

July 30, 1935.

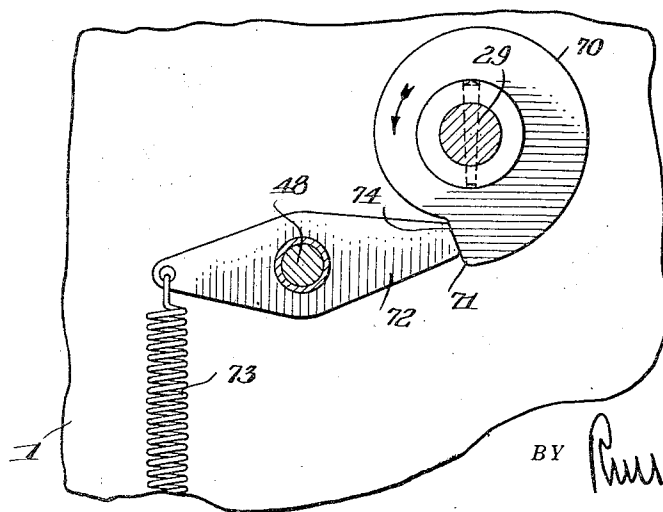
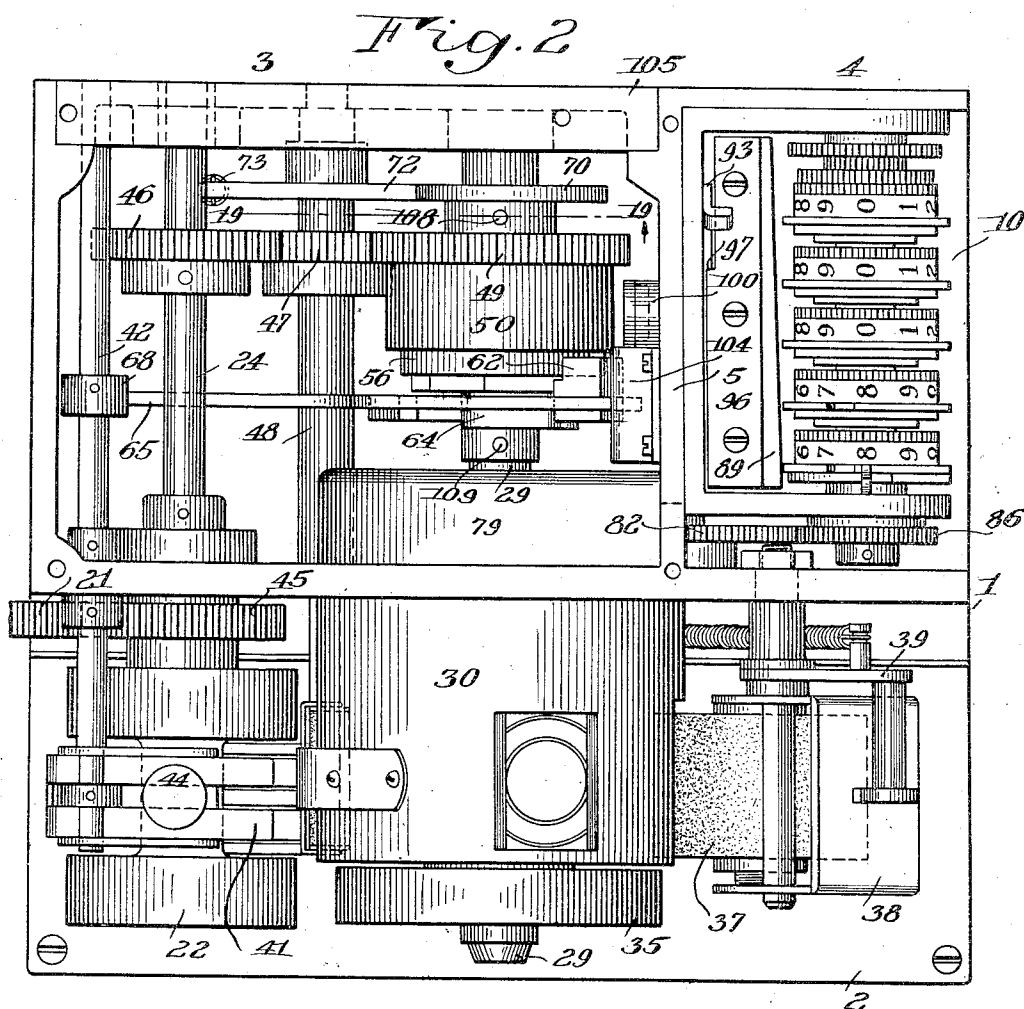
A. GAY

2,009,490

PREPAYMENT POSTAGE MACHINE

Filed July 30, 1932

7 Sheets-Sheet 2



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July 30, 1935.

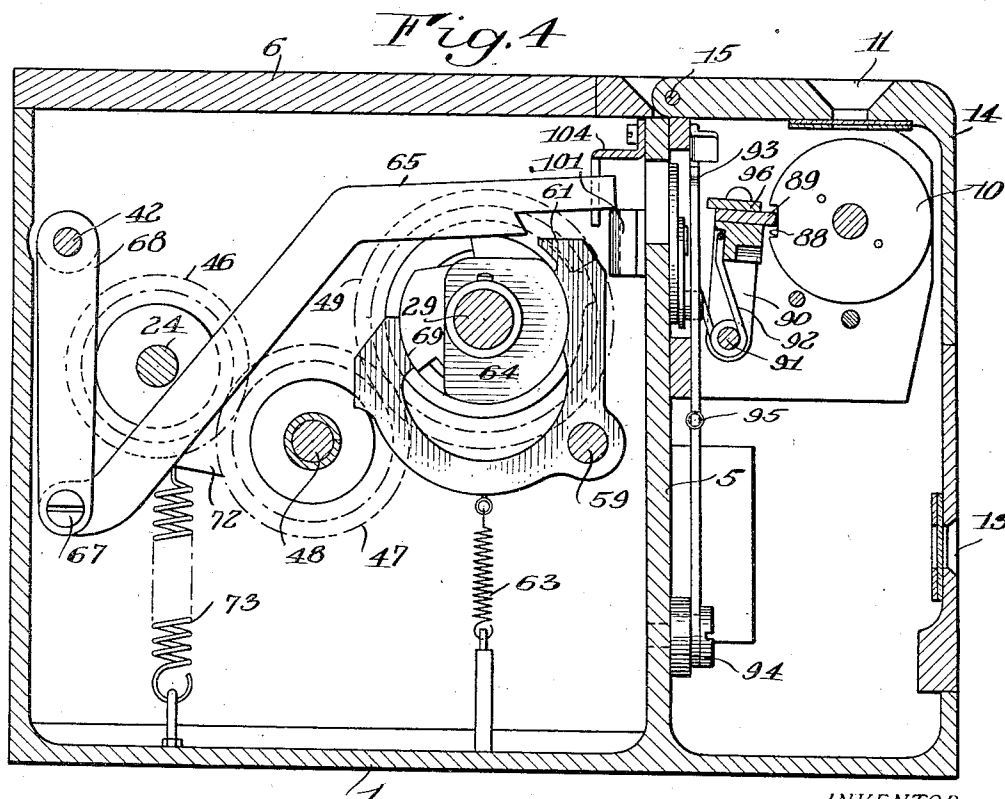
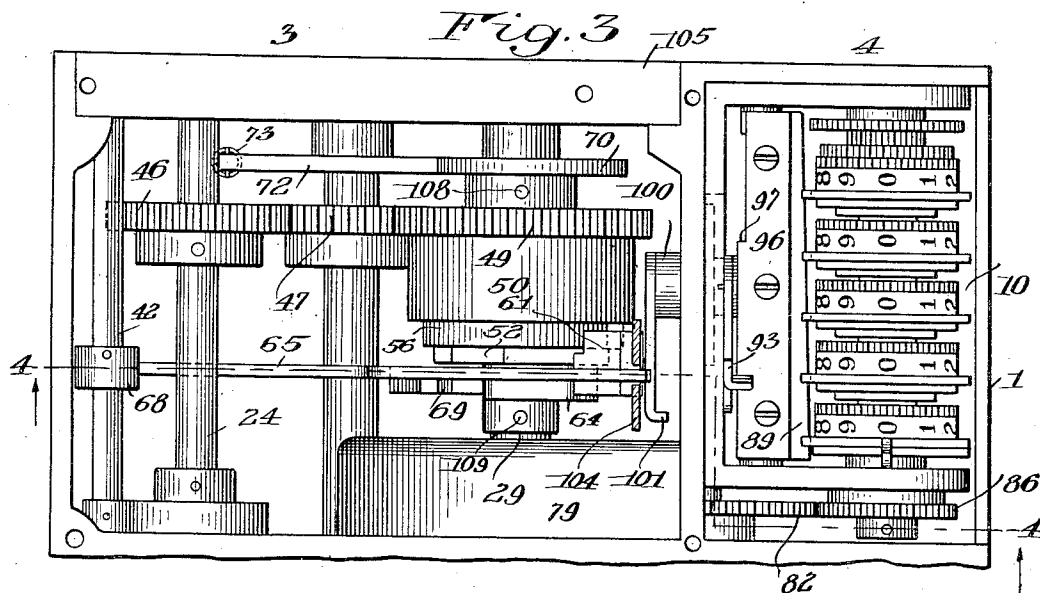
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PREPAYMENT POSTAGE MACHINE

