

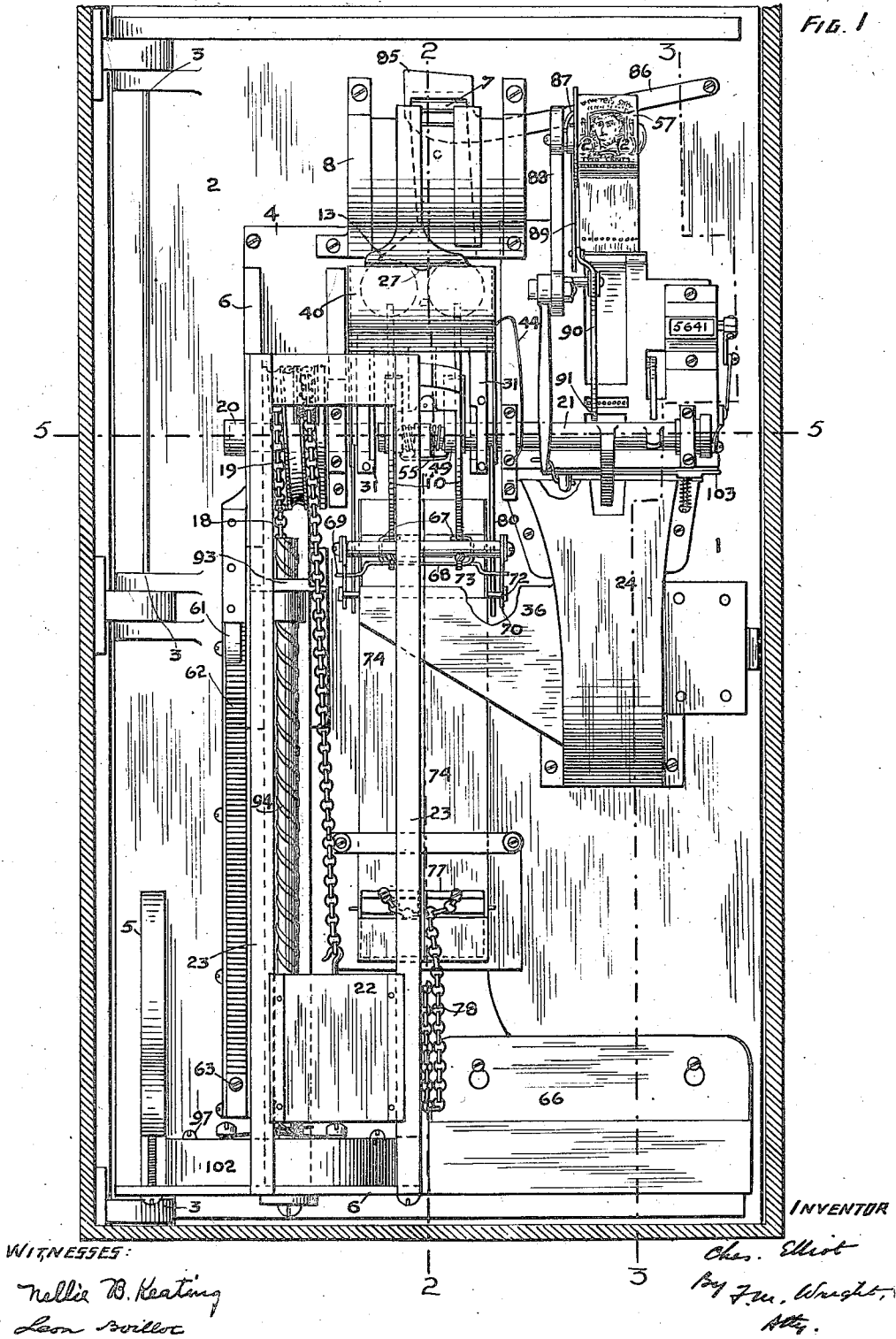
C. ELLIOT.
 COIN CONTROLLED STAMP VENDING MACHINE.
 APPLICATION FILED MAY 1, 1909.

965,996.

Patented Aug. 2, 1910.

5 SHEETS—SHEET 1.

FIG. 1



WITNESSES:

