

May 26, 1953

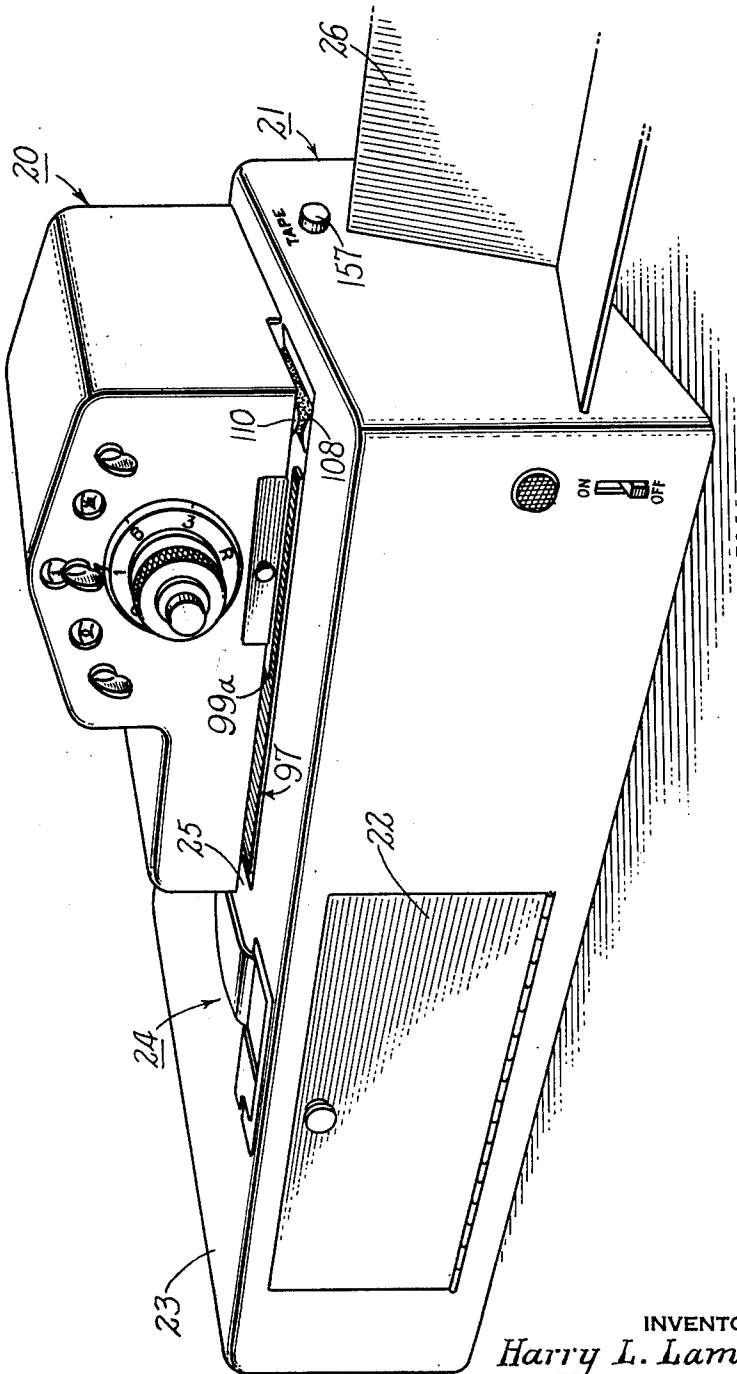
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2,639,665

MAIL MARKING MACHINE FOR SHEETS OR TAPES

Filed Feb. 6, 1948

.7 Sheets-Sheet 1



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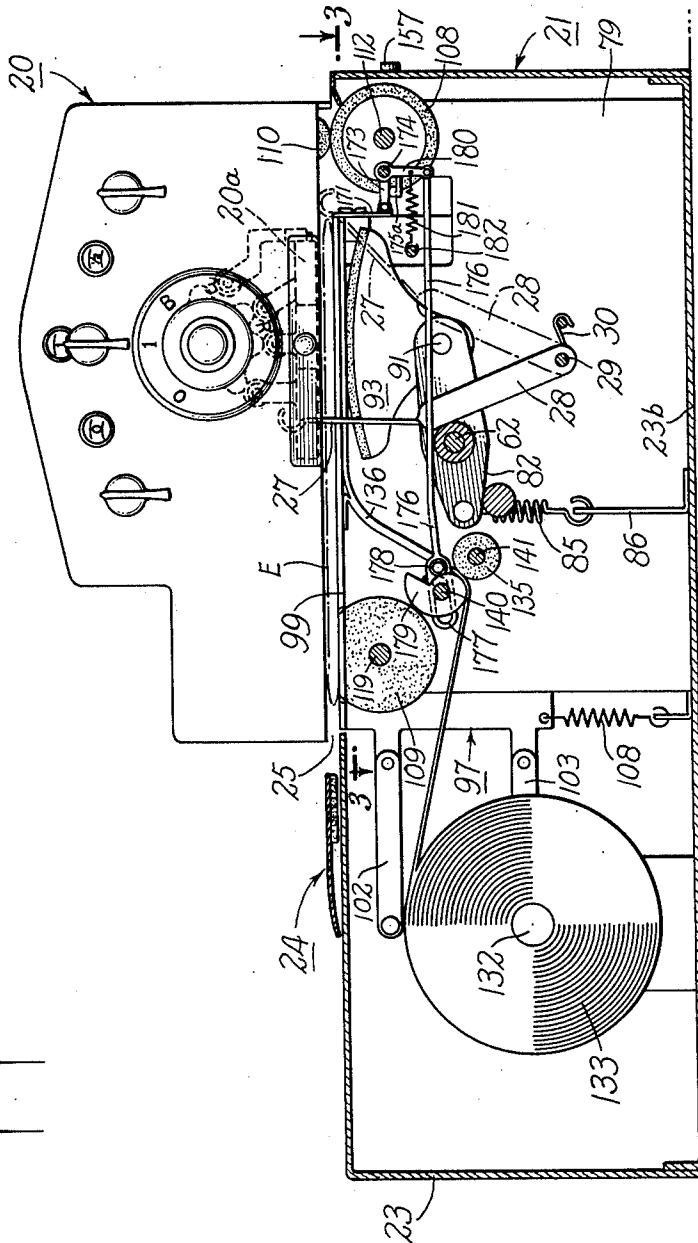
2,639,665

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7 Sheets-Sheet 2

Fig. 2.



