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(54) **MAILER, METHOD AND DEVICE FOR AUTOMATICALLY INSERTING MEDIA THEREIN**

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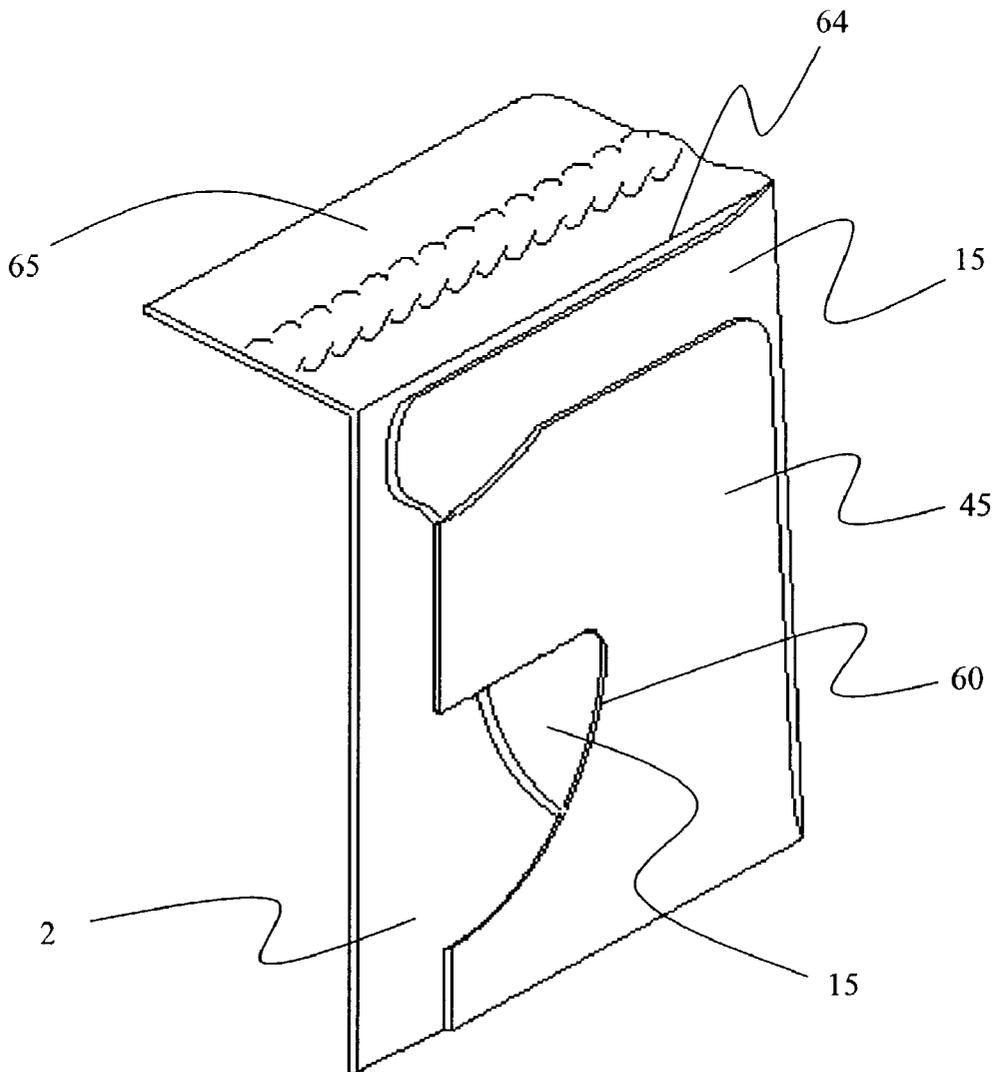
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(57) **ABSTRACT**

A dual pocket envelope capable of receiving multiple inserts, including optical media. A method of insertion and related equipment for introducing inserts and media therein. The envelope is formed from a single sheet, customizable in size and shape. The single sheet is folded and fastened to create the dual pocket envelope. Optical media and other inserts are placed in the envelope in a step-wise manner, using a novel insertion equipment.

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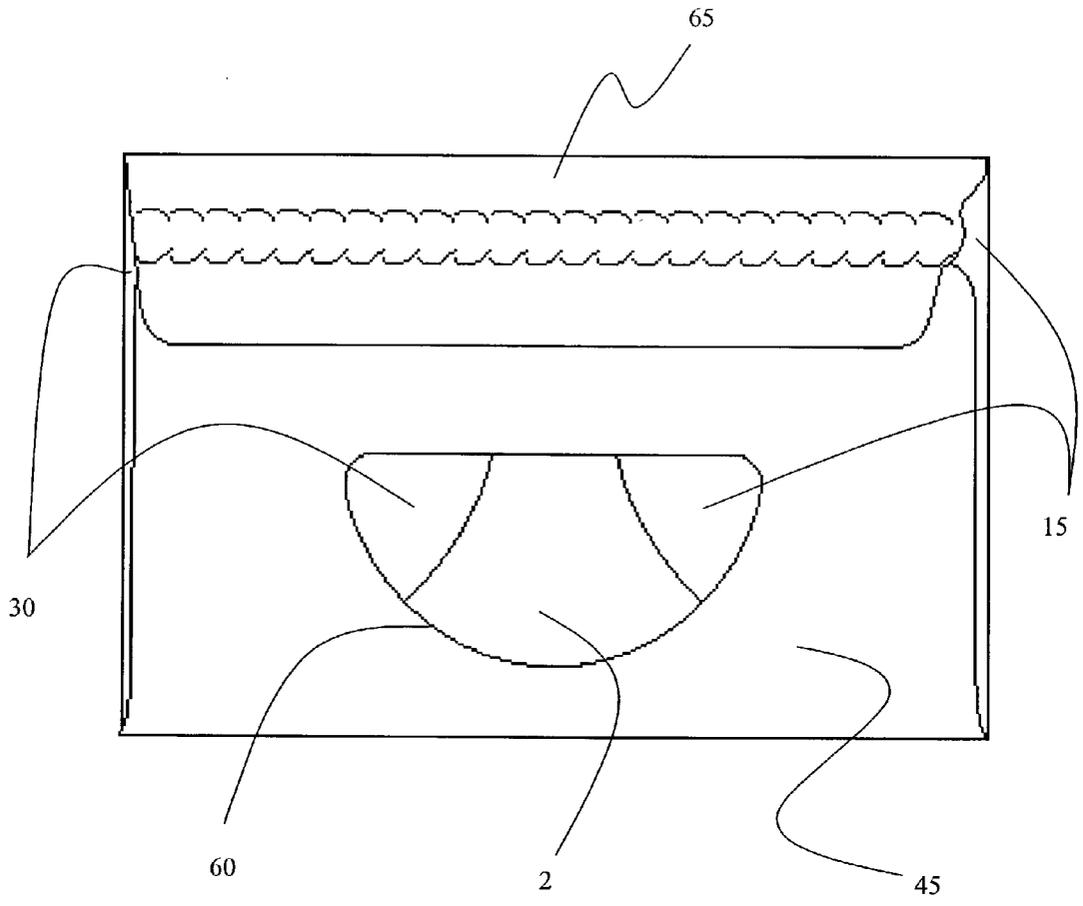


