

No. 710,997.

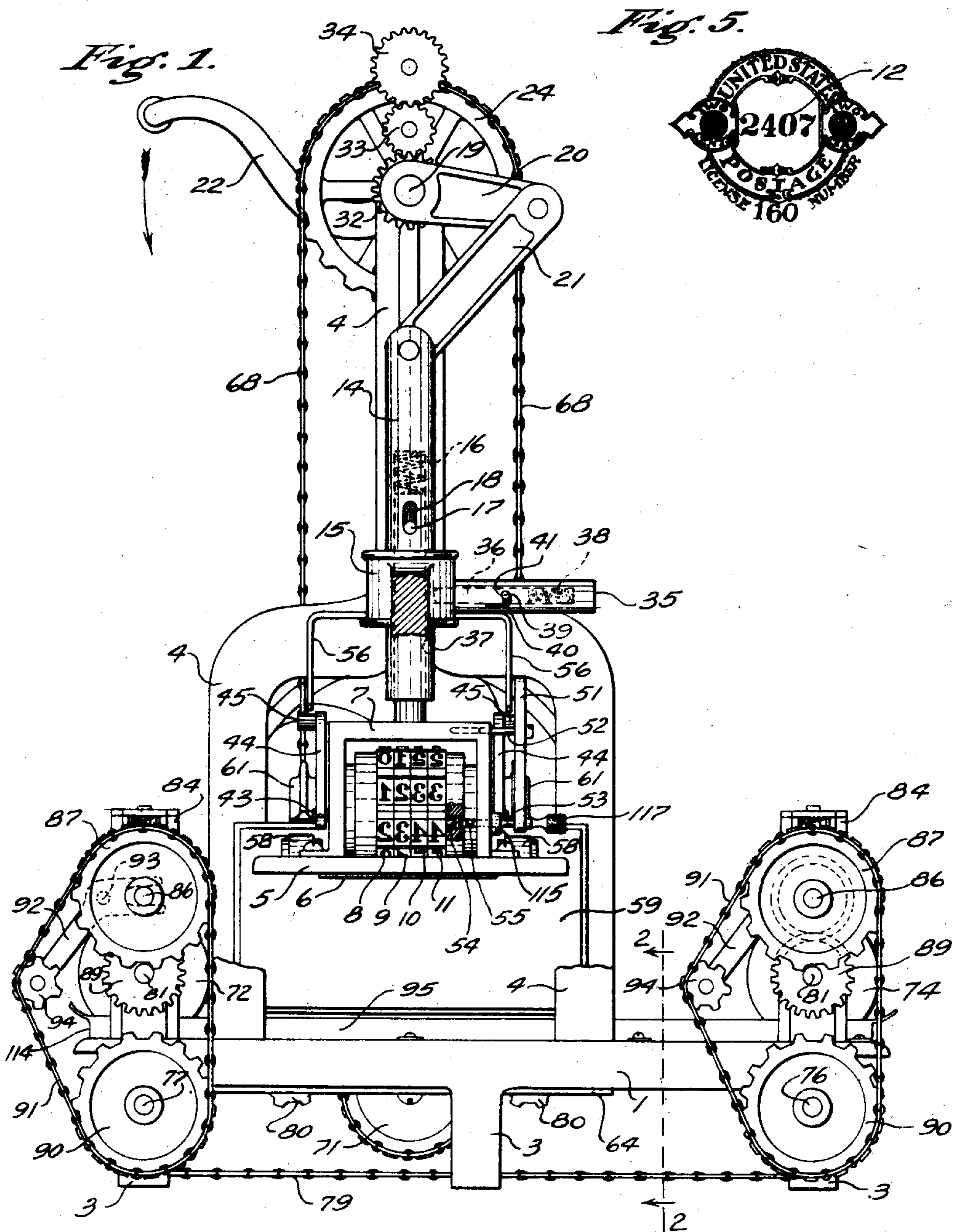
Patented Oct. 14, 1902.

A. H. PITNEY.
POSTAGE STAMP DEVICE.

(Application filed Dec. 9, 1901.)

(No Model.)

