

A. K. CROSS.
 COIN DELIVERY MACHINE.
 APPLICATION FILED JULY 8, 1908.

1,038,157.

Patented July 23, 1912.

5 SHEETS—SHEET 1.

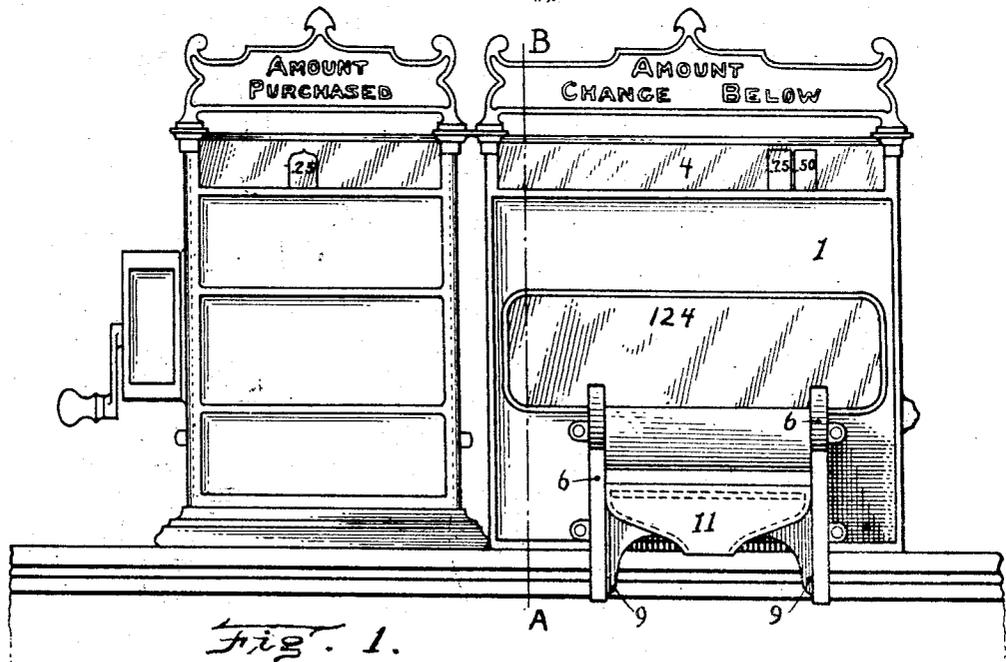
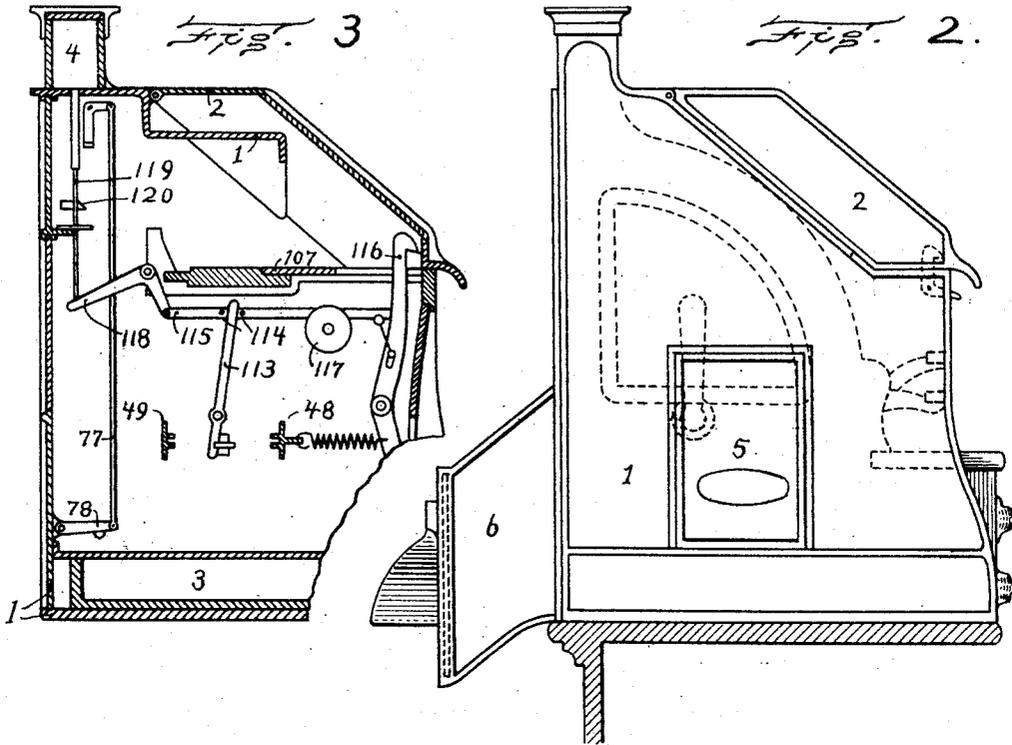


Fig. 1.

Witnesses:
 F. R. Roulstone.
 P. H. Pizzette

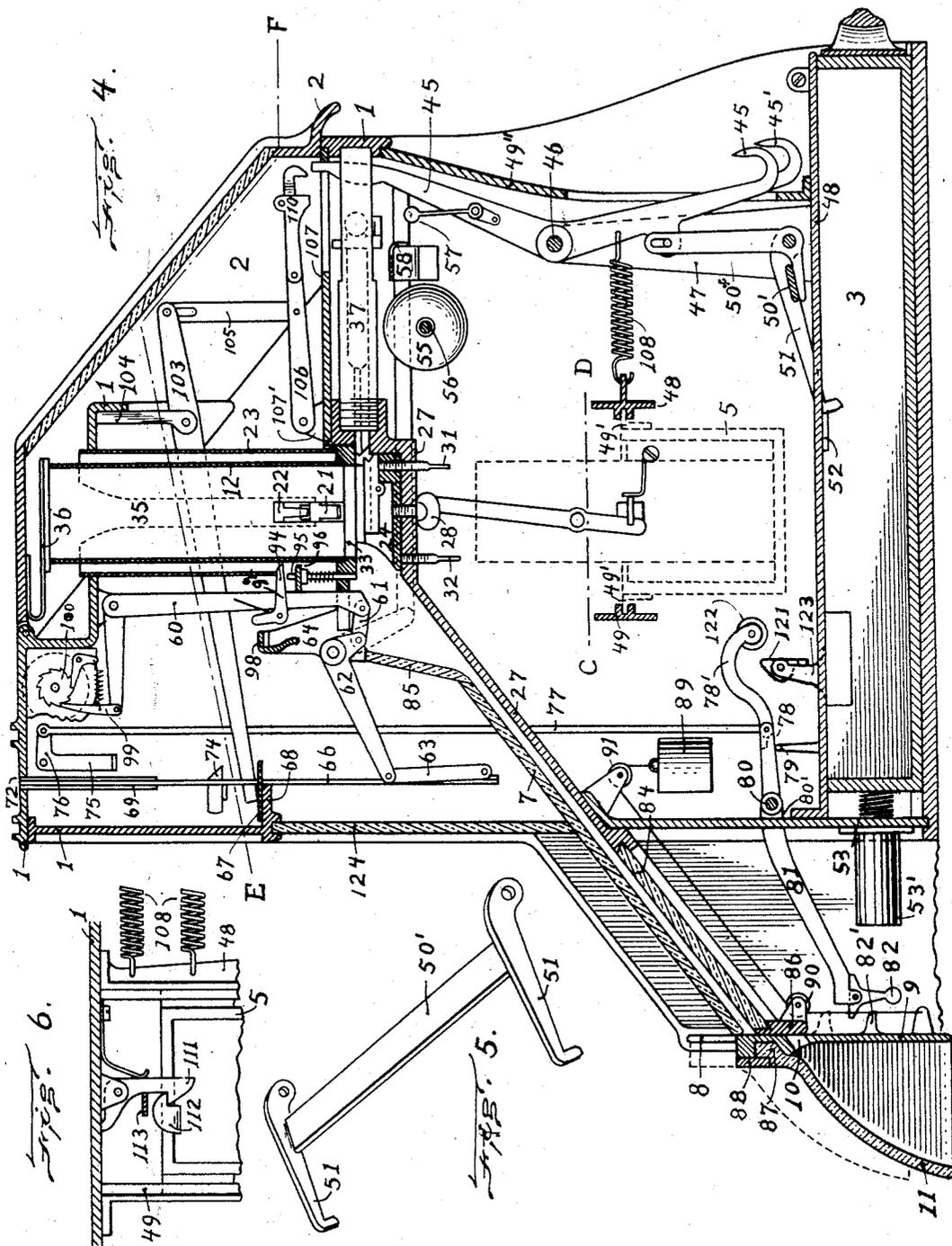
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5 SHEETS—SHEET 2.



