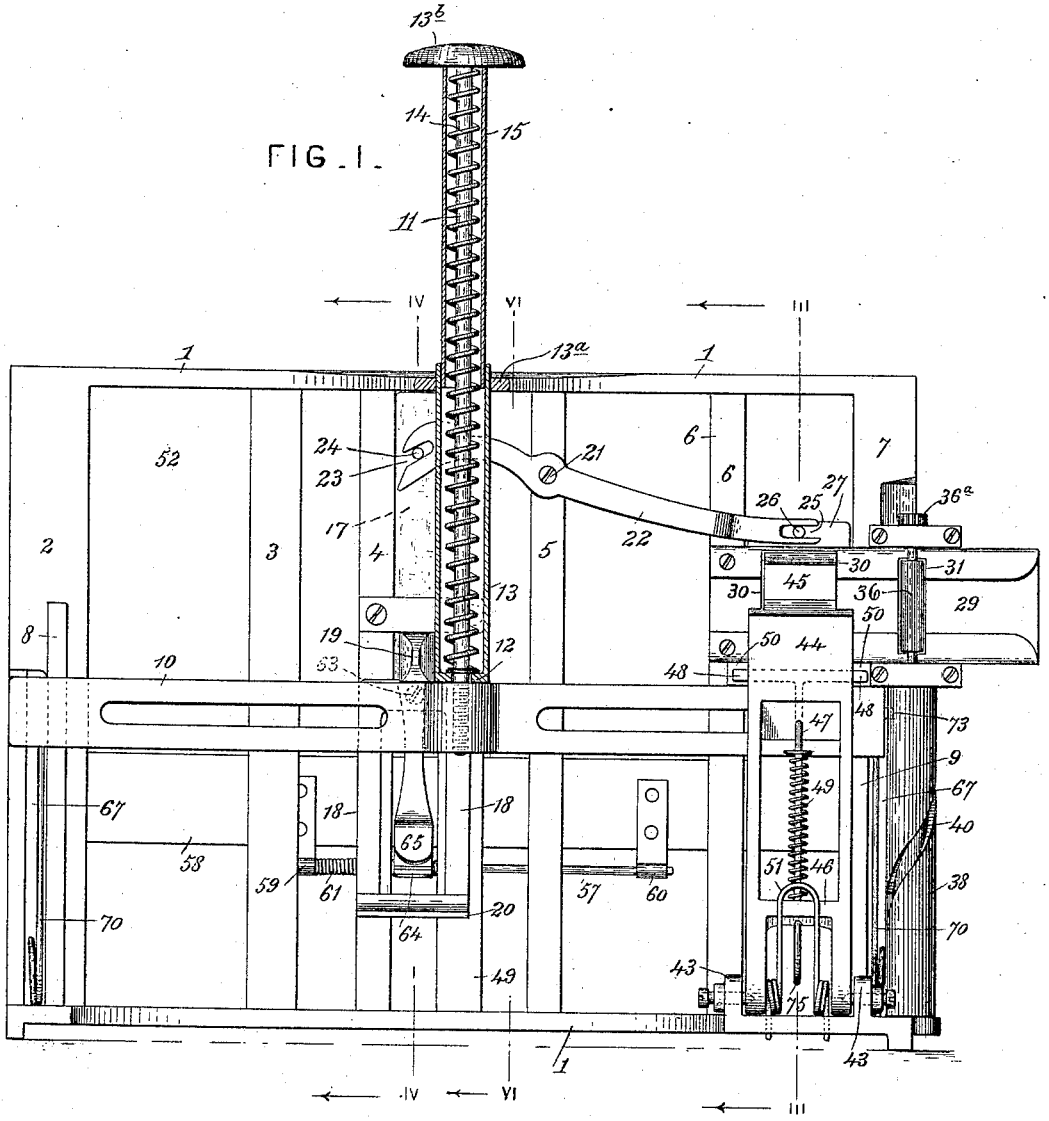
(Model.) 4 Sheets—Sheet 1.

W. SINGLETON.

DEVICE FOR SEALING AND STAMPING LETTERS OR OTHER MAILABLE MATTER.

No. 418,078. Patented Dec. 24, 1889

FIG. 1.



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(Model.) 4 Sheets—Sheet 2.

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FIG. IV.