Filed July 30, 1932

7 Sheets-Sheet 3



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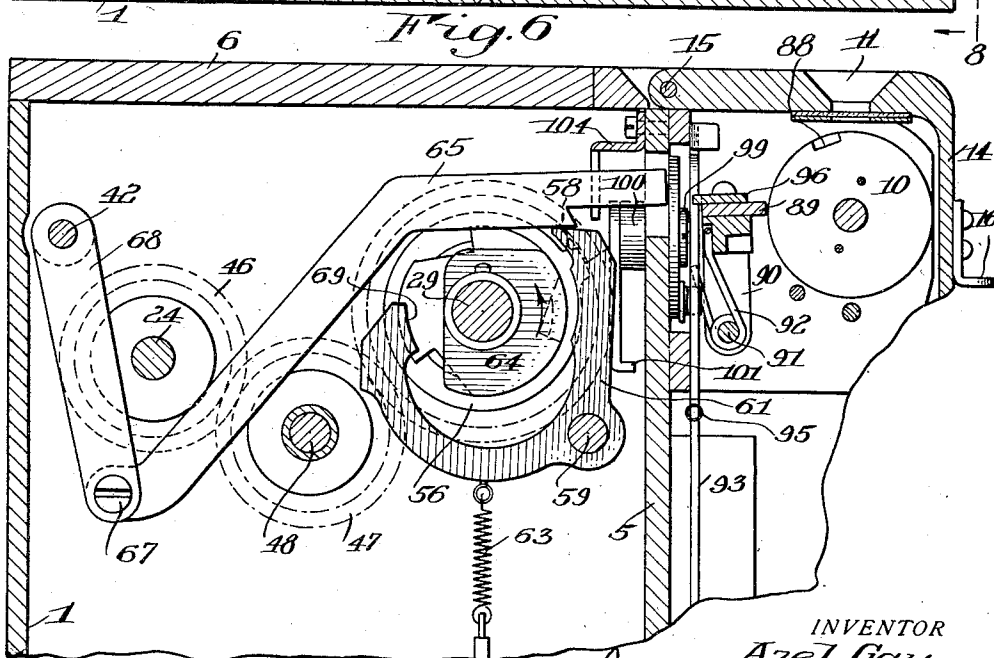
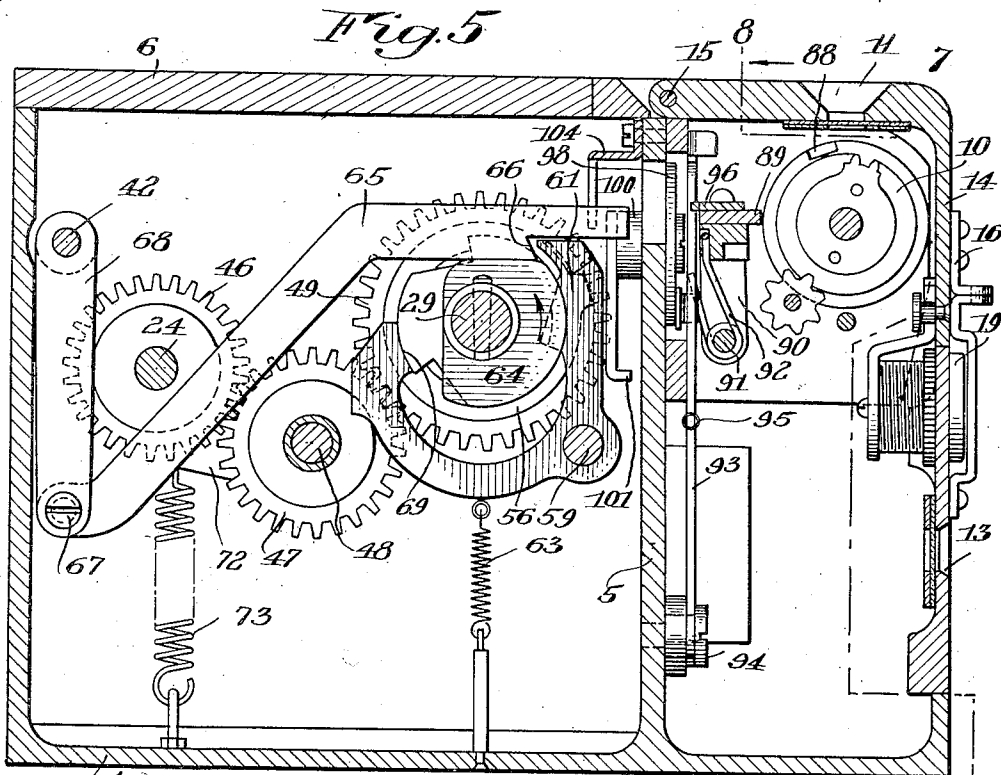
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2,009,490

