

May 6, 1969

E. J. BUESCHER

3,442,185

CONTINUOUS METHODS FOR PRODUCING MAILABLE MATERIALS

Filed June 26, 1967

Sheet 1 of 2

FIG. 1

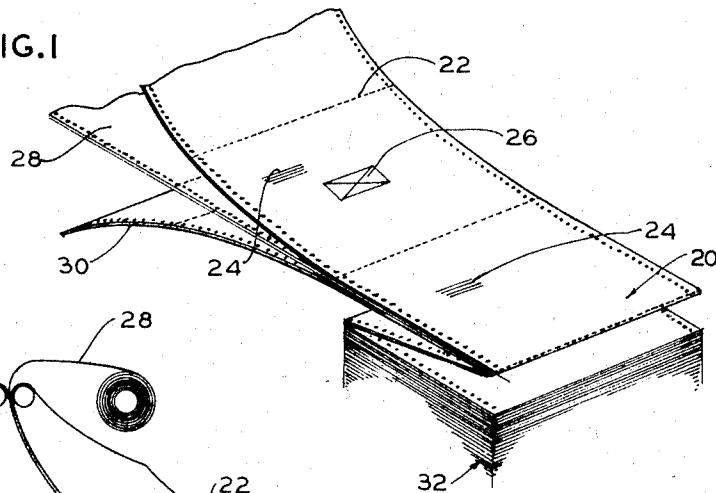


FIG. 2

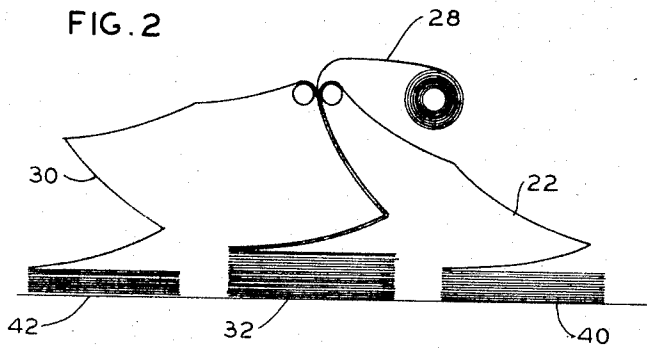


FIG. 3

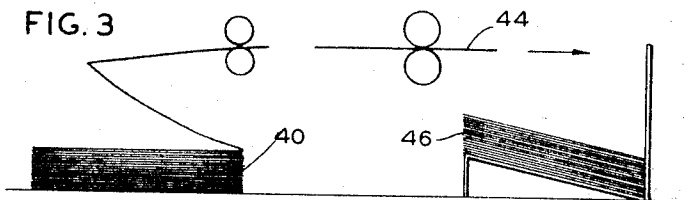


FIG. 6

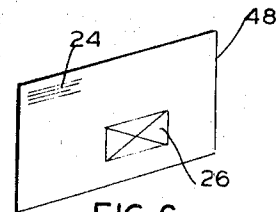


FIG. 7

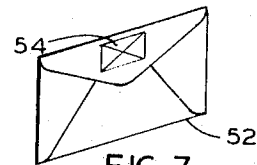


FIG. 4

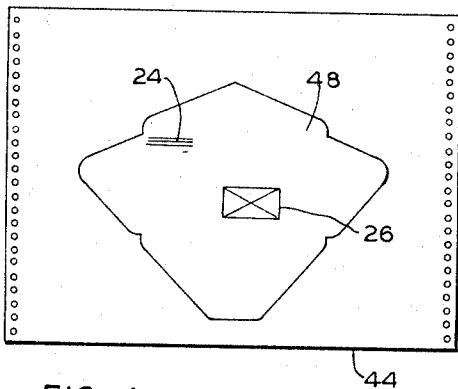
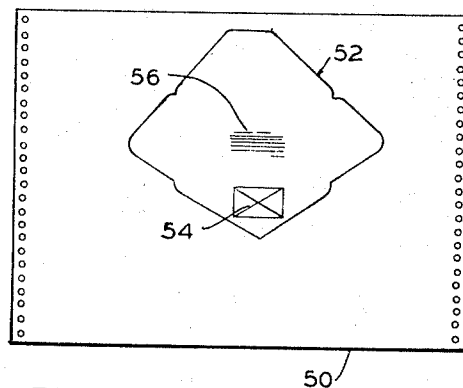


