

L. G. H. PALMER.  
 THEFT PROOF STAMP AFFIXING MACHINE.  
 APPLICATION FILED FEB. 25, 1911.

1,156,308.

Patented Oct. 12, 1915.  
 2 SHEETS—SHEET 1.

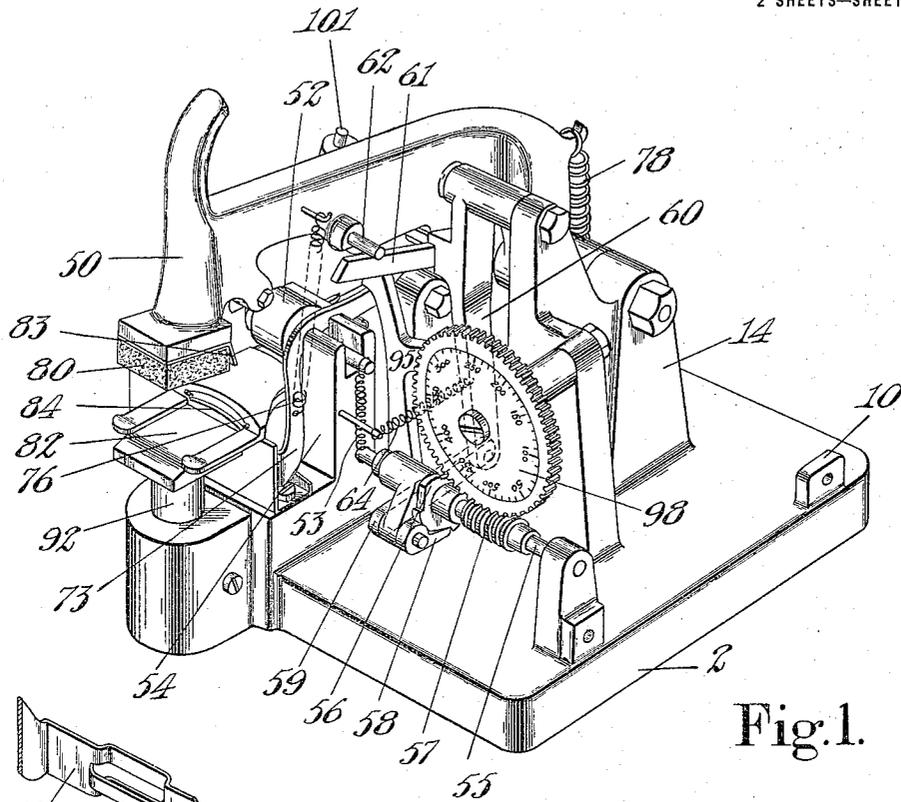


Fig. 1.

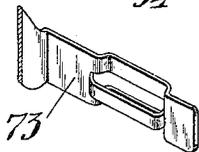


Fig. 9.

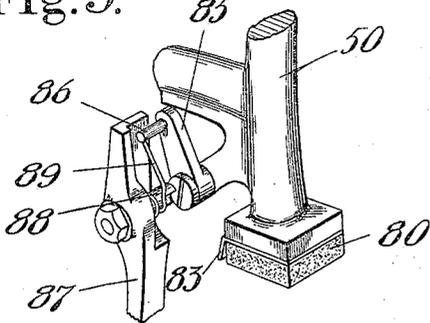


Fig. 6.

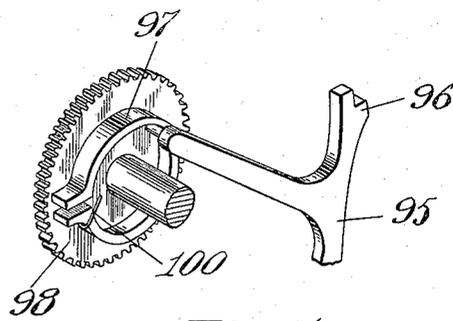


Fig. 7.

WITNESSES.

