April 12, 1938. F. H. MORRISON 2,113,738

ENVELOPE SEALING MACHINE

Filed June 20, 1935 5 Sheets-Sheet 1

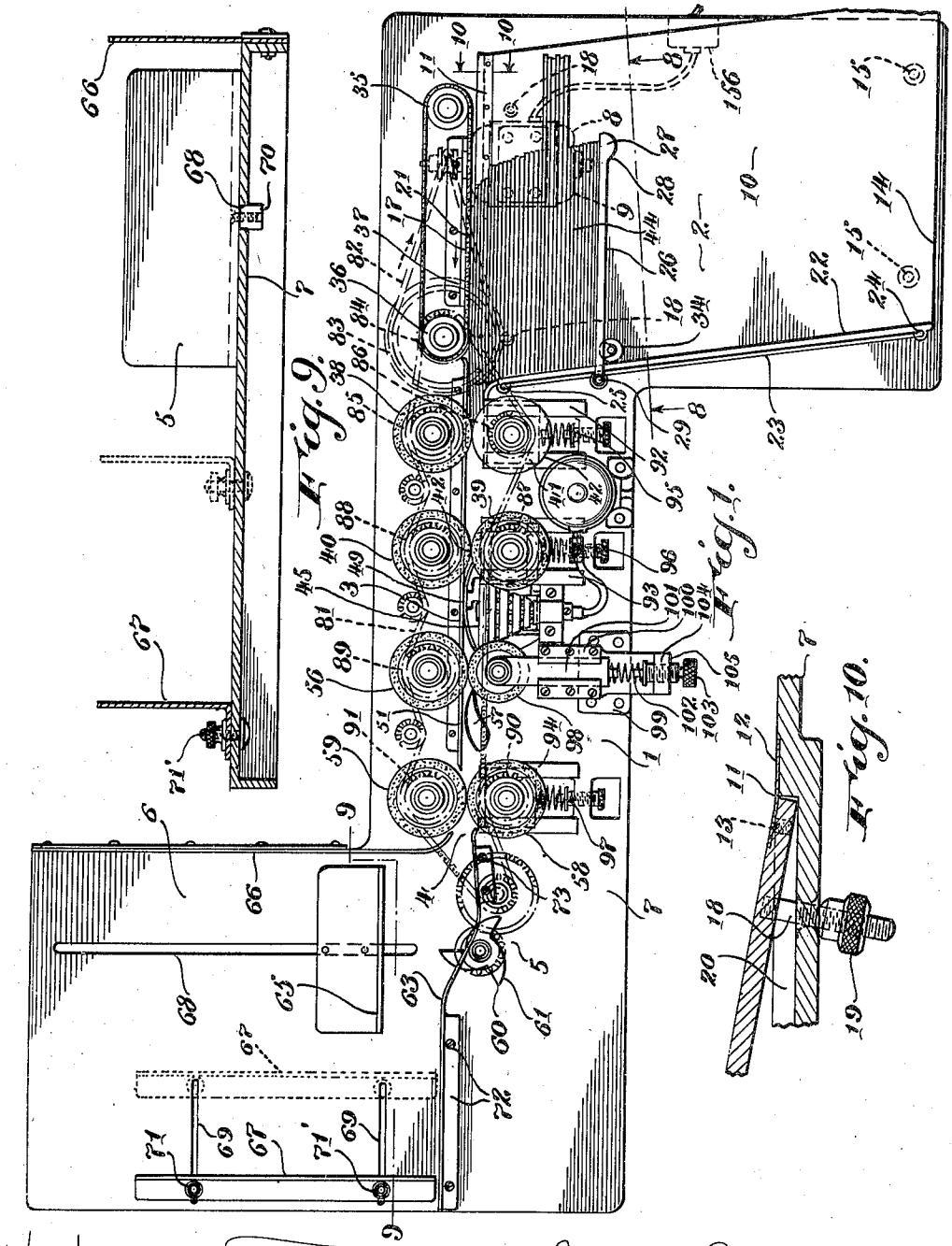


Fig. 9.

Fig. 1.

Fig. 10.

WITNESSES

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April 12, 1938. F. H. MORRISON 2,113,738

