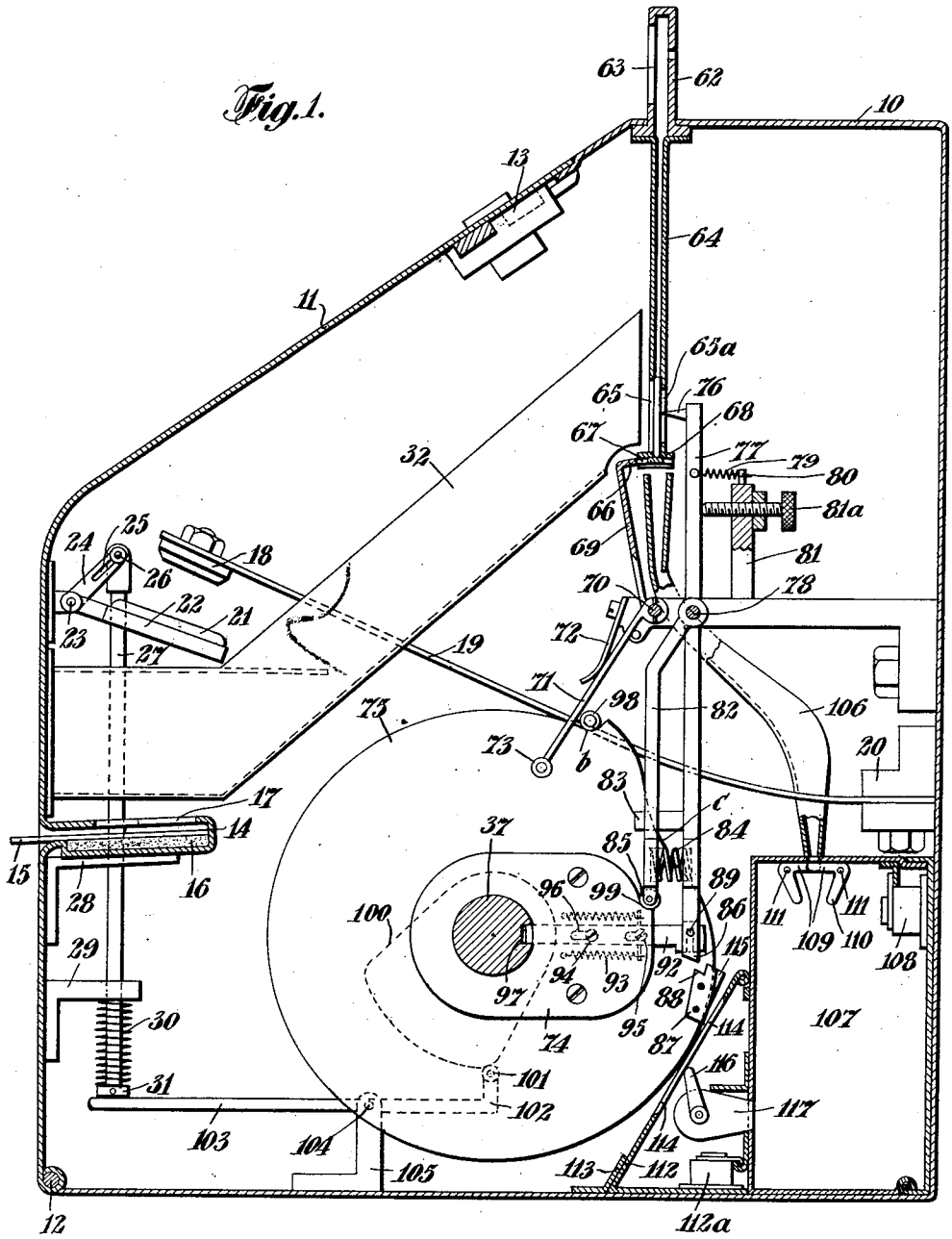
Aug. 17, 1926. 1,596,503

J. L. MIFSUD

MAIL MARKING APPARATUS

Filed March 3, 1925 5 Sheets-Sheet 1

Fig. 1.



Inventor,
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By his Attorney,
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Aug. 17, 1926. 1,596,503

J. L. MIFSUD

MAIL MARKING APPARATUS

Filed March 3, 1925 5 Sheets-Sheet 2

Fig. 12.

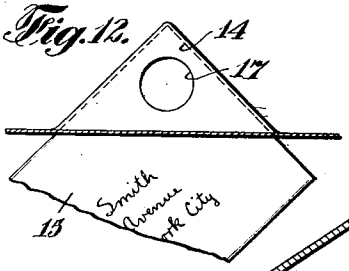


Fig. 2.

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Ramsay Hoguet.