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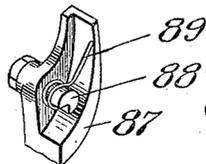


Fig. 8.

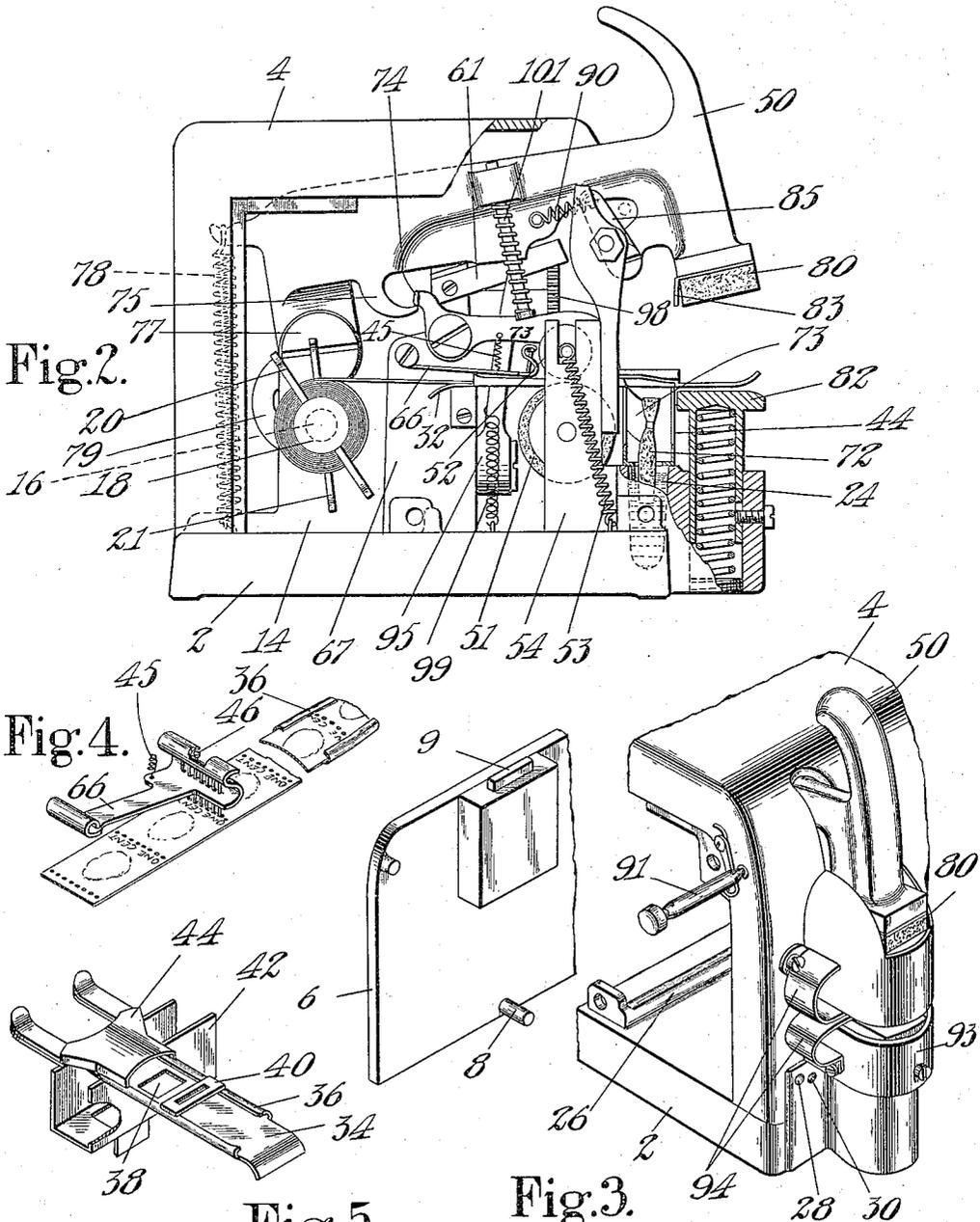
INVENTOR.