ENVELOPE SEALING MACHINE

Filed June 20, 1935 5 Sheets-Sheet 2

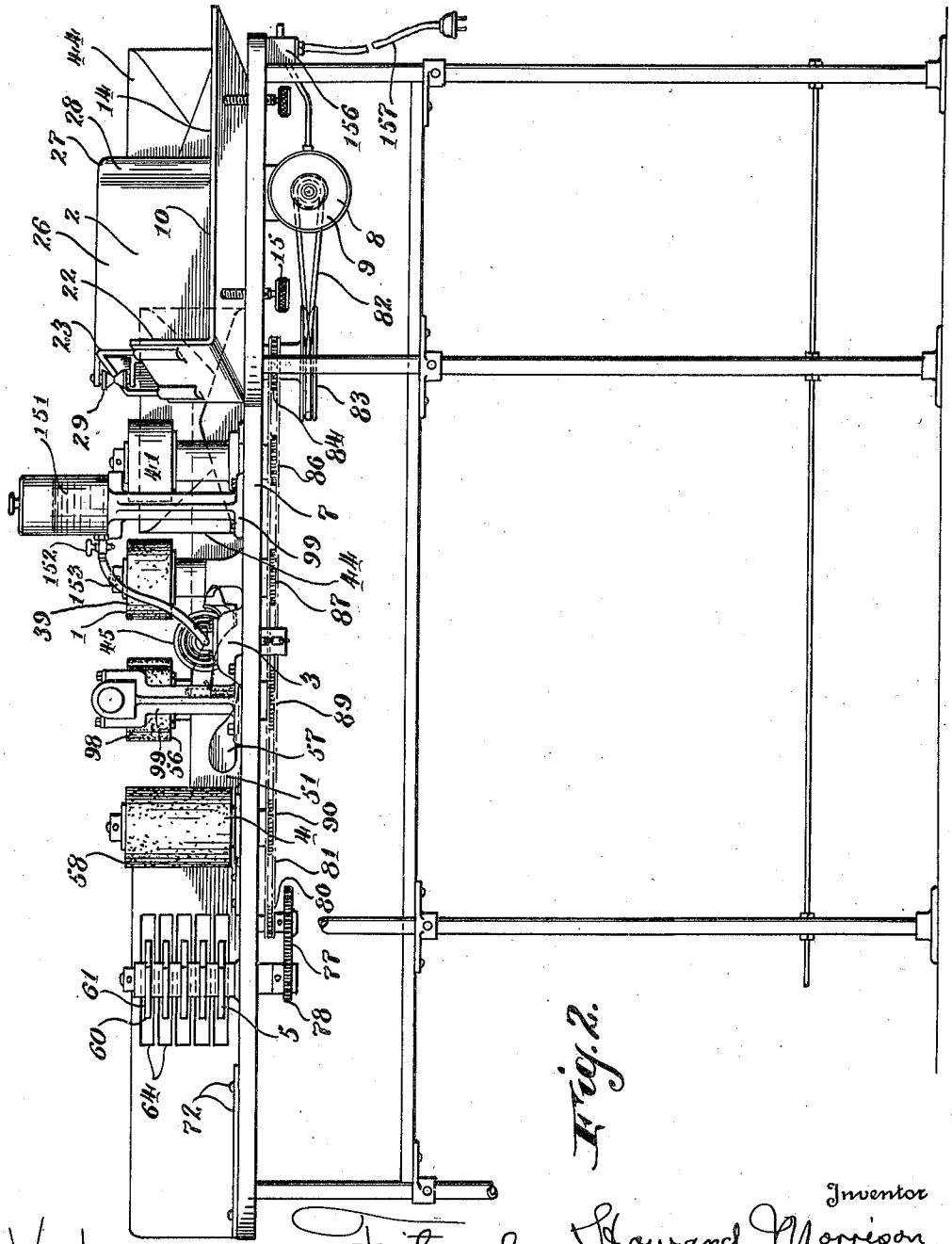


Fig. 2.

Witnesses:
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April 12, 1938. F. H. MORRISON 2,113,738

ENVELOPE SEALING MACHINE

Filed June 20, 1935 5 Sheets-Sheet 3

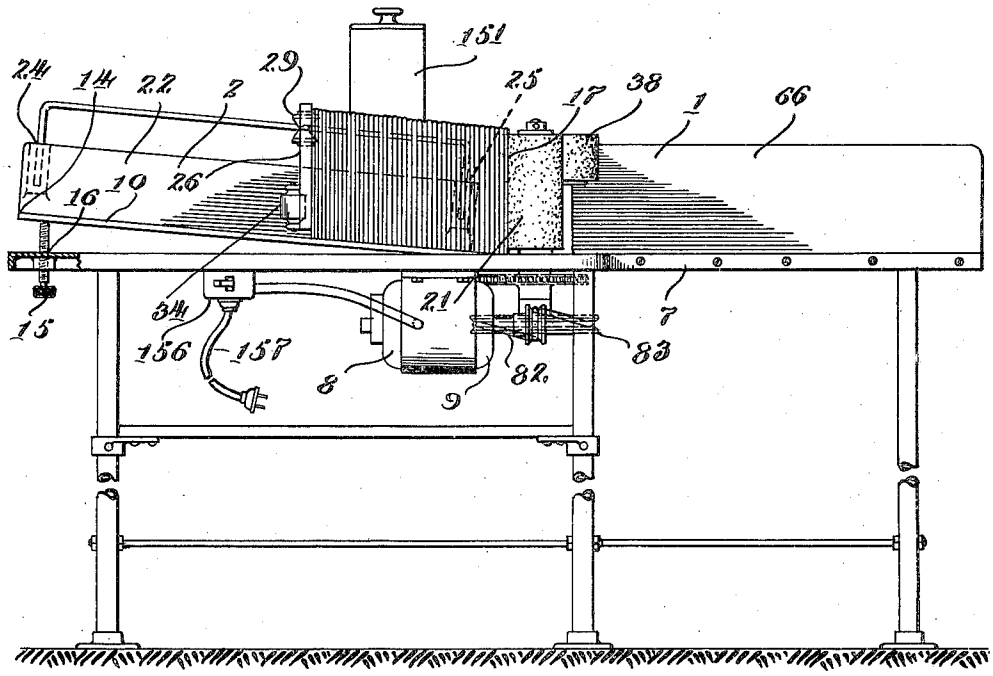


Fig. 3.

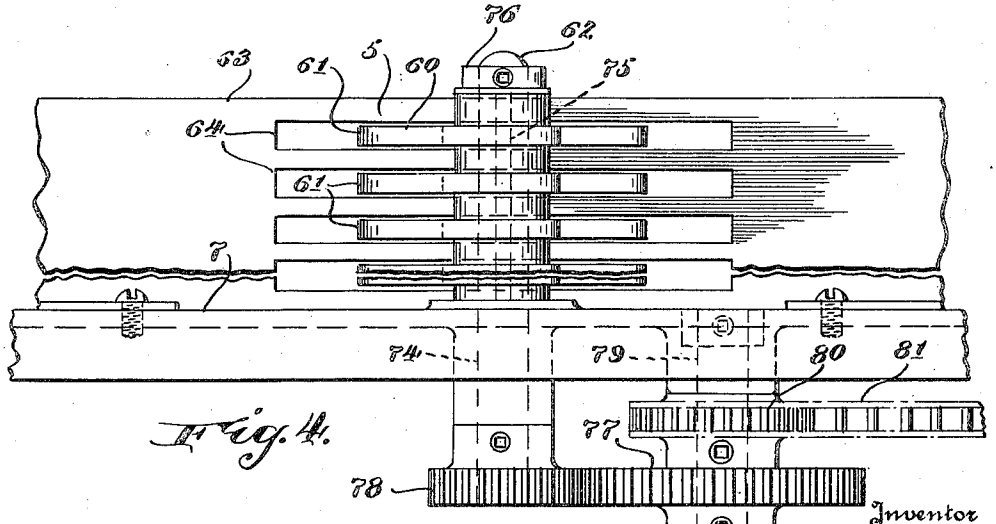


Fig. 4.