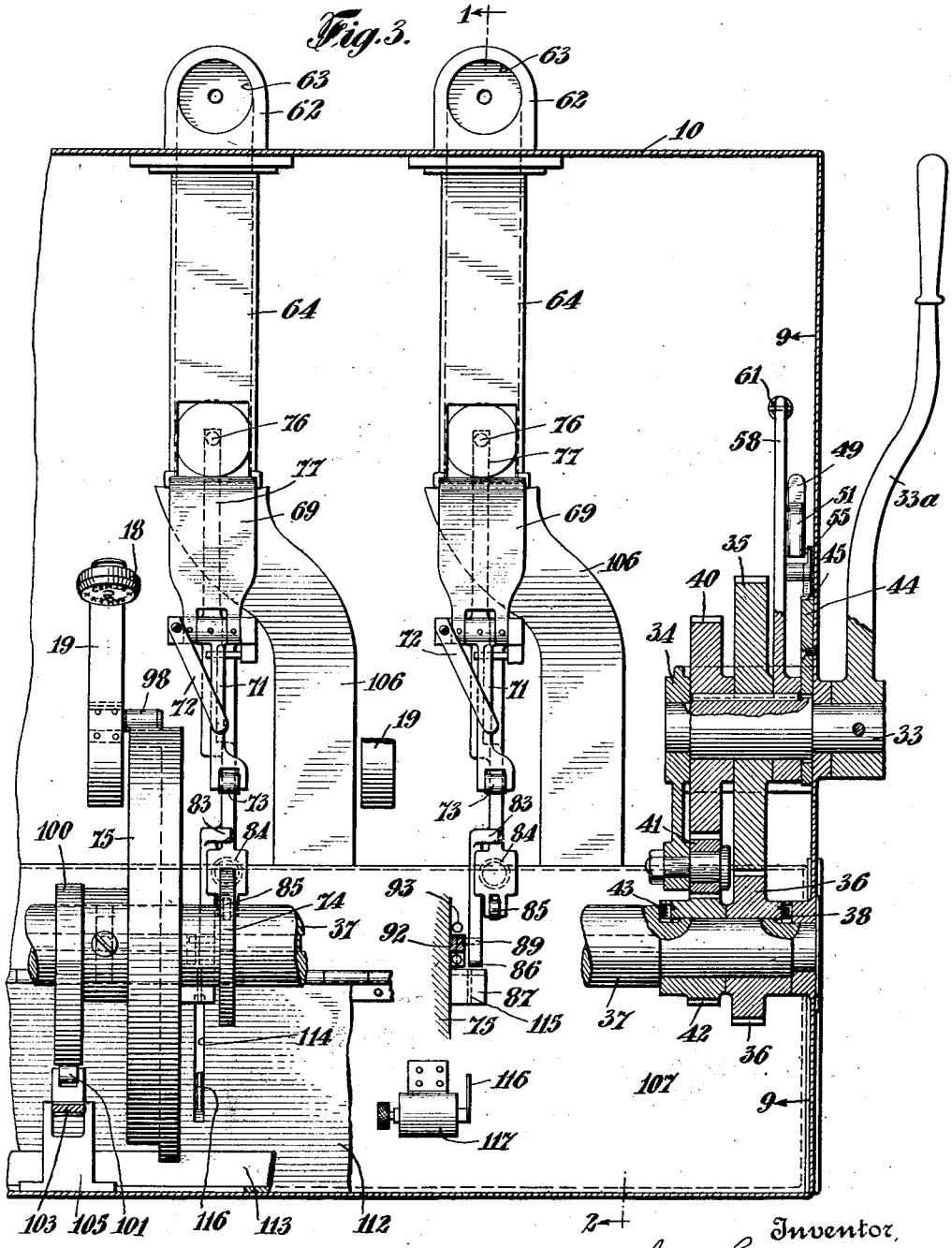
Aug. 17, 1926. 1,596,503

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MAIL MARKING APPARATUS

Filed March 3, 1925 5 Sheets-Sheet 3

Fig. 3.



Inventor,
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Aug. 17, 1926. 1,596,503

J. L. MIFSUD

MAIL MARKING APPARATUS

Filed March 3, 1925 5 Sheets-Sheet 4

Fig. 4.

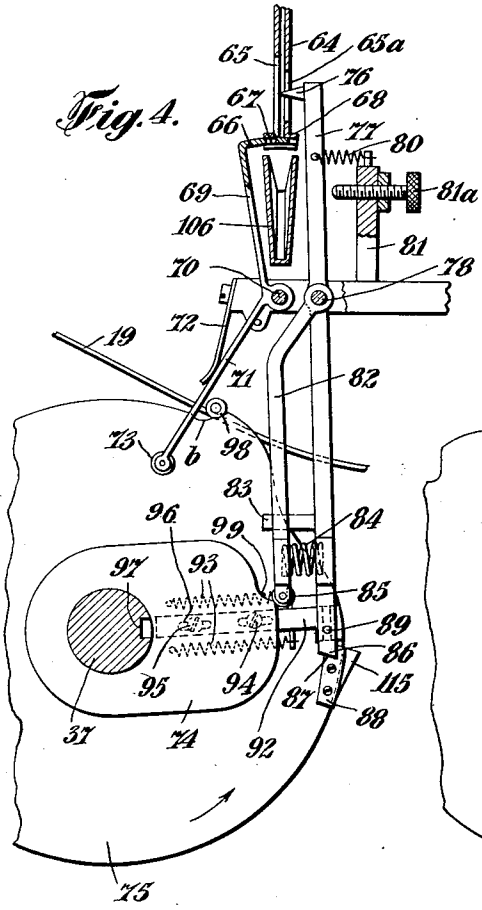


Fig. 5.

