

M. E. WOODFORD.

STAMP FEEDING AND CUTTING MECHANISM.

APPLICATION FILED JULY 12, 1901. RENEWED FEB. 2, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

Fig. 1.

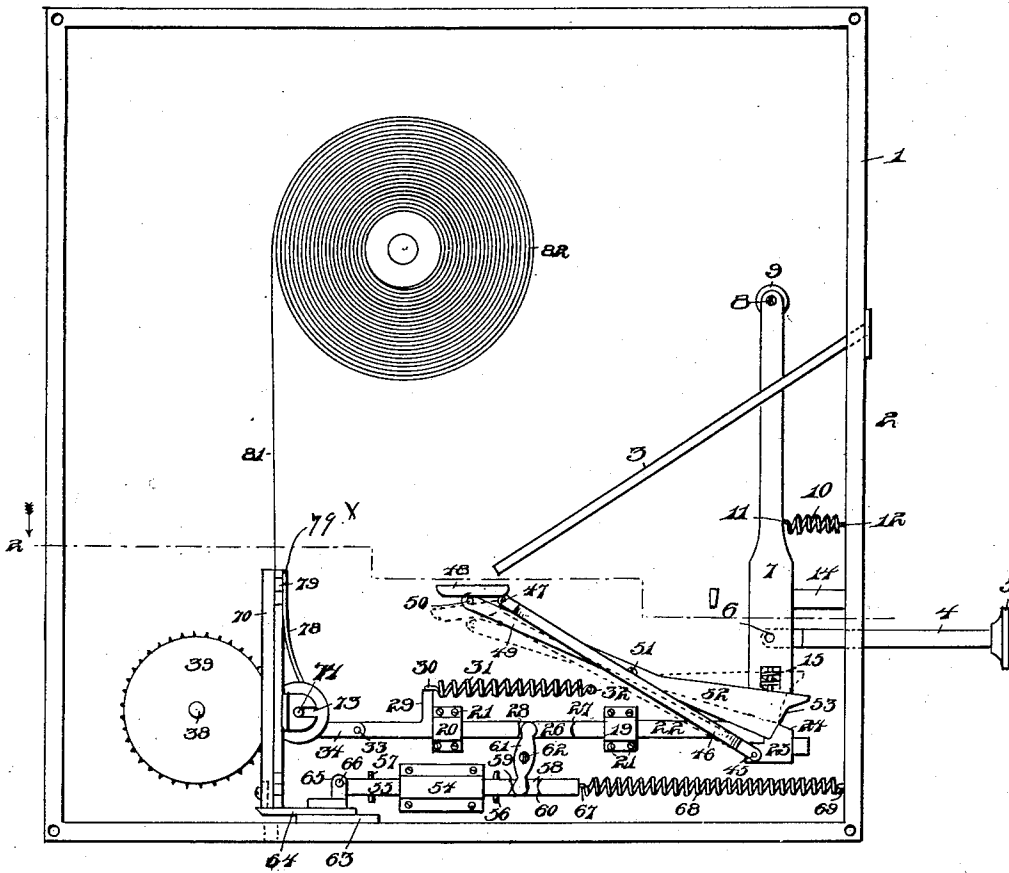
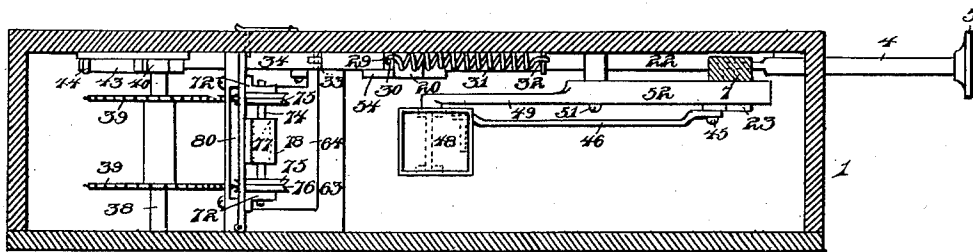


Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 3.

