To all whom it may concern:

Be it known that I, WADE HAMPTON HANGER, a citizen of the United States of America, and resident of Wilkinsburg, county of Allegheny, and State of Pennsylvania, have invented certain new and useful Improvements in Envelop Sealing and Stamping Machines, of which the following is a specification.

An object of this invention is to produce an improved machine for sealing envelopes, fixing the postage thereon, and for perforating the stamps prior to affixing them to the envelopes.

A further object is to produce an organized apparatus having an envelop sealing and stamp affixing means in which means are employed for instantaneously rendering the stamp affixing means operative or inoperative, as desired.

These and other objects I attain in a machine embodying the features herein described, and illustrated in the drawings and forming a part of this application.

In the drawings, Figure 1 is a plan view of a machine embodying my invention. Fig. 2 is a side elevation of the machine shown in Fig. 1, a portion being broken away for convenience of illustration. Fig. 3 is a fragmental sectional view along the line 3—3 of Fig. 1. Fig. 4 is a fragmental sectional view along the line 4—4 of Fig. 1. Fig. 5 is a sectional view along the line 5—5 of Fig. 1, portions being broken away for convenience of illustration. Fig. 6 is a view of a portion of the machine taken along the line 6—6 of Fig. 1 and looking in the direction of the arrows. Fig. 7 is a fragmental sectional view along the line 7—7 of Fig. 1. Figs. 8 and 9 are respectively fragmental sectional views along the lines 8—8 and 9—9 of Fig. 1. Fig. 10 is a detail sectional view of the stamp perforating mechanism.

The machine illustrated includes means for moistening the gummed surfaces of the flaps of the envelopes, delivered to the machine, means for turning each flap back against the envelop body after it has been moistened and means for exerting a sealing pressure on the flap, after it has been moved against the envelop body. The machine also includes means for moistening the upper right hand corner of each envelop passing through it, preparatory to affixing a stamp on the envelop. Means are also employed for applying the gummed side of a stamp to the moistened portion of the envelop and affixing it thereto by exerting a yielding pressure on it. The stamp affixing means form a part of mechanisms for feeding stamps from an inclosed casing and for perforating each stamp before it is affixed to the envelop. Envelops delivered to the machine, illustrated, are moved through the machine by a series of feed rollers which are arranged in cooperating sets. The feed rollers are so actuated and controlled that each envelop stops twice in its passage through the machine; first, during the flap-folding operation; and second, during the stamp affixing operation. The stamp feeding and affixing means is so arranged that it can be rendered operative or inoperative while the envelop feeding and sealing means are operating, and consequently the envelopes passing through the machine may be sealed without being stamped or they may be sealed and stamped, or the machine may be operated to deliver perforated stamps without affixing them to envelopes.

The machine illustrated is adapted to feed envelopes, with their flaps extended, across the moistening roll so that the gummed portions of the flaps are moistened preparatory for the sealing operation. The flap moistening, and the envelop feeding mechanisms illustrated both include a table, which extends the entire length of the machine and is slotted at intervals for the purpose of permitting the feeding rollers, located below the table, to engage and cooperate with rollers located above the table. The initial feeding mechanism consists of a roller, which is located below the table, and a cooperating roller, located above the table. The roller is rigidly mounted on a shaft, which extends transversely across the feed table and is journaled in stationary bearings mounted on the table or on the frame portion of the machine. The shaft is provided with a bevel gear, which meshes with a bevel gear, mounted on a driving shaft, which extends longitudinally of the machine and is itself driven by means hereinafter
described. The upper feed roller 14 is mounted on a shaft 19 which extends parallel to the shaft 15 and is mounted in movable bearings, so arranged that the roller 14 is yieldingly forced downwardly toward the roller 13. Each bearing or journal box of the shaft 19 is provided with a downwardly extending lug to which a downwardly extending rod 21 is secured. Each rod 21 extends through a stationary guide 22, illustrated as formed integrally with the adjacent bearing of the shaft 15. The lower end of the rod projects downwardly below the guide and is surrounded by a coiled spring 23, which is held in place between the lower end of the guide and an adjusting nut 24 mounted on the rod. The springs 23 operate to yieldingly force their respective rods 21 downwardly and consequently to yieldingly force the roller 14 downwardly toward the roller 13. The downward pressure of the roller 14 may be varied by varying the positions of the nuts 24 and thereby varying the tension of the springs 23.