Witnesses
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April 12, 1938. F. H. MORRISON 2,113,738

ENVELOPE SEALING MACHINE

Filed June 20, 1935 5 Sheets-Sheet 4

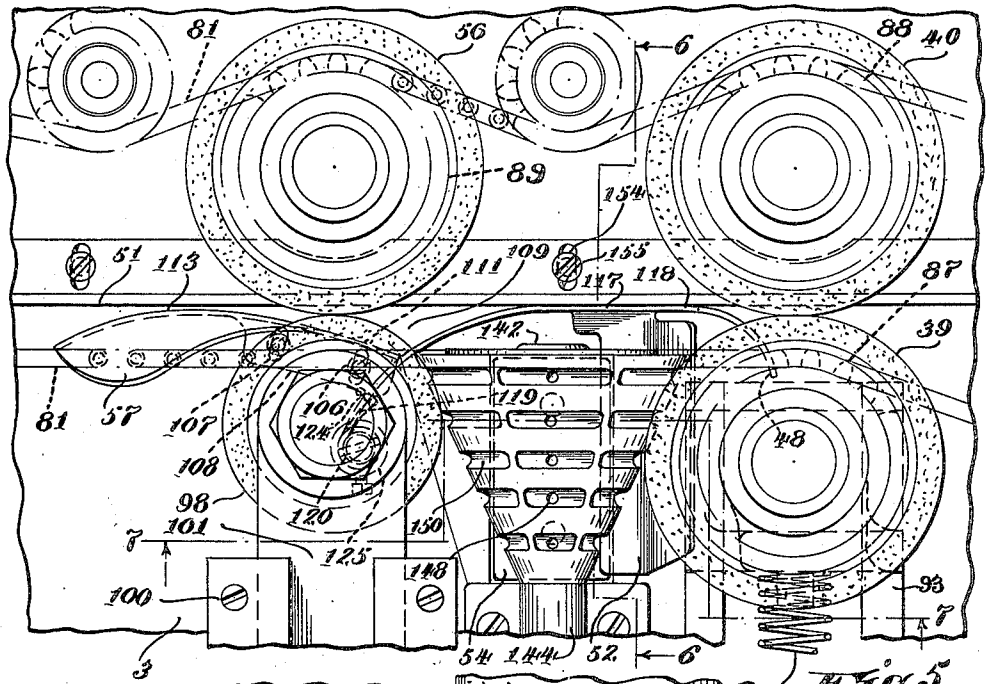


Fig. 5.

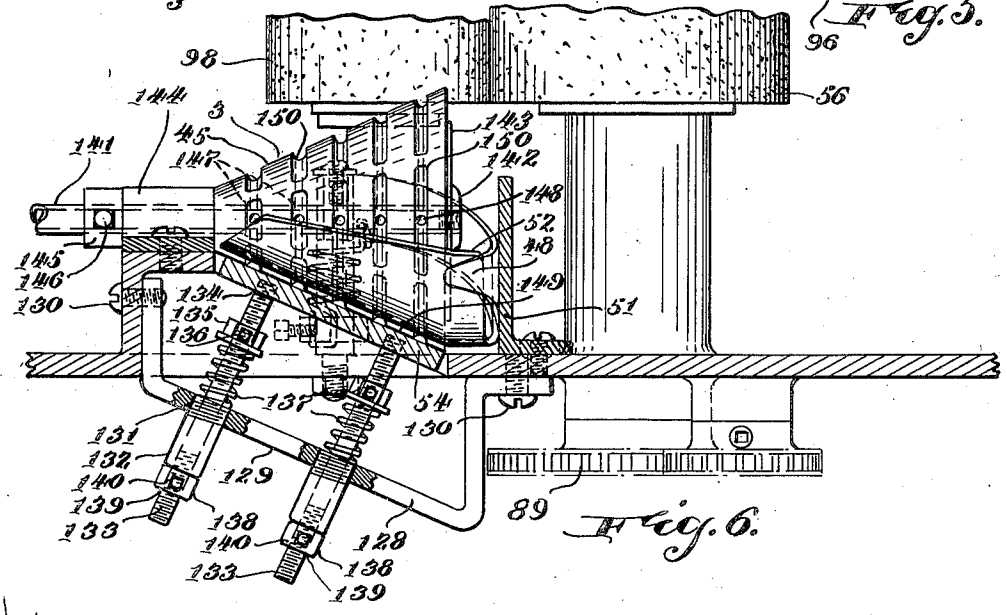


Fig. 6.