PREPAYMENT POSTAGE MACHINE

Filed July 30, 1932

7 Sheets-Sheet 4



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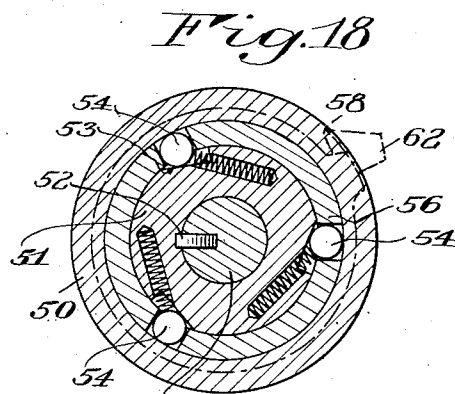
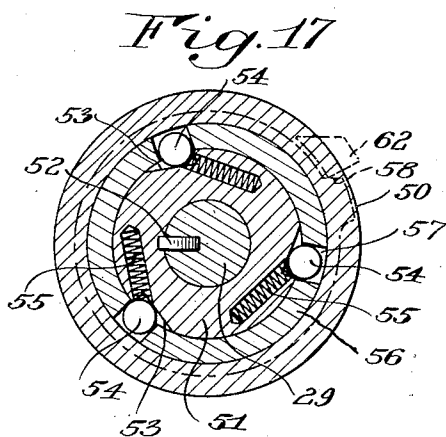
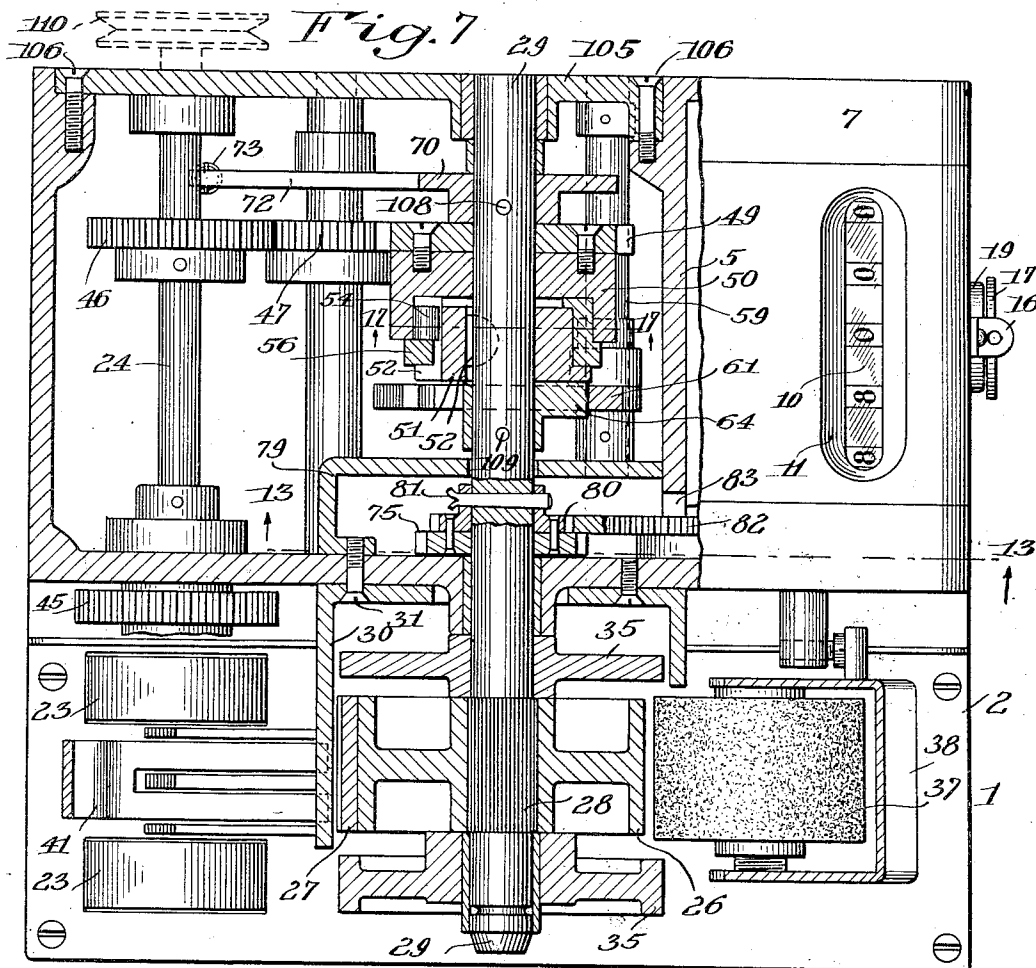
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PREPAYMENT POSTAGE MACHINE

Filed July 30, 1932

7 Sheets-Sheet 5



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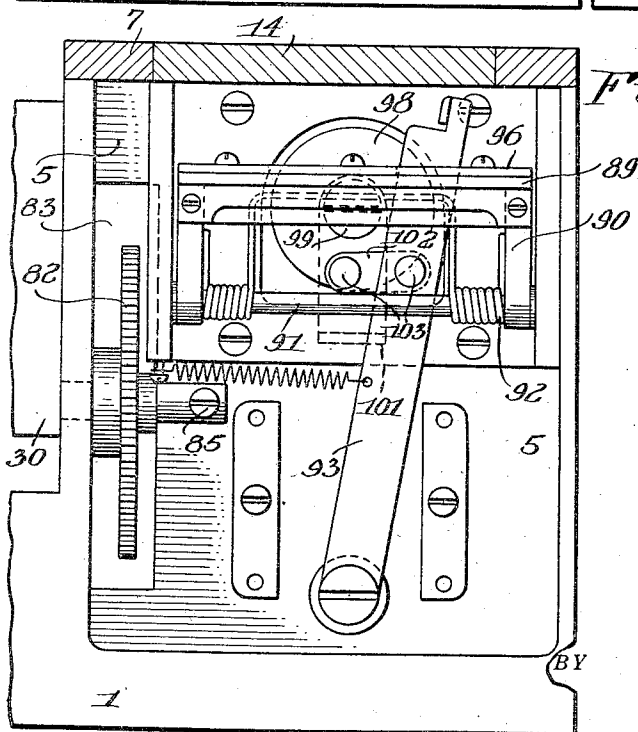
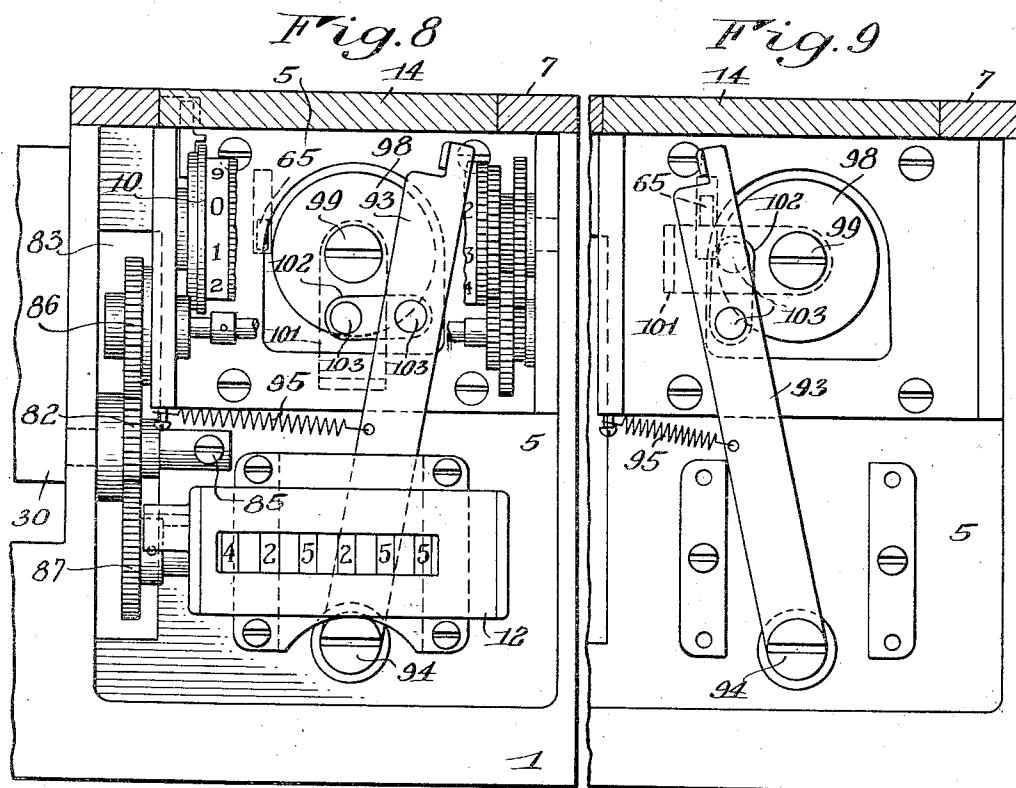
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2,009,490