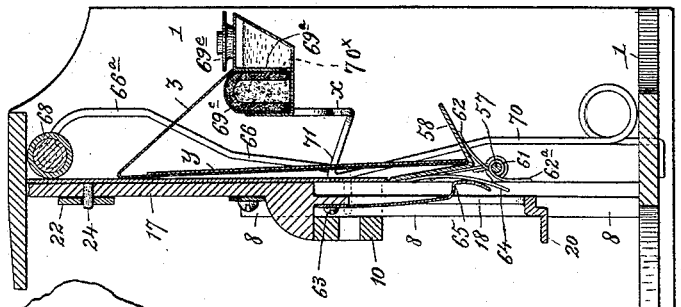


FIG. VI.

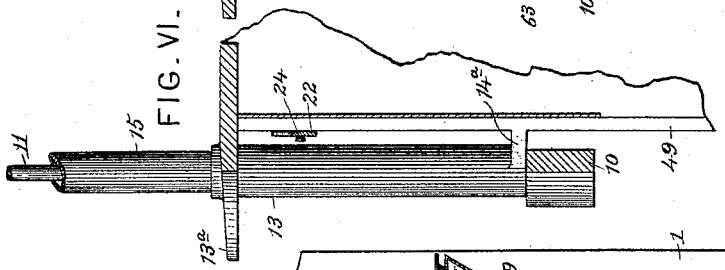
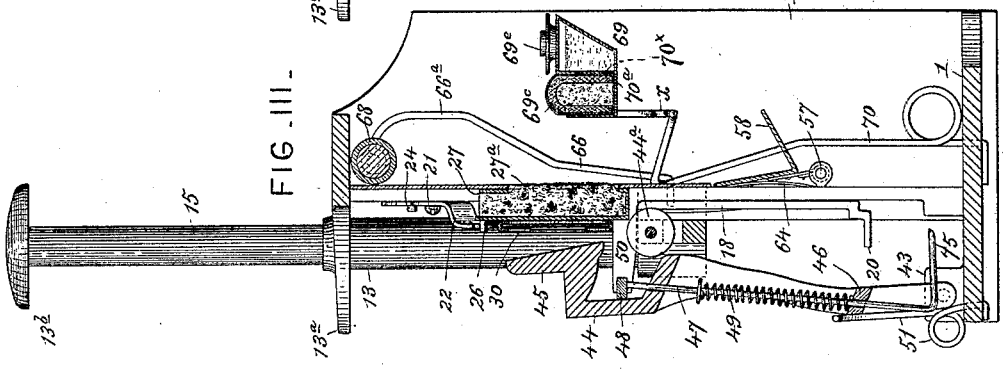


FIG. III.



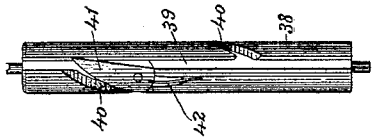


FIG. II.

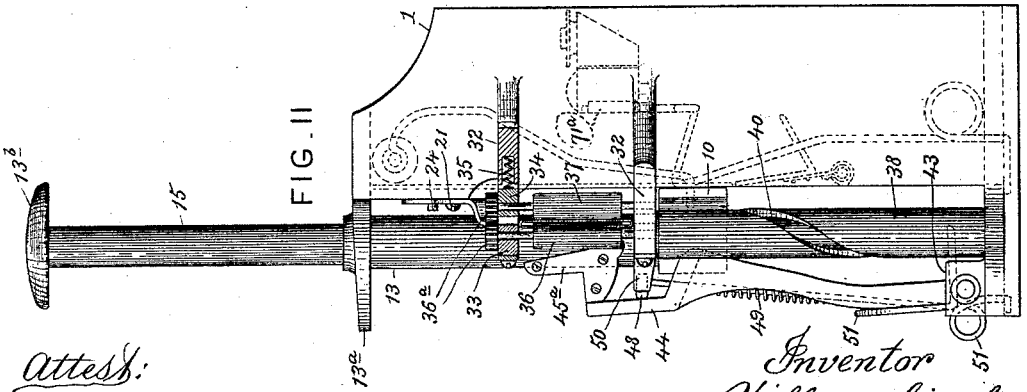


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FIG. V.