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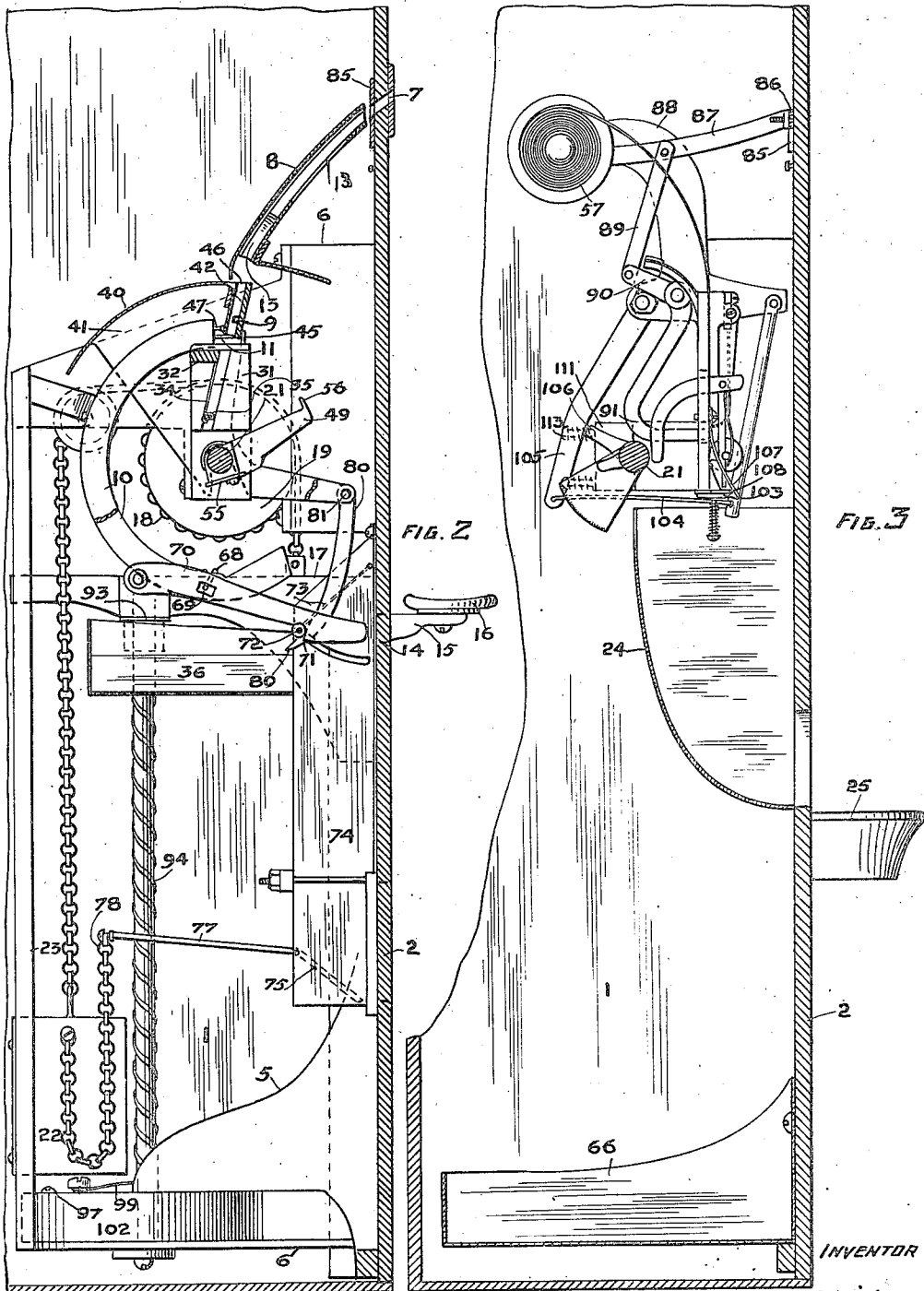
Chas. Elliot
 By Geo. Wright,
 Atty.

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6 SHEETS—SHEET 2.



WITNESSES:

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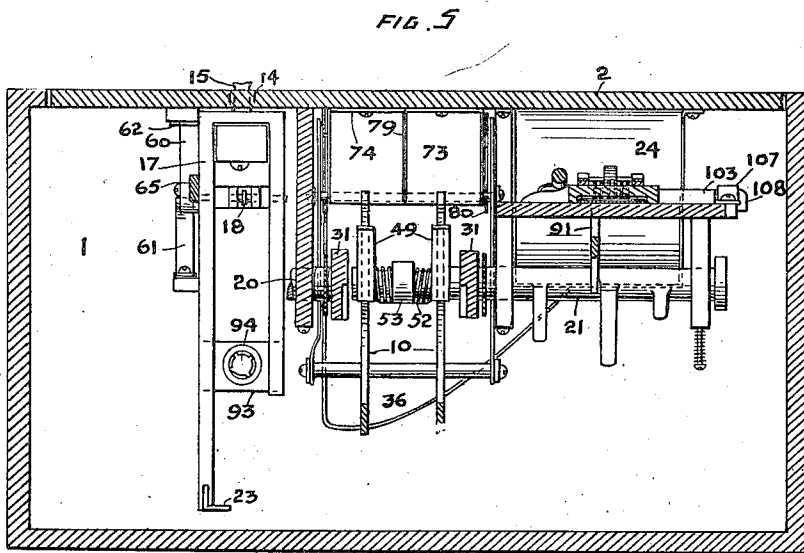
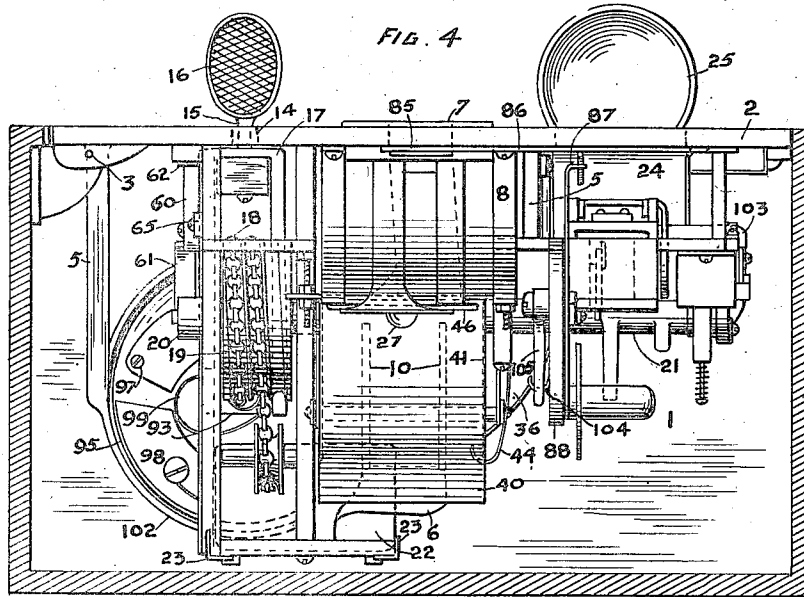
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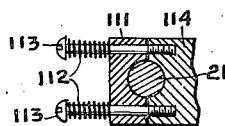
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6 SHEETS—SHEET 3.



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5 SHEETS—SHEET 4.

