M. LUNDE & L. P. CORDELL.

STAMP VENDING MACHINE.

APPLICATION FILED JUNE 26, 1911.

1,043,446.

Patented Nov. 5, 1912.

4 SHEETS—SHEET 1.

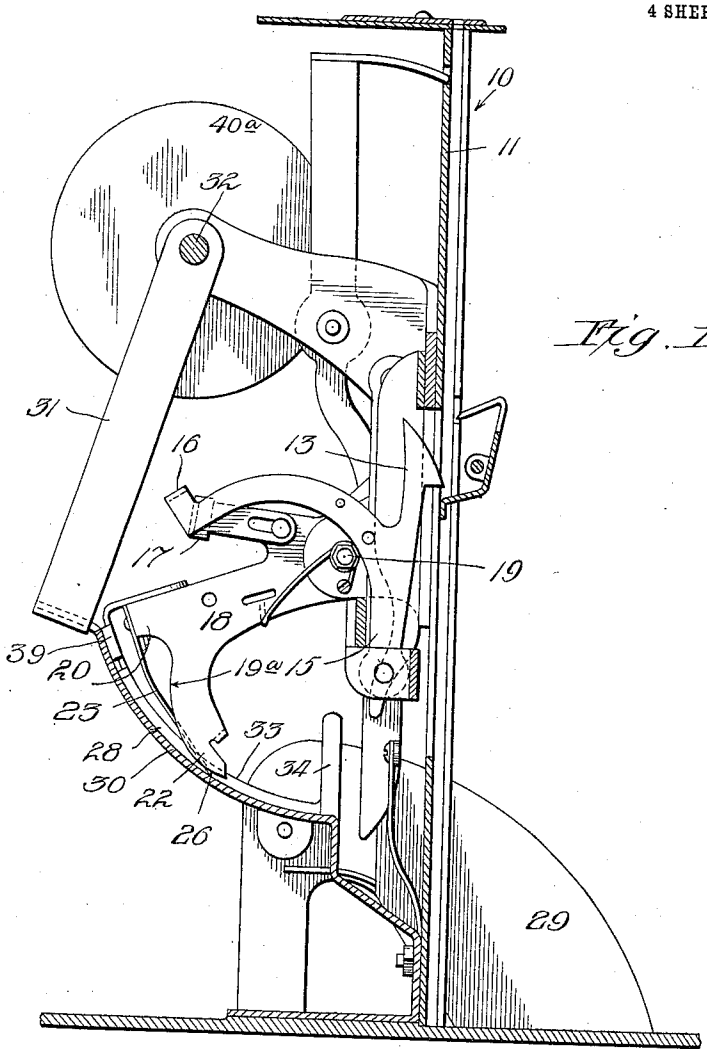

Fig. 1.

