

J. J. SCHERMACK.
STAMP HANDLING MACHINE.
APPLICATION FILED JAN. 21, 1911.

Patented Sept. 3, 1912.
4 SHEETS—SHEET 1.

1,037,546.

Fig. 1.

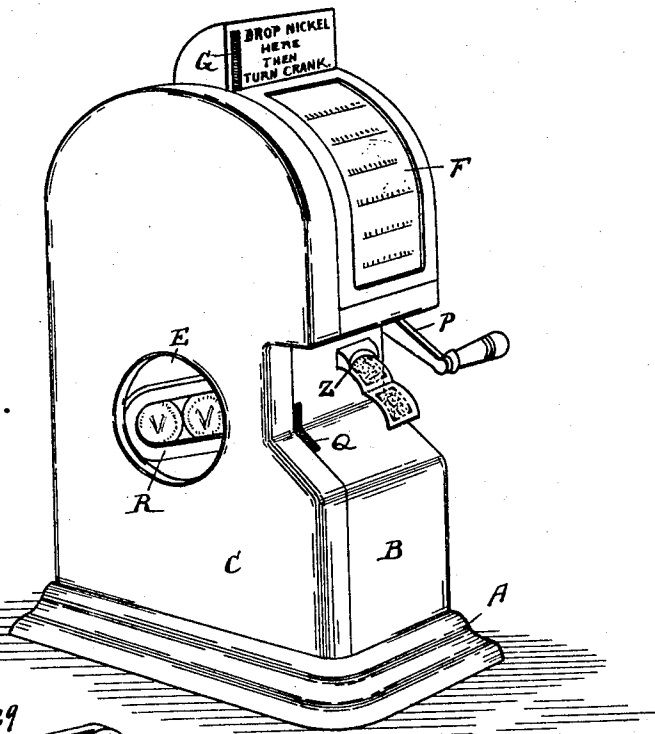


Fig. 16.

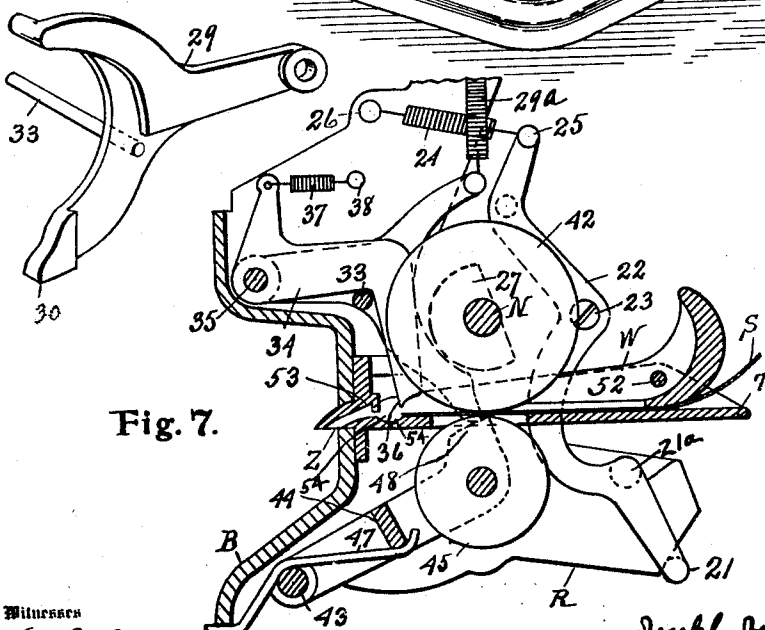


Fig. 7.