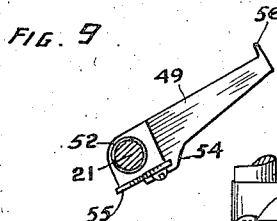
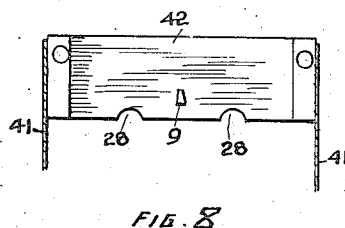
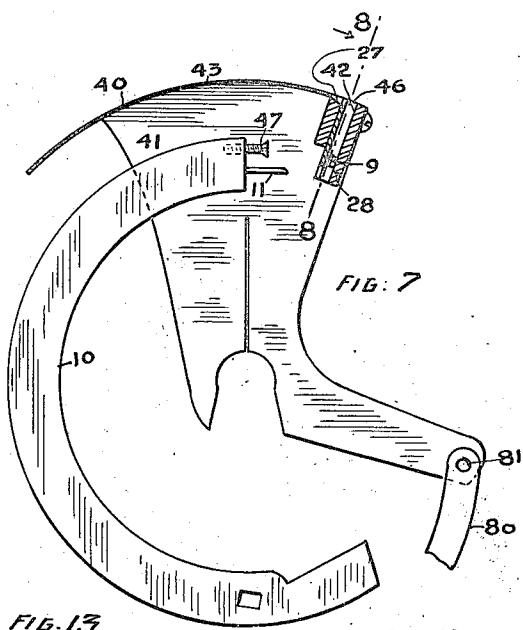


FIG. 10

FIG. 11

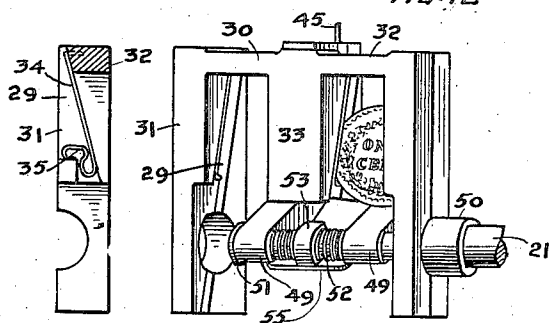
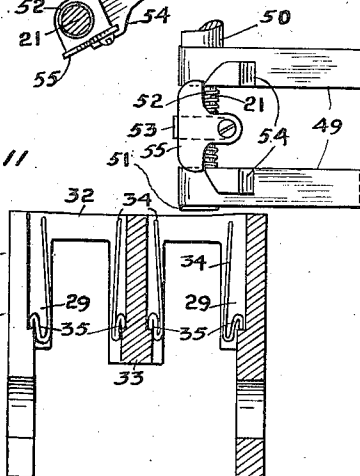


FIG. 14

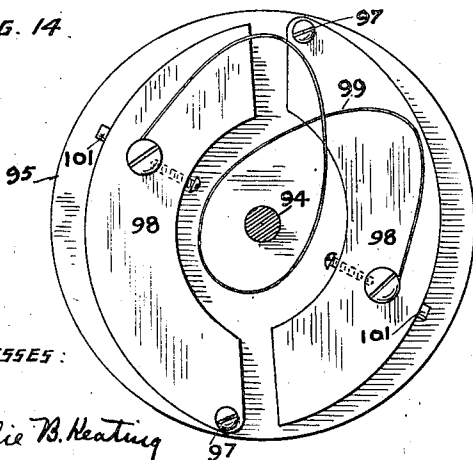
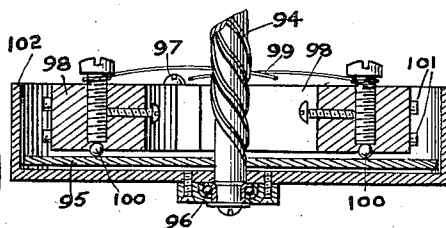


FIG. 15



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 APPLICATION FILED MAY 1, 1909.

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5 SHEETS—SHEET 5.

FIG. 18

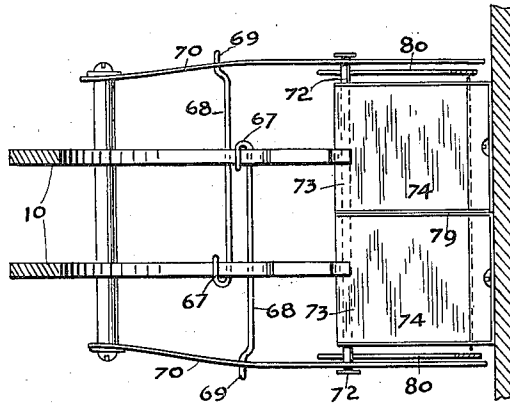


FIG. 19

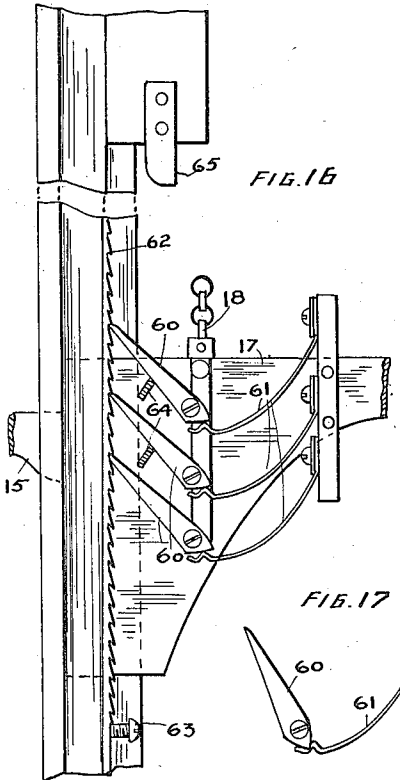
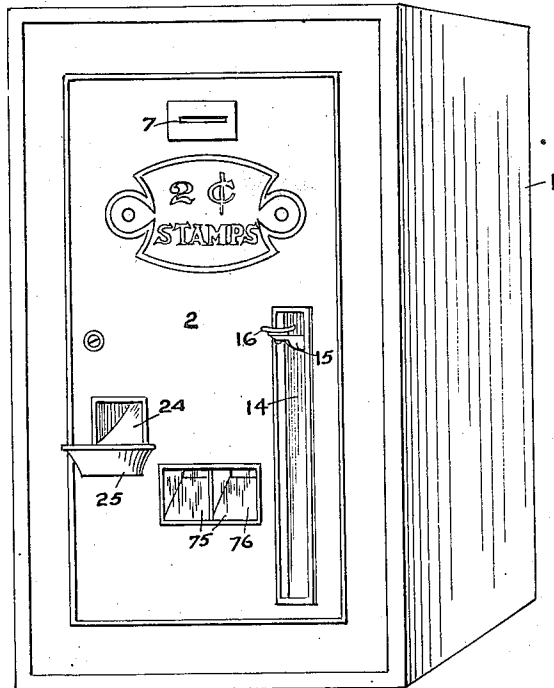


FIG. 17

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UNITED STATES PATENT OFFICE.