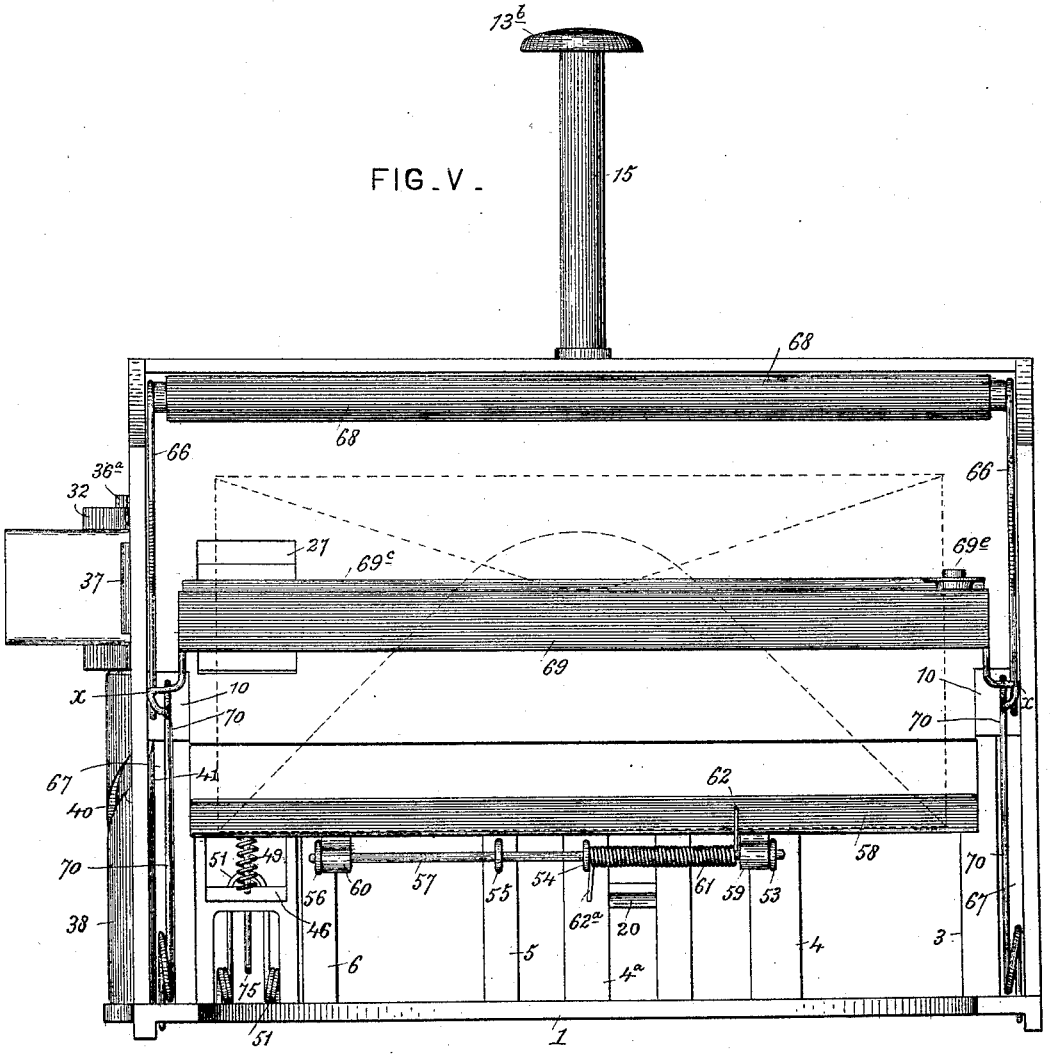

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FIG. VII.

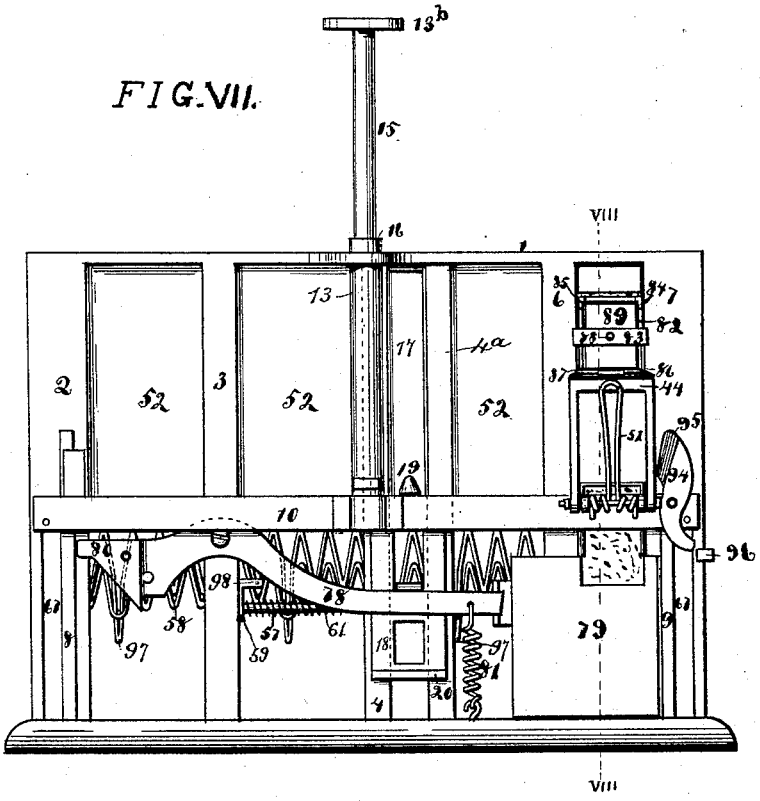
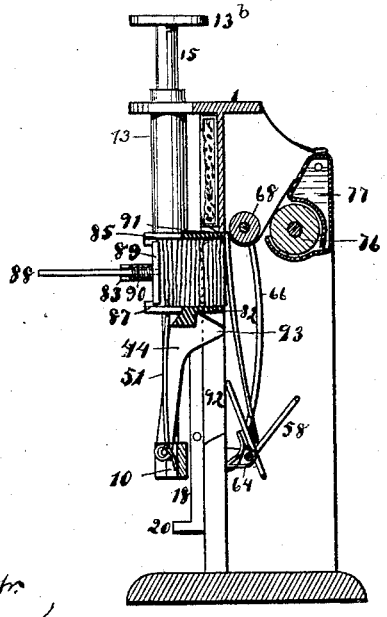