Witnesses

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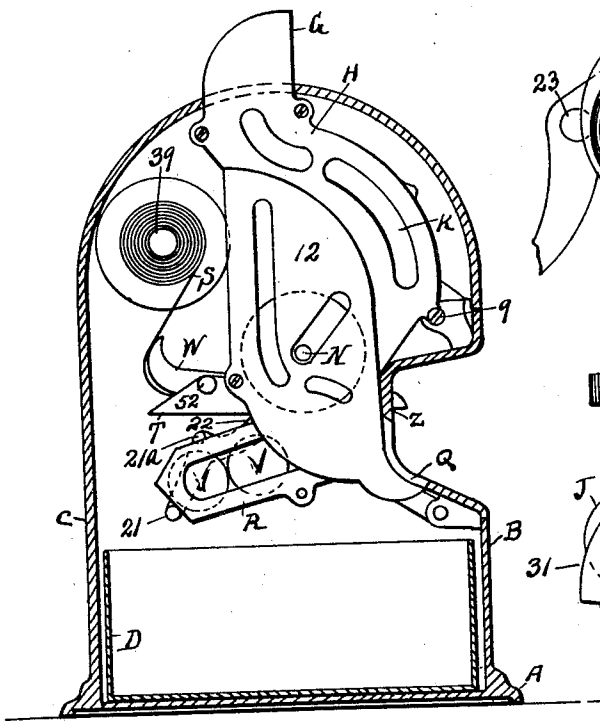


Fig. 2.

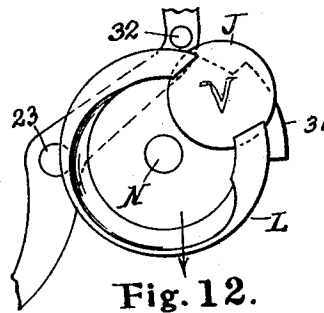


Fig. 12.

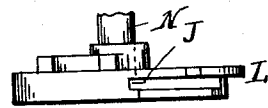


Fig. 13.

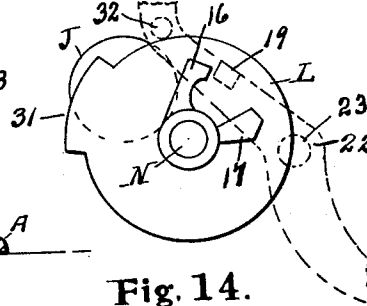


Fig. 14.

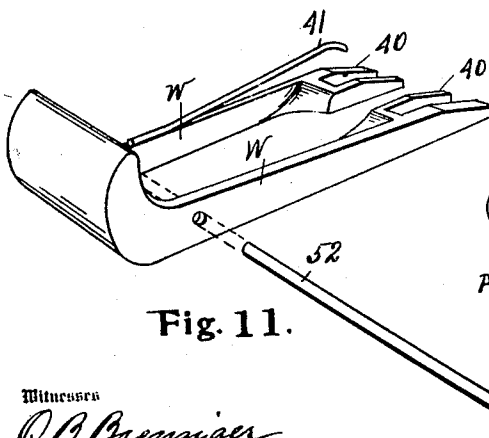


Fig. 11.

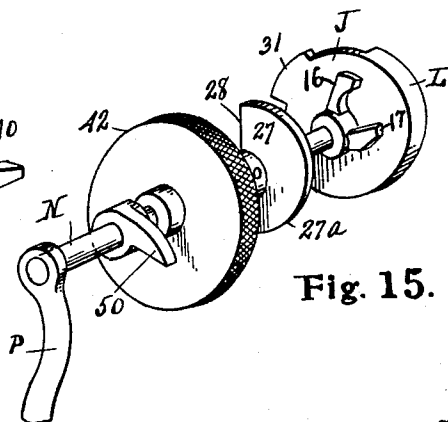


Fig. 15.

