assembly 10.

The assembly is completed by alternately folding the web 42 on to itself in one and an opposite direction along a longitudinal series of transversely extending fold lines 20, 20 and 34, 34. The latter folding operation divides the web into a series of sections designated at S₁ and S₂ in FIG. 5. Each pair of Sections S₁ and S₂ define parts of an associated envelope 12 and a pair of connecting strip portions 36, 36 associated therewith. It will be noted that each section S₁ has a longitudinal dimension greater than the longitudinal dimension of an associated section S₂ and includes a front panel 16, a closing panel 22, and a pair of side flaps 26, 26. Each section S₂ defines a back panel 18 and a pair of carrier strip portions 36, 36.

More specifically, and with reference to web position B₄, the web 42 is first folded upwardly along the fold line 20 to bring the back panel 18 into generally face-to-face relation with the front panel 16 whereupon

joinder of the panels is effected by the lines of adhesive 30, 30 to complete an envelope 12. At B₅ a completed envelope 12 is folded downwardly along the fold line 34 so that the closing flap 22 and the front panel 16 thereof generally overlie the rear panel 18 of the preceding envelope 12. It will be noted that the latter folding operation brings the carrier strip portions 36, 36 into partial overlying relation with the carrier strip portions 36, 36 of the preceding envelope, joinder therebetween being effected by the patches of adhesive 40, 40. The sprocket holes 15, 15 may, if desired, be punched after the carrier strips 14, 14 are formed by joining the various carrier strip portions 36, 36 or if desired, sprocket holes 15, 15 may be punched in each individual carrier strip portion 36 prior to the folding operations which complete the assembly.

If desired, the closing flap of each envelope may be separated from the bottom panel of each preceding envelope comprising the assembly 10 and folded to a closed position by the envelope making machine. Preferably, the finished assembly 10 is formed into a roll for later payoff to a computer-printer or the like.

I claim:

1. A continuous form envelope assembly made from a single elongated strip of sheet material, said assembly comprising a longitudinal series of integrally connected envelopes, each of said envelopes having a plurality of panels including a front panel, a back panel and closing panel and having means connecting said front panel to said back panel to form an envelope pocket therebetween, each succeeding envelope in said series partially overlying a preceding envelope in said series and having one of the panels thereof integrally connected to another panel of said preceding envelope, said assembly including at least one longitudinally extending marginal carrier strip integrally connected to each of the envelopes in said series, said carrier strip including a longitudinal series of carrier strip portions, each of said carrier portions comprising a transverse extension of an associated one of said envelopes, each succeeding carrier strip portion partially overlying a preceding carrier strip portion, and means joining said succeeding carrier strip portion to said preceding carrier strip portion.
2. A continuous form envelope assembly as set forth in claim 1 wherein each of said envelopes includes a pair of marginal carrier strip portions extending from opposite ends thereof and said assembly includes a pair of longitudinally extending marginal carrier strips.
3. A continuous form envelope assembly as set forth in claim 1 wherein each of said carrier strip portions is connected to an associated one of said envelopes along a generally longitudinally extending line of weakening.
4. A continuous form envelope assembly as set forth in claim 1 wherein said marginal carrier strip has a longitudinal series of configurations formed therein for cooperative engagement with an associated feeding mechanism.
5. A continuous form envelope assembly as set forth in claim 1 wherein said one panel is connected to said other panel along a transversely extending fold line.
6. A continuous form envelope assembly as set forth in claim 5 including a line of weakening coincident with said transversely extending fold line.
7. A continuous form envelope assembly as set forth in claim 5 wherein said transversely extending fold line defines a mouth of said pocket.

8. A continuous form envelope assembly as set forth in claim 5 wherein said one panel comprises said closing panel and said other panel comprises said back panel.

9. A continuous form envelope assembly as set forth in claim 1 wherein each of said envelopes includes a pair of side flaps, each of said side flaps comprising extension of one of said panels, said side flaps comprising said means connecting said front panel to said back panel.

10. A continuous form envelope assembly as set forth in claim 9 wherein each of said carrier strip portions comprises a transverse extension of another of said panels.

11. A continuous form envelope assembly as set forth in claim 1 wherein said means connecting said front panel to said back panel comprises a pair of transversely spaced generally longitudinally extending lines of adhesive.

12. A continuous form envelope assembly as set forth in claim 1 wherein said means joining said succeeding carrier strip portion to said preceding carrier strip portion comprises a spot of adhesive.

13. A continuous form envelope assembly as set forth in claim 1 wherein said preceding envelope overlies said closing flap and a portion of said front panel of said succeeding envelope.

14. A continuous form envelope assembly made from a single elongated strip of sheet material and comprising a longitudinal series of integrally connected envelopes, each of said envelopes having a plurality of panels including a front panel, a back panel integrally connected to the lower edge of said front panel along a generally transversely extending fold line, a closing flap integrally connected to the upper edge of said front panel, and a pair of side flaps, each of said side flaps being connected to an associated side edge of one of said panels along a generally longitudinally extending fold line, each of said side flaps being folded inwardly toward the other and into overlying relation with said one panel, and a pair of transversely spaced longitudinally extending lines of adhesive, each of said lines of adhesive connecting an associated one of said side flaps to the other of said panels, each succeeding envelope

in said series partially overlying a preceding envelope in said series and having said closing flap thereof integrally connected to said back flap of said preceding envelope along another generally transversely extending fold line, said assembly including at least one longitudinally extending marginal carrier strip integrally connected to each of the envelopes in said series, said one carrier strip including a longitudinal series of carrier strip portions, each of said carrier strip portions integrally connected to said associated side edge of said other panel of an associated one of said envelopes and extending transversely outwardly therefrom, each succeeding carrier strip portion partially overlying a preceding carrier strip portion, and a spot of adhesive joining said succeeding carrier strip portion to said preceding carrier strip portion.

15. A continuous form envelope assembly as set forth in claim 14 wherein each of said carrier strip portions is connected to an associated side edge of said other panel of an associated one of said envelopes along a generally longitudinally extending line of weakening.

16. A continuous form envelope assembly as set forth in claim 15 including a line of weakening coincident with said other generally transversely extending fold line.

17. A continuous form envelope assembly comprising a longitudinal series of connected envelopes, each of said envelopes having a plurality of panels including a front panel, a back panel and a closing panel and having means connecting said front panel to said back panel to form an envelope pocket therebetween, each succeeding envelope in said series partially overlying the front panel of a preceding envelope in said series, said assembly including at least one longitudinally extending marginal carrier strip integrally connected to each of the envelopes in said series, said carrier strip including a longitudinal series of carrier strip portions, each of said carrier strip portions comprising a transverse extension of an associated one of said envelopes, each succeeding carrier strip portion partially overlying a preceding carrier strip portion, and means joining said succeeding carrier strip portion to said preceding carrier strip portion.

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UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 3,790,068

Dated February 5, 1974

Inventor(s) William Stutz

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

Col. 3, line 32, "26, 26" should read --38, 38--.

Col. 3, line 33, "B₂after" should read "B₂ after".

Col. 4, line 13, "postions" should read

--portions--.

Signed and sealed this 17th day of September 1974.

(SEAL)

Attest:

McCOY M. GIBSON JR.
Attesting Officer

C. MARSHALL DANN
Commissioner of Patents