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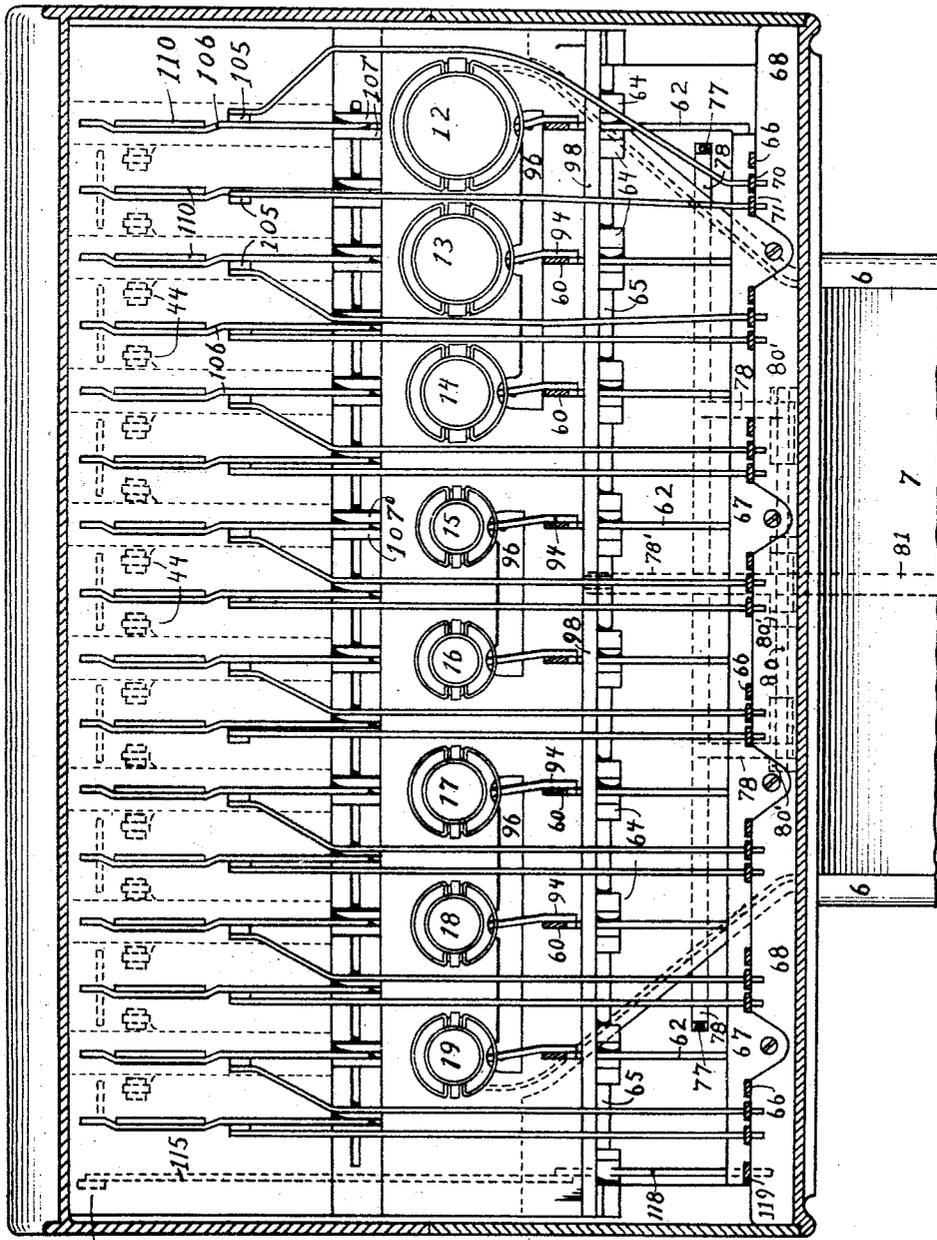
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5 SHEETS—SHEET 3.

FIG. 7.



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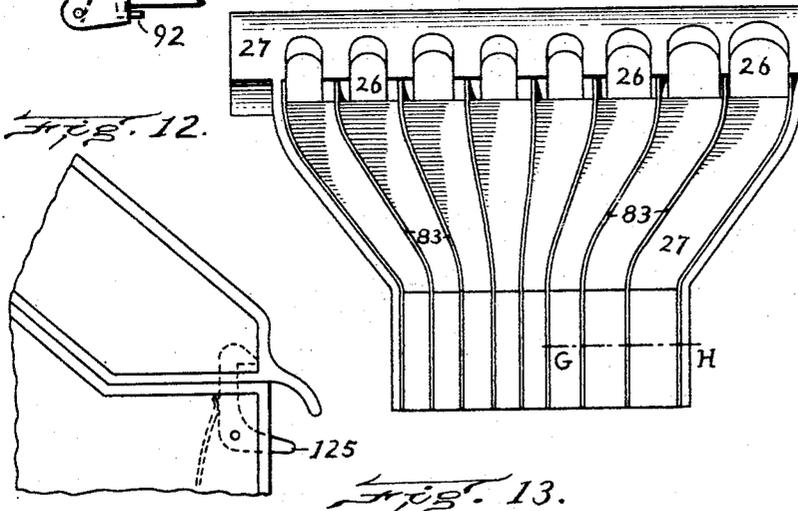
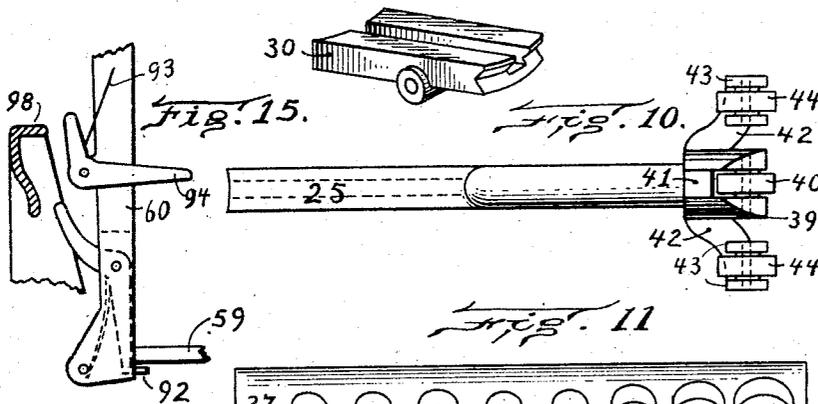
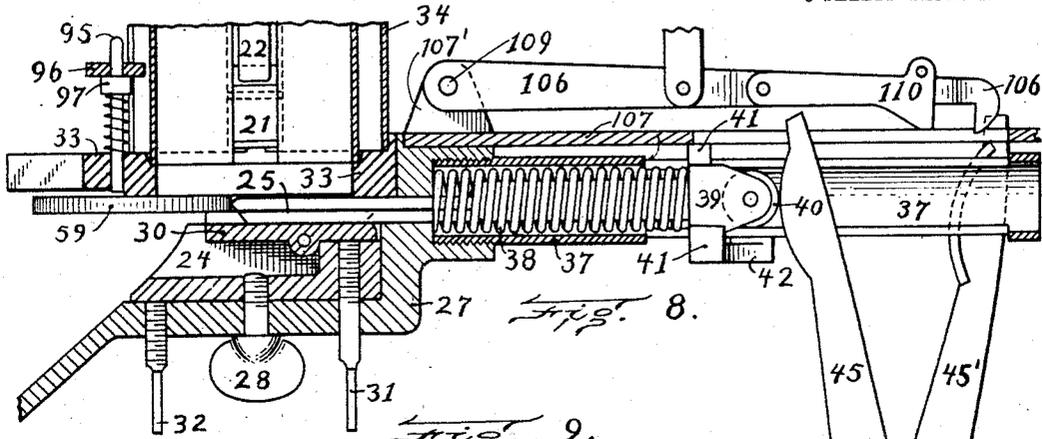
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5 SHEETS—SHEET 4.



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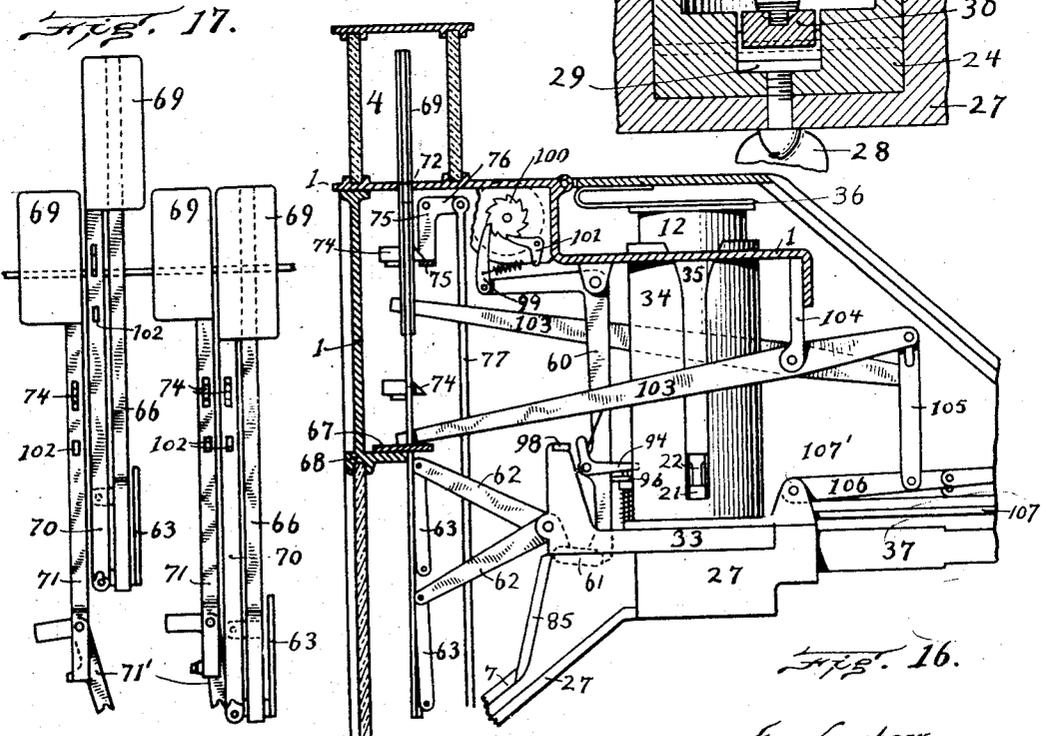
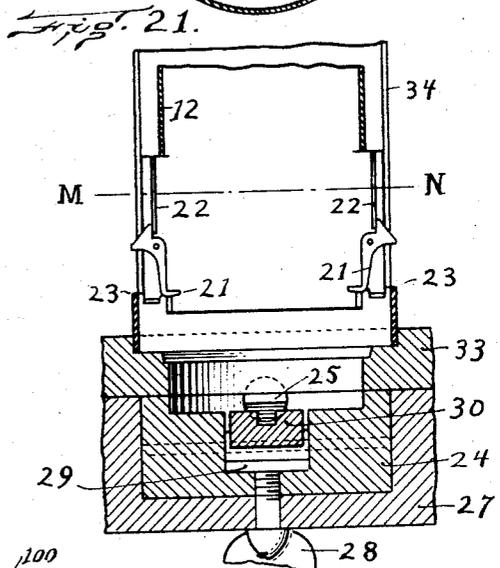
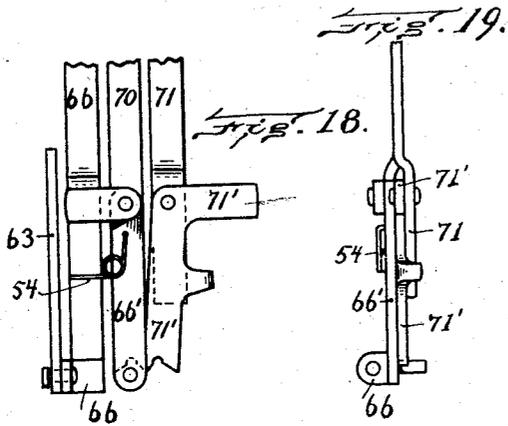
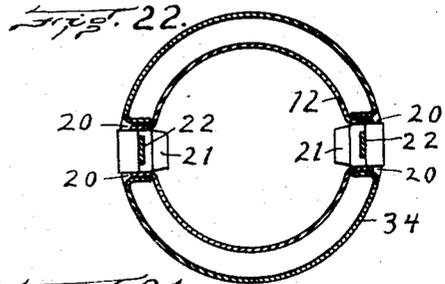
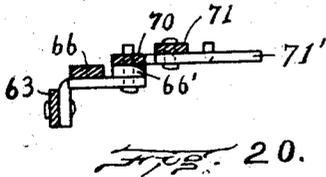
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5 SHEETS—SHEET 5.