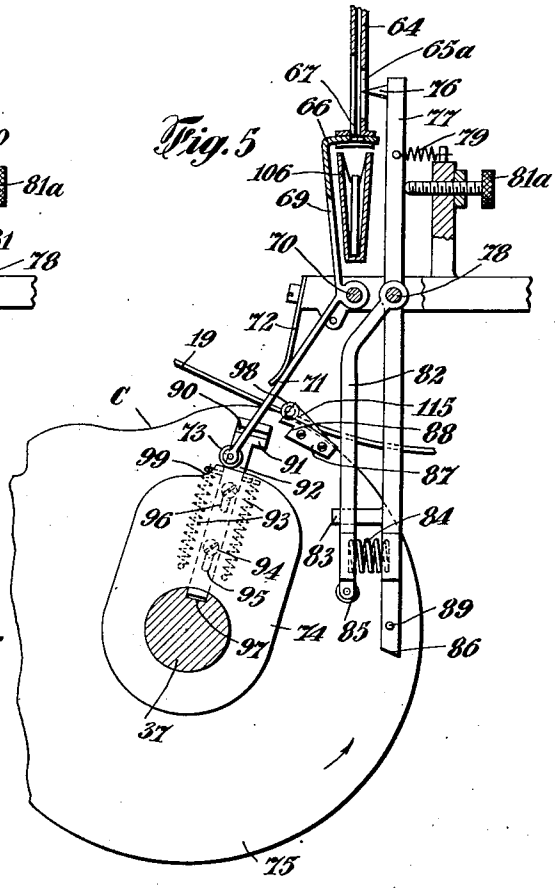


Fig. 6.

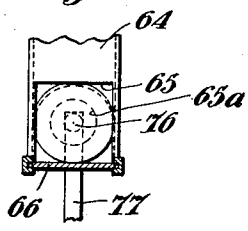


Fig. 7.

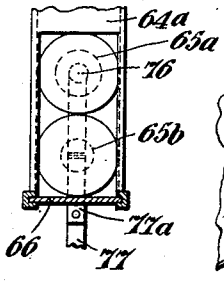
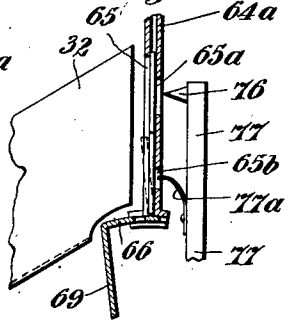


Fig. 8.



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Aug. 17, 1926. 1,596,503

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MAIL MARKING APPARATUS

Filed March 3, 1925 5 Sheets-Sheet 5

Fig. 9.

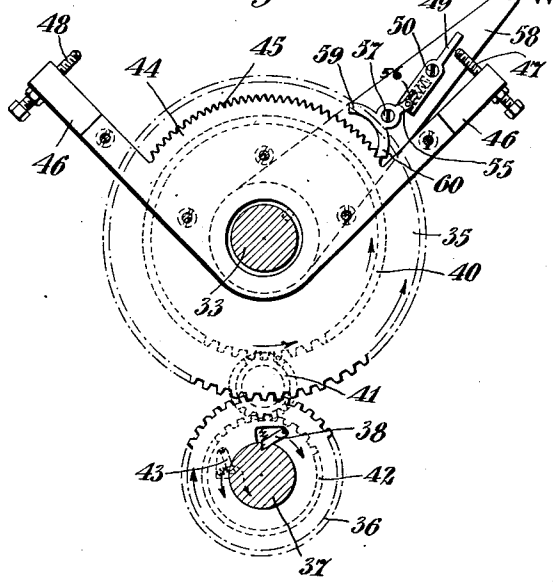


Fig. 9a.

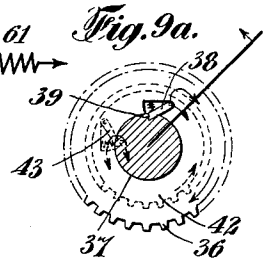


Fig. 9b.

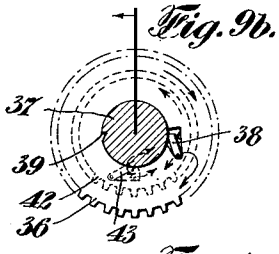


Fig. 10a.

