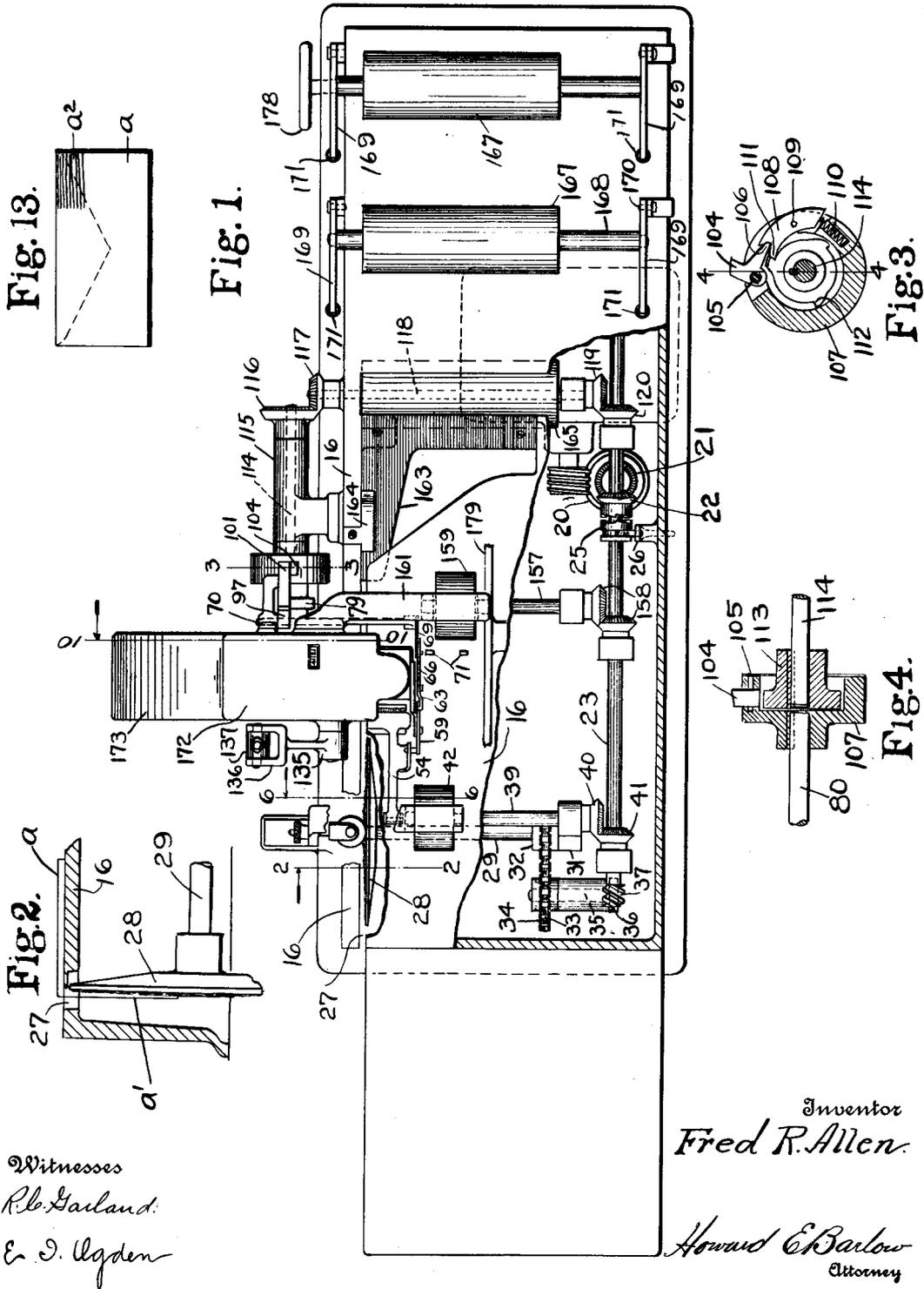


F. R. ALLEN.  
 STAMP APPLYING AND ENVELOP SEALING MACHINE.  
 APPLICATION FILED MAR. 13, 1911.

1,170,949.

Patented Feb. 8, 1916.  
 4 SHEETS—SHEET 1.