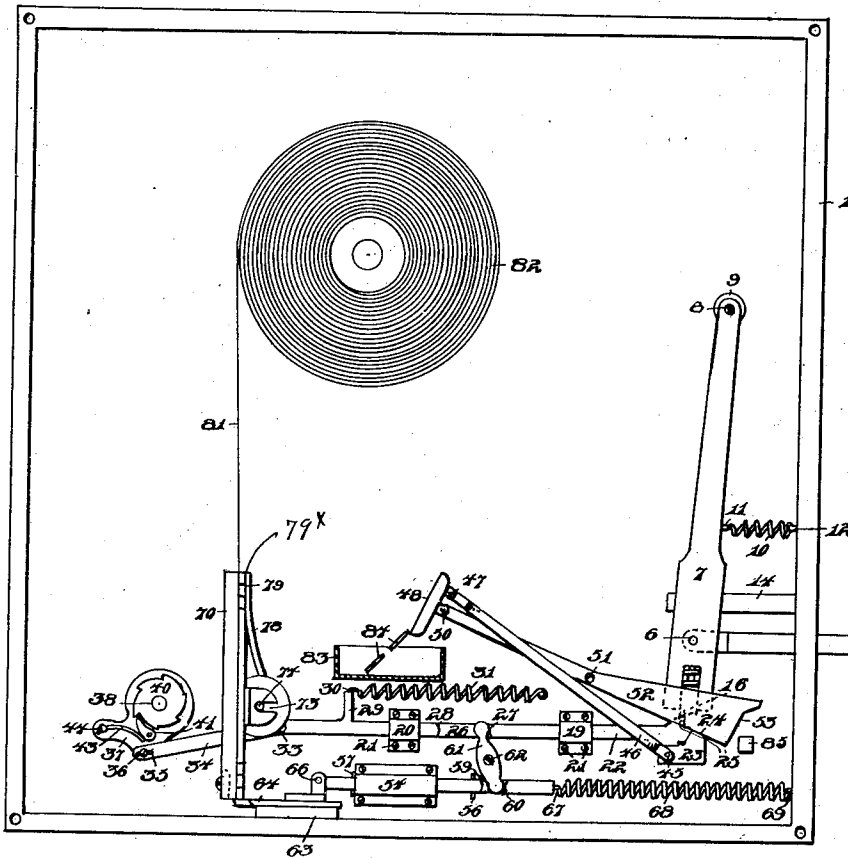


Fig. 4.

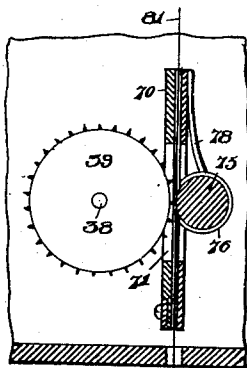


Fig. 5.

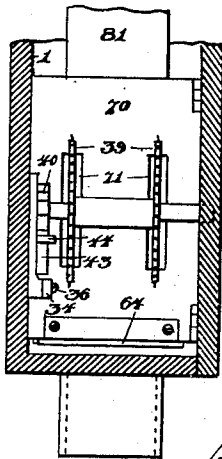


Fig. 6.

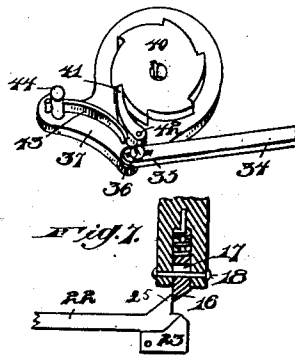
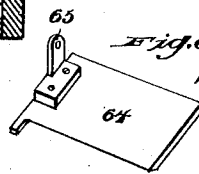


Fig. 7.



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UNITED STATES PATENT OFFICE.

MILTON E. WOODFORD, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR TO THE
AUTOMATIC POSTAGE STAMP BOX COMPANY.

STAMP FEEDING AND CUTTING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 736,329, dated August 11, 1903.

Application filed July 12, 1901. Renewed February 2, 1903. Serial No. 141,610. (No model.)

To all whom it may concern:

Be it known that I, MILTON E. WOODFORD, a citizen of the United States of America, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Stamp Feeding and Cutting Mechanism; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

The present invention has for its object the provision of novel means whereby stamps will be automatically fed from a roll through a suitable opening provided in the machine and then severed from the strip at a predetermined point; furthermore, to provide novel coin-actuated mechanism that will automatically coact with the feeding mechanism.

A still further object of this invention is to construct the mechanism in such a manner that all movements will be positive in their operation and operate conjointly with one another at the proper time.

With the above and other objects in view the invention consists in the novel combination and arrangement of parts, to be hereinafter more fully described, and specifically pointed out in the claims.