FIG. 5



May 6, 1969

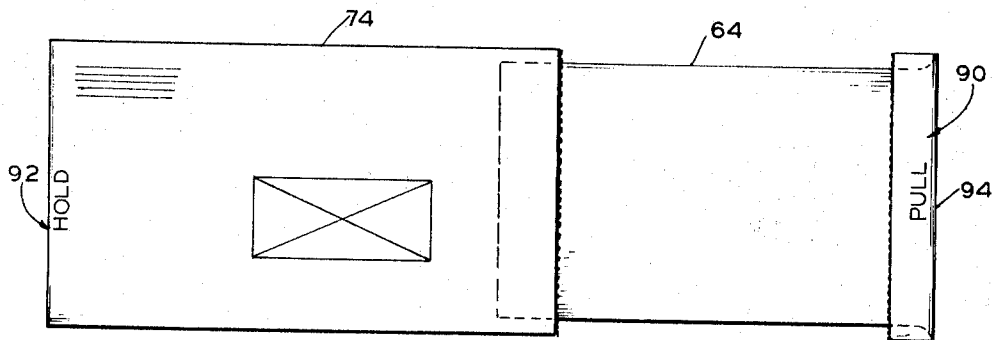
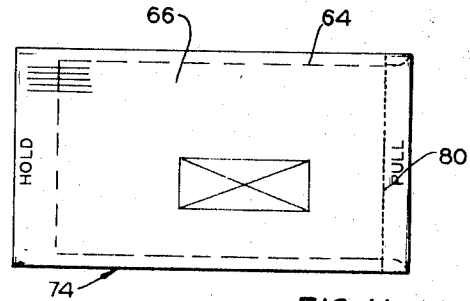
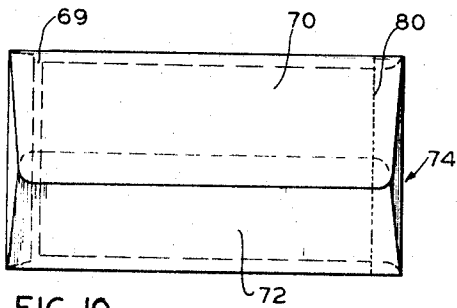
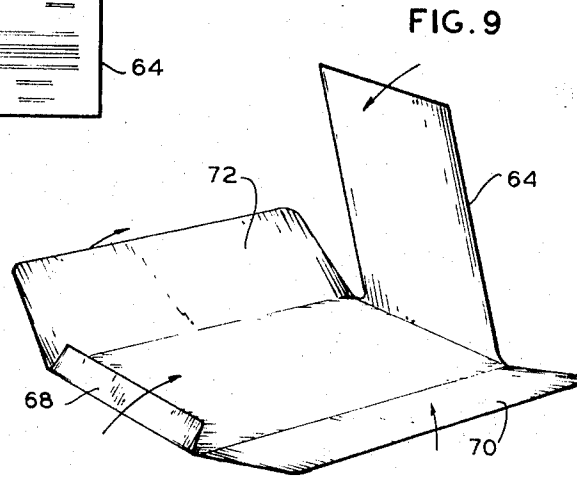
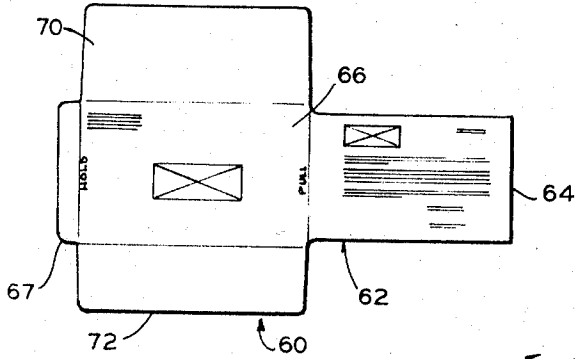
E. J. BUESCHER