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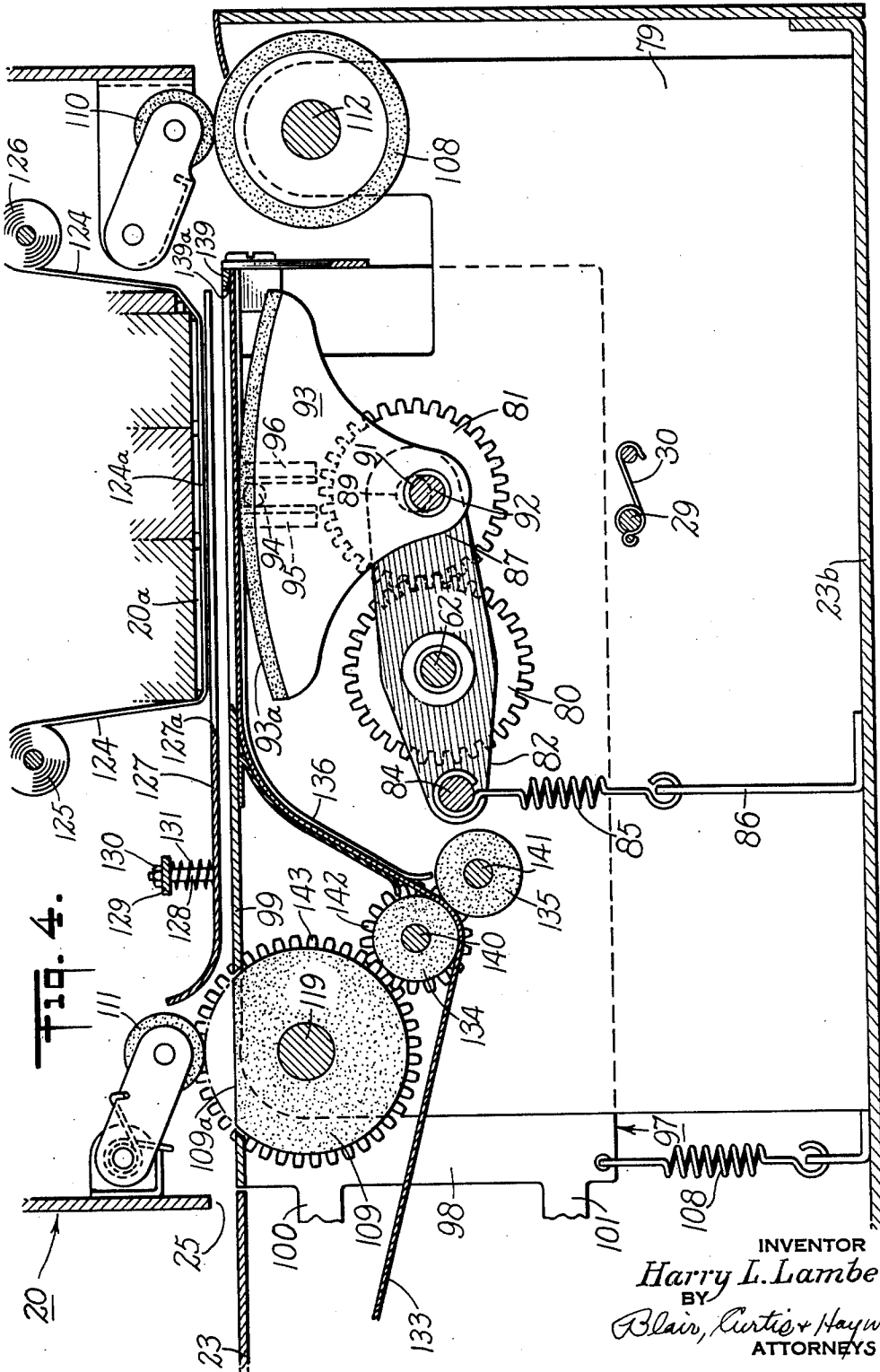
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7 Sheets-Sheet 4



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7 Sheets-Sheet 5

Fig. 5.

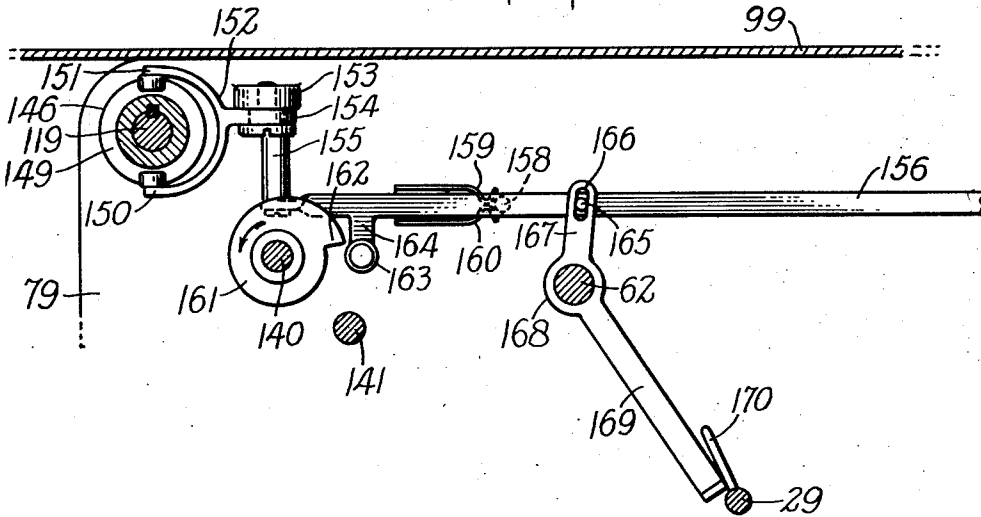
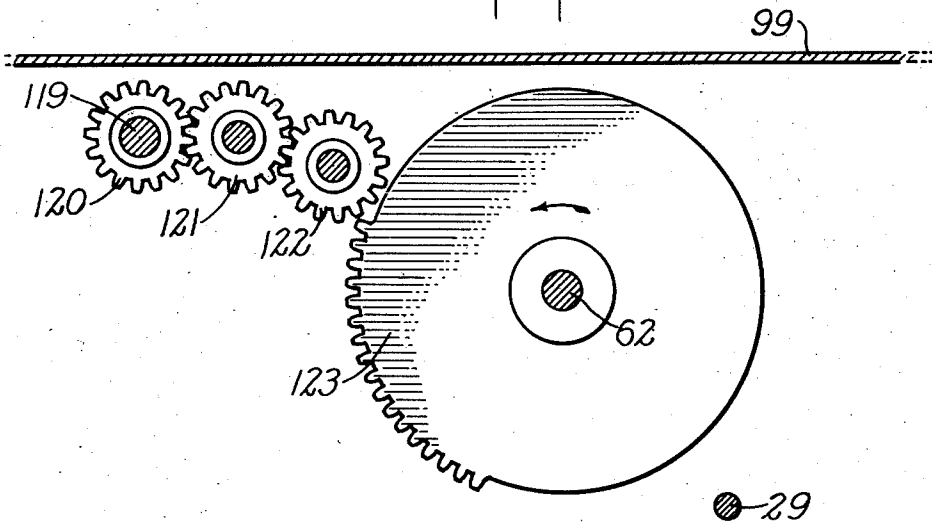


