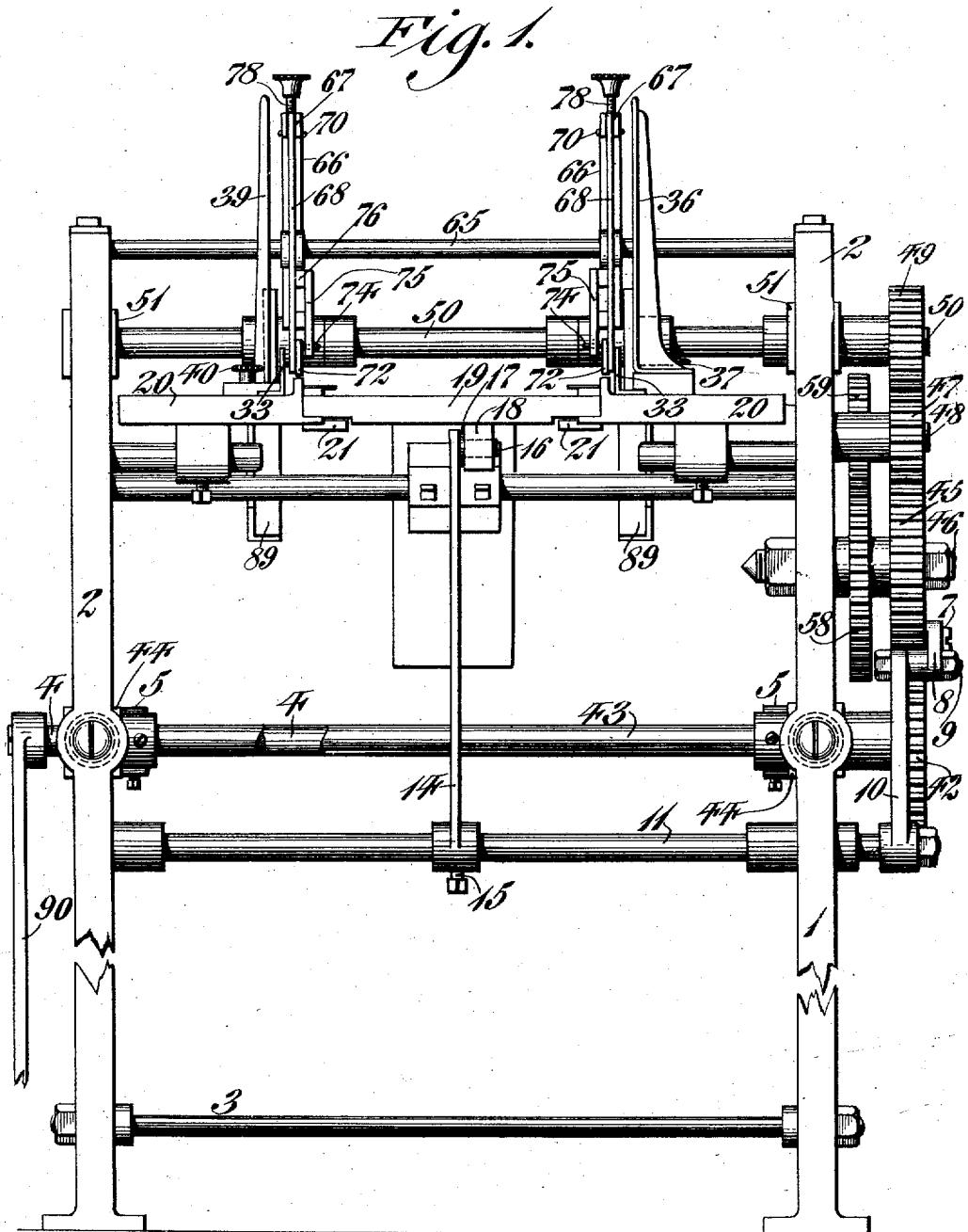


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 ENVELOP SEALING AND STAMPING MACHINE.
 APPLICATION FILED MAR. 5, 1909. RENEWED JAN. 26, 1911.

987,916.

Patented Mar. 28, 1911.

4 SHEETS—SHEET 1.



Witnesses

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4 SHEETS—SHEET 2.

Fig. 2.