WITNESSES

Harry S. Gaither

Wm. P. Bond

INVENTORS

Matt Lunde

Lawrence P. Cordell

by Bamwell & Bamwell

Attys

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

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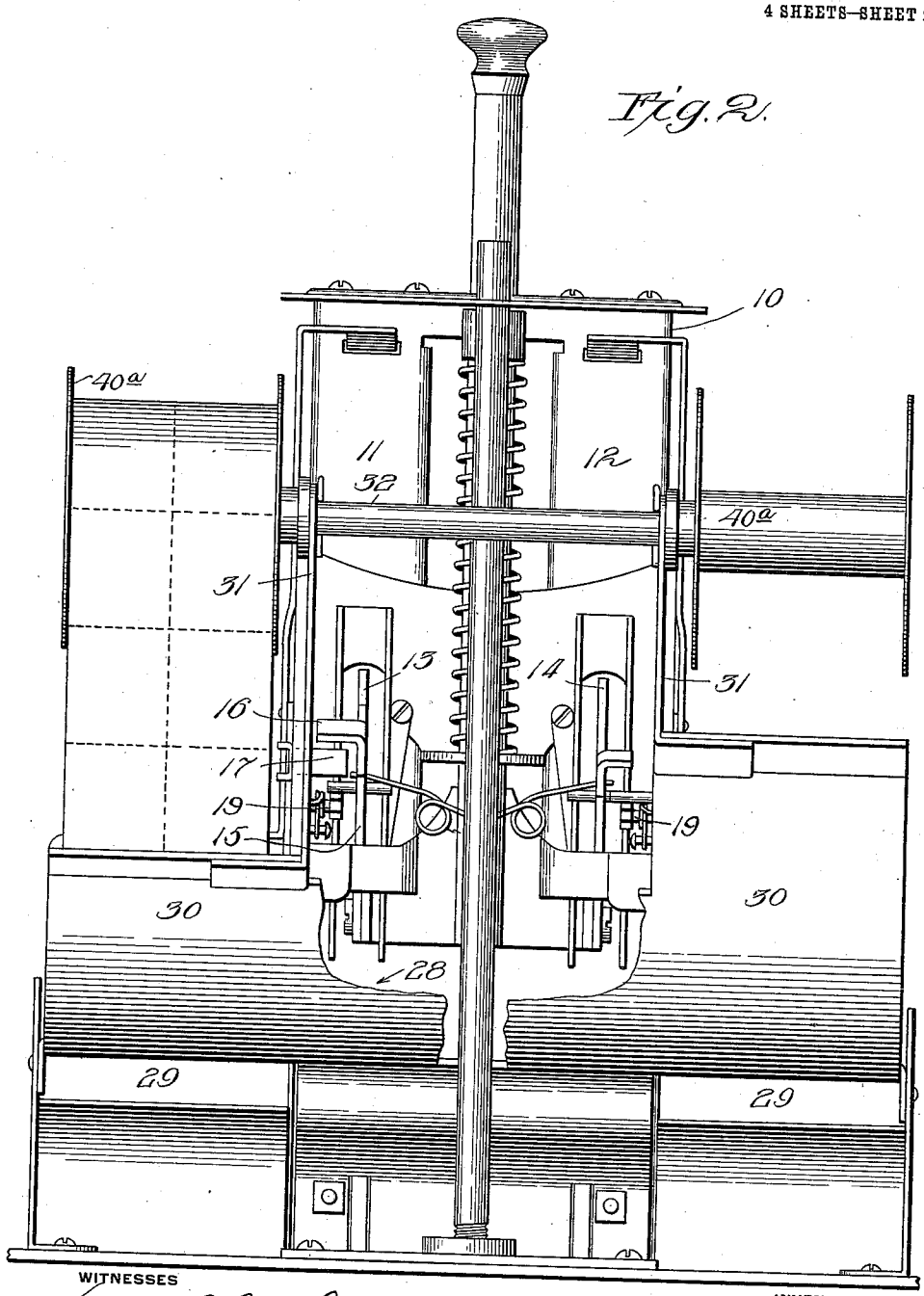
4 SHEETS—SHEET 2.

Fig. 2.



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Harry S. Gaither

Wm. P. Bond

INVENTORS

Matt Lunde

Lawrence P. Cordell

by Banning & Banning

Attys

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4 SHEETS—SHEET 3.

Fig. 3.

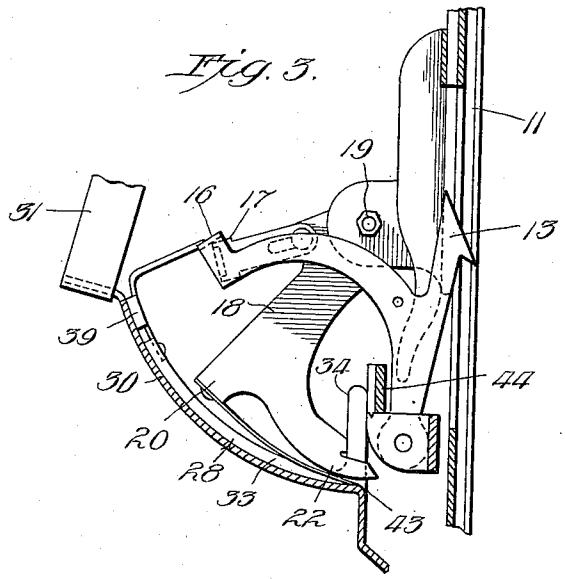
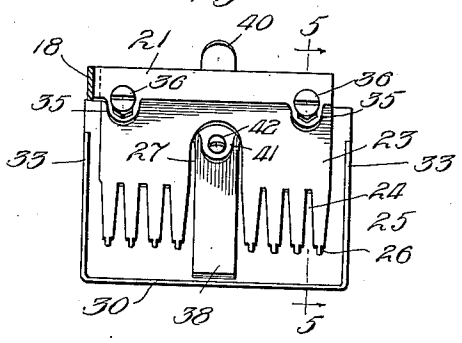


Fig. 4.