1,033,157.



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UNITED STATES PATENT OFFICE.

ANSON K. CROSS, OF WINTHROP, MASSACHUSETTS.

COIN-DELIVERY MACHINE.

1,033,157.

Specification of Letters Patent.

Patented July 23, 1912.

Application filed July 8, 1908. Serial No. 442,539.

To all whom it may concern:

Be it known that I, ANSON K. CROSS, of Winthrop, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Coin-Delivery Machines, of which the following is a specification.

My invention relates to cash delivery machines in which coin is intended to be delivered from the machine directly into the hands of the purchaser, and its objects are, first, to provide means for delivering any desired coins into a retaining chute in sight of the purchaser; second, to provide means for displaying them separately so that the purchaser may count them before taking them from the machine; third, to provide means for registering their discharge upon suitable meters; fourth, to display to the view of the purchaser and cashier the value of the coins retained in the purchaser's sight and at his disposal; fifth, to prevent motion of the coin-ejecting levers when coins are not in position to be discharged; sixth, to insure the values of the coins being displayed when they are discharged, and so prevent the discharge of more coins than will be indicated by all the indicator cards; seventh, to drop the indicator cards when the coins in the chute are withdrawn by the customer; eighth, to provide a cash drawer and a drawer for the storage of extra coins; and ninth, to provide for the combination with the mechanism adapted to perform the above-named objects, of mechanism adapted to perform the work of any of the well-known forms of cash-registering machines. I attain these objects by the mechanism illustrated in the accompanying drawings, in which,—

Figure 1 is a front view showing my cash-delivery machine with a cash-registering machine placed beside it. Fig. 2 is a right side view of the two machines together. Fig. 3 is a vertical section on the line A—B of Fig. 1. Fig. 4 is a vertical section through the coin-delivery machine. Fig. 5 is a perspective of the locking device for the cash drawer of the coin-delivery machine. Fig. 6 is a part of a horizontal section on line C—D of Fig. 4. Fig. 7 is a section on line E—F of Fig. 4. Fig. 8 is a part of the section shown in Fig. 4, enlarged. Fig. 9 is a perspective of the tilting block for preventing motion of the coin-ejectors when the coin tubes are empty. Fig. 10 is a top view

of the coin-ejecting slide. Fig. 11 is a view perpendicularly upon the coin chutes. Fig. 12 is a part of Fig. 2, enlarged. Fig. 13 is an enlarged section on line G—H of Fig. 11. Fig. 14 is a perspective view of the upper part of the coin-ejecting levers for operating two coin slides. Fig. 15 is an enlarged view of a portion of the coin-actuated lever, showing a coin-supporting lever pivoted therein. Fig. 16 is a part of Fig. 4, showing the action of the registering, indicating, locking and coin-ejecting levers. Fig. 17 is a front view of four of the display cards with their levers and lifting mechanism. Figs. 18, 19 and 20 are enlarged views of the lifting mechanism for the indicator cards. Fig. 21 is a vertical cross section through the lower part of the coin tube shown in Fig. 16. Fig. 22 is a section on line M—N of Fig. 21.

Similar reference figures refer to similar parts throughout the several views.

Having secured the broad claims covering the idea of coin tubes, discharging mechanism, a chute, and means for emptying its contents into the purchaser's hand in the Patent 893,450 issued to me July 14, 1908, this application is intended to cover various modifications of the original idea, and a more practical form of constructing the machine, and the combination of the cash-delivery machine with a machine adapted to indicate and register the amount of the sale.

In the drawings, I have shown one tube for holding silver dollars, and one each for halves and quarters, and two tubes for dimes and two for one-cent pieces, and one for five-cent pieces. Each tube has a coin-ejecting lever acting directly upon the coins within it, and between each pair of coin tubes there is a lever adapted to eject a coin from both tubes, but tubes for gold coins and also more tubes for silver coins may be added, and by so doing, it is evident that the machine may be made to deliver any desired change by the action of one discharge lever.

The machine is formed within a box or casing having a hinged top and several plates connecting horizontally the side casings between the top and bottom plates, and it is adapted to receive and hold tubes which may be filled with coins outside the machine. The coins are held in these tubes by spring clips which project within the tube, and are held there by springs. When the coin tubes

are inserted in the machine, these clips are revolved outside the coin tube and allow the coins to fall to the coin-discharging mechanism which consists of a seat adapted to support the coins and having a tilting lever pivoted within it, which is kept in a horizontal position level with the top of the coin seat by the weight of one coin upon it, and adapted to revolve when the last coin is discharged so as to engage the end of the coin ejector and prevent its motion. The coin ejector is in the form of a cylinder adapted to slide within a retaining tube and having the end for engaging the coin beveled so as to strike upon the central part of the edge of the coin. The coin support is cut away opposite the coin ejector so as to allow the coin resting upon it to be thrown out by the coin ejector. It is adapted by means of screws to be adjusted to coins of varying thickness.

When the coin ejector moves, the coin strikes upon the edge of a lever which is connected by links and levers to a lifting rod provided with means to lift indicator tablets into view, these tablets having upon them figures to show the values of the coins discharged. These parts while being positively moved by the coin, which acts as a solid plunger, serve to operate meters for recording the coins, and locking levers for preventing the discharge of coins after all the indicator tablets have been lifted into view.

The coin ejectors are moved by levers which operate upon friction rollers carried within the ejector tubes. Each coin-ejector has an arm extending outside the ejector tube in the direction of each adjoining tube.

Friction rollers are carried by these arms and a lever is placed between the ejector tubes adapted to bear upon each adjacent pair of friction rollers, and thus to eject a coin from two coin tubes at once.

The coin-ejector levers are intended to have the same angular motion. To discharge the larger coins I cut away a certain amount of the coin seat to allow the coin to fall without moving the coin the full diameter of the coin. The smallest coins will be moved more than their full diameter. All the coins will be moved some distance beyond the edge of the coin seat and then discharged by the action of a plunger which is actuated by the blow of a tappet lever pivoted to the coin-actuated lever.

The coin-ejecting levers operate through slots formed in the vertical casing of the machine. The lower end of each lever is in the form of a hook, and has upon it a figure or figures to indicate the value of the coin discharged by the lever. The hooks upon the levers discharging two coins are placed lower than those of the levers discharging one coin.

The action of each coin-discharging lever rings a bell and lifts a gravity locking lever for a money drawer at the bottom of the machine, allowing a suitable spring to open the drawer whenever a lever is pulled. In addition to the cash levers, I provide one to open the money drawer and lift a "no-sale" indicator card. This "no-sale" lever has a hook at its upper end adapted to lock the cover of the machine and it operates a lever which unlocks a spring catch to prevent the drawer for holding extra coin tubes being opened.

The coins discharged from the coin tubes fall down coin chutes separated from each other by partitions and made of glass, or other transparent material, so that the coins are separately exposed to view for ready counting. At the end of this chute they are stopped by a sliding gate. When the gate is lifted up the coins fall through an opening in the gate into a glass chute or tube inclosing the openings of all the separate coin chutes, and having in its lower end an opening large enough to allow the coins to be freely delivered into the palm of a hand placed below the tube.

When the tube which is firmly secured to the gate is lifted up so that the coins fall into it, a pin upon the back of the gate rises above a pivoted catch on the end of a lever, and when the gate falls, the pin moves the lever down and by suitable connecting parts, moves the indicator support, and thus drops all the indicator tablets from sight. As the tablets drop, they unlock all the coin levers and the machine is ready for the next customer.

My cash delivery machine may be used alone or in combination with any one of the common cash-registering machines now so generally used. The form shown for the cash-registering machine in Fig. 1 is that of the machine known as the "National", but the design of the machine is not important and is not claimed, and it is not necessary to have the machine at the side of the cash-delivery machine, as it may be placed above or below it, or at any desired distance.

If desired, the cash-registering mechanism of the ordinary cash register may be inclosed in the same case with the cash-delivery mechanism of my machine.

Danger of operating the wrong machine is lessened by having the cash-register operated by push buttons moving downward, while the cash-delivery mechanism is operated by hooks moving outward.

By operating the cash-registering mechanism in combination with the cash-delivery machine, a perfect and complete record of all sales and cash deliveries may be made, and thus show at once the origin of any discrepancy between the cash in the money drawer and that which should be there ac-

ording to the registers of the cash-receiving and cash-delivering machines.

I have shown a simple meter for each coin-holding tube, but it is evident that in addition there may be a meter to give the total of the amounts registered on the different meters.

The front and back casings of the machine contain glass plates, and the front and back portions of the coin tubes and the guide tubes about them may be cut away so that the coins within may be seen by the cashier and extra coin tubes be filled to substitute for those in the machine when they are empty.

Referring to the drawings, 1 indicates a casing or box in which the operating mechanism is placed. The upper section 2 of the box is hinged. In the lower part of the box is a money drawer 3. The top of the box has a compartment 4 with glass sides for displaying the indicator cards. The box contains a sliding drawer 5 for holding coin tubes before they are placed in position in the upper part of the machine. Projecting from the central lower part of the front of the casing are upright side pieces 6 which support between them the glass plates 7 and 84 in which the coins are displayed after they have been discharged from the coin tubes. The pieces 6 have grooves 8 cut in them to receive the sliding gate 9. This gate is normally against the lower ends of the discharge chutes, preventing the coins from leaving the chutes, but it has a horizontal slot 10 which, when the gate 9 is lifted up, comes opposite the openings of the coin chutes and allows the coins to fall through the gate. Upon the face of the gate is secured a glass chute 11 extending the entire width of all the chutes and having in its lower surface a circular opening somewhat larger than the largest coin the machine is intended to deliver.