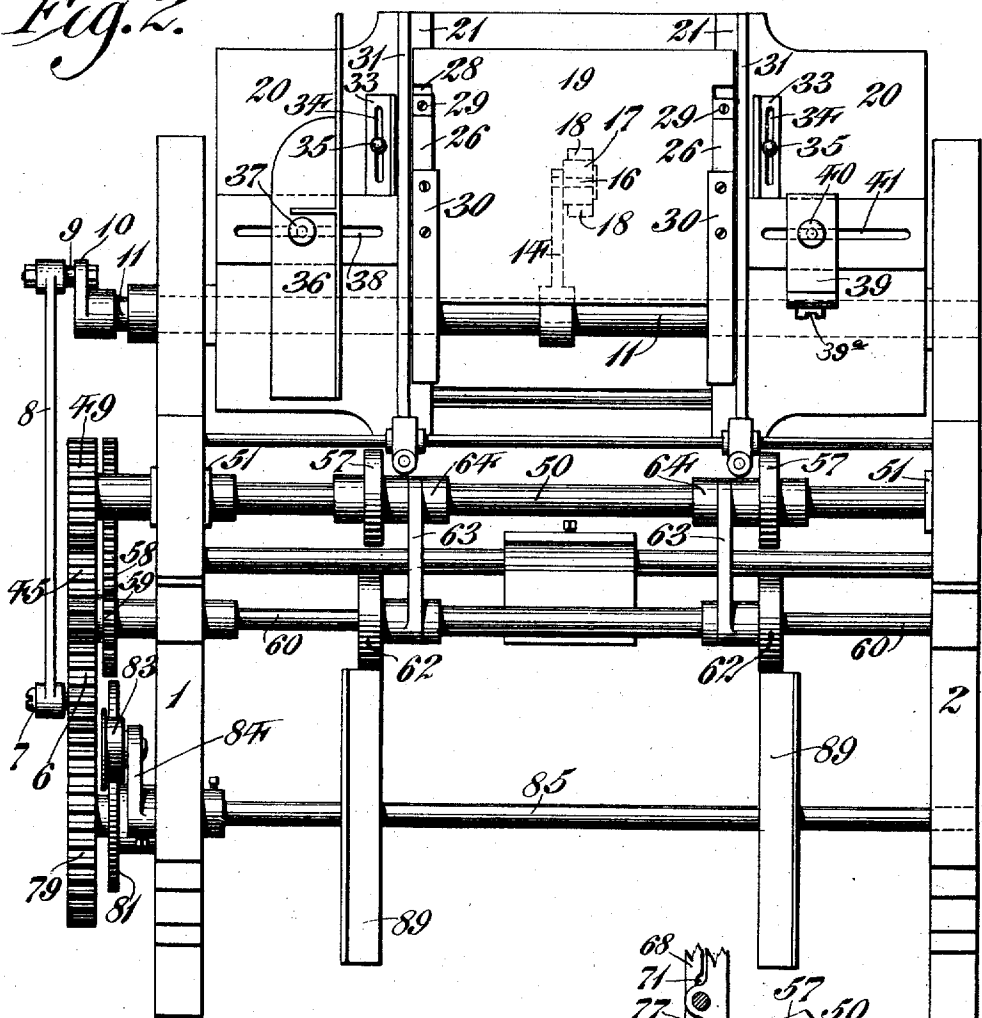
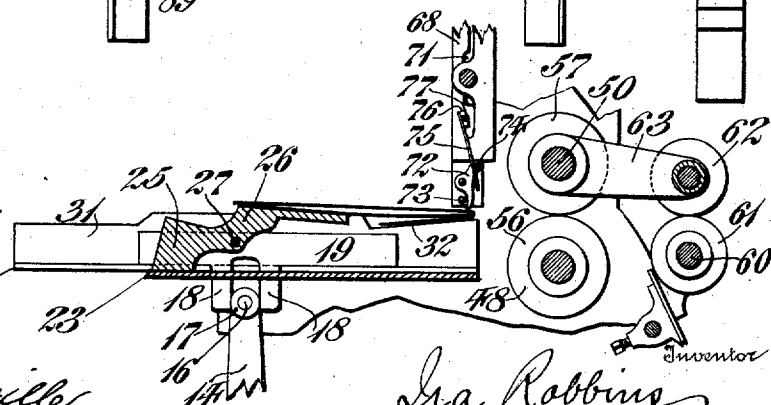


Fig. 5.