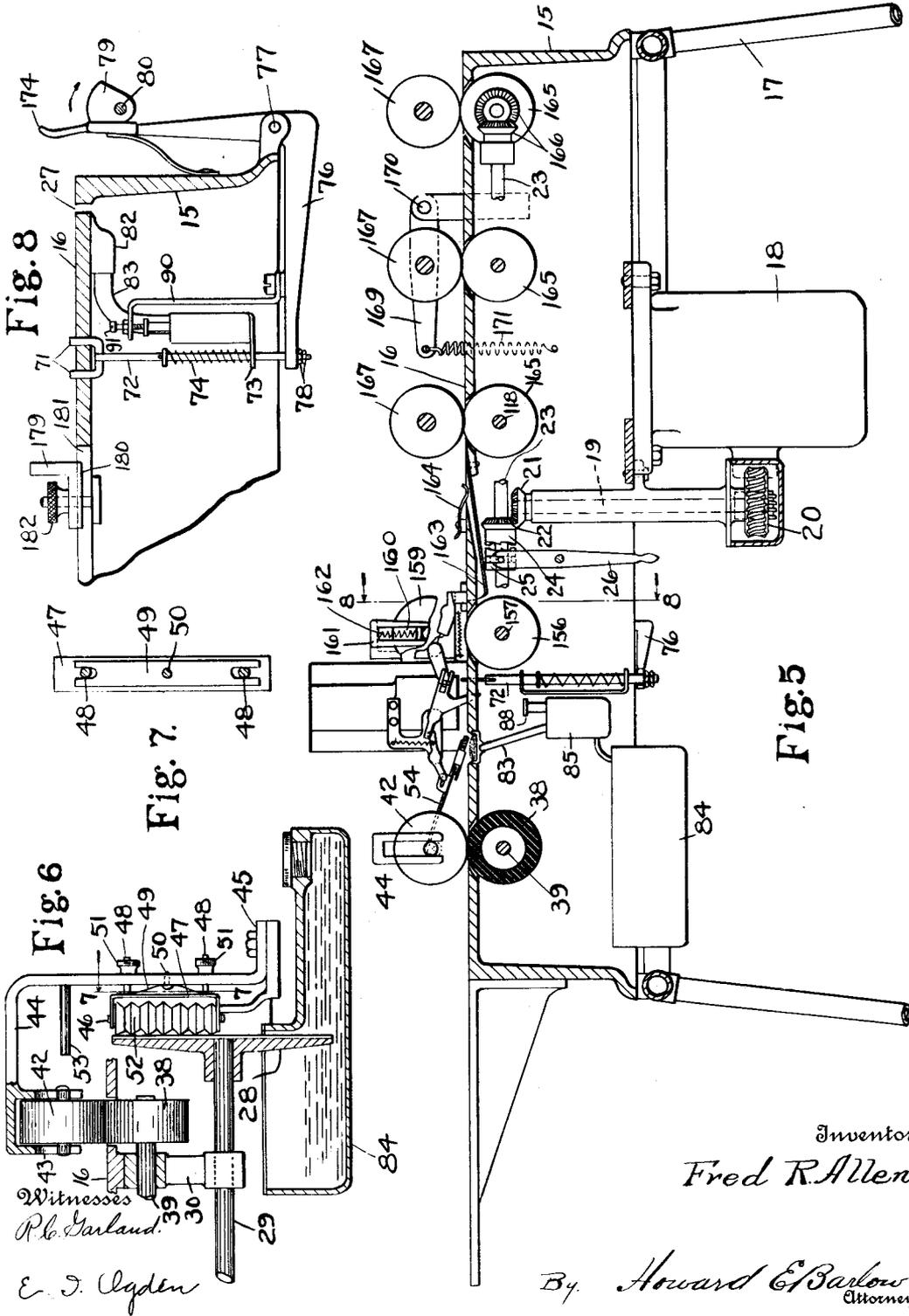
Witnesses  
*R. L. Garland*  
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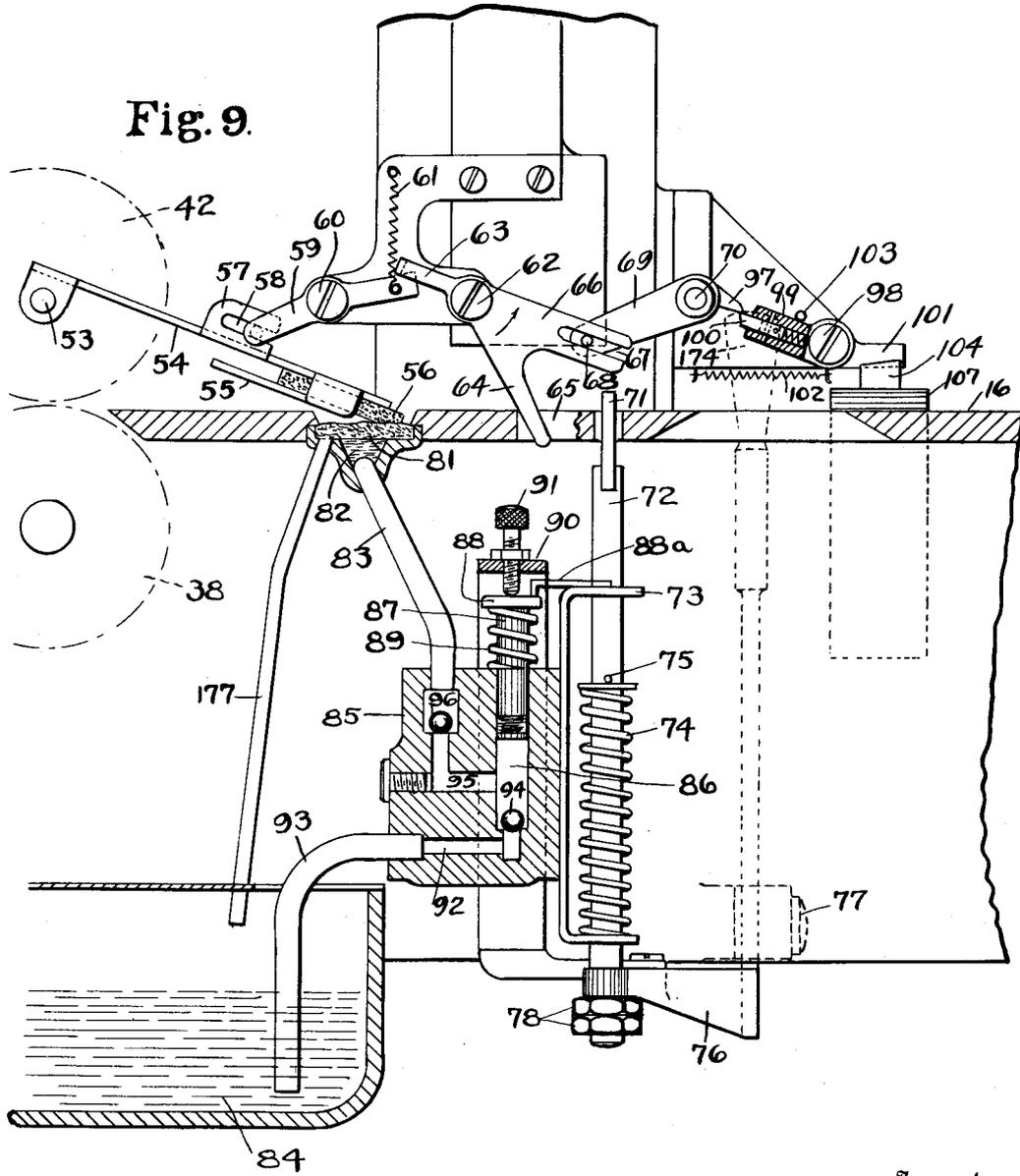
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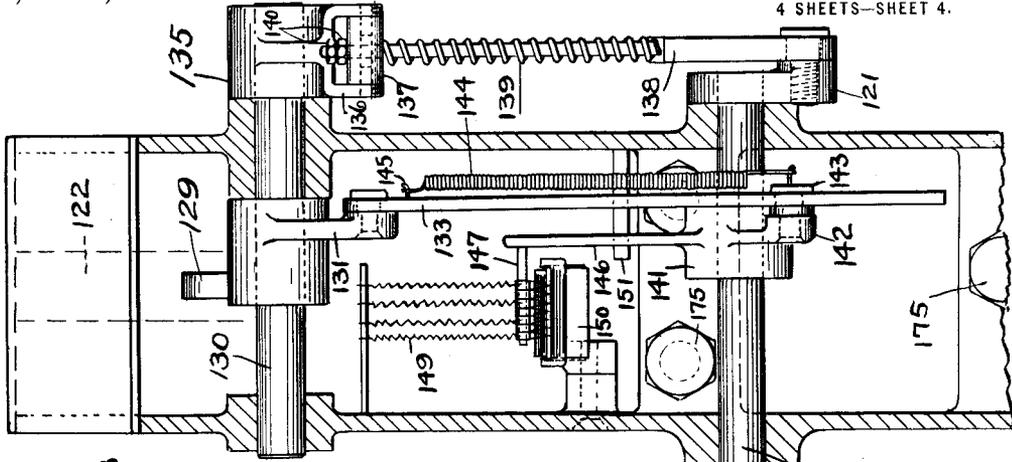