3,442,185

CONTINUOUS METHODS FOR PRODUCING MAILABLE MATERIALS

Filed June 26, 1967

Sheet 2 of 2



1

3,442,185

CONTINUOUS METHODS FOR PRODUCING MAILABLE MATERIALS

Eugene J. Buescher, 2229 Entity Ave.,
St. Louis, Mo. 63114

Filed June 26, 1967, Ser. No. 648,894
Int. Cl. B31b 1/88, 1/14, 1/36

U.S. Cl. 93-61

8 Claims

ABSTRACT OF THE DISCLOSURE

A method for producing mailable materials comprising printing messages on continuous data process forms, separating the layers of the forms into individual sheets containing a message, positioning the individual sheets in substantially complete alignment, cutting said sheets to produce an unformed material and forming unformed material into a mailable container. Another aspect of the invention comprises an envelope formed and perforated in a manner to enable the detachment of a part of the envelope and removal of a message which was originally an integral part of the envelope.

This invention relates to a continuous method for preparing multiple items suitable for mailing. More particularly, it relates to a method for preparing and addressing these items from a multiple layer form suitable for use in data processing equipment.

Several methods have heretofore been proposed for utilizing the speed of data processing equipment for the preparation of items suitable for mailing such as envelopes. These methods, in general, are an improvement over the older methods of addressing envelopes such as by placing gummed labels, stenciling, address plates and the like because such continuous methods utilizing data processing equipment yield a product having an appearance of a personally typewritten envelope. The methods utilizing forms suitable for data processing machinery heretofore known, however, are not completely free of handicaps. For example, one general method utilizes a carrier strip upon which an envelope is attached until it is processed through the data processing equipment and the envelope is thereafter detached from the carrier strip. This method yields a large amount of waste paper and the envelope when detached has a rough edge which detracts from the appearance of the product.

The present method enables the production of multiple mailable items by utilizing a unique method which overcomes many of the disadvantages of prior processes. Furthermore, it has the flexibility to enable a large number of different types of mailable items to be produced. Such a method is believed to be an advancement in the art.

In accordance with one aspect of this invention a multiple layer form, capable of being processed on data processing equipment, is printed on one of the external layers. This method requires that the paper be of reproducible nature, that is a portion of the printing made on one layer will be reproduced on subsequent layers. In accordance with another aspect of this invention a single layer form can be used for producing cartons. A heavy material that is heavier than a standard 24 lb. weight paper is used to produce an addressed mailable carton. Heretofore these mailable materials were generally addressed by applying gummed labels to the carton. In most instances, any standard paper having a weight of greater than about 20 lbs., such as 125 lb. weight is satisfactory although in some instances heavier paper can be used if desired. One of the preferred methods which will be described in detail hereinafter utilizes carbon paper between

2

the layers for reproduction of the desired printing on the subsequent layers. After printing, the form is separated into individual layers by any suitable means which step is known in the art as decollation. The carbon paper, if used, is separated from the layers at this step. The layers after separation are then bursted into easily divisible separate rectangular portions. The material which is used in the present commercially available data processing equipment will, generally, vary from about 13" to about 18". The layers before they are broken into individual portions are generally several hundred feet in length since normally a continuous method is used. The layers are easily divisible into rectangular portions having the foregoing widths and the depth of the portion can be varied according to the product that is desired. For example, one standard envelope in an unformed state would require a width of about 14 to 15" and a depth of about 8½" to 9". Another standard envelope will require a depth of about 11 inches. Other mailable materials such as cartons, bags and the like will require different dimensions. The particular size of the individual sheet will be variable and the size will generally be selected to minimize the amount of waste. The processes of separating the material into the smaller portions is known as bursting and will be used hereinafter as signifying the above process of separating the individual layers into the foregoing equal size portions. Bursting is required after the separation step to enable stacking in a manner suitable for diecutting. In most conventional processes utilizing data processing equipment the data containing material is stacked in a convenient size by folding along the portions where the material is separated in the present method. It is essential to the present method that the bursting step follow the decollation step and that the sheets be in substantially complete alignment for reasons hereinafter explained.