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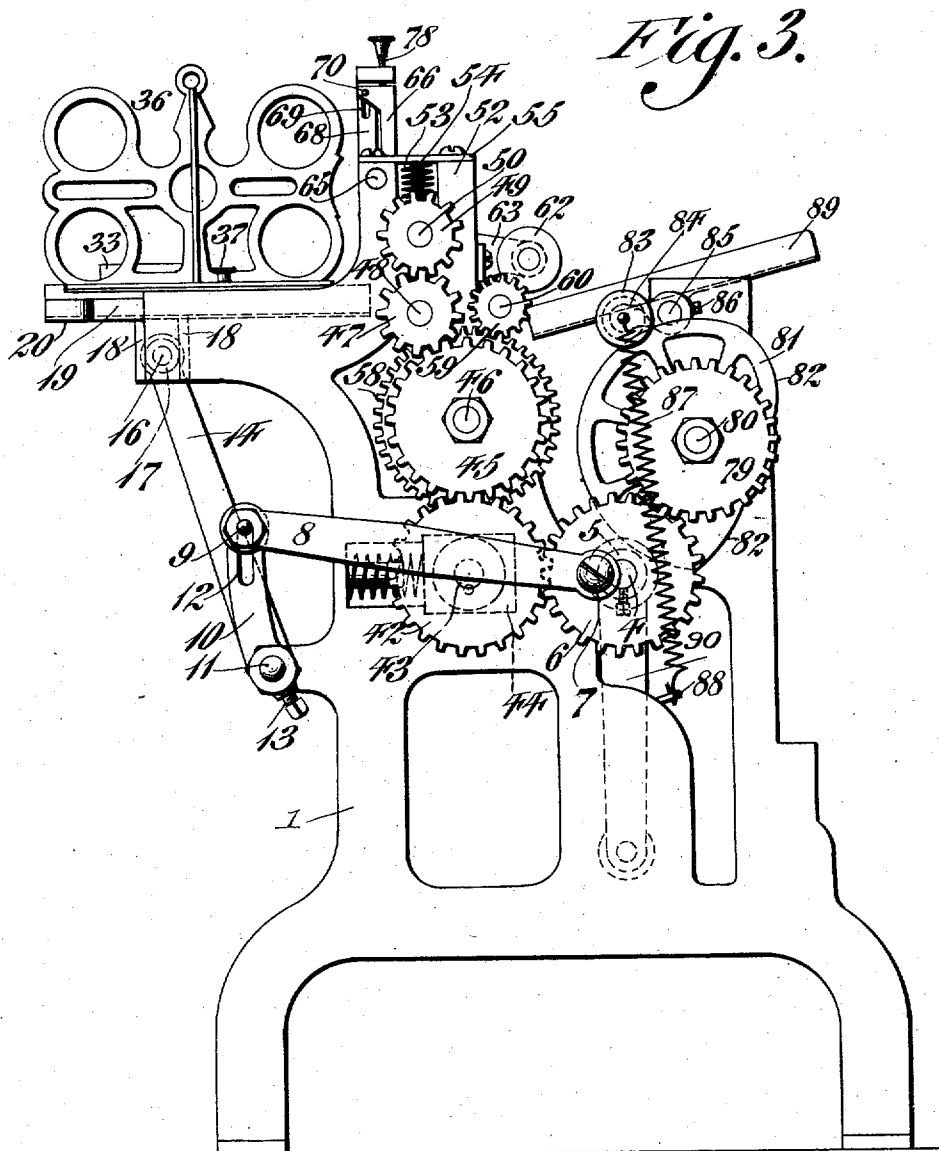
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4 SHEETS—SHEET 3.