CHARLES ELLIOT, OF SAN FRANCISCO, CALIFORNIA.

COIN-CONTROLLED STAMP-VENDING MACHINE.

965,996.

Specification of Letters Patent.

Patented Aug. 2, 1910.

Application filed May 1, 1909. Serial No. 493,358.

To all whom it may concern:

Be it known that I, CHARLES ELLIOT, a citizen of Great Britain, residing at San Francisco, in the county of San Francisco and State of California, have invented new and useful Improvements in Coin-Controlled Stamp-Vending Machines, of which the following is a specification.

The present invention relates to coin-controlled vending apparatus, the object of the invention being to provide mechanism of this character for selling articles, as, for instance, two-cent postage stamps, at a price requiring the deposit of two coins, which will deliver such an article upon the deposit of two such coins, but not of a single coin, but will return the single coin to the depositor.

Further objects of the invention are to provide an apparatus of this character which will be automatically closed against the deposit of a coin when the supply of vendible articles is exhausted, and will be proof against fraudulent manipulation.

In the accompanying drawings, Figure 1 is a rear view of the door or front wall of the box, upon which the operating mechanism is supported; Fig. 2 is a vertical section on the line 2—2 of Fig. 1; Fig. 3 is a vertical section on the line 3—3 of Fig. 1; Fig. 4 is a plan view of the mechanism showing the box in section; Fig. 5 is a similar view on the line 5—5 of Fig. 1; Fig. 6 is a vertical section through a bearing for the delivery shaft; Fig. 7 is an enlarged detail vertical section through the hood; Fig. 8 is a transverse section on the line 8—8 of Fig. 6; Fig. 9 is a side view of one of the holder arms; Fig. 10 is a plan view of said arms; Fig. 11 is a longitudinal section through the carrier; Fig. 12 is a perspective view of the carrier; Fig. 13 is a transverse section thereof; Fig. 14 is a plan view of the governor; Fig. 15 is a vertical section thereof; Fig. 16 is an enlarged vertical section showing the return control mechanism; Fig. 17 is a plan view showing the mechanism controlling the chutes; Fig. 18 is a broken vertical section showing one of said dogs in its raised position; Fig. 19 is a perspective view of the entire apparatus on a reduced scale.

For convenience of description it will be assumed that the machine is constructed for the purpose of selling two-cent postage stamps, requiring the deposit of two one-

cent coins. It will be understood, however, that the invention is not limited to this particular use.

Referring to the drawings, 1 indicates a rectangular box or casing in which the operating mechanism is contained, and 2 indicates a front door or wall hinged to said box, as shown at 3, and on which all of said mechanism is supported. On the rear side of said door are cast lugs or projections 4, 5, to which is secured a frame 6 for supporting the mechanism. In said door, near the top, is an opening or slot 7, just sufficiently wide for the deposit of a one-cent coin, and, secured upon the rear side of the door, immediately beneath said opening, is a curved chute 8, for guiding the coin in its descent after passing through said slot 7. The lower side of the chute 8 is formed with a slot 13 of such width that, when a coin narrower than a one-cent coin is deposited in the slot 7, it drops through the slot 13, and is then returned to the depositor in the manner to be presently described. When the coin arrives at the bottom of the chute it strikes a pin 9 which deflects it either to the right or to the left, generally the former, since said chute slopes slightly to one side, to the right in Fig. 2. On the frame 6 are supported two curved bars 10, from the upper ends of which extend horizontally forward pins 11. The coin on being deflected by the pin 9 alights upon the top of the pin 11 on the right in Fig. 2, and remains there until the machine is further operated. When a second coin is deposited in the slot and descends the chute, it strikes the top of the first coin, and, on account of the fact that the first coin has been deflected either to the right or to the left of the chute, the second coin impinges on the first considerably to one side of the center, and is therefore deflected to the other side of the chute, and is arrested by the second pin 11 projecting from the curved support 10. The two coins now rest upon the pins 11 ready for the further operation of the machine.

In the door 2 is formed a vertical slot 14, in which slot can slide a stem 15 of a finger piece 16. Said stem extends from a slide piece 17, to which is attached a chain 18 which is wound around a drum 19 upon a transverse operating shaft 20, said chain being positively attached to said drum by a pin 26 passing through the chain and into the drum, so that the chain cannot slip upon

the drum. Therefore, by the depression of said finger piece, said operating shaft 20 is rotated. To the other end of said chain is secured a counterbalance weight 22, which is guided vertically by guides 23. The shaft 20 is, by the deposition of two coins, in the manner to be presently described, operatively connected to a delivery shaft 21, in line with the operating shaft 20, which shaft 21 is here shown as being used to operate a stamp delivery mechanism such as that shown in my United States Patent No. 405,799 dated December 9, 1907, employed for the purpose of delivering stamps to be affixed to envelopes. So far as the delivery and severing portions of the mechanism are concerned, the construction shown herein is similar to that described in said Letters Patent, and reference is made to the same for a detailed description thereof. It is sufficient herein to say that, by means of cams upon said delivery shaft, there are operated, in succession, means for advancing a ribbon of stamps, for severing the foremost stamp of the ribbon, and for retracting the ribbon to a proper position for a further advance, so that the severance of the terminal stamp is always effected substantially on the line of division between the stamps. By means to be presently described, when two coins have been deposited, as the finger piece is depressed, the delivery shaft is rotated and the ribbon of stamps is advanced. The stamp so cut from the ribbon of stamps drops into a chute or hopper 24, which delivers it through a hole in the door or front wall 2 of the apparatus and into a cup-shaped receptacle 25 formed thereon, accessible to the purchaser.