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 2 SHEETS—SHEET 2.



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# UNITED STATES PATENT OFFICE.

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## THEFT-PROOF STAMP-AFFIXING MACHINE.

1,156,308.

Specification of Letters Patent.

Patented Oct. 12, 1915.

Application filed February 25, 1911. Serial No. 610,822.

*To all whom it may concern:*

Be it known that I, LIONEL G. H. PALMER, of Roslindale, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Theft-Proof Stamp-Affixing Machines, of which the following is a specification.

This invention relates to stamp-affixing machines, and more particularly to improvements in machines of the type in which stamps are fed from a roll, moistened, severed from the strip and pressed into engagement with an envelop or article to which they are to be affixed.

The principal object of the invention is to provide a machine from which it will be impossible to extract stamps except singly, after they have been moistened and duly affixed to the envelop or other article, then only after having been duly recorded. A machine of this character is of the greatest value in offices from which any considerable amount of mail matter is sent out as it prevents the prevalent use of stamps for private mail or outside sale by unauthorized persons.

Another object of the invention is to provide a machine in which the feeding of the stamps shall be controlled by the perforations regardless of their location so that each stamp moved to affixing position shall be severed at the line of the perforations. This feature is of great importance in handling stamps in strips or rolls as there is a considerable variation in the length of different postage stamps and much irregularity in the width of the margin between the border of the stamp and the perforations. There is, moreover, an irregularity in the spacing of the stamps as now supplied in rolls resulting from the fact that the rolls are composed of a number of short strips pasted end to end. It will be apparent that a machine having a feeding movement of uniform extent is unsuited for handling such stamps as, after the first irregularity in the spacing has been reached, the succeeding stamps would be mutilated by being severed on a line not coincident with the perforations.

With the above ends in view, important features of the invention consist in a novel arrangement of the casing of the machine in respect to its connection with the base plate

and also in respect to the affixing anvil whereon the affixing operation takes place; in a novel arresting device for the stamp strip and its combination with strip feeding mechanism; and in the provision of mechanism, in combination with an affixing lever, to prevent its return to normal position before it has completed its full stroke for affixing a stamp. Other important features consist in a novel form of recording mechanism for registering the number of stamps used and in an automatically acting stop device for locking the affixing lever when a predetermined number of stamps have been used and recorded.

Another object of the invention is to provide an improved strip-feeding mechanism whereby strips of sheet material, such as the stamp strip, may be fed in a novel manner. The invention also includes within its scope the method herein disclosed which consists in bending or curving the strip transversely and advancing it in such curved condition. By curving the stamp strip so as to concave the gummed surface the danger of sticking in the guideway is obviated. This expedient also renders the feeding operations more precise in that it prevents the strip from wrinkling as it is advanced by stiffening it in cross section.

Other features of the invention relate to the novel construction and arrangement of the moistening device and the mechanism whereby the latter is actuated, also to the well and to means whereby the stamp roll is kept from becoming accidentally-wetted. As herein shown the moistening device comprises an oscillating arm carrying a wick, the arm being arranged to move the wick into engagement with the gummed surface of the endmost stamp in the strip at the beginning of the feeding movement so that substantially the entire length of the stamp is drawn across the moistened wick as the stamp is presented to affixing position. The wick is also retained in a novel manner by the end of the wick arm.

Still other features of the invention consist in the novel construction of the guideway or chute for the stamp strip and the feeding mechanism whereby the strip is advanced through the chute. As herein shown, the chute is built up of a number of plates

stamped out of sheet material and bent into suitable form, while the strip is advanced by a roller actuated by the movement of the affixing lever, the strip being yieldingly  
5 pressed into engagement therewith by a second oppositely disposed roller.