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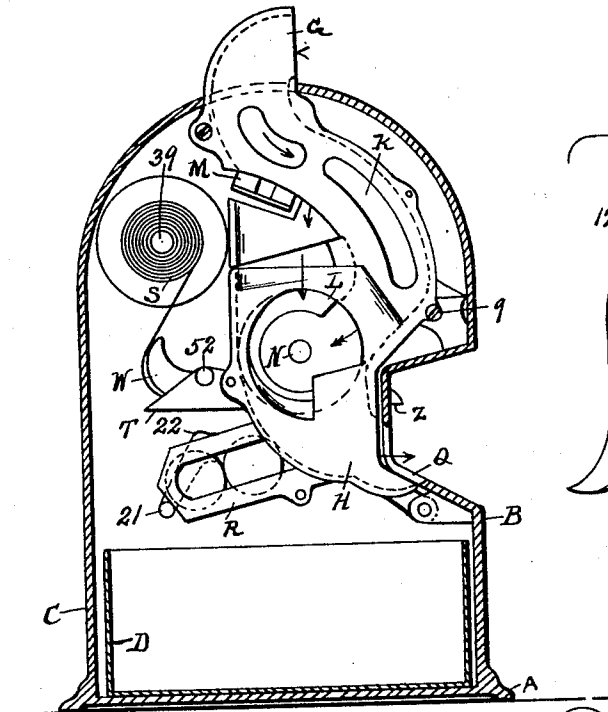


Fig. 3.

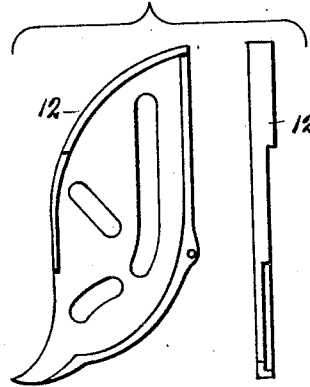


Fig. 6.

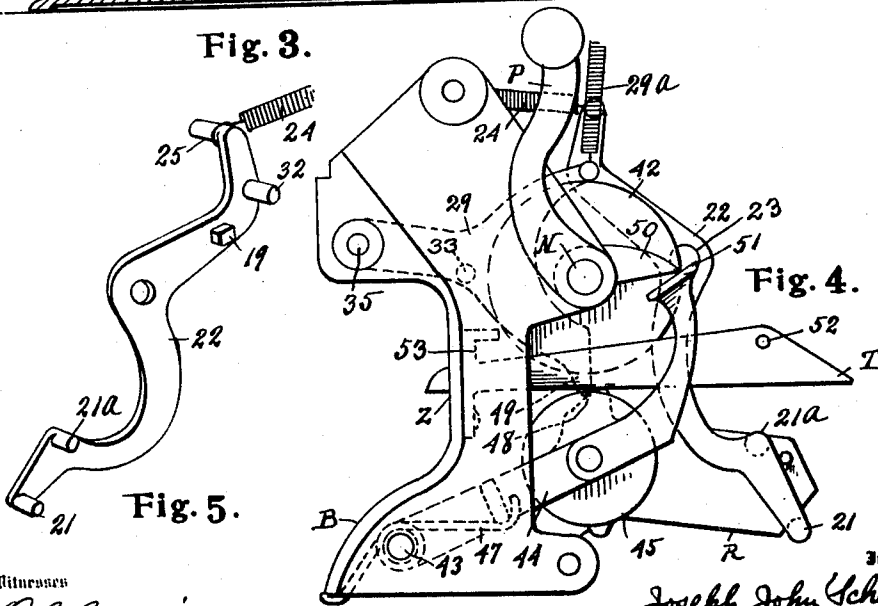


Fig. 4.

Fig. 5.

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4 SHEETS—SHEET 4.