Witnesses

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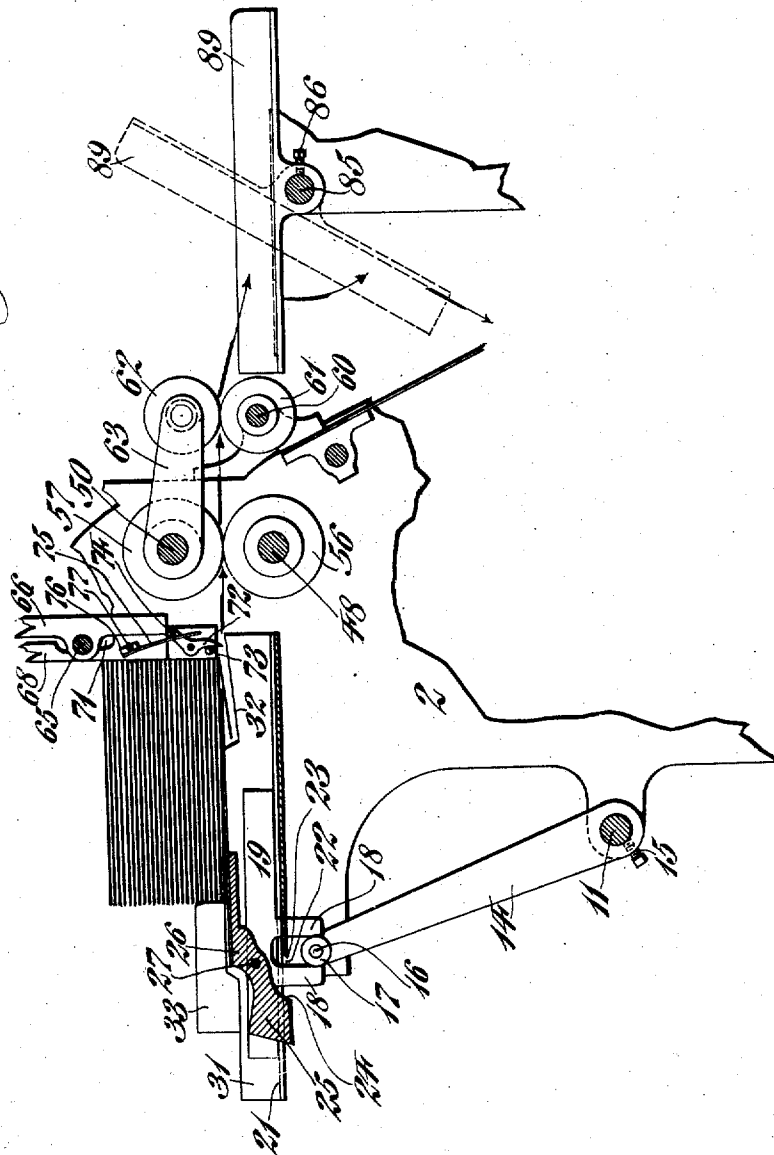
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4 SHEETS-SHEET 4.

Fig. 4.



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UNITED STATES PATENT OFFICE.

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ENVELOP SEALING AND STAMPING MACHINE.

987,916.

Specification of Letters Patent.

Patented Mar. 28, 1911.

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To all whom it may concern:

Be it known that I, IRA ROBBINS, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Envelop Sealing and Stamping Machines, of which the following is a specification.

This invention relates to an envelop-sealing and stamping machine, of the type disclosed in my Patent No. 946,071, patented January 11, 1910, of which this application is a division, relating more particularly to a new and novel construction of feeding mechanism, by means of which the envelops are passed through the machine, in which latter, they are efficiently and reliably sealed and stamped automatically.

It further consists of a novel construction of feeding fingers or members carried by the envelop supporting table or slide, which engage the flap of an envelop to move the same into engagement with the feeding rollers.

It further consists of novel means for adjusting the envelops when they are initially placed in or on the machine.

It further consists of a novel construction of feeding mechanism by means of which the envelops are fed to the sealing rolls.

In order to illustrate my invention, I have shown one form thereof which has been found in practice to give satisfactory and reliable results, although, it is obvious that the various instrumentalities of which my invention consists may be variously arranged and organized and it is not limited to the arrangement and organization as herein shown.

Figure 1 represents a front elevation of an envelop machine embodying my invention, certain of the cooperating parts being omitted. Fig. 2 represents a rear elevation of the same. Fig. 3 represents a side elevation thereof. Fig. 4 represents a sectional view of a portion of the machine showing more clearly the means for feeding an envelop to the moistening rolls. Fig. 5 represents in side elevation a portion of Fig. 4 showing the parts thereof in a different relation to each other.