The drawings show a machine with one tube 12 fitted to receive silver dollars, one tube 13 for silver half dollars, one tube 14 for silver quarter dollars, two tubes 15 16 for silver ten-cent pieces, one tube 17 for five-cent pieces, and two tubes 18 and 19 for one-cent coins. The tubes are split at their lower ends and bent outwardly to form flanges 20 between which the coin clips 21 are pivoted. These clips are held by the springs 22 with their lower ends projecting within the coin tube, to hold the coins. When the coin tubes are pressed into the bottoms of their seats, the upper outwardly-projecting ends of the clips 21 strike upon the edge of the guide tube 23 and revolve the clips outside the coin tube, so that they drop the coins upon the coin seat 24 where the lowest coin is in line with the coin-ejector 25. The coin supports 24 fit the holes 26 sunk in the top of the horizontal

section 27 which connects the two upright side plates of the casing and is screwed to them. Each coin support 24 is fitted with a central thumb-screw 28 for holding it within its seat, and has in its central upper surface a slot 29 adapted to contain the tilting block 30 which is so balanced that the weight of a single coin upon it will cause it to assume a horizontal position and bring the coin in line with the coin-ejector 25, but when the last coin has been discharged from any tube, the tilting block will rise and prevent motion of the coin-ejector until the block has been depressed by a new supply of coins. Below the tilting block is a thumb-screw 31 adapted to regulate the position of the block at one end, and the thumb-screw 32 is for the purpose of adjustment at the opposite side so that if it is desired to use coins which are worn quite thin, they may be placed all together in one tube and the coin seat and block adjusted to the unusual dimension. In practice thin coins will generally be exchanged for those of the regulation thickness, but provision is made for those who may desire to use them.

Upon the top of the piece 27 and resting upon the coin tables 24 is a plate 33 in which holes are cut to receive the ends of the coin tubes, and smaller concentric holes continuing the coin tubes to the coin seats.

About each-coin tube seat in the plate 33 is a guide tube 34 firmly secured in the plate 33 and in the upper casing 1. This tube 34 is split on opposite sides from the top to nearly the bottom, and the two parts bent inward to form guiding flanges between which the clips 21 may pass and the lower end of the slots 35 thus formed serves as a stop 23 to revolve the coin clips when the coin tube reaches its seat upon the plate 33. Slots may be cut in these guide tubes from near the top to near the bottom, and parallel slots in the same vertical plane may be cut in the coin tubes on opposite sides so that the coins may be exposed to the view of the cashier and the coin tubes be refilled without taking them from the machine. These slots are not shown in the drawings, but they do show this tube 34 cut away at its lower part to allow the tappet lever and plunger to be inserted over the center of the coin.

Upon the under side of the hinged cover 2 a flat spring 36 is arranged to bear upon the top of each coin tube to keep it at the bottom of its seat.

The coin ejector 25 is beveled at its outer edge so as to strike upon the central part of the edge of the coin, and the edge of the tilting block 30 is grooved to fit the edge of the ejector so as to surely prevent motion of the coin ejector when no coins are upon the coin seat. The central part of the block 30 is grooved and the under side of the ejector 25 is fitted to slide in this groove. The ejector

blade is also guided by having its top surface against the under side of the plate 33. The section of the outer end of the ejector is shown in Fig. 21, and it operates through a hole of similar section in the piece 27. The ejector is placed within a tube 37 which is screwed within the piece 27 and is larger than the ejector so that a spiral spring 38 may be loosely placed upon the ejector and act to withdraw the ejector after it has thrown out a coin. This spring bears upon the head 39 of the ejector which is fitted to slide loosely within the tube and slotted to hold the friction roller 40. The tube 37 is slotted at top and bottom and guide pieces 41 project from the head 39 and fit the slot loosely to keep the ejector from turning in the tube. From the lower guide piece 41 arms 42 project on each side, carrying ears 43 between which friction rollers 44 are secured. The coin-ejecting levers 45 are adapted to move freely in the slots cut in the tubes 37 and are pivoted upon the rod 46 which passes through the upright supports 47 which extend from the plate 48. The plate 48 is secured to the vertical casings of the machine and serves to cover the cash drawer 3. A slot is cut in the plate to allow the catch 123 secured to the cash drawer to operate, and also two holes to permit the locking arms 51 to enter the cash drawer. The levers 45 have their lower ends projecting from the back casing 49' which has slots cut in it to allow the levers to move.

A cross piece 49 is similar in section to 48 and in the grooves formed in these two parallel pieces the supports 49' for the coin tube drawer 3 are adapted to slide. Between each adjacent pair of tubes 37 a lever 45' similar to 45 is placed, and from its upper end a flange 50 extends on both sides far enough to strike upon the friction rollers 44 so that when any lever 45' is withdrawn, a coin will be discharged from each coin tube adjacent to the lever. Upon the lower end of each lever 45 45' figures are formed to indicate the value of the coin or coins discharged by the action of the lever.

Pivoted to the back of each of the levers 45 and 45' is a right-angled lever 50' having its lower arm beneath the horizontal brace 50' connecting the stop levers 51 which normally are against the stops 52 secured to the cash drawer to prevent it from being opened. The action of any lever which discharges a coin raises the stop 51 sufficiently to allow the cash drawer 3 to be pushed open by the pressure of the spring 53 placed behind it. This spring is held by the covering box 53' which is secured to the casing 1. A spring 108 is secured to each lever 45 and 45', and to the cross piece 48 to return the levers after they have been withdrawn.

A bell 55 is placed opposite each lever 45 and 45' upon the rod 56 and fastened se-

curely to it. A striker 57 is attached to each lever 45 and 45' so as to be depressed by passing under the bent plate 58 and thrown by a spring upon the bell 55 to prevent the withdrawal of money from tubes or cash drawer without knowledge of the cashier. I prefer to use bells of different tones for each of the different coins held by the machine, in order to indicate the values of the coins as they are discharged. In this way the ear serves as a check to a cashier who might not look at the indicator cards as they are displayed. The plate 58 extends the entire length of the machine and is fastened to the two side plates forming the casing of the machine.

When any lever 45 is drawn out it sets the coin ejector 25 against the coin 59 which rests upon the coin seat 24 and moves it along until it bears upon the lever 60 which is pivotally suspended from the top casing in line with the center of the coin, and the coin acts as a rod to positively move this lever 60 and the parts connected therewith. A link 61 connects the lever 60 with a right-angled lever 62, and as the lever 60 is moved forward by the coin, it lifts the link 63 which is attached to the outer end of the lever 62. The lower end of the lever 60 moves in a slot cut through the plate 33. On each side of this slot upright flanges 64 are placed cast to the plate or secured by screws as preferred, and the cranks 62 are pivotally secured between these flanges by the rod 65 which runs through all the flanges and is secured in position by suitable screws or pins.

The link 63 is pivoted to the lower end of a vertical rod 66 which is adapted to slide freely in an opening cut for it in the plate 67. The plate 67 is held by screws upon the top of the flange 68 which projects internally from the casing 1. The plate also has holes to receive the indicator rods 70 71.

Each lever 45 discharges a coin from one coin tube and it is evident that each lever 45' will discharge one coin from each of the two tubes between which it is placed. There is only one lifting lever 62 and rod 66, while two indicator tablets 69 are required for each coin-holding tube, in order to show the total amount of coin that may be discharged by the machine by the action of all the levers 45 and 45'. These indicator tablets 69 are made of two thicknesses of metal fastened one on each side of the tablet rods 70 71, and each of the indicator tablets above the rods 66 has a slot in it adapted to allow the rod 66 to move freely vertically within the indicator tablet. The indicator tablets are supported in the slot 72 formed in the top casing of the machine, and are separated from each other by wires or small friction rollers placed between each pair of tablets and secured to the top casing 1.

The indicator rods 70 and 71 are each pro-

vided with spring catches 74 adapted to slide over the indicator support 75 which is pivoted between the side casings and extends between them, forming a horizontal shelf. Arms 76 extend horizontally from the top of this shelf, adapted to pivotally hold two rods 77.

The rods 77 are pivoted below to the outer ends of a horizontal bar 78 which connects two levers 78 supported pivotally upon the rod 80. The pivot 80 passes through four ears 80'. The two outer ears fit against the levers extending from the bar 78, and between the two inner ones a lever 81 is held. The outer end of the lever 81 has a tripping catch 82 upon it, and its inner end engages with the under side of the rod 78. Below the two arms 78 are supports 79 rising from the plate below to keep the arms 78 in such a position that the support 75 will be normally in position to engage the catches upon the indicator rods.

Projecting from the back of the sliding gate 9 is a pin 82' which projects far enough to engage with the catch 82. When the gate is lifted up, the catch 82 revolves and falls over the lever 81, but when the gate is dropped, the catch holds the pin 82' and thus depresses the lever 81, and this lifts the bar 78 and revolves the indicator support so that the indicator tablets fall from sight.

From the rod 78 a curved arm 78' extends. A friction roller 122 is pivoted at the end of this arm, and a tripping catch 121 is pivoted to a support 123 which is fastened to the cash drawer. When the cash drawer is opened, the catch 121 revolves and passes under the roller without lifting it, but when the drawer is closed, the catch lifts the roller and thus drops the indicator tablets. This device operates when the "no-sale" lever is used. It is evident that the roller might be placed upon the drawer and the catch upon the arm 78', and the result be the same.

The rod 66 attached to the bell-crank lever 62 by the link 63 moves vertically up and down as the coins are discharged, and it is necessary to provide means for moving the two indicator rods 70 and 71 by the one lifting rod 66. To do this, I extend an ear from the rod 66 and pivotally suspend from it the link 66' which has a pin at its lower end. By gravity this pin tends to assume a position under the notch cut in the lower end of the rod 70 and a spring 54 is also attached to the link and to the rod 66 to insure the return of the link to its position under the rod 70. When the rod 66 is lifted up, the pin in the link 66' lifts the rod 70 and it remains supported by the catch 74 while the rod 66 returns to its original position.

The rod 71 has pivoted to its lower end the catch 71' which is adapted by gravity

and the stop projecting over the rod 71 to assume a position with the notch in its lower end just over the pin in the lifting link 66'. When the rod 70 is retained in its elevated position, the catch 71' at once comes in line with the lifting pin, and the next upward motion of the lifting rod 66 elevates the indicator rod 71, and when the catch 71' strikes the lower end of the rod 70, the spring holding the link 66' allows it to revolve with the catch 71' until the rod 71 is fully elevated. Various modifications of this idea may be employed without departing from the spirit of my invention.

The bottom of the coin chute is formed by the plate 27 which descends at an angle in front of the coin seats 24 sufficiently to cause the coins to slide down it. Partitions 83 give separate chutes for each coin tube. The lower edge of the plate 27 is fitted to hold the upper edge of a plate of glass 84. The upper covering of the chutes is formed of a plate of glass 7 and these two plates, also the metal plate 27, are formed as shown in the section Fig. 13, so as to allow only one coin to pass in each compartment. At the top the space widens to form a chamber in which the coin may freely drop. The front of this chamber is covered with the plate of glass 85. Plates 7 and 85 are held between the side casings by retaining strips screwed to the casings, and the lower edge of 84 is protected and held by the horizontal brace 86 which is screwed to the side plates 6, which support the coin chute and delivery tube. If desired, the lower edge of plate 7 may be protected by a metal band.