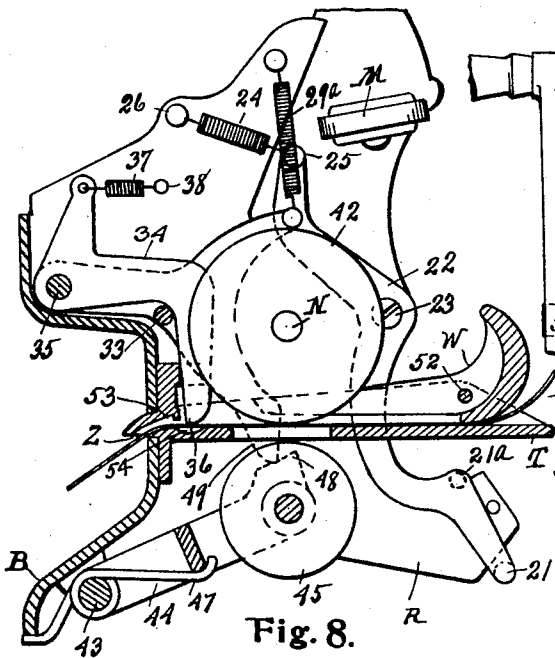


Fig. 8.

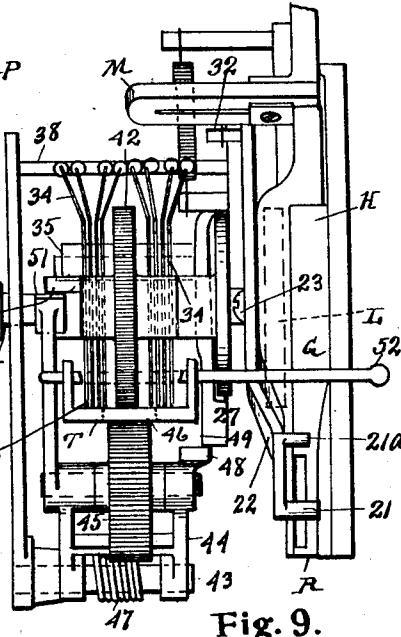


Fig. 9.

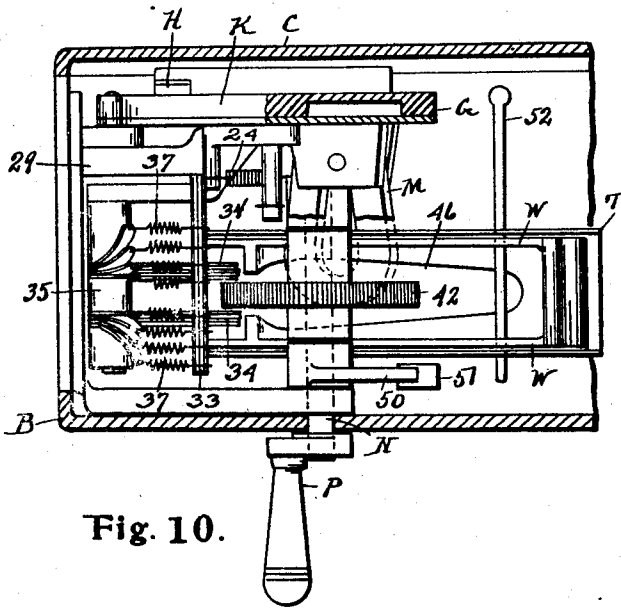


Fig. 10.

Witnesses

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JOSEPH JOHN SCHERMACK, OF DETROIT, MICHIGAN.

STAMP-HANDLING MACHINE.

1,037,546.

Specification of Letters Patent.

Patented Sept. 3, 1912.

Application filed January 21, 1911. Serial No. 603,839.

To all whom it may concern:

Be it known that I, JOSEPH JOHN SCHERMACK, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Stamp-Handling Machines, and declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to postage stamp handling machines, and has for its object an improved device of this type by whose use the services of a clerk may be dispensed with in the vending of small quantities of postage stamps, such as small retail storekeepers are called upon to do to such an uncomfortable extent, and whereby the gummed surface of the stamps is kept clean and sanitary until the individual stamps are delivered to the purchaser. The stamps sold are fed from a roll, such as is now furnished by the postal authorities, in a sealed package if desired, and the mechanism, in addition to including means for guiding and selecting a valid coin, include means, which can be rendered operative only by the presence of the coin, whereby the stamp or strip-actuating elements may be brought into operation. The stamp advancing and severing mechanism is, however, capable of use, with slight modifications of structure, in such other devices as stamp-affixing machines, and I therefore do not restrict myself to its use with coin-controlled mechanism, but merely choose this type of mechanism as, in this instance, illustrative of one of the uses to which my invention can be put.