The flap moistening mechanism illustrated consists of the roller 11, a tank or receptacle 25, adapted to contain liquid for wetting the roller, and a yield depressor 26, for holding the extended flap of each envelop in engagement with the roller 11 as the envelop is moved forward by the cooperating feed rollers 13 and 14. The roller 11 is shown axially aligned with the roller 13, is adapted to extend below the surface of the water contained in the receptacle 25 and, like the roller 13, its peripheral face is substantially tangent to the plane of the top surface of the feed table 12. The depressor 26 may be formed in any suitable manner but it is so arranged that it cannot move into engagement with the peripheral face of the moistening roll 11. This is for the purpose of preventing the upper or outer portions of the flaps from being wet and is accomplished, in the apparatus illustrated, by pivotally mounting the depressor on a suitably located pin, 27 and providing a spring for yieldingly holding it into engagement with a stationary stop 28, which is so located that the depressor cannot move into contact with the roller 11. The free, and envelop flap-receiving end of the depressor is curved upwardly above the roller 11 and the remainder of the depressor is preferably so formed that it extends downwardly from its free end to a point below the plane of the surface of the table 12 in front of the roller 11. With this arrangement the free end of the depressor 26 will engage the extended flap of an envelop passing between the rollers 13 and 14, no matter what position the flap occupies, and the depressor will bend the flap into contact with the moistening roller 11, as the envelop moves forward between the rollers 13 and 14. After the flap of the envelop is moistened, the envelop is moved along the table 12 to such a position that it is engaged by the flap-closing means, which operates periodically and folds the moistened flap upwardly against the body of the envelop. Two sets of rollers 29 are employed for moving the envelop forward to the first stop position, in which it is engaged by the flap-folding mechanism. The top roller of each set is similar in all respects to the roller 14, and, like the roller 14, is journaled in spring restrained, movable bearings. The lower roller of each set is in some respects similar to the roller 13 and is actuated by the shaft 15 through the agency of intermeshing bevel gears. They are, however, shorter than the roller 13 and are of such length that they do not interfere with the flap-folding mechanisms or with the flap when it is folded back against the envelop. The table 12 is also cut away, as shown at 30, so that it does not interfere with the envelop flaps after they are folded back against the envelopes.

As illustrated, the flap folding mechanism consists of a folder 31, which is mounted on a shaft 32, and is actuated by means of a cam 33, through the agency of a bell crank or bent lever 34 and a spring restrained belt 35 or other flexible connection 35. The folder 31, as illustrated, consists of a piece of sheet metal, which is bent so that it is provided with a flat flap-engaging face which is moved forward by the cam to a position such that it engages and forces each flap upwardly and holds it in the raised position, and forces the envelop against the upper roller of the second set of rollers 29.

The flexible connection 35 is shown wound once around the shaft 32, or a spool rigidly mounted on the shaft, and one end is attached to the lower end of the bell crank 34 while the other end is secured to the movable end of a coiled spring 36. The bell crank 34 is provided with a cam-engaging roller, and the cam surfaces of the cam 33 are so formed that they shift the bell crank 34 so as to move the folder 31 from a backwardly inclined position, as shown in dotted lines in Fig. 8, to the horizontal position, shown in full lines in Fig. 8, and the spring 36, then returns the folder to the vertical position. The cam surfaces are also so formed, that the operation of the folder 31 may be timed in accordance with the passage of envelopes through the machine, so that it will move forwardly and engage a depending flap on an envelop as the envelop is fed forward by the two sets of feed rollers 29.

As each envelop reaches a position in the machine, such that its forward edge is coincident with the dot-and-dash line, shown at 37 in Fig. 1, the envelop feed mechanism is stopped and the envelop remains stationary.
on the table. During this period the operation of folding back the flap is completed and the moistening mechanism, employed for moistening the upper right-hand corners of the envelopes, starts to operate and moves so that it will occupy an operative position with relation to the envelop, held in place between the feed rollers 29, as soon as the feed rollers start to move the envelop forward from the first stop position.