Fig. 6.



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7 Sheets-Sheet 6

Fig. 7.

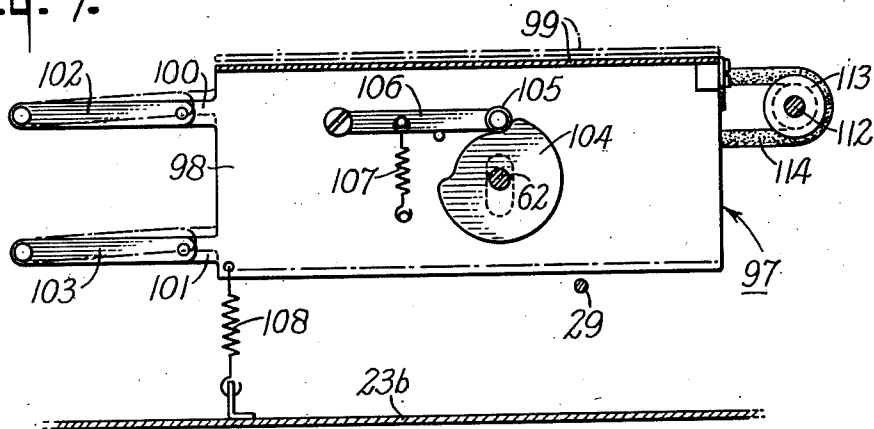
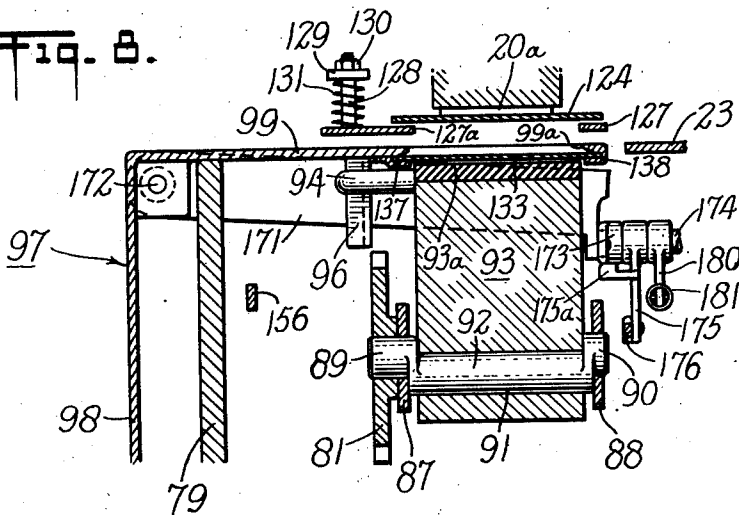


Fig. 8.



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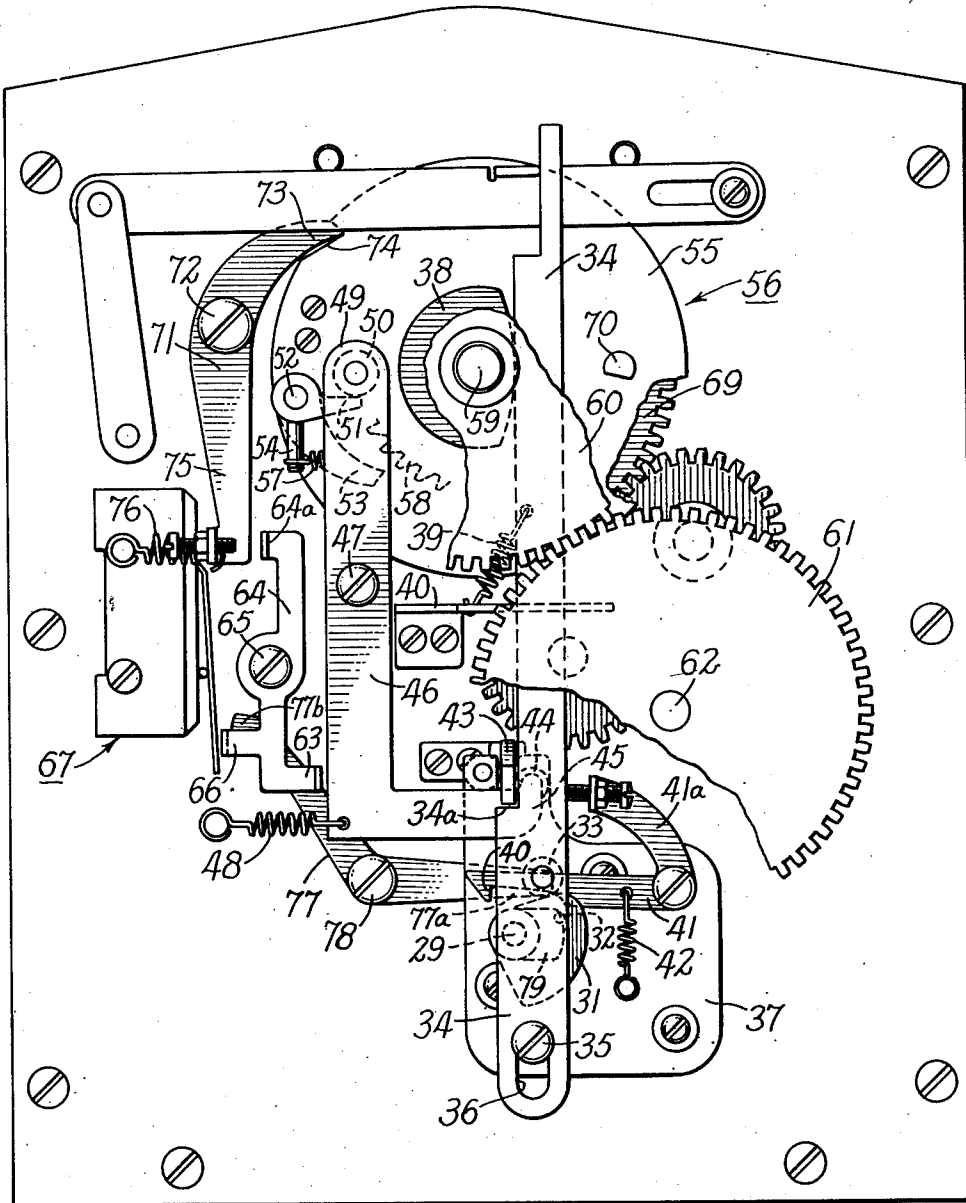
2,639,665