FIG. VIII.



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George H. Knight jr.
Emma Arthur

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by Knight Bros.
Attys

UNITED STATES PATENT OFFICE.

WILLIAM SINGLETON, OF WINCHESTER, KENTUCKY.

DEVICE FOR SEALING AND STAMPING LETTERS AND OTHER MAILABLE MATTER.

SPECIFICATION forming part of Letters Patent No. 418,078, dated December 24, 1889.

Application filed September 13, 1888. Serial No. 285,331. (Model.)

To all whom it may concern:

Be it known that I, WILLIAM SINGLETON, of Winchester, Clark county, Kentucky, have invented a new and useful Device for Sealing and Stamping Letters and other Mailable Matter, of which the following is a specification.

My invention is a device by which, after the insertion of the envelope in the machine in its proper place, by one movement of the handle used to operate the device, the said envelope is stamped, sealed, and ejected, or sealed or stamped and ejected.

In the accompanying drawings, Figure I represents a rear view of my device. Fig. II is an end elevation looking from the right, Fig. I. Fig. III is a section taken on the line III III, Fig. I. Fig. IV is a section taken on the line IV IV, Fig. I, showing the envelope in position to be sealed and stamped. Fig. V is a front elevation showing the envelope in dotted lines. Fig. VI is a detail sectional view taken on the line VI VI, Fig. I. Figs. VII and VIII are views of modifications, Fig. VII being a rear view and Fig. VIII being a transverse section on the line VIII VIII, Fig. VII.

1 represents a frame of wood, brass, iron, or other suitable material, having the standards or pillars 2, 3, 4, 4^a, 5, 6, and 7. The pillars 2 and 7 are provided with tongues or feathers 8 and 9, upon which slides a sliding bar 10. To the said sliding bar is secured a rod 11, surrounding which rod and bearing against a flange 12 at the bottom of a cylinder 13 is a spiral spring 14, said cylinder being made integral with or secured to a bracket 14^a, supported on the pillar 4^a at its lower end and secured in an eave or projection 13^a at its upper end. The rod 11 is provided with a handle 13^b, attached to its upper end. A cylinder 15, projecting from said handle and surrounding the upper portion of said rod and spring, plays vertically in the cylinder 13. The plate 17 (whose form is best seen in Fig. I) is adapted for sliding up and down between the pillars 4 and 4^a. This plate has a projection 19, and bears at its lower end an extension 18, having a foot or lug 20, for purposes hereinafter explained.

At the upper end of the pillar 5 is a fulcrum 21, upon which is fulcrumed an arm or lever 22, which has at one end a bifurcation 23, which receives a pin 24 on the plate 17, while the other end is provided with a bifurcation 25, in which engages a pin 26. The pin 26 is attached to a stamp-moistener 27, which slides freely between the pillars 6 and 7.

Secured horizontally across the pillars 6 7 on the outside of the moistener 27 is a stamp-holder 29, provided with a stamp-shaped aperture 30 and the oblong rectangular aperture 31, said apertures being for purposes hereinafter explained.

Cast integrally with the frame are the excavated lugs 32 32, which receive ordinary journal-boxes 33 34, in which are mounted rollers 36 37. The lugs contain springs 35, which bear upon the boxes 34, and thus keep the rollers 36 37 and their meshing pinions 36^a in contact with each other. The roller 36 is an extension of a rod 38, which has a straight groove 39, a spiral groove 40, and a switch 41 at the upper junction of the said straight and spiral grooves, a spring 42 keeping the said switch normally over the entrance of the said straight groove.