The corner moistening mechanism, as illustrated, consists of a wiper 38, an actuating cam 39, an intermediate lever 41 between the cam and the wiper and a reciprocal standard 42 for the wiper. The wiper shown, consists of a felt or fabric flap which hangs down from an arm 43, mounted on the standard 42, and which is capable of being moved downwardly into a receptacle 44, located below the surface of the table 12, and adapted to contain water or other moistening liquid, for wetting the wiper 38. The standard 42 extends downwardly through a guide 45, which is shown as integrally formed with the frame of the machine, (see Fig. 9), and a coil spring 46 surrounds the lower end of the standard 42 and operates between the frame portion of the machine and an adjustable nut 47, carried by the standard, to yieldingly force the standard to its lowest position. The standard is operatively connected to the lever 41 by means of a slot and pin connection and the spring 46 operates through the standard to hold the cam roller, with which the lever is provided, in engagement with the cam 39. The cam surfaces are so formed that the standard is depressed, so that the wiper moves into the liquid, contained in the tank 44, while the feed mechanisms are inoperative and then moves to such a position that its lower end will be engaged by the envelop passing along the top just as it passes at the first stop position. The cam operates to hold the wiper in contact with the envelop for a short time only, and only until enough of the envelop is moistened to insure the affixing of a stamp. The cam then operates to raise the standard so that the wiper 38, is held out of contact with the surface of the envelop as it proceeds along the table to the next, or second stop position; as another envelop moves up to the first stop position. The wiper is preferably held in the raised position until the next envelop is moved to the first stop position or until the feed mechanisms are again brought to rest. This, however, is not absolutely necessary, and the operating mechanism may be arranged, so that the operation of the wiper is not identical with the operation above described.

The table is so formed that it supports the entire envelop after the envelop has passed the first stop position. This is accomplished by increasing its width so that the inner edge is located substantially in line with the line of travel of the upper edges of the envelops passing through the machine. The flap-folding folder 31 is so formed that its forward edge is located immediately adjacent to the edge of the table shown at 48 in Fig. 1 and it assists in guiding the forward edge of the envelop over the edge 48 of the table and thereby prevents the envelop from being crumpled as it moves forward from the first stop position and across the edge 48. As the envelop proceeds along the table it is engaged by the first of three sets of rollers 49, which are similar to the rollers 13 and 14 except that the upper rollers are shortened so that they do not engage the moistened corners or the upper portions of the envelops. The lower rollers are of the same length as the roller 13 and extend substantially to the inner edge of the table. These rollers, like the roller 13, are driven by the shaft 18. When the forward edge of the envelop has reached the second stop position, indicated by the dot-and-dash line at 51 in Fig. 1, the feeding mechanisms are again stopped and the envelop is held stationary for a moment while a postage stamp is affixed to its upper right hand and moistened corner.

The stamp affixing mechanism includes a stamp feeding device, a stamp perforating device and a stamp affixing plunger, all of which cooperate to feed the stamp forward from an inclosed casing, then to perforate the stamp and finally to stick it on the moistened portion of the envelop. The stamp feed mechanism is illustrated in Fig. 4 and consists of cam actuated rollers 52 and 53 which cooperate in feeding a strip of postage stamps from a roll 57, through a stamp guide 54, onto an anvil 55, which forms a part of the stamp perforating mechanism. The feed mechanism is so arranged to advance the stamp beyond the anvil after it has been perforated so that it occupies a position immediately below the stamp affixing plunger 56. As illustrated, the roller 52 is secured to a ratchet wheel 57 and is rotatively mounted on a rod 60 which will be hereinafter described. The ratchet wheel is also loosely mounted on the rod 60 and is adapted to be advanced by means of a pawl 58, for the purpose of advancing the roll 52. The pawl 58 is mounted on the end of a lever 60, which is operatively connected to a bell crank 61, by means of a link 62. The bell crank is provided with a cam engaging roller which is normally held in contact with the surface of a cam 63, shown in dotted lines in Fig. 4, and mounted on a cam shaft 64. As the cam 63 rotates it oscillates the lever 59 and thereby advances the roller 52 a predetermined amount for each oscillation. The length of the lever arm and the bell crank are so proportioned with refer-
ence to the throw of the cam that the stamp strip, from the roll 53, is advanced the length of one stamp during each forward motion of the ratchet wheel 56 and the roller 53. The lever 61 is connected to the link 62 by a slot and pin connection which may be employed in varying the effective throw of the cam, and consequently the amount the strip is advanced during each forward motion of the ratchet. This construction is employed so that the machine may be adjusted to operate effectively with stamps of different sizes.