PREPAYMENT POSTAGE MACHINE

Filed July 30, 1932

7 Sheets-Sheet 6



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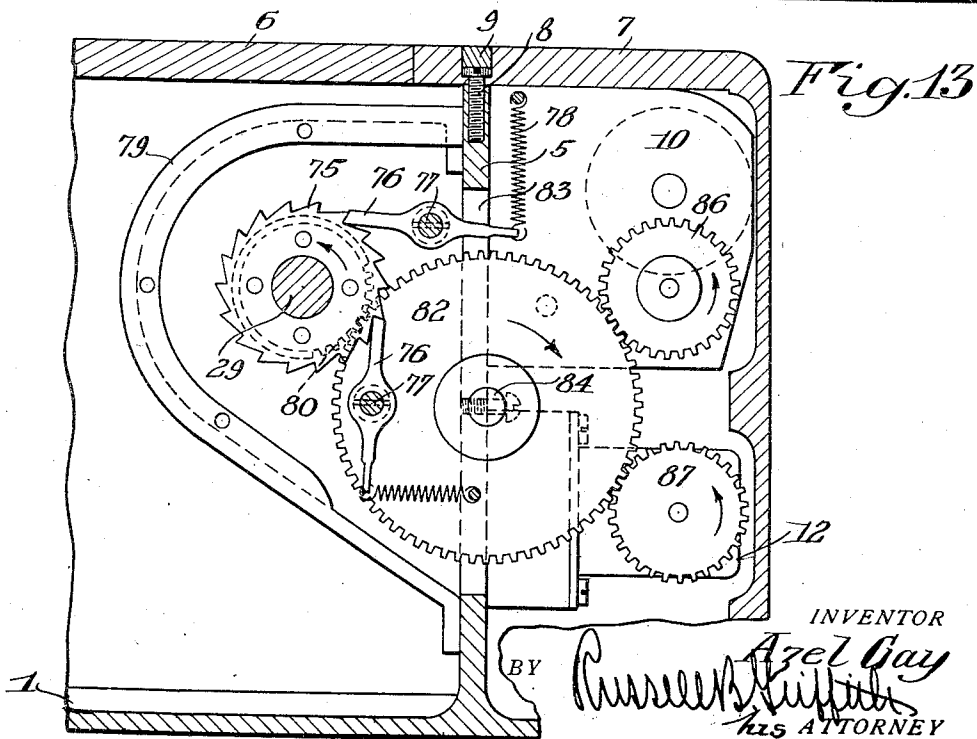
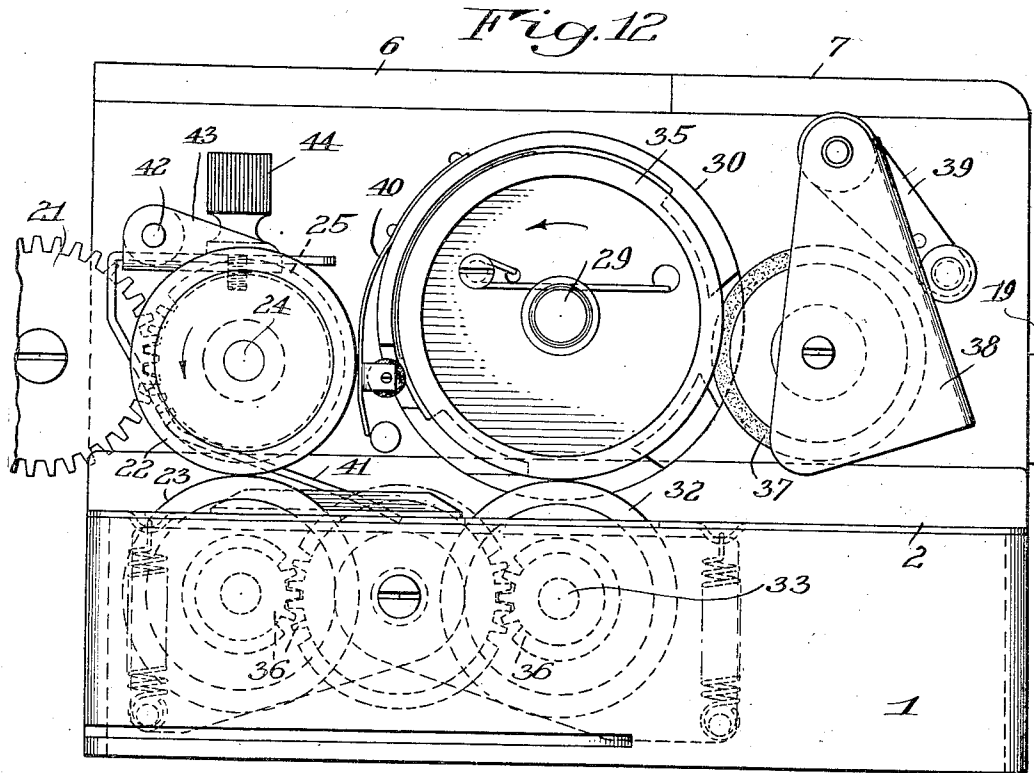
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2,009,490

PREPAYMENT POSTAGE MACHINE

Filed July 30, 1932

7 Sheets-Sheet 7



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UNITED STATES PATENT OFFICE

2,009,490

PREPAYMENT POSTAGE MACHINE

Azel Gay, Rochester, N. Y., assignor to Multipost Co., Rochester, N. Y., a corporation of New York

Application July 30, 1932, Serial No. 626,443

12 Claims. (Cl. 101—91)

My present invention relates to mail handling devices and more particularly to mechanisms for applying prepaid postage to envelopes, cards and similar mail matter run rapidly therethrough usually as part of a mailing machine for business and office use which also feeds, moistens, closes and seals an envelope although this invention is not otherwise concerned with these functions. The invention has for its object to provide a simple, compact and efficient high speed machine of this character that will be durable and dependable and will act with precision at all times. A further object of the invention is to provide a machine of the metered postage printing type which will conform with existing postal regulations and will embody an improved meter mechanism combined therewith in a manner that will effectually resist efforts to tamper therewith. The improvements are further directed, in part, toward the tripping mechanism whereby the passage of a piece of mail matter through the machine is effective to transmit motion to the element that applies the postage; the cycle member that renders that motion individual to that particular piece of mail matter, and toward the control exerted by the metering register over these devices.