Fig. 1

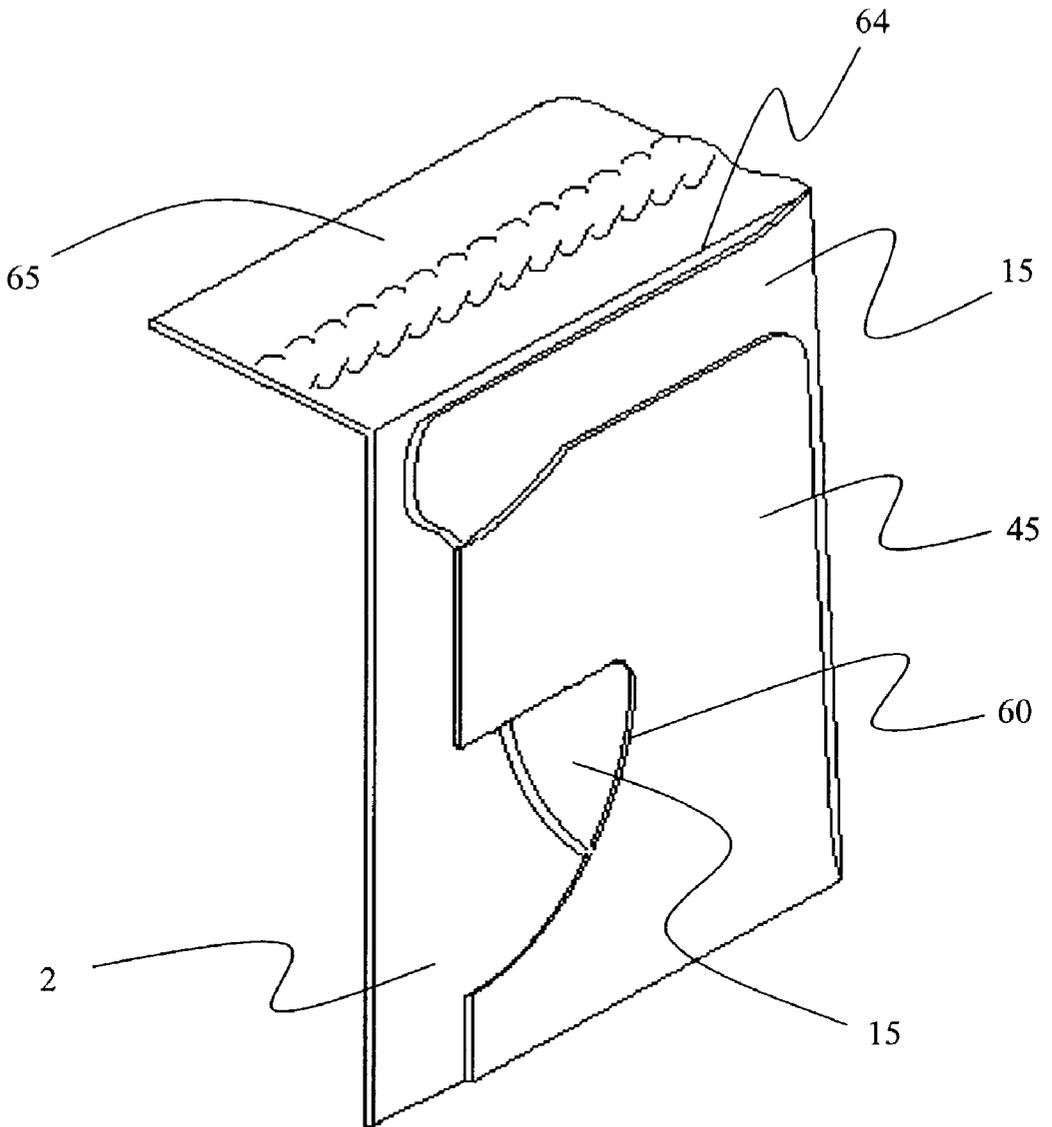


Fig. 2

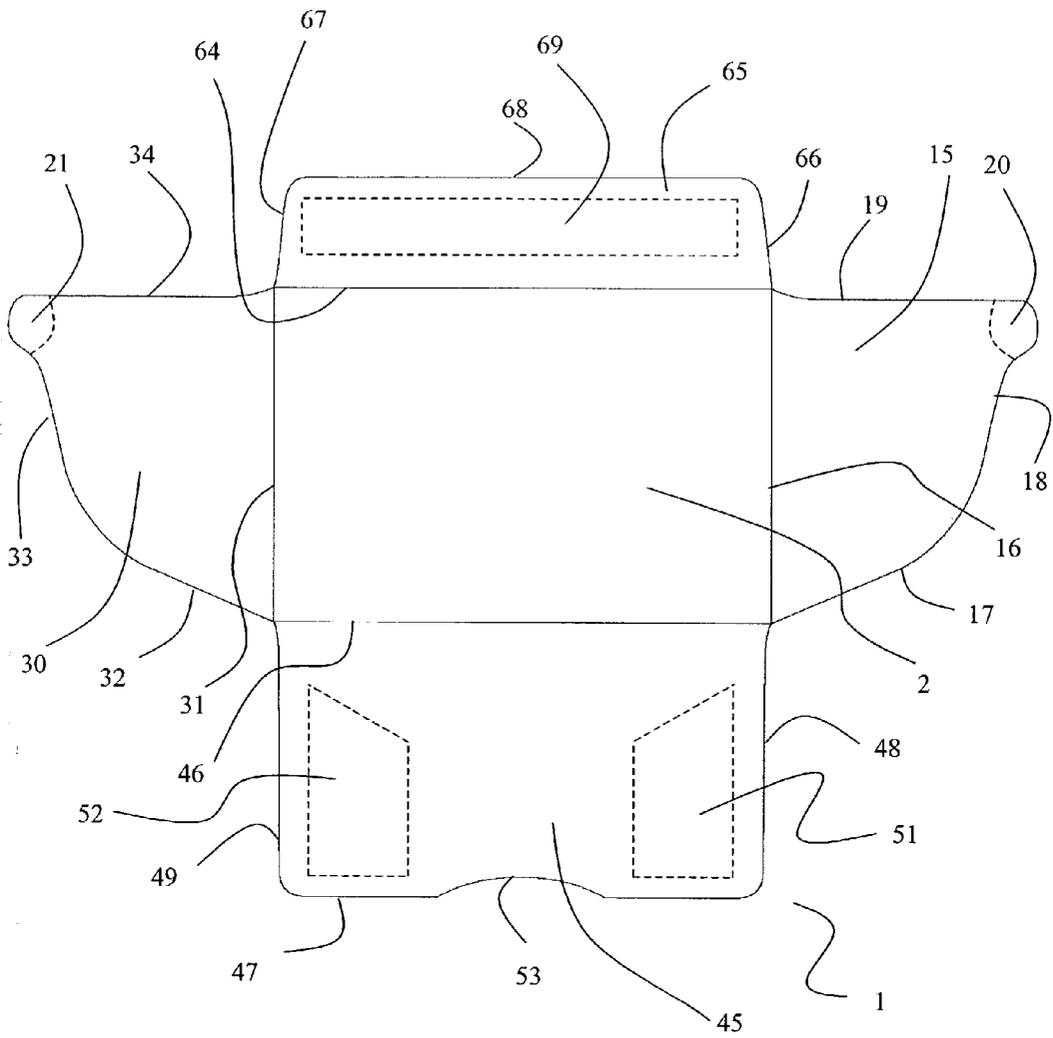


Fig. 3

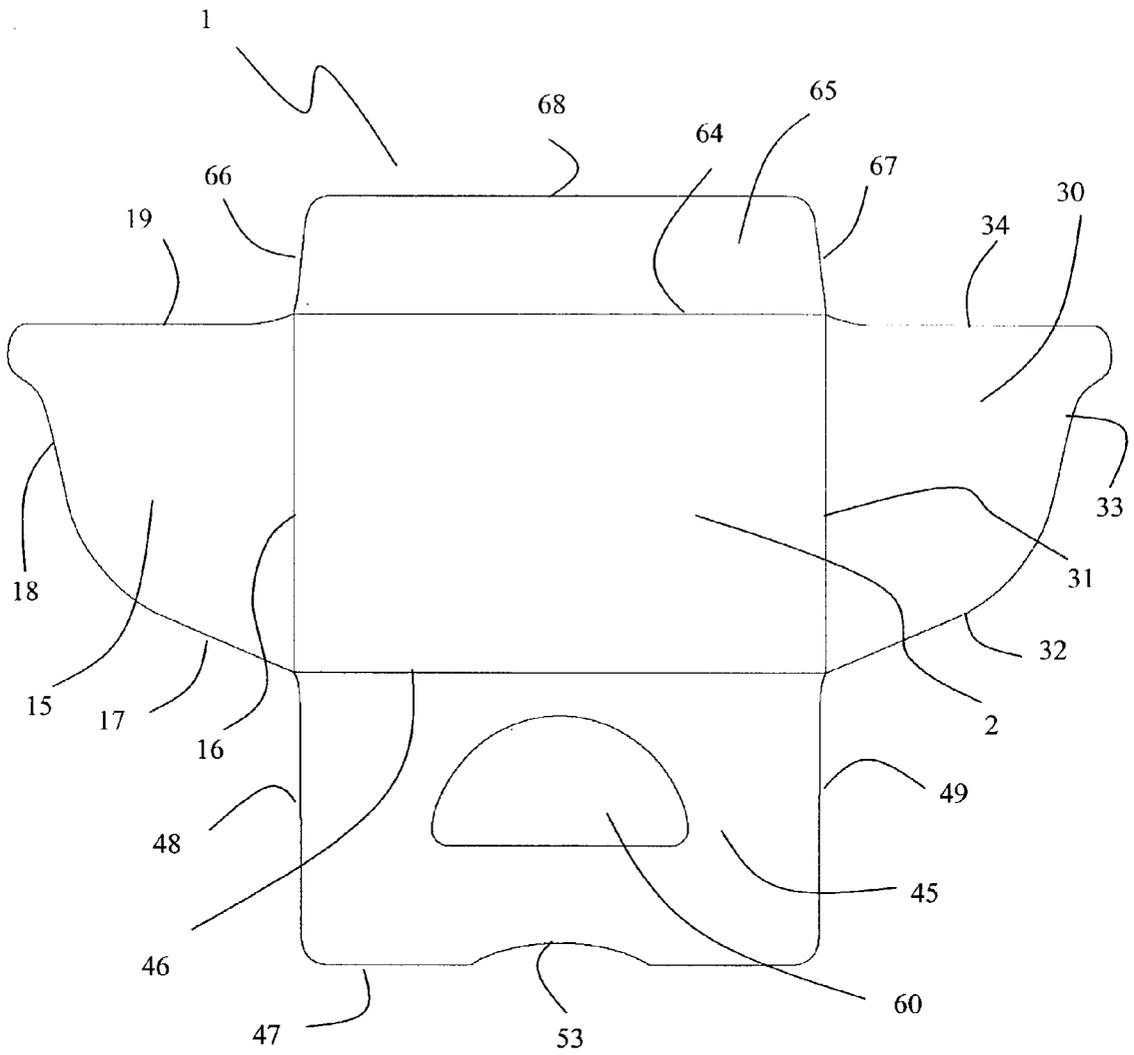


Fig. 4

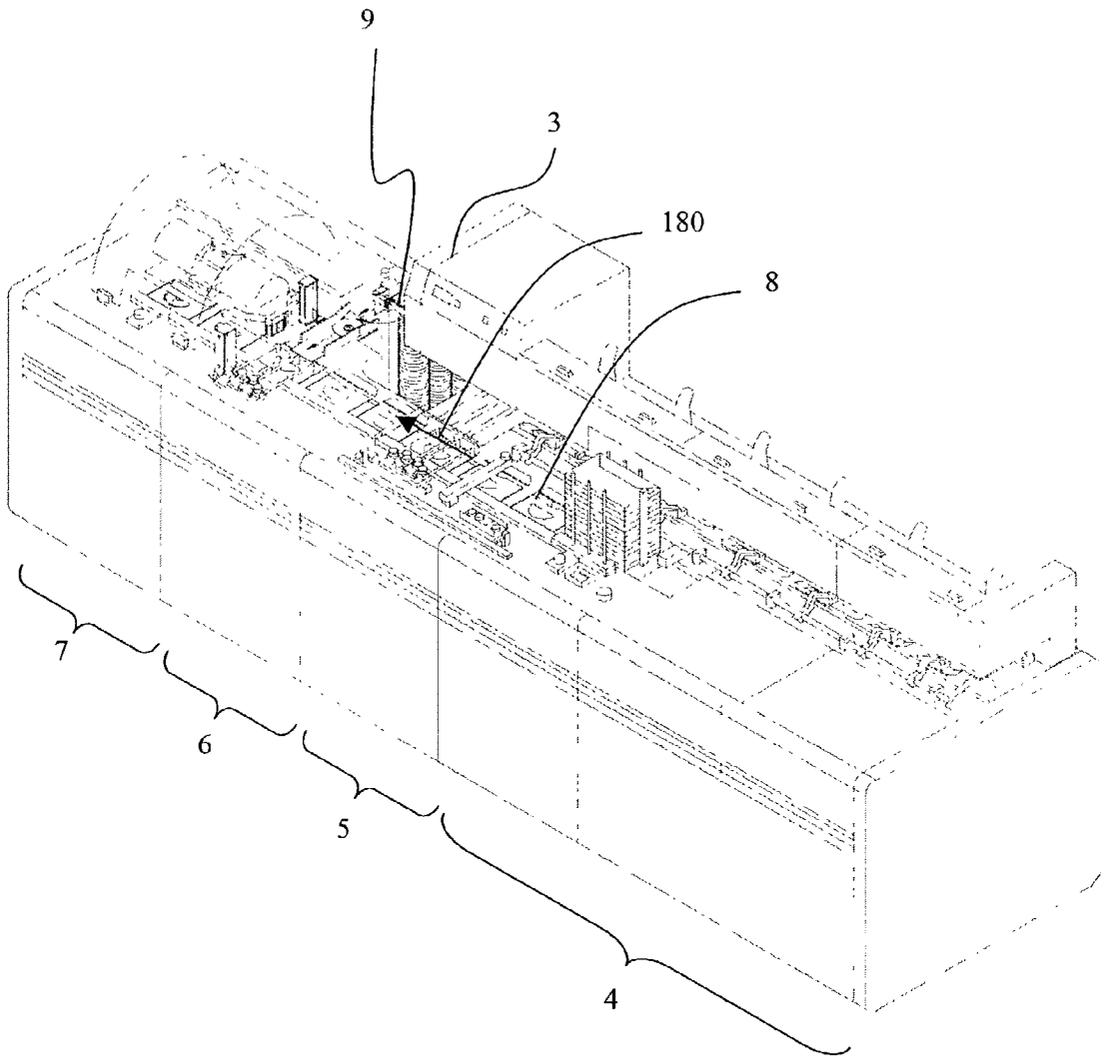


Fig. 5

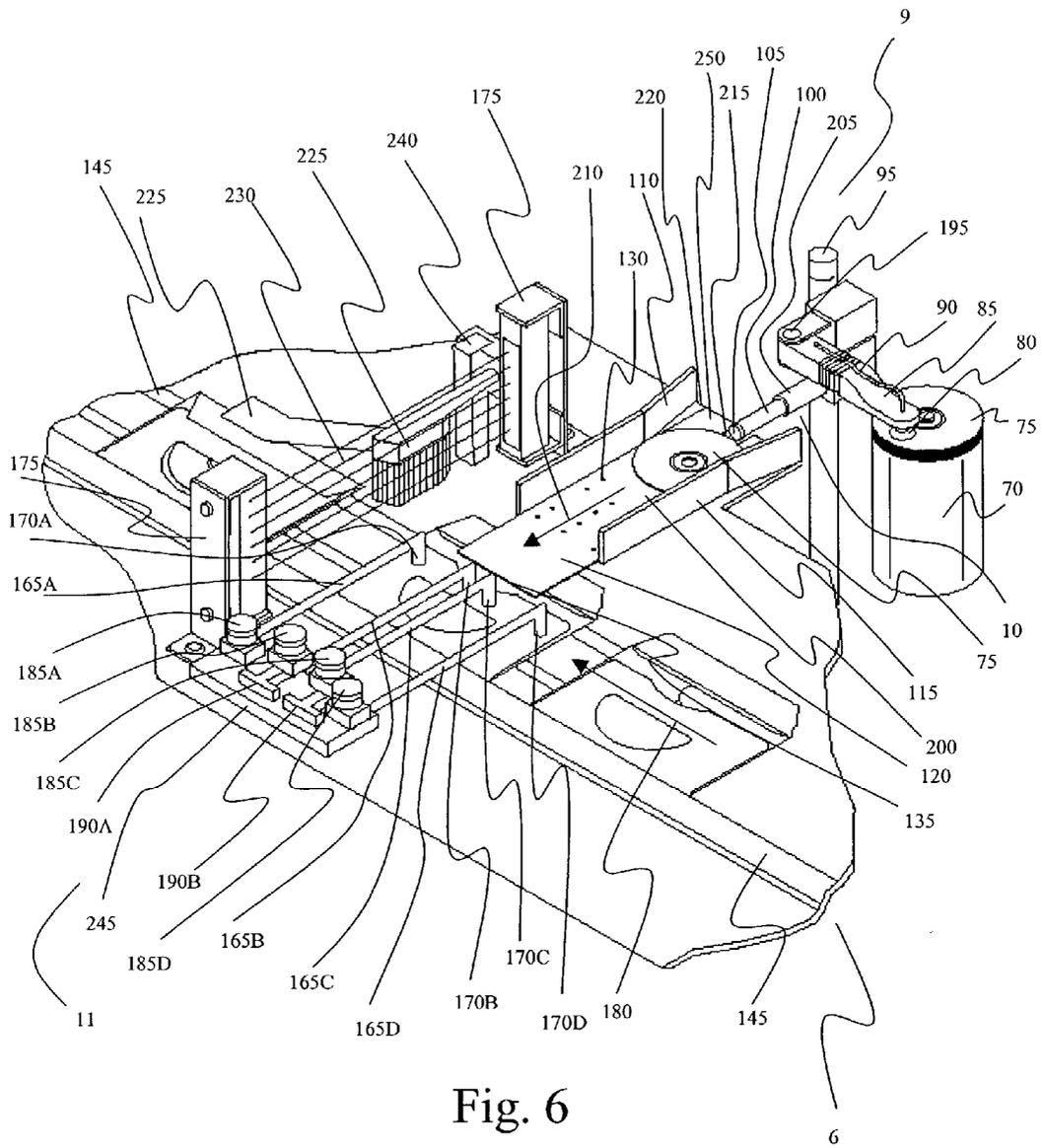


Fig. 6

## MAILER, METHOD AND DEVICE FOR AUTOMATICALLY INSERTING MEDIA THEREIN

### BACKGROUND

[0001] The direct mail industry has historically utilized envelopes with single pockets for automated insertion of mailing components. In the past, mailing components historically have only included paper or like materials. To maximize efficiency, the direct mail industry has utilized automated machine-based processes for preparing mailings, including inserting materials, sealing, and addressing the envelopes and applying postage. However, with the rapid growth of Internet usage and personal computing at the household level, there is a growing necessity to mail out numbers of electronic and optical media discs and devices to be included in direct mailers. Most of the computers being used by consumers at the household level, whether PC or Macintosh, are installed with optical media disc drives, which can read from and write onto removable media discs of various formats. These formats include the ubiquitous CD-ROM format, as well as the increasingly utilized CD-R, CD-RW, DVD-ROM, DVD-R, DVD-RW, DVD+RW formats, as well as compact discs of other removable media types. Currently there is a growing need felt by the direct mail industry for a means to prepare and deliver, in a cost effective automated insertion manner removable media and/or plastic media included with paper inserts or like materials through the mail to consumers. This is being driven by the growing awareness among Direct Mail marketers of the advantages of mailed removable media discs as sales and marketing vehicles. These advantages stem mainly from 1) the large capacity of such discs, such as CDROM and DVDROM discs, and 2) their ability to function dynamically as two-way communication devices. A description of these advantages is in order.

[0002] The digital capacity of a standard 12 cm CDROM disc, for example, is close to 700 megabytes. With this capacity, a marketer can advertise a product with over 60 minutes of video and thousands of pages of high-quality graphics and text. In other words, a marketer could place an entire catalogue on such a disc, use only the highest quality graphics, and support each product and/or service with video vignettes. The capacity would be even larger for a DVDROM disc. For the same marketer to mail the equivalent content without the benefit of such a disc, one or more bulky VHS tapes would be required, along with one or more thick and fairly heavy catalogues. All combined, the mailer without the disc would likely be impractically large and would incur a significantly higher postage rate.