The stamp perforating mechanism illustrated, includes a perforating die 63 which cooperates with the anvil 55 and is actuated by a cam 65 through the agency of a lever 67. The die is mounted on the lower end of a reciprocal rod 68, which is normally held in the raised position by means of a coil spring 69, which surrounds its upper end and is located between a conveniently located guide bracket 71, mounted on the frame, and an adjustable nut 72, mounted on the rod. The lever is operatively connected to the rod by means of a slot and pin connection and the coil spring 69 operates to hold a cam roller, with which the lever is provided, against the surface of the cam 66.

The cam is mounted on the shaft 64 and consequently operates in synchronism with the cam 65. The surface of the cam 66 is, however, so proportioned with relation to the surface of the cam 63, that the die 65 is moved downwardly into contact with the anvil 55 after the stamp feeding mechanism has operated to advance a stamp between the anvil and the die. The anvil 55 is mounted on the upper end of a rod 73, which is reciprocally mounted within a guide 74 and is held in its uppermost position by means of a coil spring 75 which surrounds the rod and is located between the anvil and the guide. The upward motion of the rod 73 is limited by means of a nut or collar 76, which is mounted on the rod. The cam 66 is also so formed that it moves the die 65 downwardly while the stamp affixing plunger 56 is being moved downwardly by means of a cam 77, which is also mounted on the shaft 64. The plunger 56 is mounted on the lower end of a reciprocal rod 78, which is movably mounted in the bracket 71 and is held in its uppermost position by means of a spring 69, similar to the spring 69. The rod 78 is actuated by the cam 77, through the agency of a lever 79 and a lost-motion connection which, as illustrated, consists of a collar 81, loosely mounted on the rod, operatively connected to the lever 79 by means of a pin and slot connection, and operatively connected to the rod 78 by means of a coiled spring 82, which surrounds the rod and is located between the collar 81 and an adjustable nut 83 on the rod. When the lever 79 is actuated by the cam, the rod 78 is moved downwardly through the agency of the spring 82 and in opposition to the pressure of the spring 69. The cams 66 and 67 are so formed that the die 65 and the plunger 56 move down together until the plunger contacts with an envelop on the table 12 at which time its downward motion is checked and the spring 82 starts to yield. The slotted end of the actuating lever 79 will, however, continue to move downwardly, with the rod 68. The only effect of this motion, however, is to place the spring 82 under greater tension and to increase the pressure of the plunger against the envelop as the collar 81 is moved down along the rod 78.

The stamp feed mechanism is so operated that it advances a perforated stamp to a position under the plunger 56 each time the roller 52 is advanced and consequently the die 65 and anvil carry two stamps with them as they move downwardly, one being located between the die and anvil and the other projecting beyond the anvil immediately below the plunger. The downward motion of the plunger affixes the projecting stamp to the envelop and the continued motion of the die 65 takes the surface of the table 12 detaches the affixed stamp from the strip of stamps, or from the stamp gripped between the anvil and the die. The plunger remains stationary on the affixed stamp during the stamp severing operation and therefore holds the envelop in place on the table 12.

After a stamp has been affixed to the envelop the plunger and the die move upward together and in this manner release the envelop so that it can be moved forward as soon as the envelop feed rollers are again rendered operative. The motion limiting collar 76, on the anvil support rod 73, is so located that the upward motion of the anvil is checked before the die 65 has reached the upward limit of its motion. This permits the die to move away from the anvil and thereby liberates the perforated stamp so that it will be advanced past the anvil to a position immediately below the plunger during the next stamp feeding operation of the roller 52. It will of course be understood, that initials or a distinctive design of any kind may be punched into the stamps by the perforating die.

The guide 54, as illustrated, consists of a metal chute or way, one end of which is supported and held in place, near the roller 52, by means of two stationary pins or guides. The other end is pivotally secured to the anvil 55 so that it moves up and down with the anvil. I have also shown means for adjusting the pressure of the roller 53 against the roller 52. The spindle of the roller 53 is journaled in open-ended vertically extending slots formed in a conven-
ently portion of the machine casing. Adjustable springs 85 are employed for engaging the spindle and yieldingly forcing it toward the lower end of the slot.

