March 1, 1955 A. NOVICK ET AL 2,703,043

ENVELOPE PATCHING APPARATUS

Filed Nov. 3, 1950 4 Sheets-Sheet 1

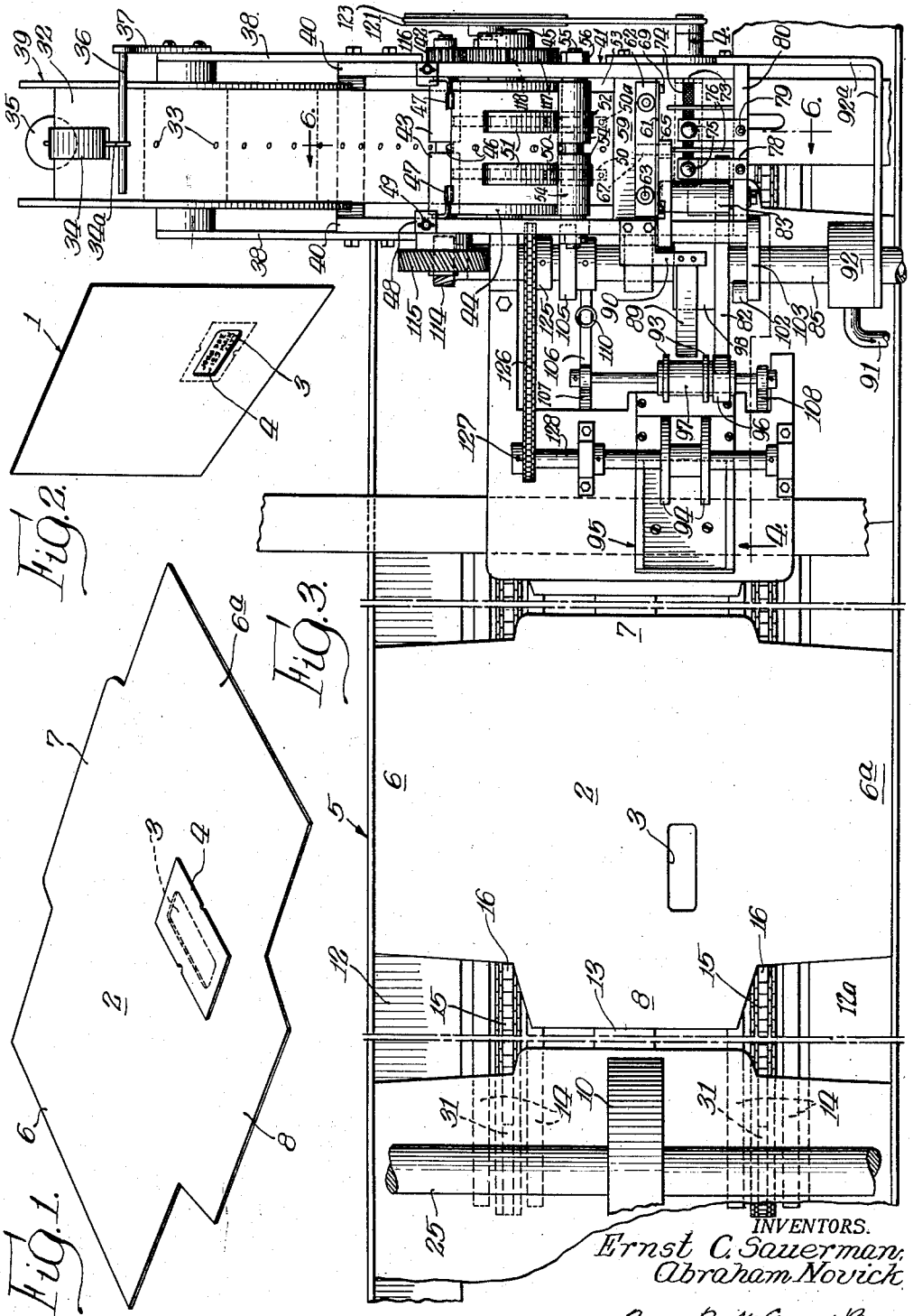


Fig. 1.

Fig. 2.

Fig. 3.