In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, and wherein like numerals of reference indicate corresponding parts throughout the several views, in which—

Figure 1 is a side elevation of my improved mechanism, showing the casing removed therefrom. Fig. 2 is a longitudinal sectional view taken on the line 2 2 of Fig. 1, showing the casing in position. Fig. 3 is a similar view of Fig. 1 with the toothed feed-wheel removed therefrom and showing the mechanism in the position when it is to be tripped and to be returned to its normal position as shown in Fig. 1 of the drawings. Fig. 4 is an enlarged vertical sectional view of the guide-roller and one of the feed-wheels. Fig. 5 is a transverse vertical sectional view of a portion of the casing, showing the feed-wheels in position. Fig. 6 is a perspective view of the pawl and ratchet, showing a portion of the lever-arm. Fig. 7

is a vertical sectional view of the lower end of the trip-arm engaging the forward portion of the lever-arm. Fig. 8 is a perspective view of the knife.

In the drawings the reference-numeral 1 indicates a suitable frame, to which is secured a casing 2. This casing 2 may be provided with one or more removable sides in order to gain access to the mechanism. This is not shown in the drawings, but is the construction that is in common use in this kind of machines.

The reference-numeral 3 represents a coin-chute which extends at an angle and is suitably fastened to the casing 2, extending through the same to the outer edge of the casing.

The reference-numeral 4 represents an operating-handle which extends through a suitable opening in the casing and is provided at its end with a head 5. This operating-handle 4 is pivotally secured at 6 to a trip-arm 7, the latter being pivotally attached at its upper end, as shown at 8, to a bushing 9, arranged upon the inner side of the casing. A spring 10 is attached at 11 to the trip-arm 7, the other end of said spring being secured at 12 to the wall of the casing. A lug 14 is also secured to the inner wall of the casing, which lug abuts against the side of the trip-arm, limiting the rearward movement of the same. The said trip-arm 7 carries a bifurcated end 15, in which is secured a spring-pressed dog 16, said spring-pressed dog extending below the trip-arm and has formed therein a slot 17, through which extends a pin 18, arranged in and through the lower end of the trip-arm 7, said pin serving to limit the upward-and-downward movement of said dog and serving to retain the dog within the bifurcated end of the trip-arm.

Guides 19 and 20 are secured to the inner face of the casing by means of screws 21, a connecting-arm 22 extending through said guides and is adapted to operate therein. This connecting-arm 22 carries on its forward engaging end an enlarged portion 23, said enlarged portion having an upper inclined face 24, forming a heel 25. The said connecting-arm 22 is formed on its inner face with a contracted portion 26, forming shoulders 27 and 28. The said connecting-arm 22 is also pro-

vided with a lug 29, extending upwardly, to which is secured at 30 a spring 31, the other end of said spring being securely fastened at 32 to the inner face of the casing, and this
 5 connecting-arm 22 forms a pivotal connection at 33 with the connecting-arm 34, the other end of said connecting-arm being slotted, as shown at 35, and engages a screw 36, the head of said screw extending over the face of the
 10 said connecting-arm 34 and the body portion of the screw riding in said slot 35, this screw being rigidly attached to an eccentric 37, said eccentric being rotatably attached to a shaft 38, the latter being suitably journaled in the
 15 opposite walls of the casing. This shaft 38 carries toothed feeding-wheels 39, these wheels being securely keyed to the shaft 38. A ratchet-wheel 40 is also keyed to the shaft 38 and is engaged by a pawl 41, which is pivoted at 42 upon the eccentric 37. The said
 20 pawl is spring-pressed by means of a retractile spring 43, secured in the post 44, fixed to the eccentric 37.

To the enlarged portion 23 of the operating-lever is pivotally attached at 45 an arm 46, the upper end of said arm being pivoted at 47 to the coin-tray 48. This pivotal connection 47 is made of the coin-tray on the under side, near the forward end thereof. Centrally of
 25 the under face of said coin-tray a weighted locking-lever 49 is pivotally secured, as shown at 50, the said weighted locking-lever 49 being pivotally attached at 51 to the one side of the casing and is provided with an enlarged
 30 weighted end 52, the engaging face 53 of the end of said weighted locking-lever being also slightly beveled to conform with and engage when in the locking position the heel 25 of the enlarged portion 23. Below the heretofore-
 35 described mechanism is arranged a cutting mechanism, which coacts with the feeding mechanism and coin-operated mechanism.