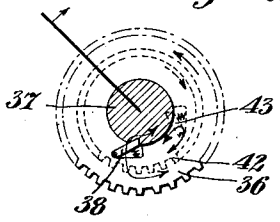


Fig. 10.

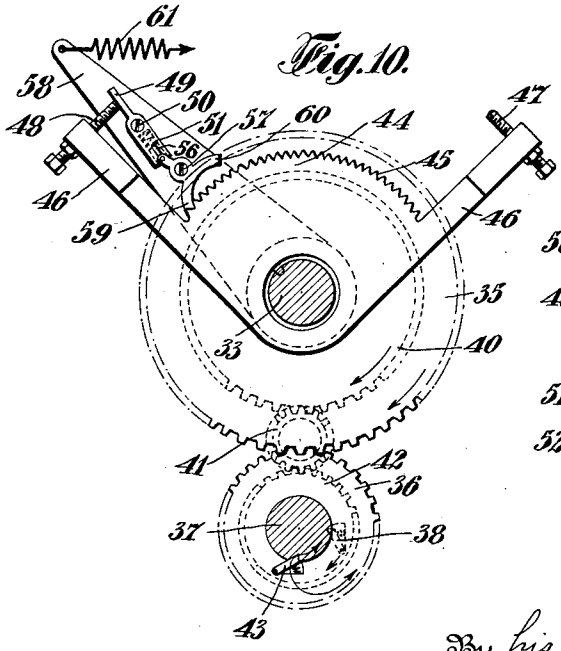


Fig. 10b.

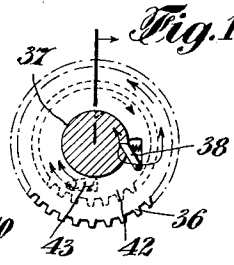
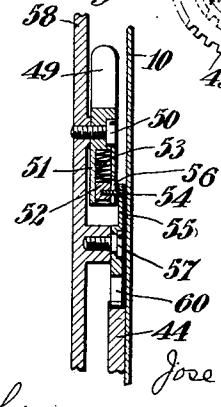


Fig. 11.



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Patented Aug. 17, 1926. 1,596,503

UNITED STATES PATENT OFFICE.

JOSE L. MIFSUD, OF NEW YORK, N. Y.

MAIL-MARKING APPARATUS.

Application filed March 3, 1925. Serial No. 12,834.

My invention relates to improvements in mail marking apparatus, and more particularly to prepayment means for marking individual pieces of mail matter, to the end that the expense and inconvenience of using postage stamps may be displaced by a simpler and more economical means of postal marking, combining the action of stamping with that of posting. The advantage of using postage stamps for individual pieces of mail matter has long been recognized, but there are serious disadvantages, principally the great expense to the government of printing and handling the stamps, and also the inconvenience to the public, as stamps can only be had at certain places, and it is often difficult to get them. My invention involves the idea of prepayment means for marking individual pieces of mail matter, and especially those that are contained in envelopes or like rectangular packages, so that simple machines of this character may be located near or incorporated with mail boxes, mail chutes, and in public places generally, so that one desiring to mail such a package can easily cause the package to be marked "Postage paid" according to government regulations, and deposited in a near-by receptacle.

My invention is preferably inclusive of a coin controlled means for regulating the marking apparatus, to the end that a person may drop a coin or coins in the appropriate chute and then operate the machine to mark his package or letter to indicate that the postage has been paid. In furtherance of this idea, my invention preferably comprises enclosed mail marking means having a support for an individual piece of mail matter in or on the casing arranged so that the piece of mail matter to be marked can be held on the support, and the marking means will act upon it. A preferred way of doing this is to have a niche or slot in the casing which may be triangular, so that a corner of the envelope can be inserted in this niche, and the marking means then made to act through a wall of the niche or slot so as to print upon the desired part of the envelope.

My invention as described in the specifications and drawings herein is not one of detail, but obviously much of the structure shown and described can be changed freely without affecting the invention. For instance, various kinds of coin controlled means can be used for regulating the action of the marking apparatus, and many kinds of marking apparatus can also be used without affecting the principle of the invention. All of which will be better understood from the description which follows.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar reference characters indicate corresponding parts in all the views.

Figure 1 is a broken cross section on the line 1—2 of Figure 3 showing the initial position of the marking parts of the apparatus.

Figure 2 is a view similar to Figure 1 but showing the parts in a different position.

Figure 3 is a broken longitudinal section with parts in section.

Figure 4 is a sectional detail showing one position of the cam and slot mechanism with the main cams loose on the main shaft.

Figure 5 is a view similar to Figure 4 but with the parts in another position and with the cams locked to the main shaft.

Figure 6 is a broken detail of a part of the coin cap and connections.

Figure 7 is a view similar to Figure 6 but showing the coin cap adapted to receive two coins instead of one.

Figure 8 is a sectional side elevation of the structure shown in Figure 7.

Figure 9 is a section on the line 9—9 of Figure 3, showing a part of the mechanism for transmitting motion from the handle of the machine to the main shaft, showing the parts in the initial operating position.