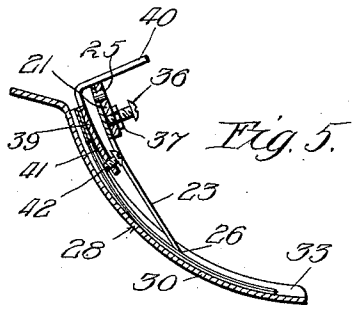


Fig. 5.

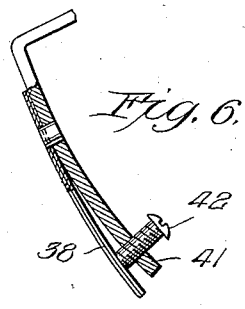


Fig. 6.

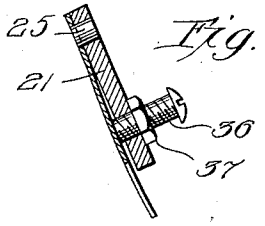


Fig. 7.

WITNESSES

Harry S. Gaither

Lymp Bond

INVENTORS

Matt Lunde

Lawrence P. Cordell

by Banning & Banning

Attys

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

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4 SHEETS—SHEET 4.

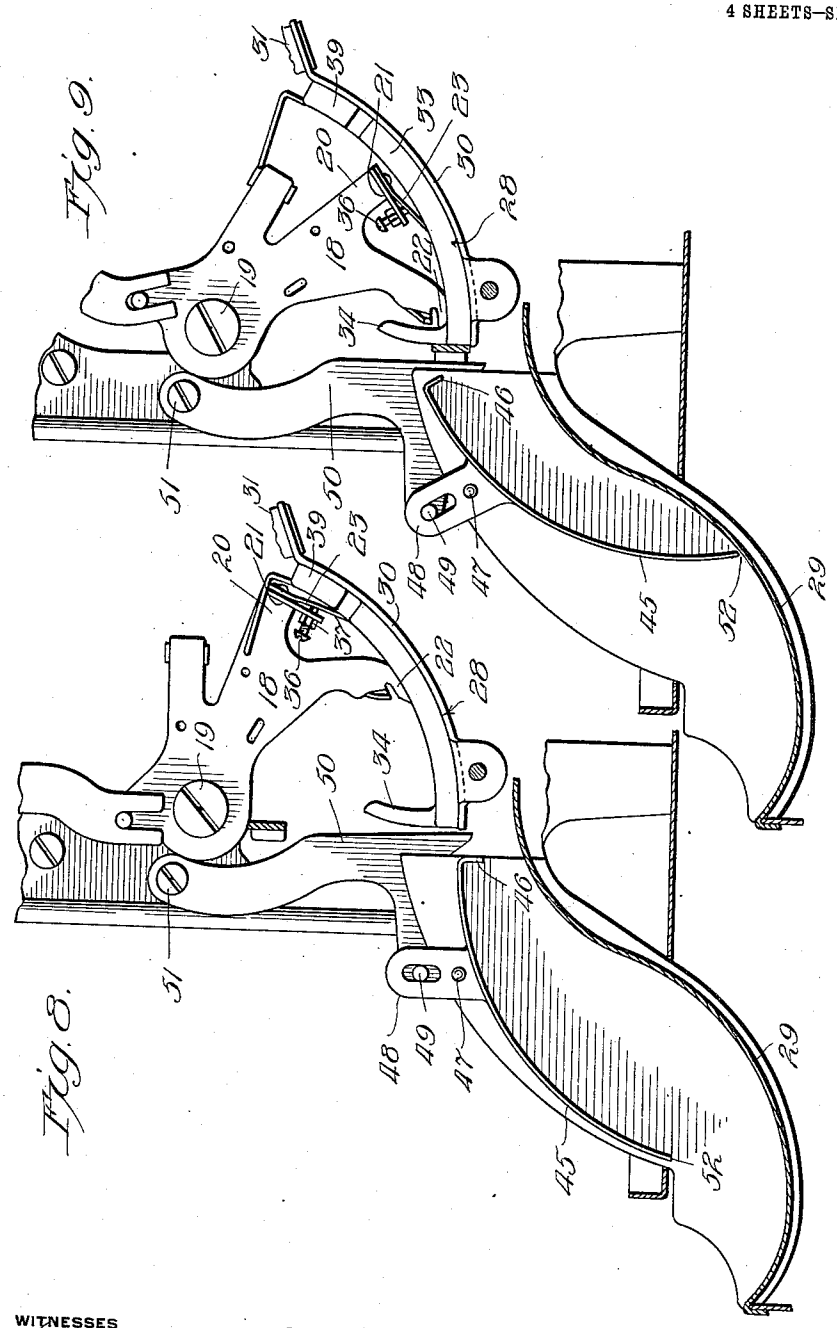

Fig. 9.

Fig. 8.

WITNESSES

Harry S. Gaither

Thos. P. Bond

INVENTORS

Matt Lunde

Lawrence P. Cordell

by Banning & Banning

Attys

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

MATT LUNDE AND LAWRENCE P. CORDELL, OF LA CROSSE, WISCONSIN, ASSIGNORS TO THE WORLD MANUFACTURING & SPECIALTY CO., OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

STAMP-VENDING MACHINE.

1,043,446. Specification of Letters Patent. Patented Nov. 5, 1912.

Application filed June 26, 1911. Serial No. 635,328.

To all whom it may concern:

Be it known that we, MATT LUNDE and LAWRENCE P. CORDELL, both citizens of the United States, residing at La Crosse, in the county of La Crosse and State of Wisconsin, have invented certain new and useful Improvements in Stamp-Vending Machines, of which the following is a specification.

The present invention relates more particularly to the construction and arrangement of the mechanism for feeding the stamps in predetermined quantities, and also to the arrangement of a guard for the delivery chute, to prevent the fraudulent removal of stamps from the machine.

The objects of the present invention are, to arrange and construct the feeding mechanism so that it will be in a simple and compact form and will employ but a single member, which will engage the stamps and perform the feeding operation; to provide a spring pressure member which will lie centrally of the chute and overlie the edges of the stamps and serve to prevent any wrinkling of the stamps during the operation of the feeding member; and to use a feeding member made from resilient material and arrange the feeding member so that it will straddle the pressure member and lie at either side thereof.