4 Sheets—Sheet 1.



WITNESSES.
Edith M. King

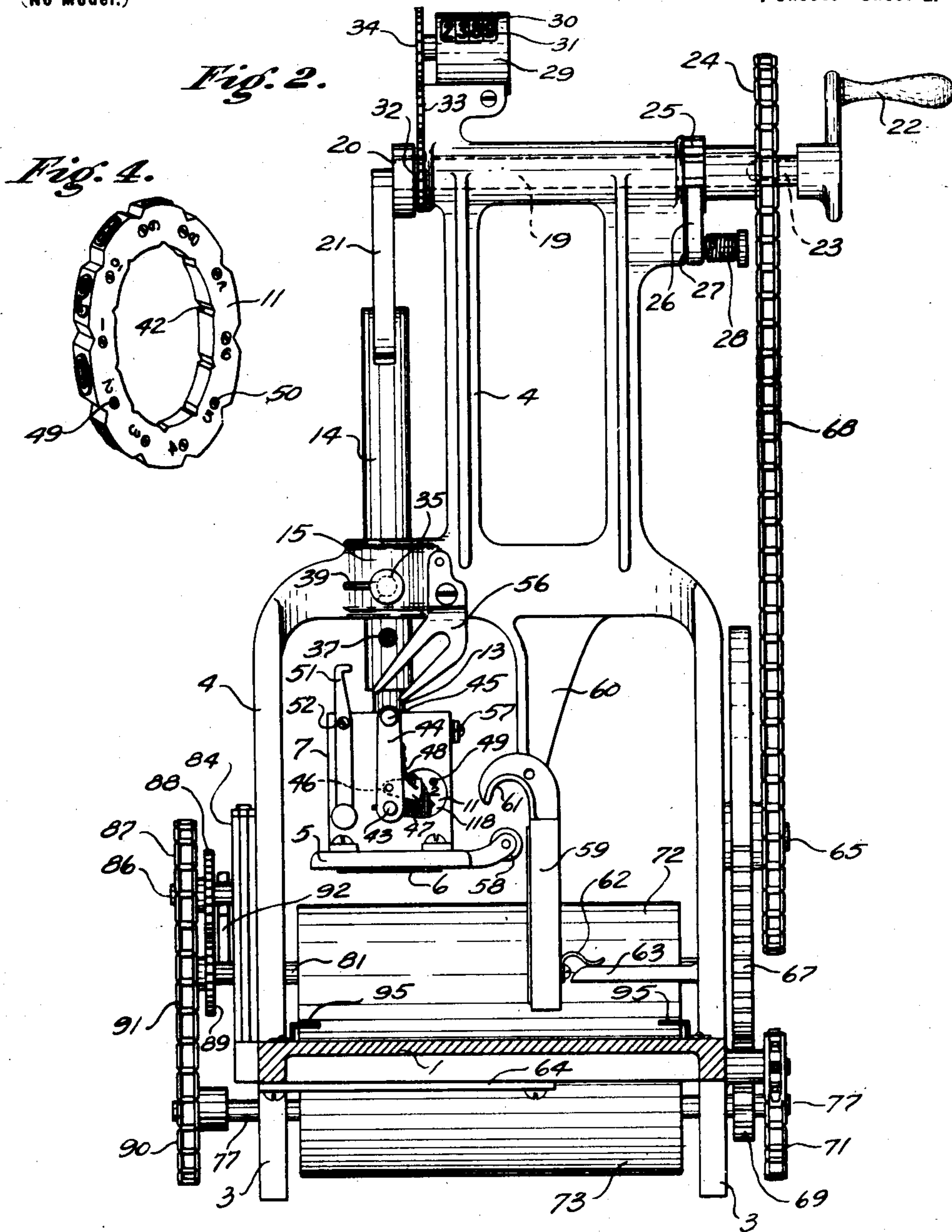
INVENTOR.
Arthur H. Pitney
BY
Rummler & Rummler
ATTORNEYS.

A. H. PITNEY.
POSTAGE STAMP DEVICE.

(Application filed Dec. 9, 1901.)

(No Model.)