Upon the shaft 20 is fixedly secured one side member 31 of a carrier 30, the other side member 31 being loosely mounted on the bearing for the delivery shaft, said carrier being also formed with side members 31, a cross member 32 joining the outer ends of the side members, and a central member 33 extending from the cross member toward the shaft 20, but spaced therefrom at its end. The cross member 32 is slotted to permit the coins to pass there-through, and both the central and side members are grooved on the sides facing each other, to form two guideways 29, for the coins. In said guideways are secured longitudinal supports 34 for the coin, which are formed of wire, and thus, being narrow, reduce friction and insure that the coins slide down the guideways and pass from said holder, when inverted, as hereinafter described. The coins are arrested as they descend in said guideways by means of bent portions 35 of said wires, forming stops for the coins, one on each side of the guideway therefor, at such a distance from each other as to arrest a one-cent coin, while permit-

ting any coin slightly narrower to pass between them, then dropping into a receiver 36, thence into the hopper 24, and thence into the cup-shaped receptacle 25, and being thus returned to the depositor. In like manner a coin too narrow to pass over the slot 13 in the upper chute will drop into said receptacle 25 and so be returned to the depositor.

40 indicates a hood having side walls 41, loosely mounted on the shafts 20 and 21, a front wall 42 and a curved top 43. Said hood is pressed forward by a spring 44, but, in its normal position, is held back, against said spring pressure, by a pin 45 extending upward from the carrier 30. The upper curved surface of the hood is formed with a transverse slot 46 through which the coins can drop from the lower enlarged end of the coin chute 8. In the ends of the curved bars 10 are screwed adjusting screws 47, which abut against the inner surface of the front wall 42 of the hood, and space the latter from the ends of the bars 10 exactly the proper distance, so that the slot 46 in the top of the hood is properly adjusted beneath the lower end of the coin chute 8, that the coins can freely drop from said chute through said slot 46 on to the arresting pins. Upon the first part of the depression of the finger piece, and the consequent rotation of the shaft 20 the top of said hood 40 moves forward, the lower edge of the front wall 42 of said hood being cut away, as shown at 28, to permit the hood to pass over the pins 11, and said hood, engaging the rear sides of the coins, moves them off from the pins 11, so that they drop through the cross bar 32 into the grooves 29. Immediately thereafter, in the continued rotation of the operating shaft 20 due to the depression of the finger piece, said coins engage two holder arms 49 which are loosely mounted upon the shaft 21.

With this construction, a person may deposit through the slot 7 as many as six coins, filling the coin chute 8³, before operating the finger piece, and without interfering with the proper operation of the machine, for, upon operating the finger piece, so that the hood advances, carrying with it the two lowest coins, said hood holds up the remaining coins in the chute 8, until the operation of obtaining the first stamp is completed, and the hood is returned to its normal position. Whereupon the next two coins of the series drop through the slot 46 in the hood into proper position for the operation of the apparatus by the depression of the finger piece, and so on for all of the coins in the chute.

While, in general, a coin smaller than the proper size, when deposited through the slot 7 in the front wall, will, instead of descending the coin chute 8, fall through the slotted

bottom thereof, it is possible to project such a coin so rapidly that, by centrifugal force, it will move against the upper wall of the coin chute, and not fall through its slotted bottom. If a person were to so discharge two such smaller coins, and they passed into the slot 46 in the hood, and were supported by the arresting pins 11, and a third coin were then discharged through the slot 7, it would rest upon the upper edges of the two former coins, and its lower edge would be at a lower level than would have been the case if the two former coins were of the proper size. In such a case, when the finger piece is operated so as to move the hood forward, the front side of the hood would, on account of the lower edge of the third coin being at such low level impinge against the lower edge and be arrested thereby, and the machine would be rendered inoperative. To prevent this mode of tampering with the machine, the curved upper surface of the hood is formed at the front with a depression 27, in the center, so that, under the above circumstances, if the hood moves forward, said depressed portion 27 can pass beneath the lower edge of the third coin, and will not be arrested thereby, the third coin being raised by the hood as it advances.

Each holder arm 49, while loose on the shaft 21, is held in any position to which it has been moved by friction caused by the pressure of the holder, at one side of the carrier against a shoulder 50 on the delivery shaft 21, and, at the other side of the carrier, against a shoulder formed by a washer 51 secured upon the free end of said shaft. Said pressure is caused in each case by a coiled spring 52 interposed between the corresponding holder and a collar 53 fixed upon the delivery shaft. When the operating shaft 20, and the carrier 30 secured thereto, have rotated through a small angle, the two coins carried in said carrier impinge against the two holder arms 49. Each holder is formed with a projection or lip 54, which is adapted to engage an equalizer 55 pivoted upon said collar 53. If only one coin had been passed through the slot 7 and thus fallen between the carrier and one of the holders 47, the result would be that the latter holder only would rotate. Consequently, its lip 54, on arriving at the equalizer 55, would merely turn said equalizer on its pivot and pass the equalizer without moving the delivery shaft, and would not deliver a stamp. But, when two coins are deposited and, being carried by the carrier, engage both holders, the lips of the two holders, engaging on opposite sides the equalizer 55 on the collar, instead of producing a rotary movement of said equalizer, act on the same as if it were rigidly secured to the collar, and so produce a rotation of the delivery shaft, which then rotates in unison

with the rotation of the operating shaft produced by the continued downward movement of the finger piece. The coins thus form an essential part of the operative connection between the operating shaft 20 and the delivery shaft 21.