WITNESSES

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April 12, 1938. F. H. MORRISON 2,113,738

ENVELOPE SEALING MACHINE

Filed June 20, 1935 5 Sheets-Sheet 5

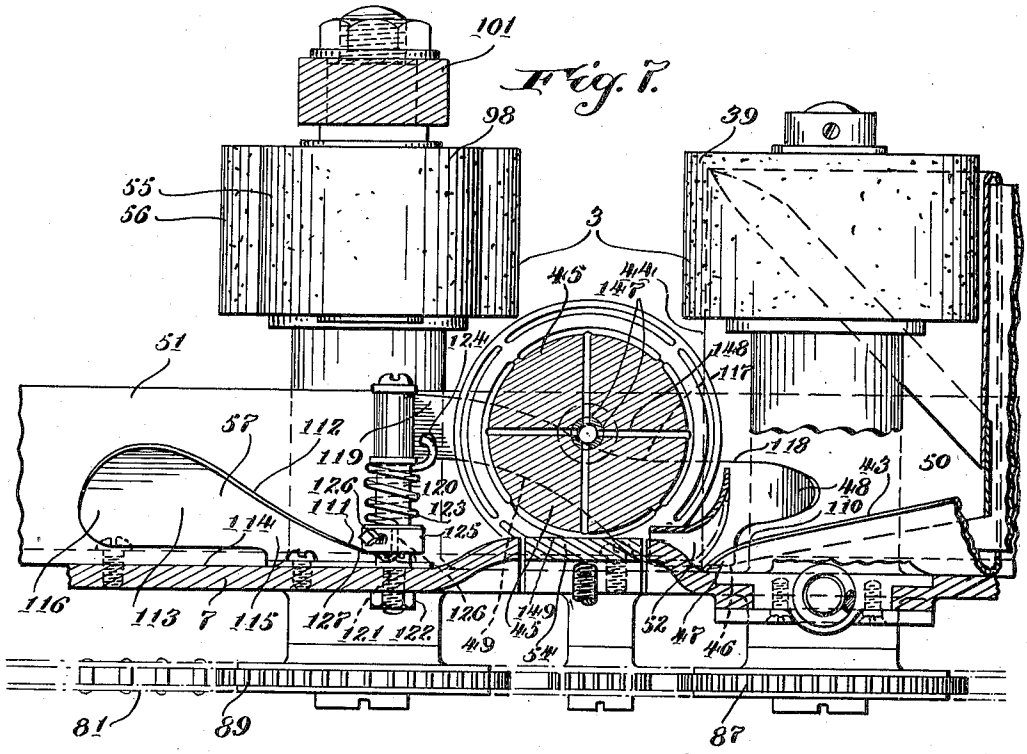


Fig. 7.

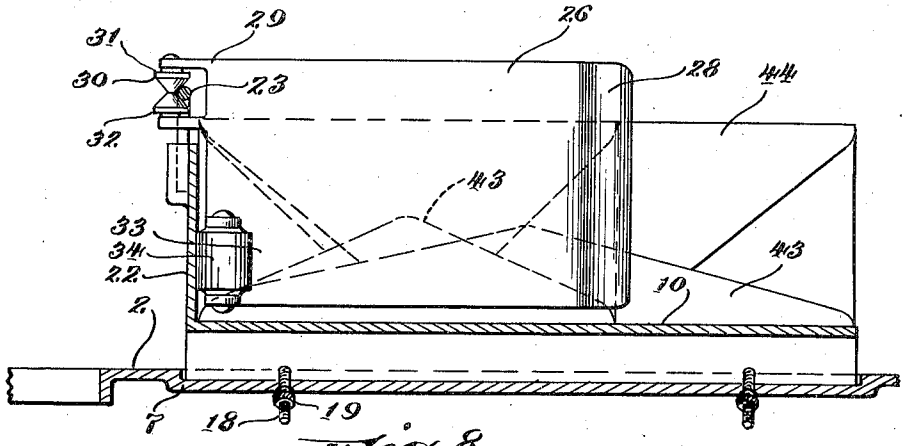


Fig. 8.

Inventor

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Patented Apr. 12, 1938 2,113,738

UNITED STATES PATENT OFFICE

2,113,738

ENVELOPE SEALING MACHINE

Fitzalan Howard Morrison, Berryville, Va.

Application June 20, 1935, Serial No. 27,549

6 Claims. (Cl. 91—49)

The present invention relates to improvements in envelope sealing machines, and has for one of its particular objects that of providing a machine of this class having certain new and novel features whereby envelopes of various sizes may be placed in the feed end of the machine on an envelope feed table in large numbers and be caused to pass through the mechanism of the machine for sealing purposes in a substantially automatic manner, the said envelopes after being sealed are automatically delivered to a delivery table, which is part of the machine structure, in substantially the same relative positions they were in when placed on the feed table of the machine.

Another object of the present invention is to provide means whereby the delivered sealed envelopes will be caused to maintain their original upright position on the delivery table of the machine and to be formed in an orderly packed row.

Still another object of the present invention is to provide means whereby the unsealed or open envelopes may be fed to the machine in nested position with their pasted flap members in a downward or closed position, the machine having means for opening these flap members previous to the moistening operation, thus obviating the necessity of opening these flaps before feeding the envelopes to the machine.

Another object of the invention is to provide new and novel means for introducing a constant pressure to the nested open envelopes at the feed end of the machine for purposes of causing the same to maintain a constant upright position and to be conveyed to the feeding elements of the machine by a constant followup feeding pressure of a predetermined amount.

Still another important object of the present invention is to provide new and novel features for introducing yielding pressure of predetermined amounts to the envelope feeding, conveying and pressure rollers.

Another purpose of the invention is to provide means whereby the moistening element of the machine is prevented from becoming clogged up due to the usual accumulation of adhesive after running extensively, together with means in combination therewith for introducing the pasted flap of the envelope thereto by predetermined yielding pressure.

Still another object of the present invention is to provide means whereby the closed flaps of the envelopes as originally introduced to the feed end of the machine are readily opened for the purpose of introducing moisture to the pasted portion thereof, and means in combination therewith for readily closing the opened and moistened flap under pressure, and thence quickly flipping or removing the same from the path of the envelope delivery and pressure rolls of the machine. This flipping or envelope removing operation being in combination with means which cause the sealed envelopes to be nested in a horizontal row, thus enabling the same to be readily picked up and placed in an automatic stamping machine in an orderly fashion, without the necessity of reassembling the same for this necessary operation.