4 Sheets—Sheet 2.



WITNESSES
Geo. J. Munster
Edith M. King

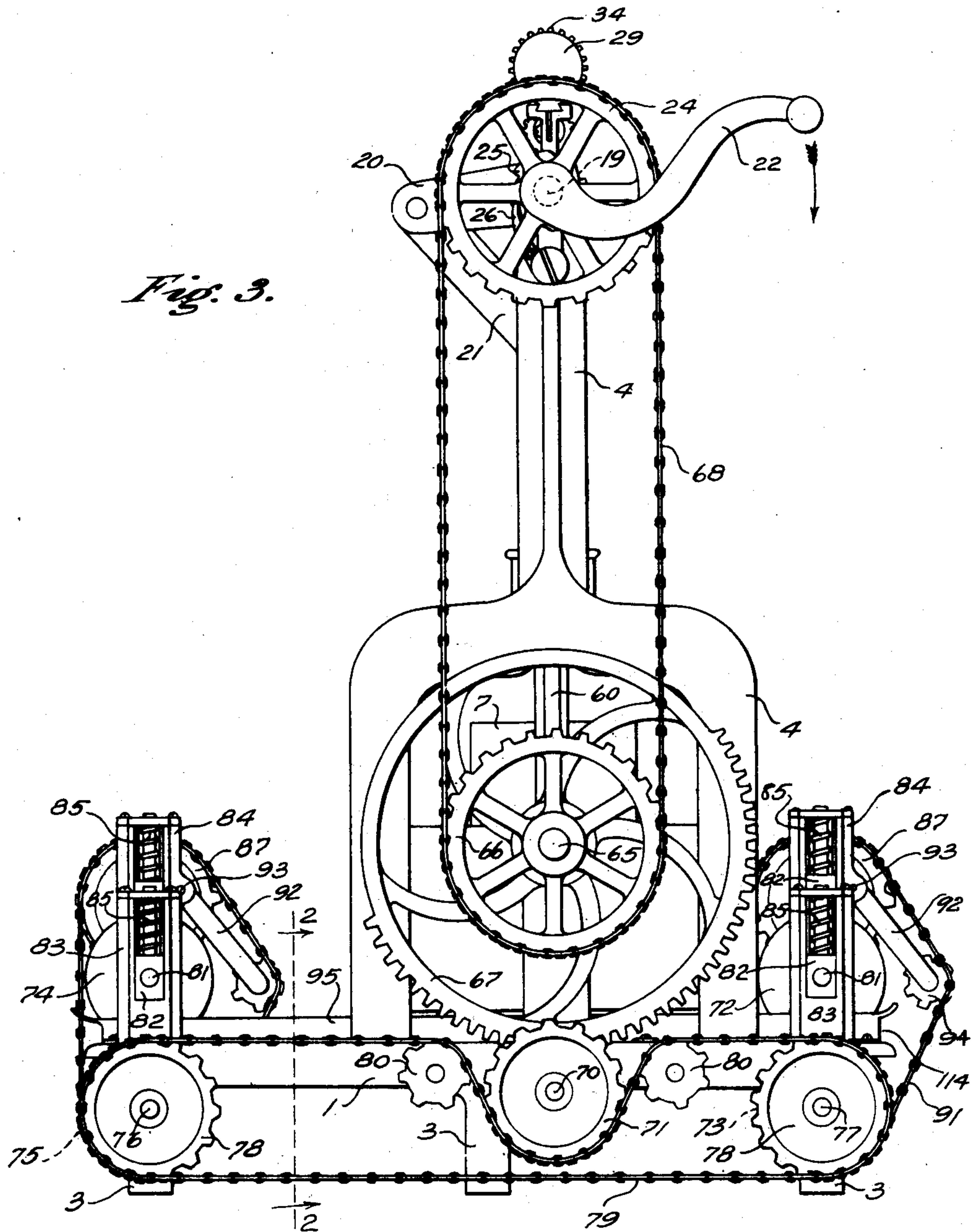
INVENTOR.
Arthur H. Pitney
 BY *Rumrort & Rumrort*
 ATTORNEYS.

A. H. PITNEY.
POSTAGE STAMP DEVICE.

(Application filed Dec. 9, 1901.)

(No Model.)

4 Sheets—Sheet 3.



WITNESSES
Edith M. King

INVENTOR.
Arthur H. Pitney
BY *Sumner & Sumner*
ATTORNEYS.

A. H. PITNEY.
POSTAGE STAMP DEVICE.

(Application filed Dec. 9, 1901.)

4 Sheets—Sheet 4.

(No Model.)