In the drawings:—Figure 1, is a perspective of the completed device. Fig. 2, is a side elevation, largely in section, of the interior of the case and cash drawer. Fig. 3, is a side elevation of the case, similar to Fig. 2, except for the fact that the irregularly shaped plate, which constitutes part of the coin runway, is removed to expose to view other parts of the mechanism immediately in the rear thereof, as viewed from one side of the casing. Fig. 4, is a reverse side elevation (looking in the opposite direction from that of Figs. 2 and 3) of the stamp handling mechanism, disassociated from the casing. Fig. 5, is a perspective of the locking lever.

Fig. 6, is a detail of the coin runway plate, there being both a side and an end view thereof. Fig. 7, is a section through the stamp-feeding device, the same being in initial feeding position. Fig. 8, is a section through the stamp-feeding device, after it has acted, showing a stamp ready to tear off. Fig. 9, is a view of the stamp feeding mechanism at right angles to that of Fig. 8, and facing toward the front of the casing. Fig. 10, is a plan view of the stamp-feeding mechanism shown in Figs. 7 and 8. Fig. 11, is a detail perspective of the plate for holding the stamps in their delivery trough, and of the locking bar therefor. Figs. 12, 13 and 14 are details of the two sides and of the coin-receiving edge of the controlling wheel, into which the coin passes from the inlet chute. Fig. 15, is a perspective of the operating shaft, the parts which carry the stamp being spaced to an exaggerated degree for the purpose of clear illustration. Fig. 16, is a perspective of the concaved lever which actuates certain of the stamp-handling parts.

A represents the base of the machine, upon which rest the parts B and C of the casing. Of these, the part B is preferably fixed thereto, and the part C, which preferably constitutes one side and the rear of the casing, is detachably secured thereto by means of interlocking lugs and a key-controlled latch. Preferably, though not necessarily, the parts of the mechanism contained in the casing are assembled as a removable unit and mounted by means of a single bolt or screw 9 upon the side wall of one of these parts, preferably the part B, so that, without disassembling the organized mechanism, it can, when desired, be removed in its entirety from the case by unscrewing the supporting screw. In the side wall C there is provided an inspection window E, past which, as will be hereinafter explained, the coins not primarily rejected by the coin-handling mechanism, pass, and are for a time halted on their way to the cash drawer D, so that they are thus available for inspection.

The tablet F in the front of the casing may be used for purposes of advertising, or information as to the character and method of operation of the machine, the first step in the operation of which consists in the insertion of a coin of the denomination specified by the directions