[0003] The other main advantage of removable media discs is their ability to dynamically capture data. The same CDROM disc described above would be able to connect to the Internet via an Internet connection on the computer in which it is played. The marketer could therefore generate e-commerce sales and collect valuable marketing data from the consumer without the need and costs associated therewith for 1-800 number support or pre-printed reply/mail-in cards.

[0004] With the above advantages considered, the reader may presume there has been an explosion of Direct Mail that incorporates removable media. This has not, however, been the case. The reason for this is the relative newness of the

removable media as sales and marketing devices, to which the Direct Mail industry has not yet reacted.

[0005] There is also a need in the Direct Mail industry for additional printable "real estate" or surfaces of envelopes to enhance the ability of advertisers to get their message across. Advertisers for years have used traditional printed paper media in their direct mail advertising campaigns. Advertisers have balked, however, at utilizing optical media solely in their advertising campaigns because of the perception that if the recipient does not place the optical media in their computer, the advertiser's message has not been delivered. Advertisers perceive a need, therefore, to combine printed paper media with optical media in their advertising campaigns so as to assure their advertiser's message is delivered.

[0006] Current service providers and original equipment manufacturers in the direct mail industry offer few, if any, options for direct mailers to keep up with technological advances by incorporating removable media, such as optical media discs. The direct mailing processes include inserting of objects into envelopes, ink jet printing on the envelopes, sealing the envelopes, and applying postage. These traditional activities do not accommodate removable media discs, using direct mail equipment. The processes do not support the use of removable media discs in the same automated manner. For example, the current insertion machines that automate the direct mailing processes, such as that described and disclosed in U.S. Pat. No. 4,955,185 (hereinafter the '185 patent), are not designed for removable media disc insertion into envelopes typically used in direct mail. The result is that service providers in the direct mail industry have to employ manual labor, such as hand insertion, in order to fulfill customer requests for mailers that incorporate removable media such as optical media discs. Moreover, the typical mailers and envelopes themselves, such as