The features above enumerated and others incident to the invention will be best understood and appreciated from the following description of a preferred embodiment thereof selected for purposes of illustration and shown in the accompanying drawing in which:—

Figure 1 is a view in perspective of the machine with the casing removed. Fig. 2 is a view in side elevation with the door removed and part of the casing broken away. Fig. 3 is a fragmentary view of part of the casing and the door. Fig. 4 is a view in perspective of the arresting device, showing also part of the stamp strip. Fig. 5 is a view in perspective of the chute or guideway for the stamp strip. Fig. 6 is a fragmentary view of the affixing lever and the mechanism for preventing its return before the end of a complete stroke. Fig. 7 shows the locking mechanism for the affixing lever controlled by the recording device. Fig. 8 is a detail of part of the mechanism shown in Fig. 6. Fig. 9 is a detail of the wick arm.

Before proceeding to a detailed description of the machine it will be convenient to refer briefly to the various elements thereof and state their general organization and the manner in which they cooperate.

The entire machine is incased leaving only a narrow opening through which the envelop may be inserted upon the yielding support or anvil 82. A roll of stamps is supported upon a horizontal spindle 16 and fed through a guideway 32 leading to the anvil by the feed rollers 51 and 52. The lower feed roller 51 is rotated when the affixing lever 50 is depressed by means of a pawl and ratchet mechanism mounted on the shaft 55 and simultaneously the indicator disk 98 is moved to record one stamp by the worm 57 on the ratchet shaft. Normally  
50 movement of the stamp strip is prevented by a toothed arresting device 66 pivotally supported on a transverse stud and maintained in engagement with the strip by the hooked lug 75 projecting from the affixing lever 50 and acting through the arm 73. When the affixing lever is depressed a spring 76 is permitted to move the arresting device momentarily into an inoperative position and at the same time the wick 72 is  
60 lifted from the well and held in contact with the gummed side of the endmost stamp as it is moved, in a transversely bowed condition, from the end of the chute to a position over the envelop on the anvil 82. On  
65 the continued downward movement of the

affixing lever the moistened stamp is severed from the strip by the blade 83 on the affixing lever cooperating with a stationary blade 84 formed at the delivery end of the chute, and pressed upon the envelop. 70

The extent of the rotation imparted to the feed roller 51 is slightly more than required to move the strip an amount equal to the longest stamp it is likely to encounter. The pins of the arresting device, however, 75 are returned to operative position by the rod 101 mounted on the affixing lever during the feeding movement of the strip and are in readiness to drop into the perforations and arrest the strip when one stamp has  
80 been moved past this point, the feed roller slipping slightly on the strip at the conclusion of each feeding movement while the strip is held by the arresting device.

The strip is yieldingly and frictionally 85 engaged by the feed rollers 51 and 52, the arrangement being such that the tractive force which the rollers exert upon the strip can never exceed the tensile strength of the strip. This construction insures the slipping of the feed rollers on the strip rather than breaking the strip in case of a sudden blow on the affixing lever or other improper manipulation thereof.

It will be noted that each time a stamp 95 is affixed the wick 72 is lifted from the water in the well and then returned thereto. This continual sousing of the wick while the machine is being used serves to dissolve all gum from the wick and prevent gumming 100 thereof.

The various parts above mentioned, and other elements incidental to the machine and comprising additional features of the invention will now be described in detail. 105

The parts of the machine are mounted upon or formed with a base plate 2 and, with the exception of part of the affixing lever 50 are inclosed by a detachable casing 4. The casing has in one end a recess in which is fitted a removable door 6 having a rigid pin 8 projecting from its lower edge into a recess in the base plate and near its upper edge the door is provided with a second pin which engages in the upper part  
115 of the casing. The door is also provided with a lock 9 which prevents its removal from the casing. At suitable points on the base plate projecting lugs 10 are provided which engage the inner surface of the casing and prevent its movement on the base plate. 120 It will be seen that it is impossible to remove the casing from the base plate without unlocking and removing the door 6 so that the contents of the machine can not be  
125 tampered with except by the person holding the key. Additional holding screws may be inserted at suitable points through the casing into the base plate in order to hold the casing rigidly but, as already intimated, 130

the removal of the screws alone does not permit detaching the casing.

