

S. L. LONG.  
 ENVELOP SEALING MACHINE.  
 APPLICATION FILED AUG. 20, 1914.

Patented Apr. 24, 1917.  
 7 SHEETS—SHEET 1.

1,223,499.

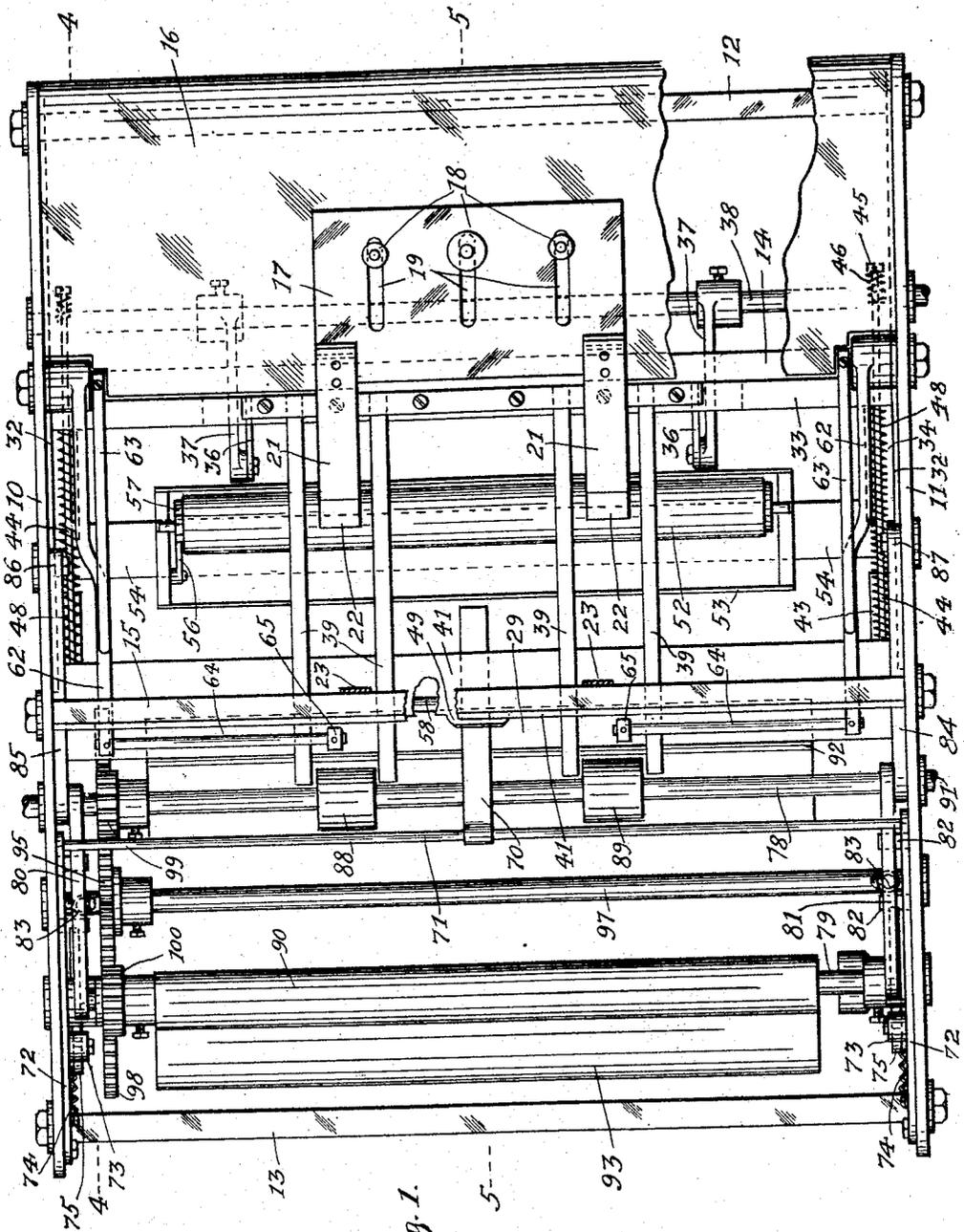


Fig. 1.

Witnesses.  
 H. L. Opsahl.  
 H. A. Bourman.

Inventor:  
 Sidney L. Long.  
 By his Attorney.  
 R. Whiteley

S. L. LONG.  
 ENVELOP SEALING MACHINE.  
 APPLICATION FILED AUG. 20, 1914.

Patented Apr. 24, 1917.  
 7 SHEETS—SHEET 2.

1,223,499.