Fig. 11

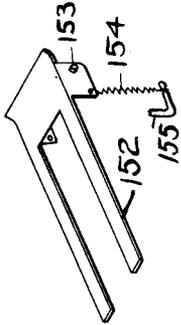


Fig. 12

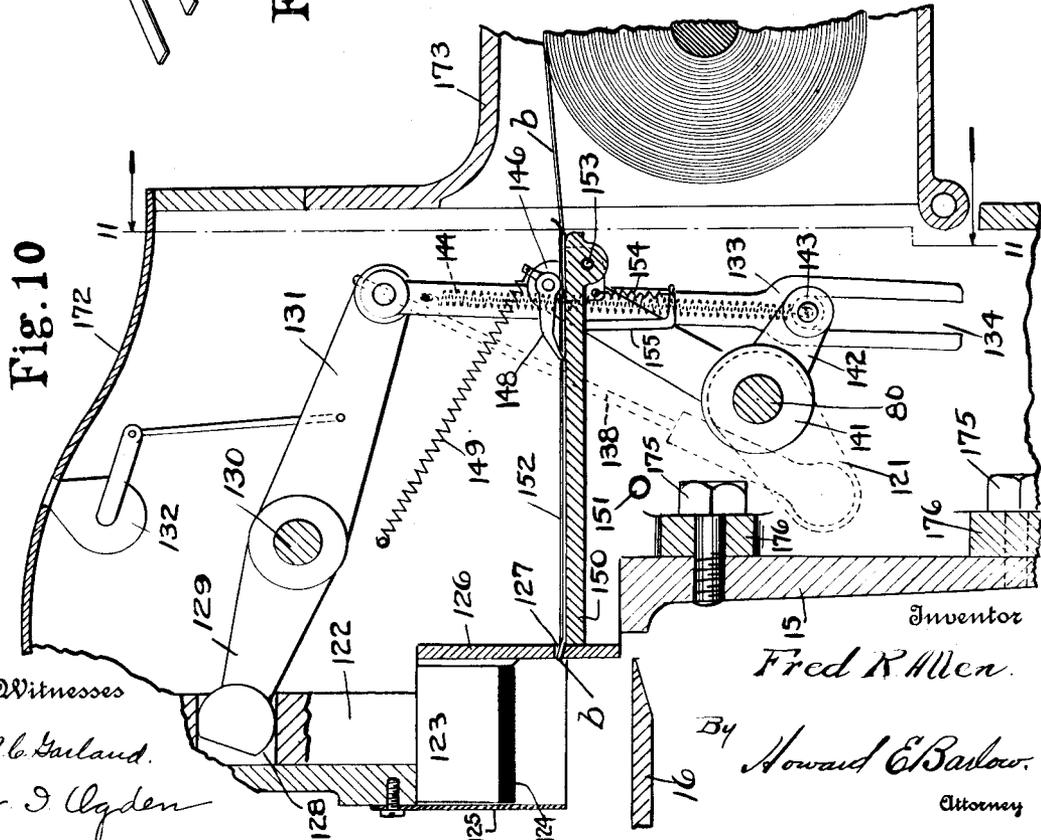
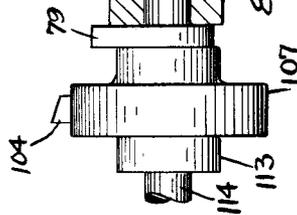


Fig. 10

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# UNITED STATES PATENT OFFICE.

FRED R. ALLEN, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR, BY MESNE ASSIGNMENTS, TO NATIONAL ENVELOPE SEALING AND STAMPING MANUFACTURING COMPANY, OF BOSTON, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS, (ORGANIZED IN 1912.)

STAMP-APPLYING AND ENVELOPE-SEALING MACHINE.

1,170,949.

Specification of Letters Patent.

Patented Feb. 8, 1916.

Application filed March 13, 1911. Serial No. 614,096.

To all whom it may concern:

Be it known that I, FRED R. ALLEN, a citizen of the United States, and resident of Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Stamp-Applying and Envelop-Sealing Machines, of which the following is a specification.

This invention relates to power operated mechanism for sealing envelopes and applying postage stamps thereto, and refers particularly to machines of this character which perform all of the operations automatically after the envelop is started through the machine, and in which the mechanism for moistening the area to receive the stamp, and the feeding and cutting off and applying stamps to the moistened area will be idle until an envelop reaches the position to be moistened and receive a stamp.

With the object of providing an extremely simple, thoroughly practical and rapidly operating and reliable machine of this character the invention consists of certain novel features of construction as will be more fully described and particularly pointed out in the appended claims.

Of the accompanying drawings: Figure 1— is a plan view of a machine embodying my present improvements, a portion of the main table of the machine being broken out to show details of structure beneath. Fig. 2— represents a section on line 2—2 of Fig. 1. Fig. 3— represents a section of the clutch mechanism, on line 3—3 of Fig. 1. Fig. 4— represents a section on line 4—4 of Fig. 3. Fig. 5— represents a substantially longitudinal section through the machine. Fig. 6— represents a section on line 6—6 of Fig. 1. Fig. 7— represents a section on line 7—7 of Fig. 6. Fig. 8— represents a detail section on line 8—8 of Fig. 5. Fig. 9— is a side elevation, partly in section, of the mechanism near the center of Fig. 5, but on a larger scale. Fig. 10 represents a section on line 10—10 of Fig. 1. Fig. 11— represents a section on line 11—11 of Fig. 10. Fig. 12— is a perspective view of the guide for the strip of stamps passing over the feed platform. Fig. 13— is a plan view of an envelop to indicate the area that is moistened to receive one or two stamps.

Similar reference characters indicate the same or similar parts in all of the views.