Projecting upwardly from the base plate near the center thereof is a standard 14 cast integrally with the base plate. Screwed into one side of the standard is a stationary spindle 16, shown in dotted lines in Fig. 2, provided at its outer end with a detachable head 18 threaded into a socket in the end of the spindle and having a transverse pin 20 projecting from it. A second pin 21 projects through the spindle 16 at a different angle from the pin 20. The outer ends of the pins are bent slightly in opposite directions, the pins and spindle constituting a holder or reel in which the roll of stamps is loosely retained. A new roll of stamps may be put in place by unscrewing the head 18 carrying the pin 20 whereupon the roll may be slipped on the end of the spindle and the head replaced.

Cast integrally in the base plate near its front edge is a well 24 for holding the water to moisten the stamps as they are fed to the affixing devices. To prevent the possibility of water spilled from the well from reaching the stamp roll there is provided an up-standing integral rib 26 on the base plate which forms in effect a dam surrounding the space under the holder or roll. In the front wall of the well, which is flush with the casing 4, there is provided a passage 28 through which the well may be refilled when this becomes necessary. An overflow passage 30 is provided in the same wall at a point below the upper edge of the well so that any excess water injected through the passage 28 will flow out through the passage 30 instead of reaching the interior of the machine.

The strip of stamps passes from the reel or holder to a chute or guideway 32 which conducts them across the well to the affixing devices. The chute is built up of several sheet metal stampings, as shown in Fig. 5, and comprises a bottom plate 34 having turned over ribs 36 at its edges, a stripper plate 40, the well cover plate 42 and upper plate 44. The distance between the ribs 36 of the bottom plate at the rear end of the chute is sufficient to receive the strip of stamps loosely and this width is maintained up to the aperture 38 through which the feeding roll acts on the strip. At the forward side of the aperture 38 the distance between the ribs 36 is gradually decreased to somewhat less than the width of the stamp strip and the upper plate 44 is bowed upwardly. As the strip is moved into this part of the chute it is bowed or curved transversely and fed from the forward end of the chute in this condition.

The stripper plate 40 is soldered or otherwise attached to the bottom plate in spaced relation therewith at the rear of the aperture 38 for the lower feed roll and both the

bottom plate and the stripper plate 40 are apertured to permit the passage of the pins or teeth 46 of an arresting device, to be more particularly described hereinafter. At the forward side of the feed aperture 38 the well cover plate 42 is attached to the bottom plate and forms a support for the chute. This plate extends vertically from the chute to the upper edge of the well where it is provided with a laterally extending portion which covers the well. This portion is apertured to permit the passage of the moistening wick, and at its front end is bent upwardly extending to the bottom of the chute adjacent to the delivery end. It will be seen that the two vertical portions of the plate 42 act as shields between which the wick moves. The part cut from the plate 42 is bent downwardly forming an apron which extends into the well and serves to prevent the water from leaking out between the well and the bottom of the shields.

The stamp trip is advanced intermittently while the affixing lever 50 is being depressed by a positively driven feed roller 51 projecting slightly into the chute through the opening 38. The strip is yieldingly engaged between the roller 51 and a second roller 52 which is drawn against the periphery of the driven roller by springs 53. Both rollers are journaled in the standard 54 cast with the base plate and the shaft 55 of the driven roller is extended transversely across the machine and has rigidly secured thereto a ratchet wheel 56 and a worm 57. Loosely journaled upon the shaft 55 is an arm carrying a pawl 58 which is arranged to rotate the ratchet wheel 56 one tooth at a time under the actuation of the affixing lever. As herein shown, the pawl arm is oscillated by a link 59 pivotally connected to the lower end of an arm 60 loosely journaled on a transverse spindle projecting from the standard 14 and having a forwardly extending arm 61 which stands in the path of a pin 62 projecting from the affixing lever 50. When the affixing lever is depressed the arm 60 is swung toward the rear against the tension of the spring 64 and the roller 51 is given a circumferential movement slightly greater than the length of the stamps in the strip.