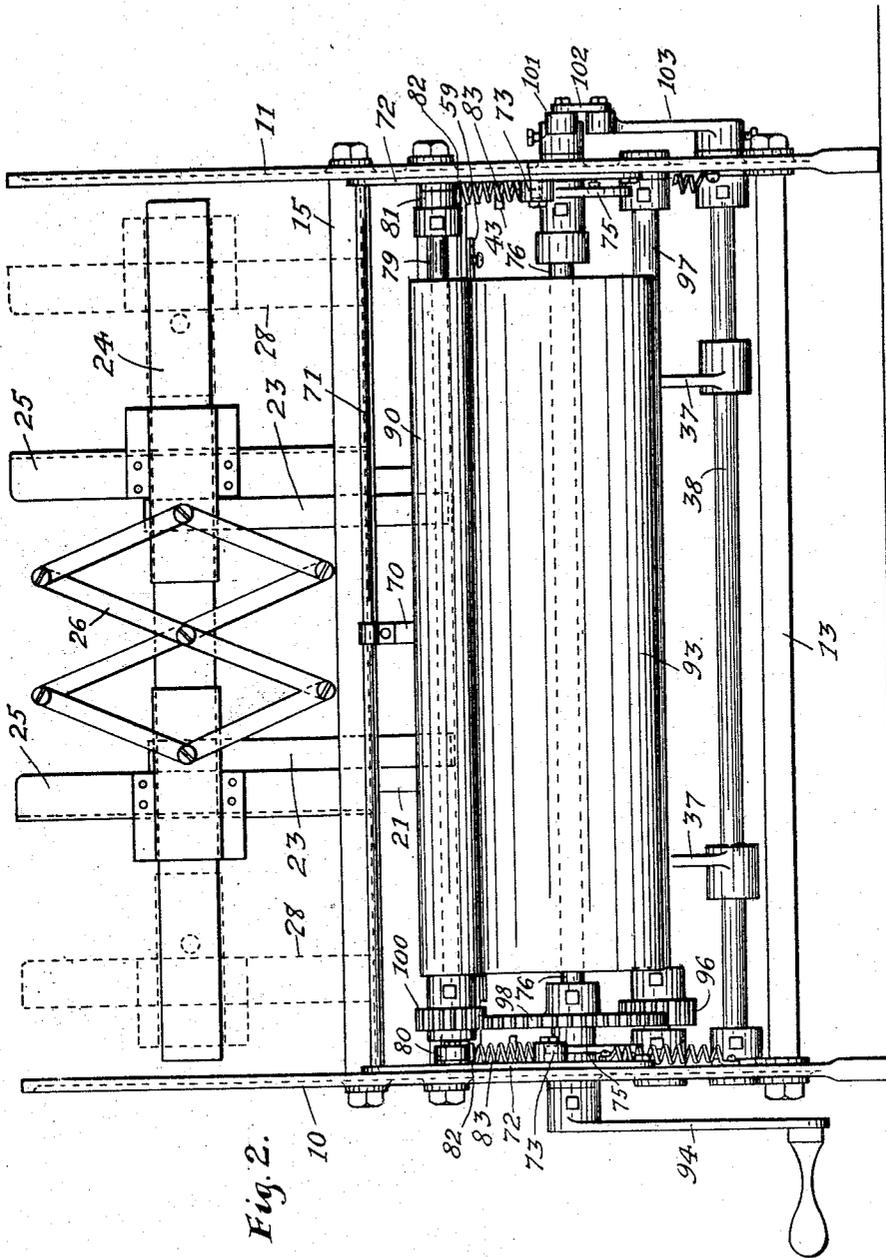


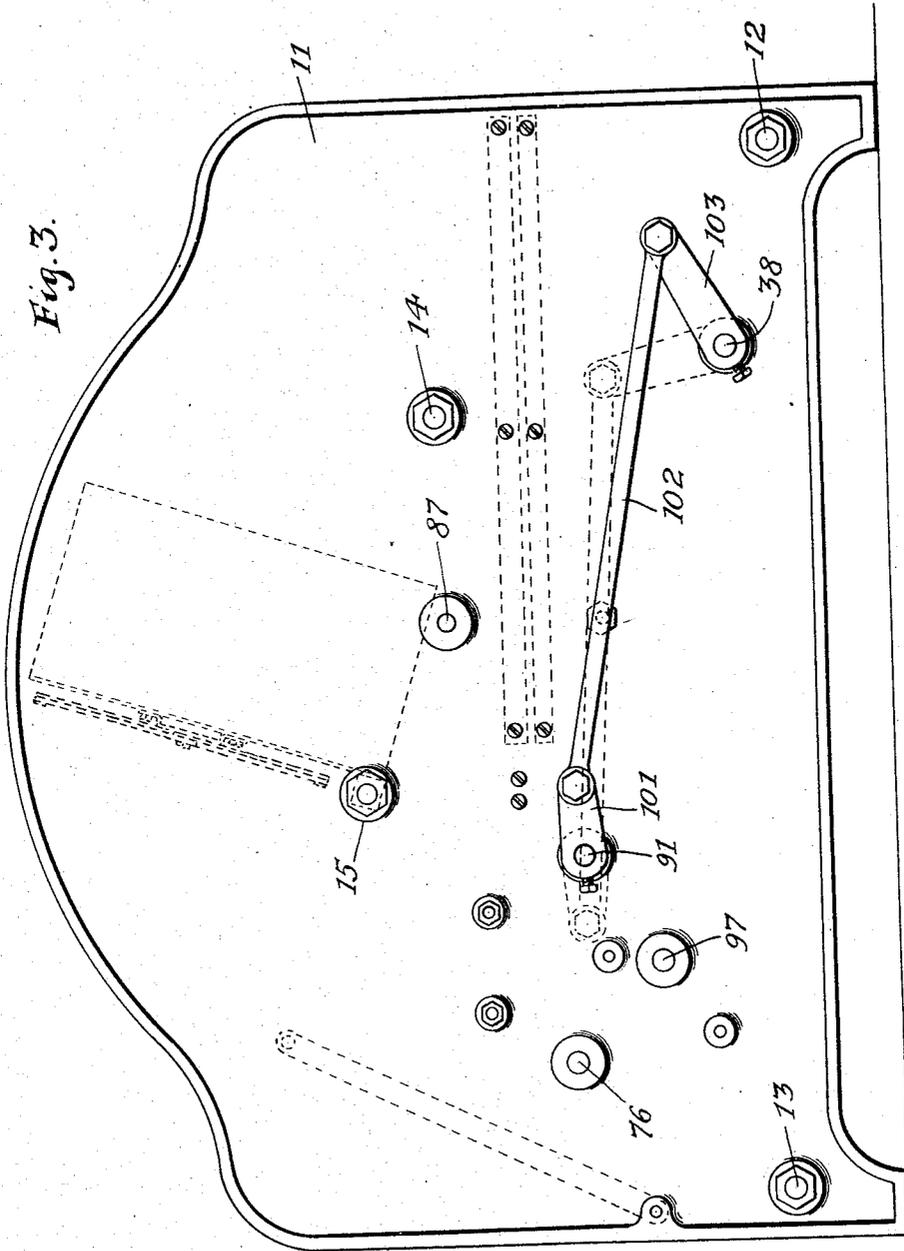
Fig. 2.

Witnesses.  
 H. L. Opsahl.  
 H. A. Bourman.

Inventor.  
 Sidney L. Long.  
 By his Attorney.  
 H. C. Whitaker

1,223,499.

Fig. 3.



Witnesses.  
H. L. Opsahl.  
H. O. Bowman.

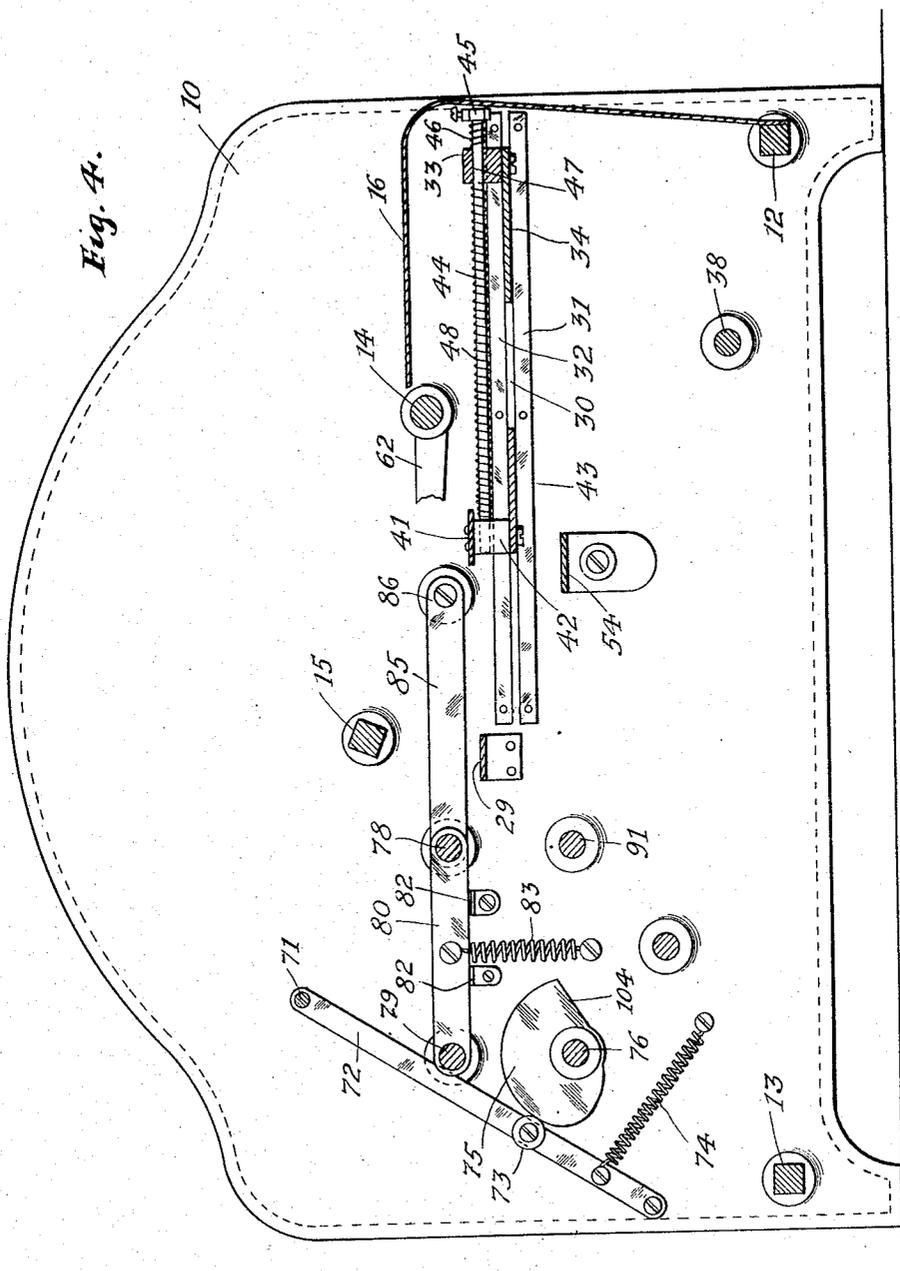
Inventor  
Sidney L. Long.  
By his Attorney  
P. O. Whiteley

S. L. LONG.  
 ENVELOP SEALING MACHINE.  
 APPLICATION FILED AUG. 20, 1914.

1,223,499.