Grooves 8 contain the sliding gate 9 which may be fitted with friction rollers. The glass delivery tube 11 is formed with a flange 87 and over this flange the plate 88 is screwed. A flange may be formed on each side of the under edge of the tube 11, and this may also be firmly screwed to the gate 9.

A balance weight 89 is suspended by a cord attached to the back of the gate 9. The cord runs over pulleys 90 and 91. This weight balances all the weight of the gate and delivery tube which is not required to operate the indicator support 75 and drop the indicator tablets after the coins have been discharged.

The coins are securely held between the coin seat 24 and the under side of the coin tube or the plate supporting the coin tube, and it is impossible for a coin to fall into the chute until it has moved beyond the coin seat. It is desirable to move it beyond this seat a little distance. The pressure of the levers and the weight of the moving parts will ordinarily be sufficient to hold the coin, but to insure the coins being carried the proper distance, a pivoted support 92 is placed in a slot in the lower end of the lever 60. The support 92 is adapted by a spring

to project a little distance below the under edge of the coin 59. A cross piece 98 supported between the flanges 64 serves to revolve the support 92 so that the coin is free to fall.

5 It will be readily seen that the coin support 92 might be formed with an upper spring-actuated clip adapted to positively hold the coin between the upper and lower
10 clips until the two are separated by the action of the stop 98, and in some cases this construction may be desirable. It is not shown here as I intend to claim the principle of a coin-holding and coin-moving lever
15 broadly.

To insure the dropping of the coin after it has lifted the indicator cards, I pivot a
20 tappet lever 94 to the lever 60. This tappet lever has two arms at right angles to each other, and a spring 93 to hold the lever with its horizontal arm a little distance above the
25 top of a plunger 95 which is adapted to slide in two holes, one in the plate 33, and the other in a supporting plate 96 which is held at a little distance above the plate 33. The plunger has a collar 97 upon it with a
30 spiral spring below the collar adapted to lift the plunger. The tappet lever 94 is adapted to strike upon the plunger 95 when its vertical arm is stopped by the horizontal
35 cross-piece 98. The coin support 92 and its lower portion of the stop 98 are arranged to act before the tappet lever operates the plunger 95.

40 The lever 60 has at the top a horizontal arm to which a pawl 99 is pivoted, and when a coin has moved the lever 60 far enough to be in position to operate the discharge tap-
45 pet, it has moved the ratchet wheel 100 one tooth, and recorded the value of the coin upon a suitable meter connecting with the
50 ratchet wheel. A stop 101 prevents motion of the ratchet wheel in the opposite direction.

55 The indicator rods 70 and 71 have slots 102 adapted to allow the ends of the levers 103 to pass through them. These levers 103 are pivoted to supports 104 which are fast-
60 ened to the top casing 1 and to links 105 which are pivotally connected to locking levers 106. These levers are pivoted between
65 ears 107 which rise from the horizontal plate 107 covering the ejector tubes, and the outer end of the lever is bent downward to engage the upper ends of the levers 45 and
70 45'. These levers have springs 108 to carry them beyond the point where they are returned by the spring 38 within the ejector tube. The levers 106 are held above the
75 levers 45 and 45' when no coins have been discharged, but when a coin has been dis- charged and lifted its indicator card, the lever 103 connected with this card rises and
80 crops the lever 106 so that the hooked end falls over the lever 106, and causes the lower

end of the discharge lever with the figures upon it to remain out of line with the others, thus showing that it has discharged a coin. The lever 106 has pivoted to it a stop 110
70 which, when the lever 106 is down locking the lever 45 or 45' one way, comes in front of the lever to lock it the other way and prevent a second coin being discharged by the lever. This stop has a pin which rests on the top of the lever 106, and has a sloping
75 surface one way to allow the lever 106 to lift it and slide under it after it has expelled a coin and is returning to its normal position.

The coin tube drawer 5 is shown entering one side of the machine and extending to
80 the other side. By taking out this drawer, a hand may be inserted to adjust the screws holding the coin seats. The drawer is adapted to slide in grooves cut in the pieces
85 48 49 which extend from one side casing to the other. This drawer may be fastened by a bolt which projects through the front casing of the machine and has the end formed into a finger pull. It is also fastened by a
90 spring catch 111 which is pivoted to ears projecting from the casing of the machine, and is adapted to engage a catch 112 secured to the back of the drawer. The spring catch
95 111 is operated by a lever 113 which is pivoted to the side casing and has its upper end engaged by two pins 114 which project from a horizontal link 115 which is attached to the top of the lever 116 for operating the
100 "no-sale" indicator card. This no-sale lever is similar to the coin-operating levers, and a bell 117 is provided for it. A hook at its upper end serves to lock the hinged cover of the machine by engaging with a lip projecting internally from this cover.

105 The link 115 is pivoted to the bell-crank lever 118, and the outer end of this lever is adapted to bear upon the lower end of the rod 119 which supports the "no-sale" indi-
110 cator tablet. This tablet is held in sight by a spring catch 120 which slides over the support 75. When the no-sale lever 116 is withdrawn, it opens the money drawer through the operation of a lifting lever 50, and the card is dropped by the return of
115 the money drawer, as already explained.

The front casing of the machine has a plate of glass 124 in it which allows the
120 coins to be seen in the upper part of the chute.

A spring catch is used to prevent the ten-
125 sion of the coin-holding springs 36 from opening the cover whenever the no-sale lever is used.

I claim:

1. A coin delivery machine having a plu-
130 rality of holders for coins of different denominations, means for delivering coins from said holders, a plurality of separate compartments for the discharged coins, one

for each of said holders, each of said compartments permitting its contents to be seen but not removed, a movable chute formed to receive and assemble the coins from the compartments and to deliver the assembled coins into the hand of the user, and means whereby lifting said chute will release the coins exposed in said compartments and permit the chute to conduct them into the operating hand of the user.

2. A coin delivery machine having a plurality of holders for coins of different denominations, means for delivering coins from said holders, a plurality of separate compartments for the discharged coins, one for each of said holders, each of said compartments permitting its contents to be seen but not removed, a movable chute formed to receive and assemble the coins from the compartments and to deliver the assembled coins into the hand of the user, means whereby lifting said chute will release the coins exposed in said compartments and permit the chute to conduct them into the operating hand of the user, and indicating mechanism to inform the customer of the delivery of each coin from its holder.

3. In a coin delivery machine, suitable means for holding and delivering coins, suitable means for displaying to view the discharged coins in separate compartments, suitable means operated by the coins for displaying to view the values of the coins, and suitable means for delivering the coins directly into the customer's hand.

4. In a coin delivery machine, suitable means for holding and delivering coins, suitable means for displaying to view the discharged coins in separate compartments, suitable means operated by the coins for displaying to view the values of the coins, and means to prevent a second coin being discharged while one coin is in the display compartment.

5. In a coin delivery machine, suitable means for holding and delivering coins, suitable means for displaying to view the discharged coins in separate compartments, suitable means operated by the coins for displaying to view the values of the coins, suitable means for delivering the coins into the customer's hand, and means to prevent a second coin being discharged while one coin is in the display compartment.

6. In a coin delivery machine, a tube adapted to hold and to discharge coins through the action of one mechanical impulse, and suitable means for transmitting this impulse through the coin used as a plunger to operate an indicator card, and a tappet lever, said indicator card and tappet lever in combination with a chute adapted to retain the coins, and to discharge them at will, and a delivery tube below the chute, substantially as specified.

7. In a coin delivery machine, a tube adapted to hold and to discharge coins through the action of one mechanical impulse, and suitable means for transmitting this impulse through the coin used as a plunger to operate an indicator card, and a tappet lever, said indicator card and tappet lever in combination with a chute adapted to retain the coins and to discharge them at will, a delivery tube below the chute, and suitable means to drop the indicator card from sight operated by the mechanism discharging the coins into the hand, substantially as specified.

8. In a coin delivery machine, a tube adapted to hold and to discharge coins through the action of one mechanical impulse, suitable means to transmit this impulse through the coin used as a plunger to operate an indicator card, a tappet lever, a register, and a locking lever, and said indicator card, tappet lever, register, and locking lever in combination with a chute adapted to retain the coins, and to discharge them at will, and a delivery tube below the chute, substantially as specified.

9. In a coin delivery machine, the combination of a series of tubes adapted to hold and to drop coins through the action of one mechanical impulse, suitable means to transmit this impulse through the coin used as a plunger to operate indicator cards, tappet levers, registers, and locking levers, said indicator cards, tappet levers, registers, and locking levers in combination with a coin chute having partitions forming a separate compartment for each coin tube, and suitable means to retain the coins in the chute, and to discharge them at will into a hand operating the discharging mechanism, substantially as specified.

10. In a coin delivery machine, the combination of a series of tubes adapted to hold and to drop coins through the action of one mechanical impulse, suitable means to transmit this impulse through the coin used as a plunger to operate indicator cards, tappet levers, registers, and locking levers, said indicator cards, tappet levers, registers, and locking levers in combination with a coin chute having partitions forming a separate compartment for each coin tube, suitable means to retain the coins in the chute, and to discharge them at will into a hand operating the discharging mechanism, and suitable means to drop the indicator cards and unlock the coin ejecting levers through the operation of the mechanism for dropping the coins into the hand, substantially as specified.

11. In a coin delivery machine, a tube adapted to receive coins, clips pivoted at the lower end of the tube, springs for the clips, a plate having a seat to receive the lower end of the coin tube, and a hole to allow the

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coins to fall through the plate when the coin clips are withdrawn, a tube concentric with the coin tube, secured to the plate and having guide-slots cut through it, substantially as specified.

12. In a coin delivery machine, a tube adapted to receive coins, clips pivoted at the lower end of the tube, springs for the clips, a support having a seat to receive the lower end of the coin tube, and a hole to allow the coins to fall through the support when the coin clips are withdrawn from the tube, a coin support under the tube support adapted to support the coins in the tube and to allow the lowest coin to be discharged, substantially as specified.

13. In a coin delivery machine, a tube adapted to receive coins, clips pivoted at the lower end of the tube, springs for the clips, a support having a seat to receive the lower end of the coin tube, and a hole to allow the coins to fall through the support when the coin clips are withdrawn from the tube, a coin support under the tube support adapted to support the coins in the tube and to allow the lowest coin to be discharged, and a lever pivoted within the coin support and adapted to revolve when the last coin has been discharged, and lock the ejecting mechanism, substantially as specified.