MAIL MARKING MACHINE FOR SHEETS OR TAPES

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7 Sheets-Sheet 7

Fig. 9.



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UNITED STATES PATENT OFFICE

2,639,665

MAIL MARKING MACHINE FOR SHEETS
OR TAPESHarry L. Lambert, Rochester, N. Y., assignor to
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Application February 6, 1948, Serial No. 6,762

3 Claims. (Cl. 101—235)

1

This invention relates to mail treating machines, and more specifically to a machine for imprinting postage values either on flat mailing pieces, such as envelopes, or cards, or on gummed tape.

Apparatus of the nature under consideration herein has attained a substantial degree of commercial acceptance. Such machinery is, in many cases, characterized by a conveying device adapted to transport an envelope or postcard into printing register with a printing head which operates to print a pre-selected postage value on the envelope or card. Thereafter the conveying mechanism again operates to eject the printed envelope or card from the machine into a hopper. Such machine also includes mechanism for printing postage value on gummed tape. However, these machines must be preset for either envelope or tape handling before either operation can be effected.

Tape handling mechanism in such machines is of a rather complicated and expensive nature necessitating a large number of parts which require careful assembly and adjustment to function properly. This tape handling mechanism furthermore is customarily shiftable between operative and inoperative conditions or positions by means of a manually operable machine or button accessible from the exterior of the machine. Hence it follows that unless such lever or button is properly set prior to operation, the desired result cannot be attained. The fact that such tape handling mechanism is shiftable between operative and inoperative conditions or positions adds to the over-all complexity of the mechanism, with the result that this portion of the machine not infrequently requires repair or adjustment.

Certain types of machines capable of printing postage on tape include as a part of the tape handling mechanism apparatus for retracting the tape from rest position into printing register prior to the printing operation, reliance being placed on the operation of the printing mechanism for advancing and ejecting printed tape. These factors further result in structural complexities and operational disadvantages that are reflected in increased procurement and maintenance cost to the user.

It is accordingly among the objects of this invention to provide a mail treating machine of the above nature which is relatively simple and inexpensive in construction, and which is capable of extended reliable operation. Other objects will be in part apparent and in part pointed out hereinafter.

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In accordance with one form of my invention, the machine comprises a power unit and a meter which may be relatively separable or not, as desired. The power unit includes mechanism for conveying an envelope or postcard into and out of printing position relative to the printing head of the meter, and also tape conveying mechanism for similarly transporting gummed tape. In accordance with one of the important features of my invention, the tape handling mechanism is always in operative position or condition and imparts unidirectional motion to the tape during the cycle of operation. The meter is characterized by a fixed printing head overlying a platen disposed in the power unit, the platen being so mounted that it is reciprocable relative to the printing head and accordingly capable of pressing the envelope or tape, as the case may be, against the printing head to be printed thereby.

In the drawing, wherein I have shown one form of my invention,

Figure 1 is a fragmentary perspective view of the machine;

Figure 2 is a sectional elevation of the machine, taken along the line 2—2 of Figure 3;

Figure 3 is an enlarged fragmentary horizontal section taken along the line 3—3 of Figure 2;

Figure 4 is a fragmentary vertical section taken along the line 4—4 of Figure 3;

Figure 5 is a fragmentary vertical staggered section taken along the line 5—5 of Figure 3;

Figure 6 is a fragmentary vertical section taken along the line 6—6 of Figure 3;

Figure 7 is a fragmentary vertical section on a reduced scale taken along the line 7—7 of Figure 3;

Figure 8 is a fragmentary vertical section illustrating details of the platen and tape shearing mechanism; and

Figure 9 is a rear elevation of the power unit control mechanism, portions thereof being broken away.

Similar reference characters refer to similar parts throughout the views of the drawing.

General description

With reference to Figure 1, the machine comprises a meter generally indicated at 20, which is supported on and driven by a power unit generally indicated at 21. The power unit is conveniently provided with a door 22, for the access opening of the power unit housing 23. The top of the housing conveniently provides a platform or support for pieces of mail such as envelopes

which may be slid over a flap moistener, generally indicated at 24, carried by the housing and into an elongated opening 25 beneath the printing head 29a (Figure 2) of meter 29. The envelope E may thus be slid into proper printing register relative to printing head 29a, and after the postage value has been imprinted thereon the conveying mechanism, which will be hereinafter described, transports the letter out of the machine and deposits it into a hopper 26 (Figure 1).