Figure 9^a is a detail of a part of the gear train shown in Figure 9 and with the operating pawls in one position.

Figure 9^b is a view similar to Figure 9^a but with the operating pawls in another position.

Figure 10 is a section similar to that shown in Figure 9 but with the parts in another position.

Figures 10^a and 10^b show progressive movements of the operating pawls of a part of the gear train.

Figure 11 is a detail longitudinal section of the means controlling the dog acting to limit the movement of the operating handle, and

Figure 12 is a broken detail plan showing

the preferred arrangement of the supporting niche in the main casing.

The drawings are by way of example simply to show an operative structure capable of carrying my invention into effect, but I wish it clearly understood that the details are in the main rather unimportant and that much of the structure can be changed as to detail without affecting the invention.

The apparatus is enclosed in a suitable casing 10 to prevent any of its parts from being injured or from being tampered with, and the front part of the casing is formed of a lid or door 11 which can be opened to permit access to the interior of the machine, this front portion being hinged as at 12 and provided with a suitable lock 13. In a portion of the casing, and preferably in the front part, is a niche or recess 14 formed to receive a portion, preferably the corner of an envelope 15 or the like, and in the recess is preferably arranged a pad 16 which should be resilient, while through a wall of the recess opposite the pad is a hole 17 through which the marker 18 may pass to make an impression on the envelope 15. There may obviously be several of these recesses 14 and marking means for each recess, and also coin controlled means for regulating the marking mechanism to each recess, as shown in Figure 3, but as the parts for different rates of postage are all alike except for the coin chute, the description of one answers for the description of all.

In the present instance the marker 18 is shown as a stamp or die which is inked, and which prints a suitable indicating mark on the envelope, and the marker is arranged at the free end of a leaf spring 19 which extends transversely across the casing 10 and is rigidly secured at the inner end as shown at 20. Where an inking marker is used, means must be provided for efficient inking, and while many such devices are common, I have shown a pad 21 arranged in a holder 22 which is hinged to the casing as at 23, and may be swung into position to permit contact of the marker 18 and pad 21. To provide for such movement, the shaft 23 forming the pivot of the holder 22 is provided with a crank arm 24 which is slotted as shown at 25 (see Figures 1 and 2), and which pivotally connects by a pin 26 running in the slot 25 with a pitman 27 moving through brackets 28 and 29, and normally moved downward by the spring 30 arranged between the bracket 29 and a collar 31 on the lower end of the pitman, so that the holder 22 and its pad will lie out of the path of the marker 18, as in Figure 2, but at intervals the holder 22 is actuated by mechanism hereinafter described, so as to bring it to the position shown in Figure 1 and permit the marker 18 to make contact with it, the parts being timed so that when the marker is permitted to move swiftly down through the opening 17 to mark the envelope 15, the pad 21 will swing out of the way to permit such movement.

For each coin slot there is the customary chute 32 which in case a wrong coin is used will return the coin to the front of the machine, and I refer to it here because all the parts above mentioned are carried by the lid or member 11, so that when this is thrown open, the parts connected therewith will also move forward and permit free access to the mechanism of the machine.

As illustrated the machine is normally locked, but is freed to be operated by hand by means of a pull handle after the manner of many cash register machines. To this end the jack shaft 33 is supported in the bracket 34 at one end of the machine, and is operated by a handle 33^a. The arrangement is such that when the handle is pulled forward, it will move the main shaft 37 carrying the operating mechanism, through an arc of 180 degrees, and on the return of the handle, the complete cycle of the shaft will occur, while the handle itself is only operated through an arc of 90 degrees. This idea is not new, but I have shown a simple way of effecting the movement. The shaft 33 is connected by a two to one gear train 35 and 36 with the shaft 37, the gear 36 connecting with the shaft 37 through a spring-pressed pawl 38 and tooth 39 on the shaft. The shaft 33 also connects to the shaft 37 through the gears 40, 41 and 42, the gear 41 being intermediate so that when the handle 33^a is moved back, the same forward movement will be imparted to the shaft 37, that is the same movement as that imparted through the gears 35 and 36. The gear 42 connects with the shaft 37 through a pawl 43 arranged like the pawl 38 already described. Thus when the handle 33^a is pulled forward, the shaft 37 will be turned through an arc of 180 degrees by means of the gears 35, 36, and the pawl 38, while at the return stroke of the handle, the same movement will be imparted through the gears 40, 41, 42, and pawl 43, the pawl 38 riding freely on the shaft as in Figure 9^b during the second half turn of the shaft 37, while the pawl 43 will ride loosely on the shaft when the movement is imparted by the pawl 38. No novelty is claimed for this arrangement, but it is clearly shown in Figures 3 and 9 to 10^a.