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ENVELOPE PATCHING APPARATUS

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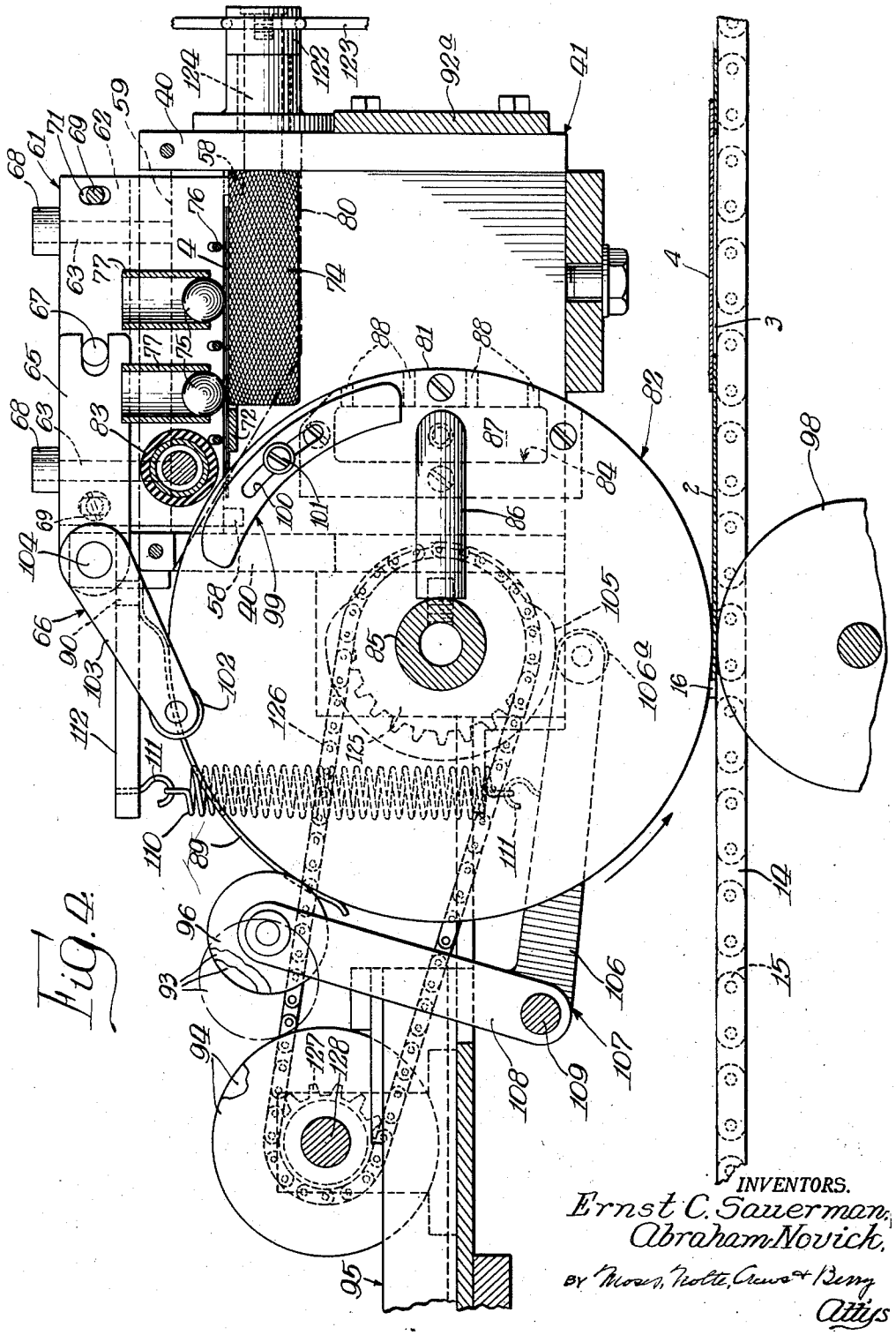


Fig. 2.

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ENVELOPE PATCHING APPARATUS

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Fig. 7.

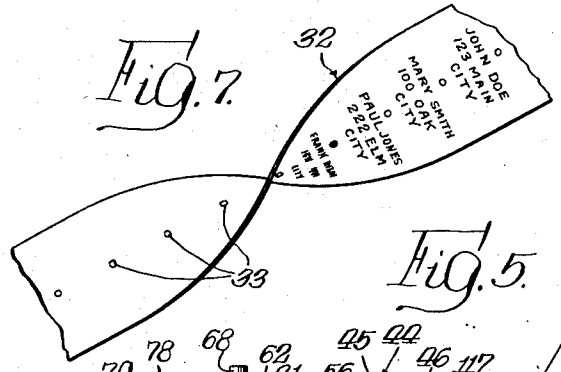


Fig. 5.

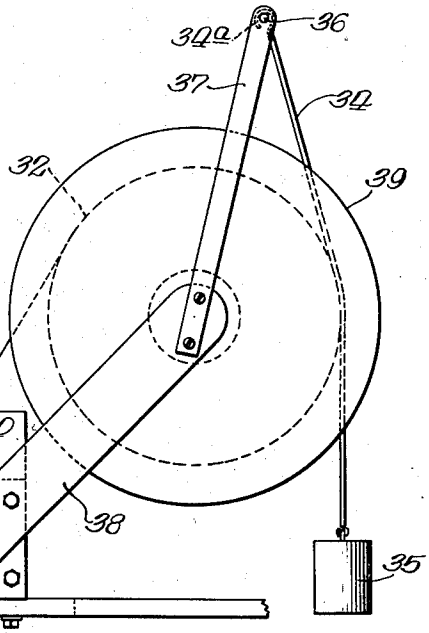
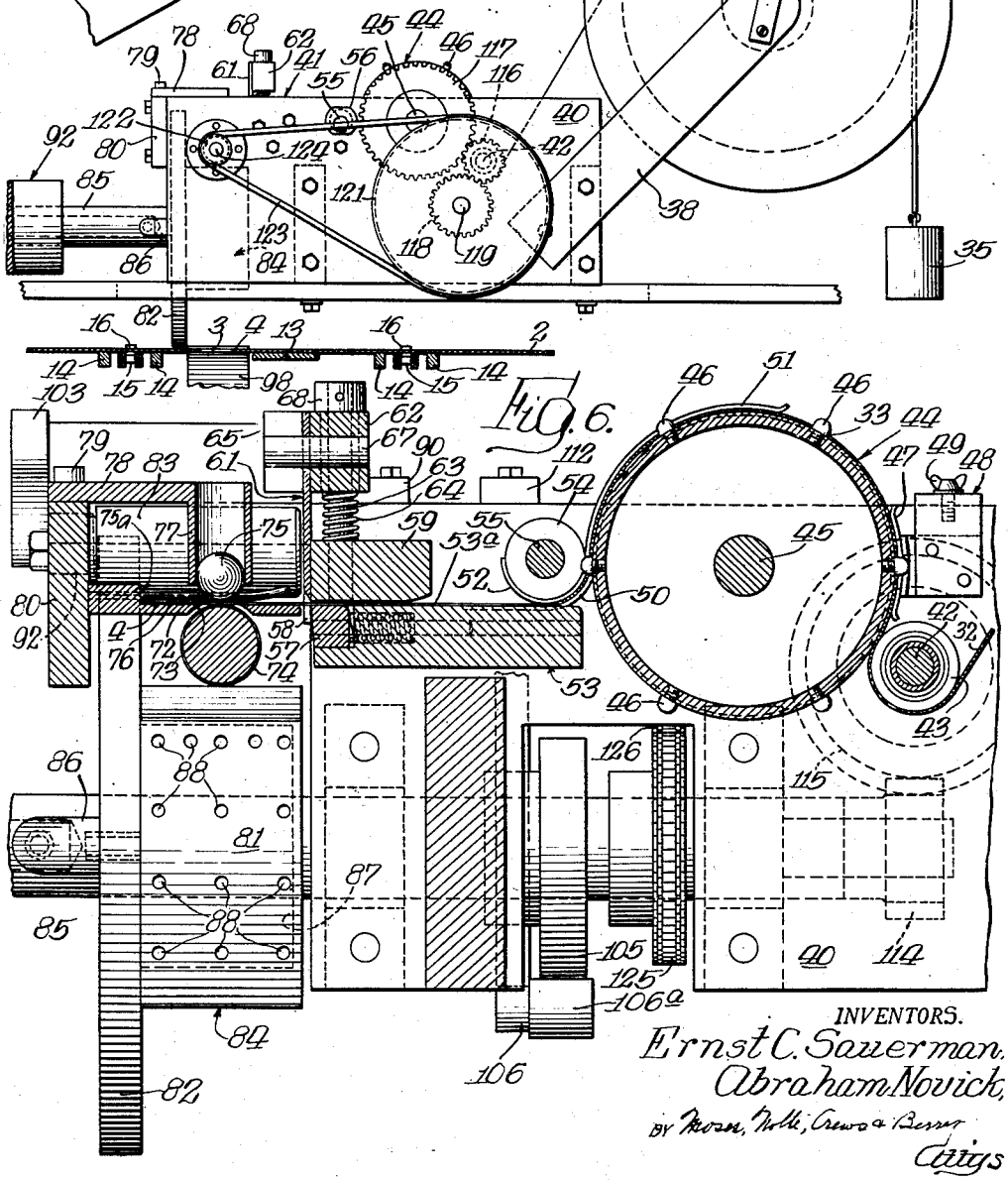