The frame of the machine includes a suitable base 15 and table 16, which may be supported upon any bench or other structure. The drawings however indicate a supporting framework at 17. A casing 18 for an electric motor is suitably supported by the frame on framework, and drives a vertical shaft 19 through a reducing worm gear 20, (see Figs. 1 and 5). A bevel pinion 21 at the upper end of shaft 19 meshes with and drives a bevel pinion 22 which is loosely mounted on a horizontal shaft 23 mounted in suitable bearings under the table 16. The hub of the pinion 22 is provided with clutch teeth 24 which cooperate with teeth of a clutch member 25 splined on shaft 23, so that the shaft 23 will be driven by the motor when the clutch member 24 is shifted to connect with the clutch member 22—24 by means of a suitable operating member 26, and thrown out of engagement to disconnect and stop the mechanism when desired without being obliged to stop the motor.

Referring to Figs. 1 and 2, it will be seen that the table 16 is formed with a slot 27 to permit the flap *a'* of an envelop *a* to pass along said slot when the body of the envelop is being fed along on the surface of the table 16. A disk 28 having any suitable surface material to hold sufficient water to moisten the flap *a'* of an envelop, is carried by a shaft 29 mounted in bearings in brackets 30, 31 (see Fig. 6 in connection with Fig. 1). The disk is revolved with its lower portion in a reservoir 84 hereinafter described by means of a sprocket 32 on a shaft 29 which sprocket is connected by a chain 33 with a sprocket 34 carried by a short shaft 35, the latter having a worm wheel 36 engaged with and driven by a worm 37 on shaft 23.

The envelop is caused to travel along with its body on the surface of the table and its flap in the position shown in Fig. 2, by means of a pair of wheels or rollers the lower one of which, 38, is preferably rubber surfaced, said wheel 38 being carried by a shaft 39 mounted in the bearings 30, 31, said shaft 39 having a pinion 40 meshing with a pinion 41 on shaft 23. Cooperating with the said wheel 38 is a gravity pressure roll 42, the trunnions of said roll being

mounted in slots 43 in a bracket 44, the foot 45 of which is secured to a portion of the frame. It will be understood that when the machine is in operation, the said wheel 38 is constantly driven. It is necessary that the friction upon the envelop shall not be so great as to crumple it up when the envelop is detained by the stop device 71 hereinafter described. The gravity roll 42 is made of just the requisite weight to hold an envelop on the feed wheel 38 with sufficient pressure to effect the frictional feed of the envelop, but yet permit the said wheel to slip without crumpling or buckling the envelop when the latter is stopped. And this effect of the gravity roll 42 remains the same whether the article or package to be sealed and stamped is thick or thin. If springs were employed to effect the pressure of roll 42 upon wheel 38, then the passage of a thick piece of mail matter would result in greater pressure thereon than when a thin piece is passing through.

To hold the gummed surface of the flap  $a'$  of the envelop against the moistening surface of the disk 28, I employ a series of independently rotatable disks having sharp edges for a purpose presently explained. As best shown in Fig. 6, a vertical spindle 46 is supported in a U-shaped bracket 47 so that said spindle will be parallel with a radial portion of the moistening disk. The bracket 47 has guide pins 48 projecting through holes in the bracket 44, said pins serving to support the bracket 47 in the position illustrated but so that it can shift somewhat toward and away from the disk 28. A spring 49 secured, as by a screw 50, to the bracket 44, bears at its end against the bracket 47 to yieldingly press the latter toward the face of disk 28, the limit of such movement being adjustably determined by means of nuts 51 having a screw threaded connection with the ends of the pins 48 which project through bracket 44. Loosely mounted on the spindle 46 are sharp edged disks 52, each of said disks excepting the upper one being shown in Fig. 6 as having the form of two truncated cones secured together at their bases, the upper one is also sharp-edged, having the form of a single truncated cone. The especial object and advantage of this structure is that since the several disks 52 are free to possess independent rotation, there will be no friction between them and the face of the moistening disk when there is no envelop flap passing, due to the different rate of speed of the different portions of the disk 28 with which the disks 52 contact. Of course when an envelop flap is passing, all portions of its area are moving at the same speed and then all of the disks 52 will rotate at the same speed. The formation of the disks 52 with sharp edges not only results in less friction

during rolling contact with the moistening disk, but the said disks 52 present only thin lines for such contact and they will therefore take less moisture from the disk 28, and consequently will transfer little or no moisture to the outer side of the envelop flap. As indicated by comparing Figs. 1 and 2, a portion of the base or frame 15 is located opposite a sufficient portion of the area of the disk 28 to protect said disk from accidental contact with anything that might injure or affect the same, such portion of the frame therefore constituting a guard for the disk 28.

I will now describe the means for applying moisture to the portion of the envelop to which the stamp is to be later affixed by the plunger, this moisture applying device being so constructed that it will be lifted from contact with the envelop while the latter is passing under it, and at an instant so as to apply moisture to but little more of the area of the envelop than is to be later covered by the stamp. The bracket 44 (see Fig. 6) has a lateral pin 53. On said pin is pivotally mounted an arm 54 (see Figs. 5 and 9) connected to the lower end of which is a plate 55, the said plate 55 and the lower end of arm 54, holding between them a piece of wicking or other absorbent material 56, which may be referred to as a brush. This brush is kept moistened by means hereinafter described. The arm 54 is light enough so that it will be lifted by the advancing edge of an envelop, the brush then bearing by gravity upon said envelop until the advancing edge reaches the arm 64 hereinafter described, at which point the brush is automatically raised from the envelop so that said brush will have applied to the envelop a moistened area substantially such as indicated at  $a^2$  in Fig. 13. To effect this automatic lifting of the brush the arm 54 is provided with an ear 57 having a slot 58 which receives a pin projecting from a lever 59, the latter being pivotally connected at 60 to a suitable supporting bracket therefor. Preferably a light spring 61 connects the other end of the lever 59 with a suitable fixed point, so as to aid in holding the parts normally in the positions shown in Fig. 9, and to return them quickly to their normal positions after they have been displaced therefrom in the manner presently described. A three-arm lever is pivotally supported at 62, one of the arms 63 of this lever having a bent end which overlies the lever 59. Another arm 64 of the three-arm lever normally extends into a slot 65 formed in the table 16 of the machine, so as to close the path of the advancing envelop, but in such an inclined direction that the advancing envelop can easily oscillate the three-arm lever in the direction of the arrow in Fig. 9. It will

now be readily understood that as soon as the envelop which is being carried forward by the rolls 38, 42, has actuated the three-arm lever sufficiently to pass under the arm 64, the brush 56 will by this time have been lifted completely clear of the envelop and consequently will not moisten an area of the envelop much greater than that required to receive one or two stamps. The third arm 66 of the three-arm lever has a slot 67 which receives a pin 68 projecting from the arm 69 of a rock shaft 70. From this it will be understood that when the envelop has actuated the three arm lever as described, and reached the stop or stops 71, which will be more fully described presently, the said rock shaft 70 will be actuated by the upward swing imparted to its arm 69.