Normally the strip is held against movement by the teeth 46 of an arresting device comprising an arm 66 pivotally mounted upon a standard 67 and having an S-shaped end, as well shown in Figs. 2 and 4. The teeth or pins extend loosely through holes in the two lower bends of the S-shaped end and are prevented from being ejected by the upper bend which extends over the heads of the teeth. The pins are spaced somewhat irregularly in order that one or more may surely find the perforations between successive stamps however they may be located.

In its normal position the arm 66 holds the pins with their lower ends supported by, or riding on the stamp strip, the heads of the pins having sufficient play between the two upper bends of the S-shaped portion to permit those pins which register with a perforation to drop into the same as the strip is fed under the arresting device. The arresting device is held in its lower or operative position by the wick arm which normally rests upon it. The arresting device is elevated to disengage the perforations, when the wick arm is lifted, by a spring 45 which extends between the wick arm and the arresting device. Immediately after the strip has been moved sufficiently to carry the perforations clear of the arresting device the latter is returned to operative position by the affixing lever acting through a rod 101 yieldingly mounted in a boss formed on one side. The lower end of the rod 101 is arranged to engage the S-shaped end of the arresting device and force it toward the stamp strip after the affixing lever has been moved through a portion of its stroke. However, before the rod 101 engages the arresting device the strip has been moved sufficiently to carry the perforations beyond the range of the pins 46.

The foremost stamp in the strip is moistened its whole length as it is passed over the well 24 by the wick 72 retained by the forward end of the wick arm 73. The latter is pivotally mounted on the standard 67 above the arresting device and is provided with a rearward extension having a transversely extending end 74 which stands in the path of a hook-shaped lug 75 on the affixing lever 50. Normally the wick arm 73 is positively depressed against the tension of a spring 76 by the engagement of the lug 75 with the end 74 but when the affixing lever is operated the lug 75 moves downwardly and permits the spring 76, shown in Fig. 1, to elevate the wick arm and incidentally the arresting device. The end of the wick arm is shaped in a novel manner to retain the wick, having two parallel slots cut therein forming three sections which are bent alternately in opposite directions, as clearly shown in Fig. 9. The wick is drawn between the oppositely bent sections and retained in position being yieldingly engaged by them. As will be seen by reference to Figs. 2 and 5 the wick is arranged to dip into the well 24 through an aperture in the well cover plate 42 and is raised and lowered between the two vertical portions of this plate.

The affixing lever is pivotally mounted on a stud 77 set in the standard 14 and is normally held in its elevated position by a spring 78 extending between a rearwardly projecting lug on the lever and the base plate. The upward movement of the affix-

ing lever is limited by a stop lug 79 located below the stud 77 and arranged to engage the rear side of the standard 14. At its forward end the lever 50 is provided with a convenient handle which projects upwardly without the casing and with a yielding pad 80 for pressing the stamps onto the envelop which rests on the anvil 82. The affixing lever also carries a blade 83 which coöperates with a stationary blade 84 formed at the delivery end of the chute, the two blades acting to sever the endmost stamp on the line of perforations when the stamp has been advanced to affixing position.

In the severing operation the gummed side of the stamp strip is forced against the lower blade but will not adhere thereto by reason of its bowed cross section, or if it should adhere momentarily the resilience of the strip will be sufficient to cause it to spring away from the lower blade as soon as the gummed surface has become dried.

The anvil 82 is located in the path of the pad 80 and comprises a plate or table having a tubular shank extending downwardly into a boss formed on the forward side of the base plate, the shank inclosing a stiff spring which acts to maintain the plate yieldingly in position below the delivery end of the chute. The end of the chute extends slightly past the rear edge of the anvil in order that a margin may be left on the envelop above the upper edge of the affixed stamp. Upward movement of the anvil is limited by a stationary stop or screw projecting through the wall of the boss into a slot in the shank of the anvil, as clearly shown in Fig. 2. The forward edge of the anvil plate is beveled and guide arms having their ends bent upwardly extend from the forward end of the chute and coöperate with the bevel of the anvil plate to direct an envelop to affixing position when inserted in the slot formed in the bowed out portion 93 of the casing.