Fig. 6.



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ENVELOPE PATCHING APPARATUS

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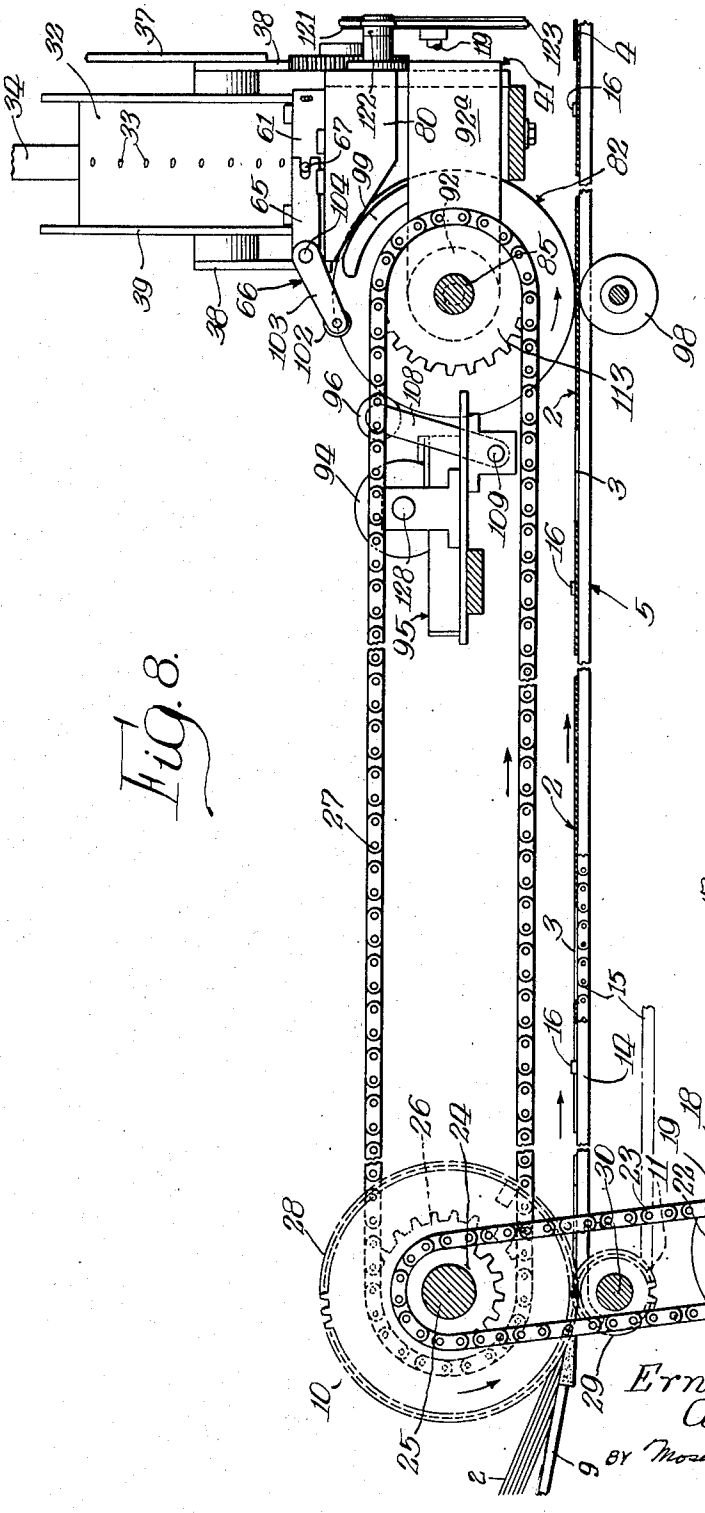


Fig. 8.

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2,703,043

ENVELOPE PATCHING APPARATUS

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Application November 3, 1950, Serial No. 193,811

11 Claims. (Cl. 93—61)

This invention relates to novel mechanism for applying patches to envelopes. The novel mechanism is useful either for applying previously addressed patches or for applying transparent window patches of the kind commonly made of cellophane or glassine.