Further objects of the invention are, to provide means for adjusting the tension and degree of pressure of the feeding member and pressure member; to provide stop members for limiting the movement of the feeding member in each direction; to arrange the feeding member so that it will lie at an angle to the surface of the delivery chute, whereby said feeding member will obtain a firm engagement with the line of perforations of the stamps and so be enabled to feed them forward; and to provide a swinging member which will normally lie so as to prevent the entrance of a wire or similar instrument into the delivery chute for the purpose of grasping the stamps and pulling them out from the machine, thus fraudulently obtaining the stamps.

The invention further relates to the features of construction and the combination of parts hereinafter described and claimed.

In the drawings, Figure 1 is a sectional elevation showing the feeding mechanism of the present invention and operatively connected to a form of coin actuated mechanism; Fig. 2, a rear view of a vending machine embodying the feed of the present invention, with a portion of the delivery chute broken away; Fig. 3, a detail showing the feeding mechanism of the present invention in its extreme forward position; Fig. 4, a front elevation of the feeding member of the present invention; Fig. 5, a section on line 5—5 of Fig. 4; Fig. 6, an enlarged detail showing the upper end of the pressure member and the means for adjusting the degree of pressure of the same; Fig. 7, a sectional detail of the upper end of the vibrating member, showing the method of adjusting the pressure of the same; Fig. 8, an elevation showing the guard for the delivery chute in normal position; and Fig. 9, an elevation showing the guard in the position it assumes when the feeding mechanism is operated.

The feeding mechanism of the present invention is more especially adapted for application and use in conjunction with a stamp vending machine, and is described and illustrated in conjunction with certain other mechanisms which enter in combination with the feeding mechanism to produce a complete and operative machine for the vending of stamps. It is understood, however, that our invention relates solely to the feeding mechanism and to the guard for the delivery chute.