Patented Apr. 24, 1917.

7 SHEETS—SHEET 4.



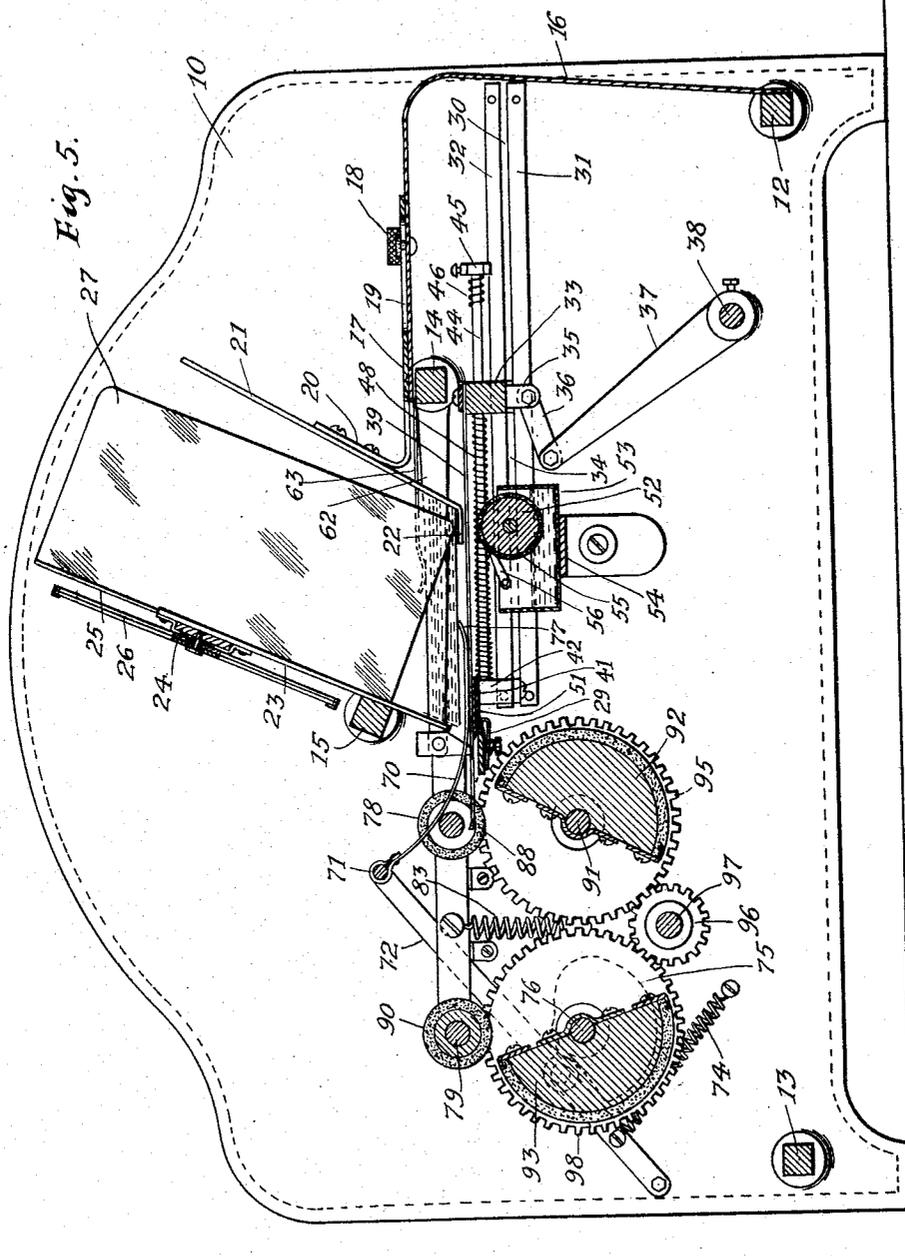
Witnesses.  
 H. L. Opsahl.  
 N. A. Bowman.

Inventor.  
 Sidney L. Long.  
 By his Attorney.  
 R. A. Whitley

S. L. LONG.  
 ENVELOP SEALING MACHINE.  
 APPLICATION FILED AUG. 20, 1914.

Patented Apr. 24, 1917.  
 7 SHEETS—SHEET 5.

1,223,499.



Witnesses.  
 H. L. Opsahl.  
 H. A. Bowman.

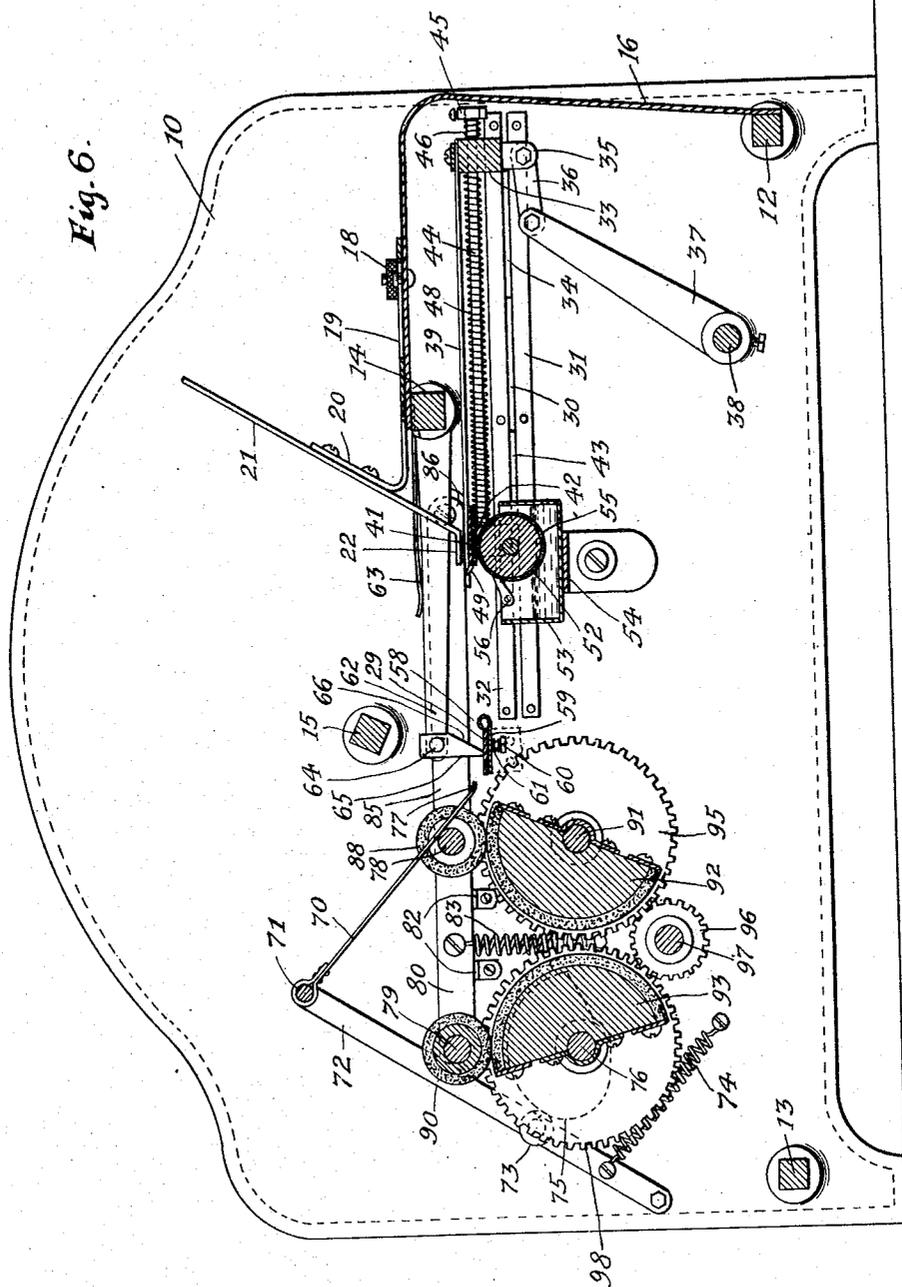
Inventor.  
 Sidney L. Long  
 By his Attorney.  
 F. A. Whitely