In order to prevent the stamp strip from being worked out of the machine by improper manipulation of the affixing lever mechanism is provided for preventing the return of the lever to normal position before it has completed substantially its entire stroke and severed a stamp from the strip. As shown herein, this result is effected by providing the affixing lever with a pivoted crank arm 85 having a pin 86 projecting therefrom and by arranging a catch to hold said pin from reverse movement except after the full stroke of the affixing lever. To this end, the pin 86 is guided into a notch in the inner end of a stud 88, see Figs. 6 and 8, by a spring 89 during the operating movement of the lever 50, the notch thereupon acting to prevent upward movement of the pin. When the lever 50 is moved to the end of its stroke, however, the pin 86 is carried out of

the notch and the spring 90, which acts on the crank arm 85, see Fig. 2, moves the latter rearwardly carrying the pin 86 under the stud 88 into a guideway formed in the standard 87. The lever 50 is then free to

move upwardly, the pin 86 traversing the guideway and displacing the upper end of the spring 89 in reaching its initial position. The recording disk 98, to which reference

has already been made, is rotatably mounted on a spindle projecting forwardly from a portion of the standard 14 and is turned one step at a time, as a stamp is fed to the anvil, by the worm 57 on the feed roller shaft 55. The disk is suitably graduated to indicate the number of stamps affixed or the number remaining in the roll and may be inspected through a window (not shown) provided in the front of the casing.

In order to lock the affixing lever automatically when the stamp strip has become exhausted a stop arm 95 having an abutment 96 is mounted on a stud projecting forwardly from the standard 67 and a spring 94 is connected therewith in such a manner as to tend to draw the abutment into position under the affixing lever and prevent its operative movement. The stop arm, however, is normally maintained in inoperative position by a ring 97 attached to the back of the disk 98 and is permitted to act only when the disk has been rotated sufficiently to bring an opening in the ring into alignment with a pin in the stop arm as shown in Fig. 7. By locating the opening in the ring opposite the 500 mark of the disk the affixing lever will be locked when the five hundredth stamp has been delivered.

A manually operable locking pin 91 is also provided in order to prevent accidental depression of the affixing lever. This pin is slidably mounted in one side of the casing and adapted to be held in one of two positions by a spring detent shown in Fig. 3. When the pin 91 is in its outer position the lever 50 is free to move. When the pin is pushed into the casing it passes just beneath the neck of the affixing lever, as shown by the dotted lines in Fig. 2, and positively prevents it from being depressed.

It will be noted that the slot through which the envelop is presented to the anvil is so narrow that it is impossible to insert an instrument or the fingers and grasp a stamp to extract it before the affixing operation.

The present invention has been described as embodied in a machine for affixing postage stamps but it will be apparent that many of its features are of general application to the machines for handling or affixing other adhesive sheet material and the following claims should be correspondingly construed.

Having now described my invention in a preferred form, I claim as new and desire to secure by Letters Patent of the United States:—

1. A machine of the class described having, in combination, a stamp affixing device, means for feeding a strip of stamps thereto, means located between said feeding means and said affixing device for receiving the stamps in a flat condition and then imparting to the strip a curvature transversely, and moistening means for operating on the strip where it is so curved.

2. A machine of the class described having, in combination, a stamp affixing device, means for feeding a strip of stamps thereto, and a chute for said strip leading toward said affixing device, a portion thereof having a width less than that of the strip.

3. A machine of the class described having, in combination, a stamp affixing device, a holder for a strip of stamps, a chute, a roller for feeding the strip from the holder to the chute, said chute having a gradually decreasing width whereby the strip may be transversely curved in passing therethrough.