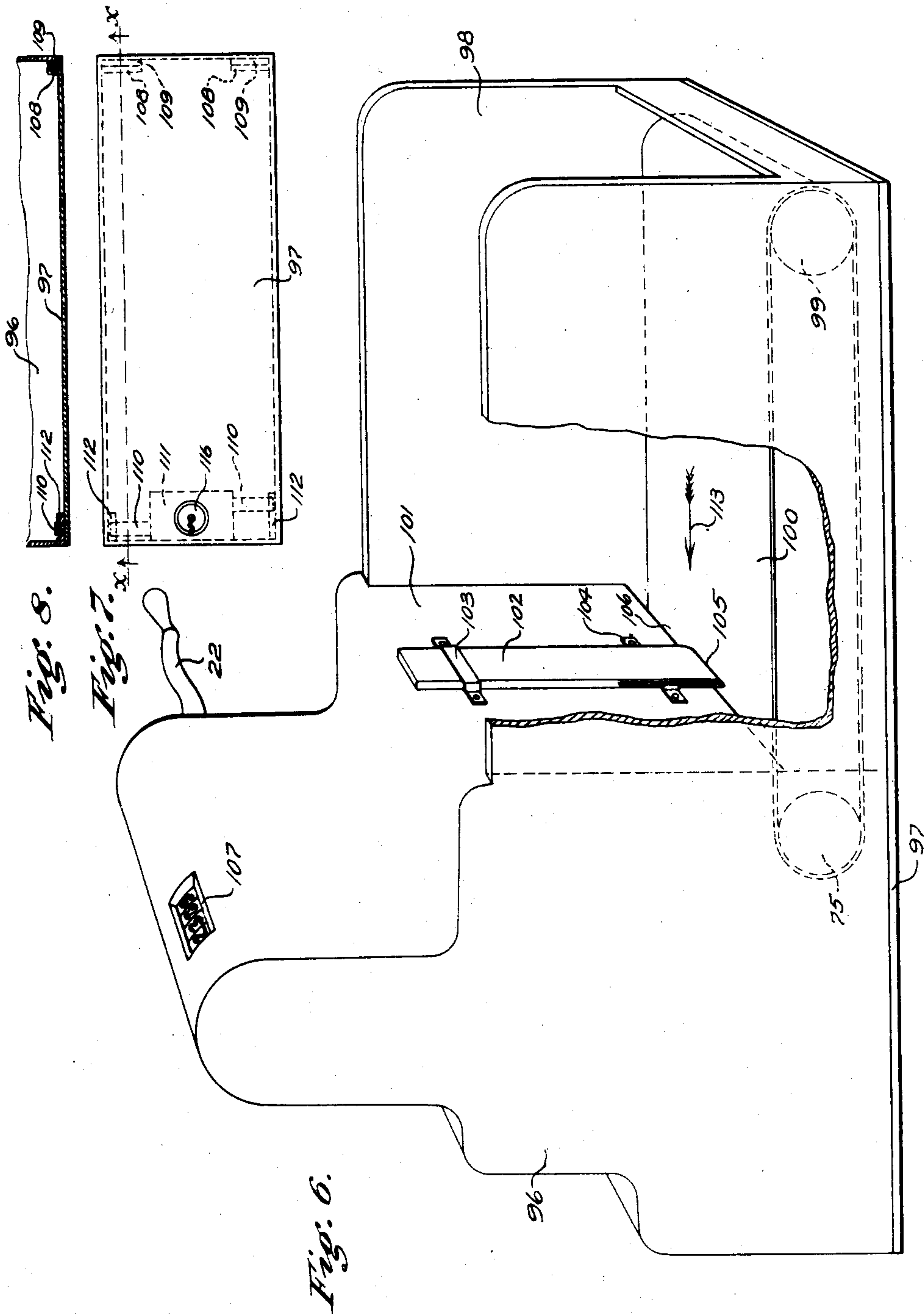


Fig. 6.

Fig. 8.

Fig. 7.

WITNESSES:
Edith M. King

INVENTOR.
Arthur H. Pitney
BY
Rumrider & Rumrider
his ATTORNEYS.

UNITED STATES PATENT OFFICE.

ARTHUR H. PITNEY, OF CHICAGO, ILLINOIS, ASSIGNOR OF FIVE-EIGHTHS
TO THOMAS K. JOHNSTONE, EUGENE A. RUMMLER, HARRY G. SEGER,
AND FREDERICK E. COYNE, OF CHICAGO, ILLINOIS.

POSTAGE-STAMP DEVICE.

SPECIFICATION forming part of Letters Patent No. 710,997, dated October 14, 1902.

Application filed December 9, 1901. Serial No. 85,224. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR H. PITNEY, a citizen of the United States of America, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Postage-Stamp Devices, of which the following is a specification.

The main objects of my invention are to provide a device which may be used as an improved substitute for the present method of indicating and measuring postage by means of adhesive stamps; to provide a machine capable of printing or impressing stamps upon envelopes, cards, or stickers to be in lieu of stamps on packages, consecutively numbering such impressions, and automatically locking itself against further operation when a certain predetermined number of impressions have been made, and to so construct said machine that the number of impressions to be printed may be changed, but that the mechanism shall be so protected as to prevent its being tampered with or altered by unauthorized parties. I accomplish these objects by the device shown in the accompanying drawings, in which—

Figure 1 is a front elevation, partly broken away, of a device constructed according to my invention. Fig. 2 is a section along the line 2 2 of Fig. 1. Fig. 3 is a left side elevation of the same device. Fig. 4 is a perspective view of the numbering-wheel, which is at the right of the series shown in Fig. 1. Fig. 5 is a representation of the impression which the device shown is intended to make. Fig. 6 is a perspective view, partly broken away, of the casing covering the mechanism shown in Figs. 1, 2, and 3. Fig. 7 is a bottom plan view of said casing; and Fig. 8 is a section, partly broken away, of Fig. 7 on the line *x x*.