the #10 regular, #10 window, #9, 6x9 window, 6x9 regular, 9x12 catalog, 9x12 booklet, and others, unless otherwise custom ordered, are not of a paper weight to prevent the mailer from bending around the edges of the housed disc. These sizes also do not offer a pocket in which media can be automatically placed and in which the disc is protected from breaking, scratching or cracking. The heavier paper stocks, additional materials, and required hand labor for Direct Mail campaigns that incorporate removable media discs, together translate into pronounced higher costs.

[0007] There does exist holders in which optical media and print media is hand inserted. Such holders are used in the photo developing industry to provide prints to customers along with an optical disc on which is stored the customer's pictures. These holders are not suited for direct mail purposes because they are not compatible with present automatic paper insertion equipment, nor does equipment exist to accomplish the automatic insertion of the desired optical media into a direct mail envelope along with other marketing media. Additionally, these holders, because they position the optical disc at the edge of the holder, do not protect the optical disc sufficiently to assure their safe processing and delivery by the postal service.

[0008] Presently, it is possible in the optical media market to insert industry standard 12 cm and 8 cm discs by machine. However, the machinery used in this industry, such as that disclosed and described in U.S. Pat. No. 5,875,614 (hereinafter referred to as the '614 patent), only support the

automated insertion of industry standard discs into a limited number of sleeve sizes. The vast majority of these sleeve sizes are of the 5 in.×5 in. variety such as the 5¼ in.×5 in., 5⅝ in.×5½ in., 5¾ in.×5¼ in., 5⅞ in.×5⅞ in. size and others. These sleeves function as a protective carrier for optical media discs, and are not typically used as direct mail mailers. These sleeves do not provide sufficient “real estate” to get an advertiser’s message across, nor do these sleeves provide the opportunity for sending marketing media, in a automated, single-pass manner. Such sleeves are constructed from stock which is too flimsy to protect discs from the hazards of mailing through the postal service. Furthermore, because sleeves are invariably manufactured in the two sizes mentioned above, marketers are given few options for size and configuration for direct mail campaigns that incorporate removable media discs. Further complications arise in that these sleeves, when used as mailers or envelopes, are not automation compatible with current postal service requirements, and must be processed in a manner that requires higher postage charges than conventional mailers.