S. L. LONG:  
 ENVELOP SEALING MACHINE.  
 APPLICATION FILED AUG. 20, 1914.

Patented Apr. 24, 1917.

7 SHEETS—SHEET 6.

1,223,499.



Witnesses,  
 H. L. Opsahl,  
 H. A. Bouman.

Inventor:  
 Sidney L. Long,  
 By his Attorney,  
 P. A. Whitaker

S. L. LONG.  
 ENVELOP SEALING MACHINE.  
 APPLICATION FILED AUG. 20, 1914.

1,223,499.

Patented Apr. 24, 1917.

7 SHEETS—SHEET 7.

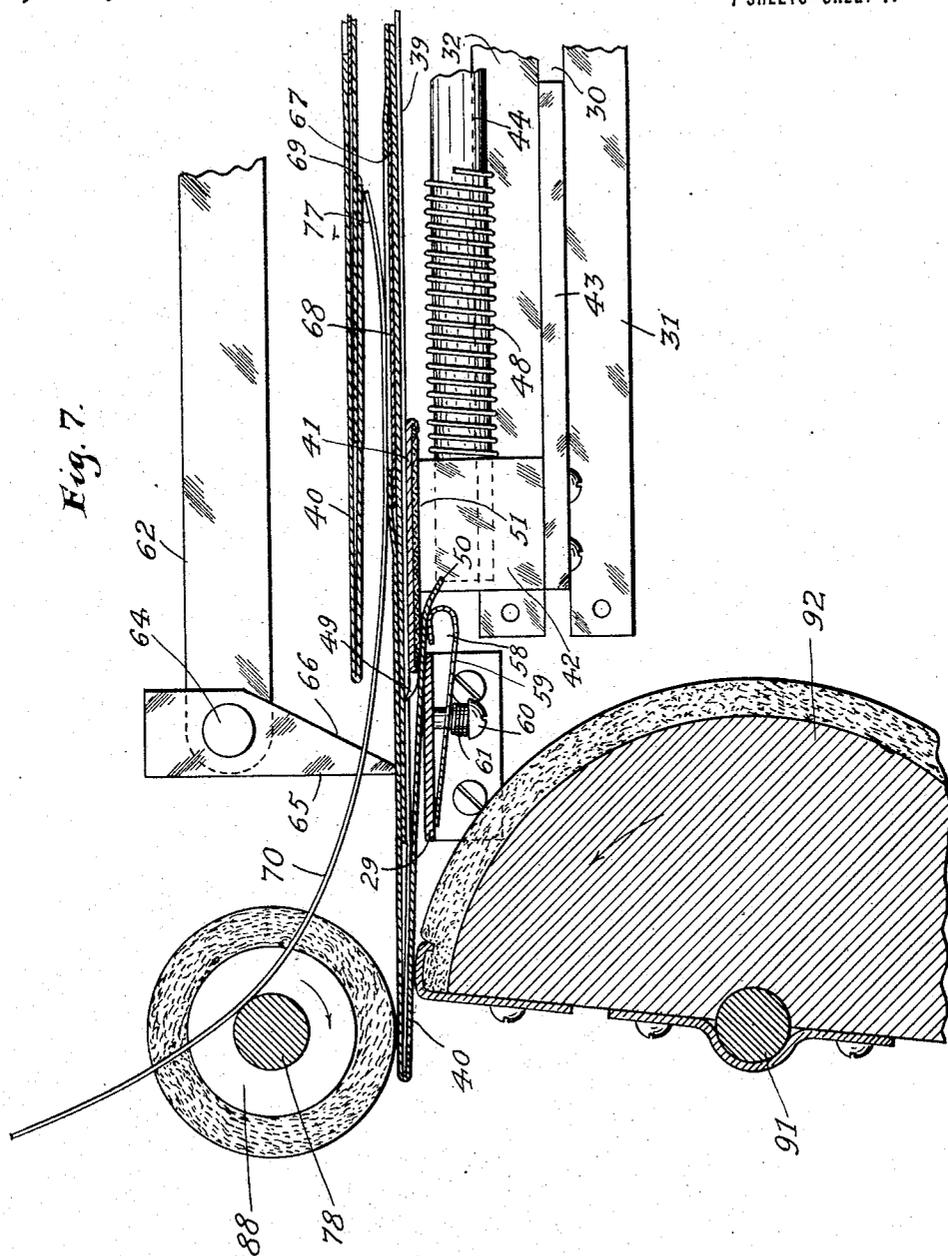


Fig. 7.

Witnesses.  
 H. L. Opsahl,  
 H. A. Bourisau.

Inventor.  
 Sidney L. Long.  
 By his Attorney.  
 P. A. Whiteley

# UNITED STATES PATENT OFFICE.

SIDNEY L. LONG, OF MINNEAPOLIS, MINNESOTA, ASSIGNOR TO PENCE MAILING MACHINE COMPANY, OF MINNEAPOLIS, MINNESOTA, A CORPORATION.

## ENVELOP-SEALING MACHINE.

1,223,499.

Specification of Letters Patent.

Patented Apr. 24, 1917.

Application filed August 20, 1914. Serial No. 857,696.

*To all whom it may concern:*

Be it known that I, SIDNEY L. LONG, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Envelop-Sealing Machines, of which the following is a specification.

My invention relates to envelop sealing machines and has for its object to provide novel mechanism for moistening the flaps of the envelopes and sealing the same upon the body thereof.

It is an especial object of my invention to provide means for feeding envelopes singly and in timed succession from a stack and for moistening the gummed side of the flap without extending the flap or while the flap is in its normal or closed position, the means for sealing the envelop thereafter operating to apply pressure upon the closed flap to cause the moistened gum to adhere firmly to the body of the envelop.

The full objects and advantages of my invention will appear in connection with the detailed description thereof and are particularly pointed out in the claims.