The framework of the device shown consists of a bed-plate 1, supported by the legs 3 and having rigidly secured to its upper side the supporting-frame 4.

The frame 4 is adapted to carry the printing mechanism, which consists of a plate 5, horizontally disposed, and mechanism for causing said plate to reciprocate vertically above the bed-plate 1. The lower face of the

plate 5 is provided with a fixed type 6 in relief, which is adapted to make the impression shown in Fig. 5. In a casing 7, secured to the upper side of the plate 5, is mounted a series of counting-wheels 8, 9, 10, and 11, the peripheries of said wheels being provided with raised figures, as is common in numbering-machines. These numbering-wheels are mounted in the casing 7, so as to revolve upon a horizontal axis, and are so disposed that the numbers at the lowest point of their periphery will lie in the plane of the lower surface of the type 6, so as to form the part of the impression shown in Fig. 5. The casing 7 is rigidly secured to a vertical shank 13. The member 14 is mounted in the supporting-frame at 15, so as to be vertically slidable therein. The member 14 is counterbored to receive the spiral spring 16 and the shank 13. The shank 13 is provided with transversely-projecting lugs 17, which are seated in the slots 18 of the member 14 and are held in the lower end of said slots by the action of the spring 16 upon the shank 13. A horizontal shaft 19 is journaled in the upper part of the frame 4. One end of the shaft 19 terminates in a crank 20, which drives the member 14 by means of a connecting-rod 21. The opposite end of the shaft 19 is provided with a crank 22, by means of which a rotary motion is imparted to the shaft 19. The pawl 26 is pivoted to the supporting-frame at 27 and is held in contact with the ratchet-wheel 25 by means of the spring 28. Above the shaft 19 and secured to the supporting-frame 4 is a cylindrical casing 29, having therein a series of counting-wheels 30. The casing 29 is provided with a glass-covered aperture 31 for reading the adjacent numbers on the counting-wheels 30. The counting-wheels 30 record the revolutions of the shaft 19, being connected thereto by means of the gears 32, 33, and 34. The casing 29 contains the ratchet mechanism which is common in all forms of counting-machines, and is therefore not shown in detail in the drawings presented. The part 15 of the supporting-frame 4 is provided at one side with a cylindrical protuberance 35, which is hollow and has seated in its interior the pin 36. The member 14 is provided with a socket 37, which is adapted

to receive the end of the pin 36 when directly opposed to said pin. A spring 38 within the protuberance 35 normally urges the pin 36 toward the member 14. A detent 39 is integral with the pin 36 and projects through the slot 40 in the wall of the protuberance 35. The slot 40 at its lower part extends longitudinally of the pin 36 for a distance equal to the desired throw of said pin and then turns upwardly, terminating in a notch 41. When the detent 39 is seated in the notch 41, the pin 36 is held in the position shown in Fig. 1 and out of engagement with the member 14.

The numbering-wheels 8, 9, 10, and 11 are short hollow cylinders having on the inner surface a series of ten equally-spaced notches 42, as is customary in devices of this class. A shaft 43 is journaled axially of said numbering-wheels and has keyed to each end a crank 44, which terminates in a crank-pin 45. Pivoted to the crank 44 at 46 is a pawl 47, which is held upwardly and in contact with the numbering-wheels by means of the spring 48. The spring 48, the pawl 47, and notches 42 of the wheels are so shaped that when the crank 44 is turned to the right through an arc equal to one-tenth of a circle the wheel 8 will be moved through the same arc. Each of the wheels 9, 10, and 11 will be moved through said arc only when the wheels 8, 9, and 10, respectively, indicate the numeral "9" at their lowest points. The left-hand face of the wheel 11 is provided with a series of ten equally-spaced holes 49. Nine of these holes are closed by fillister-headed screws 50, leaving the tenth hole open to serve as a stop, as will be hereinafter described. A hook 51 is secured outside of and at the right of the casing 7, as in Fig. 1. The hook 51 is horizontally slidable and is guided and supported by the pins 52 and 53, which are seated in sockets in the frame 7. The pin 53 is so situated as to be in a direct line with one of the holes 49 when one of the numbers on the rim of the wheel 11 is at the lowest point of said wheel. The holes of the wheel 11 are numbered to correspond with the respective number which is at the bottom of said wheel when such hole is in line with the pin 53. The pin 53 is provided with a shoulder 54 and a spring 55, said spring bearing between the shoulder 54 and the frame 7 in such manner as to normally urge the pin 53, and with it the hook 51, toward the wheel 11. It will be seen that the pin 53 will be forced into such hole as is not filled by a screw when such hole is brought into alignment with said pin. Movement of the hook 51 toward the left of Fig. 1 is limited by the shoulder 115, which stops the hook 51 in such position that said hook will engage the detent 39, as will be hereinafter described. At each side of the part 15 of the supporting-frame 4 is a fork-shaped guide 56. Said guides are adapted to receive the crank-pins 45 when the casing 7 is near its uppermost position and turn the cranks 44 through an arc of one-tenth of a circle and return the crank 44 to its normal