After the layers are bursted into the individual sheets, the individual sheets are positioned in substantially complete alignment. That is contiguous sheets are placed in a substantial identical position in respect to each other. For example, messages on contiguous sheets are in the same position, face the same direction and are readable from the same position. By substantially complete alignment it is meant that the side containing printing is designated as the base and the opposing side is designated as the back, the back of each individual sheet will be placed upon or adjacent to the face of the succeeding sheet and the top of the printing on each sheet will be in same direction.

After the individual sheets are in alignment, the desired unformed material is cut, normally diecutting will be used; however, knives, or slicers can be used in some instances. No special sorting is necessary. After cutting, the separate mailable items are formed to their desired shape and are suitable for mailing or insertion into one of the mailable items.

Each item contains printing which closely resembles typewriting. If bursting and alignment are not carried out prior to diecutting, the printing will not be in the same relative location, thus causing either a large amount of waste or requiring a completely symmetrical shape to the uniform item.

As can be appreciated, the method of this invention has a large degree of flexibility. For example, the outer layer can be cut to form an envelope which has the appearance of an individually typed or window envelope. The subsequent layer can contain a preprinted message which is automatically addressed during this method. A third subsequent layer can be diecut to form a return envelope. The person receiving the original envelope is thereby relieved of writing his return address thus saving him time and inconvenience.

These and other novel features of the present invention will be further explained and set forth in reference to the drawings which form a part of this specification.

In reference to the drawings:

FIGURE 1 is a perspective view illustrating multi-layer data processing forms which have been pre-printed and have been processed through the data processing equipment. The forms are one of the preferred embodiments and have carbon paper between the layers which has been printed in accordance with a previous step.

FIGURE 2 is a perspective view illustrating the decollation step. The form is separated into two individual stacks and the carbon paper is separated at this step.

FIGURE 3 is a perspective view illustrating bursting step. The individual stacks are broken into individual rectangular sheets which are stacked individually at this step.

FIGURE 4 is a perspective view illustrating a typical individual sheet from one layer of the form of FIGURE 1 and the portion of the rectangular sheet which is to be diecut to form an envelope, one of the preferred embodiments of this invention.

FIGURE 5 is a perspective view illustrating a typical individual sheet from the other layer of the form of FIGURE 1 and the portion of this rectangular sheet which is to be diecut to form a return envelope.

FIGURE 6 is a perspective view illustrating the completed envelope of FIGURE 4.

FIGURE 7 is a perspective view illustrating the completed envelope of FIGURE 5.

FIGURE 8 is a perspective view illustrating the portion of one of the rectangular sheets which is to be diecut to form another preferred embodiment of this invention.

FIGURE 9 is a perspective view illustrating the preferred embodiment of FIGURE 8 in a semi-formed stage.

FIGURE 10 is a perspective view illustrating the preferred embodiment of FIGURE 9 in a completely formed stage to form an envelope.

FIGURE 11 is a perspective view illustrating the formed envelope of FIGURE 10 perforated along a particular line.

FIGURE 12 is a perspective view illustrating the envelope of FIGURE 11 after opening along the perforation.

With specific reference to the drawings and with specific reference to FIGURE 1 a continuous multilayer form 20 is pre-printed prior to use in the data processing equipment with a message on the upper layer 22 here illustrated as a return address 24. As the multilayer paper passes through a data processing equipment, the address 26 is printed upon the upper layer 22. The carbon paper 28 which is between the upper layer 22 and the lower layer 30 causes the same message to be imprinted on the lower layer 30. After the printing is completed, the multilayer material is folded into a stack 32 as illustrated in FIGURE 1.