From the base of the frame project lugs 43 43, upon which pivots a yoke or bifurcated arm 44, having at its upper end a rectangular stamp-shaped plunger or stamper 45, whose dimensions are but slightly less than those of the aperture 30, and which is provided at one side with a vertically-arranged knife-edge 45^a, having a shear-cut. A cross-piece 46 of the arm 44 receives the lower portion of a rod 47, the upper portion of said rod passing through the upper wall of the yoke. The upper end of the rod 47 carries a cross-bar 48, which is normally pressed up toward the under surface of the die or stamper 45 by a spring 49. The ends of this cross-bar, which are flattened or cut away slightly, are adapted, for a purpose hereinafter described, to rest upon the outer ends of posts or stops 49, and thus form a latch for preventing a spring 51, secured to the base of the frame 1, from prematurely forcing the plunger or stamper 45 inward.

52 is a smooth sheet of metal cast integrally with or attached to the frame, and is about one-fourth the thickness of the pillars. Lugs 53, 54, 55, and 56, which project from

the pillars 4, 4^a, 5, and 6, respectively, are adapted for the reception of a rod 57, to which is attached an envelope supporter and ejector 58 by means of the lugs 59 60 of the said ejector. Surrounding this aforesaid rod is a spring 61, which tends to keep the inner side of the ejector firmly against the standards or pillars, as shown in Figs. III and IV, one end 62 of the spring bearing against the outer side of the ejector, while the other end 62^a bears against the pillar 4^a. This ejector may be a piece of sheet metal bent into a V-shaped trough, as represented in cross-section. A tooth or plate 64, rigidly attached to the ejector, is capable of engagement with a flexible pawl 65, secured to the plate 17 by means of a screw 63, when the slide-bar 10 is drawn up.

Attached to each end of the slide-bar 10 are springs 66 66, which have cams or bent portions 66^a and project through slots 67 67 in the pillars 2 and 7 and then upward, having journaled to their upper ends a roller 68 and causing said roller to press against the face of the smooth sheet 52. This roller consists, preferably, of soft material—such as rubber—though hard material may be used. Secured to the base of the frame 1 or at both ends thereof are two upwardly-projecting and inwardly-acting springs 70, each of which has an inwardly-turned elbow or cam 71 projecting through slot 67 and bearing against the slide-bar 10. At the upper ends of these springs is supported the envelope-flap moistener 69 by means of vertical sockets 71^a, in which the extremities of said springs fit, as shown in dotted lines in Fig. II. This moistener consists of a trough or tank having a longitudinal partition 69^a, provided with perforations 70^x for the passage of water. To one side of the partition the tank is open and filled with a projecting moistening-cushion 69^c, composed of an exterior coating of cotton, an intermediate layer of felt, and an internal filling of sponge or other suitable materials. The tank may be replenished from time to time through the filter-screw 69^e.