Similar numerals of reference indicate corresponding parts in the figures.

Referring to the drawings, it will, of course, be understood that the frame of the machine will vary in accordance with the size and weight of the machine and in the present instance comprises two side members 1 and 2 which are suitably secured with respect to each other by means of cross rods or bars 3.

4 designates the driving shaft which is suitably journaled in the sides 1 and 2, the improper movement of said shaft being prevented by means of a set collar 5 and other members to which reference will hereinafter be made.

6 designates a gear mounted on the driving shaft 4 and having pivoted thereto at one end of a connecting rod 8 which is connected at its opposite end by means of a pin, bolt or equivalent device 9 to an arm 10 carried by a shaft 11 suitably journaled in the sides 1 and 2. The arm 10 is provided with a slot or groove 12 in order that the connecting arm 8 may be adjustably secured to the arm 10.

13 designates a set screw by means of which the arm 10 is adjustably secured to the shaft 11.

14 designates an arm adjustably mounted on the shaft 11 by means of a set screw 15, the outer end of said arm or lever 14 having pivoted thereto at 16 a roller 17 which engages the arms or fork 18 depending from the sliding feed table or envelop support 19 which latter is movably mounted on plates 20 carried by the side members 1 and 2 in any suitable manner. The plates 20 are provided at their inner edges with grooves or ways 21 with which the feed member 19 engages. As most clearly seen in Figs. 4 and 5 the ways 21 are partly cut away at their rear, as seen at 22, and are provided with an inclined or cam face 23 with which is adapted to coact the cam face 24 of the under side of the block or weighted end 25 of the lever 26 which is pivoted at 27 to the feed table 19, it being noted that two of these levers are employed and that the feed table 19 is recessed or apertured as at 28, so that said levers 26 may extend therethrough.

29 designates set screws engaging the levers 26 by means of which the same may be adjusted.

30 designates supporting members secured at one end to the levers 26 and having their

free ends deflected upwardly to a desired degree so that said ends are in a plane above the flanges 31 of the plates 20. The flanges 31 are cut away or recessed at their forward end as seen most clearly at 32 in Figs. 4 and 5.

The machine is regulated for envelops of different widths by adjusting the guide members 33 which are provided with slots 34, whereby said members may be adjustably secured to the plates 20 by means of bolts or equivalent devices 35 passing through the slots 34 and engaging said plate. The machine is regulated for envelops of different lengths by means of a guide member 36 adjustably secured to a plate 20 on one side of the machine by means of a bolt 37 passing through a laterally extending slot 38 in the plate 20 and by means of a pivoted guide member 39 adjustably carried on the other plate 20 by means of a bolt 40 which passes through a slot 41 in said latter plate, it being understood that the bolts 37 and 40 are provided with suitable nuts. The guide 39, as will be clearly understood by reference to Fig. 2, consists of two parts, a plate laterally adjustable on one of the plates 20 and an upright pivoted thereto by means of a screw 39^a so that said upright may be rocked downwardly toward one side before the envelops are placed in position, after which it may be moved upwardly into its operative position and the frictional engagement is such that the upright portion of the guide 39 will assume the adjusted position given thereto. The detail construction of the pivoted guide member 39 is thoroughly set forth in Fig. 18 in my prior Patent No. 946,071.

42 designates a gear mounted on a shaft 43 journaled in boxes 44 movably mounted in the sides 1 and 2 of the frame, as will hereinafter more fully appear in connection with the envelop sealing mechanism. The gear 42 meshes with a gear 45 mounted on a shaft 46 suitably journaled in the side chambers 1 and 2. The gear 45 meshes with a gear 47 mounted on a shaft 48, and said gear 47 meshes with a gear 49 mounted on a shaft 50 which latter is journaled in boxes 51 as most clearly seen in Fig. 3. The boxes 51 are mounted in vertical guides or ways 52, said boxes being maintained in their lowermost position by means of springs 53, encircling the pins or rods 54 and interposed between said boxes and the caps or plates 55 which are removably secured in any suitable manner to the sides of the machine frame.