With reference to FIGURE 2 in the decollation step, the upper layer 22, the lower layer 30 and the carbon paper 28 are each separated. The upper layer 22 is folded separately to form a stack 40. The lower layer 30 is folded separately to form stack 42.

With reference to FIGURE 3, the stack 40 is bursted into individual rectangular portion 44 and placed in a stack 46 with each portion having the printing in the same relative location. In a similar manner, stack 42 is separated into individual pieces and stacked.

With reference to FIGURE 4, a typical separated portion having dimensions of about 9" x 14" 44 of the upper layer 22 is shown. A diecut is made throughout the portions of stack 46 along the lines shown to form an unformed envelope 48. The pre-printed message 24 and the data processing printed message 26 appear on the unformed envelope.

With reference to FIGURE 5, a typical separated portion 50 of the lower layer 30 is shown. These portions are diecut to form an unformed envelope 52. The ad-

dress 54 which was reproduced on the lower layer 30 is in a proper location for a return address. The mailing address 56 which was pre-printed on the lower layer in the same manner as the return address 24 on the envelope 48 produced from the upper layer 22 is also in the proper location.

With reference to FIGURE 6 the envelope 48 produced from the upper layer 22 is shown formed and glued. The pre-printed return address 24 and the printed address 26 are in a proper location for mailing.

With reference to FIGURE 7, the envelope 52 produced from the lower layer 30 is shown formed and glued. The printed return address 54 is in the proper location for return mailing, and can be inserted into the envelope 48 illustrated in FIGURE 6.

With respect to FIGURE 8, a rectangular portion 60 previously printed, and separated as described in reference to FIGURES 1, 2 and 3 is cut to provide the unformed envelope 62. During the data processing step a message such as a letter, an account statement and the like are printed on an extended portion 64 which extends from the body of envelope 66. A smaller opposing extended portion 67 is formed.

With reference to FIGURE 9, which shows the combination envelope and message in a semi-formed position. The printed extended portion 64 is folded and does not reach to the smaller opposing extended portion 67 when it is folded along line 68.

With reference to FIGURE 10, a space 64 between the portions 69 is left and the adjacent extended portions 70 and 72 are folded to form a completed envelope 74.

With reference to FIGURE 11, the completed envelope 74 is perforated along a line 80 which is from about 1/4" to about 3/4" from the edge, connecting the inner portion 64 to the body of the envelope 66. The address 82 is printed in the data processing equipment at the same time the message contained on the inner portion 64 is printed. This method has the advantage of insuring that the proper statement, message or letter is sent to the person to whom the letter is addressed, thereby overcoming one of the inherent difficulties with handling large volumes of accounts by normal hand-stuffing of envelopes.

With reference to FIGURE 12, the message 64 is easily removed from the envelope 74 by placing one hand on the envelope at one side 90 and the other hand on the other side 92 and imparting a slight separation movement. The envelope separates along line 80 and the inner portion 64 is attached to the detached part of the outer portion of the envelope 94.

As can be appreciated, the method of this invention has a high degree of flexibility, both in the type of forms used and in the product produced. For example, the multi-layer forms can be paper, thin plastic sheets and fabrics, if desired. In most instances, paper will be used because of its relative inexpensiveness and readily availability. Additionally, in most instances, carbon paper will be inserted between the layers in order to easily obtain reproduction on only selected portions of the subsequent layer, although in some instances a pressure sensitive reproducing paper will be used, particularly if selected reproduction is not needed. It is to be noted that from two to about four layers can be used when reproduction is desired. The particular number of layers will depend upon the particular product that is to be produced. For example, when envelopes plus insertions into the envelopes are produced, 3 to 4 layers can be utilized. When cartons are produced, generally a higher strength material is required, therefore, in most instances, a one layer continuous form can be used or a thin layer in combination with a heavier layer can be used. It is to be additionally noted that the layers can be separately printed with the same or different printing prior to assembly into a continuous form. In the preparation of a carton the thin layer can be imprinted with the address and other perti-

nent information for a record of the mailing of the carton.