In the drawings, illustrating the application of my invention in one form,

Figure 1 is a plan view of a sealing machine embodying my invention. Fig. 2 is an end elevation of the same. Figs. 3 and 4 are side elevation views of the respective sides of the machine. Fig. 5 is a sectional elevation view taken on line 5—5 of Fig. 1. Fig. 6 is a similar view showing the moistener feed member in retracted position. Fig. 7 is an enlarged sectional view of a portion only of the machine.

I provide a frame comprising end plates 10 and 11 rigidly secured in proper spaced parallel relation by means of crossbars 12, 13, 14 and 15. Secured to bars 12 and 14 is a curved plate member 16, shown in cross section in Figs. 5 and 6. Adjustably mounted upon the horizontal portion of plate member 16 is a slide plate 17 which is secured in position on plate 16 by means of hand screws 18 extending through slots 19 in the plate 17. The plate 17 has secured thereto a pair of angularly-disposed lugs or ears 20 to which are secured guide bars 21, said guide bars having at the lower portions thereof short horizontal extensions 22

to serve as rests for the rear edges of the stack of envelopes to be sealed. Secured to the crossbar 15 are a pair of guide bars 23, similar to guide bars 21. Rigidly secured to the bars 23 is a transverse bar 24, upon which are slidably mounted end guides 25, the pairs of guides being connected together by a lazy-tong construction 26, as best shown in Fig. 2. The guides 25 are each provided with end plates 27. It will thus be seen that by means of the adjustable back guides 21 and the end guides 25 adjustable in a direction transverse to that of movement of guides 21, a receiving hopper is provided for the stack of envelopes, indicated in dotted lines at 28. As above stated, the rear edges of these envelopes are supported upon the lip extensions 22, while the forward or flap edge is adapted to be supported by a transverse bar 29 positioned, as clearly shown in Fig. 5, at a point below the plane of lip extensions 22 and spaced from the lower ends of the guide bars 23. The envelopes are placed in the stack with the flaps closed and turned down and the flap edges in engagement with the guides 23 and end guides 25, and the envelopes are singly and successively fed from the stack and moistened during the feeding operation by the means now to be described.

Guideways 30 are provided along the inside of plates 10 and 11 by means of spaced bars 31 and 32 secured to the sides of the plate. Between the guideways 30 is a crossbar slide 33, which is held in a position to be guided by the guideway 30 by means of plates 34 secured to the ends of bar 33 and extending within guideway 30, as clearly shown in Fig. 4. Pivotally connected to ears 35, depending from the lower side of crossbar 33, are links 36, which, in turn, are pivotally connected with arms 37 fast on a rock shaft 38 journaled in side plates 10 and 11 and operated by means hereinafter to be described, so that the bar 33 is reciprocated transversely bodily along the guides 30 between the plates 10 and 11. Rigidly secured to crossbar 33 so as to extend forwardly in horizontal position are a plurality of spring fingers 39, four of said fingers being shown in the example given. The fingers are positioned to pass above the cross plate 29, and in their forward movement will engage beneath the flap 40 of the lowermost envelop

in the stack and feed the same forwardly over the plate 29, as illustrated on an exaggerated scale in Fig. 7.

Associated with the feeding fingers above  
 5 defined for entrance beneath the flap of the envelop is a transverse moistener plate 41. This plate is secured at its ends to blocks 42, having thereon plate bars 43 extending  
 10 within the slot or guideway 30 between the bars 31 and 32. The blocks 42 have rigidly connected therewith rods 44, which extend freely through openings 47 in the crossbar 33. The ends of the rods 44 are provided with heads or a collar 45. Short springs  
 15 46 surround rods 44 between crossbar 33 and heads 45, and the moistener plate 41 is normally held at a definitely fixed position in advance of crossbar 33 by means of extended coil springs 48 which surround rods 44  
 20 extending between blocks 42 and crossbar 33, said springs normally holding the parts in the position indicated in Fig. 6, in which spring 46 is compressed between crossbar 33 and head 45. In this position, as is clearly  
 25 shown, the fingers 39 rest upon the top of the plate 41 and extend but a small distance in advance thereof, the plate 41 having a lip 49 at its central portion curved upwardly into the plane of the fingers 39, which lip  
 30 is adapted to engage the rearwardly-extended point 50 of the envelop flap and turn the same down beneath the moistener plate 41 and the moistening surface 51 thereon. This moistening surface, as clearly indicated in  
 35 Fig. 6, is brought into contact with the peripheral surface of a roller 52 which is journaled transversely of the machine within a tank 53 supported by brackets 54 secured to the side plates 10 and 11. The  
 40 roller 52 is covered with absorbent material 55 and is held from rotation in one direction by means of a ratchet 56 engaging a ratchet wheel 57 on the end of said roller. It will be seen, therefore, that as the plate  
 45 41 or the moistener surface 51 thereon goes backwardly over roller 52 it will rotate said roller, and when said plate goes forward the roller will be held stationary, the surface 41 of the plate being frictionally passed  
 50 over the moistened surface 55 of the roller, thereby receiving the sufficient amount of moisture, with no excess, for properly moistening the envelop flaps when the plate 41 is introduced between said flap and the body  
 55 of the envelop and above the gummed surface of the flap. It will also be apparent that no moisture can by any possibility get upon the upper surface of plate 41 or upon the fingers 39, because, as shown in Fig. 6,  
 60 the plate 41 in its backward movement does not go entirely behind the roller 52, but stops above the same, where it will operate as a guard. From the above it will be apparent that the fingers 39 and plate 41 will  
 65 move together during the first part of the

stroke of crossbar 33. When, however, the plate 41 reaches the stationary cross plate 29, it will be restrained from further movement with the fingers by engagement of the envelop flap between it and said plate, and  
 70 particularly upon a curved lip 58 of a spring plate 59 which is yieldingly secured upon the bottom of cross plate 29 by means of screws 60 and springs 61 between the heads of said screws and the plate 59. From  
 75 this point, the fingers 39 will feed the envelops independently of the plate 41, the crossbar 33 operating to compress springs 48, as illustrated in Fig. 5. It thus transpires that for the latter part of the feeding  
 80 movement of the envelop the moistening plate 41 will be stationary and the gummed flaps will be frictionally dragged across the moistened surface 51 of said plate, as best shown in Fig. 7. To prevent the envelop  
 85 above the one being fed from moving with it, arms 62 are journaled upon rounded bearing portions at the ends of crossbar 14, said arms being spring-pressed downwardly by means of leaf springs 63. The arms 62  
 90 carry rigid rods 64 extended inwardly from said arms which have thereon detaining fingers 65, preferably formed with a beveled face 66 on the side toward the envelop stack, the fingers 65 being yieldingly held upon  
 95 the cross plate 29 so that when the flap edge of the envelop being fed engages bevel face 66 said fingers may rise above said envelop but will restrain forward movement of the envelops lying upon the lowermost envelop  
 100 which is being fed.