[0009] The existing machinery and inline single-pass machine processes used in the direct mail industry do not currently support removable media discs. Conversely, the existing machinery and machine processes used in the optical media industry currently do not support the multitude of different envelope sizes and configurations used in the direct mail industry nor can they include paper inserts to accompany the media. Therefore, mailings that incorporate removable media inserts, such as optical discs, typically incur a much higher cost than those mailings that do not incorporate removable media inserts.

[0010] For these reasons, there is a need for a mailer that can accommodate the direct mailing of different types of media, processed in a single-pass automated manner and sent together in one mailer, i.e. removable media, and plastic media, and paper or like materials. There is also a need for direct mailing equipment and processes which provide for the automated single-pass insertion of different types of media together in one mailer, i.e. removable media, discs, plastic media, and paper or like materials.

[0011] All publications, including patent documents, referred to in this application are incorporated by reference in their entirety for all purposes. All headings are provided for the convenience of the reader and should not be used to limit the meaning of the text that follows the heading, unless so specified.

#### SUMMARY

[0012] The present invention relates to a multiple pocket envelope, and to related methods and equipment for automatic insertion of media therein that satisfies the aforementioned needs. More specifically, the envelope has two pockets that are adjacent, separated by a common wall. The pockets are arranged in a manner so that the rear wall of the outer pocket is the front wall of the inner pocket. The entire envelope is formed from a unitary blank, that can be pre-printed and converted in customizable design and size configurations well known in the envelope converting field. This envelope provides extra printable “real estate” on the walls of the two pockets. The envelope is formed by folding, fastening, and optionally sealing the sides of the unitary blank.

[0013] The rear panel of the envelope is generally rectangular and has four sides that are defined by fold lines for four other integrally connected panels of the envelope which are defined as the two opposing side panels, the top panel and the bottom panel. The rear panel has both an inside and an outside surface as defined by the final configuration of the envelope. There are two opposed side panels that are integrally connected or joined to the rear panel, along the fold lines, and which are folded over to form an inner pocket leaving a portion of the rear panel inside surface uncovered or exposed and the edges or “buckles” of the opposed side panels “kiss” or touch each other. Optionally, the side panels overlap and are connected together at one or more glueable areas located on the buckles or on the panels. The inner pocket so formed has its mouth near the upper edge of the inside rear panel. The bottom panel is folded over and connected to the two opposed side panels at two glueable areas located on the lower panel to form an outer pocket suitable for insertion of removable media or other inserts. The bottom panel partially covers the folded opposed side panels and forms an outer pocket suitable for the insertion of removable media or other inserts. This outer pocket similarly has a mouth that is near the upper edge of the inside of the rear panel. The top panel is folded over the inner and outer pockets and acts to seal the inner and outer pockets. The top panel partially covers the bottom panel upon folding. Similarly, flaps of the inner pocket can be connected to the inside of the rear panel to form an inner pocket suitable for insertion of removable media or other inserts. Removable discs can, thus, optionally be inserted into the inner pocket and the printed inserts inserted into the outer pocket. Windows can optionally be included in either or both the bottom and rear panels to expose additional “real estate” on the inserted media to show through on the face of the envelope.

[0014] The method relates to a means of inserting media inside of an envelope, in an inline, single-pass, automated process. More specifically, the method includes a means for feeding an envelope, a means for feeding media to be inserted into the envelope, and inserting the media into the envelope.

[0015] The related equipment comprises a means for moving an envelope on or through the equipment. Furthermore, the equipment includes a means for feeding an envelope with one or more pockets onto the moving means. The equipment also includes a means for conveying the media, and for feeding the media towards the envelope on the moving means. The equipment also provides a means for inserting the media inside the envelope pocket or pockets. Finally the equipment provides a means for connecting with and between the moving means, the envelope and media feeding means, the conveying means, and the inserting means so that the equipment operates in a coordinated fashion.

[0016] The principal objects of the present invention are: to provide a dual pocket envelope; to provide a dual pocket envelope with additional printable “real estate”; to provide such an envelope which is adapted for use with automatic mail insertion equipment; to provide a method of insertion with such automatic mail insertion equipment; to provide automatic mail insertion equipment to accomplish automatic insertion of media into envelopes, to provide such an envelope which is well adapted for use with automatic mail

processing equipment; to provide such an envelope that is adapted for in line, single-pass automated insertion with a plurality of media inserts; and to provide such an envelope that is particularly well adapted for use with optical and other removable media inserts. Other objects and advantages of this invention will become apparent from the following description taken in conjunction with the accompanying drawings wherein are set forth, by way of illustration and example, embodiments of this invention.

[0017] The drawings constitute apart of this specification and include exemplary embodiments of the present invention and illustrate various objects and features thereof.

#### BRIEF DESCRIPTION OF THE DRAWINGS

[0018] FIG. 1 is a plan view of the envelope.

[0019] FIG. 2 is a cross-sectional view of the envelope

[0020] FIG. 3 is a view of the inside of the envelope blank

[0021] FIG. 4 is a view of the outside of the envelope blank

[0022] FIG. 5 is a view of the multiple station automated insertion device for media

[0023] FIG. 6 is a sectional view of the removable media insertion device

#### DETAILED DESCRIPTION

[0024] Definitions

[0025] “Connecting” means a method for fastening, including but not limited to the use of booger glue, rewettable glue, or glue strip.

[0026] “Envelope” refers to an envelope already containing inserted media or, alternatively, an envelope devoid of any inserted media.

[0027] “Media” means a type of material that can be inserted into and is otherwise removable from an envelope, including removable media defined herein, whether the material is (1) traditional paper or like materials or (2) electronic media, or optical media discs, or other computer-readable object, or equivalent; (3) plastic media such as credit cards, identification cards or related cards.

[0028] “Perforated” refers to any structurally weakened area or line. The weakening of this area or line can be accomplished by scoring, punching, folding, embossing or other like method.

[0029] “Unitary blank” means a single completely intact cut sheet of paper that is converted into an envelope.

[0030] “Business reply card” means a paper unit that can be removed from the envelope along a perforated line and separately filled out and mailed to a pre-printed address, or a coupon with pre-printed information, or other such equivalent.

[0031] “Removable media” means any type of electronic media such as optical discs, magnetic discs, magneto-optical discs, solid-state memory discs, discs of other formats, memory cards, memory sticks, or any other computer-readable storage object.

[0032] “Optical media” means discs removable discs of the various optical media formats, such as, but not limited to, CD-ROM, CD-R, CD-RW, CD-Video, DVD-Video, DVD-ROM, DVD-RAM, DVD-R DVD-RW, DVD+RW, DVD-R/CD-RW combo, DVD-RW/CD-RW combo, or other like equivalent.

[0033] “Suction cup” means a vacuum-operated pickup head which generates a suction force at its surface area that is calibrated to firmly pick up or move media, envelopes, or envelope panels. The suction cup is enabled by a motorized air compressor.

[0034] As required, detailed embodiments of the present invention are disclosed herein; however, it is to be understood that the disclosed embodiments are merely exemplary of the invention, which may be embodied in varying forms. Therefore, specific structural and functional details disclosed herein are not to be interpreted as limiting, but merely as a basis for the claims as a representative basis for teaching one skilled in the art to variously employ the present invention in virtually any appropriately detailed structure.

[0035] FIG. 3 illustrates a one-piece unitary envelope blank prior to assembly into a dual pocket envelope as shown in FIGS. 1 and 2. With reference to FIG. 1, the envelope is constructed by well known methods of cutting from a larger unitary piece of stock and various lines of weakness which facilitate folding along the lines are formed on the envelope blank by conventional and well known methods. The stock for the blank can be composed of varying materials such as those commonly used for direct mailing envelopes, including but not limited to paper, cardboard, plastic, glycine, polymers, and combinations of said materials. The stock can be blank, to be printed upon later. The stock can also be pre-printed, with text, figures, diagrams, drawings, and other pertinent information printed in a variety of manners to accommodate varying methods of folding, angles, and viewing.

[0036] With reference to FIG. 3, the envelope includes a rear panel 2 that is generally rectangular in shape. The four sides of rear panel 2 are defined by four lines of weakness that facilitate folding or bending. The lines of weakness are represented by lines 16, 31, 46, and 64.