4. A machine of the class described having, in combination, a reel for a gummed strip, feeding means for the strip, a moistening device movable in a path adjacent to the gummed side of the strip, and means for transversely curving said strip at a point in line with the path of said moistening device.

5. A machine of the class described having, in combination, a reel for a gummed strip, feeding means for the strip, a moistening device disposed adjacent to the gummed side of the strip, and means for engaging the edges of the strip near said moistening device and bowing the strip at its center away from said device.

6. A machine of the class described having, in combination, cutting blades, means for feeding a gummed strip to the blades, a strip moistening device located between the feeding means and the blades, and means to bow the strip away from that blade which acts on the gummed side.

7. A machine of the class described having, in combination, a stationary shear blade, a movable blade cooperating therewith, means to feed a gummed strip thereto, a strip moistening device located between the feeding means and the blades, and means for bowing the center of the strip away from the stationary blade.

8. A machine of the class described having, in combination, a base plate, a holder for a roll of stamps supported thereon, moistening means for the stamps, and a projecting rib on said base plate disposed between said holder and said moistening means.

9. A machine of the class described having, in combination, a base plate, a stamp reel, a moistening device for the stamps, a

well for said moistening device formed in said base plate, and a dam disposed between said reel and well.

10. A machine of the class described having, in combination, a stamp affixing device, frictional means for feeding a strip of stamps, and a positively acting device for limiting the extent of the feeding movement imparted to the strip, said device comprising a transversely extending member, and a plurality of loose pins disposed therein at irregular intervals.

11. A machine of the class described having, in combination, a stamp affixing device, an arresting device for a strip of stamps comprising a movable arm having a series of pairs of vertically disposed apertures, a retaining portion in alignment therewith, and a pin movably mounted in each pair of apertures.

12. A machine of the class described having, in combination, strip feeding means, an arresting device for said strip normally holding the same at rest, an affixing lever, and means to render the arresting device inoperative during the initial part of the movement of the affixing lever.

13. A machine of the class described having, in combination, a holder for a roll of stamps, an affixing lever, means for feeding the strip of stamps from the roll to affixing position, and a moistener and an arresting device both controlled by the movement of the affixing lever.

14. A machine of the class described having, in combination, an affixing lever, a movable arresting device for a strip of stamps, and connections between said lever and arresting device whereby movement of the lever in one direction moves said device into operative relation with the strip and movement in the other direction yieldingly moves said device into inoperative relation with the strip.

15. A machine of the class described having, in combination, an affixing lever, means for feeding stamps successively to affixing position, an indicator arranged to record

the number of stamps so fed, and means for automatically locking said affixing lever when the indicator has reached a predetermined position.

16. A machine of the class described having, in combination, a holder for a roll of stamps, affixing devices, a well located between said holder and affixing devices, a chute extending across and above said well, a moistening device operating between said well and chute, and shields extending from said well to the chute on either side of the path of the moistener.

17. A machine of the class described having, in combination, affixing means, and a chute comprising a bottom plate 34 having ribs formed thereon, a top plate 44, and another plate 42 having a horizontal portion and vertical sides which support said chute.

18. A machine of the class described having, in combination, affixing means, strip feeding means, and a moistening device for moistening the strip acted upon by the strip feeding means, comprising an arm 73 having parallel sections bent in opposite directions and a wick retained between said sections.

19. A machine of the class described having, in combination, a pivoted affixing lever, a pin 86 carried thereby, a member having a notch, means for guiding said pin into the notch on the operating stroke of the affixing lever, said notch thereafter preventing return movement of the pin and affixing lever.

20. A machine of the class described having, in combination, an affixing lever, a holder for stamps in strip form, mechanism for feeding stamps to affixing position when the lever is operated, and means acting automatically when the supply of stamps is exhausted to lock said lever.

In testimony whereof I have affixed my signature, in presence of two witnesses.

LIONEL G. H. PALMER.

Witnesses:

H. W. KENWAY,  
C. F. BOWERS.