The envelop stop 71 which is preferably forked at its upper end as indicated in Figs. 1 and 8, is carried at the upper end of a rod 72, (see also Fig. 9.) Said rod 72 is mounted to slide vertically in bearings provided by a bracket 73, a spring 74 interposed between the lower arm of said bracket and a pin 75 serving normally to hold the stop rod elevated. To depress this rod so as to lower the stop 71 to permit an envelop to pass on through the machine, I provide a lever 76 pivoted at 77, the horizontal arm of said lever having an opening at its end through which the rod 72 passes. By means of said nuts 78 on the lower end of rod 72 the vertical height of the stop rod may be accurately adjusted and fixed. The lever 76 is actuated by a cam 79 secured to a shaft 80 the actuation of which will be hereinafter described. The spring 74 may alone be sufficient to cause the lever 76 to always follow the movements of cam 79, but if desired another spring of a leaf type, such as indicated in Fig. 8, may be employed to bear against the upper portion of the vertical arm of the lever so as to hold it against said cam. Since this cam, and the lever 76, causes a pumping action to keep up a supply of water for the brush 56, I will not describe the structure for performing the last-mentioned function. Set in a recess slightly below the plane of the upper surface of table 16, is a pad 81 of suitable absorbent material, below which is a well 82 which is supplied with water through a pipe 83, said water being drawn from the reservoir 84 in which the disk 28 revolves. The supply of water however might of course be obtained elsewhere. A block 85 is bored to form a cylinder 86 in which is mounted a piston 87 having a head 88 between which latter and the top of the block is a spring 89 to normally raise the piston. An arm 90 secured to the lever 76 has its upper end projecting over the piston, and carries a screw 91 which bears upon the head of the piston. This screw may be very accurately adjusted so as

to obtain just the amount of reciprocation of the piston to feed just the necessary amount of water to the well 82. A suitable stop 88<sup>a</sup> may be provided to limit the height to which the piston may be elevated by its spring 89 as indicated in Fig. 9. An inlet port 92 in the block 85 has a pipe connection 93 with the reservoir 84, a check valve being shown at 94. An outlet port 95 having a check valve 96, is connected by the pipe 88 with the well 82. It will now be understood that each actuation of the lever 76 by the cam 79 will not only shift the stop 71 from and to operative position, but will also pump a small quantity of water into the well 82. By manually actuating the lever 76, as by means of the handle 174 in Fig. 8, a supply of water may be delivered into the well 82 preliminary to the starting of the machine. Of course the well 82 may have an overflow if desirable.

I will now describe how the actuation of the arm 69 of the rock shaft 70 will, through the medium of a clutch, cause a shaft to be given one rotation and actuate the plunger and knife and the stamp feeding mechanism. As indicated in Fig. 1, the shaft 70 extends rearward from its end having the arm 69, and has projecting from its rear end a short arm 97 which will be referred to as the trip (see Fig. 9). Pivotaly supported at 98 is an arm 99 having a longitudinal bore in which is mounted a spring projected pin 100 having a beveled or latch-shaped outer end which is normally projected by its spring into the path of movement of the trip 97. When the arm 69 of the rock shaft is elevated, the trip 97 swings the arm 99 downwardly and then slips over the end of the pin 100, but on the return movement the tip of the trip 97 engages the beveled end of the spring pin 100 and pushes the spring pin inwardly and enables the said trip 97 to re-assume its normal position shown in Fig. 9. Another arm 101, with the arm 99, practically constitutes a lever pivoted at 98. This lever is normally held in the position shown in Fig. 9 by a spring 102, against a fixed stop 103.

I will now describe the clutch mechanism which is controlled by the arm 101: Referring to Figs. 3 and 4 in connection with Figs. 1 and 9, it will be seen that a dog 104 is pivotaly connected at 105 to one of the clutch members 107, and has a toe 106 entering a notch in a pawl 108 pivotaly connected at 109 to the clutch member 107 and having its heel pressed outwardly by a spring 110. The tip 111 of the pawl 108 is adapted to co-act with either one of a plurality of teeth 112 of the other clutch member, the hub 113 of which is secured to a shaft 114 that is in alignment with the shaft 80 on which the clutch member 107 is secured. As will presently be described, the

shaft 114 is constantly running when the machine is in operation. From this it will be readily understood that whenever the rock shaft 70 is actuated by an envelop 5 swinging the three-arm lever, so that the trip 97 will oscillate the small lever comprising the arms 99 and 101, the latter arm, 101, relieves the dog 104. Normally the dog 104 will not be quite in the position shown in 10 Fig. 3, but will be more nearly radial, and the tip 111 of the pawl 108 will be out of or beyond the path of rotation of the constantly revolving teeth 112. When the arm 101 however is raised so that there is no 15 longer opposition to the passage of dog 104, the spring 110 instantly throws the tip 111 of the pawl inwardly so that it will be engaged by a tooth 112, and rotate the clutch member 107 which carries the pawl 108. 20 Before the dog 104 can make a complete rotation, the spring 102 (Fig. 9) causes the return of the arm 101 so that said arm acts as a stop for the projecting portion of the dog so as to oscillate the dog on its pivot 25 105 and cause its toe 106 to throw the pawl out of engagement with the inner toothed clutch member, this said arm 101 also effecting the stoppage of rotation of the outer clutch member 107 and consequently of the 30 shaft 80. The operations effected by this single rotation of the shaft 80 will be described presently. The shaft 114 is mounted in a bearing 115 and has a bevel gear 116 meshing with a bevel pinion 117 at one end 35 of a shaft 118, the other end of the latter shaft having a bevel pinion 119 meshing with a bevel pinion 120 on the main shaft 23 of the machine.