With these and other objects in view, the invention consists of certain other new and novel features of construction and combination of parts as will be specifically described in the following specification and set forth in the claims.

In the accompanying drawings I have illustrated my invention of an envelope sealing machine in its preferred form the same embodying the various preferred features of the invention.

In the drawings:—

Figure 1 is a complete plan view of my invention of envelope sealing machine, the same in this instance being illustrated with a power or electric motor drive therefor.

Figure 2 is a side elevation of the same.

Figure 3 is an end elevation of the same illustrating particularly the feed end of the machine and the means for feeding or introducing the unsealed envelopes to the initial feeding element of the machine, for purposes of economy of drawing space the legs of the machine have been broken away as shown.

Figure 4 is a fragmentary elevation of that portion of the machine mechanism whereby the sealed envelopes are caused to be flipped or removed from the path of the envelope sealing or presser rolls, the same having a portion thereof removed as shown for economy of drawing space.

Figure 5 is a fragmentary plan view, drawn substantially to full scale, illustrating that portion of my machine wherein the pasted flaps of the unsealed envelopes are caused to be opened and directed under the moistening roller and thence directed to a closed position.

Figure 6 is a fragmentary sectional view taken substantially on the line 6—6 of Figure 5 looking in the direction of the arrows, the said view illustrating those portions of the machine as set forth in Figure 5 of the drawings together with the means for providing a yielding pressure against the underside of the flap of the envelope during the moistening operation.

Figure 7 is also a fragmentary sectional view taken on the line 7—7 of Figure 5, the said section being as shown somewhat irregular, the mechanism as shown being in front elevation as to position and illustrative of the features of my invention particularly as set forth in Figures 5 and 6.

Figure 8 is a fragmentary sectional view in elevation taken on the line 8—8 of Figure 1 look-

ing in the direction of the arrows as indicated, the same illustrating my means for introducing a yielding pressure to the packed unsealed envelopes at the feed end of my machine during the feeding operation.

Figure 9 is a sectional view in elevation taken on the line 9—9 of Figure 1 illustrating the adjustable means for packing the sealed envelopes in an orderly manner at the discharge end of the machine.

Figure 10 is a fragmentary sectional view taken on the line 10—10 of Figure 1 illustrating the means for hingedly engaging the adjustable feed runway for the envelopes to the fixed table portion of the machine for purposes of preventing the envelopes from being impeded in their travel to the power feed for the same.

Referring to the drawings by reference numerals, each of which represents or indicates the same or similar parts throughout the various views, the invention consists of an envelope sealing machine 1, comprising broadly a feed section 2 for the unsealed envelopes, an envelope flap opening, moistening and closing or sealing section 3, an envelope delivery section 4 for the sealed envelopes, an envelope flipping or removal section 5 and an envelope packing or storage section 6 for accumulating the sealed envelopes in an orderly manner. The said sections being carried on the table structure 7, and having means for power driving the said sections in the form of the electric motor assembly 8.

However it should be fully understood that the present machine may be readily operated by hand power if necessary by replacing the motor member 9 with a suitable hand crank for this purpose.

For purposes of providing means whereby the unsealed envelopes may be fed to the operating mechanism of the machine in an automatic manner, and with the proper pressure behind the horizontally packed envelopes for purposes of causing the same to remain in an orderly upright position, I have provided my feed section 2 with a hingedly adjustable feed table for carrying large numbers of unsealed envelopes indicated at 10, the same being hingedly engaged to the table structure 7 at 11 by means of the thin flexible metallic plate member 12, see particularly Figure 10 of the drawings, the said plate, for purposes of fixedly holding the hinged elements together, may be welded to the table structure at 12, and fixedly engaged to the envelope feed table member 10 by screws 13 as shown. For the purpose of adjustably raising and lowering the free end 14 of the feed table to the proper degree of angle or incline to cause the envelopes to be more freely moved towards the power feed zone 17 of the machine, I have provided table adjusting screw members 15, threadedly engaged to the machine table 7 at 16, and as shown particularly in Figure 3, wherein the machine has been slightly broken away at this point for purposes of disclosing this structure. To provide means for holding the hinged end of the feed table 10 to the table structure 7 in a positive manner I have provided the same with the threaded stud and knurled nut members 18 and 19 respectively. See Figure 10 of the drawings. After the desired incline or angle of the feed table has been determined and the table adjusted to this angle the knurled nut member 19 may then be turned up tightly against the underface of the table 7 as shown in Figure 10, thereby tending to pull the hinged end of the feed table down tightly against the upper face of the depressed area 20 of the table 7. This depressed area provides means whereby the feed table 10 may be lowered if necessary to a full horizontal position.