on the tablet, in the slot G. If the coin is a proper and genuine one, it passes the magnet M, but if it be a steel or iron slug, it is turned aside thereby sufficiently to be turned into the track of the slug runway H, through whose delivery end Q it is promptly returned to the would-be cheater of the machine. If, however, it is a proper coin (and for the purposes of the further description of this specification a nickel will be chosen for illustration, and it will be assumed that the machine is intended to sell two two-cent stamps for five cents) or if the slug used be a brass one of the exact size of a nickel, and therefore unaffected by the magnet, it passes on down the runway K until it strikes the mutilated periphery of the coin-controlling wheel L, into the cut-away portion of which J it falls, with its mass partly within and partly without the true periphery of the wheel L. This wheel L is one of several elements that is mounted upon the shaft N, whose right-hand end extends outside the casing, and carries the actuating crank or lever P. On one face of the wheel L are carried a pair of projections 16 and 17 between which an integral knob 19 on the lever 22 may engage. By this means the machine, when not in use, is kept in such position, as to its interior parts, that when a nickel is dropped in the slot the wheel L will be in proper registering position to receive it in its coin-receiving part J. With the coin in this position, the lever P is now turned so as to swing the wheel L until the coin which it carries engages the laterally projecting pin 32 on the lever 22, rocking it to the degree necessary to allow the coin which has been used to effect the third preceding actuation to fall from the delivery end of the runway R past the pin 21 on the lever 22 into the cash drawer D. Further rotation of the shaft N by means of the lever P turns the wheel to such an extent that the new coin now drops from its seat in the wheel into the chute R, which inclines somewhat downwardly, but whose delivery end is controlled by the pin 21 on the end of the lever 22. This lever is not mounted upon the shaft N, but is pivoted upon the pin or screw 23, which is located about on a level with the shaft N, and somewhat to the rear thereof. This lever is yieldingly held in such position that the pin 21 temporarily closes the end of the coin chute R, against the fall of the coin therefrom, being yieldingly held in such position by means of the spring 24, which is attached to the upper pin 25, the spring being anchored to the projection 26, which lies closely under the tablet F of the outer casing of the machine.

By the turning of the coin-controlling wheel L sufficiently to thus drop the nickel into the chute R, the cam 27, which is fixedly

carried on the shaft N, has been turned to such a degree as to turn its flat or cut-away side 28 away from the concaved side of the lever 29, the curved and truly circular face 27^a of the cam being of such size as to slightly engage the point 30 on the lever 29 and thereby actuate the lever which is pivoted, not on the shaft N, but on the rod 35, which is located about on the level of the shaft N, but nearer the forward face of the casing. As the shaft continues to revolve, carrying the wheel L with it, its periphery being as shown partly in Figs. 12, 14 and 15, not truly circular, engages with its projecting coin against the pin 32 on the lever 22, resulting, as above explained, in depressing the lower end of the lever to effect the release of the coin past the pin 21, at the end of the chute R. As hereinafter explained, as soon as the coin is released, the lever drops back to its original position under the pull of the spring 24, the coin nearest the end of the chute R dropping into the coin drawer D.

Projecting laterally (toward the right-hand side of the casing) from the lever 29 is the hoisting bar 33, which passes under the elbows of the several thin fingers 34, which are pivotally supported from the bar 35, being yieldingly held with their lower points 36 in lowered position by the pull of the individual springs 37, which are anchored to the bar 38.

The shelf T extends toward the front of the casing and is supported under the strip of stamps unwinding from the roll S which is supported upon the pin 39 on the right-hand side wall of the casing. Slidably engaging thereon is the flat pressure plate W, which is of sufficient breadth to extend completely over the stamps from one side of the strip to the other. The forward end of this flat pressure plate is divided into a number of guards 40, between which extend the lower points 36 of the fingers 34, which are guarded and, to a degree, grouped thereby. By means of the spring 41, which engages under the shoulder 53, the forward end of the tray W is kept resiliently pressed against the stamps which are passing between it and the upper surface of the shelf T, whose forward end 54 immediately under the lower tips 36 of the perforation levers is preferably very slightly cut away or troughed (see Figs. 7 and 8), in order to permit the points as they drop, as hereinbefore explained, to reach sufficiently below the surface along which the strip of stamps is traveling to insure the passage of some of these points through some of the perforations between the stamps, thus causing the severance of the strip at this end when the outer ejected end of the strip of stamps which projects through the aperture Z in the casing is pulled upon by the purchaser. When the

device is not in use, and in fact when it is being actuated as to the handling of the coin, these fingers 34 are held in lowered position by the pull of their springs 37, thus preventing improper and unauthorized access to the interior of the stamp slide for the purpose of withdrawing stamps for which the user has not paid.