[0037] The side panels 15 and 30 designate the right and left side panels respectively, and are connected to the rear panel at lines of weakness 16 and 31 respectively which facilitate folding or bending. The side panels 15 and 30 are folded or bent inward over the inside surface of rear panel 2 to create an inner pocket. The mouth of the inner pocket is formed by the upper edges 19 and 34 of side panels 15 and 30 respectively. The side panels 15 and 30 can be of a size and shape as to cover the inside surface of rear panel 2 either partially or completely. Side panels 15 and 30 can be alternatively be fastened or connected together, utilizing a variety of methods including remoistened glue or booger glue, along overlapping right buckle area 20 and left buckle area 21. A variety of fastening methods allow for the side panels 15 and 30 to form a customizable inner pocket. The inside surfaces of side flaps 15 and 30 allow for increased printable areas, maximizing the amount of printed information that is contained therein.

[0038] Alternatively the side panels 15 and 30 can be of such as size and shape as to substantially cover said rear

panel 2 inside surface and to have their free side edges of the right and left side panels 17, 18 and 32, 33 touching so that no portion of the inside surface of the rear panel is exposed there between. Alternatively either or both side panels 15 and 30 can comprise a perforated line, wherein a portion of all of said side panels 15 and 30 can be detached at said perforated line and the detached portion can be used as a return postcard, a business reply card or equivalent. The side panels 15 and 30 can alternatively be of such a size and shape as to totally cover said rear panel 2 and to have their side edges 17, 18 and 32, 33 touching so that no portion of the inside surface of the rear panel is exposed there between.

[0039] Bottom panel 45 is connected to rear panel 2 at line of weakness 46 that facilitates folding or bending. Bottom panel 45 is bent or folded upwards over the inner pocket formed by side panels 15 and 30. The outer pocket has a mouth at the lower edge 47 of the bottom panel 45. Bottom panel 45 can be fastened or connected to a combination of side panel edges 17, 18, 19, 32, 33, and/or 34 utilizing a plurality of methods including remoistened glue or booger glue, along the right and left edges respectively of edges 48 and 49 thus forming an outer pocket. The bottom panel 45 can alternatively be fastened or connected at glueable areas 51 and 52 to the outer surface of the right panel 15 and the left panel 30 thus forming an outer pocket. Bottom panel 45 can be of a shape and size to partially cover the wall of the inner pocket, formed by side panels 15 and 30. Alternatively, the bottom panel 45 can be of such size and shape as to totally cover said opposed side panels 15 and 30. An optional recess 53 substantially semicircular in shape facilitates insertion and removal of materials contained within the pockets.

[0040] Top panel 65 is connected to rear panel 2 at line of weakness 64 that facilitates folding or bending. Top panel 65 is bent or folded downwards over the mouths of the inner and outer pockets, and provides a means for sealing said pockets. Top panel 65 is of a shape and size to partially or fully cover bottom flap 45. Top panel 65 can be fastened or connected to the lower edge 47 of bottom panel 45 utilizing a plurality of methods, including remoistened glue or booger glue, at glueable area 69. The top panel can be opened to expose the mouths of the contained inner and outer pockets. Alternatively, the top panel 65 can be of such as size and shape as to totally cover said bottom panel 45.

[0041] The outer pocket can be sealed, or fastened in a manner as to allow a person to unseal or unfasten the envelope, exposing the materials therein, and allow a person to view the inside of bottom panel 45. This inside surface of bottom panel 45 and outer surface of the inner pocket present additional printable areas and thus maximize the amount of printed information that is contained therein especially when the glue used is translucent or clear.

[0042] The envelope can additionally have an optional window as shown in FIG. 4 on bottom flap 45 to reveal the contents of the outer pocket. This window can remain open and unsealed, or can have an optional translucent or transparent covering to protect the contents of the outer pocket. Such translucent or transparent coverings are well known in the art and can include various polymers or plastic sheets.

[0043] FIG. 5 illustrates one possible embodiment of the method of insertion and the equipment necessary to accom-

plish such insertion. With regards to FIG. 5, the multiple station insertion device 3 disclosed therein can be constructed using well known methods in the inserter manufacturing industry such as described and disclosed in the '185 patent. The multiple insertion device 3 can comprise an envelope feeding station 4; a first media insertion station 5; a second media insertion station 6; and an envelope sealing/receiving station 7. FIG. 6 indicates one possible embodiment of the second media insertion station 6 that can be incorporated into existing inserters, or utilized separately. The embodiment disclosed in FIG. 5 can comprise the envelope feeding station 4, first media or envelope insertion station 5 and envelope 16 sealing station 7 as described and disclosed in the '185 patent. Furthermore, the second media insertion station 6 as shown in FIG. 5 can represent an optical media insertion station as disclosed in the '614 patent. With reference to FIG. 5, the envelope is fed into envelope insertion station 4 along an envelope moving means 8. One embodiment of the moving means is the insert track structure which is described and disclosed in the '185 patent. Another embodiment of the moving means is comprised of the envelope moving track 145 as shown in FIG. 6. The moving means guides the envelope along movement path 180. The first media insertion station 5 includes a supply of media (not illustrated) for insertion into the inner pocket of the envelope. The insertion of the media occurs as described and disclosed in the '614 patent.

[0044] The second media insertion station 6 includes a media supply, one embodiment which is the disc supply as described and disclosed in the '614 patent. Another embodiment of the media supply is illustrated in FIGS. 5 and 6 which indicates a media supply 70, comprised of a plurality of media 75, which provides media 75.

[0045] The second media insertion station 6 includes a media transfer assembly 9, one embodiment which is the disc transfer assembly which is described and disclosed in the '614 patent. Another embodiment of the media transfer assembly 9 is depicted in FIG. 6. With reference to FIG. 6, the media transfer assembly is supported in a cantilever fashion by vertical support 95, and is comprised of a conveying arm 85, an optional rotatable hinge 195, to which is rotatably mounted the conveying arm 85 to the vertical support 95. One end of conveying arm 85 has at least one suction cup 80 through which vacuum is selectively applied. The suction cup 80 can be vertically and horizontally movable with respect to the conveying arm 85. The suction cup 80 communicates with a source of vacuum (not illustrated) through the conveying arm 85 and vacuum hose 90, which is controlled by an unillustrated controller. The conveying arm 85 is rotatable through at least 90 degrees by a pneumatic piston-driven or equivalent rotary actuator (not illustrated) which serves to rotate the suction cup 80 into a position substantially vertically aligned with the media 75 from the media supply 70. In one optional embodiment, an unillustrated printing mechanism prints an address or like data on media 75 prior to transfer by the media transfer assembly 9. With vacuum applied to the suction cup 80, the conveying arm 85 is then raised to remove the topmost media 75 from the media supply 70, and then the conveying arm 85 is rotated at the rotatable hinge 195 through about 90 degrees of arc to position media 75 above media rest 250 of feeding chute 200. The conveying arm 85 is optionally lowered to bring the media 75 into engagement with feeding chute 200. Vacuum is released to cause suction cup 80 to

release the media 75 onto the media rest 250. The media transfer assembly 9 is optionally controlled by an unillustrated controller.

[0046] The feeding chute 200 of second media insertion station 6 is now described. The feeding chute 200 functions to take media deposited onto media rest 250 by the media transfer assembly 9 and move that media into position for insertion into the envelope. Feeding chute 200 is formed by base 120, whose width is greater than the diameter of media 75. Base 120 may optionally be comprised of such materials as to facilitate the flow of media along path 210 and to minimize damage such as scratches to media 75. Such materials can include polymers, felt, wood, and similar relatively soft materials. Base 120 may optionally be comprised of an unillustrated air suspension system, which is attached to an unillustrated air pump system. The unillustrated air suspension system creates an unillustrated air cushion through a plurality of vents 130, which facilitates movement of media 75 along path 210, further protecting the media 75 from damage. Feeding chute 200 is defined on one end by edge 220, and an optionally recessed groove 215 to facilitate contact between feeding piston 100 and media 75. Lip 135 defines the end of feeding chute 200, which lip is positioned to optimally allow insertion of media 75 into an envelope. Feeding chute 200 is further defined by a first and second guide wall 110 and 115 respectively, which further aid in directing media 75 along path 210. Guide walls 110 and 115 of feeding chute 200 may optionally be adjusted to accommodate varying sizes of media. Feeding chute 200 may optionally be adjusted vertically to accommodate varying dimensions, thickness, and composition of envelopes.