Among the more specific objects of the present invention is the provision of novel mechanism particularly adapted for applying patches to envelopes of the open-end type, such mechanism being so designed, constructed and arranged as to be readily assembled upon or connected to an envelope-making machine of the type adapted to gum and fold previously cut envelope blanks, and operable by and in timed relation with the drive mechanism for such envelope-making machine.

A further object is the provision of an apparatus adapted to be combined with a typical open-end envelope-making machine, whereby patches may be applied to moving envelope blanks prior to completion of the envelopes, with the length of the envelope window extending in the direction of blank feeding.

A still further object is the provision of a novel mechanism for applying a slip or patch to an envelope blank or wrapper which includes means for feeding a continuous strip or web of patching material in a prescribed path, means for cutting the strip or web into slips or patches of a predetermined size, and rotary means operating to withdraw the slips or patches from cut position in a direction at right angles to said prescribed path and to apply the individual slips or patches to the blanks or wrappers.

Other objects and advantages will hereinafter appear.

In the drawings forming part of this specification:

Figure 1 is a perspective view of an envelope blank showing one of the pre-addressed slips applied thereto;

Figure 2 is a perspective view of the completely formed envelope;

Figure 3 is a fragmentary plan view showing a portion of an open-end envelope making machine which includes novel apparatus for applying patches to the successive envelope blanks;

Figure 4 is a fragmentary view in vertical cross-section taken on the irregular line 4—4 of Figure 3, the view being upon a larger scale than Fig. 3;

Figure 5 is a fragmentary sectional view of the machine, showing in elevation the novel apparatus for applying the patches to the envelope blanks;

Figure 6 is a fragmentary view in vertical cross-section and on a larger scale of the apparatus of Fig. 5, the view being taken on the line 6—6 of Fig. 3;

Figure 7 is a view in perspective showing a portion of a patch strip to which addresses have been applied; and

Figure 8 is a fragmentary view, partly in side elevation and partly in vertical cross-section, showing the relationship between the envelope conveying apparatus and the name patch applying mechanism.

In the drawing, there is disclosed illustrative mechanism for successively forming pre-addressed envelopes 1 of the open-end type (Figs. 1 and 2) from envelope blanks 2 provided with openings or cut-outs 3, and for applying patches 4, desirably pre-addressed, over such window openings.

The patches may, however, be transparent window patches of the kind commonly made of cellophane, or glassine. For illustrative purposes the application of pre-addressed patches will be described.

In the making of these envelopes or mailing containers

1, successive preformed blanks 2 are fed into and moved longitudinally through an envelope-making machine 5 of the type adapted to receive the previously cut envelope blanks and to gum and fold these blanks to form the complete envelope. As is well known in the art of making envelopes, these blanks are pre-cut from paper stock or the like to form envelopes or mailing containers of a desired or predetermined size. Each blank for the illustrative open-end type envelope is provided with overlapping side flaps 6 and 6a and an end flap 7, all adapted to be gummed and folded over to form a completed envelope, with the cut-out 3 forming a window opening. An end closure flap 8, which may or may not be gummed, is left open and unsealed for the insertion of mailing matter into the end opening of the envelope.

In Sauerman Patent No. 2,167,005 of July 25, 1939, there is disclosed a pre-addressed envelope of the side opening type in which the window opening or cut-out extends parallel to the closure flap for the side opening, whereas the present invention has to do primarily with the manufacture of envelopes of the end opening type in which the window opening 3 extends transversely of the end closure flap 8, and novel means adapted for patching such an envelope.

In the envelope-making machine 5 (Figs. 3 and 8), successive preformed blanks 2 are fed in timed relation from a table 9 to a pair of feed rolls 10 and 11. After passing the rolls 10 and 11 the blanks are picked up by a pin conveyor and are conveyed in predetermined spaced relation over longitudinally extending supports 12 and 12a at the opposite sides of the machine, and over a longitudinally extending central support 13 and spaced intermediate supports 14 (Fig. 5). The pin conveyor comprises conveyor chains 15 (Figs. 3, 4, 6 and 8) each provided with aligned upstanding pins or projections 16 disposed thereon at spaced intervals for engaging the rear edges of the blanks 2 and carrying the blanks forward over the spaced supports in properly timed and aligned condition to the mechanism for applying the slips or patches 4.

To drive the rolls 10 and 11 and the conveyor chains 15, there is provided a drive shaft 17 which is operated from any suitable power source, and is suitably journalled in the frame of the envelope-making machine. This shaft acts through bevel gears 18 and 19 to rotate a transverse shaft 21. A sprocket wheel 22, fast on the shaft 21, drives a sprocket chain 23. The chain, in turn, drives a sprocket wheel 24 secured to and carried upon a transverse driven shaft 25. A second sprocket wheel 26 is secured to and carried by the drive shaft 25 for driving a sprocket chain 27 which operates the novel apparatus or mechanism for applying the slip or patch 4 to the window opening or cut-out 3 of the preformed envelope blank 2 in a manner to be later more fully described.

The driven shaft 25 also has secured upon it a gear 28 which drives a gear 29 fast on a cross-shaft 30. On this shaft two spaced sprocket wheels 31 (Fig. 3) are made fast for driving or operating the conveyor chains 15. The successive preformed envelope blanks are conveyed at constant speed by these chains 15 and their spaced upstanding projections 16, toward the right as viewed in Fig. 3, and each blank during its travel receives a pre-addressed slip or patch 4. The rollers 10 and 11 are fast, respectively, upon the shafts 25 and 30. The pitch diameters of the gears 28 and 29 are equal, respectively, to the diameters of the rollers 10 and 11. The peripheral speeds of the rollers 10 and 11 are, therefore, equal to one another, and equal to the linear speed of the pin conveyors 15.