We are aware that feeding mechanisms have been constructed embodying the principle of a swinging member which, upon its forward movement, grasps the stamps at the line of perforation and feeds them into position to be severed from the mass and delivered to the purchaser, and to be so arranged that when it returns to normal position it will slide over the body of the stamps without imparting movement thereto. We, therefore, do not claim this principle of operation broadly as our invention, but rather the form and design of feeding mechanism described and claimed for carrying out this operation.

The devices of the present invention, as shown, are applied to a stamp vending machine 10, which is of the form and type disclosed in the application of Edward A. Sperberg, Serial No. 543,350, filed February 11, 1910. It is, however, understood that this particular type of vending machine may be substituted for other and different types and

still maintain intact the subject matter of the present invention. The particular type of machine shown is merely for illustrative purposes.

The main features of the vending mechanism shown, outside of the stamp feed and guard for the delivery chute, are as follows: Companion coin chutes 11 and 12 are provided, which are operatively arranged with respect to coin controlled mechanisms 13 and 14, each of which coin controlled mechanisms embodies a swinging arm 15, which is provided with a contact 16 adapted to engage a contact 17 on a swinging member 18, which is mounted to swing around a pivotal center 19. The coin controlled mechanisms 13 and 14 are exactly alike in construction and operation, the only difference being that one of the mechanisms imparts a greater degree of movement to the feeding mechanism with which it is operatively connected than does the other coin controlled mechanism. This arrangement is merely for the purpose of providing a series of mechanisms so that stamps of two denominations can be vended from the same machine.

The swinging member 18 forms the support for the feeding member of the present invention, and since the feeding members on each side of the machine are exactly alike in construction and operation, it is not deemed necessary to enter in a detailed description of the construction and arrangement of more than one of these members. It will be borne in mind, however, that in the form of device shown there is one of the feeding members arranged on each side of the machine, and that one of the feeding members has a greater degree of movement imparted to it than the other, so that stamps of a denomination can be vended by one of the mechanisms different from that vended by the other.

The swinging member 18, as shown more clearly in Fig. 3, has its lower end shaped in the configuration of a foot 19a. The heel portion 20 is provided with a plate or bar 21 (see Fig. 4), which extends at right angles to the body of the member 18 and is the portion of the member 18 to which the feeding member is secured. The toe portion 22 of the lower end of the member 18 lies outside of the delivery chute and serves as a guide member for guiding the movements of the feeding mechanism, as will be more clearly hereinafter set forth.

The feeding member of the present invention consists of a plate 23, best shown in Fig. 4, which is made from spring metal. The lower end of the plate has formed therein a plurality of incisions 24, which produce a plurality of fingers 25 at the lower end of the plate. Each finger terminates in a prong 26 of a size and form to enter into the line of perforations of the stamp; and the plate is cut away in its center, as at 27 (see Fig. 4), to provide an elongated recess, the purpose of which will be more clearly hereinafter set forth. As shown in Fig. 4, the plate is thus divided into two portions lying upon opposite sides of the center of the plate, each portion consisting of a similar number of pronged fingers. This is for the purpose of enabling the feeding member to feed a double row of stamps at a single action of the feeding mechanism.

The delivery chute shown in the drawings is made up of two sections, one of which sections 28 may be termed the upper delivery chute, and the other portion 29 of which may be termed the lower delivery chute. This arrangement of the chutes is best shown in Figs. 8 and 9. It is the upper delivery chute in which the feeding mechanism of the present invention operates, and this upper chute consists of a concave plate 30, which is held in position by means of a strap 31 depending from a shaft 32. The plate 30 is provided, along its sides, with ribs or flanges 33, each of which terminates, at its lower end, in an upright finger 34, which forms a stop member for limiting the forward movement of the swinging member 18. These flanges 33 also serve as guide members for the stamps to guide them during their passage through the upper delivery chute, and, as heretofore stated, the toe portion 22 of the swinging member 18 lies upon the outside of said chute, and this toe portion travels against the side of one of the flanges 33 so as to positively guide the feed member during its back and forth movements and insure a movement of the feeding member in a straight line of travel.