When an envelop is placed upon the table 40 16 or on the bracket extension thereof indicated in Figs. 1 and 5, and inserted between the rollers 38, 42, with its flap over the rear edge of the table so as to be carried in contact with the moistening disk, the said 45 rollers 38, 42 will advance the envelop until it reaches the stop or stops 71, a limited portion of the surface of the envelop having moisture applied thereto by the brush 56 during such passage of the envelop. When 50 the envelop reaches the stop however, it has acted on the arm 64 so as to raise the brush 56, and consequently no more of the envelop will be moistened because the tip of the arm 64 will be supported by the body of the 55 envelop. After the envelop has had the stamp applied thereto and has been fed on and out of the machine, the arm 64 drops as soon as the rear edge of the envelop has passed it, and the brush 56 drops into contact with the pad 81. During the time that 60 the front edge of the envelop is in contact with the stop 71, the rollers 38, 42 continue to revolve but will not buckle up the envelop, although capable of continuing the 65 advance of the envelop after removal of the

stop 71, so as to carry the envelop to the nip of the next pair of rolls 156 and 159, herein-after described.

During the time that the envelop is arrested by the stop 71, a stamp is cut off from 70 a strip and pressed onto the moistened area of the envelop by the mechanism which I will now describe: As has been explained, the passage of the envelop under the arm 64, on its way to the stop, releases the clutch 75 mechanism shown in Figs. 3 and 4 so as to impart one rotation to the shaft 80. Referring now particularly to Figs. 10 and 11, it will be seen that the end of the shaft 80 opposite the clutch member 107, has a crank 80 121 which actuates, through the connections presently described, the plunger 122. Said plunger has a foot 123 provided with a pad 124 which reciprocates vertically within the box or guard 125, the rear member 126 of 85 which has a slot 127 through which the strip of stamps *b* is fed. The lower edge of the slot 127 coöperates with a knife carried by the plunger foot 123 to sever the stamp strip in the manner described in my application 90 Serial Number 592,386 filed November 12, 1910, the final downward movement of the plunger pressing the severed stamp upon the moistened area of the envelop that is temporarily arrested in proper position on the 95 table 16. Entering a slot 128 in the plunger is an arm 129 of a rock shaft 130, another arm 131 of which actuates a suitable counter 132 through the medium of a suitable connecting rod. The end of arm 131 has a 100 link 133 pivotally connected to it, the lower portion of said link being slotted as at 134, the purpose of which, and the parts co-operating therewith will be presently described. As best shown in Fig. 11, the rock 105 shaft 130 has secured to one end thereof an arm 135 formed or provided with a yoke 136 in which is pivotally mounted a cross piece 137 having a transverse aperture to receive and guide the upper end of a pitman 110 138. A spring 139 is coiled about the pitman between a shoulder or collar thereon and the guide 137. Set nuts 140 are adjustably secured upon the upper end of the pitman which passes through the guide 137. 115 The lower end of the pitman is pivotally connected to the crank 121 hereinbefore mentioned as secured to shaft 80. It will now be understood that each rotation of the shaft 80 causes the crank 121 to rock the shaft 120 130 through the pitman 138. The crank 121 has a throw of such radius as would impart to the rock shaft 130 an amount of movement greater than that necessary to carry the plunger pad from its normal 125 elevated position down to bear upon the envelop. This excess motion is taken up by the spring 139, the pitman 138 sliding through the guide 137 after the plunger has descended to its lowest position. Therefore 130

the plunger is caused to descend with a yielding pressure upon the envelop during a portion of the rotation of the crank 121.

I will now describe the means for feeding the strip of stamps *b*. The hub 141 of an elbow lever is loosely mounted on the shaft 80, and has an arm 142 provided with a pin 143 (preferably a roller pin) engaging the slot 134 of link 133. A spring 144 connects the pin 143 with a suitable relatively fixed point which may be a pin 145 projecting from the upper end of link 133, this construction being such that as the link 133 rises, the spring pulls the pin 143 so as to cause it to follow the upper end of the slot 134 and so yieldingly oscillate the elbow lever the other arm 146 of which has a pin 147 on which are mounted fingers 148 which are acted upon by springs 149 so that the points of said fingers will engage the transverse row of apertures in a strip of stamps in a manner such as described in connection with the feeding fingers of my prior application hereinbefore referred to. The strip of stamps is led over a feed platform 150. The extent of oscillatory movement of the elbow lever is limited by a stop 151. As the arm 131 of rock shaft 130 rises, the spring 139 causes the elbow lever to oscillate as far as permitted by the stop 151, and the said elbow lever will be stopped after having fed the stamp strip the proper distance, just before the plunger knife reaches the slot 127. During further movement of the arm 131 and link 133, as the plunger proceeds to press the severed stamp upon the envelop, the spring 144 yields, and the slotted portion 134 of the link rides up along the pin 143. When the rock shaft 130 moves in the opposite direction and the arm 131 and the link 133 move downwardly, the elbow lever remains in position in contact with stop 151 until the upper end of the slot 134 engages the pin 143 so as to then positively return the elbow lever and said fingers to normal position shown in Fig. 10.

To properly guide the strip of stamps along the platform 150, I preferably provide a plate having arms 152 (Figs. 10 and 12) which bear upon the edges of the strip, the plate being slotted of course to permit the operation of the feed fingers 148. The plate is provided with ears having pivotal connection at 153 with the said platform, a spring 154 connected with a pin 155 being employed to hold the arms 152 of the guiding plate yieldingly upon the strip of stamps. It will now be understood that the first portion of the oscillation of the rock shaft 130 to move the plunger end of its arms 131 downward, see Fig. 10, will cause the stamp strip *b* to be carried forward and projected beneath the plunger, and the last portion of the downward movement of the plunger will cut off the stamp,