The preaddressed slips or patches 4 are formed as a continuous roll 32 (see Figs. 3, 5 and 6) with the adjoining strips separated by accurately spaced perforations 33 for indexing and positively retaining the successive pre-addressed and connected slips or patches 4 in their indexing position until the individual slips or patches are severed from the roll, so that no slipping or cumulative creeping may occur. To hold the paper on the roll taut for proper indexing, there is provided a flexible strap 34 carrying a weight 35 at its lower end and connected at its upper end by a hook 34a to a cross-rod or projection 36. The rod 36 is carried by an upstanding bar 37,

which bar is rigidly mounted or secured at its lower end upon one of a pair of angularly positioned arms **38**. The arms **38** carry and rotatably support between them, at their upper ends, the spool **39** upon which the preaddressed roll of paper **32** is wound. The arms **38** at their lower ends are securely mounted upon spaced side walls **40** of a supporting frame **41**.

Journalled within the side walls is a transverse shaft **42** which carries a pair of longitudinally spaced rollers **43** of rubber or the like, beneath which the preaddressed strip or web of connected slips or patches of paper from the roll **32** passes. From these rollers **43** the paper passes over a larger roller or drum **44** which is mounted upon a transverse shaft **45**, also journalled in the side walls **40**. This roller or drum **44** is provided substantially midway of its length with a circumferentially arranged set of uniformly spaced radial projections **46** (Figs. 3, 5 and 6) adapted to enter the spaced perforations **33** of the strip which mark the intended boundaries of the successive address-bearing slips to be severed from the strip.

To maintain the paper strip taut upon the roller or drum **44** and to hold the strip on the pins **46**, spaced spring fingers **47** are provided which bear against the drum and conform to the contour thereof. The fingers **47** are mounted upon brackets **48** which are secured to the frame **41** by wing nuts or other detachable securing means **49**. Spaced spring fingers **50** are disposed in circumferential recesses or channels in the drum **44**. Spring fingers **51** overlie the fingers **50** and the drum **44**. The paper from the strip or roll **32** passes between the fingers **50** and **51**. The lower ends **52** of the spring fingers **51** are held in place by spaced collars **54**, being wrapped part way around the collars. The spaced collars **54** are secured upon a stationary transverse rod **55** which is, in turn, eccentrically mounted for rotative adjustment in end bearings **56** (Figs. 3 and 5). The bearings **56** are irrevolubly mounted in the side walls **40** of the frame **41**. The collars **54**, like rollers **43**, are longitudinally spaced apart or separated by a spacer to provide an annular recess or channel for the free rotation of the radial projections **46** therethrough.

From the collars **54** (Fig. 6), the strip of paper passes over the upper surface **53***a* of a table or support **53**. The fingers **50** fit into recesses formed in the table top and are secured to the table by fasteners **50***a* (Fig. 3). The table carries at its forward end a normally stationary cutting blade **57** (Fig. 6) which is spring pressed outwardly and into contact at its opposite ends with a pair of abutments **58**. The strip passes over the stationary cutting blade **57** and between the latter and an upper stationary base member **59** or bar which provides a support and guide for a movable blade assembly.

Such assembly includes a vertically reciprocating cutting blade **61** (Figs. 3, 4 and 6). The abutments **58** are parts of the blade **61**. They project beyond the cutting edge of the blade **61** at opposite ends of the blade. The assembly also includes a blade holder **62**, the latter being vertically movable upon spaced guide rods **63** which are secured or fixedly mounted at their lower ends in the base member **59**. The holder **62** is spring-biased to raised position by coil springs **64** which surround the respective rods **63**. The cutting blade **61** and its holder **62** are periodically depressed by an arm **65** of a bell-crank **66**, the outer end of the arm being recessed or longitudinally notched to receive a pin or projection **67** carried by the holder **62**. Collars **68** pinned to the upper ends of the guide rods provide stops for limiting the extent to which the blade holder and blade may be elevated by the spring **64**. Head clamping bolts **69** have their bodies inserted through elongated vertical slots **71** of the blade and threaded into the holder **66** for securing the blade adjustably upon its support. The cutting blade **61** is operated by the bell-crank **66** in timed relation to the envelope blank and strip feeds, from mechanism which will be hereinafter described.

The severed slips **4** (Figs. 4, 5 and 6) are deposited upon a supporting base plate **72** which is longitudinally slotted at **73** to receive the arcuate upper portion of a knurled feed roller **74**. Above the plate **73** and the roller **74** are disposed a pair of spaced balls **75** and a plurality of fingers **76**. Each ball is loosely confined in a vertically extending cylindrical sleeve **77**, and rests by gravity upon the strip before and after severance.

Each sleeve **77** extends downward from a supporting arm **78**. The arms **78** are secured by a fastener **79** to a stationary end plate **80**. The fingers **76** are also secured to the plate **80**. The balls **75** and the fingers **76** maintain the individual slips **4** one after another in order upon the base plate **72**. As shown in Fig. 4, the slips **4** emerge from between the balls **75** and base plate **72** onto an arcuate surface **81** of a sector or suction box **84** (see Fig. 6 also), which is carried by a large disc **82**, and beneath a roller **83** having a covering of rubber or the like. The direction of movement of the slip **4** away from the balls **75** is at right angles to the direction in which the slip, as the leading end of the strip, moved under the balls.

The movement of the slip away from the balls is also much faster than the movement of the strip toward cutting position. Each cut slip extends into position to be gripped between the sector or box **84** and an idler roller **83**, it is not gripped and advanced until the surface **81** of the sector **84** comes opposite the roller **83**.