The mechanism illustrated is adapted to be actuated by means of a motor 86, which is shown mounted on one corner of the frame of the machine and is connected to a pulley 87 which forms a part of the driving mechanism of the machine. It will of course be understood that any suitable means may be employed for actuating the machine and that, if desired, it may be operated by hand, by substituting a hand wheel or crank for the motor. The pulley 87 is mounted on a transversely extending shaft 88, upon which a worm 89 is mounted. The worm 89 meshes with and drives a worm wheel 90, which is loosely mounted on the end of the longitudinally extending shaft 64, and is adapted to be operatively connected to the shaft by means of a friction cone or clutch mechanism 91.

The clutch mechanism illustrated consists of a conical member which is splined on the shaft 64 and is yieldingly held in gripping engagement with a flange 92 of the worm 89, by means of a coil spring 93. The coil spring surrounds the shaft 64 and operates between the end of the longitudinally shiftable member 91 and a brake wheel 94 which is rigidly mounted on the shaft 64. The member 91 is provided with an actuating lever 95, which is capable of shifting it along the shaft in opposition to the pressure of the spring 93 and which is fulcrumed on a conveniently located bracket of the frame portion of the machine. The lower end of the lever is pivotally secured to an operating end of the machine and presents its outer end at the envelop-receiving end of the machine, in a position convenient to the operator. When the rod is pulled forward it actuates the lever 95 to shift the member 91 along the shaft and to thereby break the operative engagement between the worm wheel 90 and the shaft. The rod 96 also actuates a brake which operates to instantaneously check the motion of the operating parts of the machine, when the clutch member is disengaged from the wheel, and which includes the brake wheel 94 as one of its elements. A brake band 97, surrounds the wheel 94 and has its end secured to an operating lever 98. One end of the band 97 is secured at, or near, the fulcrum point of the lever 98 and consequently remains substantially stationary during the motion of the lever. The other end of the band is secured to the upper end of the lever and is so arranged that it moves to force the band into gripping engagement with the wheel when the lever is moved in one direction, and to free the band from the wheel when the lever is moved in the other direction. The lever is connected to the rod 96 by means of a bell crank lever 99 and connecting links 101, and consequently a pull on the rod will disengage the clutch mechanism and also check the motion of the shaft 64, by setting the brake.

The shaft 64 is the main driving shaft of the machine and the cams 33 and 39, as well as the cams 63, 66 and 77 are mounted on it. A worm 102 is also mounted on the shaft 64 and forms a part of the envelop feeding roller driving mechanism. This worm is similar to an ordinary mutilated gear; since it has one peripherally extending tooth 103, which renders the worm ineffective as a driving agent while it is in engagement with the worm wheel 104. The wheel 104 is mounted on a short sub-shaft 105, on which is mounted a gear 106, meshing with a gear 107, mounted on the shaft 15 of the bottom roller of the last set of rollers 51. The shaft 15 of this roller is provided with a bevel gear 16 which meshes with a bevel gear 17, mounted on the shaft 18. The shaft 64 operates to continuously rotate the worm 102, while the motor 86 is operating and the clutch mechanism is effective as a power transmitting agent, but the worm 102 intermittently drives the envelop feeding rollers, since the worm wheel 104 remains stationary while the peripherally extending tooth 103, of the worm, is in engagement with a slot formed in one of the teeth of the wheel.

The operation of the apparatus is as follows: The envelops are fed, end foremost, across the receiving end of the table 12, and are delivered to the feed-rollers 13 and 14, with their flaps extended. The table is moved along enough at its receiving end to wholly support the envelop and its extended flap. The table is, however, cut away along the line 108 in Fig. 1 so that it exposes the flap to the moistening roll 11. As the envelop proceeds between the rollers 13 and 14 its flap is forced downwardly against the roller 11 by the depressor 26 and before the rear end of the envelop is disengaged by the rollers 13 and 14 its forward end is received by the first set of rollers 29, which assist in moving it forward along the table. As the envelop is moved forward toward the first stop position by the two sets of rollers 29, the folder 31 is moved forward so that it engages the depending flap of the envelop and moves it up in the folded position against the body portion of the envelop. During the period that the envelop remains stationary on the table in the first stop position, the folder 31 continues to hold the flap in the folded position and, in effect, forms an extension of the table 12. The folder remains in this position during the operation of the wiper 35, and consequently presents the envelop to the wiper. As the
envelop moves forward from the first stop position it is engaged by the wiper 38 which, as has been described, moves down into the receptacle 44 during the period that the envelop remains stationary on the table and then moves into an envelop-engaging position, so that it imparts just enough moisture to the upper right hand corner of the envelop to insure the sticking of a postage stamp. The first set of rollers 49 receive the envelop as it moves from the first stop position, and move it forward toward the stamp affixing or second stop position. As has been described, these rollers are so formed that they do not engage the wet corners, or the upper portions of the envelopes, and consequently the envelopes are not smeared up, and the moisture is not distributed along them. The stamp is then affixed to the envelop while the envelop remains stationary on the table, at the second stop position. The stamp affixing plunger 56 operates to clamp the envelop in place on the table during the operation of severing the affixed stamp from the stamp strip on the roll 53. Immediately after the plunger releases the envelop the worm 102 moves into an operative position, with relation to the wheel 104, and, starting the feed-rollers, moves the envelop forward through the last set of rollers 51, which engage the entire envelop and operate to seal the flap and also to eject the envelop from the delivery end of the machine. When it is desired to stop the machine the bar 96 is moved forward, as has been described, so as to release the clutch mechanism and at the same time set the brake.