To these and other ends, the invention resides in certain improvements and combinations of parts, all as will be hereinafter more fully described, the novel features being pointed out in the claims at the end of this specification.

In the drawings:

Fig. 1 is an elevation of the delivery end of a mailing machine constructed in accordance with and illustrating one embodiment of my invention;

Fig. 2 is a top plan view of the printing and metering unit with the cover plates removed;

Fig. 3 is a fragment of the showing of Fig. 2 with parts in other positions;

Fig. 4 is a vertical section taken substantially on the line 4—4 of Fig. 3, through the cycle member shaft and showing the trip mechanism locked out by the meter register;

Fig. 5 is a view similar to Fig. 4 but showing the trip in normal position and the cycle member locked;

Fig. 6 is a fragmentary view similar to Fig. 4 showing the trip actuated and the cycle member starting rotation;

Fig. 7 is a horizontal section taken axially through the cycle member or driven shaft;

Fig. 8 is a transverse vertical section through the meter register case taken substantially on the

line 8—8 of Fig. 5, showing the lock out for the trip in normal or inoperative position;

Fig. 9 is a fragmentary repetition of Fig. 8 with the trip lock out in operative position;

Fig. 10 is a view similar to Fig. 8 with the registers removed;

Fig. 11 is a detail perspective view of the detent plate for the trip lock;

Fig. 12 is a front view of the meter unit showing the driving connection and the feed rolls;

Fig. 13 is a fragmentary section looking from the front in the plane of the front wall of the casing, as indicated substantially by the dotted line 13—13 of Fig. 7;

Fig. 14 is a perspective view taken from the rear of the cycle member detent;

Fig. 15 is a similar view of the clutch controller with which it cooperates;

Fig. 16 is a front view of said detent and its restoring cam;

Fig. 17 is a vertical central section through the clutch mechanism of the cycle member taken on the line 17—17 of Fig. 7, enlarged, the clutch being in normal or disengaged condition;

Fig. 18 is a similar view with the clutch in engaged or operative position, and

Fig. 19 is a vertical section through the driven or cycle shaft showing in front elevation an automatic clutch releasing device.

Similar reference numerals throughout the several views indicate the same parts.

Features of my invention have a wide range of application and usefulness in the art to which it appertains as, for instance, the application of postage stamps to letters and the precancelling thereof, but I will describe it as applied to a metered postage printing machine as the device illustrated in the drawings as one embodiment of the invention was designed for this particular use. This being the case, a brief explanation of the requirements of a metered postage mailing machine will first be given.

In such machines, each revolution of a type cylinder prints the frank mark of a prescribed denomination upon a piece of mail matter passing through the machine. The revolutions are registered upon a meter provided with two sets of registers or counters, one of which accumulates a total, as usual, indicating the entire history of the machine's work, and the other of which functions reversely in that the accumulators decrease instead of increasing a total. The user pays the postoffice a given amount of money and a postal authority sets the meter so that it registers such corresponding number of revolutions of the type

cylinder on the descending accumulator as will use up that amount of postage according to the denomination of the stamp tax desired.

When zero is reached during the subsequent use of the machine, the meter is automatically locked against further actuation and in turn automatically locks the printing or postage applying element against further use that has not been paid for. The meter must then again be taken to the postal authorities and a resetting purchased. At this time, the descending counter is at zero and a check can be made from the ascending total register on comparing the reading with the preceding transaction to make sure for instance, that no way has been devised to operate the machine beyond the zero reading without actuating that register.

It will thus be observed that mistakes cost money and, in fairness to both parties to the transaction, it is essential that the metering unit, including the counters, be accurate in operation; that each actuation of the stamping element with corresponding actuations of the registers be limited to a single cycle sufficient for marking only the one piece of mail matter that tripped the mechanism; and that all the essentials of these parts be proof against tampering, both to protect the owner against dishonest operators and the Government against both.

In the present embodiment of my invention, I have produced a relatively light and compact machine in which a key controlled metering unit, that comprises both the printing element and the registers, is removable from a mailing machine in general to be transported to the postal authorities for the advance purchase of further postage.

Referring more particularly to the drawings, with these ends in view, and first to Figs. 1, 2 and 12 thereof, I indicates generally a casing having the form and characteristics of a strong box. An extension 2 at the front constitutes a shelf or table providing the feeding bed for the letters and the box itself is divided into two compartments 3 and 4 by partition wall 5. Covers 6 and 7 for these are formed separately and are, for usual purposes, permanently secured in place with blind screws, such as those indicated at 8 in Fig. 1, to prevent access to the interior, the plugs 9 covering the screws being machined off so that the location of the latter cannot be detected. It remains possible, however, for the manufacturers and other authorized persons to take the machine apart under circumstances of necessity.

Compartment 3 contains the gearing of the printing or postage applying mechanism, while compartment 4 contains the meter registers. The descending register 10 set for an installment of prepaid postage is at the top of the latter compartment and its reading is viewable through an inspection opening 11. The accumulating register of total operations, indicated at 12, is below it and its reading is viewable through opening 13 (Figs. 5 and 1, respectively). Access to the register compartment for the purpose of setting the register 10 by authorized postal authorities is gained through a door 14 hinged in cover 7 at 15. Hasps 16 and 17, the latter pivoted to the box at 18, cover the keyhole of a lock 19 for the door with the protection of a Government seal 20 applied at the time the meter is delivered to the customer after setting.

Registering mechanism of a specific character suitable for this invention and substantially such

as illustrated herein is disclosed and claimed in my prior pending application, Serial No. 599,224, filed March 16, 1932. The differences, insofar as they concern their combination with the particular postage applying mechanism herein contained, will be later described in connection therewith.

The entire detachable and portable unit of this postage applying and metering invention, as before mentioned, forms part or may form part of a mailing machine with which it is merely associated to perform the last of a series of operations in the preparation and dispatch of mail matter. An envelope feeding, sealing, stamping and cancelling machine of this character is disclosed generally in another copending prior application of mine, Serial No. 503,382, filed December 19, 1930. The present device takes the place of the stamp affixing and cancelling elements of that disclosure. The feed bed 2 herein constitutes a continuation of the feed bed of such a machine, and I have, therefore, illustrated in the accompanying drawings (Figs. 2 and 12) only an intermediate driving gear 21 that joins the associated machines for synchronous operation and which, therefore, in this machine, may be considered to be the prime mover.