To hold each slip upon the arcuate surface **81** while the slip travels through a substantial arc, suction is utilized. Suction is applied to the suction box **84** from hollow shaft **85**, upon which the disc **82** is mounted, the interior of this shaft being connected through a flexible hose **86** to the interior or chamber **87** of the suction box **84**. The suction box **84** is affixed to, and rotates with, the disc **82**, and is provided with spaced rows of perforations **88** whereby suction may be applied to the individual slips **4**. As the leading edge of the arcuate surface **81**, rotating in a counter-clockwise direction as viewed in Fig. 4, arrives at a point adjacent the roller **83**, it picks up or withdraws a slip or patch **4** and carries it along. When the slip is about to leave engagement with roller **83**, it passes beneath a leaf spring **89** and is held against the surface **81** by the spring. The leaf spring **89** is shaped to conform with the surface **81**, and is anchored at its upper end upon a transverse plate **90** of the frame.

As shown in Fig. 3, suction is supplied to the hollow shaft **85** from any suitable source through a conduit **91**, the conduit being connected to the shaft through a valve in a housing **92**. The housing **92** is loosely mounted upon the hollow shaft **85** by a supporting bracket **92***a*. The valve automatically applies the suction as the box **84** nears the patch pick-up point, and automatically relieves the suction and releases the slip or patch **4** carried by the surface **81** of the box **84** when this surface reaches approximately its lowermost point of travel.

Before reaching this point of travel, however, the patch or slip has a suitable adhesive applied to its opposite longitudinal margins by a pair of spaced, relatively narrow transfer rollers **93**. The rollers **93** are intermittently moved into contact with a pair of aligned adhesive pick-up rollers **94** which continuously rotate in an adhesive receptacle **95**. A rubber roller **96** mounted on the hub **97** which carries the transfer rollers **93**, rides upon an edge of the disc **82**. As the slip or patch to which the adhesive has been applied moves into contact with the envelope blank, a roller **98**, disposed beneath the envelope path and opposite the arcuate surface **81**, applies pressure to the envelope blank **2** and to the patch **4** to affix the patch in predetermined position over the elongated cut-out or window opening **3**. As the suction is then relieved, the blank with the patch applied to the upper or lining surface thereof and covering the window opening, continues to travel in a horizontal path, conveyed by the conveyor chains **15**.

To properly synchronize the operation of the cutting blade and the suction box, and the application of the adhesive to the separate slips or patches **4** by the transfer rollers **93**, provision is made for timing the operations of the parts from the shaft **85**.

The disc **82** is provided on one side with an arcuate cam **99** which is disposed adjacent to, but extends in advance of, the arcuate surface **81** of the suction box **84**. This cam is adjustably mounted on the disc by means of an elongated slot **100** and a set screw **101**. As the disc rotates in a counter-clockwise direction the cam **99** engages a roller **102** carried on the outer end of a crank arm **103** of the bell-crank **66**. When the roller **102** is contacted by the cam **99**, the crank arm **103** is raised and rotated about its fulcrum or pivot **104**, thereby causing the outer end of the arm **65** of the bell-crank to be lowered. As previously pointed out, the lowering of the arm **65** depresses the blade **61** and causes an individual

slip or patch to be cut from the strip. By proper adjustment of the cam **99** the cutter **61** can be caused to cut through the perforations **33** one after another.

In timed relation the strip or patch **4** severed by the blade **61** is drawn onto the perforated arcuate surface **81** of the suction box **84**, as said surface moves into engagement with the roller **83**, and is carried along therewith. As the slip or patch reaches a point in its path of travel adjacent the gum transfer rollers **93**, a cam **105** fast on the hollow shaft **85** depresses a roller **106a** on the end of a crank arm **106** of a bell-crank **107**. This rocks the bell-crank **107** and the arm **108** by which the transfer rollers **103** are carried, about the pivot or fulcrum **109**, causing these rollers to be moved from contact with the aligned adhesive rollers **94** into a position to contact with the opposite longitudinal margins of the slip or patch **4** at the opposite sides of the leaf spring **89**, for applying the adhesive to the slip or patch. A spring **110**, connected at its upper end through a hook **111** to a stationary, frame carried bar **112**, and at its lower end through a hook **111a** to the crank arm **106**, maintains the roller **106a** on the free end of the crank arm in contact with the face of the cam **105**.

To operate the envelope-making apparatus or mechanism and the apparatus or mechanism for applying the preaddressed slips or patches in timed relation from the common drive shaft **17** (Fig. 8), the sprocket chain **27** is caused to drive a sprocket wheel **113** which is fast upon the outer or forward end of the shaft **85**. At the inner or rear end this shaft has fast upon it a helical gear **114** (Figs. 3 and 6) which is in mesh with a helical gear **115** fast upon the inner or rear end of the transverse drive shaft **42** of the spaced rollers **43**. A pinion **116** (Fig. 5) fast on the outer or forward end of shaft **42**, engages a gear **117** for driving the shaft **45** and the paper withdrawing drum or roller **44** which is mounted on the shaft. The gear **116** also acts through a gear **118**, a stub shaft **119**, a pulley **121** (Figs. 3 and 5) and a belt **123** to rotate a comparatively small pulley **122**. This small pulley **122** is secured to and rotates a shaft **124** upon which the knurled roller **74** (Fig. 4) is made fast.

The roller **74**, in cooperation with the balls **75**, yieldingly urges the leading edge of the strip and the same edge of the severed slip toward a stop shoulder **75a** which is provided on the plate **72**.

On the shaft **85** is also pinned a sprocket wheel **125** (Figs. 3 and 4) which drives a sprocket chain **126**. The chain, in turn, rotates a sprocket wheel **127** fast on the shaft **128**. The shaft **128** has fast upon it the spaced rollers **94**, and continuously rotates the latter to pick up adhesive from the receptacle **95** and supply it to the transfer rollers **93**. The latter rollers, it will be remembered, are bodily moved, in timed relation to the travel of the slips, into and out of contact with the rollers **94**.