In Figures 3, 9 and 10 I have shown means for limiting the movement of the handle 33^a in either direction, and for necessitating the complete forward and back movement of the handle in order to effect operation of the machine. To this end a sector 44 is fixed in the casing as shown in Figure 3, and is centered on the shaft 33. This sector has teeth 45, and has on opposite edges diverging arms 46 which are placed at an angle of 90

degrees to each other, the arms having at their outer ends abutment screws 47 and 48 which can be adjusted and which act alternately on the upper end 49 of a tilting member which is pivoted as shown at 50 on an arm 58 presently referred to, and which is formed into a cylinder 51 at its lower end (see Figure 11) carrying a piston 52 which is pressed down by a spring 53 and carries a pin 54 attached to the upper end of a tilting two-pronged dog 55, the cylinder 51 being slotted as shown at 56 in Figure 11 to permit the tilting movement referred to. The dog 55 has on opposite sides of its center teeth 59 and 60 which are adapted to alternately engage the teeth 45 of the sector 44. The members 49 and 55 are both pivoted on a crank arm 58 which is secured to the shaft 33, and is pulled in one direction by a strong spring 61. Thus when the arm 58 is swung to the limit of its stroke to the right as in Figure 9, the screw 47 striking the member 49, tilts this member on the pivot 50, and also tilts the member 55 on the pivot 57, throwing the tooth 60 into engagement with one of the teeth 45, thus limiting the stroke of the arm 58, and consequently the movement of the shaft 33 in this direction. It will be noticed that the parts 49 and 55 act like a yielding toggle, and when the connecting parts are thrown off the center as in Figure 9, the tooth 60 acts as aforesaid. If, however, the arm 58 is thrown to the opposite limit of its stroke, the member 49 is tilted by the screw 48 and acts to bring the tooth 59 into engagement with one of the teeth 45, thus limiting the stroke movement in this direction.

It will be seen that if the handle 33a is only moved part way it cannot be moved back because the tooth 60 will act as a detent and prevent the handle and its connected shaft from being moved back, and if on the return stroke an attempt is made to check it, the same action will take place with reference to the tooth 59, so that when the handle 33a is started, the complete cycle of movement, that is the complete stroke forward and back must be carried through.

The movement of the mechanism in the casing 10 is preferably coin controlled, and to this end a slotted cap 62 for the coin chute is attached to the top of the casing, and has a coin receiving opening 63 through which a coin of the proper size is inserted to be dropped into the coin chute 64. There are as many of these coin chutes as may be necessary to accommodate coins of desired size, or a plurality of coins of a certain size for each chute, and each coin chute controls a set of marking mechanism, as will be presently described.

Let it be clearly understood that the particular type of coin chute and coin actuated mechanism described is simply to show an operative structure, and that other types can be substituted. As illustrated the coin chute 64 has at its lower end and on one side an opening 65 of a size to retain a coin of desired size, but if the coin is too small it will be forced out through the opening, and a smaller opening 65a is arranged on the opposite side of the chute (see Figure 4) to permit ejecting mechanism to throw out the wrong coin. The coin will normally drop on a coin shelf 66 which holds the coin in position in the lower end of the chute as shown in Figures 5 and 6, and the shelf abuts with the bottom flange 68 of the coin chute, and has slots 67 through which a coin may be dropped when the slots register with the slot of the coin chute. The shelf 66 forms the upper end of the bell crank lever 69 which is pivoted at 70 on a suitable support, and has a downwardly extending arm 71 pressed by the spring 72 and carrying a roller 73 which is held by said spring in the path of an auxiliary cam 74 which moves with and may be attached to a main cam 75. When the roller 73 is actuated by the cam 74 to tilt it on its pivot, it brings one of the slots 67 in position to drop a coin and free the marking mechanism to be operated as described below. A wrong coin is ejected from the bottom of the chute by the boss 76 on the tilting lever 77 which is pivoted on a suitable support as shown at 78, and extends downward into the machine casing, the upper end of the lever being normally retracted by a light spring 79 which can be attached to a pin 80 on the bracket 81, and the rearward movement of the upper end of the lever 77 can be regulated by the abutment screw 81a, (see Figures 4 and 5). The pivot 78 also carries a depending arm 82 which lies generally parallel with and slightly in front of the lever 77, being limited in its movement with reference to the lever 77 by a keeper 83, and the members 77 and 82 are normally separated by the spring 84 arranged between them, while the arm 82 carries at its lower end a roller 85 to run on the operating face of the auxiliary cam 74.

The lever 77 terminates at its lower end in a tooth 86 (see Figure 4) which is inclined and is adapted to engage a complementary shaped shoulder 87 on a clip 88 which is attached to one side of the main cam 75 near its periphery. The lower part of the lever 77 also carries a pin 89 adapted to enter the slot 90 in the outer end 91 of a locking key or pin 92 which slides radially on the cam 74, and the locking pin 92 is normally urged inward by the springs 93, the movement of the pin being limited by the pins 94 and 95 which act in the slots 96 in the pin to permit such movement. When the pin is in its inner position it engages

the keyway 97 in the main shaft 37 (see Figures 4 and 5) so as to lock the cams 74 and 75 to the shaft 37, but when the pin is pulled out, the shaft will turn with reference to the cams, and so the mechanism will not operate to mark the envelope, as will presently appear.