Each of the holder arms 49 is formed with a terminal lip 56. Were said lips not provided, it would be possible for a person to render the machine inoperative by, first depositing coins, then depressing the finger piece until the holders, the carrier, and the coins carried thereby, are in a vertical and downwardly extending position, and then to give to said parts a shaking movement by shaking the finger piece within the limits permitted by the devices hereinafter described. But for the said lips, this shaking movement would cause the coins to drop from between the holders and carrier, and then, since the coins form an essential part in the train of mechanism for transmitting motion from the operating shaft to the delivery shaft, upon a further depression of the finger piece, only the operating shaft would rotate, and the holders and the delivery shaft would remain stationary, and they would so remain in a position such that thereafter the machine would be rendered inoperative. As the finger piece 16 descends to the bottom of the slot 14, the carrier is rotated through more than a complete circle. It is desirable to require the operator to depress the finger piece to its full extent in order to operate the machine, so that the action of the parts, on such operation, may be uniform. For this purpose, there are secured upon the slide piece 17 pivoted dogs 60, which, by means of springs 61, are caused to engage a vertical ratchet bar 62, and prevent return upward movement of the finger piece. A plurality of dogs are here employed, instead of employing a single dog, in order to render it unnecessary to use very fine teeth in the ratchet bar, while at the same time reducing as much as possible the distance which the finger piece may be returned upward before being arrested by the engagement of the dog with the ratchet bar. By using three dogs instead of one, this distance is reduced to one-third of what it would be if a single dog were used, thereby enabling the ratchet teeth of the bar 62 to be made correspondingly stronger, to sufficiently restrict said return movement. When the dogs arrive at the bottom of the ratchet bar, the lowermost dog engages the head of a screw 63, raising the nose of said dog. Each of the upper dogs has a screw 64 which bears down upon the upper face of the nose of the dog below it, so that, when the lowermost dog is raised, the other two dogs are also raised out of engagement with the ratchet bar. The heel of each dog and the corresponding spring 61 are so con-

formed that said spring can engage the heel either above or below, to hold it up and the nose of the dog down, or conversely. Thus, when the noses of all the dogs are raised, by the lowermost dog engaging the screw 63 in the manner already described, the springs 61 engage the upper sides of the heels of the dogs and hold their noses out of engagement with the ratchet bar. They remain in this position while the slide piece is ascending and until the uppermost dog arrives at a stop piece 65 secured upon the frame of the machine, against which the upper surface of the uppermost dog impinges, thereby forcing it and the lower dogs downward into their normal position engaging the teeth of the ratchet bar, they being retained in this position by the springs 61 now engaging the under sides of their heels.

When the operator has depressed the finger piece to its lowest position, whereupon the stamp has been delivered into the delivery cup, he then releases the same, the counterbalance weight 22 then rotating the operating shaft 20, and therefore also the carrier, in the reverse direction. The delivery shaft 21, however, remains stationary. The holder arms 49, therefore, remain in the position to which they have been brought by their rotation, which is the same angular position as that from which they originally started. When said carrier returns, the coins are still held in the grooved guideways 29 by the stops 35 until the carrier is inverted, whereupon the coins slide down in said grooves until their edges impinge upon the inner edges of the curved bars 10, the lower parts of which bars now support the coins as the carrier further descends. At about the point where the carrier assumes a vertical position, said coins engage trip fingers 67 extending over the inner edges of the supports 10, and formed on rock shafts 68 pivoted in said supports 10. Said shafts are preferably of wire bent into the proper form and each shaft is formed with a crank arm 69 engaging a pivoted dog 70, so that when, by the further movement of either coin, the finger 67 on the corresponding rock shaft is moved forward, its dog 70 is raised. Each dog is formed with a hook 71 engaging a stud 72 extending laterally from a shutter 73, each shutter normally extending over an individual chute 74 leading to a coin box 66. When the coins engage said fingers and raise said dogs to release said shutters, said shutters fall by gravity, thereby opening the entrances to said chutes 74. Then, in the further movement of the carrier, the coins pass over the lower free ends of the curved bars 10 and drop over said ends into the tops of the chutes, which are now open, and fall down said chutes on to gates 75 sloping downwardly forward behind a window 76 in the front wall of the

machine, and are thus exposed to view. The means for thus exposing the coins which are deposited serves as a protection against using slugs or other fraudulent devices. Said sloping gates 75 are formed with rearwardly extending tongues 77 which are attached by chains 78 to the counterbalancing weight 22, so that, by the rise of said weight 22, in the next operation of the machine the shutters are opened and the coins are discharged into the coin box.

It should be observed that each trip finger operates only the dog 70 which releases the shutter 73 on the other side, that is, the trip finger extending over the right hand curved bar 10, and which is operated by a coin on the right, actuates the dog which releases the shutter on the left, and conversely. The result is that, if a single coin only be inserted and descends along the curved bar 10 on the right, while the passage of said coin past the trip finger will open the shutter on the left, the shutter on the right will not be opened. Therefore the coin, instead of falling down its own chute 74 drops on to said shutter, and falls from the same on the outside of the chute 74 and into the receiver 36, and thence to the delivery cup 25 and is thus returned to the depositor. A vertical wall 79 is provided, between the two shutters 73 to prevent the accidental passage of a coin from above one of the curved bars 10 into the chute 74 on the other side. Upon the return of the hood to its original position, curved levers 80, pivoted, as shown at 81, to the side walls of the hood, and hanging vertically therefrom, rise with said walls. The front edges of said levers are convex to the front side of the apparatus, and since, when their pivots 81 rise, they approach more and more nearly toward the front wall of the apparatus, they thereby cause the lower ends of the levers to move rearwardly, so that the same lower ends engage the studs 72 on the shutters, and thereby move the shutters to their position of closure, at the same time shifting the studs until they are again engaged by the hooks 71 of the dogs 70, which drop by gravity into their retaining position.

In order to render the machine incapable of being operated when the supply of stamps is exhausted, there is provided a shutter 85, carried by a pivot arm 86, which is attached to a lever 87 pivoted upon the arm 88 which carries the roll 57 of stamps, said lever being attached by a link 89 to a bell crank lever 90 pivoted upon the frame of the machine and having a curved arm 91, the end of which bears against the ribbon of stamps. The pressure of said arm 91 against the ribbon of stamps is not sufficient to interfere with the feeding of said ribbon, but, when the stamps are exhausted, said arm 91, being no longer retained by

the ribbon of stamps, swings forward by gravity, whereby the shutter 85 drops behind the slot 7, preventing any further deposit of coins therethrough.