The travelling envelope is thus ultimately received between a pair of feed rollers 22 and 23. The upper one 22 is carried on a shaft 24 extending through the gear case to which is fixed a gear 25 meshing with driving gear 21. These feed rollers pass the envelope on beneath a printing head 26 (see now also Fig. 7) having a suitable rotary type face 27 thereon. This is swedged at 28 upon a driven cycle shaft 29 extending through and having bearings in the gear case. Its projecting end carrying the head above the bed is protected by a hood 30 secured to the case by screws 31. The type face 27, of course, carries the indicia to be applied to the envelope, such as the denomination of the tax frank or postage imprint and the license number of the licensee or person charged with the custody of the machine.

A rotary platen roll 32 opposing the type head turns on a stud shaft 33 in the case below the bed and serves also as a feed roll in which capacity it cooperates with further upper feed rolls 35 on the cycle shaft 29 arranged on opposite sides of the printing head to give the final feed impulse to the envelope during printing that discharges it from the mailing machine. The lower feed rolls 23 and 34 are suitably driven in the same direction by gearing indicated generally at 36 in Fig. 12. An inking roll 37 for the printing head protected by a hood 38 is carried by a suitable detachable mount 39. 40 is a doctor roll. Different heads 26 for printing different denominational indicia may, of course, be interchanged on the shaft 29.

The passage of each letter sets the driven or cycle shaft 29 automatically in motion and the printing head is also automatically stopped after a single revolution has printed or stamped that letter through the medium of a letter actuated trip 41 lying in their path (Figs. 2, 7 and 12). In the present instance, this trip is in the form of a bifurcated depending inclined arm associated with the feed rolls and carried on the projecting end of a rock shaft 42 extending through the casing of the gear compartment 3 and to which it is secured. The upper feed roll 22 is divided, as shown, to receive it and it extends through the horizontal plane of tangency of the feed rolls so that it must be lifted by the passage

of a letter therethrough turning the rock shaft 42 to a limited degree counterclockwise. For the reasons that will hereinafter appear, the trip once raised, even though so held for an indefinite period, will still cause only one rotation of the printing shaft so that it has to pass off of one letter, restore itself to lowered position and be raised again by a succeeding envelope to cause a further actuation. In the present instance, this trip finger restores itself by gravity. It is mounted on the rock shaft 42 through the medium of a bracket 43 to which it is slidably adjustably secured by a knurled knob screw 44, the weight of which assists the gravitational action.

Transmission gear

The transmission of motion from the prime mover or driving gear 21 to the intermittently driven shaft 29 is best illustrated generally in Figs. 2 and 7. The said driving gear exteriorly of the gear box compartment 3 meshes with a gear 45 fixed to the projecting end of the feed roll shaft 24. Within the gear box another gear 46 through the medium of a pinion 47 free on a shaft 48 drives a gear 49 free on shaft 29. To this last mentioned gear is secured the free outer shell 50 of a clutch shown further in section in Figs. 17 and 18. The opposite and inner element of the clutch consists of a hub 51 splined to the driven shaft at 52. The usual inclined seats 53 formed on its periphery are occupied by clutch rollers 54 which, with relative rotation between the parts in one direction, wedge between the clutch elements and lock them together for joint movement and in the other direction are freed to throw out the clutch in a manner familiar to those skilled in the art. Springs 55 within the element 51 tend to normally urge the rolls into interlocking engagement, but interposed between the clutch elements is a ring 56, shown in detail in Fig. 15, having cages 57 laterally confining the rollers 54. Thus, the springs 55 may be and are normally restrained and the rollers 54 held neutral with the clutch elements relatively free by the ring. Assuming that the prime mover connection 21 runs continuously, the only element on the printing head shaft 29 that runs continuously with it is the outer clutch shell 50 and the gear 49 to which it is secured. This restraint upon the clutch is exercised in the following manner:

Tripping actuation

Referring now additionally to Figs. 14 and 16, there is formed on the periphery of the ring 56 a stop lug 58, while pivoted on a shaft 59 (Figs. 4 to 6) adjacent to shaft 29 is a yoke 60, one arm 61 of which carries a laterally and rearwardly projecting detent lug 62 against which the stop lug 58 is normally lodged, as shown in dotted lines in Figs. 4 and 5, while the clutch shell 50 alone is rotating to the left in the front views. The detent is so held in restraining position by a spring 63. Within the yoke 60, there is fixed to shaft 29 a cam 64 on the flat upper face of which normally rests an arm 65 having a shoulder 66 adjacent to the tip of detent arm 61. This arm or link 65 is pivoted at 67 to a crank arm 68 fixed to the rock shaft 42 of the envelope trip finger 41 previously described and all as clearly shown in Figs. 5 and 12.

Therefore, when an envelope passes through feed rollers 22—23 on its way to the printing head 26 and reaches the trip finger 41, the shaft 42 is

rocked counterclockwise, arm 65 is thrust to the right and detent arm 61 is dislodged from the stop 58 on the clutch ring. The clutch springs 55 thereupon thrust the ring to the left, permitting the rollers 54 to lock between the clutch elements 50 and 51, the change being from the positions of Figs. 5 and 17 to those of Figs. 6 and 18. The shaft 29 is thus driven and the printing head thereon makes an impression on that particular envelope.

Fig. 6 shows the positions at the instant the clutch is engaged with the detent lug 62 riding on top of the stop lug 58. As soon as the latter passes on, the yoke 60 is restored to bring the detent lug back in reengaging position upon the periphery of the ring 56 through the action of spring 63, but, in order to make this return positive under all conditions and even though spring 63 should break, the beforementioned cam 64 is provided. This cam ultimately engages the opposite arm 69 of the yoke for this purpose. The arm 65 falls back to set position as soon as the envelope has passed from the exterior trip finger 41, but if, for any reason, it remains raised it has slipped off and remains clear of the detent.

The cycle

For these reasons, the described mechanism on and about the driven printing head carrying shaft 29 provides a single acting cycle of operation dependent for its initiation and its repetition solely upon repeated operations and repeated return movements of the envelope actuator trip. When the one revolution nears completion, the single imprint has been made and the type face 27 has returned to the ready position of Figs. 7 and 12, the stop lug 58 on the controlling ring 56 again abuts and is halted by the detent lug 62 on the yoke, as in Fig. 5. The inertia, as is usual in the operation of such clutches, throws the clutch elements 50 and 51 slightly ahead of the halted rollers 54 which reach the deep portions of the seats 53 and the elements are disengaged, the former or first mentioned running on idly and the inner hub 51 being arrested by the rollers themselves as locked within their cages in the ring.

To make sure that this disengagement occurs promptly, driven shaft 29 (Figs. 7 and 19) has fixed thereto a cam-shaped disk 70 provided with a shoulder 71 inclined relatively to the maximum radius thereof, while on adjacent shaft 48 is pivoted an arm 72 that rides the cam under the influence of a spring 73. When the aforesaid point of disengagement of the clutch is reached, the similarly inclined end 74 of this lever arm slides down face 71 to the position of Fig. 19 and gives the cam and the shaft just enough of a forward kick to insure the slight forward disengaging movement of the clutch hub 51 necessary to free the rollers 54.