In that class of envelops wherein a portion of the face of the envelop has been cut away and a transparent sheet pasted on the inside so that the address may appear from  
 105 the letter contents of the envelop, there is an exposed edge surrounding the said transparent address portion, which is diagrammatically indicated at 67 in Fig. 7, the transparent slip being indicated in the same  
 110 figure by reference numeral 68. It will be apparent from an inspection of this figure that the edge 67 might engage the edge 69 of the flap 40 of the envelop immediately above the one being fed, which would  
 115 crumple said flap and render the device ineffective for feeding and moistening this class of envelops. I have, therefore, provided novel means for lifting the envelop above the one which is to be fed so as to separate them during a portion of the feeding  
 120 movement and prevent engagement of the edge 67 with the flap edge 69. This I accomplish by means of a spring finger 70, which, as clearly shown in Fig. 4, is carried by a  
 125 cross rod 71 secured at its ends to rocking arms 72 pivotally attached at their lower ends to the side pieces 10 and 11, and having rollers 73 held by means of springs 74 in engagement with cams 75 on a driven shaft 130

76 journaled in the end plates 10 and 11. The spring finger 70 has a portion 77 at its end which is bent or curved slightly relative to the rest of the spring finger, as best shown in Fig. 6. The finger 70, rod 71 and arms 72 are all rigidly connected. When, as shown in Fig. 6, the arms 72 are raised by cams 75, the finger 70 will engage a shaft 78 journaled between the frame-pieces 10 and 11, and the curved ends 77 will be directed toward cross plate 29. The elements are so timed that, as the fingers 39 come forward, moving the lowermost envelop with them, and after the envelop has covered plate 29 but before edge 67 has reached flap edge 69, the arms 72 are rocked quickly forward by action of spring 74, and the curved ends 77 first engage the surface of the envelop being fed above plate 29 and then are quickly thrust forward between said envelop and the one immediately above it to the position shown in Fig. 7, thus lifting the envelop above and flap edge 69 out of contact with the envelop which is being fed. The finger 70 remains in this position until the envelop being fed is drawn out and sealed, by the means which will now be described.

The shaft 78 and a complementary shaft 79 are journaled at their ends in pieces 80, 81 at the sides of the frame, which are drawn downwardly into engagement with lugs 82 by means of springs 83, the lugs 82 being secured to the side plates 10 and 11. The bars 80, 81 are also pivotally connected through shaft 78 with arms 84, 85, respectively, pivoted at 86 and 87 to frame pieces 10 and 11. Upon the shaft 78 are mounted a pair of, preferably, rubber-covered rollers 88, 89, separated at the central part of the shaft to permit the spring finger 70 to rest upon the shaft; while upon the shaft 79 is a continuous rubber-covered roller 90. Positioned in the vertical plane below shaft 78 is a shaft 91; while shaft 76, before referred to, is similarly in the vertical plane of shaft 79. Upon shaft 91 is a segmental rubber-covered roller 92, while a similar segmental rubber-covered roller 93 is mounted on shaft 76. The shaft 91 is the drive shaft of the machine and has thereon a hand crank 94, or other means of applying power thereto. The shaft 91 has thereon a spur gear 95 which meshes with an idler gear 96 on a shaft 97, journaled in frame members 10 and 11. The idler gear 96 in turn meshes with a spur gear 98 on shaft 76, so that the shafts 91 and 76, and the rollers 92 and 93 thereon, are both driven in the same direction and at the same speed. The rollers 88, 89 and 90, when the shafts 78 are held in their normal position by springs 83, are in position so as to be engaged by the segmental rollers 92 and 93, respectively, and, if desired, the shafts 78 and 79 may be positively driven by having thereon spur gears 99 and

100, meshing with spur gears 95 and 98 on shafts 91 and 76, respectively. As shown in Fig. 7, the parts are so timed in action that the envelop is fed forward by the fingers 39, being at the same time partially moistened by the pad 51, so that the back side of the envelop is brought below the constantly-driven rubber-covered rollers 88 and 89 before the rubber-covered portion of segmental roller 92 comes into position to engage the envelop between such portion and the moving surface of rollers 88 and 89. The gum of the envelop is practically all moistened prior to this brief halting in the movement of the envelop, which gives a certain amount of time for the gum to soften and also insures accurate forward feeding and sealing of the envelop, which is of great advantage when stamp-applying mechanism is used in connection with the sealing mechanism. Continued rotation of roller 92 will grip the forwarded portion of the envelop and feed the same forward between roller 92 and rollers 88 and 89, partially sealing the same. In fact, for some types of work it would not be necessary to provide the additional sealing rollers. As shown in Fig. 6, the rollers 90 and 93 cooperate relative to rollers 88, 89 and 92 so as to receive the envelop from said rollers and apply additional sealing pressure to the envelop before it is discharged from the machine. It will be noted that the manner of flexibly supporting shafts 78 and 79 and the rollers carried thereby, so that said shafts may move differentially with respect to one another and also with respect to the segmental rollers 92 and 93, provides sealing and forwarding mechanism peculiarly adapted to operate upon letters having inclosures of irregular shape and size, such letters being as efficiently and certainly sealed as would be true of an ordinary letter including only a folded sheet of paper.

As best shown in Fig. 3, the shaft 91 is extended outside of frame member 11 and has thereon a crank 101 which is connected by means of a link or pitman 102 with an arm 103 on shaft 38, by which means the shaft 38 is oscillated and the slide 33 and parts carried thereby reciprocated.

The operation of my sealing device has been quite fully given in connection with the detailed description thereof. The back guide bars 21 and the end plates 25 will be adjusted to the proper size for the envelops to be operated upon. This makes a hopper of a somewhat funnel-shape into which the envelops may be readily inserted with the flaps closed and turned down and the flap edges in a forward position. When so positioned, the lower envelop has its flap edge positioned below the lower ends of bars 23, and the flap will be so positioned that the slightly curved ends of fingers 39 and the upwardly

curved tongue 49 of moistener plate 41 will readily pass beneath the flaps as the same are moved forwardly by crossbar 33. The lower envelop is selected and fed above the fingers 39 the moistener plate 41 passing between the envelop body and the flap. As the envelop comes over the cross plate 29, the rollers 73 on arms 72 drop off of the high part of cam 75 down the sharp inward slope thereof (see 104 of Fig. 4), which causes spring 83 to quickly move arm 72 forward, thereby bringing the curved point 77 of spring finger 70 first upon the top of the moving envelop above cross plate 29 and then along said envelop top between the same and the next envelop of the stack so as to separate the adjacent envelop from the envelop being fed. Meantime, the forward movement of crossbar 33 has brought the moistener plate first off of moistening roller 52, so that the moistener pad 51 is properly moistened, and then into contact with the gummed side of the envelop flap, pinching the same between the moistener surface 41 and the spring plate 58. This operates to restrain further forward movement of the moistener plate 41. The crossbar 33 and feed fingers 39, however, continue to advance, springs 48 being compressed by such movement, resulting in feeding the envelop forward and frictionally dragging the gummed surface of the flap over the moistener pad 51. At the termination of the feeding movement effected by the fingers 39, the envelop will be forwarded below the rollers 88 and 89 and above the advancing portion of segmental roller 92, as shown in Fig. 7, pairs of feed fingers 39 coming outside of the limits of rollers 88 and 89, as indicated in Fig. 1. At this point the roller 92 has not yet been brought into engagement with rollers 88 and 89, so that the envelop remains momentarily stationary, giving the water applied to the gummed surface some opportunity to penetrate the gum and soften the same. Continued rotation of segmental roller 92 finally brings the rubber covering thereof so as to grip the advance edge of the envelop between it and the rollers 88 and 89, whereby the envelop is fed forward. At the same time the crossbar 33 and moistener plate 41 are retracted, the moistener pad 51 on said moistener plate finally being drawn over the absorbent surface 55 of moistener roller 52, thereby rotating said roller within tank 53, which is permitted by the arrangement of ratchet 56, the moistener plate 41 coming to rest above roller 52, as indicated in Fig. 6. Meanwhile, the continued forwarding movement of the envelop by the coöperation of rollers 92 and 88 and 89 has brought the flap edge of the envelop between the coöperating sealing rollers 90 and 93, which exercise the proper degree of sealing pressure upon the envelop by reason of the

yielding action of springs 83. The envelop is thus finally sealed and discharged from the machine, or to stamping mechanism, as may be desired.