[0047] The pusher assembly 10 of second media insertion station 6 is now described. One embodiment of the pusher assembly is the pusher assembly as described and disclosed in the '614 patent. Another embodiment of the pusher assembly is the pusher finger assembly as described and disclosed in the '185 patent. Another embodiment of the pusher assembly is depicted in FIG. 6. Feeding piston 100, with optional sensor 105, is activated by pneumatic pusher 205, which pushes media 75 along path 210. The pusher assembly is timed and coordinated in a manner as to insert media into an open outer pocket of an envelope positioned at the lip 135 of the feeding chute 200. Feeding piston 100, the optional sensor 105, and the pneumatic pusher 205, are controlled by an unillustrated controller.

[0048] The moving means positions an envelope at lip 135 prior to receiving media 75. The lip 135 contacts the upper edge 19 of the right side panel 15 and/or the upper edge 34 of the left side panel 30. The lip 35 thus acts to hold down the panels so that the envelope opening mechanism 11 can open only the outer pocket and not the inner pocket. The envelope opening mechanism 11 of second media insertion station 6 is now described. One embodiment of the envelope opening mechanism 11 is the envelope opening station described and disclosed in the '185 patent. Another embodiment of the envelope opening mechanism is depicted in FIG. 6. The moving means positions the envelope in a manner in which lip 135 is situated to allow insertion of media 75 into the outer pocket of the waiting envelope. Envelope opening mechanism 11 is comprised of at least one and preferably a plurality of elongated stems 165. At one end of each elongated stem 165 is a suction cup 170 through which a vacuum is selectively applied. Each suction cup

communicates with a source of vacuum through the attached elongated stem 165, which optionally is hollow, and an unillustrated flexible hose, and is controlled by an unillustrated controller. Near its other end each elongated stem 165 is mounted to a vertically erect post 185. The four posts 185A through 185D shown in FIG. 6 are carried on a carriage means 245. The elongated stems 165A through D serve to position the suction cups 170A through 170D over the envelope. Optionally, elongated stems 165A through D can be positioned or rotated horizontally at vertically erect posts 185A through 185D to position suction cups 170A through 170D over the envelope. Elongated stems 165A through 165D are rotated vertically to position suction cups 170A through 170D near the envelope so that suction cups 170A through 170D can open the outer pocket of the envelope by application of vacuum there through. Elongated stems 165A through 165D are optionally positioned or rotated vertically to further engage with and open the outer pocket of the envelope. The envelope opening mechanism is timed and coordinated to be open to receive media 75 from the pusher assembly 10. The envelope opening mechanism 11 is controlled by an unillustrated controller.

[0049] Upon insertion of media 75 into the outer pocket of the envelope, the envelope is moved along movement path 180 by the moving means. The envelope is then sealed by a device and in a such manner as the envelope sealing structure described and disclosed in the '185 patent.

[0050] Optionally, the second media insertion station 6 further comprises one or more detecting means. One such error detection means, an error detection structure 175, generates at least one and preferably a plurality of optical error detection beams 230, which beams provide an indication whether or not media has been properly inserted into an envelope. The error detection means detect media insertion and media and envelope positioning errors near their physical placement and optimally throughout the entire second media insertion station 6. The second media insertion station 6 optionally can include an unillustrated jam detection structure as described and disclosed in the '185 patent. This unillustrated jam detection structure functions to detect media and/or envelopes that have become jammed.

[0051] Additionally shown in FIG. 6 is an envelope sealing unit 225 which may optionally comprise a part of the second media insertion station 6 or alternatively comprise a part of the envelope sealing/receiving station 7. One embodiment of the envelope sealing unit 225 is the envelope sealing mechanism described and disclosed in the '185 patent

[0052] The entire second media insertion station 6 is connected to and driven by an unillustrated motor or other equivalent motivational means, in a manner well known in the art. One embodiment is the motor described and disclosed in the '185 patent. Another embodiment is the drive motors as described and disclosed in the '614 patent. The entire second media insertion station 6 is controlled by an unillustrated controller, in a manner well known in the art. One embodiment is the pusher finger orientation control means as described and disclosed in the '185 patent. Another embodiment is the controller as described and disclosed in the '614 patent. The un-illustrated controller may optionally include a timer mechanism. The un-illustrated controller optionally is connected to the un-illustrated motor, the

un-illustrated timer, the error detection structures, the un-illustrated printing mechanism, and the un-illustrated jam detection structure so as to provide a means for coordinating and controlling the envelope feeding, first media insertion, second media insertion, envelope sealing and receiving functions.

[0053] In one embodiment of the invention the insertion method occurs in steps. In another embodiment of the invention, one or more of the steps occur automatically. In another embodiment of the invention all the steps occur in a continuous stream. In a further embodiment the feeding steps occur in an automatic, continuous stream and in a step-wise movement. In again another embodiment of the invention, after the insertion of the media inside the envelope there is a step to verify proper insertion of the media inside the envelope. In a further embodiment, an address or like data is printed on the outside face of the envelope before the insertion of said media of said envelope. Similarly, in another embodiment, an address or like data is printed on the media prior to being fed automatically and wherein said address or like data corresponds to an address or like data printed on the outside face of the envelope. In one optional embodiment, an unillustrated printing mechanism prints an address or like data on the outer surface of the envelope after insertion of the media.

#### EXAMPLE

[0054] A dual pocket envelope is fed into the envelope insertion station 4 and is moved along an envelope moving means 8. The moving means 8 guides the envelope along movement path 180 to the first media insertion station 5 wherein the inner pocket of the envelope can optionally be opened and inserted with media such as promotional material such as printed paper. Whether or not media is inserted at the first media insertion station the moving means 8 then guides the envelope along movement path 180 to the second media insertion station. Prior to, concurrent with or thereafter, the envelope's arrival at the second media insertion stations, the conveying arm 85 rotates through at least 90 degrees so as to rotate the suction cup 80 into a position substantially vertically aligned with the optical media disc 75 sitting on the media source 70. A vacuum is applied to the suction cup 80, the conveying arm 85 is then raised to remove the topmost optical media disc 75 from the optical media supply 70, and then the conveying arm 85 is rotated at the rotatable hinge 195 through about 90 degrees of arc to position the optical media disc 75 above the media rest 250 of the feeding chute 200. The vacuum is released to cause suction cup 80 to release the optical media disc 75 onto the media rest 250.

[0055] An air suspension system creates an air cushion through a plurality of vents 130 in the feeding chute 200, which facilitates the movement of the optical media disc 75 along path 210, further protecting the optical media disc 75 from damage. The first and second guide wall 110 and 115 respectively direct the optical media disc 75 along path 210.

[0056] To begin the movement of the optical media disc, the feeding piston 100 is activated by pneumatic pusher 205, which pushes the optical media disc 75 from the media rest 250 along path 210. The pusher assembly 10 is timed and coordinated in a manner as to insert the optical media disc into the outer pocket of the envelope positioned at the lip

135 of the feeding chute 200. All the actions of the second media insertion station are controlled by a controller.

[0057] The moving means positions the envelope at lip 135 prior to receiving the optical media disc 75. The lip 135 contacts the upper edge 19 of the right side panel 15 and the upper edge 34 of the left side panel 30. The lip 135 holds down the panels so that the envelope opening mechanism 11 can open only the outer pocket and not the inner pocket. The elongated stems 165A through 165D are rotated vertically to position suction cups 170A through 170D near the envelope and thereafter the suction cups 170A through 170D engage and open the outer pocket of the envelope by application of vacuum prior to and during the time period during which the optical media disc is inserted into the outer pocket of the envelope. Upon insertion of the optical media disc 75 into the outer pocket of the envelope, the suction cups 170A through 170D disengage and the envelope is moved along the movement path 180 by the moving means towards the envelope sealing/receiving station 7.