When so engaged, arm 72 tends to lock the driven elements against retrograde movement but not at other times. It would not do to leave it possible for one to rock the printing head back and forth at any point in the cycle should the machine happen to stop there for any reason and gain extra impressions from the type face. A ratchet 75 is, therefore, fixed to shaft 29 engaged by two differently positioned stop pawls 76 pivoted at 77 to studs on the inner face of the front wall of the box under the influence of springs 78. These provide a double factor of safety against spring breakage and tampering, besides which

these elements are protected and enclosed by a separate individual casing 79 within the gear box.

The register control

5 This same inner casing 79 (Fig. 13) houses a pinion 80 secured to ratchet 75 and hence to the driven shaft by a common concealed locking pin 81 (Fig. 7) together with a portion of an intermediate gear 82 that projects through a slot 83 10 in partition 5 and which gear the pinion drives during the cycle. Gear 82 is mounted on a stud 84 secured to partition 5 by a screw 85 (Fig. 10). It in turn meshes with the driving gears 83 and 87 of the upper descending register counter 10 15 and the lower ascending register counter 12, respectively. While it may be noted that these two counters are driven in the same direction, their ascending and descending performances are effected by relatively reversing the digits on one 20 of the sets of counter wheels. The gear ratio of Fig. 13 is such, obviously, that one rotation of cycle shaft 29 advances the register units one count each in their respective spheres.

When the descending register 10 reaches zero, 25 indicating, as before explained, that the amount of the purchased postage has been exhausted, it automatically locks the cycle mechanism against further performance, disconnecting it from further control by the trip finger 41 in the path 30 of the envelopes and rendering further operations of this finger idle movements. A way of doing this is fully disclosed in my beforementioned copending application, Serial No. 599,224, so far as the specific construction of the descending counter 10 is concerned. It is therefore, 35 sufficient to say herein, referring for instance to Fig. 6, that the accumulator wheels of this register are provided with peripheral notches 88. A locking bar 89 carried by a swinging yoke 90 40 pivoted on a shaft 91 rides on the peripheries of these wheels with which it is held in engagement by the action of a spring 92 coiled about the shaft 91. This normal position is as shown in Figs. 5 and 6. When the register comes to zero, 45 the notches 88 are all aligned transversely and the bar 89 and its yoke change positions by dropping into the notches, as shown in Figs. 3 and 4, thus locking the register. In my other said application, such change of position on the part of 50 the bar halted or disconnected the prime mover of the machine. In the present showing, it throws out the trip arm 65 in the following manner:

Referring additionally to Figs. 8 to 11, the 55 bar 89 acts as a detent for a lever 93 pivoted at 94 to the partition 5 within the register compartment 4 against the tension of a spring 95 on the lever that tends to move it to the left from the engaged positions of Figs. 5, 8 and 10. A 60 detent plate 96 fastened to the bar and having an engaging shoulder 97 is shown in detail in Fig. 11. A disk 98 is also pivoted on a stud 99 on the partition 5 adjacent to the lever 93 and is provided with a hub extending through the 65 partition, as indicated at 100, terminating in an arm 101 rigid thereon. The lever and disk are connected by a link 102 pivoted to each at 103. When the locking bar 89 drops into the notches and locks the register, as in Figs. 3 and 4, it 70 releases the lever 93 which is pulled across by its spring to the position of Fig. 9. This rotates the disk 98, throwing the normally depending arm 101 up to a horizontal position, as shown also in Figs. 3 and 4. The end of trip arm 65 lies 75 in the path of this arm and is raised thereby

from the normal position of Fig. 5 to the inoperative position of Figs. 3 and 4. In such position it is clear of detent arm 61 of the cycle mechanism and when actuated through the trip finger 41 or otherwise rides back and forth idly upon the lockout arm 101. It is guided in an adjacent 5 slotted bracket 104 secured to the transmission side of the partition 5.

When the accumulator or register 10 is reset, 10 access is at the same time gained to this lever 93 which is reengaged with the detent on the locking bar as the latter assumes its normal position and before the meter is returned to the postage purchasing user, so that lockout arm 101 15 drops again and trip arm 65 is restored to operative position.

Returning to further considerations regarding 20 features of the accessibility and non-accessibility to the strong box in general and its several compartments in particular, the transmission compartment 3 is accessible to the user or mechanics (Fig. 7) through a rear wall 105 by the removal of exposed screws 106. This is for the purpose 25 of reaching the transmission mechanism for lubricating and repair purposes. From the foregoing description, it will be seen, however, due to the separate sealing of the register compartment 4 and the provision of the inner casing 79, that this does not permit any tampering, through 30 which the reading of the register can be altered or manipulations of the printing head made to produce an impression without affecting the register or meter. This can only be done through the meter compartment by breaking the seal and 35 using the key.

In the present embodiment, the fixed security 40 of the printing head 26 against removal from the machine for the making of unauthorized impressions by hand is guaranteed by the firmness with which it is swedged at 28 upon its shaft, as previously described. It can be removed by no 45 hand tools that can be applied to it without demolishing the whole machine and leaving evidence of the attempt. The whole shaft 29 must be removed and placed in a suitable press to 50 remove the head or interchange those of different denominational value. Removal of the shaft, in turn, is dependent upon access to the meter chamber for these reasons: Shaft 29 is locked 55 against withdrawal by tapered pin 81 that is upset at its smaller end, as shown in Fig. 7, so that it can not possibly work loose and free the shaft. This pin, as before described, locks gear 80 there- 60 to, which gear in turn is fixed to ratchet 75 that abuts the front wall of the compartment. Because of casing 79, pin 81 can be reached only through opening 83 in the partition wall 5 so that only authorized persons can withdraw the 65 shaft after also removing pins 108 and 109 that lock other gearing to the shaft within the transmission compartment.

Nor can unauthorized impressions unrecorded 70 on the meter register be made without turning the printing head in its shaft. To this end, as shown in Figs. 2, 7 and 12, the printing head is peripherally enclosed by the beforementioned 75 hood 30 which closely fits it, and the aforesaid screws 31 which secure the hood to the strong box also serve to hold the inner casing 79 in place in an otherwise blind manner. But, of course, the screws 31 in turn can not be reached behind 80 the printing head without removing the latter and its shaft in the manner just explained.

As I have before suggested, features of this invention may be incorporated and utilized in 85

other than postage meter printing mailing machines, as, for instance, in the application of stamps to envelopes or the cancelling thereof, but, as described herein, it provides a safe and efficient postage meter giving greater security and less inconvenience to both the postal authorities and the user. For metering, my invention contemplates a self contained machine unit that may be used independently of any associated machine or apparatus and which may be transported in toto, for the setting of the register, with the feeding, printing, transmission and registering mechanism all together. This is due largely to the compact and simplified arrangements. The envelopes can be initially introduced to the feed rolls 22-23 by hand as well as by means of an associated conveyor, particularly when they are not in great quantity and the use of the machine is occasional. In such an instance, it may be driven by a pulley 110, shown in dotted lines in Fig. 7, in place of the connecting gear 21, the pulley belt being connected to any source of power. For this purpose, shaft 24 extends through to the outer face of the rear wall of the strong box and is provided with a threaded socket (not shown) into which the hub of the pulley is screwed. Or, in lieu thereof, a hand crank may be similarly screwed into this socket.