In the printing step a large degree of flexibility can also be achieved. For example, the address can be printed and will serve as the mailing address on the product originally mailed and as a return address or an inside address on the products produced from the other layers. As an illustration, it is desirable in many instances to send a form letter and a return envelope. In most instances, it is believed if the letter contains the name and address of the individual to whom it is sent, a better impression is created. If desired, coded information can be used and suitable messages for optical scanning can be included, if desired. In this instance, a three-layer form can be used, one layer of the multi-layer form can be preprinted with the form letter and assembled with two other layers, one of which the address to whom the return envelope is to be sent and the other containing the return address of the originally mailed envelope. As the form passes through the data processing equipment, the name and address of the person to whom the material is to be sent is imprinted on all three layers. In the subsequent die-cutting step the two envelopes are produced and the addressed form letter. It is to be noted that in many instances if desired, additional printing can be done on selected pieces at the decollation step or at the bursting step. It is to be noted that the multiple printing is not limited to addresses. For example, a billing statement can be printed on each of two layers, one to be mailed and the other to become a file copy. Additionally where several mailings are to be done to the same persons within a relatively short period of time, all of the layers can be converted into original mailed materials. Other uses and types of printing can be readily appreciated by those skilled in the art.

It is to be emphasized that although the method of this invention has been described in the drawings in reference to envelopes that this is not considered a limitation upon the product that can be produced. For example, as previously mentioned, relatively light weight cartons can be produced from one layer and enclosures to be placed inside these cartons can be produced from the subsequent layers. Similarly, bags suitable for mailing with enclosures can also be produced.

One of the aspects of this invention as described in reference to FIGURES 8, 9, 10, 11 and 12 constitute a novel product, that is, an envelope which contains a message which an integral portion of the envelope can be detached by the receiver. The length of portion containing the message and the length of the opposing portion are less than the width of the envelope. If the total length of these two portions are greater than the width of the formed envelope, the portion containing the message would not be removed but would normally remain attached since the smaller opposing portion would be sealed to the body of the envelope. As previously mentioned,

this product insures that personal information will be mailed to the correct person as it will be printed simultaneously with the address. Errors in mailing the information to the wrong person would thereby be reduced. The envelope can be perforated at a distance from about $\frac{1}{4}$ " to about $\frac{3}{4}$ " from the edge to enable a sufficient area for one to easily grasp the edge with the finger and thumb of one hand. The perforation step can be done at any step subsequent to diecutting and prior to forming.

What is claimed is:

1. A method for producing mailable materials comprising (a) printing a plurality of messages on one layer of a reproducing continuous data processing form having a plurality of layers, said form being separable into continuous individual layers and each continuous layer being divisible into smaller individual sheets, (b) separating said layers, (c) dividing said layer into individual sheets, each individual sheet from said layer containing said messages also containing a message, (d) positioning said individual sheets in substantially complete alignment wherein each contiguous sheet is in substantial identical position with respect to each other, (e) cutting said sheets to produce an unformed material and (f) forming said unformed material into a mailable container.

2. A method according to claim 1, wherein said message is an address and wherein one layer is formed into a carton.

3. A method according to claim 1, wherein said message is an address and wherein one layer is formed into an envelope.

4. A method according to claim 3, wherein two layers are formed into envelopes and wherein one address on one envelope is a mailing address and on the other envelope is a return address.

5. A method according to claim 3, wherein one layer is formed into an envelope and another layer contains a message for insertion into said envelope.

6. A method according to claim 1, wherein said layers are pressure sensitive reproducing paper.

7. A method according to claim 1, wherein one of the layer is constructed of carbon paper which is positioned between two of said layers, and the additional step of removing said carbon paper from the process prior to dividing the layers into individual sheets.

8. A method according to claim 1, wherein said form is paper.

References Cited

UNITED STATES PATENTS

3,104,799	9/1963	Steidinger	282—11.5
3,272,095	9/1966	Heuff	93—61

BERNARD STICKNEY, *Primary Examiner*.

U.S. Cl. X.R.

229—85; 282—11.5