position as the casing 7 moves downwardly. A stop 57 prevents the arms 44 from being turned more than one-tenth of a circle. The plate 5 is provided at one side with a pair of rollers 58. An inking-pad 59 is suspended from the arm 60 of the supporting-frame 4 in such position that the wheels 58 will engage the cams 61 and force the inking-pad against the type 6 when the casing 7 is in its uppermost position. The lower end of the pad 59 is provided with a spring 62, which engages a lug 63 of the frame 4 and steadies the pad 59 when same is not in engagement with the type 6. A rubber pad is preferably seated flush with the upper side of the bed-plate 1 and is retained in position by the plate 64.

At one side of the frame 4 a shaft 65 is secured and has journaled thereon a sprocket-wheel 66 and a gear-wheel 67, said gear and sprocket wheels being rigidly connected together. The sprocket-wheel 66 is connected with the sprocket-wheel 24 by means of a chain belt 68. The gear 67 meshes with the gear 69 and is secured to the shaft 70, which is journaled to the bed-plate 1. Teeth are omitted on a portion of the periphery of the gear 67, so that the gear 69 will remain at rest during a part of the revolution of the gear 67. The sprocket-wheel 71 is also mounted on the shaft 70. At each end of the bed-plate 1 are journaled two rollers 72, 73, 74, and 75. The surfaces of each pair of rollers are in contact with each other, and their line of contact is in the plane of the upper face of the bed-plate 1. The shafts 76 and 77, which carry the lower rollers, are journaled to the bed-plate 1, and each of said shafts carries at one end a sprocket-wheel 78, which is connected with the sprocket-wheel 71 by means of the chain belt 79. The idlers 80 serve as further guides to said belt. The upper rollers are carried by the shafts 81, which ride in the bearings in the cross-heads 82. Said cross-heads are vertically movable within the guides 83 and 84, but are urged toward the lower part of said guides by means of the springs 85. The upper feed-rollers 72 and 74 are connected with the lower feed-rollers 73 and 75 by the gearing and belts shown in Fig. 1 and at the left of Fig. 2. The guides 84 extend higher than the guides 83, so as to accommodate said gearing. This is best seen in Fig. 2. The guides 83 are obscured by the gear-wheel 67 in Fig. 2. The cross-heads 82 in the guides 84 are longer vertically than those in the guides 83 and have secured thereto above the shafts 81 a second shaft 86. On each of the shafts 86 is journaled a sprocket-wheel 87 and a gear-wheel 88, which are secured together. The gear-wheels 88 are in mesh with the gears 89, which are rigidly secured to the shafts 81. The sprocket-wheels 87 connect, respectively, with similar sprocket-wheels 90 on the shafts 76 and 77 by means of the belts 91. The belts 91 are long enough to permit of the required vertical movement of the shafts 86. Each of the belts

91 is automatically tightened by means of the bell-crank lever 92, which is pivoted to the guide 84 at 93, which has one arm slotted to receive the shaft 86 and carries at the end of its other arm an idler 94, which rides on the belt 91. The guides 95 serve to keep the envelopes in contact with the bed-plate 1 as they are drawn through the machine by the rollers 72 to 75.

The entire mechanism of the device is covered by a casing 96, as shown in Fig. 6, having a removable bottom 97, to which the supporting-framework is secured. The right-hand side of the casing shown in Fig. 6 is made in the form of a trough or rack 98, in which envelopes to be stamped may be stacked. A drum 99 is journaled to the bottom 97 at the left-hand end of the trough 98 and is connected with the roller 75 by means of an endless canvas belt 100. A block 102 is secured to the partition 101 of the casing by means of the guides 103 and 104 and is free to move vertically. Its lower end 105 is chamfered off, and its weight serves to hold it in a position to retard the envelopes in the trough, so as to permit but one at a time to enter the slot 106. The casing is further provided with a slot for delivering the envelopes, with the aperture 107 for reading the number indicated by the upper series of counting-wheels and with an aperture through which the crank 22 is connected to the shaft 19. The bottom 97 of the casing is held into position by means of hook-shaped lugs 108 engaging the lugs 109 at the right-hand end of the casing, and at the left-hand end it is held by means of the tongues 110 and the lock 111, which are adapted to engage the lugs 112 on the casing.