I claim as my invention:

1. In a mailing machine, the combination with an envelope feeding means and a shaft carrying a rotary element adapted to function upon the surface of an envelope passing therethrough, of driving means for the shaft, a one-way clutch connection between the latter and said driving means adapted to rotate the shaft intermittently, said clutch being mounted on the shaft, a rotary controller for the clutch provided with a stop and adapted, when arrested, to maintain the clutch disconnected, a rocking yoke embracing the shaft having a detent arm normally engaging the stop, a trip actuated by the envelope passing through the feeding means and adapted to disengage the detent, and a cam on the shaft adapted to engage the other arm of the yoke and restore the detent in the path of the stop before the latter has completed a cycle.

2. In a mailing machine, the combination with a portable strong box having an exteriorly arranged printing bed and a shaft projecting from said box and having a printing head thereon in cooperative relationship with the bed, of transmission gearing within the box including a cycle mechanism adapted to rotate the shaft once upon each actuation thereof, a trip for the cycle member actuated by an envelope while on the bed, a registering meter sealed within the box and accessible only to authorized persons, a lock for the cycle member operated by the meter register when a predetermined reading thereof is reached, and a driving connection on the box for the transmission mechanism adapted to be coupled to a mail handling machine with which the strong box is associated for synchronous operation.

3. In a mailing machine, the combination with a strong box having two adjacent compartments therein, transmission mechanism housed within one compartment, the second compartment being inaccessible therefrom and a postage printing element on the exterior of the box driven through said transmission mechanism, of a postage metering register housed within the second compartment, a key controlled closure for the latter rendering it accessible only to authorized persons, driving connections between the trans-

mission mechanism and the register, a sealed housing within the transmission compartment for such driving connections, a lock for the register automatically effective when a predetermined reading thereof has been reached, and a connection between said lock and the transmission mechanism operating, upon the effective movement of the former, to render the transmission mechanism ineffective with respect to the printing element.

4. In a mailing machine, the combination set forth in claim 3 further characterized by the embodiment in the driving connections between the transmission mechanism and the register, of means for preventing retrograde movement of the printing element.

5. In a mailing machine, the combination with a strong box having an exteriorly arranged printing bed and a shaft projecting from said box and having a printing head thereon in cooperative relationship with the bed, of transmission gearing within the box including a cycle mechanism adapted to rotate the shaft once upon each actuation thereof, a trip for the cycle member actuated by an envelope while on the bed, a registering meter sealed within the box and accessible only to authorized persons, driving connections between the transmission mechanism and the register, a lock for the register automatically effective when a predetermined reading thereof has been reached, and spring actuated means for maintaining the motion of the trip idle and inoperative, the register lock serving as a detent therefor.

6. In a mailing machine, the combination with a strong box having a partition forming two adjacent compartments therein, transmission mechanism housed within one compartment, the second compartment being inaccessible therefrom and a postage printing element on the exterior of the box driven through said transmission mechanism, of a postage metering register housed within the second compartment, a key controlled closure for the latter rendering it accessible only to authorized persons, driving connections between the transmission mechanism and the register, a lock for the register automatically effective when a predetermined reading thereof has been reached, a spring actuated lever mounted on the partition in the meter compartment for which the register lock acts as a detent while the register is accumulating and which is adapted to be released thereby when the lock becomes effective, and means extending through the partition and connected to the lever for rendering the motion of the trip idle and ineffective.

7. In a mailing machine, the combination with an envelope feeding means and a rotary element adapted to function upon the surface of an envelope passing therethrough, of driving means, a cycle mechanism including a one-way clutch connection with said driving means and adapted to rotate the rotary element once upon each single rotation of its own, a rotary controller for the clutch provided with a stop and adapted, when arrested, to maintain the clutch disconnected, a detent normally engaging the stop, a trip actuated by the envelope passing through the feeding means and adapted to disengage the detent, means for restoring the latter in the path of the stop before the stop has completed a cycle, and means for independently positively releasing the clutch when the stop and detent reengage.

8. In a mailing machine, the combination with a strong box having an exteriorly arranged print-

ing bed, a shaft projecting from said box and a printing head thereon in cooperative relationship with the bed and detachable from the box only with the shaft, of transmission gearing within the box including a cycle mechanism adapted to rotate the shaft once upon each actuation thereof, a trip for the cycle member actuated by an envelope while on the bed, a registering meter sealed within the box and accessible only to authorized persons, a lock for the cycle member operated by the meter register when a predetermined reading thereof is reached, and means for locking the shaft in the box accessible for release only through the same means by which access is gained to the meter.

9. In a mailing machine, the combination with a strong box having two adjacent compartments therein, transmission mechanism housed within one compartment, the second compartment being inaccessible therefrom and a postage printing element on the exterior of the box driven through said transmission mechanism and embodying a shaft projecting from said box and a printing head thereon detachable from the machine only with the shaft, of a postage metering register housed within the second compartment, a key controlled closure for the latter rendering it accessible only to authorized persons, driving connections between the transmission mechanism and the register, a lock for the register automatically effective when a predetermined reading thereof has been reached, a connection between said lock and the transmission mechanism operating, upon the effective movement of the former, to render the transmission mechanism ineffective with respect to the printing element, and means for locking the shaft in the box accessible for release only through the key controlled closure.

10. In a mailing machine, the combination with a strong box having two adjacent compartments therein, transmission mechanism housed within one compartment, the second compartment being inaccessible therefrom and a postage printing element on the exterior of the box driven through said transmission mechanism and embodying a shaft projecting from said box and a printing head thereon detachable from the machine only with the shaft, of a postage metering register housed within the second compartment, a key controlled closure for the latter rendering it accessible only to authorized persons, driving connections between the transmission mechanism

and the register, a sealed housing within the transmission compartment for such driving connections, a lock for the register automatically effective when a predetermined reading thereof has been reached, a connection between said lock and the transmission mechanism operating, upon the effective movement of the former, to render the transmission mechanism ineffective with respect to the printing element, and means within the sealed housing for locking the shaft in the box accessible for release only through the key controlled closure.

11. In a mailing machine, the combination with a strong box having two adjacent compartments therein, transmission mechanism housed within one compartment, the second compartment being inaccessible therefrom and a postage printing element on the exterior of the box driven through said transmission mechanism and embodying a shaft projecting from said box and a printing head thereon detachable from the machine only with the shaft, of a postage metering register housed within the second compartment, a key controlled closure for the latter rendering it accessible only to authorized persons, driving connections between the transmission mechanism and the register, a sealed housing within the transmission compartment for such driving connections, a lock for the register automatically effective when a predetermined reading thereof has been reached, means within the sealed housing for locking the shaft in the box accessible for release only through the key controlled closure, a hood enclosing the printing head except at the printing point, and means accessible only upon the removal of the head and shaft securing the hood to the exterior of the box and the sealed housing to the interior of the box.

12. In a mailing machine, the combination with a strong box, transmission mechanism housed therein, a postage printing element on the exterior of the box driven through said transmission mechanism and embodying a shaft projecting from said box and a printing head thereon detachable from the machine only with the shaft, of means within the box for automatically controlling the rotations of the shaft and limiting them to a predetermined number, a hood enclosing the printing head except at the printing point, and means accessible only upon the removal of the head and shaft securing the hood to the exterior of the box.

AZEL GAY.