In the present instance, I employ a plurality of feed rollers 56 adjustably mounted on the shaft 48 with which coact feed rollers 57 adjustably mounted on the shaft 50, it being now apparent that owing to the provision of the springs 53, the feed rollers 57 yieldingly engage the feed rollers 56,

58 designates a gear mounted on the shaft 46 and engaging a gear 59 mounted on a shaft 60 suitably journaled in or carried by the side members 1 and 2 of the machine frame.

61 designates feed rollers adjustably mounted on the shaft 60, as seen in Figs. 3 and 4 and engaging feed rollers 62 which are pivoted at the outer ends of the arms or brackets 63 whose opposite ends are loosely mounted on the shaft 50 and owing to the provision of set collars 64 adjustably mounted on the shaft 50, any improper lateral movement of said brackets or the feed rollers 62 is positively prevented and owing to the manner in which they are mounted their weight will cause them to engage with the coacting feed rollers 61, as is apparent.

65 designates a rod or shaft carried by the side members of the frame and having adjustably secured thereon brackets or guide members 66 which are provided with slots; as seen at 67 in Fig. 1, in which are movably mounted plates or bars 68 having slots 69 through which pass pins 70, which latter engage the members 66. The weight of the members 68 causes them to normally assume their lowermost position and since they are cut away or recessed, as seen at 71 in Fig. 4 provision is made for their vertical movement in the same vertical plane as said rod 65.

72 designates pawls pivoted to the members 68, the rearward movement of which is limited by stops 73, as clearly seen in Figs. 4 and 5. The pawls 72 have at their upper end pins or lugs 74 with which engage the free ends of springs 75 carried by blocks 76 which latter are adjustably secured to the plates 68 by means of set screws or equivalent devices 77. The pawls 72 are in alinement with the flanges 31 so that a space is left between the lower ends of said pawls and the upper face of said flanges. The height of the pawls above the flanges 31 is regulated by adjusting the set screws 78 carried by the plates or bars 68 and abutting against a suitable fixed portion of the machine and in the present instance they are shown as abutting against the top of the brackets 66.

As seen most clearly in Fig. 3, 79 designates a gear meshing with the driving gear 6 and mounted on a shaft 80 suitably journaled in the side members 1 and 2.

81 designates a cam member mounted on the shaft 80 and having two similar cam faces 82 thereon which coact with a roller 83 pivoted to an arm or bracket 84 which is adjustably mounted on a shaft 85 suitably journaled in the side members 1 and 2 by means of a set screw 86. The roller 83 is maintained in engagement with the cam 81 by means of a spring 87, one end of which is secured to the bracket 84 and the other

end thereof to a pin, lug or suitably fixed point 88 on the side member 2 of the frame.

89 designates guide members preferably grooved and adjustably mounted in any suitable manner on the rock shaft 85, it being noted that these guide members are so located with respect to the feed rollers 61 and 62 that they receive an envelop after it leaves said feed rollers.

The operation of the machine will now be readily apparent to those skilled in this art. I will first describe the manner in which the envelops are fed into the machine.

The envelops which are to be sealed and stamped are placed in position upon the sliding table 19 between the guide members 36 and 39; said guide 39 may be bent rearwardly toward the side of the machine, so that the envelops may be more readily placed in proper position for being fed into the machine, it being noted that the guides 36 and 39 serve for the lateral adjustment of the envelops and the guide members 33 serve for the longitudinal adjustment of the envelops.

In the present instance, I have shown the driving shaft 4 as being provided with a handle 90, whereby the same may be manually actuated, although it is to be understood that in the broad scope of my invention, it is immaterial in what manner the driving shaft is driven and the same may be actuated either manually as shown or by means of any suitable or conventional type of motor or driving mechanism, as will be readily apparent.