5 It is important to prevent an irregular or very rapid operation of the finger piece, which, by causing an irregular movement of the parts, might interfere with the proper operation of the machine. As a governor
10 to effect this object, a nut 93 is carried by the slide piece 17, which nut travels upon a screw 94 extending upwardly from a disk 95 and rotating upon ball bearings 96. Said screw has a plurality of threads, four being here shown. Upon said disk 95 are
15 pivoted, as shown at 97, governor arms 98, normally pressed together by a spring 99. Said arms are of considerable mass, so that, when the supporting disk 95 is rapidly rotated, they move outward by centrifugal
20 force against the pressure of said spring 99. In order to avoid undue friction in said movement, they travel upon ball bearings 100, the balls running upon the upper surface of the disk 95. Each arm carries on
25 its outer surface studs 101 of leather or other suitable material, which are adapted to engage the inner surface of the circular wall 102 of the container for the governor. This construction serves two purposes. It
30 not only avoids any jar due to a sudden drop of the counterbalance weight when the finger piece is released, since it furnishes a maximum limit to the speed of said counterbalance weight, but it also prevents any
35 excessively rapid downward movement of the finger piece. Should a depositor exert great pressure upon said finger piece, with the intention of moving the parts of the mechanism very rapidly, the effect would be to cause
40 the governor arms to move outward, so that the friction studs 101 would engage the circular wall 102, and act as a brake to prevent the rapid movement of the screw necessary for a rapid downward movement of the slide
45 piece and finger piece.

The knife 103, which serves the foremost stamp of the ribbon from the remainder, is arranged to be normally in front of the path
50 of the ribbon of stamps. The object of this arrangement is to prevent any one inserting an instrument up through the delivery chute as for the passage way for the stamps, seizing with said instrument the front edge of
55 the ribbon of stamps, and drawing said stamps downward and out through the delivery chute. But this is prevented by the fact that, except when the machine is in operation, the front edge of the passage for the stamps is closed by said knife. Said
60 knife is connected by a link 104 with the end of a lever 105 operated by a cam 106 upon the delivery shaft. As said shaft rotates, the cam 106 rotates therewith to free
65 said lever 105, which thereupon moves under

the action of a flat spring 107 engaging a rearward extension 108 of said knife. When said cam 106 is so moved from said lever 105, said spring 107 moves the knife from in front of the passage for the stamps and allows a stamp to be advanced therethrough. 70 As the delivery shaft completes its movement, the cam 106 again engages the lever 105 and moves it rearwardly causing the knife to pass through the ribbon of stamps 75 and sever the foremost stamp therefrom, which drops into the delivery chute.

It is necessary to open the passage way for the line of stamps as quickly as possible upon commencing to operate the machine, so
80 as to allow a sufficient time for the movement of advance of said stamps. Consequently, the cam 106, which releases the lever and permits the knife to move from the front end of said passage must be comparatively quick. It is also necessary to employ
85 a spring 107 sufficiently powerful to positively insure the withdrawal of said knife, when released by said cam. But such a spring by its action upon such a cam, would, 90 if not otherwise prevented, cause an almost instantaneous rotation of the delivery shaft, from the position in which the cam began to leave the lever, to the position in which it finally left it. A rotation produced in this
95 way would cause the holders to withdraw from the carrier, whereupon the coins, which are held between the carrier and holders, would drop from between them, thus removing an essential part of the operative
100 connection between the operating and delivery shafts, and leaving the delivery shaft in the position to which it had been theretofore moved, but with no means for further advancing the same. To avoid such a result, 105 I provide a brake for said delivery shaft, preventing a rotation of said shaft more rapid than that of the operating shaft. This brake is formed by pressing the loose half bearing or box 111 for the end of the delivery shaft against said shaft by means of
110 springs 112 coiled around screws 113 screwed into the fixed half box 114 therefor. On account of this pressure, when the cam 106 arrives in the position at which it would begin to allow the lever to move forward, said
115 lever cannot, by pressure upon said cam, rotate said delivery shaft more rapidly than the operating shaft.

I claim:—

1. In an apparatus of the character described, the combination of a coin chute, two arresting means for individually arresting coins descending said chute, and means
120 whereby said arresting means may be withdrawn simultaneously, substantially as described.

2. In an apparatus of the character described, the combination of a coin chute, two arresting means for individually arresting 125

coins descending said chute, means for deflecting a coin on arriving at the bottom of the chute to cause it to be arrested by one of said arresting means, and means whereby said arresting means may be withdrawn simultaneously, substantially as described.

3. In an apparatus of the character described, the combination of a chute, a shaft, means whereby said shaft is caused to operate by the interposition of a coin, and means for rotating said shaft, comprising a reciprocating member, a drum on the shaft, a chain around the drum but attached to said reciprocating member, whereby the movement of said reciprocating member in one direction rotates said drum, and means for automatically reversing the direction of said drum, when said reciprocating member is no longer operated, substantially as described.

4. In an apparatus of the character described, the combination of an operating shaft, a delivery shaft in line therewith, devices carried by the operating and delivery shafts arranged to operatively connect said shafts by the interposition of a plurality of coins between said devices, and means whereby said connection is rendered inoperative by the interposition of less than said plurality, substantially as described.

5. In an apparatus of the character described, the combination of an operating shaft, a delivery shaft in line therewith, devices carried by the operating and delivery shafts arranged to operatively connect said shafts by the interposition of a plurality of coins between said devices, and a movable device carried by one of said shafts arranged to move relatively to said shaft by a single coin so interposed, but to be held stationary relative to said shaft by a plurality thereof, substantially as described.