The reference-numeral 54 indicates a guide rigidly secured to the inner side of the casing in any suitable manner, through which extends a sliding rod 55. This sliding rod is provided with suitable stops 56 and 57, arranged on each side of the guide upon the sliding
 40 rod. This sliding rod is likewise formed with a cut-away portion 58, forming shoulders 59 and 60. Swiveled arm 61 is pivoted securely at 62 to the inner wall of the casing, having arms extending upwardly and downwardly upon the cut-away portions 26 and 58
 45 and at certain intervals bearing against the shoulders 27, 28, 59, and 60, as will be herein particularly explained in the operation of the device. A suitable guide is arranged on the bottom of the casing, in which is slidably arranged a knife or cutter 64. This cutter carries a bifurcated lug 65, to which is pivotally secured at 66 the end of the sliding rod 55. At the other end of said sliding rod 55 is secured at 67 a spiral spring 68, which is secured
 50 at its other end at 69 to the front of the casing. Immediately above the knife or cutter, suitably secured to the inner walls of the casing,

is a guide 70, said guide having formed therein slots or cut-away portions 71, into which extends the toothed feed-wheels 39, and on the
 70 opposite side of the said guide are arranged bearings 72, having open ends 73, in which the shaft 74 is rotatably secured. This shaft 74 carries on each end guide-wheels 75, said guide-wheels having formed therein circum-
 75 ferential V-shaped grooves 76, into which the teeth of the wheels 39 extend. The said shaft 74 also carries an antifriction-roller 77, which antifriction-roller is spring-pressed by means of a spring 78, the securing end of said spring
 80 being attached at 79^x to the inner face of the guide 79. The said guide 70 has formed therein a central opening 80, to which the ribbon of stamps 81 extend, said ribbon of stamps being fed from a reel 82, this reel being removably
 85 secured in any suitable manner in the sides of the casing.

The reference-numeral 83 indicates a coin-receptacle rigidly attached in any suitable manner to the inner wall of the casing.

The reference-numeral 84 represents the coins.

85 indicates a stop for limiting the movement of the weighted lever.

The detailed operation of my improved
 95 mechanism is as follows: We will assume that the parts are in the locked position, as shown in Fig. 1 of the drawings. The coins are dropped into the slot and are conveyed downwardly by means of the chute 3 upon a coin-
 100 tray 48, the latter being balanced in a manner that by the weight of the coins the weighted lever 49 will be carried downwardly, together with the coin-tray, a short distance, as shown in dotted lines in Fig. 1 of the drawings, thus
 105 releasing the weighted end 52 from engagement with the heel 25, Fig. 7, of the connecting-arm 22, thereby unlocking the mechanism and placing it in an operative position. The operating-handle 4 is then pressed inwardly,
 110 the spring-pressed dog 16 engaging the end of the connecting-arm and imparting a forward movement thereto. By this operation the springs 10 and 31 are expanded, and movement from the connecting-arm 22 to the connecting-
 115 arm is communicated, which will impart a partial rotary movement to the eccentric 37, thereby rotating the shaft 38, carrying with it the toothed feed-wheels 39, which will engage the sides of the ribbon or tape and cause the
 120 stamps to be fed downwardly from the reel through the slotted guide a predetermined distance. Simultaneously with this operation and with the forward movement of the connecting-arm 22 the arm 46 is moved upwardly
 125 at an incline, thereby tilting the coin-tray 48 in a manner that will allow the coins 84 to be fed into the coin-receptacle 83. At the beginning of the operation with the forward movement of the connecting-arm 22 the knife or
 130 cutter 64 will be withdrawn from under the slotted guide to allow the stamps to be fed downwardly to the proper position. This operation is accomplished by reason of the shoul-

der 28 of the connecting-arm being operated forwardly and allowing the spring 68 to contract, thereby moving the sliding rod in the guide 54 until the stop 57 is reached, which limits the movement thereof. As the connecting-arm 22 is operated forwardly the upper end of the swiveled arm 61 will ride upon the contracted portion 26 of the connecting-arm 22 until shoulder 27 is reached. At this point of the operation the spring-pressed dog 16, arranged upon the lower end of the arm 7, will disengage the operating-lever as the latter is operated forwardly and the former is describing the arc of a circle, thus causing the mechanism to trip, and by means of the spring 31 the connecting-arm is returned to its normal position. Simultaneous with this operation the cutting mechanism is operated by means of the shoulder 28 coming in contact with the upper portion of the swiveled arm 61, the lower end of the arm 61, engaging the shoulder 59 of the sliding rod, operating the knife inwardly by movement which is caused by the quick return of the mechanism after the same has been tripped. By the movement of the return of the connecting-arm the weighted end of the lever 52 will ride up on the inclined face 24 and automatically seat itself in the heel 25, thereby locking the device. Simultaneous with this operation the arm 46 and coin-tray 48 will also assume their former positions. When the operating-handle 4 is released, the spring 10 will return the arm 7 to its former position, the dog 16 riding over the upper inclined face of the operating-lever and will engage the ends of the lever in a manner as shown in Fig. 7 of the drawings.