On the rotation of the driving shaft 4, the gear 6 carried thereby, owing to the provision of the crank arm 8 and the manner in which it is secured to said gear, will cause the shaft 11 to be rocked forwardly, it being noted that the connecting arm 8 is adjustably secured in the slot 12 of the link 10 which latter is secured to the shaft 11. Since the shaft 11 has secured thereto the arms 14 which carry at their outer end the roller 5 engaging the arms of fork 18 depending from the envelop feed table or member 19, the latter will be carried forwardly as the shaft 11 is rocked. The envelops normally rest on the flanges 31 of the table 19 and the feeding fingers or members 30, and owing to the manner in which the flanges 31 are cut away, as seen at 32 in Figs. 4 and 5, the flap of the lowermost envelop will assume the position as indicated in said Fig. 4, it being understood that the envelops when placed in position are placed one above the other with the flap portion of the envelop underneath and with the flap of the envelops nearest to the feeding rollers. As the table 19 moves forwardly, the lever arms 26 pivoted thereto owing to the cam face 24 on the weighted end 25 of said lever and inclined cam face 23

on the ways 21, the ends of the levers 26 to which the feeding members 30 are secured will cause the ends of said members to move downwardly, so that the envelop will pass between the lower ends of the pawl 72 and the top face of the flanges 31, it being noted that owing to the manner in which these pawls are pivoted and the tension device therefor, that if an envelop is being fed which has a greater thickness than an ordinary envelop, these spring actuated pawls will turn on their pivot and permit the envelop to pass between the lower ends of the same and the top of said flanges 31, whereby the lower envelop which is now being fed forwardly by the engagement of the members 30 with the flap thereof, will pass in an accurate manner to and in proper alignment with the feed rollers 56 and 57. As most clearly indicated in Fig. 3, the driving gear 6 actuates the gear 42, which in turn actuates the gear 45 which meshes with the gear 47 mounted on the shaft in which the lower feed roller is secured, said gear 47 meshing with the gear 49 mounted on the upper shaft 50 to which the upper feed roller 57 is secured, so that the advancing envelop passes between the feed rollers 61 and 62, as will be apparent from the drawings. The feed roller 61 is mounted on a shaft 60 on which latter is also mounted a gear 59 which meshes with a gear 58 carried by the shaft 46. The envelop after passing from the rollers 61 and 62 falls on the guide members 89 mounted on the rock shaft 85. The driving gear 6 meshes with the gear 79 mounted on the shaft 80 on which is also mounted the cam member 81 with which coacts the roller 83 carried by the bracket 84 and secured to the shaft 85 on which the guide members 89 are mounted, so that as the shaft 80 rotates in unison with the rotation of the driving shaft 4, the guide members 89 will be rocked and the envelop supported thereon will slide from said guiding members toward the moistening device for the flap of the envelop.

It will now be apparent that the several operations, hereinbefore described, will be automatically carried out and the envelops fed and directed from one mechanism to the next in order so that a number of envelops are being operated at the same time. It will also be apparent that by varying the gearing of the machine and employing gears having a greater or lesser number of teeth, that the time at which the respective operations are carried out may be varied accordingly.

I wish to call special attention to the manner in which different parts of the machine may be adjusted, as it will be seen that the machine may readily be adapted for envelops of different thickness, owing to the provision of the adjusting screws 78 and it will

also be seen that a variation in the width or length of the envelopes may be taken care of by adjusting the respective guide members 33 and 36. The amount of travel which is given to the table 19 may also be adjusted as desired, by adjusting the lever 8, in the slot 12 of the link 10.

It will now be apparent from the foregoing, that I have produced a new and novel construction of an envelop feeding mechanism which embodies the features of advantage enumerated as desirable in the statement of invention and the above description and while I have in the present instance shown and described the preferred embodiment thereof which has been found in practice to give satisfactory and reliable results, it will be obvious that various changes may be made therein without departing from the spirit and scope of my invention or sacrificing any of its advantages.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. In an envelop sealing machine, a driving shaft, a rock shaft actuated thereby, envelop feeding means intermittently reciprocated by said rock shaft including envelop engaging members adapted to be vertically oscillated, feed rollers driven by said driving shaft, and guides for the longitudinal and lateral adjustment of the envelopes, one of said guides being pivotally supported, in combination with a tension device for alining the envelopes during their forward movement, said tension device engaging the top of the envelop which is being fed to the feed rollers.

2. In an envelop sealing machine, a driving shaft, a rock shaft operatively connected therewith, an arm secured to said rock shaft, an envelop feeding mechanism operatively connected with said arm, said feeding mechanism including envelop engaging members adapted to be vertically oscillated, feed rollers actuated by said driving shaft, spring actuated pawls for directing the envelopes to said feed rollers and means for vertically adjusting said pawls.