6. In an apparatus of the character described, the combination of an operating shaft, a member secured thereon having two guideways for coins, a delivery shaft in line with the operating shaft, holders thereon, one arranged opposite to each guideway, means for inserting a coin in each guideway, said coin, upon the rotation of the operating shaft, being arranged to engage the corresponding holder, and means for rotating the operating shaft, substantially as described.

7. In an apparatus of the character described, the combination of an operating shaft, a member secured thereon having two guideways for coins, a delivery shaft in line with the operating shaft, holders thereon, one arranged opposite to each guideway, each guideway being formed with a lip to retain the coin between said holder and the carrier, means for inserting a coin in each guideway, said coin, upon the rotation of the operating shaft, being arranged to engage the corresponding holder, and means

for rotating the operating shaft, substantially as described.

8. In an apparatus of the character described, the combination of an operating shaft, a member secured thereon having two guideways for coins, a delivery shaft in line with the operating shaft, holders thereon, one arranged opposite to each guideway, means whereby the simultaneous rotation of both holders rotates the delivery shaft, the rotation of single holder being inoperative to so rotate said shaft, means for inserting a coin in each guideway, said coin, upon the rotation of the operating shaft, being arranged to engage the corresponding holder, and means for rotating the operating shaft, substantially as described.

9. In an apparatus of the character described, the combination of a coin chute, individual means for arresting said coins, an operating shaft, a carrier thereon arranged to carry two coins, a hood, and means whereby, upon the operation of the operating shaft, said hood moves the coin from the arresting means to said carrier, substantially as described.

10. In an apparatus of the character described, the combination of a coin chute, individual means for arresting said coins, an operating shaft, a carrier thereon arranged to carry two coins, a hood, and means whereby, upon the operation of the operating shaft, said hood moves the coin from the arresting means to said carrier, said hood being formed with a curved top to support, during the movement of the hood, other coins which have been deposited in said chute, substantially as described.

11. In an apparatus of the character described, the combination of a coin chute, individual means for arresting said coins, an operating shaft, a carrier thereon arranged to carry two coins, a hood, and means whereby, upon the operation of the operating shaft, said hood moves the coin from the arresting means to said carrier, said hood being formed with a curved top to support, during the movement of the hood, other coins which have been deposited in said chute, said top being formed with a central depression, substantially as described.

12. In an apparatus of the character described, the combination of an operating shaft, a member secured thereon having two guideways for coins, a delivery shaft in line with the operating shaft, holders thereon, one arranged opposite to each guideway, frictional means for holding said holders upon said shaft in any position to which they have been moved, means for inserting a coin in each guideway, said coin, upon the rotation of the operating shaft, being arranged to engage the corresponding holder, and means for rotating the operating shaft, substantially as described.

13. In an apparatus of the character described, the combination of a chute, a shaft, means whereby said shaft is caused to operate by the interposition of a coin, and means
 5 for rotating said shaft, comprising a reciprocating member, a drum on the shaft, a chain around the drum but attached to said reciprocating member, whereby the movement of said reciprocating member in one direction
 10 rotates said drum, means for preventing the return of the reciprocating member before it has moved to the end of its path in one direction, and means for automatically reversing the direction of said drum,
 15 when said reciprocating member is no longer operated, substantially as described.

14. In an apparatus of the character described, the combination of a chute, a shaft, means whereby said shaft is caused to operate
 20 by the interposition of a coin, and means for rotating said shaft, comprising a reciprocating member, a drum on the shaft, a chain around the drum but attached to said reciprocating member, whereby the move-
 25 ment of said reciprocating member in one direction rotates said drum, means for preventing the return of the reciprocating member before it has moved to the end of its path in one direction, means for withdrawing said preventing means when said mem-
 30 ber has arrived at the end of its path, and means for automatically reversing the direction of said drum, when said reciprocating member is no longer operated, substantially
 35 as described.

15. In an apparatus of the character described, the combination of individual chutes for coins, shutters for said chutes, individual
 40 means for guiding coins to said chutes, and means actuated by the movement of each coin so guided for opening a shutter other than that to which it is guided, substantially as described.

16. In an apparatus of the character described, the combination of individual chutes
 45 for coins, shutters for said chutes, individual means for guiding coins to said chutes, means actuated by the movement of each coin so guided for opening a shutter other than that to which it is guided, and means
 50 actuated in the subsequent operation of the machine for closing said shutters, substantially as described.

17. In an apparatus, of the character de-

scribed, the combination of a coin box, a de- 55
 delivery receptacle, individual chutes leading to said coin box, shutters for said chutes, each arranged, when in position to close the
 60 chutes, to discharge a coin into the receptacle, means for guiding coins toward said shutters, and means operated by the movement of each coin so guided for opening the other shutter, substantially as described.

18. In an apparatus of the character described, the combination of a coin box, a de- 65
 delivery receptacle, means for guiding coins, a passage therefrom to the coin box, a second passage therefrom to the delivery receptacle, and means for controlling said pas-
 70 sages, actuated by the passage of two coins to permit the coins to pass to the coin box and to prevent them passing to the delivery receptacle, but inoperative by a single coin to permit it to pass to the coin box, while
 75 permitting it to pass to the receptacle, substantially as described.

19. In an apparatus of the character described, the combination of guideways for coins, a coin box, a delivery receptacle, in-
 80 dividual chutes leading to the coin box, a shutter for each chute, adapted, when closed, to discharge the coins to the receptacle, means actuated by the passage of coins on said guideways for opening said shutters,
 85 and means for closing said shutters, substantially as described.

20. In an apparatus of the character described, the combination of an operating shaft, a working shaft, a cam on said shaft,
 90 a lever released by said cam, a spring for actuating said lever, means for forming an operative connection between said operating and working shafts, comprising a carrier
 95 secured on the operating shaft and a holder on the working shaft, said holder and carrier being adapted to be operated by the interposition of a coin, and frictional means for preventing the rapid rotation of the
 100 working shaft upon the withdrawal of said cam from said lever, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

CHARLES ELLIOT.

Witnesses:

F. M. WRIGHT,
 D. B. RICHARDS.