14. In a coin delivery machine, a tube adapted to receive coins, retaining clips pivoted at the lower end of the tube, springs for the clips, a support having a seat to receive the lower end of the coin tube, and a hole to allow the coins to fall through the support, means to hold the coin tube in its seat, and to withdraw the clips from the tube, a coin support under the tube support adapted to hold the coins in the tube and to allow the lowest coin to be discharged, and a lever pivoted within the coin support, and adapted to lock the coin ejecting mechanism, substantially as specified.

15. In a coin delivery machine, a tube adapted to hold coins, retaining clips pivoted at the lower end of the tube, springs for the clips, a support for the coin tube having a seat cut within it to receive the lower end of the tube, and adapted to allow the coins to drop from the tube through the tube support, a coin support under the tube support, a locking lever pivoted within the coin support, means to withdraw the coin clips from the coin tube, suitable means to eject the coins from the coin tube by means of one mechanical impulse, and to transmit this impulse through the coin as a plunger to operate indicator cards, and a tappet lever, substantially as described.

16. In a coin delivery machine, a tube adapted to hold coins, retaining clips pivoted at the lower end of the tube, springs for the clips, a support for the coin tube having a seat cut within it to receive the

lower end of the tube, and adapted to allow the coins to drop from the tube through the tube support, a coin support under the tube support, a locking lever pivoted within the coin support, means to withdraw the coin clips from the coin tube, suitable means to eject the coins from the coin tube by means of one mechanical impulse, and to transmit this impulse through the coin as a plunger to operate indicator cards, a tappet lever, and means for registering the coins discharged, substantially as described.

17. In a coin delivery machine, a tube adapted to hold coins, retaining clips pivoted at the lower end of the tube, springs for the clips, a support for the coin tube having a seat cut within it to receive the lower end of the tube, and adapted to allow the coins to drop from the tube through the tube support, a coin support under the tube support, a locking lever pivoted within the coin support, means to withdraw the coin clips from the coin tube, suitable means to eject the coins from the coin tube by means of one mechanical impulse, and to transmit this impulse through the coin as a plunger to operate indicator cards, a tappet lever, means for registering the coins discharged, a coin chute, gate, and delivery tube.

18. In a coin delivery machine a tube adapted to hold and to discharge coins by the action of one mechanical impulse, a support having a seat fitted to receive the lower end of the coin tube, retaining clips, springs for the clips, and a guide tube having slots cut in it, substantially as described.

19. In a coin delivery machine, a tube adapted to hold coins, clips pivoted at the lower end of the tube, retaining springs, a support having a seat fitted to receive the lower end of the tube and adapted to withdraw the coin clips, and to allow the coins to fall through the support, a coin support under the tube support adapted to allow the motion of a coin ejector, and the discharge of the lowest coin from the coin tube, substantially as specified.

20. In a coin delivery machine, a tube adapted to hold coins, clips pivoted at the lower end of the tube, retaining springs, a support having a seat fitted to receive the lower end of the tube and adapted to withdraw the coin clips, and to allow the coins to fall through the support, a coin support under the tube support adapted to allow the motion of a coin ejector, the discharge of the lowest coin from the coin tube, and a tilting lever pivoted within the coin support and adapted to assume a horizontal position when one or more coins are upon it, and to lock the coin ejector when the last coin has been discharged, substantially as specified.

21. In a coin delivery machine, a tube adapted to hold coins, clips pivoted at the lower end of the tube, springs for the clips, 130

means to withdraw the clips from the tube, a support for the coin tube adapted to receive the lower end of the tube, and to allow the passage of the coins from the tube, a coin support below the tube adapted to support the coins within the tube, and to permit the discharge of the lowest coin, a coin ejector, a locking lever, and a coin chute, all substantially as described.

22. In a coin delivery machine, a tube adapted to hold coins, clips pivoted at the lower end of the tube, springs for the clips, means to withdraw the clips from the tube, a support for the coin tube adapted to receive the lower end of the tube, and to allow the passage of the coins from the tube, a coin support below the tube adapted to support the coins within the tube, and to permit the discharge of the lowest coin, a coin ejector, a locking lever, a coin chute, suitable means to open and close the lower opening in the coin chute, and a delivery tube below the chute, substantially as described.

23. In a coin delivery machine, a tube adapted to hold coins, clips pivoted at the lower end of the tube, springs for the clips, a support for the coin tube adapted to receive the lower end of the tube, and to allow the coins to fall through it, a guide tube adapted to revolve the clips, a coin support below the tube adapted to support the coins, and to permit the discharge of the lowest coin, a coin ejector, a locking lever and a coin chute, substantially as described.

24. In a coin delivery machine adapted to hold and to deliver coins, a coin support under each coin holding tube containing a pivoted lever adapted to revolve by gravity and prevent motion of the coin ejector, a coin chute adapted to receive and retain the coins dropped from the coin holders, means to release the coins from the coin chute and deliver them into the hand operating the discharging mechanism, a money drawer, suitable means to lock this drawer, and suitable means to unlock it operated by the coin-discharging mechanism.

25. In a coin delivery machine, the combination with a series of tubes adapted to hold and to discharge coins through the action of one mechanical impulse, of two indicator tablets for each tube and suitable means to transmit this impulse through the coin used as a plunger to operate said indicator tablets, substantially as specified.

26. In a coin delivery machine, a tube adapted to hold and to discharge coins by the action of one mechanical impulse combined with a lever adapted to transmit this impulse through the coin, a link attached to the lever, a bell crank lever attached to the link, a link attached to the outer end of the bell crank lever, a rod pivoted to this link and adapted to slide vertically, a link having a pin at its lower end and adapted to

assume a position with the pin under the first of two indicator rods, and to lift this rod, and then to lift the second rod through the action of a catch pivoted to the second rod, and adapted to assume a position over the lifting pin when the first rod has been elevated, said indicator rods and means to support them and the rod catch, and a chute adapted to retain the coins dropped from the coin tube and to deliver them at will into a hand placed below the chute and operating the discharging mechanism, substantially as specified.

27. In a coin delivery machine, a tube adapted to hold and to discharge coins by the action of one mechanical impulse combined with a lever adapted to transmit this impulse through the coin, a link attached to the lever, a bell crank lever attached to the link, a link attached to the outer end of the bell crank lever, a rod pivoted to this link and adapted to slide vertically, a link having a pin at its lower end and adapted to assume a position with the pin under the first of two indicator rods, and to lift this rod, and then to lift the second rod through the action of a catch pivoted to the second rod, and adapted to assume a position over the lifting pin when the first rod has been elevated, said indicator rods and means to support them and the rod catch, and a chute adapted to retain the coins dropped from the coin tube and to deliver them at will into a hand placed below the chute and operating the discharging mechanism, and suitable means to drop the indicator tablets and parts connected therewith, substantially as specified.

28. In a coin delivery machine, a tube adapted to hold and to discharge coins by the action of one mechanical impulse combined with a lever adapted to transmit this impulse through the coin, a link attached to the lever, a bell crank lever attached to the link, a link attached to the outer end of the bell crank lever, a rod pivoted to this link and adapted to slide vertically, a link having a pin at its lower end and adapted to assume a position with the pin under the first of two indicator rods, and to lift this rod, and then to lift the second rod through the action of a catch pivoted to the second rod, and adapted to assume a position over the lifting pin when the first rod has been elevated, said indicator rods and means to support them and the rod catch, a chute adapted to retain the coins dropped from the coin tube and to deliver them at will into a hand placed below the chute and operating the discharging mechanism, and suitable means to drop the indicator tablets and parts connected therewith, through the downward motion of the gate and delivery tube, substantially as specified.

29. In a coin delivery machine, a tube

adapted to hold and to discharge coins by the action of one mechanical impulse combined with a lever adapted to transmit this impulse through the coin used as a plunger, a link attached to the lever, a bell crank lever attached to the link, a link attached to the outer end of the bell crank lever, a rod pivoted to this link and adapted to slide vertically, a link attached to the rod and having a pin extending from its lower end adapted to engage a slot in the lower end of the first indicator rod, and to lift this rod, and then to lift the second indicator rod by means of a catch pivoted to this rod and adapted to assume a position over the lifting pin, when the first rod has been retained in its highest position, said indicator rods, means to support them and to hold them in an elevated position, the rod catch, a chute, a sliding gate, a delivery tube and suitable means to drop the indicator tablets and parts connected therewith, substantially as specified.

30. In a coin delivery machine a coin chute adapted to retain coins within it and to deliver them at will by means of a sliding gate, said gate and a delivery tube adapted to operate the gate, and a weight adapted to partly balance the said gate and tube, substantially as specified.

31. In a coin delivery machine, a money drawer provided with suitable means to lock and to open the same, a lever adapted to unlock the money drawer and to lift a tablet marked "No sale," a pivoted lever, a tripping catch, and a stop pin adapted to be operated by the closing of the cash drawer, and to drop the "no sale" tablet, substantially as described.

32. In a coin delivery machine, a coin tube adapted to hold and to deliver coins, combined with a coin ejecting slide, a lever adapted to operate the slide, and to unlock a cash drawer, a coin-actuated lever adapted to lift indicator tablets, a support for the indicator tablets, rods connecting the support with a lever adapted by means of a friction roller and a catch secured to the cash drawer to revolve the indicator support, and drop the indicator tablets, substantially as specified.

33. In a coin delivery machine, adapted to hold and to discharge coins by one mechanical impulse, the combination with a coin ejecting slide of a lever adapted to operate the slide and to unlock a cash drawer, of a coin-actuated lever adapted to hold and to move the coin and to operate indicating tablets, a support for the indicator tablets, rods connecting this support to a lever adapted, by means of a friction roller and a tripping catch, to be operated by the motion of the cash drawer in one direction, substantially as described.

34. In a coin delivery machine, a tube

adapted to hold coins, a coin ejector adapted to move within suitable guides and to discharge the lowest coin from the tube, a spring to return the coin ejector, a lever pivoted below the coin tube and adapted to lock the coin ejector, a bell adapted to be rung when the coin is discharged from said tube, and a cash drawer adapted to be released by the cash-discharging mechanism, substantially as specified.