To provide means whereby the packed envelopes placed on the feed table 10 may be kept in proper alignment with respect to one of their sides, together with means for providing a sufficient followup thrust behind the said packed envelopes to cause the same to be continuously moved forward against the power feed belt 21, I have provided the feed table 10 with the side wall 22 against which the unsealed envelopes may be aligned as shown particularly in Figure 1 of the drawings. The said wall in turn has fixedly engaged thereto the longitudinal bar or track member 23, the same being bent downwardly at its opposite ends and the said ends being fixed in the sockets 24 and 25 of the wall structure as shown. Movably engaged to and carried by the said wall 22, is my new and novel envelope followup and thrust member 26, the same being in the form of a swinging gate member having its free end 27 weighted as shown at 28 for purposes of increasing the tendency of the gate type of followup member to swing downwardly in the direction of the incline of the feed table member 10. The supported end 29 carries a follower member 30, having a small center structure and enlarged or angularly flared upper and lower portions 31 and 32 respectively. The said follower 30 engaging the longitudinal bar member 23 on its outer side area as shown particularly in Figure 8, thereby enabling the same to carry the envelope thrust or followup member 26 in a swinging manner. On the back of the followup member 26 and at the lower corner 33 of its supported end 29 I have provided and have supported thereon the roller member, the same providing means whereby the followup member may be partly supported as to its weight against the wall 22, and allowed to move in relation thereto with little or no friction at this point. As may be readily seen the general combination of the follower 30, the bar member 23, roller 34, and the extended gate type member 26 together with its weighted end structure 28, all tend to cause the member 26 as a whole to move downwardly with the incline of the feed table 10, and to also have a tendency to swing inwardly against the envelope pack, thus providing an efficient means whereby a constant followup thrust is presented against the packed unsealed envelopes positioned as shown on the feed table 10. For purposes of increasing the tendency of the gate type member to swing downwardly against the packed envelopes the feed table wall 22 is placed at an angle to the direction of movement of the followup member, and thereby place the said member in a constant position of unbalanced weight so that the same will always swing in a downwardly direction regardless of the degree of incline of the feed table 10.

The envelope feed zone 17 is provided with means for feeding the unsealed envelopes into the machine by a continuously moving envelope abutment surface in the form of an endless feed belt member 21, the same being carried on the idler roller 35 and the driven or power roller 36, and properly supported as to its envelope abutment side by the back plate member 37 to prevent the feed belt member from being thrust inwardly due to the pressure of the envelope pack and its feeding means.

As each consecutive envelope of the fed pack comes into contact with the feed belt member 21,

they are caused to be moved forward to the rubber faced feed roller 38, which in turn causes the said envelope to be fed to the following or next feed roller means, the same being in the form of a front and back or forwardly and rearwardly positioned feed roller members 39 and 40 respectively.

Referring to the rubber-faced feed roller member 38, it will be noted the same has positioned in opposite relation thereto as to position the roller member 41. This roller has a substantially smooth non-friction envelope contacting surface, 42, the same providing and acting as a retarding means for the envelopes immediately following the one that is being fed into the machine by the feed belt 21. This roller is caused to rotate against the direction of feed of the envelopes thus preventing the said followup envelopes from entering into the machine proper for the sealing operation until they reach in proper order the feed belt 21, thereby preventing more than one envelope at a time from entering the machine for the sealing operation, and as may be readily seen only the envelope whose forward edge comes into immediate contact with the rubber faced roller 38 is fed into the machine proper. It being understood the direction of this roller as to its envelope contacting surface moves in a direction with the feed of the envelopes.

The rubber faced feed rollers 39 and 40 move in the direction of the fed envelope as to their contacting peripheral surfaces 42', thus tending to carry the envelope that has been separated from the packed group and that has been fed thereto by the feed roller 38, through the moistening mechanism or section 3 of the machine.

As will be noted particularly from Figures 2, 7 and 8 the unsealed envelopes are introduced into the sealing mechanism of the machine with their flap sides on the bottom, and their respective flaps are in a closed or folded position when being introduced into the machine proper. It not being necessary to initially open these flaps when placing them on the feed table 10, as is so often found necessary with machines of the same class.

Referring particularly to Figure 7 of the drawings, the envelope 44 is fed past the moistening means 45, by the rollers 39 and 40, in this passage of the envelope the flap 43 is caused to be opened up by means of the corner 46 of the flap opening member 49, passing between the front low corner 47 of the flap and envelope structure, while the flared or outwardly turned pointed portion 48 of the flap opening member 49 tends to hold the body proper 50 of the envelope 44 against the back wall or guide member 51. This initial opening of the flap is sufficient to cause the same to be moved downwardly so that the same is allowed to pass under the flared arm member 52, which is an integral part of the flap opening member 49. This arm tends to flatten out the flap 43 completely allowing the same to be passed under the flap moistening rotor member 45, and over the yielding pressure surface member 54. As the envelope and its moistened flap 43 leave the moistening means, the envelope proper 44 is introduced to the next set of feed rollers 98 and 56 respectively, which in turn cause the envelope to be passed between the flap closing flange member 57 and the guide wall 51, thence introducing the closed envelope to the next set of feed rollers 58 and 59 respectively, these rollers also act in the capacity of presser rollers, the same being elongated as to their surfaces that contact the flap area of the closed envelope, thus providing means for tightly pressing the flap against the envelope body for purposes of properly sealing the same thereto. These feed and presser rolls in turn introduce the sealed envelope to the envelope flipper or stacking member 60, the same being in the form of three pointed star wheels positioned one above the other on a common shaft member 62, the star wheels each being in alignment one with the other, so that upon the fast rotation of the flipper member as a whole the sealed envelopes will be flipped from the path of the presser rolls 58 and 59, thus providing free and unobstructed passage for the following envelope that is ejected or thrown from the presser rolls. An envelope guide 63 is provided to direct the envelopes as they leave the presser rolls towards the envelope flipper member the guide member being provided with slots 64, one for each star wheel, thus providing means whereby the points only of the star members are presented to the effective side of the guide member 63, for purposes of preventing the possibility of the ejected envelope getting on the wrong side of the flipping member 60 and being thrown in the wrong direction. Upon the envelopes coming into contact with the rotating points 61 the envelope is caused to be thrown or flipped against the sliding abutment or envelope pack supporting member 65, and between the side wall of the table structure and the adjustable side guide member 67. As the sealed envelopes accumulate through the function of the flipper member against the abutment 65, the same is caused to be moved backward to accommodate the increasing size of the accumulating pack of sealed envelopes. The guide members 65 and 67 are each respectively positioned in their respective slots 68 and 69, the abutment 65 being positioned in the slot 68 by means of the depending portion of the same indicated particularly in Figure 9 of the drawings at 70. Whereas the adjustable side guide member 67 may be held in fixed position in its respective slots by means of bolt and nut members as indicated at 71 and 71'. The flipper guide member 63 may be held in fixed relation to the table structure by means of the flange and screw structures as indicated at 72 and 73.