I have also provided means for rendering the feed mechanism inoperative so that the envelopes are sealed without being stamped. The means illustrated is clearly shown in Fig. 4 and consists of an arc-shaped guard 111, which is so mounted on the rod 60 that it is capable of being turned around the ratchet wheel 57 and moved between the ratchet wheel and its actuating pawl 58. The rod 60 extends longitudinally of the machine to its receiving end, is rotatively mounted on the frame portion of the machine, and is provided at its end with a milled nut which may be employed in turning the rod, and thereby turning the guard 111 about the ratchet wheel. With this arrangement the delivery of stamps by the machine can be easily and quickly controlled, so that the machine will stick a stamp on each envelop passing through it, or so that it will seal, without stamping the envelopes. In addition to this the machine may be operated to deliver perforated stamps, while no envelopes are passing through it. This is rendered possible since the stamps themselves are not moistened by the machine, but are merely delivered one at a time to the table 12, by the cooperation of the plunger 56 and the stamp perforating mechanism. In Fig. 8 I have shown an aperture 115, located in the support bracket of the cam 33, in such a position that a pin may be inserted through it and into engagement with the end of the bell crank 34, for the purpose of holding the folder 31 in the horizontalline full line position, while the machine is being employed to stamp, but not to seal envelopes. This renders the folding mechanism inoperative.

The perforating die and anvil, as illustrated in Fig. 10, are so formed that the stamp is disengaged from the perforating tips of the die, as the die moves to its uppermost position. This is accomplished by providing overhanging flanges 114 on the anvil, which cooperate to form a guide for the die, and a way through which the stamps pass on being delivered to the stamp-affixing plunger. The operating mechanism of the perforating die and anvil is responsive to the motion limiting devices of the anvil, that the die moves up beyond the lower faces of the overhanging flanges 114 after the anvil has been checked in its upward motion. This causes the overhanging flanges to engage the edges of the stamp, which has previously been perforated by the tip on the die, and to disengage it from the die, so that it can be easily moved forward to a position immediately below the stamp affixing plunger.

I have also provided means for discarding the punchings resulting from the operation of perforating the stamps, which consists of an inclined, open-ended passage 112, formed within the anvil 55 and with which the tip receiving apertures, formed in the anvil, communicate. The punchings fall into this inclined passage and the motion of the anvil tends to discharge them from the passage. They may, however, be easily removed in case the passage becomes clogged, since it is open at both ends.

It will be understood that various changes, substitutions, and modifications, as well as various omissions and additions may be made in the apparatus illustrated without departing from the spirit and scope of my invention as set forth in the appended claims. The apparatus may be employed in connection with suitable and well known means for automatically feeding envelopes to the feed rollers 13 and 14, which will operate in conjunction with the various mechanisms illustrated and will properly time the delivery of each envelop with reference to the operation of the flap-folding and stamp-affixing mechanisms, so that each envelop will occupy the proper position on the table during the flap folding and stamp-affixing operations. It will also be understood that the machine may be employed in con-
connection with means for automatically timing the operation of the flap-folding and stamp-affixing mechanisms, which is itself controlled by the passage of envelopes along the table.