Mounted upon the shaft N, directly above the central portion of the shelf T, is a milled roller 42, of such radial extent as to engage through the cut-away central portion 46 of the flat pressure plate W against the surface of the strip of stamps which is being fed along the top of the shelf T. Pivottally supported below the shelf T by the pin 43 is a rock arm 44, in whose upper end is journaled the lower milled roller 45, which projects into a cut-away portion 46 of the shelf immediately below the adjacent peripheral portion of the upper milled roller 42, the rock arm 44 being yieldingly held in its position by means of the spring 47.

The peripheral extent of the large milled roller 42 is such as to cause, in the one rotation which is imparted by the actuation of the mechanism to the intended degree, the projection or travel of the strip of stamps along the shelf T to the degree necessary to forwardly project two stamps, preferably leaving the line of perforation separating the second and third stamp approximately beneath, though somewhat in the rear of, the lower points 36 of the finger 34, thus requiring that the stamps be slightly further withdrawn by manual pull on their projecting portion before the points 36, which have first encountered the unperforated surface of the second stamp, can reach and fall into the perforations.

On the shaft N, at one side of the large milled roller 42, is carried the cam tooth 50, which, as the shaft rotates, engages against the top branch 51 of the rock arm 44, forcing it down, and thus moving the lower milled roller 45 away from its contact with the under face of the stamps, contemporaneously with the end of the forward movement of the stamp strip, and with the drop into the perforations between the second and third stamp of the points 36 of the fingers 34. At this time the plane or straight face 28 of the cam 27 engages against the lower end 30 of the lever 29, rocking it against the pull of its spring 29^a away from contact with the shoulder 48 on the rock arm 44. This occurs at the end of the forwardly feeding movement, and as a part of this movement the hoisting bar 33 is dropped down, permitting the perforation levers to drop accordingly onto the surface of the stamp strip slightly forward of the line of perforations between the second and third stamps. This anchors the strip of stamps against further and unauthorized

movement, and insures the severance at the desired point of the two stamps, whose sale is intended at the desired point. The presence of the guards 40 at the forward end of the pressure plate W immediately above the rear end of the stamps whose severance is to be effected, as well as above the forward end of the remaining portion of the strip (the forward stamp of the pair next to be ejected), insures the impossibility of inserting a wire or knife through the opening Z in order to prevent the dropping of or to raise, the fingers 34, which prevent the drawing out of more than the two stamps whose sale is intended at a single operation of the device; and the entire independence of one another of the several perforation levers 34, whose thickness is merely that of sheet metal, insures that, regardless of any possible irregularity in the position of the perforations across the stamp strip, some, at least, of the holding points 36 will descend into the perforations, and lock the strip against unintended pulling out. When the rotation of the shaft N has progressed to such a degree (the cam 27 of course moving accordingly), as to permit the release of the arm 44, which rises again under the influence of the spring 47, so that the lower milled roller 45 engages against the under face of the stamp strip, the rise of the lever 29 causes the hoisting bar 33 to raise the fingers 34, so that their lower points 36 no longer interfere with the forward progress of the stamp strip toward the delivery aperture. In this position they remain only until the two stamps whose sale is desired are fed forward by the rollers, after which they again drop to closure position with respect to the stamp runway, because of the drop of the hoisting bar 33. The next actuation of the machine, beginning with the insertion of the coin, and in due course the rotation of the upper milled roller 42, again projects another two stamps to position where they may be drawn out after the perforation levers have been dropped sufficiently to enable their holding points to again engage in the perforations between the then second and third stamps on the strip.

It is evident that, by variations in size and proportions of the several parts, such as the milled feed roller, and the coin-handling mechanism, this device can be adapted or constructed in the first instance for other sales combinations, such as five one cent stamps for a nickel, or five two cent stamps for a dime, etc., without departing from the proper scope of this disclosure.