carry it downward and affix it to the envelop, the pin 143 of the elbow lever remaining stationary, while the arm 146 is in contact with stop 151. during the motion of the plunger as it severs and depresses the stamp. As the plunger rises from the stamp, the cam 79 (Fig. 8) has rotated sufficiently to oscillate the elbow lever so as to remove the stop 71 below the plane of the path of travel of the envelop so as to release the latter and permit the continuous rotating of said wheel 38 to advance the envelop far enough so that its edge which was in contact with the stop 71 will be nipped between a pair of rolls of which the lower one is shown at 156 in Fig. 5. Said roll is carried by a shaft 157 which has a miter gear connection 158 (Fig. 1) with the main shaft 23 so that the forwarding roll 156 is of course being constantly rotated. The upper roll 159 which causes the envelop to be advanced or forwarded by the roll 156, has its trunnions mounted to slide vertically in slots 160 formed in downwardly projecting arms from a bracket 161, springs such as indicated at 162 being preferably employed to increase the pressure of the upper roll upon the lower one. Since there is never any occasion for permitting a slip at this point, as it is between the rolls 38—42, such springs 162 as mentioned may be used of any strength desired. As the envelop advances under the action of rolls 156 and 159, it leaves a somewhat triangular shaped opening formed in the table 16 as indicated in Fig. 1, so that the flap of the envelop, which has been traveling along the slot 27 in a vertical plane, may be brought up against the underside of the body of the envelop ready to have its gunmed and moistened edge pressed to position by the rolls hereinafter described. In order to direct the flap of the envelop upwardly, a flap turner 163 is employed, said flap turner being inclined as indicated by comparing Figs. 1 and 5. The action of this flap turner is such as to sometimes deflect a portion of the envelop upwardly above the surface of the table 16, especially when the envelops are thin, and in that case the advancing edge of the envelop is liable to be not properly taken by the first pair of delivering and pressing rolls presently described. To hold the envelop against being so deflected, I employ a guide 164 which is preferably of spring metal, said guide being attached to a portion of the table and projecting over the inward end of the slot 27 and partially over the triangular opening mentioned in the table. It acts as a "hold down" to prevent upward deflection of the envelop as its flap is being turned inwardly and upwardly against the body of the envelop. The slot 27 communicates, as shown in Fig. 1, with the tri-

angular opening upwardly through which the flap is deflected by the turner 163. After the envelop leaves the moistening disk 28, and until the flap reaches the turner 163, one side of the slot or passageway 27 presented by the thickness of the table 16, serves as a guide for the flap and aids in keeping the envelop moving in a straight line and also holds the portion of the flap which has been moistened out of contact with any surface which would tend to wipe off the moistened gum. In other words, the said portion of the table 16 which forms one side of the slot guides the flap and keeps it free from having any of its moistened gum wiped off.

As shown in Figs. 1 and 5 I preferably employ three pairs of delivering and pressing rolls, the lower rolls being indicated at 163, the shafts of said rolls having miter gear connections with the main shaft 23. Since the lower roll 165 of the first pair is mounted on and carried by the shaft 118 before described, said roll is driven by the pinions or miter gears 119, 120. The other two lower rolls 165 are operated by similar miter gear connections one of them being indicated at 166 in Fig. 5. Each of the upper rolls 167 has its trunnions mounted in arms 169 pivotally connected at 170 to suitable supports or brackets, each arm 169 having its other end held downwardly by a spring 171. Therefore each of the pressing or sealing rolls 167 is yieldingly drawn toward its companion delivering roll 165, and all are rotated in unison to rapidly deliver each envelop, and firmly seal the flap thereof by the pressure as the envelop passes between the several pairs of rolls to be finally discharged from the end of the table into any suitable receptacle ready for mailing. The arms 169 constitute levers and they are of such length that long and light springs 171 may be employed, thereby enabling the rolls 167 to be subject to the sensitive and delicate operation of springs of considerable length and lightness. The top plate of the casing which contains the plunger and its operating mechanism is indicated at 172, and the casing for the roll or strip of stamps is indicated at 173, the same being hinged to the casing at 173<sup>a</sup> and when swung up into operating position is retained by a latch, not shown. The entire casing including that portion which carries the stamp feeding and affixing mechanism shown in Fig. 10, may be bodily removed from the rest of the machine by simply disconnecting the casing from the base 15, as by first opening the roll casing 173 and then removing the screws 175 which pass through ears 176 of the casing of this portion of the machine into a portion of the base 15. At the same time the bearing 115 and its shaft 114 and the

clutch members will also be removed, by simply removing the bolts (not shown) through the foot 116<sup>a</sup> of this bearing 115. This possesses the particular advantage of enabling me to detach the stamp feeding and affixing mechanism bodily from the rest of the machine, if any of the mechanism in the said removable portions of the casing should need repairs.

In the operation of the machine the stamp feeding and affixing mechanisms are those which are most likely to get out of order. If anything happens which necessitates the return of these parts of the mechanism to the factory, the entire machine does not have to be boxed up and shipped there, but the detachable parts referred to may alone be sent, leaving the rest of the machine in condition for use purely for sealing, if it should be desired to so use it. By employing a pipe 177 (Fig. 9) connecting the well 82 with the reservoir 84, I provide for a continuous overflow if desired from said well, so that the operation of the pump can be utilized to keep up a circulation of water and keep the well supplied with comparatively clean moistening liquid. In order that the machine may be operated by hand if desired, when the lever 26 has been operated to disconnect the clutch members 24, 25, a suitable hand wheel such as indicated at 178 in Fig. 1 may be connected to the shaft of the lower roll 165 of one of the pairs of delivering and sealing rolls. If post cards, or previously folded up envelopes are to be run through the machine, an edge guide is desirable. Such a guide is indicated at 179 (Figs. 1 and 8) the foot piece of said guide having a rib 180 engaging the walls of a slot 181 formed in the table 16. Said guide may be secured in its adjusted position relatively to the far side of the table where the stamp affixer is located, by means of a suitable screw clamp 182.

Since the operation of each part of the machine has been explained in connection with the description of the construction thereof, a general description of the operation of the machine as a whole will not be necessary. It may be stated however that the machine as a whole is exceedingly simple and reliable and operates with great speed and accuracy and efficiency, and with the expenditure of very light power to run it.

I claim:

1. A machine of the character described comprising a table, means for affixing a stamp to an envelop on said table, a stop for determining the position of the envelop during the application of a stamp, a continuous rotatable friction feed member for moving an envelop to position against said stop and then carrying the same onward after the

stop has been withdrawn, and means for holding an envelop in contact with said friction feed member.

2. A machine of the character described comprising a table, means for affixing a stamp to an envelop on said table, a stop for determining the position of the envelop during the application of a stamp, a continuous rotatable friction feed member for moving an envelop to position against said stop and then carrying the same onward after the stop has been withdrawn, and a gravity roll for holding an envelop in contact with said friction feed member.

3. A machine of the character described comprising a table, an arm pivotally supported at one end over said table, a moistening member carried by the free end of said arm and adapted to bear upon the envelop, means for feeding the envelops, a lever independent of said arm and provided with a trip arm to be moved by each envelop in its travel, and means operated by said lever for periodically raising said arm.