What I claim is:

1. In an apparatus of the character described, means for moistening the envelope flaps by swinging folding, for folding the flaps back against the envelope bodies, means for sealing the envelopes, means, operative during the folding and sealing operation for applying moisture to the stamp receiving portion of the envelope and means for applying a stamp to the moist portion of the envelope.

2. In an envelope sealing and stamping machine, a flap-folder, a wiper for moistening the stamp-receiving portion of the envelope, means for moving the envelope past the wiper, means for holding the folder in engagement with the envelope during the moistening operation, and means for applying a stamp to the moist portion of the envelope.

3. In an envelope sealing and stamping machine, a table along which the envelopes to be sealed and stamped pass, a flap affixing plunger for pressing a stamp against each envelope and for clamping the envelope on the table during the affixing operation, and a flap perforating means for perforating stamps delivered to the plunger and for severing each stamp from the stamp roll, while the envelope is clamped in place on the table.

4. In a machine of the character described, a table, means for moving envelopes along the table, a stamp perforating mechanism, a flap affixing plunger and a stamp feeding mechanism for feeding stamps to the perforating mechanism and past the perforating mechanism to the plunger, and means for actuating the plunger to affix stamps on envelopes located on the table.

5. In a machine of the character described, a stamp affixing mechanism, comprising, a stamp feed mechanism, a perforator to which stamps are fed, a stamp affixing plunger located adjacent to the perforator and means for simultaneously actuating the perforator and the plunger.

6. In a machine of the character described, a table along which envelopes to be stamped are moved, a stamp perforator, a stamp affixing plunger, means for feeding stamps to the perforator and to the stamp affixing plunger, means for actuating the plunger to affix a stamp on an envelope located on the table and means for actuating the perforator to perforate a stamp and to sever the affixed stamp from the stamp roll.

7. In an envelope sealing and stamping machine, a table across which envelopes to be sealed and stamped are moved, means for engaging and impelling envelopes across the table, means for intermittently actuating the envelop impelling means and thereby causing envelopes to stop in their passage across the table, a stamp affixing plunger for pressing a stamp against an envelope on the table while the envelope is at rest, means for severing the affixed stamp from a stamp strip, and means for actuating the stamp affixing plunger and the stamp severing means during periods of rest of the envelope impelling means.

8. In a machine of the character described, a table across which the envelopes to be sealed and stamped are moved, means for moving the envelopes across the table, a moistening roller for wetting the gummed surfaces of the envelopes as the envelopes move across the table, a folder for moving the moistened flaps to a closed position, means for moistening the stamp-receiving portion of the envelope, a stamp perforating and affixing means and means for actuating the envelope impelling means so that the envelopes stop in their passage along the table during the flap folding and stamp affixing operations.

9. In a stamp affixing machine, stamp feeding rolls, a movable means to which stamps are delivered by said rolls, a movable roller located between said rolls and said means and through which said stamps pass; and a stamp affixing plunger movable with said way.

10. In a stamp affixing machine, a stamp feeding mechanism, an inclining casing therefor, a movable stamp delivery way located within the casing along which stamps are delivered to the exterior of the casing, means for controlling the operation of said feeding mechanism, and a stamp affixing plunger located exterior the casing and to which stamps are delivered through said way.

11. In a stamp affixing machine, a stamp feeding mechanism, an inclining casing therefor having a movable aperture through which stamps are delivered, a movable way between the stamp feeding mechanism and said aperture, and a stamp affixing plunger to which stamps are delivered through said aperture.

12. In an apparatus of the character described, a way across which envelopes are movable, intermittently moving envelope feeding means for moving envelopes along the way, a stamp perforating and affixing mechanism for perforating stamps prior to their delivery to the envelopes and for affixing them on the envelopes during periods of rest of the feeding means, and means for intermittently actuating said feeding means and said stamp perforating means for actuating said stamp affixing means during periods of rest of the envelope feeding means.

13. In an apparatus of the character described, a table across which envelopes are
movable, a flap moistening device, a flap folding device, means for moistening the stamp receiving portion of envelopes located on the table, a stamp affixing mechanism and a stamp perforating mechanism, intermittently actuated envelop conveying, and flap sealing means for moving envelopes across the table, means for intermittently actuating the envelop conveying and flap sealing means, for actuating said stamp perforating means during the operation of the conveying means and for actuating said stamp affixing means during periods of rest of said conveying means.