As shown more clearly in Fig. 5, the plate 23 is so positioned with respect to the surface of the delivery chute as to have its pronged ends 26 engage the surface of said chute at an angle. The degree of this angle is such as to enable the pronged ends to enter the perforations in the stamps for the purpose of feeding them forward, but is not so great as to prevent the pronged ends from sliding over the surface of the stamps when the feeding member is moved backward. The plate 23 is secured adjacent the rear edge of the bar 21, as shown more clearly in Fig. 5; and, as shown in Fig. 4, said bar is provided with ears 35, through which pass adjustable members 36. The ends of these screws bear against the surface of the plate 23, and by adjusting these screws, the pronged end of the plate can be forced into tighter or weaker engagement with the surface of the delivery chute. A lock nut is provided to maintain the screw in its adjusted position.

Lying centrally of the upper delivery chute is a resilient plate 38, which is secured to a strap-like member 39. As shown in

Figs. 3, 8 and 9, this strap-like member is lying adjacent the upper end of the upper delivery chute 28 and extends transversely across said chute. These members provide a mouth for the chute, into which the stamps are entered, and through which they pass in traveling from the rolls 40ª, upon which the stamps are wound, into the delivery chute. This strap-like member is provided with an upturned ear 40, which serves as a stop member to limit the return movement of the swinging member carrying the stamp feeding member. The resilient plate 38 is secured to the rear edge of this strap-like member, as shown more clearly in Fig. 6. The strap-like member is provided with ears 41 lying upon opposite sides of the center thereof, through which ears pass adjustable members 42, which bear against the plate 38, and which can be manipulated to adjust the degree of pressure of the plate against the surface of the delivery chute 28. The plate 38 is so positioned and designed as to overlie the adjacent edges of the double row of stamps lying within the delivery chute. This pressure plate serves to prevent any wrinkling of the stamps during the operation of the feeding mechanism. The operation of this portion of the device is as follows: When a coin is inserted within one of the chutes 11 or 12, the coin controlled mechanism lying in operative relation with said chute is actuated. The actuation of this coin controlled mechanism operates the swinging member 18 around its pivotal center. This causes the plate 23 to travel forward in the upper delivery chute 28. The pronged ends 26 of the fingers 25 of the plate 23 will enter into the perforations between the stamps and will move the stamps forward in the delivery chute. A portion of the stamps will thus be brought into position where they will overhang the lower edge 43, which edge in fact constitutes a fixed cutting member. Simultaneously with the operation of the feeding mechanism, a movable cutting member 44 is operated; and when the feeding member has reached its limit of forward movement, said cutting member engages the projected stamps and severs them from the main body of the stamps. These stamps fall into the lower delivery chute 29, from which they are removed by the purchaser. When a return movement is imparted to the swinging member 18, the prongs 26 will slide over the surface of the stamps, and hence upon this return movement of the swinging member, no feeding action will be imparted to the stamps. Of course, because of the spring property of the plate 25, there would be a more or less tendency to wrinkle the stamps during the return movement of the plate, but this is overcome by the pressure plate 38, which holds the stamps in firm position and prevents any wrinkling or distorting of the stamp during the return movement of the feeding member. Because of the spring property of the feeding member, its lower end will be maintained in constant engagement with the surface of the stamps. Hence, when a forward movement is imparted to the feeding member, the lower end thereof will enter the perforations in the stamps and feed them forward.

In Figs. 8 and 9 is shown a device for closing and guarding the mouth of the delivery chute. This mechanism comprises a plate 45, which is convex in formation and is provided with a flanged end 46. This plate is pivoted at 47 and is provided with an ear 48, into which is entered a pin 49, carried by a swinging arm 50 pivoted at 51. When the device is in the position shown in Fig. 8, the flanged end 46 is lying in position across the lower edge of the upper delivery chute 28 and prevents the passing of a wire or similar instrument up into the delivery chute and grasping the stamps and pulling them out of the machine without actuating the feeding mechanism, and thus fraudulently obtaining a number of the stamps. Should a wire or similar instrument be inserted, it would result in the moving of the flanged end 46 upward into the position shown in Fig. 9. If the above operation is performed, the lower end 52 of the plate 45 will descend into the position shown in Fig. 9, and will form an obstruction in the delivery chute which will prevent the use of an instrument previously inserted and the fraudulent extraction of stamps by said instrument. The swinging arm 50 is operatively connected to certain portions of the vending machine mechanism, so that when the feeding mechanism is operated, the arm is swung into position shown in Fig. 9, and through the medium of the pin 49 moves the plate 45 into the position shown in Fig. 9. This raises the flanged end 46 and permits the stamps to fall into the lower chute 29, from whence, upon the raising of the plate 45 into the position shown in Fig. 8, which is effected when a return movement is given to the feed mechanism, the stamps will descend in the delivery chute 29—into the outer end thereof,—where they can be readily extracted by the purchaser.