The envelope flipper member 60 may be held in fixed relation to its respective shaft member 74 by the key and keyway structure 75 together with the collar member 76 and driven at an increased rate of speed over that of the envelope feed rollers by means of the drive gear 77 and the driven pinion 78 carried on the shaft 74. The drive gear 77 is fixedly engaged to the stud shaft member 79 which gear in turn is driven by means of the sprocket and chain members 80 and 81 respectively, the chain in turn being driven by the electric motor 9, through its respective drive belt, pulley member and sprocket gear 82, 83 and 84 respectively. The presser rolls 58 and 59 are each driven as shown by the sprocket drive chain member 81, as well as the feed roller members 38, 39, 40, and 56. The envelope retarding or separating roll member 41 together with the feed belt drive roller 36 are also driven by the sprocket power chain member 81. Each of the above recited members 36, 38, 41, 39, 40, 56, 58 and 59 being driven by the said power chain through each of their respective sprocket members or gears 84, 85, 86, 87, 88, 89, 90 and 91.

The respective driven rollers and their shaft and gear structures 41, 39, and 58 are each carried on supporting cross head structures and guides therefor 92, 93, and 94 respectively. Each

of the said structures being provided with compression coil springs and adjusting screws therefor as indicated at **95, 96** and **97** respectively as shown, the screw members in turn being threadedly engaged to the table structure **7** as shown particularly in Figure 1, thus providing means whereby the said respective driven roller members and their respective cross head supporting structures, are allowed to yieldingly engage the surface of the envelopes, and thereby provide means whereby envelopes of varying thicknesses may readily pass between the respective pairs of rollers referred to. The fact that these rollers are all supported from the bottom and are free as to their top structures provides means whereby envelopes of varying normal heights may be passed through the machine for sealing without inteference thereto due to their heights.

For purposes of providing proper clearance for the envelope flap member **43** after the same has passed through the flap moistening means or zone **3**, I have found it necessary to provide a special means of support for the roller member **98**. The supporting bracket therefor being positioned at a point out of the path of the flap members as they leave the moistening means or roller member **45**. The said bracket being provided as to its upper structure with ways **100** in which is positioned and allowed to reciprocate in a yielding manner the roller supporting cross head member **101**. Positioned at the rear of the cross head and held in engagement thereto as shown is a coil compression spring member **102** and an adjusting screw therefor indicated at **103**, the said screw being threadedly engaged to the bracket at **104** to the rearwardly extending portion of the same indicated at **105**. The spring member **102** providing means whereby the roller member **98** is allowed to yield to the varying sized envelopes as to their thickness that are fed between the rollers **98** and **56**.

Referring particularly to Figure 5, with reference to the flap closing flange member **57**, it will be noted the same is adjustably fixed to the table structure **7** by means of the screw members **106**, the slots **107** and the flange member **108**, as shown. At the point or zone **109** where the moistened envelope is initially introduced to the function of the flap closing member **57** the space between the wall **51** and the flange member is sufficiently wide to accommodate any envelope of normal thickness. Upon the envelope entering the zone or space **109** the flap portion of the same is beginning to leave the moistening roller **45** in a substantially flat and open position, and upon the leading portion **110** of the flap reaching the flap closing flange member **57** at **111** the moistened flap is caused to gradually close up, due to the same riding on the upwardly directed edge **112** of the flange member **57**, while the body **113** of the flange member is in close proximity to the face of the wall **51**, the same causes the flap member to fully close against the body of the envelope due to the envelope's front low corner portion **47** moving along the table surface **114** and thus causing the flap member to be closed against envelope body under a slight wiping pressure sufficient for the purpose in mind. To allow for the yielding of the flange body portion **113** to accommodate the same to varying thicknesses of envelopes, the same, as may be seen particularly from Figure 7, is connected to the fixed part of the flange member by the narrow throat structure **115** at one end thereof whereas the opposite end **116** is substantially free as shown.

The flap opening member is in the form of an arm **117** having a free end **118** and a pivotally fixed end **119**, the said end being pivotally engaged to the fixed upright **120** as shown, the said upright being threadedly engaged to the table **7** at **121** and having a lock nut **122**. To provide the flap opening arm member **117** with a predetermined amount of yielding pressure I have provided the same with the spring member **123**, the upper end of which is engaged to the arm member **117** at **124** and the lower end of which is engaged to the tension collar member **125** at **126**. The said collar member may be turned to the right for a predetermined distance to create sufficient tension on the coil spring member and thence held in fixed relation to the upright member **120** by means of the set screw member **127**.

It has been found by actual practice that upon the lower corner **46** of the arm member **117** being introduced behind the leading corner of the flap **43** that the same tends to open up sufficiently to cause this flap corner to pass under the flared arm member **52**, thus upon this initial introduction of the flap corner passing under this arm member the balance of the flap structure readily follows without difficulty, and thence as the envelope is fed forward the opened and flat flap member is caused to pass between the moistening roller member **45** and the upper surface of the small yielding thrust table member **54**. The upward thrust of this small table member **54** may be set to a predetermined amount through its respective spring supporting and adjustment structure **128**, the same comprising a U-shaped supporting bracket member **129** fastened to the table **7** by means of the screws **130**. Threadedly engaged to the bracket member at **131** are bearing and guide members **132**, the same having positioned therein the threaded thrust rod members **133**, which in turn are threadedly engaged to the underside of the small yielding table member **54** at **134**. Each of the rod members is provided with the spring compression nut members **135** having set screws **136** for purposes of fixing the position of the said nuts when the proper pressure on the spring members **137** has been determined. For purposes of fixedly adjusting the very thin space between the upper surface of the table **54** and the moistening roller member **53** I have provided the adjustable nut members **138**, the same being threaded to the lower ends of the respective rod members at **139**. For purposes of fixing the position of the nut members I have provided the same with set screws **140**. In the present drawings the moistening roller member **45** is shown in contact with the upper surface of the yielding table member **54**. In some instances this position of the said members may be very desirable for the purpose of providing a "feather" touch between these parts. As the moistening roller is free to rotate about its axis this "feather" touch contact will not impede the progress of the flap therethrough as the same is sufficiently rigid to cause the roller member to rotate. However with the present type of adjustable structure as shown a desired clearance of a few thousandths parts of an inch is readily possible for purposes of meeting certain conditions of flap moistening. It will be noted that the compression spring members **137** are substantially heavy, under certain conditions this may be desirable for maintaining the table member **54** at a substantially fixed position but yet with the possibilities of