The operation of my device is as follows: An envelope Y to be sealed and stamped is placed in the above-described device with its upper edge resting against the smooth flat sheet 52 and its lower edge against the bottom of the ejector, when the flap *z* will be resting upon the wet cushion 69^c of moistener 69, which, in combination with the inclination of the inner side of the ejector, will cause said upper edge to bear against the sheet 52. A little water—just enough to dampen the sponges—is put into the moisteners, and the end of a strip of stamps of the usual number—viz., ten—is inserted into the end of the stamp-holder 29 and forced along until it comes between the stamp-rollers 36 37. The operator then, by pressing upon the handle 13^b, presses the cylinder 15 down into the cylinder 13. The described motion of the handle causes the slide-bar also to descend, which carries with it the cam-springs 66 66, thereby causing the roller 68 to descend. In the initial movement the bar 10 moves below the elbows 71 on the springs 70, and thus permits said springs to carry the flap-moistener 69 inward toward the envelope, thus causing the rollers 68 to press the flap against the cushion 69^c with considerable force, whereby the gum on said flap is moistened; but before the moistener 69 moves inward far enough to obstruct the descent of the roller the cams or bends 66^a of the springs 66 come in contact with projections 4 on the springs 70, and thus the latter are forced back again, carrying the flap-moistener to its usual position and out of the path of the descending roller 68. The roller in its descent drags the flap of the envelope past the cushion 69^c and presses it against the envelope, thereby causing the moistened gum to adhere. The roller after going completely beyond the flap returns upon the release of the handle, thereby running twice over said flap. The downward motion of the handles also causes the slide-bar 10 to press (when near the limit of its downward journey) against the foot or lug 20, thereby causing the plate 18 to descend, which will cause the pin 24 to operate the arm or lever 22, and hence to elevate the stamp-moistener 27, causing the latter to drag its damp sponge 27^a, which, when in the lower position, projects through the plate 52 and bears against the corner of the envelope, across a portion of the envelope, while the roller 68 is bearing upon the opposite side, thus dampening such portion to cause the adhesion of the gummed stamp. The slide-bar in descending causes the stud 73 on the end of the slide-bar to run in the spiral groove 40 of the rod 38. This spiral groove is so cut that the traveling of the stud 73 therein will cause the said rod to make one revolution, thereby causing the rollers 36 37 to also make but one revolution, and such rollers being of the proper size the row of stamps will be moved sufficiently to feed a single stamp over the stamp-shaped aperture 30, the stamps being guided and held in the stamp-holder by the overhanging flanges 74 74. The motion of the said roller is just sufficient to allow the edges of the stamp to coincide with the edges of the said aperture, so that the knife-edge 45^a of the stamp-plunger will sever the same at the perforations. The slide-bar near the limit of its descent presses upon a trigger 75 of the rod 47, thereby drawing the cross-bar 48 off the lugs 50 50 and releasing the stamp-plunger. The latter, being now "unbound," is forced down through the aperture 30 by the spring 51, thereby cutting off a stamp and pressing it against the moist corner of the envelope. After the slide-bar 10 has completed its descent and the envelope has been sealed and the stamp pressed in its place, the bar is forced up by the pressure of the spring 14 against the handle 13, carrying with it the roller 68, which again passing over the en-

velope presses the latter firmly against the stamp while the plunger 45 is yet in its normal position. The bar in its descent causes the stud 73 to travel up the straight groove 39 of the rod 38. When the said stud arrives at the upper junction of the straight and spiral grooves, it trips or forces the switch 41 upward and passes the same, when the switch will immediately regain its position over the straight groove by the action of the spring 42. The stud being compelled to rise in the straight and vertical groove, it will be understood that the bar 38 will not be again revolved, and hence the stamp-feeding rollers 36 37 are permitted to remain at rest and hold the strip of stamps in position for the succeeding downward movement. When the slide-bar has about half completed its ascent, a roller 44ª, journaled in its upper side, comes in contact with the inwardly-curved front surface of the yoke 44, which, acting as a cam, forces the stamper or plunger 45 out of the aperture 30. When the rod 48 comes to the rear ends of the lugs 50 50, it is immediately forced to its original position against the said ends of the lugs by the pressure of the spring 49. When the slide-bar is still nearer "home" and the roller 68 at the upper edge of the envelope, it comes in contact with the projection 19 of the plate 18, thereby forcing the said plate upward, which will bring the tripper or pawl 65 up under and in contact with the tooth 64 of the ejector, thus tilting the latter against the action of the spring 61 and throwing the envelope out upon the table. The tripper being of spring metal and its engaging-shoulder being somewhat rounded, the tooth 64 will disengage after the pawl or tripper has risen sufficiently far to throw out the envelope. When the tripper has passed said tooth, the ejector will regain its normal position by the action of the springs 61. When the slide-bar has nearly completed its upward movement, it will cause the pin 24 to bear against the upper side of the indentation 23 of the arm 22, which will operate to throw the stamp-moistener 27 back into its original and lower position.

Instead of using the above-described means for moistening the flaps and the stamp and for stamping the stamps on the envelope I may employ the following means, viz: In the place of the above-described flap-moistener I may use a roller 76, (see Fig. VIII,) whose lower surface revolves beneath the surface of the water in the tank or reservoir, and whose upper surface is exposed, so that the flap of the envelope may come in contact therewith, thereby revolving the roller and at the same time causing said roller to moisten said flap. The stamp-moistener in this instance, however, is stationary, it being secured in any suitable manner to the main frame 1.

For a stamp-moistener I may substitute for the above-described device an arm 78, fulcrumed on the pillar 3, and being attached to one end of the stamp-moistener 79, operating from beneath instead of above, as before, (this form of stamp-moistener not being used, however, with this form of stamper,) and to the other end a pawl 80, which is loosely fulcrumed upon said arm and so arranged that the sliding bar 10 in descending will operate at the proper time to bear against said pawl, which, as the said pawl is free to move upward only, will force the pawl end down, and will consequently force the stamp-moistener up until the latter has performed its duty, when the said pawl will be forced aside by the slide-bar and the moistener immediately regain its position by action of the spring 81, attached to the frame 1 and said arm 78. These stamp-moisteners may be so constructed as to moisten the envelope or the stamp, or both, but preferably the envelope. When they are constructed to moisten both stamp and envelope, a portion of the rear walls of the box carrying the sponge is removed, which will expose the sponge or moistener both in front and behind.