The striking of the surface of the stamps by the perforation points 36 just forward of the line of perforations between the second and third stamp in the strip, thus requiring the slight further movement of the strip

before severance, by manual pull, constitutes a valuable means of readjusting the various operative parts to compensate for variations in the exact width of the stamps in various parts of the roll, which, though slight and only occasional, are not wholly unavoidable.

What I claim is:--

1. In a stamp vending machine, the combination of a casing, a shelf through which a strip is fed, a pressure plate arranged above said strip, a pair of rollers, one projecting through the shelf and the other through the pressure plate for feeding said strip, means for automatically removing one of said rollers from said strip when the same has been fed a predetermined distance, and means by which said strip may be torn off when the strip has been fed the predetermined distance, substantially as described.

2. In a stamp vending machine, the combination of a casing, a shelf through which a strip of stamps is fed, a pressure plate provided with a plurality of fingers or guards, means for projecting a given number of stamps out of the casing, and a plurality of fingers adapted to clamp down through the guards of the pressure plate and perforations between the stamps to be severed when said strip has been moved a predetermined distance, substantially as described.

3. In a stamp vending machine, the combination of a casing, a pair of rollers for projecting a strip out of the casing, a manually rotatable shaft upon which one of the rollers is mounted, a swinging shaft upon which the other roller is mounted, a rock arm upon which said swinging shaft is journaled, a spring for normally keeping the roller in contact with the strip, and a cam tooth on said manually rotatable shaft, adapted to engage the rock arm and through the rock arm withdraw the roller from the strip, substantially as described.

4. In a stamp vending machine, the combination of a casing, a pair of rollers for projecting a strip out of the casing, a manually rotatable shaft upon which one of the rollers is mounted, a swinging shaft upon which the other roller is mounted, a rock arm upon which said swinging shaft is journaled, a spring for normally keeping the roller in contact with the strip, a spring controlled tiltable lever, a cam tooth on said manually rotatable shaft, adapted to engage the rock arm and withdraw the roller from the strip, a hoisting bar attached to said tiltable lever, a finger adapted to be dropped down upon the said strip by said hoisting bar when the cam has been turned

to project the strip a predetermined distance and a cam on said manually rotatable shaft, adapted to engage the tiltable lever and depress the hoisting bar, thereby resting the finger on the strip, substantially as described.

5. In a stamp vending machine, the combination of a casing, a pair of rollers for projecting a strip out of the casing, a manually rotatable shaft upon which one of the rollers is mounted, a swinging shaft upon which the other roller is mounted, a rock arm upon which said swinging shaft is journaled, a spring for normally keeping the roller in contact with the strip, a spring controlled tiltable lever, a cam tooth on said rotatable shaft, adapted to engage the rock arm and withdraw the roller from the strip, a hoisting bar attached to said tiltable lever, a plurality of fingers adapted to engage through the perforations of the stamps in the strip and adapted to be dropped down by said hoisting bar when the manually rotatable shaft has been turned to project the strip of stamps a predetermined distance and a cam on said manually rotatable shaft, adapted to engage the tiltable lever and depress the hoisting bar, thereby allowing the fingers to rest upon the strip of the stamps and pass through the perforations when the strip advances, substantially as described.

6. In a stamp vending machine, the combination of a casing, a pair of rollers for projecting a strip out of the casing, a main shaft upon which one of the said rollers is carried, means for pressing at a given time the other of said rollers against the strip of the first mentioned roller, means operated by said main shaft for removing at a given time the roller from the strip and the roller carried on said main shaft, substantially as described.

7. In a stamp vending machine, the combination of a casing, a plurality of fingers adapted to enter the perforations between the stamps, means for dropping the fingers on the strip of stamps at a predetermined time in advance of the lines of perforations between the two adjacent stamps, whereby the fingers act as a severing agent and may accommodate themselves to the varyingly spaced lines of perforations, substantially as described.

In testimony whereof, I sign this specification in the presence of two witnesses.

JOSEPH JOHN SCHERMACK.

Witnesses:

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WILLIAM M. SWAN.