In the sequence of operations (Figs. 3, 5 and 6), the previously addressed or preaddressed but connected slips or patches **4** are withdrawn as a continuous strip of paper from the roll **32**. The strip of paper so withdrawn is indexed and maintained upon the drum **44** by the projections **46** which are spaced circumferentially about the drum in conformity with the spacing of the perforations **33** which divide adjacent slips of the roll **32**. The paper, after passing over the rollers **43**, between these rollers and the drum **44**, and then between the drum and the longitudinally spaced collars **54**, is conveyed to the cutting assembly and beneath the blade **61**, where the intermittently operating blade severs the continuous strip of the roll **32** into individual slips or patches **4**. One slip is cut for each revolution of the shaft **85**. The gear ratios are such that the strip is caused to be advanced the distance between two successive perforations **33** during one revolution of the shaft **85**. The width of the severed slip is, therefore, made equal to the spacing between successive perforations **33**. Each individual slip or patch, following its severance, is moved at a right angle to its previous path or direction of travel (Figs. 4 and 6) and is carried from between the spaced balls **75** and the knurled roller **74** onto the arcuate surface **81** of the suction box **84** and over the perforations **88** which let into the suction box.

Each slip or patch **4** while held on the arcuate surface **81** by the suction in the suction box **84** and the leaf spring or finger **89**, has adhesive applied to its opposite margins by the transfer rollers **93**, as has been explained.

Each slip or patch after application of the glue or adhesive to the then outer face thereof, is maintained by suction in contact with the arcuate surface **81** of the sector or box **84** until the sector reaches the patch applying station, approximately at the lowermost point of travel of the sector. There the face of the slip to which the adhesive has been applied is rolled into contact with a traveling envelope blank **2** carried by the conveyor chains **15**. In this position the cut-out **3** is located beneath and in register with the slip or patch, so that the slip is applied over the cut-out. The valve in the housing **92** relieves the suction in the suction box **84** as the application of the slip or patch begins.

The apparatus or mechanism for severing the individual slips or patches **4** from the continuous roll **32** and applying these individual slips or patches to successive envelope blanks **2**, operates in timed relation with mechanism which feeds the individual blanks or wrappers **2** successively through the apparatus. The disc **82**, which is fast on the shaft **85**, runs in engagement with the envelope blanks. It travels at the speed of the blanks and of the conveyor by which the blanks are carried. The spacing between successive pairs of the pins **16** is made equal to the circumference of the disc **82**. After a slip or patch has been applied to a blank, the side flaps **6** and **6a** and the end flap **7** of the blank are folded and adhered in conventional manner.

While our invention is particularly adapted for the patching of open-end envelopes of the window type, such as have been shown and herein described as illustrative of our invention, it should be understood that the principles of our invention may be embodied in apparatus for affixing slips or patches to windowless envelopes either during their manufacture or after completion, or to other envelopes, mailing wrappers, cartons, containers or the like before or after stuffing.

We have described what we believe to be the best embodiment of our invention. We do not wish, however, to be confined to the embodiments shown, but what we desire to cover by Letters Patent is set forth in the appended claims.

We claim:

1. The combination with a machine for making open-end envelopes of greater length than width, including a constant speed conveyor for advancing previously cut open-end envelope blanks lengthwise through the machine along a defined path, of mechanism for affixing an elongated patch to each envelope blank as the blank travels lengthwise through said machine, said mechanism comprising means for feeding a web of patch material in a direction parallel to the plane of blank travel but transverse to the direction of blank travel, means for severing the web to provide successive elongated patches with the length of the patch derived from the width of the web, and means for seizing an end margin of each patch in the cut position, pulling the patch away at right angles to the direction of web advance, and rolling it lengthwise onto a traveling envelope blank with the longitudinal axis of said patch disposed substantially parallel to the longitudinal axis of the finished envelope.

2. The combination with a machine for making open-end envelopes, including constant speed means for advancing open-end envelope blanks lengthwise in succession along a defined path through the machine, of mechanism for affixing an elongated patch to each traveling blank, said mechanism comprising means for feeding a web of patch material in a direction parallel to the plane of blank travel but transverse to the direction of travel of the blanks, means for dividing said web into a succession of separate elongated patches with the length of the patch derived from the width of the web, means for withdrawing each patch from cut position in a direction at right angles to the direction of web feeding and for rolling it lengthwise onto a traveling envelope blank, and means for gumming the longer margins of each cut patch as it travels from the cut position into meeting relation with the blank.

3. An apparatus for applying patches to envelope blanks as they travel through an envelope making machine, comprising means for supporting a rolled web of patch material, means for feeding the web in a direction parallel to the plane of blank feeding but transverse to the direction of blank feeding mechanism for severing said web into elongated patches with the length of each patch derived from the width of the web, mechanism for

applying adhesive continuously to the longitudinal margins of said patches, and means for withdrawing each patch from cut position in a direction at right angles to the direction of web feeding and for rolling it lengthwise onto a traveling envelope blank, with the major axis of said patch disposed substantially parallel to the direction of travel of the blanks.

4. In apparatus for the manufacture of envelopes of the end opening type from pre-cut envelope blanks having elongated window openings extending longitudinally of the envelopes, in combination, means for feeding blanks at constant speed along a defined path, means for supporting a coiled strip of patch material, means for feeding the web in a direction parallel to the plane of blank feeding but transverse to the direction of blank feeding, cutting means for receiving the strip from the feed mechanism and cutting said strip into narrow individual patches such that the width of the strip becomes the length of the cut patch, a rotatable member acting in time with the cutting means for withdrawing each of the successive individual patches lengthwise from the cutting means in a direction at right angles to the direction of web advance, suction means for maintaining each patch upon the rotatable member through a substantial arc of its travel, rollers for applying an adhesive to the opposite edges of each patch, and means for moving said rollers into and out of contact with the opposite longitudinal edges of each patch while the latter is held upon and rotatable with said member, said member running tangent to the blank path and serving to roll each patch onto a traveling blank.