The advantages of my invention will be obvious. It is exceedingly simple and compact. The same mechanism which selects the envelops and feeds them out in timed succession through coöperation with the closed flaps of the envelops also operates to moisten the gummed surfaces of the flaps. This moistening is absolutely effective, since the gummed surfaces are frictionally dragged across the moistening pad, and at the same time there is no possibility of water coming upon any part of the envelops excepting the gummed portions of the flaps. The parts of the device are limited in number so the same may be cheaply constructed. The holder for the envelops is readily adjusted for envelops of any size or thickness, and the feeding and moistening mechanism operates in the same way upon any sized envelop. The feeding and moistening is absolutely accurate and timed in order, and the sealing devices work with precision and certainty to seal the envelops, the double action of the short rollers 88 and 89, followed by that of the sealing rollers proper, being particularly effective.

I claim:

1. An envelop sealing machine comprising means for holding envelops in a stack with their flaps closed and turned down so that the flap of the lowermost envelop will be exposed, means engageable within the flap for successively and singly feeding the envelops from the stack and for moistening the gum upon the flap, and constantly-driven withdrawing and sealing means having a cycle of operative and inoperative phases timed to become operative upon the envelop subsequently to the termination of the feeding movement.

2. An envelop sealing machine comprising means for holding envelops in a stack with their flaps closed and turned down so that the flap of the lowermost envelop will be exposed, means engageable within the flap for successively and singly feeding the envelops from the stack and for moistening the gum upon the flap, a constantly-driven coacting pair of withdrawing and sealing members one of said members having an inoperative surface and being timed so as to be inoperative upon the envelop while it is fed and to engage the same subsequent to the termination of the movement of the feeding device.

3. An envelop sealing machine comprising means for holding envelops in a stack with their flaps closed and turned down so that the flap of the lowermost envelop will be exposed, means engageable beneath the flap for feeding the envelops successively

and singly from the stack and for moistening the gum upon the flap, and means thereafter for withdrawing the envelop from said feeding means and sealing the flap, said withdrawing and sealing means being timed in action so as to become operative upon the envelop only at the termination of a definite extended period of time after the feeding means has terminated its movement of the envelop to permit the envelop to remain stationary after the same has been fed and before sealing.

4. An envelop sealing machine comprising means for holding envelops in a stack with their flaps closed and turned down so that the flap of the lowermost envelop will be exposed, means engageable beneath the flap for feeding the envelops successively and singly from the stack and for moistening the gum upon the flap, and means for separating the envelop being fed from the envelop above the same immediately after the beginning of the feeding movement.

5. An envelop sealing machine comprising means for holding envelops in a stack with their flaps closed and turned down so that the flap of the lowermost envelop will be exposed, means engageable beneath the flap for feeding the envelops successively and singly from the stack and for moistening the gum upon the flap, a reciprocating member, and means for causing the same to be inserted above the envelop being fed and below the next lowermost envelop of the stack to hold said envelops separated during a portion of the feeding movement.

6. An envelop sealing machine comprising means for holding envelops in a stack with their flaps closed and turned down so that the flap of the lowermost envelop will be exposed, means engageable beneath the flap for feeding the envelops successively and singly from the stack and for moistening the gum upon the flap, a reciprocating member, and means for causing the same to engage the upper surface of the envelop being fed as the same is moved from the stack and thereafter to pass along the top of said envelop being fed between it and the lowermost envelop of the stack to hold said envelops separated during the latter portion of the feeding movement.

7. An envelop sealing machine comprising means for holding envelops in a stack with their flaps closed and turned down so that the flap of the lowermost envelop will be exposed, means engageable with the flap for feeding the envelops successively and singly from the stack and for moistening the gum upon the flap, and constantly-driven engaging rollers for withdrawing and sealing the envelops, some of said rollers being formed with depressed surfaces so as to become inoperative upon the envelops, said rollers being timed in relation to cause

the envelops to be acted upon subsequent to the termination of the feeding movement.

8. An envelop sealing machine comprising means for holding envelops in a stack with their flaps closed and turned down so that the flap of the lowermost envelop will be exposed, means engageable within the flap for feeding the envelops from the stack, means insertible above the flap for moistening the gum, and means for halting said moistening means after insertion while the envelop is being fed to allow the flap to be dragged over the moistening means and become thoroughly moistened.

9. An envelop sealing machine comprising means for holding envelops in a stack with their flaps closed and turned down so that the flap of the lowermost envelop will be exposed, a reciprocating member engageable within the flap for feeding the envelops from the stack, means insertible above the flap for moistening the gum, and means for halting said moistening means after insertion while said reciprocating means is being advanced to feed the envelop to permit the flap to be dragged over the moistening means and become thoroughly moistened.

10. An envelop sealing machine comprising means for holding envelops in a stack with their flaps closed and turned down so that the flap of the lowermost envelop will be exposed, a reciprocating member having a device engageable beneath the flap for feeding the envelops successively and singly from the stack, moistening means below the device and movable therewith into position between the flap and the envelop body for moistening the gum upon the flap while the envelop is being fed, and means for holding the moistening means stationary after it comes within the envelop flap.

11. An envelop sealing machine comprising means for holding envelops in a stack with their flaps closed and turned down so that the flap of the lowermost envelop will be exposed, a reciprocating member having a device engageable beneath the flap for feeding the envelops successively and singly from the stack, and moistening means below the device and movable therewith into position between the flap and the envelop body for moistening the gum upon the flap while the envelop is being fed, said device being movable relative to said moistening means after the same has come inside of and into engagement with the gummed surface of the flap to permit said gummed surface to be frictionally dragged across the moistening means by continued movement of the device.

12. An envelop sealing machine comprising means for holding envelops in a stack with their flaps closed and turned down so

that the flap of the lowermost envelop will be exposed, a reciprocating member, a device on said member adapted to engage within said flap and move the lowermost envelop from the stack, a plate having a moistening element on the underside thereof, means to move the plate with the device to the inside of the flap to bring the moistening element upon the gummed surface thereof, and means for holding the plate stationary and for holding the flap against the moistening element while the envelop continues to be fed.

13. An envelop sealing machine comprising means for holding envelops in a stack with their flaps closed and turned down so that the flap of the lowermost envelop will be exposed, a pair of slides, a yielding connection between said slides, a device on one of said slides adapted to engage within the flaps for feeding the envelops, a moistening member connected with the other slide to enter beneath the flap with the device and engage the gummed surface thereof, and means for reciprocating the slides.

14. An envelop sealing machine comprising means for holding envelops in a stack with their flaps closed and turned down so that the flap of the lowermost envelop will be exposed, a pair of slides, a device on one of said slides adapted to engage within the flaps for feeding the envelops, a moistening member connected with the other slide adapted to enter beneath the flap with the device and engage the gummed surface thereof, and means for reciprocating the slides.

15. An envelop sealing machine comprising means for holding envelops in a stack with their flaps closed and turned down so that the flap of the lowermost envelop will be exposed, a pair of slides, a plurality of fingers on one of said slides adapted to engage beneath the flaps for feeding the envelops, a moistening member connected with the other slide adapted to enter beneath the flap with the fingers and engage the gummed surface thereof, and means for reciprocating the slides together until the moistening member is brought into engagement with the gummed surface and thereafter moving the finger slide only to continue the feed of the envelop and draw the gummed surface of the flap frictionally over the moistener member.