35. In a coin delivery machine, a tube adapted to hold coins, a coin ejector adapted to move within suitable guides and to discharge the lowest coin from the tube, a spring to return the coin ejector, a lever pivoted below the coin tube and adapted to lock the coin ejector, a bell adapted to be rung by the coin-discharging mechanism, a cash drawer adapted to be released by the cash discharging mechanism, and a lever adapted to move the coin ejector, a spring to return the lever, and suitable means to lock this lever after it has discharged one coin, substantially as specified.

36. In a coin delivery machine, a coin tube adapted to hold and deliver coins by the action of one mechanical impulse, indicator tablets for said tube, suitable means to transmit said impulse through the coin used as a plunger, to lift said indicator tablets, to sustain the tablets in an elevated position, to lock the coin-ejecting mechanism, and suitable means to discharge the coins into the hand operating the discharge and to drop the indicator tablets and unlock the coin-ejecting mechanism, substantially as described.

37. In a coin delivery machine, a coin tube adapted to hold coins, a coin ejector adapted to slide in suitable guides, a lever to move the ejector, a spring to return the ejector, a coin-actuated lever, links, lifting rod, indicator tablets, means to lift, suspend and drop the indicator tablets, and levers moved by the indicator rods to lock and unlock the coin ejecting lever, substantially as described.

38. In a coin delivery machine, a coin tube adapted to hold coins, a coin ejector adapted to slide in suitable guides, a lever to move the ejector, a spring to return the ejector, a coin-actuated lever, links, lifting rod, indicator tablets, means to lift, suspend and drop the indicator tablets, levers moved by the indicator rods to lock and unlock the coin-ejecting lever, and a coin chute, substantially as described.

39. In a coin delivery machine, a coin tube adapted to hold coins, a coin ejector adapted to slide in suitable guides, a lever to move the ejector, a spring to return the ejector, a coin-actuated lever, links, lifting rod, indicator tablets, means to lift, suspend, and drop the indicator tablets, levers moved by the indicator rods to lock and unlock the

coin-ejecting lever, a coin chute, a coin chute gate, and a delivery tube, substantially as described.

40. In a coin delivery machine, a coin tube adapted to hold coins, a coin ejector adapted to slide in a retaining tube, a lever to move the ejector, a spring to return the ejector, a coin-actuated lever, links, lifting rod, indicator tablets, means to lift, suspend and drop the indicator tablets, levers moved by the indicator rods to lock and unlock the coin-ejecting lever, a coin chute, a gate adapted to open and close the chute and to drop the indicator cards by its downward motion, substantially as described.

41. In a coin delivery machine, a coin tube adapted to hold coins, a coin ejector adapted to slide in a retaining tube, a lever to move the ejector, a spring to return the ejector, a coin-actuated lever, links, lifting rod, indicator tablets, means to lift, suspend and drop the indicator tablets, levers moved by the indicator rods to lock and unlock the coin-ejecting lever, a coin chute, a gate adapted to open and close the chute and to drop the indicator cards by its downward motion, and a weight to balance in part the gate, substantially as described.

42. In a coin delivery machine, two or more coin tubes adapted to hold coins, coin ejectors adapted to move in suitable supports and to eject the coins from the tubes, levers adapted to move the coin ejectors, springs to return the coin ejectors, levers adapted to move between each pair of coin tubes and to operate the coin ejectors of two tubes, and locking levers for the ejectors and coin levers, substantially as described.

43. In a coin delivery machine, two or more coin tubes adapted to hold coins, coin ejectors adapted to move in suitable supports and to eject the coins from the tubes, levers adapted to move the coin ejectors, springs to return the coin ejectors, levers adapted to move between each pair of coin tubes and to operate the coin ejectors of two tubes, locking levers for the ejectors and coin levers, and a separate coin chute for each coin tube, and means of closing and opening all the chutes at the same time, substantially as specified.

44. In a coin delivery machine, two or more coin tubes adapted to hold coins, coin ejectors adapted to move in suitable supports and to eject the coins from the tubes, levers adapted to move the coin ejectors, springs to return the coin ejectors, levers adapted to move between each pair of coin tubes and to operate the coin ejectors of two tubes, locking levers for the ejectors and coin levers, separate coin chutes for each coin tube, a gate adapted to open or close all the chutes and to drop the indicator cards after the coins have been discharged from the coin chutes, and a delivery tube adapted to op-

erate the gate and deliver the coins into the hand operating it, substantially as specified.

45. In a cash delivery machine, a coin tube, a coin ejector, a lever to move the ejector, a spring to return the ejector, a lever to lock the ejector, a coin register, a lever adapted to be moved by the coin, used as a plunger, and to operate said coin register, a coin chute, gate and a delivery tube, substantially as specified.

46. In a cash delivery machine adapted to hold and to drop coins by the action of one mechanical impulse, means to transmit this impulse through the coin used as a plunger, to display indicator tablets, and to lock the coin ejectors, said indicator tablets and locking levers, a tilting lever to lock the coin ejector, a coin chute, gate and delivery tube, substantially as described.

47. In a cash delivery machine, a tube adapted to hold and to drop coins by the action of one mechanical impulse, means to transmit this impulse through the coin used as a plunger, to display indicator tablets, to lock the coin ejector, to move a tappet lever and plunger, said indicator tablets, locking levers, tappet lever and plunger, and a tilting lever to lock the coin ejector, combined with a coin chute, gate and delivery tube, substantially as described.

48. In a cash delivery machine, a tube adapted to hold and to drop coins by the action of one mechanical impulse, means to transmit this impulse through the coin used as a plunger, to display indicator tablets, to lock the coin ejector, to move a tappet lever and plunger, said indicator tablets, locking levers, tappet lever and plunger, and a tilting lever to lock the coin ejector combined with a coin chute, gate and delivery tube, and a bell adapted to be rung by the coin-discharging mechanism, substantially as specified.

49. In a cash delivery machine, a tube adapted to hold and to drop coins by the action of one mechanical impulse, means to transmit this impulse through the coin used as a plunger, to display indicator tablets, to lock the coin ejector, to move a tappet lever and plunger, said indicator tablets, locking levers, tappet lever and plunger, and a tilting lever to lock the coin ejector, combined with a coin chute, gate and delivery tube, a bell adapted to be rung by the coin-discharging mechanism, and a money drawer and suitable means for locking and unlocking the same by the action of the coin-discharging mechanism, substantially as specified.

50. In a coin delivery machine, a tube adapted to hold and to drop coins by the action of one mechanical impulse, means to transmit this impulse through the coin used as a plunger, indicator tablets, suitable means to display them, a lever to lock the

coin-actuating lever for the coin ejector, a tilting lever adapted to lock the coin ejector, a tappet lever and plunger, a register adapted to register the discharge of coins from the tube, a coin chute, gate, and delivery tube, and suitable means to drop the indicator cards by the action of the coin delivery tube, substantially as described.

51. In a coin delivery machine, a coin ejector adapted to be moved within suitable guides, a friction roller carried within the guides, and arms extending outside the guides and carrying a friction roller on each side of the guides, substantially as specified.

52. In a coin delivery machine adapted to hold and to discharge coins by one mechanical impulse, a plunger, a register, a ratchet wheel to operate the register, a coin ejector, a lever carrying a pivoted tappet lever adapted to suddenly depress said plunger and eject the coin, and a pawl adapted to move said ratchet wheel and operate the register, substantially as specified.

53. In a coin delivery machine, means to deliver a coin by the action of one mechanical impulse, a lever adapted to transmit this impulse through the coin used as a plunger, a coin support pivoted to this lever and having a spring adapted to keep the support projecting a little distance outside the lever, and suitable means to rotate the support so that its lower end is withdrawn to drop the coin, substantially as specified.

54. In a coin delivery machine adapted to hold and to discharge coins by one mechanical impulse, a coin tube adapted to hold coins, a spring plate bearing on the upper end of the tube to hold it firmly in a seat fitted to receive its lower end, substantially as specified.

55. In a coin delivery machine, the combination of a tube adapted to hold and to discharge coins by means of one mechanical impulse with a lever adapted to be moved by the coin acting as a plunger while it is being moved from the tube, a tappet lever pivoted to this lever and adapted by a suitable spring and stop to strike a sudden blow upon a coin plunger, said plunger, and means to hold and lift it, a pawl attached to the coin actuated lever and adapted to move a ratchet wheel, said ratchet wheel and a register connected therewith, substantially as specified.

56. In a coin delivery machine, the combination of a tube adapted to hold and to discharge coins by means of one mechanical impulse with a lever adapted to be moved by the coin acting as a plunger while it is being moved from the tube, a tappet lever pivoted to this lever and adapted by a suitable spring and stop to strike a sudden blow upon a coin plunger, said plunger, and means to hold and lift it, a pawl attached

to the coin actuated lever and adapted to move a ratchet wheel, said ratchet wheel and a register connected therewith, and suitable means actuated by the coin actuated lever to lock the coin ejecting levers, substantially as described.

57. In a coin delivery machine, the combination of a tube adapted to hold and to discharge coins by means of one mechanical impulse with a lever adapted to be moved by the coin acting as a plunger while it is being moved from the tube, a tappet lever pivoted to this lever and adapted by a suitable spring and stop to strike a sudden blow upon a coin plunger, said plunger, and means to hold and lift it, a pawl attached to the coin actuated lever and adapted to move a ratchet wheel, said ratchet wheel and a register connected therewith, and suitable means actuated by the coin actuated lever to display indicator cards and to lock the coin ejecting levers, a coin chute adapted to hold and to discharge the coins dropped into it by means of a suitable gate, and a delivery tube attached to the gate, substantially as described.

58. In a coin delivery machine, the combination of a tube adapted to hold and to discharge coins by means of one mechanical impulse with a lever adapted to be moved by the coin acting as a plunger while it is being moved from the tube, a tappet lever pivoted to this lever and adapted by a suitable spring and stop to strike a sudden blow upon a coin plunger, said plunger, and means to hold and lift it, a pawl attached to the coin actuated lever and adapted to move a ratchet wheel, said ratchet wheel and a register connected therewith, and suitable means actuated by the coin actuated lever to lock the coin ejecting levers, a coin chute adapted to hold and to discharge the coins dropped into it by means of a suitable gate, and a delivery tube attached to the gate, and a pivoted support, and catches for the indicator tablets, and means to move the support and drop the tablets by the weight of the gate, substantially as described.

59. In a coin delivery machine, a series of tubes adapted to hold and to discharge coins by the action of one mechanical impulse, means to hold the coin tubes, two indicator tablets for each tube, a coin actuated lever for each coin tube adapted to be moved by the coins as they are discharged from the tubes and to operate said indicator tablets, and also to operate a tappet lever and plunger for each coin tube, and to operate by means of the indicator rods, a locking lever adapted to lock each coin ejecting lever after it has discharged one coin, means to support each indicator tablet, a coin chute, gate, and delivery tube, and means to drop the indicator tablets by the fall of the discharge gate, substantially as specified.