The operation of the device shown is as follows: A number of envelopes are piled in the rack 98. By turning the crank 22 in right-handed rotation the rollers 72, 73, 74, and 75 will be caused to revolve by means of the system of gearing connecting same with the shaft 19. The belt 100 will be driven by the roller 75 in the direction of the arrow 113, and the lower envelop will be drawn into the slot 106. The second envelop will be retained by the block 102, which rests loosely in the guides 103 and 104, so as to freely permit the passage into the slot 106, of an irregular thickness. As soon as the envelop enters the slot 106 it is drawn forward by the rollers 74 and 75 until it reaches a point directly below the plate 5. At this instant the feeding mechanism stops, the mechanism having been so assembled that the blank part of the gear 67 is now in conjunction with the gear 69. The envelop at this time receives an impression from the type driven by the printing mechanism, the teeth of the gear 67 again come into mesh with those on the gear 69, and the first envelop is delivered through a slot in the casing opposite the ends 114 of the guides 95. The second envelop is simultaneously brought into position for receiving an impression. The rollers 72 and 74 are arranged to move up-

wardly to permit the passage of envelopes of various thicknesses, but are always held in contact with said envelopes by means of the springs 85. When said rollers move upwardly, the shafts 86, being seated in the slotted ends of the bell-crank levers 92, cause said levers to draw the idlers 94 inwardly and permit the necessary extension of the belts 91. Backward revolution of the shaft 19 is prevented by means of the ratchet and pawl 25 and 26. With each forward revolution the gear 34 is caused to make a complete revolution, and the number indicated by the counting-wheels 30 is increased by one. The crank 20 and connecting-rod 21 cause the printing mechanism to complete a cycle of its movement with each revolution of the crank 22.

Assuming that the mechanism is in the position shown in Figs. 1 and 2, the operation of the printing mechanism is as follows: As the crank 22 turns in the direction of the arrow the member 14 and the casing 7 are drawn upwardly, the crank-pins 45 enter the guides 56, and the shaft 43 is thereby caused to turn through one-tenth of a revolution and carries with it by means of the action of the pawl 47 the numbering-ring 8, causing the number at the lowest point of the series of numbering-rings to be increased one. As the casing 7 descends the guide 56 causes the crank 44 to return to its upright position, the spring 48 permitting the pawl 47 to leave the notch in which it has been engaged and enter the next succeeding notch of the wheel 8. When the numeral "9" on the wheel 8 is at its lowest point, the notch on the wheel 8, which is in engagement with the pawl 47 and which is considerably deeper than the other notches, permits the pawl 47 to engage both of the wheels 8 and 9. Similarly when both of the wheels 8 and 9 have their numerals "9" at the lowest point the wheel 10 is engaged by the pawl 47, and so on throughout the series. It will be seen that by means of this mechanism each of the impressions made by the plate 5 upon the envelopes will receive a different number. All of the holes 49 except one on the face of the ring 11 are filled with screws, as hereinbefore described, said screws being set so that their heads are flush with said face. As shown in Fig. 4, the hole which is numbered 2 is open. When the number "2" on the rim of the wheel 11 is at the lowest point of said wheel, the hole 2 is in line with the pin 53 and said pin will be forced into said hole by means of the spring 55 and the hook 51 will be carried to the left until it comes in contact with the shoulder 115. This will occur when the numbering-wheels indicate "2000" and while the casing 7 is at the highest point of its upward movement. The hook 51 in moving to the left will come into position for engaging the detent 39, and as it moves downwardly the detent 39 will be drawn to the lower part of the slot 40 and will be in position to permit the spring 38 to force the pin 36 to the left and into engagement with the socket 37, which

will then have just passed the point of opposition to the pin 36, so that when said socket 37 again comes into opposition with the pin 36 said pin will fall into said socket and lock the device against further operation.

The casing surrounding the mechanism is locked and the keyhole 116 is covered by a seal, so that it is now necessary to return the machine to some official having the authority to break said seal and unlock said casing. The machine may now be reset for further operation in the manner following:

For instance, if it be now desired to permit the user to make three thousand impressions the pin 53 will be drawn to the right by means of the handle 117 and the wheel 11 turned until the screw bearing the small numeral "3" appears in the aperture 118 of the casing 7. The screw will be removed from the hole bearing the numeral "3" and inserted in the hole bearing the numeral "2." The wheel 11 is now turned to such position that the number "0" on its rim is at its lowest point and the numbering-wheels will be in position to print the number "1" on the first envelop inserted. In like manner the machine may be set to stop at the end of any desired number of thousands. The detent 39 is returned to its position in the notch 41 and the casing locked and sealed. The device is now ready for continued use by the user and will automatically lock itself when the number "3000" is reached by the numbering-wheels. The rubber pad in the bed-plate 1 and the spring 16 in the member 14 permit of automatic adjustment for varying thicknesses of envelops to be printed upon. During the revolution of the crank 22 the roller 58 in its upward movement engages the cam 61 and causes the inking-pad 59 to be brought in contact with the type.