yielding if necessary. However it should be fully understood that a very light type of spring member may be used at this point for purposes of allowing constant yielding of the table **54** upon the passing of a flap between the roller and table member.

Referring to Figure 6, the liquid supply tube **141** also functions as an axial support for the moisture roller **45** as shown the far end of the same being closed by the threaded plug and flange or nut member **142**. The same providing means together with the washer member **143** to retain the roller on the tube member **141**, this member in turn being carried in the bracket **144** and held in fixed relation thereto together with the flange or plug member **142**, by the fixed collar member **145** and its set screw **146**. That portion of the tube member within the roller body is provided with radiating openings **147** the same coming into registration with the openings **148** of the roller member as the same is caused to rotate by the frictional action of the envelope flap member as the same passes between the outer surface of the roller and the table surface **149**. The outer ends of the roller openings **148** terminate in circumferential depressions that are segmental in character as indicated at **150**. These depressions are provided to prevent the openings **148** from becoming stopped up due to the possible accumulation of paste that may be picked up by the roller member **45**, thus providing means whereby the openings for conveying liquid to the outer envelope flap contacting surface are positioned remotely therefrom with less chance of stoppage. Further the said depressions provide better distributing facilties for the liquid over the surface of the roller member that contacts the envelope flap member. A liquid reservoir **151**, having a control valve **152** and a hose member **153** connecting the same to the moisture roller tube member **141** is provided as shown.

It will be noted particularly from Figure 5, that the longitudinal envelope guide or wall member **51** is provided with means for the adjustment of the same in the form of screw members **154** positioned in slots **155** and threadedly engaged to the table **7** as shown, whereby the passage of the fed envelope may be properly determined in relation to the feed roller members.

For purposes of convenience the electric motor member **9** may be provided with the starting and stopping switch member **156** together with the usual electric wiring connection **157**.

It is fully understood that the various feed rollers with their respective shaft members together with their driving sprocket gear members may be properly engaged one with the other in fixed relation by set screws or the like as shown in a number of instances in the drawings.

I have thus described my invention in detail in order that the same may be fully understood as to structure and operation, however, the terms used herein are used in their descriptive sense only and not in a limiting manner, the scope of the invention being defined in the claims.

What I claim and desire to secure by Letters Patent is:

1. A moistening apparatus, comprising a conveyor for envelopes having their flaps in folded position, means for supporting the envelopes in upright position, means for unfolding the flaps comprising a yielding arm member having combined means for guiding the lower portion of the envelopes as they pass through the apparatus and means for opening the flaps thereof and guiding the same under a moistening surface, said surface comprising recessed portions below the peripheral surface of the same, means for introducing moisture to the said moistening surface by way of the said recessed portions.

2. A moistening apparatus, comprising a conveyor for envelopes having means for retaining the same in upright position and means for introducing the envelopes to the apparatus with their flaps in folded position means for guiding the envelopes, opening the flaps thereof and introducing the same to means for moistening the same comprising a pivotally mounted spring actuated arm member.

3. A moistening apparatus, comprising a conveyor for envelopes having means for introducing the envelopes to the apparatus in upright position with their flaps in folded position, means for opening the flaps and guiding the same to a moistening device means for passing the same through the moistening device and means for refolding the moistened flaps to closed position, the said means for opening and guiding the flaps comprising an integral, swinging, spring actuated arm member having means in combination therewith for yieldingly guiding the lower portion of the upright envelopes at the time of the initial opening of their respective flap members.

4. A moistening apparatus comprising a conveyor for conveying envelopes therethrough in upright position with their respective flap members in initially closed position, means for opening the flaps, guiding the lower portions of the envelopes and introducing the opened flaps into a moistening device for applying moisture to the opened flaps comprising a pivoted spring actuated arm member, means for folding one portion of the opened flap to closed position while another portion of the flap is being moistened.

5. A moistening apparatus comprising a conveyor for envelopes having their respective flap members in folded position, means for supporting the envelopes in upright position means for unfolding the flap members and introducing them to a moistening device and simultaneously yieldingly holding the lower portions of the respective uprightly conveyed envelopes said means comprising a simultaneously yielding arm structure, and means in combination therewith for refolding the unfolded flap members.

6. A moistening apparatus comprising a conveyor for envelopes having their respective flap members in folded position, means for supporting the envelopes in upright position means for unfolding the flap members and introducing them to a moistening device and simultaneously yieldingly holding the lower portions of the respective uprightly conveyed envelopes said means comprising a simultaneously yielding arm structure, and means in combination therewith for refolding the unfolded flap members, the said moistening device comprising a yieldingly adjustable table structure and a rotatable moistening surface having recessed portions, means for introducing moisture to the said surface by way of and from the said recessed portions, and means for conveying moisture directly to the said recessed portions.

FITZALAN HOWARD MORRISON.