14. In an apparatus of the character described, a table along which envelopes are movable, a stamp affixing mechanism for engaging envelopes located on the table, and for affixing stamps thereon, a corner moistening mechanism, comprising a receptacle below the table, a wiper movable into said receptacle and into a position above the table, means for moving envelopes along said table into engagement with the wiper and means for actuating said wiper, said stamp affixing mechanism and said envelop sealing means.

15. In an apparatus of the character described, a table along which envelopes are movable, a stamp affixing mechanism for engaging envelopes on the table and for affixing stamps thereon, a wiper for moistening the stamp receiving portion of envelopes located on the table, a wiper actuating mechanism for moving the wiper to an envelop engaging position and to a position above the envelopes, means for conveying envelopes along the table into engagement with the wiper and to the stamp affixing means, means for severing the affixed stamp from a stamp strip and means for actuating the stamp affixing means, the stamp severing means, the wiper, and the envelope conveying means.

16. In a machine of the character described, means for moistening the stamp receiving portion of an envelope, comprising a movable wiper, a liquid receptacle, means for moving the wiper into the receptacle, then into an envelop engaging position, and finally out of engagement with the envelop, a stamp affixing mechanism for applying a stamp to the moist portion of an envelop and means for moving an envelop into engagement with the wiper and into an operative position with relation to the affixing mechanism.

17. In a machine of the character described, a table along which envelopes are movable, means for moistening the stamp receiving corners of envelopes moving along the table, a stamp affixing mechanism for affixing stamps on the envelopes located on the table and a stamp perforating mechanism for perforating stamps prior to delivering them to said affixing mechanism and for cooperating with the affixing mechanism to sever the affixed stamp from the stamp strip.

18. In a machine of the character described, a way along which envelopes are movable, flap moistening means, a swinging folder for engaging and folding the envelop flaps against the body portion of the envelop, stamp affixing means, and envelop feeding means for moving envelopes along the table into engagement with the flap moistening means and into an operative position with relation to the folder and the stamp affixing means, and means for actuating said envelop feeding means, said stamp affixing means and said folder.

19. In a machine for sealing and stamping envelopes, a table along which envelopes are fed, feed rolls for intermittently advancing envelopes along the table, a folder for engaging the flaps of envelopes on the table and for moving them to sealing positions against the body portion of the envelop, means for actuating the folder while said rollers are inoperative, means actuated by said last-mentioned means for applying moisture to the stamp receiving portion of an envelop engaged by the folder, and means for affixing a stamp to the moist portion of the envelop.

20. In a machine of the character described, a table across which envelopes to be stamped are fed, rollers for moving the envelops across the table, means for moistening the stamp receiving portion of each envelop traversing the table, comprising a wiper movable from a position below the table to an envelop engaging position above the table and finally to a position above the envelops on the table, a stamp affixing means for applying a stamp to the moistened portion of the envelop, and a stamp severing means for severing an affixed stamp from the stamp strip.

21. A machine of the character described, comprising, a way along which envelopes are movable, means for moistening the receiving portions of envelopes moving along the way, a stamp affixing plunger for engaging envelopes traversing the way, and for pressing stamps on the moistened portions thereof, stamp feeding means for delivering stamps to the plunger and for severing affixed stamps from the stamp strip, a ratchet and pawl for actuating said means, intermittently actuated means for feeding envelopes along the way and means for intermittently actuating said envelop feeding means, and the moistening means, and for moving the plunger during periods of rest of the feeding means.

22. An envelop stamping machine comprising, a table along which envelopes are movable, a movable plunger for affixing stamps on envelopes located on the table, a
stamp roll, means located between the roll and the plunger for gripping the strip of stamps fed from the roll and for holding the strip so that a stamp is held in position below the plunger, and means for moving said last mentioned means simultaneously with the folder and for severing the affixed stamp after the plunger is in engagement with an envelop on the table.

23. An envelop stamping machine comprising a table, along which envelops are movable, a stamp affixing plunger movable to engage an envelop on the table, a stamp delivering mechanism for delivering stamps to the plunger, a stamp perforating device located between the mechanism and the plunger for perforating stamps prior to delivering them to said plunger and for gripping the stamp strip so as to hold a stamp in position below the plunger and means for moving said device simultaneously with the plunger and for actuating it to sever the affixed stamp after the plunger is in engagement with the envelop on the table.

WADE HAMPTON HANGER.

Witnesses:
E. B. Locke,
A. S. Hanger.

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