It might here be noted that in certain respects, meter 29 may resemble that shown in my co-pending application Serial No. 732,982, filed March 7, 1947, meter 29 differing, however, in one important respect, in that it employs a stationary printing head rather than the rotary printing head on the meter in said application.

Letter printing operation

When envelope E (Figure 2) is hand fed into opening 25 with the rear edge of the envelope in engagement with the rear edge of the opening, the leading edge of the envelope engages a finger 27 fastened to and extending upwardly from an arm 28 secured to a shaft 29. This shaft is under the constant counterclockwise bias of a spring 30 which accordingly tends to maintain the arm and finger in its solid line position. However, as envelope E is slid along the top of housing 23 within opening 25, it rocks finger 27 and accordingly arm 28 to the broken line position, thus rocking shaft 29 clockwise. This movement of the shaft trips the driving mechanism of the machine, causing a preselected postage value to be printed on the envelope. Thereafter the conveying mechanism is automatically actuated to convey the stamped envelope out of the machine, all as will now be described.

As is more clearly shown in Figure 3, shaft 29 extends from the front to the rear of the machine. On the rear end of shaft 29 is fastened a cam 31 (see Figure 9) which carries a pin 32. Cam 31 coacts with a cam roller 33 mounted on a bar 34 carried by a headed pin 35, extending through a slot 36 in the bar. Pin 35 is threaded into a plate 37 and accordingly mounts bar 34 for vertical movement as well as pivotal movement about the axis of the pin. The upper end of bar 34 is constantly pulled against a cam 38 by a spring 39, one end of which is fastened to the bar, and the other end of which is conveniently fastened to a bracket 40 secured to the back plate of the machine. It may now be seen that when finger 27 and arm 28 (Figure 2) are rocked to the dotted line position by the insertion of envelope E, cam 31 is rocked counterclockwise as viewed in Figure 9 to raise bar 34 vertically.

Finger 27 (Figure 2) in addition to acting as a trip for the driving mechanism of the machine, also acts as a stop properly to position envelope E in printing register with printing head 29a of the meter. To this end, pin 32 (Figure 9) on cam 31 is so positioned relative to the hooked end 40 of a lever 41 pivotally mounted on plate 37, as to engage the hooked end when finger 27 reaches its dotted line, Figure 2, position, wherein it acts as a stop for envelope E. During the printing operation, lever 41 (Figure 9) is rocked clockwise, in a manner to be described, against the bias of a spring 42, so that its hooked end 40 swings upwardly away from pin 32. This permits continued counterclockwise movement of cam 31, and accordingly permits finger 27 (Figure 2) to

continue its clockwise movement, thus to clear the path of envelope E as it is conveyed out of the machine after being stamped.

When bar 34 (Figure 9) is raised, as described, a shoulder 34a on the bar which underlies a pivoted latch 43, raises the latch sufficiently to clear a roller 44 carried on the end 45 of an L-shaped arm 46. This arm is pivotally mounted on a headed pin 47, and is constantly biased clockwise by a spring 48. The upper end 49 of arm 46 mounts a roller 50 adapted to engage over and hold down a lever 51. This lever is fastened to a stud shaft 52, which also carries a pawl 53, as well as a pin 54, stud shaft 52 being pivotally mounted on the driven element 55 of a one revolution clutch, generally indicated at 56. One end of a spring 57 is fastened to clutch element 55, the other end of this spring being secured to pin 54, thus to bias stud shaft 52 and accordingly lever 51 and pawl 53 counterclockwise. It may now be seen that when L-shaped lever 46 is rocked clockwise, as described, roller 50 is drawn away from lever 51, thus freeing the lever and permitting spring 57 to rock it, together with pawl 53, counterclockwise until pawl 53 engages a ratchet 58 comprising a portion of the driving element of clutch 56. Thus when the pawl and ratchet engage, a shaft 59 fastened to driven element 55 is rotated.

Shaft 59 carries cam 38 and also a gear 60, meshing with a gear 61 fastened to a shaft 62. This shaft 62 is the main drive shaft for the envelope conveyor, the tape feeding mechanism and the printing platen, all as will be hereinafter described.

When L-shaped lever 46 is rocked clockwise, as hereinbefore described, its lower end engages the lower end 63 of a lever 64 pivotally mounted on a headed pin 65. Lever 64 includes a finger 66 projecting horizontally in a manner to close a microswitch generally indicated at 67 when lever 64 is rocked clockwise by lever 46. Closing of switch 67 completes the circuit to a motor 68 (Figure 3) which, by way of suitable reduction gearing, drives a gear 69 (Figure 9), comprising with ratchet 58, the driving element of clutch 56. Thus it follows that by the time switch 67 is closed, the clutch is engaged and accordingly effects a driving connection between the motor and the various operating mechanisms of the machine.

After the clutch has been engaged and the motor energized, clutch element 55 accordingly rotates clockwise and carries with it a pin 70 which is so located in relation to lever end 49 as to engage roller 50 carried thereby after the clutch element has rotated approximately 180°. When the pin and roller thus engage, lever 46 is rocked counterclockwise to its Figure 9 position, wherein it is held by latch 43. Latch 43 is permitted to drop by virtue of the fact that bar 34 was pivoted clockwise by the action of cam 38 rotating with clutch element 55, which movement of the bar, of course, withdrew its shoulder 34a from beneath the latch. Thus lever 46, and accordingly its roller 50, is re-positioned to engage lever 51 and accordingly disengage the clutch as soon as this lever has rotated to its starting position.

In order to maintain switch 67 closed and motor 68 energized during one revolution of clutch 56, a holding lever 71 is provided. This lever is pivotally mounted on a headed pin 72 and includes an upper end 73 adapted to engage in a notch 74 formed in the periphery of clutch

element 55. The lower end 75 of lever 71 is adapted to engage the upper end 64a of lever 64 when the clutch is engaged. Thus upon engagement of the clutch, its driven element 55 rotates as described, forcing lever end 73 out of notch 74, thus rocking the lever counterclockwise so that its lower end 75 assumes a holding position wherein it maintains lever 64 in its clockwise position, wherein switch 67 is closed. Upon completion of one revolution of the clutch, lever end 73 drops into notch 74 by reason of the bias of a spring 76, thus withdrawing lever end 75 and permitting lever 64 to return to the position shown in Figure 9.