4. A machine of the character described comprising a table, a set of rolls for feeding an envelop along said table, a gravity moistener underneath which the envelop passes, a set of levers actuated by the passage of the envelop for lifting the moistener from the envelop at a predetermined point, and means for affixing a stamp to said moistened portion.

5. A machine of the character described comprising a table, rolls for feeding an envelop along said table, a pivoted arm having a brush adapted to bear upon an envelop passing beneath it, a set of levers for lifting said brush above the envelop at a predetermined point of the passage of the envelop, and means for affixing a stamp to said moistened portion.

6. A machine of the character described comprising a table, means for feeding envelops over said table, a pad below the surface of the table, means for keeping said pad moist, an arm pivotally supported at one end over said table, a moistening member carried by the free end of said arm and normally resting upon said pad, a lever independent of said arm and provided with a trip arm to be moved by each envelop in its travel, and means operated by said lever for periodically raising said arm.

7. A machine of the character described comprising a table, means for feeding envelops along said table, a pad below the surface of said table, means for keeping said pad moist, a gravity brush normally resting in contact with said pad, means supported independently of the brush for positively lifting the latter when each envelop reaches a predetermined point, and stamp affixing mechanism.

8. A machine of the character described comprising a table, means for feeding envelops along said table, a well below the surface of said table, a pad covering said well, means for automatically supplying said well with water, a gravity brush normally resting in contact with said pad, means supported independently of the brush for positively lifting the latter when each envelop reaches a predetermined point, and stamp affixing mechanism.

9. A machine of the character described comprising a table, means for feeding envelops along said table, a well below the surface of said table, a pad covering said well, means for automatically supplying said well with water, an arm pivotally supported at one end over said table, a moistening brush carried by the free end of said arm and normally resting in contact with said pad, a lever independent of said arm and provided with a trip arm to be moved by each envelop in its travel, and means operated by said lever for raising said arm and brush.

10. A machine of the character described comprising a table, means for feeding envelops over said table, a pivoted arm having a plate substantially parallel with the free end thereof, absorbent material held between said plate and the free end of said arm, a moistening pad below the table with which said absorbent material is normally in contact, and stamp affixing mechanism.

11. In a machine of the character described, envelop feeding means, envelop moistening means, including a pad, an envelop stop, a pump for supplying water to said pad, means for operating said stop and said pump in conjunction, and stamp affixing mechanism.

12. In a machine of the character described, envelop moistening means, means for feeding envelops thereto to be moistened, a pump for supplying water to said moistening means, means for continuously operating said pump, means for affixing stamps to the moistened portions of said envelops, and means whereby said pump may be manually operated.

13. In a machine of the character described, envelop moistening means, means for feeding envelops thereto to be moistened, a pump for supplying water to said moistening means, an operating arm for said pump, an adjusting screw carried by said arm to adjust the stroke of said pump, and means for affixing stamps to the moistened portions of said envelops.

14. A machine of the character described including in its construction a moistening means, means for feeding envelops thereto to be moistened, a pump and connections for supplying said moistening means with water,

a lever for operating said pump, a cam for actuating said lever, and means for affixing a stamp to the moistened portions of said envelops.

5 15. A machine of the character described comprising a table, means for feeding an envelop along said table, stamp affixing mechanism, means for controlling the operation of the stamp affixing mechanism, a rock shaft having means for actuating said controlling means, and a pivoted lever having a trip arm to be moved by the envelop, said trip arm having an operating arm, and connections between said operating arm and  
10 said controlling means.

16. A machine of the character described comprising a table, means for feeding an envelop along said table, stamp affixing mechanism, means including a clutch for controlling the operation of the stamp affixing mechanism, a three-arm lever having one arm normally in the path of movement of an envelop, connections with another arm for controlling the clutch, and a moistener  
20 and connections actuated by the third arm of said three-arm lever for removing said moistener from the envelop.

17. A machine of the character described including in its construction a table having means for moistening and closing the flaps of envelops, of stamp supplying and feeding mechanism and means whereby said stamp supplying and feeding mechanism may be bodily removable from the machine  
30 without affecting the utility of the machine as an envelop sealer.

18. A machine of the character described comprising a table, means for feeding an envelop along said table, stamp affixing mechanism, means including a clutch for controlling the operation of the stamp affixing mechanism, a rock shaft, a trip finger on said shaft, a pivoted arm for holding said clutch in inoperative position, and a lever  
40 having an arm in the path of movement of the envelop and having connections for actuating said rock shaft to cause said finger to actuate said arm and release said clutch.

19. A machine of the character described comprising a table, means for feeding an envelop along said table, stamp affixing mechanism, means including a clutch for controlling the operation of the stamp affixing mechanism, a rock shaft, a trip finger on  
50 said shaft, a pivoted arm engaging said

clutch with one end, yieldable means at the opposite end of said arm to permit the upward motion of said trip finger, and means whereby the passage of the envelop actuates said rock shaft to make said finger actuate  
60 said arm and release said clutch.

20. A machine of the character described comprising a table, means for feeding an envelop along said table, stamp affixing mechanism, means including a clutch for controlling the operation of the stamp affixing mechanism, a rock shaft, a trip finger on said shaft, a pivoted arm having one end yieldingly held to engage said clutch, a spring actuated member in the opposite end  
70 of said arm to permit the return of said finger to normal, and a lever having an arm in the path of movement of the envelop and having connections for actuating said rock shaft to cause said finger to actuate said arm  
75 and release said clutch.

21. In a machine of the character described, a plunger, means for supplying stamps to be cut off and affixed by said plunger, and means for actuating said plunger, said means including a rock shaft having an arm connected with said plunger and having a second arm, a crank, a pitman connected with said crank and having a sliding connection with the said second arm of  
85 the rock shaft, and a spring for transmitting the movement of said pitman in one direction to said second arm.

22. In a machine of the character described, a plunger, means for supplying  
90 stamps to be cut off and affixed by said plunger, and means for actuating said plunger, said means including a shaft having a crank, a rock shaft having one arm connected with the plunger and another arm connected  
95 with said crank, a lever loosely mounted on said shaft, strip feeding fingers carried by said lever, and a link connected with an arm of said rock shaft and having a slot, the lever having the strip feeding fingers having an arm provided with a pin engaging the slot of said link, and a spring for causing said lever to follow the movements of  
100 said link in one direction.

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

FRED R. ALLEN.

Witnesses:

HOWARD E. BARLOW,

E. I. OGDEN.