5. In apparatus for the manufacture of envelopes of the end opening type having a window opening extending longitudinally thereof, means for advancing envelope blanks lengthwise along a defined path at constant speed, means for supporting a continuous web of patch material, a feeding device for advancing said web in a direction parallel to the plane of blank travel but transverse to the direction of blank travel, a cutting device for severing said web into successive and separate patches with the length of each patch derived from the width of the web, rotatable means for receiving and withdrawing each patch lengthwise upon severance in a direction at right angles to the direction of web advance and including a suction box having an arcuate surface for retaining a patch thereon by suction through a substantial arc of travel of the arcuate surface, means for applying an adhesive to the longitudinal margins of each patch during such arc of travel, means for relieving the suction to the suction box at a patch applying station whereby to release the patch from the arcuate surface, and a roll cooperating with said arcuate surface to apply affixing pressure to the patch and blank as the patch is rolled onto the traveling blank by said rotatable means for affixing the patch to the blank over the window opening.

6. A machine for manufacturing mailing envelopes of the type provided with a window opening, an opening at one end for receiving mailing matter and a flap providing a closure for the end opening, and for addressing each envelope blank prior to forming it into an envelope by affixing to the lining face of the wall containing the window opening a previously addressed slip which bears the name and address of the intended recipient, comprising in combination, means for advancing the blanks at constant speed along a prescribed path, a feeding device for supplying the apparatus with a continuous strip containing a mailing list of individual names and addresses spaced apart by perforations and including a rotatable member having spaced radial projections adapted to be received in said perforations for feeding the strip under mechanical compulsion in unison with said member, said feeding device being disposed to advance the strip to a cutting position in a direction parallel to the plane of blank feeding but transverse to the direction of blank feeding, a cutting device for severing the strip into individual slips each containing a name and address with the length of each slip derived from the width of the strip, a rotatable suction device for receiving the individual slips in sequence and feeding them lengthwise, means for applying an adhesive to the opposite longitudinal margins of each slip as it is carried along, held by suction, on the suction device, means for relieving the suction to the suction device as the device approaches an applying station to release the carried slip, and means cooperating with the suction device to apply the slip to the lining face of the envelope blank as the blanks are conveyed lengthwise through an envelope-making machine.

7. A window envelope making machine comprising, in combination, means for advancing envelope blanks along a defined path singly and at uniform speed, lining face up, in definitely timed and aligned relation and with the longer dimension of the window extending in the direction of blank travel, and mechanism for supplying patches to the blanks comprising means for feeding a strip of patch material above the path of blank travel in a direction parallel to the plane of blank travel but transverse to the direction of blank travel, cutting mechanism acting in timed relation with the blank feeding for cutting successive patches from the end of the strip with the lesser dimension or width of the patch derived from the length of the strip, and a rotary patch carrier also acting in timed relation with the blank feeding for picking up each patch as it is cut, carrying it lengthwise away from cutting position, and rolling it lengthwise onto the upper face of a traveling blank.

8. A window envelope making machine comprising, in combination, a blank pushing conveyor for positively advancing envelopes singly along a defined path, lining face up, in definitely spaced relation, and with the longer dimension of the window extending in the direction of blank travel, and mechanism for supplying patches to the blanks comprising a strip feeder for feeding a strip of patch material above the path of blank travel in a direction parallel to the plane of blank travel but transverse to the direction of blank travel, driving mechanism for driving the strip feeder and the blank conveyor at constant speeds in the ratio that the desired patch width bears to the conveyor space allotted to a single blank, cutting mechanism acting in timed relation with the blank feeding for cutting successive patches from the end of the strip with the lesser dimension or width of the patch derived from the length of the strip, and a rotary patch carrier also acting in timed relation with the blank feeding conveyor and picking up each patch as it is cut, carrying it lengthwise away from cutting position, and rolling it lengthwise onto the upper face of a traveling blank.

9. A patch applier comprising, in combination, a strip feeder for feeding a strip of patch material in a prescribed path, cutting mechanism acting in timed relation with the feeder for cutting successive patches from the leading end of the strip with the lesser dimension or width of the patch derived from the length of the strip, and a rotary patch carrier and applier operating in a plane at right angles to the prescribed path of strip feeding and also in timed relation with the feeder for picking up each patch as it is cut and conveying it lengthwise to a patch applying station.

10. A patch applier comprising, in combination, a strip feeder for feeding a strip of patch material in a prescribed path, cutting mechanism including a reciprocating cutting blade acting in timed relation with the feeder for cutting successive patches from the leading end of the strip with the lesser dimension or width of the patch derived from the length of the strip, a strip support disposed alongside the cutter in position to support the severed patch with one end of the patch protruding beyond the support, a roller disposed to overlie such protruding end of the patch, and a rotary patch carrying sector operative about an axis parallel to said prescribed path and having an arcuate surface whose path is tangent to the roller, said surface cooperating with the roller to pick up and seize the protruding patch end at a predetermined point in the cycle of operation and serving to convey the patch lengthwise to a patch applying station.

11. A patch applier comprising, in combination, a strip feeder for feeding a strip of patch material in a prescribed path, cutting mechanism including a reciprocating cutting blade acting in timed relation with the feeder for cutting successive patches from the leading end of the strip, a strip with the lesser dimension or width of the patch derived from the length of the strip support disposed alongside the cutter in position to receive the leading end of the strip for severing and to support the severed patch after severing with one end margin of the patch protruding beyond an edge of the support, a roller disposed to overlie such protruding end of the patch, and a rotary patch carrying sector having a defined axis of

rotation parallel to the direction of strip advance and having an arcuate surface whose path is tangent to the roller, said surface cooperating with the roller to pick up and seize the protruding patch end at a predetermined point in the cycle of operation to carry it off the support at right angles to its previous direction of advance, and to convey the patch to a patch applying station.

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