It will be seen that the counting-wheels 31 are protected by the casing 29 and no means have been provided for resetting the counting-wheels 31. Said wheels will therefore indicate the total number of impressions which have been made by the machine regardless of the resetting of the numbering-wheels in the casing 7.

It will be seen that numerous details of the device shown may be altered without departing from the spirit of my invention. I therefore do not confine myself to such details except as hereinafter limited in the claims.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of a frame, printing mechanism mounted in said frame, a series of numbering-wheels for consecutively numbering the impressions made by said mechanism suitable means for automatically locking said printing mechanism against further operation when a certain number of impressions have been made, and a casing surrounding said mechanism and provided with locking means to prevent access to said number-

ing-wheels and to said automatic locking means.

2. The combination of a frame, printing mechanism mounted in said frame, a series of numbering-wheels for consecutively numbering the impressions made by said printing mechanism, suitable means for automatically locking said printing mechanism against further operation when a certain number of impressions have been made, and means for regulating the number of impressions which said mechanism may make before being stopped by said locking means, and a casing surrounding said mechanism and provided with locking means to prevent access to said numbering-wheels and to said automatic locking means.

3. The combination of a frame, printing mechanism mounted in said frame, a series of numbering-wheels for consecutively numbering the impressions made by said printing mechanism, a series of counting-wheels for registering the total number of said impressions independently of the adjustment of said numbering-wheels, and suitable means for automatically locking said printing mechanism against further operation, when a certain number of impressions have been made, and a casing surrounding said mechanism and provided with locking means to prevent access to said numbering-wheels and to said automatic locking means.

4. The combination of a machine arranged to operate in cycles, a series of counting-wheels connected with said machine and adapted to count the number of completed cycles, means for automatically locking said machine against further operation, a spring normally urging said locking means into locking position, a movable detent adapted to hold said locking means against the action of said spring and out of locking position, and mechanism connecting said detent with said counting-wheels in such manner that said detent will be caused to release said locking mechanism when said counting-wheels register a certain number.

5. The combination of a machine arranged to operate in cycles, a series of counting-wheels connected with said machine and adapted to count the number of completed cycles, means for automatically locking said machine against further operation, a spring normally urging said locking means into locking position, a movable detent adapted to hold said locking means against the action of said spring and out of locking position, suitable releasing mechanism for moving said detent, and a stop on one of said counting-wheels adapted to engage said releasing mechanism and cause same to move said detent out of engagement with said locking means.

6. The combination of a machine arranged to operate in cycles, a series of counting-wheels connected with said machine and adapted to count the number of completed

cycles, means for automatically locking said machine against further operation, a spring normally urging said locking means into locking position, a movable detent adapted to
5 hold said locking means against the action of said spring and out of locking position, suitable releasing mechanism for moving said detent, a stop on one of said counting-wheels
10 adapted to engage said releasing mechanism and cause same to move said detent out of engagement with said locking means, and means for changing the position of said stop upon said wheel and thereby controlling the
15 number of cycles which may be completed by said machine before same will be stopped by said locking means.

7. The combination of a frame, printing mechanism mounted in said frame, a series
20 of numbering-wheels for consecutively numbering the impressions made by said printing mechanism, suitable means for automatically locking said printing mechanism against further operation when a certain number of im-
25 pressions have been made, and mechanism for feeding envelops singly and in succession to said printing mechanism, said feeding mech-

anism operating intermittently so that the envelops shall not be in motion at the instant of receiving an impression.

8. The combination of a machine arranged
30 to operate in cycles, a series of counting-wheels connected with said machine and adapted to count the number of completed cycles, means for automatically locking said
35 machine against further operation, one of said counting-wheels having therein an annular series of holes, suitable movable means for closing said holes, a pin slidably mounted near said wheel and adapted to engage
40 any of said holes, which is open when such hole is opposed to said pin, means for normally urging said pin toward said holes, suitable mechanism connecting said pin with said
45 locking means so that said machine will be locked when said pin is seated in one of said holes.

Signed at Chicago this 7th day of December, 1901.

ARTHUR H. PITNEY.

Witnesses:

WM. R. RUMMLER,

EUGENE A. RUMMLER.