We claim:

1. In feeding mechanism for stamp vending machines, the combination of an inclined chute, a resilient pronged member above said chute lying at an angle to the plane thereof and with its acting end engaging the surface of said chute, means for reciprocally moving said pronged member, the end of said member on its forward movement engaging with the perforations of the stamps and feeding them forward, and on its return movement passing over the surface of the stamps with-

out imparting movement thereto, a mounting for said pronged member, a flange on said mounting, and an adjustable member extending through said flange and bearing against said member for regulating the tension of said member, substantially as described.

2. In feeding mechanism for stamp vending machines, the combination of an inclined chute, a resilient pronged member above said chute lying at an angle to the plane thereof and with its acting end engaging the surface of said chute, means for reciprocally moving said pronged member, the end of said member on its forward movement engaging with the perforations of the stamps and feeding them forward, and on its return movement passing over the surface of the stamps without imparting movement thereto, and a strap extending across the upper end of said chute and spaced away therefrom to provide a mouth for guiding said stamps into said chute, a pressure member for the stamps, said strap serving as a mounting for said pressure member, adjustable members extending through said strap and bearing against said pressure member to adjust the tension thereof, substantially as described.

3. In feeding mechanism for stamp vending machines, the combination of an inclined chute, a resilient pronged member above said chute lying at an angle to the plane thereof and with its acting end engaging the surface of said chute, means for reciprocally moving said pronged member, the end of said member on its forward movement engaging with the perforations of the stamps and feeding them forward, and on its return movement passing over the surface of the stamps without imparting movement thereto, flanges along the sides of said chutes serving as guides for the stamps and feeding members, said flanges terminating at their lower ends in upright fingers serving as stop members to limit the forward movement of the pronged members, and a strap extending across the upper end of said chute and spaced away therefrom to provide a mouth for guiding said stamps into said chute, said strap having a finger thereon serving as a stop member to limit the return movement of said pronged member, substantially as described.

4. In feeding mechanism for stamp vending machines, the combination of an inclined chute, a pronged member of resilient material positioned above said chute, lying at an angle with respect to the plane thereof, and having its acting end engaging the surface of said chute, means for reciprocating said pronged member, whereby upon its forward movement said member enters into the perforations of said stamps and feeds them forward, and upon the return movement passes over the surface of said stamps without imparting movement thereto, means for adjusting the strength of contact of said pronged member with the surface of the chute, a pressure member extending in said chute and engaging the stamps to prevent the wrinkling of the stamps during the actuations of the feeding mechanism, and means for adjusting the degree of pressure of said pressure member, substantially as described.

5. In feeding mechanism for stamp vending machines, the combination of an inclined chute, a pronged member of resilient material positioned above said chute, lying at an angle with respect to the plane thereof, and having its acting end engaging the surface of said chute, means for reciprocating said pronged member, whereby upon its forward movement said member enters into the perforations of said stamps and feeds them forward, and upon the return movement passes over the surface of said stamps without imparting movement thereto, means for adjusting the strength of contact of said pronged member with the surface of the chute, a pressure member extending in said chute and engaging the stamps to prevent the wrinkling of the stamps during the actuations of the feeding mechanism, means for adjusting the degree of pressure of said pressure member, and an adjustable member bearing against said pressure member for adjusting the degree of pressure thereof, substantially as described.

6. In a stamp vending machine, in combination with feeding mechanism and a delivery chute, a pivoted plate lying entirely within said chute and having a pivotal center intermediate its ends, a lip on the inner end lying normally in front of the end of the stamps to prevent access thereto, normally closing said chute, and a connection between said plate and feeding mechanism, whereby said plate is swung to throw the lower end downward by the feeding movement of said feeding mechanism, substantially as described.

MATT LUNDE.
LAWRENCE P. CORDELL.

Witnesses:
LUCY BAUMAN,
OTTO BOSSHARD.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."