It must be observed that the spring 31 is heavier than the spring 68 in order to successfully accomplish the heretofore-described operation.

I will now describe the detailed operation of the feed mechanism that takes place at the time of the tripping of the mechanism. As the connecting-arms 34 and 22 are returned to their normal position the eccentric 37, being rotatably secured upon the shaft 38, as heretofore described, will also return to its normal position, thereby allowing the spring-pressed pawl 41 to engage the next ratchet-tooth of the ratchet-wheel 40, the latter being keyed to the shaft, thereby regulating the exact rotation of the toothed feed-wheels 39 to feed the stamp-tape the required distance, where it is to be severed from the tape. These toothed feed-wheels, operating in the V-shaped groove 76 of the wheels 75, will tend to firmly retain and equally feed the sides of the stamp, thereby causing a slight indentation, as shown in Fig. 5, upon the end of the tape extending through the casing of the mechanism.

The many advantages obtained by the use of my improved device will be readily apparent from the foregoing description, taken in connection with the accompanying drawings.

It will be noted that various changes may be made in the details of construction without

departing from the general spirit of my invention.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In combination with the longitudinally-movable bar, a shaft and stamp-wheel mounted thereon, a cam loosely journaled on said shaft, a ratchet-wheel keyed to the shaft, spring-actuated pawl pivoted on the cam and engaging the teeth of said ratchet-wheel, pivotal link connecting one end of said bar and cam-wheel, a pivoted bar and spring-actuated pawl carried thereby, said pawl adapted to engage the free end of the longitudinally-movable bar, and a push-rod adapted to actuate said pivoted pawl-carrying bar, as set forth.

2. In combination with the longitudinally-movable bar, having a widened portion and a seat with beveled edge, at one end a stamp-feeding wheel and shaft carrying the same, a cam loosely journaled on said shaft, a ratchet-wheel keyed to the shaft, a spring-actuated pawl carried by the cam and engaging the teeth of said ratchet-wheel, pivoted link connection between said bar and cam, guides for said bar and a spring for returning the same to its normal position, a pivoted bar, a spring-actuated pawl mounted in a recess in said pivoted bar and normally engaging said widened portion of the longitudinally-movable bar and seat, and a push-rod pivoted to said pawl-carrying bar, as set forth.

3. In combination with a longitudinally-movable and spring-actuated bar, having a widened portion and a seat with beveled edge, a shaft, stamp-feeding wheel with spurs about its circumference, mounted on said shaft, a ratchet-wheel keyed to rotate with the shaft, cam loosely mounted on the shaft, spring-actuated pawl engaging said ratchet-wheel, link connection between the longitudinally-movable bar and the cam, a pivoted bar, spring-actuated pawl engaging said widened portion and seat, a push-rod pivoted to the pawl-carrying bar, and a stamp-cutting device actuated by said longitudinally-movable bar, as set forth.

4. In combination with the longitudinally-movable bar, the stamp-feeding wheel and mechanism as described for driving the same, a pawl-carrying bar pivoted to the casing, push-rod pivoted to said pawl-carrying bar and engaging the end of said longitudinally-movable bar, a spring-actuated bar mounted parallel to the stamp-feeding bar, a swiveled button driven by said longitudinally-movable bar and adapted to drive said spring-actuated shaft, and a cutting-knife pivoted to the latter.

5. In combination with the longitudinally-movable bar 22, having shoulders 27 and 28, the stamp-feeding mechanism driven thereby, a spring-actuated bar 55 having shoulders 59 and 60 and cutting-blade pivoted thereto, a button pivoted to the casing of the apparatus and having its free ends engaging said shoul-

ders, whereby as said longitudinally-movable bar is driven forward the spring-actuated blade-carrying bar is driven in the opposite direction, and means for driving the stamp-feeding shaft.

6. In combination with the casing, the stamp feeding and severing apparatus, a longitudinally-movable bar and cutting-knife, and means for operating same, the stamp-feeding wheels and shaft carrying same, a cam, pivotal link connection between said cam and shaft, ratchet-wheel keyed to the shaft and spring-actuated pawl engaging the teeth of said ratchet, a standard 70 mounted on the

casing, ears on said standard, shaft mounted in said ears, a cylindrical wheel journaled on said shaft 74, and the grooved wheels 75 and 76 rotating adjacent to the circumferences of the stamp-feeding wheels, and means for operating the device, as set forth.

In testimony whereof I have hereunto affixed my signature in the presence of two subscribing witnesses.

MILTON E. WOODFORD.

Witnesses:

LOUIS MOESER,
L. WALL.