The main cam 75 serves to actuate the spring 19 in one direction, and to this end the spring has a roller 98 which rides on the face of the cam, the shape of which will be best understood by reference to Figure 2, where it it shown in dotted lines. The cam rises from near the center as shown at "*a*" in the form of a web on one side of the cam disc, and when near the high point has a depression "*b*" in which the roller 98 may normally rest, a curved but generally high surface "*c*", and a final abrupt shoulder "*d*" representing the high point, and when the roller 98 has followed around the surface of the cam and leaves the shoulder "*d*," it will spring forcibly downward to the position shown in Figure 2 and a little beyond this, so that the marker 18 will make an impression on the envelope 15. The auxiliary cam 74 has a shoulder 99 to engage the roller 85 and actuate the arm 82 in a manner hereinafter described.

The main shaft 37 also carries a fan-shaped cam 100 (see Figures 2 and 3) for actuating the inking device. This cam strikes the roller 101 on the upturned end 102 of a lever 103 (see Figure 2) which is pivoted as shown at 104 on the bracket 105 at the bottom of the casing 10, and on the forward end of this lever rests the collar 31 of the pitman 27, so that at the proper time the cam 100 will tilt the lever 103, raise the crank 24, and swing the holder 22 and pad 21 into the position shown in Figure 1; and at the same time the cam 75 will move so that the roller 98 will be following the surface "*c*" of the cam and permit the marker 88 to come in position to contact with the pad 21 and be inked, after which the pad 21 swings forward out of the way, and the cam 75 will move to permit the marking as presently described.

When a coin of proper size has passed the shelf 66, it drops down through the extension chute 106 into the box 107 (see Figures 1 and 2) which is removable, and which has a suitable lock 108. When the coin box is removed, the coin opening through the top is locked by gravity by means of the interlocking bell cranks 109 and 110 which are pivoted at 111, and which by the weight of their tail portions causes the upper members to close the slot. The coin box has an auxiliary box 112 at the side, which has a separate lock 112[a] and which is not opened by the person having the key to the coin box. This inclined box or casing 112 is guided in a keeper 113 through which is a slot 114 to permit the fin 115 on the clip 87 to strike the arm 116 of the counter 117 at each revolution of the main cam 75 and consequently at each marking operation, so that the counter will register the number of operations to keep check on the coins found in each box 107.

I have not shown the structure of the coin box and cover because they may be of any approved kind, neither have a shown the means for removing the box and casing 112, as anyone skilled in the art will understand how this may be done in many ways.

In case it is desired to have a plurality of coins, say two coins, to provide for an operation of the machine, the opening for ejecting the coins at the bottom of the chute 64 can be made the height of two coins as shown in the chute 64[a] in Figures 7 and 8, and two slots 65[a] and 65[b] may be made in the back of the chute so as to register with superposed coins, while the lever 77 can have an additional spring tooth 77[a] to project through the slot 75[b] and cause the ejection of the coin which may be too small.

To operate the machine, the operator drops a coin of the right size through the coin slot 64, which comes to rest on the shelf 66, inserts one corner of the envelope 15 in the triangular recess 14, and moves the handle 33[a] a full stroke forward and back. The back stroke can be effected by the spring 61. As the operator starts the handle, the movement is imparted to the shaft 37 through the train of gearing shown in Figures 9 to 10, and the cam 100 acting on the lever 103 holds the pad 21 in the position shown in Figure 1, while the roller 101 is traversing the operating face of the cam, at the same time the roller 98 will be traversing the part "*c*" of the cam 75, permitting the marker 18 to be inked. Now if there were no coin in the slot there would be no resistance to the boss 76, and the lever 77 would be moved at its lower end by the spring 84 so that the pin 92 would be pulled out of the keyway 97 by the pin 89, and the lever 77 would be in the path of the shoulder 88 of the clip 87, and the mechanism could not operate, but as the coin is in position opposite the boss 76 such action cannot take place. The lower end of the lever 77 is held inside the path of the shoulder 88 of the clip 87, and the clip, and consequently the cam 75, are permitted to turn while the pin 92 is held in locking engagement with the shaft 37. As the movement progresses, the roller 98 will pass along the high part of the cam 75 to the shoulder "*d*," the pad 21 will meanwhile have swung back out of the way, and the marker 18 will spring swiftly down upon the corner of the envelope 15, properly marking it, and while this movement has been taking place, the

auxiliary cam 74 will have brought its shoulder 99 against the roller 73 and actuated the shelf 66 to permit the coin to drop through the chute 106 to the coin box 107, and the fin 115 will have struck the arm 116 of the counter 117, registering the movement.