Where an envelope of extraordinary length is to be stamped, it may be desirable to maintain switch 67 closed, and accordingly motor 68 energized, a somewhat longer time, to assure an extended operation of the letter conveying mechanism. To this end, I have provided a lever 77 pivotally mounted on a headed pin 78. End 77a of this lever is adapted to be engaged and lifted by another cam 79 mounted on shaft 29. When this occurs, lever 77, of course, rocks counterclockwise, causing the other end 77b thereof to move into closing position with respect to switch 67 and hold the switch closed as long as cam 79 underrides lever 77a. The cam will, of course, stay in this position as long as finger 27 (Figure 2) underrides envelope E passing thereover.

It should be noted that finger 27 cannot be swung beyond its broken line (Figure 2) position by the overriding envelope E until hook 40 (Figure 9) disengages pin 32. The hook disengages the pin, however, shortly after clutch 56 is engaged as cam 38 rocks lever 41 clockwise and accordingly lock lever 41 clockwise, by virtue of its arm 41a, which engages the side of the bar.

As the foregoing description of the mechanism shown in Figure 9 forms no part of my present invention, the description thereof is general and for the purpose of describing the manner in which the conveyor mechanism, the tape mechanism and the printing platen are driven. For a more detailed description of the Figure 9 apparatus, reference is made to my aforementioned copending application.

Printing platen

As shown in Figure 3, housing 23 includes a front plate 23a, and encloses a partition plate 79 in which plates main drive shaft 62 is journaled. Between these plates shaft 62 carries a gear 80 which meshes with, so as to drive, a gear 81. A yoke 82 is rockably mounted on shaft 62 between gear 80 and a boss 83 which carries the forward end of shaft 62. Yoke 82 includes a cross bar 84, to which the upper end of a spring 85 (Figure 4) is secured. The lower end of this spring is connected to a bracket 86 fastened to and extending upwardly from the bottom plate 23b of housing 23.

The yoke ends 87 and 88 (Figures 3 and 8) rotatably support the respective ends 89 and 90 of a crank 91 on the throw 92 of which is carried a platen 93 (see also Figure 4). End 89 of the crank also carries gear 81, referred to hereinabove. A pin 94 is fastened to the inner side of platen 93 and projects therefrom between a pair of vertical guide rails 95 and 96. It may now be seen, with reference to Figure 4, that when gear 80 is driven, meshing gear 81 rotates crank 91. It follows that the curved surface 93a of platen 93, when positively driven by crank 91 and guided by pin 94 between rails 95 and 96,

successively engages all points of printing head 20a so that a uniform imprint is made on the envelope or tape, as the case may be. For a more detailed description of this type of rocking platen, reference is made to Kellogg 1,477,128.

When the machine is at rest, platen 93 is spaced from the bottom surface of printing head 20a, as shown in Figure 4, to provide room for the insertion of an envelope or tape between the platen and printing head. I have found it preferable to elevate the envelope or tape to a position immediately adjacent the printing surface of printing head 20a before the printing operation, and to this end I provide a pressure plate, generally indicated at 97. As shown in Figure 8, pressure plate 97 includes a rear wall 98 and a top supporting wall 99, which lies between the printing head and platen. The top wall of the pressure plate is substantially coextensive with opening 25 (Figure 2). As shown in Figure 7, the left-hand end of pressure plate side wall 98 has a pair of extending tabs 100 and 101, which are respectively pivotally connected to links 102 and 103, which links are in turn pivotally mounted within the machine housing. These links accordingly constitute a parallel motion, whereby pressure plate 97 may be driven to the dotted line position shown in Figure 7.

This movement of the pressure plate is effected by a cam 104 mounted on drive shaft 62 and a follower 105 carried on the free end of a pivoted arm 106, fastened to the pressure plate and biased clockwise by a spring 107. Thus when shaft 62 drives cam 104, the high portion of the cam tends to rock arm 106 counterclockwise. Spring 107, however, resists such movement of the link and accordingly pressure plate is elevated. Thus it may be seen that arm 106 and spring 107 constitute a resilient driving connection between the pressure plate and cam so that envelopes of varying thickness are readily accommodated. In other words, if an envelope of unusual bulkiness is inserted between the top of the pressure plate and the bottom of the printing head, there might be insufficient room for the pressure plate to rise the full amount of the high portion of cam 104. The difference is taken up by counterclockwise rocking of arm 106 relative to the pressure plate and stretching of spring 107. To maintain follower 105 in engagement with cam 104, a spring 108 fastened respectively to the pressure plate and to the bottom 23b of the housing is provided.

Conveyor system

As noted hereinbefore, the machine includes an envelope conveying mechanism or system which functions subsequent to the printing operation to eject the envelope from the machine. This conveying mechanism includes a pair of rollers 108 and 109 (Figure 4) the former of which rotates constantly during a complete cycle of operation, and the latter of which rotates during only a portion of the cycle. These two rollers respectively underlie pressure rollers 110 and 111, which are spring-biased downwardly to press the envelope against the lower rollers when the envelope lies therebetween.

Roller 108 (Figure 3) is fastened to a shaft 112 journaled in plates 23a and 79, and carries on its inner end a pulley 113. About this pulley is trained a belt 114 which forms a driving connection between pulley 113 and a motor driven pulley 115. Pulley 115 is mounted on a shaft 116, which shaft carries a worm gear 117 meshing with a worm (not shown) secured to motor shaft

118. Thus it may be seen that as long as motor 68 runs, roller 108 will rotate.

As noted above, roller 109 (Figure 4) rotates during only a portion of the cycle of operation, and this for the reason that the envelope must, of course, remain stationary beneath the printing head during the printing operation. Accordingly roller 109 is provided with a flat 109a, the surface of which is flush with the surface of the pressure plate top wall 99 while the roller is stationary. This roller 109 is mounted on a shaft 119 (see Figure 3) journaled in plates 23a and 79. On the inner end of this shaft is fastened a gear 120 which comprises the driven end of a gear train including meshing gears 121 and 122 and a mutilated gear 123 (see Figure 6). Gear 123 is mounted on main drive shaft 62, and accordingly rotates therewith when the shaft is driven as described.