3. In an envelop sealing machine, a driving shaft, a rock shaft actuated thereby, a support having flanges thereon, a plate movably mounted between said flanges and longitudinally reciprocated by said rock shaft, said flanges having a recess near their forward end, feeding members pivoted to said plate, means for causing the forward ends of said members to be depressed on the forward movement of said plate, and spring actuated pawls between which and said support the envelopes are fed by said feeding members.

4. In an envelop sealing machine, a driving shaft, a rock shaft actuated thereby, a support, a plate movably mounted therein

and operatively connected with said rock shaft, feeding members, pivoted to said plate, means for maintaining the free end of said members normally in raised position and causing said ends to be depressed as the plate moves forwardly, spring actuated pawls beneath which the envelopes are fed, and a plurality of feed rollers actuated by said driving shaft and with which the envelopes engage after passing said pawls.

5. In an envelop sealing machine, a table, a plurality of feed rollers adjacent thereto, means carried by said table to support a plurality of envelopes and including feeding members, means for maintaining the contact portion of said members normally in raised position and causing said members to be depressed as said means moves forwardly, and means to reciprocate said supporting means to deliver an envelop to said feed rollers, in combination with a tension device for automatically alining the envelopes during their passage to the feed rollers, said tension device engaging the top of the envelop which is being fed to the feed rollers.

6. In an envelop sealing machine, a table, a plurality of feed rollers adjacent thereto, means carried by said table to support a plurality of envelopes and means to vertically oscillate said supporting means to deliver an envelop to said feed rollers, in combination with a tension device for automatically alining the envelopes during their passage to the feed rollers, said tension device engaging the top of the envelop which is being fed to the feed rollers.

7. In an envelop sealing machine, a table, a plurality of feed rollers adjacent thereto, means carried by said table to support a plurality of envelopes and means to simultaneously vertically oscillate and to reciprocate said supporting means to deliver an envelop to said feed rollers, in combination with a tension device for automatically alining the envelopes during their passage to the feed rollers, said tension device engaging the top of the envelop which is being fed to the feed rollers.

8. In an envelop sealing machine, a table, a plurality of feed rollers adjacent thereto, levers carried by said table adapted to support a plurality of envelopes, said levers being adapted to be vertically rocked on their fulcrums during their forward movement, and means to reciprocate said levers to deliver an envelop to said feed rollers, in combination with a tension device for automatically alining the envelopes during their passage to the feed rollers, said tension device engaging the top of the envelop which is being fed to the feed rollers.

9. In an envelop sealing machine, a table, a plurality of feed rollers adjacent thereto, levers carried by said table adapted to sup-

port a plurality of envelops and means to vertically oscillate said levers to deliver an envelop to said feed rollers, in combination with a tension device for automatically alining the envelops during their passage to the feed rollers, said tension device engaging the top of the envelop which is being fed to the feed rollers.

10. In an envelop sealing machine, a table, a plurality of feed rollers adjacent thereto, levers carried by said table adapted to support a plurality of envelops and means to simultaneously reciprocate and to vertically oscillate said levers to deliver an envelop to said feed rollers, in combination with a tension device for automatically alining the envelops during their passage to the feed rollers, said tension device engaging the top of the envelop which is being fed to the feed rollers.

11. In an envelop sealing machine, a table, a plurality of feed rollers adjacent thereto, levers carried by said table adapted to support a plurality of envelops adapted to vertically rock on their fulcrum during their

forward movement and means between said feed rollers and said levers to permit an envelop to be delivered to said feed rollers, in combination with a tension device for automatically alining the envelops during their passage to the feed rollers, said tension device engaging the top of the envelop which is being fed to the feed rollers.

12. In an envelop sealing machine, a table, a plurality of feed rollers adjacent thereto, levers carried by said table adapted to support a plurality of envelops, said levers being adapted to be vertically rocked on their fulcrums during their forward movement, adjustable means adjacent said levers to permit envelops of varying lengths to be positioned on said levers, and a tension device engaging the forward end of an envelop and the top of the envelop which is being fed to the feed rollers.

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