Instead of the above-described preferred form of stamper I may employ a stamper of the following construction:

Instead of having the yoke 44 fulcrumed upon the frame, as before, it may be fulcrumed upon the sliding bar 10. (See Figs. VII and VIII.)

In place of the plunger 45, I may use a metallic box 82, open at both ends and having its internal dimensions slightly less than the dimensions of a stamp, in order that the stamps may fit snugly within the said metallic box. This box has cast to its rear end standards 83 84 85 86 87. The standard 83 receives a rod 88, which is rigidly attached to a follower 89, which is caused to bear against the stamps (which are inserted immediately in front of said followers) by the spring 90. The pillars 6 and 7 have identically similar indentations 91 and grooves or notches 92, which receive identically similar teeth 93 upon the front of the yoke 44. When the slide-bar is up, the teeth are engaged with indentations 91 and the box is resting upon the sponge of the moistener between pillars 6 and 7. When the sliding bar has descended a certain distance and the said descent disengaged the teeth from the said indentations, the teeth come to notches 92, into which they are forced by the springs 51. A stamp is thereby stamped upon the envelope, and the teeth, continuing their descent in said notches, operate to draw the remaining stamps down over the said stamp, thereby more effectually securing said stamp. A pawl 94, pivoted upon the end of the sliding bar 10, having an inclined surface 95, is forced in front of the arm or yoke 44 (thereby disengaging the said arm from the notches) by its curved lower surface coming in contact with the floor of the frame. The sliding bar may be drawn up without the danger of the teeth catching in any of the said notches or indentations. When the sliding bar is

home, a projection 96 of the frame operates to trip said pawl 94, thereby releasing said pawl from the front of the arm 44 and allowing the spring 51 to force the stamper down upon the sponge preparatory to another operation. The ejector in this form is also modified, it being composed of a wire bent into an undulate form. Some of the undulations of one side are elongated, as at 97, and passed through the loops or undulations of the other side, thus securing the lower edge of the two sides together and forming a trough or basket V shape in cross-section. The ejector is mounted on the rod 57 by means of the lugs or projections 59 60, as in the other form, which, however, in this instance are provided with plates or arms 98, secured to the wires of the ejector in any suitable manner, the lugs 59 60 being alike, but only one being shown.

The roller 68 is attached to the sliding bar 10 by means of the springs 66, as in the first form; but in this instance such springs do not have the cams or bends 66^a, as the flap-moistener is stationary.

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

1. The combination, with the frame, of the bar 10, plate 52, having an opening therein, springs secured to said bar, a roller carried by said springs and bearing against said plate, a stamper, and a spring for forcing said stamper into said opening toward said roller, substantially as set forth.

2. The combination, with the frame having the plate 52, provided with an opening, of the bar 10, springs secured to said bar, a roller carried by said springs, a stamper, a spring for forcing said stamper into said opening, and a latch for holding said stamper out of said opening, adapted to be disengaged by the descent of said bar 10, substantially as set forth.

3. The combination, with the frame having the plate 52, provided with an opening, of the bar 10, a handle for depressing said bar, a spring for elevating said bar, springs 66, secured to said bar, a roller mounted on said springs and bearing on said plate, and a stamper adapted to be forced into said opening toward said roller, substantially as set forth.

4. The combination, with the frame having the plate 52, provided with an opening, of the bar 10, a handle for depressing said bar, a spring for elevating said bar, springs 66, secured to said bar, a roller carried by said springs 66, bearing against said plate, a stamper, a spring for forcing said stamper toward said roller into said opening, a latch for locking said stamper out of engagement, disengaged by the descent of the bar 10, and a stamp-holder arranged adjacent to said opening, substantially as set forth.

5. The combination, with the frame having the plate 52, provided with an opening, of the bar 10, a stamper arranged opposite said opening, the stamp-holder arranged adjacent to said opening, the rod 38, having a spiral groove, a stud on bar 10, fitting in said groove, and the rollers 36 37, operated by said rod 38 and adapted to advance the stamps, substantially as set forth.

6. The combination, with the frame having the plate 52, provided with an opening, of the bar 10, a plate movable with said bar, a pin in said plate, a lever adapted to be operated by said pin, the moistener attached to said lever and arranged to slide over said opening, a stamper arranged opposite said opening, and a spring for forcing said stamper into said opening, substantially as set forth.