When the motor is energized, as heretofore described, to drive shaft 62, mutilated gear 123 is driven counterclockwise. Thus it may be seen that for a substantial portion of one revolution of gear 123 it is out of mesh with gear 122, and accordingly the gear train and roller 109 remain motionless. The operation takes place during this portion of the cycle. When, however, the toothed portion of the mutilated gear ultimately meshes with gear 122, the gear train and roller 109 are rotated. The gear train is so designed that roller 109 makes but a single revolution during the operative cycle of the machine. When roller 109 is thus rotated, it revolves clockwise, as viewed in Figure 4, thus to move its flat 109a from beneath the envelope so that the envelope is engaged at the nip between rollers 109 and 111. The envelope is accordingly fed to the right until its leading edge is engaged at the nip between rollers 108 and 110, whereupon roller 108 takes over the transporting action and ejects the envelope from the machine into the hopper.

While printing head 20a may be inked in any suitable manner, I illustratively provide an ink ribbon 124 (Figure 4) which may be automatically fed in any suitable manner between rollers 125 and 126. The lower run 124a of ribbon 124 accordingly lies flat and tight against the type faces of printing head 20a so that a clean and sharp imprint is made on the envelope or tape. To guard the envelope against smudging as it moves beneath and relative to printing head 20a, I have provided a guard plate 127 (see also Figure 8), having an opening 127a of preferably slightly greater width than the width of platen surface 93a. Guard plate 127 may be supported in any suitable manner, and thus may have fastened thereto an upwardly extending pin 128 (see Figure 4) which extends through a lug 129 secured within the machine housing. A nut 130 is threaded to the top of pin 128 and accordingly limits the downward movement of the guard. A spring 131 is interposed between the guard and lug 129, and accordingly resiliently resists upward movement of the guard when an envelope is pressed thereagainst by the rising pressure plate 97. As guard opening 127a (Figure 8) is of lesser width than the ribbon 124, the ribbon is curled upwardly along the edges of the type face and printing head 20a when guard 127 is forced up by the envelope. Thus the face of the envelope does not engage ribbon 124 except for that portion thereof which is pressed against the ribbon by the rising platen 93. Hence the envelope may be printed without being smudged. By the same token, guard 127 lies between rib-

bon 124 and the envelope after the pressure plate has dropped and during the ejection of the envelope from the machine. It accordingly follows that the envelope conveying mechanism efficiently transports the envelope through the machine without the necessity of complicated mechanisms and a multiplication of parts.

Printing on tape

As noted hereinabove, machines of the nature here under consideration should be capable of printing postage value on gummed tape. To this end, as is shown, in Figure 2, a stationary spindle 132 is mounted within the machine housing and supports a roll of tape 133. From this roll the tape is led between a pair of feed rolls 134 and 135 (Figure 4) into a tape chute 136 which is carried by pressure plate 97. Tape chute 136 curves at its upper end, as shown, until it is horizontal, this horizontal portion of the chute including lower tracks 137 and 138 (Figure 8). These tracks are secured to the under surface of pressure plate top wall 99, thus to support the tape beneath an opening 99a in top wall 99. The longitudinal edges of this opening overlie tracks 137 and 138, respectively, and accordingly complete, with the tracks, the horizontal portion of the tape chute. The exit end of the tape chute is formed by a transverse strip or portion 139 (Figure 4) of pressure plate top wall 99, the under surface of portion 139 being beveled as at 139a to facilitate passage of the end of the tape beneath this portion. The right-hand lower edge of portion 139 conveniently affords a cutting edge comprising a part of the tape shearing mechanism, as will be described in greater detail hereinafter.

As shown in Figure 3, tape feed rollers 134 and 135 are mounted respectively on shafts 140 and 141, these shafts being journaled in any suitable manner within the machine housing. The inner end of shaft 140 carries a gear 142 which meshes with a gear 143 carried by shaft 119. This gear 143, together with a ratchet 144, constitutes the driven element of a clutch generally indicated at 145. It should be noted that gear 143 and ratchet 144 are freely rotatable on shaft 119. The driving element of clutch 145 comprises a hub 146 which is splined to shaft 119 so as to rotate therewith and slide axially thereof. Hub 146 also includes a ratchet portion 147 adapted to engage ratchet 144 when the clutch is engaged. A spring 148 interposed between the driving and driven elements of the clutch biases the clutch toward disengaged condition. It may now be seen that hub 146, i. e. the driving element of the clutch, rotates with shaft 119 and accordingly drives ratchet 144 and gear 143 when the clutch is engaged. Gear 143 in turn drives gear 142, and accordingly roller 134; this roller, together with roller 135, thus drives tape 133 (Figure 4) to feed it through chute 136.

Clutch element 146 is slotted as at 149 (see also Figure 5), and this slot receives the ends 150 and 151 of a yoke 152 pivotally attached to a lug 153 secured to and extending from partition plate 79 (see Figure 3). An arm 154 comprises an integral part of yoke 152, and has fastened thereto a post 155 (Figure 5) to the bottom of which is connected one end of an actuating rod 156. As shown in Figure 3, the other end of this rod carries a push button 157 which extends through an opening in the side wall of the machine housing 23 where it is readily accessible to the operator. It may now be seen that when button 157 is pressed, rod 156 moves to the left, as viewed in

Figure 3, to rock yoke 152 counterclockwise. This movement of the yoke engages ratchet 147 with ratchet 144, thus engaging the clutch to complete a driving connection to the tape feed rollers 134 and 135.

To obviate the necessity and inconvenience of the operator's maintaining button 157 depressed during the printing operation, rod 156 (Figure 5) is provided with a pin 158 which, when rod 156 is moved to the left, enters between a pair of resilient fingers 159 and 160. As the pin passes between them, they close in back of the pin and accordingly hold the rod 156 in its clutch engaging position.

To preclude the possibility of undesired successive tape printing operations, shaft 140, which carries one of the tape feed rollers, also carries a cam 161, the high point 162 of which is adapted to engage a follower 163 carried by a depending portion 164 of rod 156. Thus it may be seen that as the cam rotates, its high portion ultimately engages follower 163, thus forcing rod pin 158 to the right between fingers 159 and 160, and accordingly moving rod 156 to its normal position of rest shown in Figure 5. This automatic return of the rod accordingly effects disengagement of the clutch, which forms the driving connection of the tape feed rolls and thus precludes an undesired successive cycle of overfeeding of the tape.