[0058] Prior to reaching the envelope sealing/receiving station 7 the envelope passes under the detection beams 230 of the error detection structure 175. If the beams are broken by any part of an improperly inserted envelope, a controller steps in to stop the further operation of the equipment. If, on the other hand, the envelope is properly inserted, the envelope passes under the error detection beams 230 and the top panel 65 of the envelope is sealed by the sealing structure 225.

[0059] Next, after passing through the sealing structure 225, a printing mechanism prints an address on the outer surface of the envelope after insertion of the media. Finally, after printing the envelope is moved along the movement path 180 to arrive at the end of the envelope sealing/receiving station 7 where the envelope is positioned for removal from the multiple station insertion device 3.

[0060] It is to be understood that while certain forms of the present invention have been illustrated and described herein, the present invention is not to be limited to the specific forms or arrangement of parts described and shown.

What is claimed is as follows:

1. A multiple pocket envelope made from a unitary blank and comprising;
  - (a) a generally rectangular rear panel defined on the top, left, right and bottom sides by fold lines said rear panel having an inside and outside surface;
  - (b) a set of opposed side panels each of said side panels being integrally joined to said rear panel along one of said fold lines and being folded along into an overlying relation with the inside surface of said rear panel, said side panels being of such a size and shape as to partially cover said rear panel inside surface and to have their free side edges spaced a distance from each other so that a portion of the inside surface of the rear panel is exposed there between, and said opposed side panels form an inner pocket having a mouth near the upper edge of said inside surface of rear panel;
  - (c) a bottom panel, integrally joined to said rear panel along the said bottom side fold line and being folded along said fold line into an overlying relation with said opposed side panels, said bottom panel being of such

size and shape as to partially cover said opposed side panels, and said bottom panel forming an outer pocket having a mouth near the upper edge of said rear panel inside surface;

- (d) a means for connecting said bottom panel to said side panels;
- (e) a top panel, integrally joined to said rear panel along said top side fold line and being folded along into an overlying relation with said bottom panel, said top panel being of such size and shape as to partially cover said bottom panel, and said top panel enclosing the said inner and outer pockets and covering said mouths; and
- (f) a means for connecting said top panel to said bottom panel.

2. The multiple pocket envelope as set forth in claim 1, further characterized by said side panels comprising a size and shape as to substantially cover said rear panel inside surface and to have their free side edges touching so that no portion of the inside surface of the rear panel is exposed there between.

3. The multiple pocket envelope as set forth in claim 1, further characterized by said side panels comprising a size and shape as to totally cover said rear panel inside surface and to have their free side edges touching so that no portion of the inside surface of the rear panel is exposed there between.

4. The multiple pocket envelope as set forth in claim 1, further characterized by said bottom panel comprising a size and shape as to substantially cover said opposed side panels.

5. The multiple pocket envelope as set forth in claim 1, further characterized by said bottom panel comprising a size and shape as to totally cover said opposed side panels.

6. The multiple pocket envelope as set forth in claim 1, further characterized by said top panel comprising a size and shape as to partially cover said bottom panel.

7. The multiple pocket envelope as set forth in claim 1, further characterized by said top panel comprising a size and shape as to totally cover said bottom panel.

8. The multiple pocket envelope as set forth in claim 1, further characterized by a window in said bottom flap which reveals the contents of the outer pocket.

9. The multiple pocket envelope as set forth in claim 1, further characterized by a window in said back flap which reveals the contents of the inner pocket.

10. The multiple pocket envelope as set forth in claim 1, further characterized by either or both side panels comprise a perforated line, wherein a portion or all of said side panels can be detached at said perforated line.

11. The multiple pocket envelope as set forth in claim 10, wherein the detachable portion of the side panel is a business reply card.

12. The multiple pocket envelope as set forth in claim 1, further characterized by a semicircular recess along the edge of the bottom panel.

13. A method for inserting media inside of an envelope, said method comprising in sequence the operations of:

- (a) feeding an envelope,
- (b) sequentially feeding media to be inserted inside said envelope,
- (c) inserting said media inside the envelope.

14. The method of claim 13, wherein one or more of the steps occurs automatically.

15. The method of claim 13, wherein either or both of the feeding steps occur in a stepwise motion.

16. The method of claim 13, wherein all the steps occur in a continuous stream.

17. The method of claim 13, wherein the feeding steps occur in an automatic, continuous stream and in a stepwise movement.

18. The method of claim 13, wherein after the insertion of the media inside the envelope there is the step of verifying the proper insertion of said media inside of said envelope.

19. The method of claim 13, wherein an address or like data is printed on the outside face of the envelope after the insertion of said media inside of said envelope.

20. The method of claim 13, wherein an address or like data is printed on the outside face of the envelope before the insertion of said media inside of said envelope.

21. The method of claim 13, wherein an address or like data is printed on the media prior to being fed automatically.

22. The method of claim 13, wherein an address or like data is printed on the media prior to being fed automatically, and wherein said address or like data corresponds to an address or like data printed on the outside face of the envelope.

23. Equipment for inserting media inside envelopes, said equipment comprising:

- (a) a means for moving an envelope;
- (b) a means for feeding an envelope onto said moving means;
- (c) a means for conveying said media;
- (d) a means for feeding said media towards said moving means;
- (e) a means for inserting said media inside the envelope;
- (f) a means for operatively connecting to and coordinating with and between said moving means, said envelope and media feeding means, said conveying means, and said inserting means.

24. The equipment of claim 23, wherein said moving, envelope and media feeding, conveying and inserting means occurs in a stepwise fashion.

25. The equipment of claim 23, wherein said envelope moving means moves a continuous supply of envelopes stepwise.

26. The equipment of claim 23, wherein said envelope feeding means feeds a continuous supply of envelopes.

27. The equipment of claim 23, wherein said media feeding means feeds a continuous supply of media.

28. The equipment of claim 23, wherein a printing means prints an address or like data on the media prior to feeding.

29. The equipment of claim 23, wherein said means for operatively connecting to and coordinating with and between said moving means, said envelope and media feeding means, said conveying means, and said inserting means is also connected to and coordinated with and between said printing means.

30. A multiple media insertion device comprising

- (a) an envelope feeding station;
- (b) a first media insertion station;
- (c) a second media insertion station; and

(d) an envelope sealing/receiving station all operatively connected therewith.

**31.** An insertion device comprising:

- (a) an envelope feeding station; and
- (b) a media insertion station operatively connected therewith.

**32.** A media insertion device comprising:

- (a) a media transfer assembly;
- (b) a feeding chute;
- (c) a moving means to position an envelope to receive media with respect to the feeding chute; and
- (d) an envelope opening mechanism all operatively connected therewith.

**33.** The media insertion device of claim 32 further comprising a pusher assembly.

**34.** The media insertion device of claim 32, wherein the media transfer assembly comprises:

- (a) a vertical support;
- (b) a conveying arm;
- (c) at least one suction cup affixed in a functional manner to the conveying arm and through which vacuum is selectively applied; and
- (d) a hinge connected in a rotatable fashion to both the vertical support and the conveying arm.

**34.** The media insertion device of claim 32, wherein the feeding chute comprises:

- (a) a base;
- (b) a media rest area at one end of the base; and
- (c) a lip at the other end of the base.

**35.** The media insertion device of claim 32 wherein the feeding chute further comprises an air suspension system which provides an air cushion through a plurality of vents in the chute.

**36.** The media insertion device of claim 32 wherein the feeding chute further comprises a recessed groove to facilitate contact between a feeding piston and the media.

**37.** The media insertion device of claim 32 further comprising a feeding piston positioned, timed and coordinated in a manner so as to push media into an open envelope positioned at the lip of the feeding chute.

**38.** The media insertion device of claim 32 wherein the envelope opening mechanism further comprises:

- (a) at least one elongated stem;
- (b) a suction cup affixed functionally at the end of the elongated stem;
- (c) a vertical post to which the opposite end of the elongated stem is mountably fixed; and
- (d) a carriage means to which one or more of the vertical posts are affixed in a carrying manner so as to permit positioning of the elongated stems.

**39.** The media insertion device of claim 32 further comprising an envelope sealing means.

**40.** The media insertion device of claim 32 further comprising one or more error detecting means.

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