I claim:—

1. An apparatus of the kind described comprising an enclosing casing having an inwardly extending recess forming a mail support adapted to receive a portion only of a piece of mail matter, a spring member carrying a marking device operating through the wall of the recess to impress a mark on the mail matter therein, and a cam mechanism to raise the aforesaid spring member after each stroke of the marker.

2. An apparatus of the kind described comprising an enclosing casing having an inwardly extending recess forming a mail support, a spring member having a marker acting through the wall of the recess to mark the mail matter therein, means for moving and holding the marker against the tension of its spring, and means for inking the marker.

3. In an apparatus of the kind described, having mail marking mechanism, a main shaft, operating means for said mail marking mechanism carried by said main shaft, a handled oscillating shaft arranged to impart continuous rotation to the main shaft, and means acting to prevent a backward movement of the handled shaft till its full oscillatory movement is completed.

4. In an apparatus of the kind described, having mail marking mechanism, a main shaft, operating means for said mail marking mechanism carried by said main shaft, an oscillatory handled shaft arranged to impart continuous rotary movement to the main shaft, and a double acting pawl mechanism arranged to limit each oscillation of the handled shaft and to lock the said shaft against backward movement during each oscillation.

5. In an apparatus of the kind described, having mail marking mechanism, a main shaft, operating means for said mail marking mechanism carried by said main shaft, an oscillating handled shaft arranged to impart continuous rotary motion to the main shaft, a fixed toothed sector, and a double acting pawl carried by the toothed sector and acting to limit the oscillatory movement of the handled shaft and prevent backward movement of said shaft during each oscillation.

6. In an apparatus of the kind described, having mail marking mechanism, a main shaft, operating means for said mail marking mechanism carried by said main shaft, an oscillatory handled shaft arranged to impart continuous rotary motion to the main shaft, a fixed toothed sector, a yielding toggle carried by the handled shaft, a double ended dog carried by the toggle and engaging the toothed sector, and means for moving the toggle and reversing the dog at each oscillatory movement of the handled shaft.

7. In an apparatus of the kind described, having mail marking mechanism, a main shaft, operating means for said mail marking mechanism carried by said main shaft, an oscillating handled shaft arranged to impart continuous rotary motion to the main shaft, a fixed toothed sector, a yielding toggle carried by the handled shaft, a double ended dog carried by the toggle, and adjustable means for moving the toggle and reversing the dog at each oscillatory movement of the handled shaft.

8. In an apparatus of the kind described, having mail marking mechanism, a main shaft, operating means for said mail marking mechanism carried by said main shaft, an oscillating handled shaft arranged to impart continuous rotary motion to the main shaft, a fixed toothed sector, a crank arm carried by the handled shaft, a toggle on said crank arm, a double ended dog yieldingly carried by the toggle to engage the toothed sector, and means for moving the toggle and reversing the dog at each oscillatory movement of the handled shaft.

9. An apparatus of the kind described comprising an enclosing casing having an inwardly extending recess forming a support for a portion only of a piece of mail matter, a marking device, a spring member on which said marking device is mounted, and a cam mechanism to raise the aforesaid spring member after each stroke of the marker and to hold said spring member under tension.

10. An apparatus of the kind described comprising an enclosing casing, an inwardly extending mail support in said casing, a marking device, a resilient member on which said marking device is mounted, an inking device for said marking device, means for normally holding said marking device against the tension of said resilient member, and means operative upon movement of said marking device holding means for placing the inking device in position to contact with said marking device.

11. An apparatus of the kind described comprising an enclosing casing having a support for mail matter, a mail marker, a spring arm on which said marker is mounted, a main shaft in said casing, a cam on said shaft for controlling the movement of said marker, said marker being normally held against the tension of said spring arm by said cam, an inking device in said casing, a second cam on said shaft, means connecting said inking device with said second cam,

said second named cam being so arranged with respect to said first named cam that said inking device is elevated to ink said marker and depressed prior to the marking of the mail matter.

12. An apparatus of the kind described, comprising an enclosing casing, means formed in the casing for receiving mail matter to be marked, a marking device, a recording device, an inking device, cam mechanism for raising the marking device after each stroke thereof and for actuating said recording device, and means connecting said cam mechanism and said inking device to operate the latter, said means being so arranged that said inking device is elevated to ink said marking device and depressed prior to the marking of the mail matter.

13. An apparatus of the kind described comprising an enclosing casing, means formed in the casing for receiving mail matter to be marked, a marking device, a spring member on which said marking device is mounted, a recording device, and a cam mechanism to raise the aforesaid spring member after each stroke of the marking device and to hold said spring member under tension and for actuating said recording device.

14. An apparatus of the kind described comprising an enclosing casing, means for receiving mail matter to be marked, a marking device, a resilient member on which said marking device is mounted, an inking device, a recording device, an operating shaft, and cam mechanism on said operating shaft for actuating said inking device, said marking device and said recording device.

In testimony whereof, I have signed my name to this specification this 26th day of February, 1925.

JOSE L. MIFSUD.