Depression of button 157 is also relied on to effect energization of the motor and tripping of the one revolution clutch shown in Figure 9. To this end rod 156 carries another pin 165 (Figure 5) which is received in a slot 166 formed in one arm 167 of a lever 168. The lower end of the other arm 169 of this lever is located in the vicinity of a pin 170 carried by trip shaft 29. Thus it follows that when rod 156 is moved to the left, lever 168 is rocked counterclockwise so that its lower arm 169 will engage pin 170 and rock the pin and also shaft 29 clockwise. It will be recalled that this movement of shaft 29 effects actuation of the mechanism shown in Figure 9 to energize the motor and trip the clutch.

Through the provision of rod pins 158 and 165 and the parts associated therewith, it will appear that it is impossible to retrip the machine until one operative cycle is completed. Thus undesired successive printing operations are effectively prevented, and the risk of wasting postage is eliminated.

Tape shearing device

After the postage value has been printed on the tape, the tape feeding mechanism hereinbefore described functions to feed tape from the supply roll and accordingly eject the printed end of the tape from beneath the printing head. The feed rolls are proportioned to feed just the desired amount of tape so that only the printed portion thereof extends beyond the end of the tape chute. This printed tape end must, of course, be cut off so that it can be ejected from the machine by the ejector roller 108. I have accordingly provided a tape shearing mechanism which includes a blade 171 (Figure 8) pivotally attached, as by a pin 172, to the end of pressure plate 97. Blade 171 is shown in its position of rest in Figure 8, from which it is swung upwardly at the proper time to shear tape 133 against the lower right-hand edge of transverse portion 139 of pressure plate top wall 99 (see Figure 4).

To actuate blade 171, a lever 173 (Figure 3) is pivotally fastened to its free end, this lever being secured to a shaft 174, but freely rotatable

relative thereto. Shaft 174 is rotatably carried by the housing wall. Fastened to this shaft, so as to rotate therewith, is a second lever 175, to the lower end of which is pivotally attached an actuating rod 176. Lever 175 (Figure 8) carries an extended arm 175a which overrides lever 173 and constitutes the actuating means for lever 173, as will appear hereinafter. As shown in Figure 2, the left-hand end of this rod is slotted as at 177, this end of the rod also carrying a cam follower 178 adapted to engage the surface of a cam 179 mounted on, so as to rotate with tape feed roll shaft 140. Shaft 174 has secured thereto so as to rock therewith a third lever 180, to the lower end of which is fastened one end of a spring 181. The other end of this spring is attached to a pin 182, suitably mounted within the machine housing. Spring 181 thus biases lever 180 and accordingly shaft 174 and lever 175 clockwise, which maintains follower 178 in engagement with cam 179.

It may now be seen that when cam 179 rotates as it does during the tape feeding portion of the cycle, it drives follower 178 and accordingly rod 176 to the right. This movement of the rod swings levers 175 and 180 counterclockwise, and accordingly tensions spring 181. As lever 175 swings counterclockwise, its arm 175a drops and lever 173, being freely rotatable on shaft 174, drops with it. Ultimately cam 179 will rotate to the point where follower 178 drops off the high portion of the cam. When this occurs, spring 181, whose tension has been substantially increased, rapidly rocks lever 180 and accordingly lever 175 clockwise. This causes lever arm 175 to snap upwardly and accordingly impart rapid clockwise movement to lever 173. This movement of lever 173 swings blade 171 upwardly with sufficient rapidity that the momentum of the blade carried it past the edge of portion 139 (Figure 4) of the pressure plate top wall, and accordingly shears the tape. The blade returns to its Figure 2 position of rest by gravity.

I claim:

1. In a mail treating machine, in combination, a printing head, an inked ribbon for inking said printing head, guard means underlying a portion of said ribbon and acting to support it in close proximity to said printing head, a platen, means for effecting relative movement of said printing head and said platen toward and away from one another to print on an article placed therebetween, a support for an article to be printed upon by said printing head, means mounting said support between said printing head and platen for movement relative thereto, means forming a driving connection between said second-mentioned means and said support for moving said support toward said printing head prior to the printing operation, thereby to position the article to be printed in proper printing register relative to said printing head and platen, and means mounting said guard means for movement relative to said printing head and in a position to be engaged by said support when said support moves toward said printing head.

2. In a mail treating machine, in combination, a type face, a platen, means mounting said platen for movement toward and away from said type in a manner to impress a gummed tape to be printed thereagainst, means for effecting said movement of said platen, a supporting plate having an opening therein and including a tape chute extending beneath said opening and adapted to receive and support said tape, said

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plate being disposed between said type face and said platen, means mounting said plate for movement toward and away from said type face, means for effecting said movement of said plate, driving means connected to both of said movement effecting means for first moving said plate toward said type face and then moving said platen toward said type face and then moving both the plate and platen away from said type face, whereby said platen and said plate are moved toward and away from said type face during such printing cycle, a tape feeding mechanism adapted to transport tape to and from the printing position relative to said type face, and means forming a driving connection between said driving means and said tape feeding means for effecting operation of said tape feeding means automatically subsequent to the printing operation to transport the printed tape from the printing position.

3. In a mail treating machine, in combination, a stationary type face, a platen means mounting said platen including a pivot and a guide to move toward and away from said type face in a manner to impress an article to be imprinted thereagainst, means for effecting the movement of said platen, a supporting plate adapted to receive and support the article to be printed, said plate being disposed between said type face and said platen, means mounting said plate for movement toward and away from said type face, means for effecting said movement of said plate, and

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driving means connected to both of said movement effecting means for first moving said plate toward said type face and then moving said platen toward said type face and then moving both the plate and platen away from said type face thereby to carry the article to be printed to a position adjacent said type face wherein said platen may force such article thereagainst, said pivot being associated with said driving means whereby said driving means causes said platen to rock about the axis of said pivot while said guiding means confines movement of the platen toward and away from said type face to a rectilinear movement.

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