16. An envelop sealing machine comprising means for holding envelops in a stack with their flaps closed and turned down so that the flap of the lowermost envelop will be exposed, means insertible between the flap and the envelop for moistening the gum thereof, two sets of rollers for withdrawing the envelop and sealing the same, links connecting the pair of upper rollers together, arms supporting the links and

springs acting upon said links for holding the rollers in engagement, and means for feeding the envelop to the sealing rollers.

17. An envelop sealing machine comprising means for holding envelops in a stack with their flaps closed and turned down so that the flap of the lowermost envelop will be exposed, a pair of slides one in advance of the other, a moistening member carried by the first slide and adapted to enter beneath the flap of the lowermost envelop and engage the gummed surface of said flap, a plurality of fingers secured to the other slide and extending across the top of the moistener member so as to enter beneath the flaps therewith for feeding the envelops, and means for reciprocating the slides together through a portion of the feeding stroke, the finger slide being moved farther than the moistener slide so that the feeding fingers operate to draw the gummed surface of the flap frictionally over the moistening member.

18. An envelop sealing machine comprising means for holding envelops in a stack with their flaps closed and turned down so that the flap of the lowermost envelop will be exposed, a pair of slides one in advance of the other, a moistening member carried by the first slide and adapted to enter beneath the flap of the lowermost envelop and engage the gummed surface of said flap, a plurality of fingers secured to the other slide and extending across the top of the moistener member so as to enter beneath the flaps therewith for feeding the envelops, and means for reciprocating the rear slide, and a yielding connection therefrom to the front slide whereby the front slide will be caused to move with the rear slide during the first part of its movement, and means for holding the front slide stationary during the last portion of the forward movement of the rear slide.

19. An envelop sealing machine comprising means for holding envelops in a stack with their flaps closed and turned down so that the flap of the lowermost envelop will be exposed, a pair of slides one in advance of the other, a moistening member carried by the first slide and adapted to enter beneath the flap of the lowermost envelop and engage the gummed surface of said flap, a device secured to the other slide and extending across the top of the moistener member so as to enter beneath the flaps therewith for feeding the envelops, means to reciprocate the rear slide, rods connected with the front slide and extending freely through apertures in the rear slide, springs surrounding the rods and means engaging one of said slides for yieldingly connecting the front slide with the rear slide.

20. An envelop sealing machine comprising means for holding envelops in a stack

with their flaps closed and turned down so that the flap of the lowermost envelop will be exposed, a pair of slides one in advance of the other, a moistening member carried  
 5 by the first slide and adapted to enter beneath the flap of the lowermost envelop and engage the gummed surface of said flap, a device secured to the other slide and extending across the top of the moistener member  
 10 so as to enter beneath the flaps therewith for feeding the envelops, means to reciprocate the rear slide, rods connected with the front slide and extending freely through apertures in the rear slide, springs surrounding the rods on each side of the rear slide  
 15 and means for engaging one of said slides for yieldingly connecting the front slide with the rear slide.

21. An envelop sealing machine comprising means for holding envelops in a stack with their flaps closed and turned down so that the flap of the lowermost envelop will be exposed, a pair of slides one in advance  
 20 of the other, a moistening member carried by the first slide and adapted to enter beneath the flap of the lowermost envelop and engage the gummed surface of said flap, a plurality of fingers secured to the other slide and extending across the top of the moistener member so as to enter beneath the  
 25 flaps therewith for feeding the envelops, means to reciprocate the rear slide, rods connected with the front slide and extending freely through apertures in the rear slide, springs surrounding the rods for yieldingly  
 30 connecting the front slide with the rear slide, and a transverse plate in the path of the moistener member for restraining forward movement of the moistener member and for causing the gummed surface of the  
 35 envelop flap to be pressed by the moistener member.

22. An envelop sealing machine comprising means for holding envelops in a stack with their flaps closed and turned down so that the flap of the lowermost envelop will be exposed, reciprocating means insertible  
 45 between the envelop and flap for moistening the gum, means for halting the moistening means, and means slidable on the moistening means and in the plane thereof for feeding the envelop and for dragging the flap over the moistening means after the same  
 50 has been halted to completely moisten the gum.

23. An envelop sealing machine comprising means for holding envelops in a stack with their flaps closed and turned down so that the flap of the lowermost envelop will be exposed, means for moistening the gum  
 60 on the flaps, means for inserting the moistening means between the flap and envelop, means for feeding the envelop along with the moistening means from the stack, means  
 65 for halting the moistening means, said feed-

ing means continuing to feed the envelop and drag the flap across the moistening means.

24. An envelop sealing machine comprising means for holding envelops in a stack with their flaps closed and turned down so that the flap of the lowermost envelop will be exposed, means insertible between the flap and the envelop for moistening the gum, means to feed the envelop from the moistening means and drag the flap over the same,  
 70 means for halting the envelop for a definite period of time after the moisture has been applied to allow the same to soak into the gum, and means to withdraw and seal the  
 75 envelop.

25. An envelop sealing machine comprising means for holding envelops in a stack with their flaps closed and turned down so that the flap of the lowermost envelop will be exposed, a plate below and in advance of the edge position of said flap, reciprocating means engageable beneath said exposed flap for feeding the envelop successively and  
 80 singly from the stack and over said plate, a spring finger, and means timed in action relative to said feeding means to move said spring finger into engagement with the envelop being fed above said plate and thereafter push the finger between said envelop  
 85 and the next envelop of the stack while the envelop is being fed.

26. An envelop sealing machine comprising means for holding envelops in a stack with their flaps closed and turned down so that the flap of the lowermost envelop will be exposed, a plurality of reciprocating fingers engageable beneath the flap for feeding the envelops successively and singly from the stack, a moistener pad below said fingers and movable therewith for a portion of the stroke of the fingers beneath said flap and into engagement with the gummed surface thereof, and rollers operative between pairs of said fingers after the termination of the  
 100 stroke of the fingers for feeding the envelops from said fingers and drawing the gummed surface of the flap over the moistening means.

27. An envelop sealing machine comprising means for holding envelops in a stack with their flaps closed and turned down so that the flap of the lowermost envelop will be exposed, a plurality of reciprocating fingers engageable beneath the flap for feeding the envelops successively and singly from the stack, a moistener pad below said fingers and movable therewith for a portion of the stroke of the fingers beneath said flap and into engagement with the gummed surface thereof, sealing rollers, and means operative upon the envelops after the termination of the stroke of the fingers for moving the envelops to draw the gummed surface of the flaps over the moistening member and  
 115  
 120  
 125  
 130

feeding the envelopes from the fingers and to the sealing means.

28. An envelop sealing machine comprising means for holding envelopes in a stack  
5 with their flaps closed and turned down so that the flap of the lowermost envelop will be exposed, a plurality of reciprocating fingers engageable beneath the flap for feeding  
10 the envelopes successively and singly from the stack, a moistener pad below said fingers and movable therewith for a portion of the stroke of the fingers beneath said flap and into engagement with the

gummed surface thereof, rollers beneath which said fingers feed the edge of the envelop, and a segmental roller cooperating therewith and timed in action to engage the envelop and feed the same from said fingers and moistening device after the termination  
15 of the stroke of the fingers. 20

In testimony whereof I affix my signature in presence of two witnesses.

SIDNEY L. LONG.

Witnesses:

F. A. WHITELEY,  
H. A. BOWMAN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."