7. The combination, with the frame having the plate 52, provided with an opening, of an envelope-supporter, an envelope-flap moistener, the bar 10, springs secured to said bar, a roller carried by said springs and adapted to pass between the said moistener and plate, a stamper, and a spring for forcing said stamper into said opening toward said roller, substantially as set forth.

8. The combination, with the frame having the plate 52, of the bar 10, the envelope supporter and ejector, a pawl operated by said bar, adapted to tilt said ejector, the flap-moistener, springs secured to said bar, and a roller mounted on said springs and adapted to rise and fall between said plate and moistener, substantially as set forth.

9. The combination, with the rising and falling bar 10, carrying a roller 68, of a flap-moistener consisting of a tank having a moistening-cushion presented toward said roller, substantially as and for the purposes set forth.

10. The combination, with the frame, of the vertically-movable bar 10, the tilting ejector, a spring for holding said ejector in position, and a pawl operated by said bar for tilting said ejector, substantially as set forth.

11. The combination, with the frame, of the vertically-movable bar 10, springs 66, having bent portion 66^a, secured to said bar, roller 68, carried by said springs, and springs 70, having elbows adapted to rest against bar 10, and projections x, adapted to be engaged by the bends 66^a when the roller descends, substantially as and for the purposes set forth.

12. The combination, with the frame having the pillars 4 4^a, of a plate adapted to slide between said pillars, foot 20 and lug 19, carried by said plate, the vertically-movable bar 10, arranged between said lug and foot, the stamp-moistener, a lever having connection with said plate and stamp-moistener, a stamper, a spring for operating said stamper, and a latch for locking said stamper against the action of said spring, said latch having a trigger upon which said bar 10 descends, substantially as and for the purposes set forth.

13. The combination, with the frame having the plate 52, provided with an opening, of the bar 10, a stamper having the yoke 44, a

stamp-holder arranged adjacent to said opening, the rod 38, having vertical and spiral grooves intercepting each other, a switch at the upper junction of said grooves, normally open to the spiral groove, a stud on said bar 10 engaging in one of said grooves the rollers 36 37, operated by said rod 38, springs for forcing said rollers together, a spring for operating said stamper, the lugs 50, a cross-bar adapted to wedge between said lugs and yoke, a rod secured to said cross-bar, having the trigger 75, and a spring for holding said cross-bar normally elevated, substantially as set forth.

14. A mechanical device for sealing and stamping letters or other mailable matter, consisting notably of the following features, to wit: a frame 1, plate 52, provided with an opening, a slide-bar 10, sliding on the frame 1 and provided with a handle, tongues 8 9, for guiding said sliding bar, a roller or sealer 68, attached to and traveling with said slide-bar, a flap-moistener 69, a stamp-moistener operated by said handle and constructed to moisten the envelope for the reception of the stamp, a stamp-holder 29, having apertures 30 31, rollers 36 and 37, playing in the aperture 31, also actuated by said handle and adapted for feeding the stamps over the said aperture 30, a stamper 45, actuated by the aforementioned handle and adapted for shearing or cutting off stamps and forcing them through the aperture 30 onto the envelope, the ejector 58, and tripper 65, operated by the handle and adapted for tilting the ejector 58, thereby throwing out the sealed envelope, as set forth.

15. In a device for stamping and sealing letters and other mailable matter, the combination of the frame, a slide-bar 10, tongues 8 and 9, upon which said bar slides, said slide-bar being guided by the rod 11, whose upper end has a handle 13, the spring 14, surrounding said rod 11 and bearing against the handle 13, the cylinder 15, surrounding the upper portion of the said spring, and the cylinder 17, secured to the frame and adapted to receive the cylinder 15, substantially as described, and for the purpose set forth.

16. In a device for sealing and stamping letters or other mailable matter, the combination of the rod 38, having a straight and spiral groove, a pair of rollers 36 37, for feeding the stamps in ordinary journal-boxes 33 34, one of which rollers is an extension of the rod 38, a switch 41 at the upper junction of the ends of the said straight and spiral grooves for compelling the stud 73 on the sliding bar 10 to travel down the said spiral groove 40 when the sliding bar is descending, causing the rollers thereby to make one revolution, and the stamp-holder having the overhanging flanges arranged between said rollers, for the purpose set forth.

In testimony of which invention I hereunto set my hand.

WILLIAM SINGLETON.

Attest:
SAML. S. CARPENTER,
GEO. H. KNIGHT, JR.