60. In a coin delivery machine, a lever pivoted at the front of the machine and having a hook at its upper end, adapted to project over a lip upon the cover to prevent the cover from being lifted, a rod pivoted to the upper end of the lever and adapted to rotate a bell crank lever, an indicator tablet so adjusted at the outer end of the bell crank lever as to be lifted by it, suitable means to retain the tablet in an elevated position, a lever pivoted to the side casing of the machine and having its upper end engaged by pins projecting from the horizontal rod, and adapted to be moved by the rod, so as to disengage the money drawer catch, and a bell adapted to be rung when the mechanism is operated, substantially as described.

61. In a coin delivery machine, a casing, a rod having pins, a spring catch secured to the casing, a drawer adapted to slide on suitable supports and to be locked by a catch projecting from its end and adapted to engage with said spring catch, and a lever to move the spring catch, said lever being pivoted to the casing and having its upper end engaged by the pins of said rod, substantially as described.

62. In a cash delivery machine, a coin ejector having ribs, a tube adapted to hold coins, a seat below the tube adapted to retain the coins in the tube, and a tilting lever pivoted within the seat having a slot adapted to allow the lower rib of said coin ejector to slide within it, substantially as described.

63. In a coin delivery machine, a tube adapted to hold coins and to deliver them by the action of one mechanical impulse, indicator cards and means to transmit this impulse through the coin used as a plunger, to operate said indicator cards, levers, connected therewith, and adapted to drop locking levers for the coin discharging mechanism, substantially as specified.

64. In a coin delivery machine, a coin tube adapted to hold coins, a seat under the tube to support the coins in the tube, two indicator tablets, coin actuated mechanism for lifting said indicator tablets, a coin ejector actuating lever, a coin locking lever pivoted above said coin ejector actuating lever, and having its end bent to engage the upper end of this lever, and prevent its full motion, and having a catch pivoted to the lever and adapted to allow the coin ejector lever to pass under the catch one way but not the other, substantially as and for the purpose specified.

65. In a coin delivery machine, a box or casing composed of suitable plates of glass and metal, suitably connected together and with a hinged upper section, and having inner plates and supports for a series of coin tubes, coin levers, and coin actuated parts adapted to discharge coins from the tubes,

to indicate the coins discharged, to register them, to deliver them into a chute adapted to discharge them at will, said chute, a gate fitted thereto, a delivery tube under the chute, a cash drawer adapted to be opened by the action of any cash lever, a no sale lever and a sliding drawer adapted to be released by the action of the no sale lever, substantially as specified.

66. In a coin delivery machine, a box or casing composed of suitable plates of glass and metal, suitably connected together, and with a hinged upper section, and having inner plates and supports for a series of coin tubes, coin levers, and coin actuated parts adapted to discharge coins from the tubes, to indicate the coins discharged, to register them, to deliver them into a chute adapted to discharge them at will, said chute, a gate fitted thereto, a delivery tube under the chute, a cash drawer adapted to be opened by the action of any cash lever, and a sliding drawer adapted to be opened by the action of the no sale lever, combined with a cash registering machine, adapted to indicate the amount of the sale, to register this amount, and to deliver a card showing the amount, substantially as specified.

67. In a cash delivery machine, coin tubes adapted to hold coins combined with coin ejectors adapted to move within suitable retaining tubes provided with springs to return the ejectors and a friction roller within each tube, and friction rollers carried outside each tube, one on each side of each tube adjacent to another tube, a lever adapted to move within each tube, and a lever between each pair of tubes adapted to bear upon the outer friction rollers and to move two coin ejectors at once, substantially as specified.

68. In a coin delivery machine, a series of tubes adapted to hold coins, a series of tubes arranged in line with the coin tubes, adapted to hold plungers for ejecting the coins from the coin tubes, a spring about each plunger, a friction roller in each plunger adapted to move inside each ejector tube, a lever adapted to bear upon each plunger, friction rollers on each plunger outside the plunger tube and adjacent to each coin tube, levers between each pair of plunger tubes adapted to bear upon the outer friction rollers and to operate two plungers at once, and a bell opposite each coin tube adapted to be rung by the action of the coin-ejecting lever, substantially as specified.

69. In a coin delivery machine, a series of tubes adapted to hold coins, a series of tubes arranged in line with the coin tubes, adapted to hold plungers for ejecting the coins from the coin tubes, a spring about each plunger, a friction roller in each plunger adapted to move inside each ejector tube, a lever adapted to bear upon each plunger, friction rollers on each plunger outside the plunger tube and

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adjacent to each coin tube, levers between each pair of plunger tubes adapted to bear upon the outer friction rollers and to operate two plungers at once, a bell adapted to be rung by the action of the coin-ejecting lever, and a tilting lever pivoted below each coin tube and adapted to lock the coin ejectors, substantially as specified.

70. In a coin delivery machine, a series of tubes adapted to hold coins, a series of tubes arranged in line with these coin tubes adapted to hold coin ejectors for discharging the coins from the coin tubes, a spring about each plunger, a friction roller within each plunger and a lever adapted to move within each ejector tube bearing on the friction roller, friction rollers on each coin ejector outside the ejector tube and adjacent to each coin tube, levers between each pair of ejector tubes adapted to bear upon the outer friction rollers and to operate two coin ejectors at once, a bell adapted to be rung by the action of each coin-ejecting lever, and a tilting lever pivoted below each coin tube adapted to lock the coin ejector and two indicator tablets for each coin tube with suitable means to lift them through the action of the coin used as a plunger, and means to hold them exposed to view and to drop them from sight, substantially as specified.

71. In a coin delivery machine, a series of tubes adapted to hold coins, a series of tubes arranged in line with these coin tubes adapted to hold coin ejectors for discharging the coins from the coin tubes, a spring about each plunger, a friction roller within each plunger and a lever adapted to move within each ejector tube and bearing on the friction roller, friction rollers on each coin ejector outside the ejector tube and adjacent to each coin tube, levers between each pair of ejector tubes adapted to bear upon the outer friction rollers and to operate two coin ejectors at once, a bell adapted to be rung by the action of each coin-ejecting lever, a tilting lever pivoted below each coin tube adapted to lock the coin ejector, and two indicator tablets for each coin tube with suitable means to lift them through the action of the coin used as a plunger, means to hold them exposed to view and to drop them from sight, and tappet levers and plungers adapted to discharge the coins from the coin-moving levers, substantially as described.

72. In a coin delivery machine, a series of tubes adapted to hold coins, a series of tubes arranged in line with these coin tubes adapted to hold coin ejectors for discharging the coins from the coin tubes, a spring about each plunger, a friction roller within each plunger and a lever adapted to move within each ejector tube bearing on the friction roller, friction rollers on each coin ejector outside the ejector tube and adjacent to

each coin tube, levers between each pair of ejector tubes adapted to bear upon the outer friction rollers and to operate two coin ejectors at once, a bell adapted to be run by the action of each coin-ejecting lever, a tilting lever pivoted below each coin tube adapted to lock the coin ejector and two indicator tablets for each coin tube with suitable means to lift them through the action of the coin used as a plunger, means to hold them exposed to view and to drop them from sight, tappet levers and plungers adapted to discharge the coins from the coin-moving levers, and means for registering the coins discharged from the coin tubes, substantially as specified.

73. In a coin delivery machine, a series of tubes adapted to hold coins, a series of tubes arranged in line with these coin tubes adapted to hold coin ejectors for discharging the coins from the coin tubes, a spring about each plunger, a friction roller within each plunger and a lever adapted to move within each ejector tube bearing on the friction roller, friction rollers on each coin ejector outside the ejector tube and adjacent to each coin tube, levers between each pair of ejector tubes adapted to bear upon the outer friction rollers and to operate two coin ejectors at once, a bell adapted to be rung by the action of each coin-ejecting lever, a tilting lever pivoted below each coin tube adapted to lock the coin ejector and two indicator tablets for each coin tube with suitable means to lift them through the action of the coin used as a plunger, means to hold them exposed to view and to drop them from sight, tappet levers and plungers adapted to discharge the coins from the coin-moving levers, means for registering the coins discharged from the coin tubes, and levers fitted to each indicator rod and adapted to lock and unlock the coin-ejecting levers, substantially as specified.

74. In a coin delivery machine, a series of tubes adapted to hold coins, a series of tubes arranged in line with these coin tubes adapted to hold coin ejectors for discharging the coins from the coin tubes, a spring about each plunger, a friction roller within each plunger and a lever adapted to move within each ejector tube bearing on the friction roller, a friction rollers on each coin ejector outside the ejector tube and adjacent to each coin tube, levers between each pair of ejector tubes adapted to bear upon the outer friction rollers and to operate two coin ejectors at once, a bell adapted to be rung by the action of each coin-ejecting lever, a tilting lever pivoted below each coin tube adapted to lock the coin ejector and two indicator tablets for each coin tube with suitable means to lift them through the action of the coin used as a plunger, means to hold them exposed to view and to drop them

from sight, tappet levers and plungers adapted to discharge the coins from the coin-moving levers, means for registering the coins discharged from the coin tubes, levers fitted to each indicator rod and adapted to lock and unlock the coin-ejecting levers, and a coin chute adapted to retain the coins discharged from the coin tubes and to deliver them at will into a hand operating the discharging mechanism, substantially as specified.

75. In a coin delivery machine, a series of tubes adapted to hold coins, a series of tubes arranged in line with these coin tubes adapted to hold coin ejectors for discharging the coins from the coin tubes, a spring about each plunger, a friction roller within each plunger and a lever adapted to move within each ejector tube bearing on the friction roller, friction rollers on each coin ejector outside the ejector tube and adjacent to each coin tube, levers between each pair of ejector tubes adapted to bear upon the outer friction rollers and to operate two coin ejectors at once, a bell adapted to be rung by the action of each coin-ejecting lever, a tilting lever pivoted below each coin tube adapted to lock the coin ejector and two indicator tablets for each coin tube with suitable means to lift them through the action of the coin used as a plunger, means to hold them exposed to view and to drop them from sight, tappet levers and plungers adapted to discharge the coins from the coin-moving levers, means for registering the coins discharged from the coin tubes, levers fitted to each indicator rod and adapted to lock and unlock the coin-ejecting levers, a coin chute adapted to retain the coins discharged from the coin tubes and to deliver them at will into a hand operating the discharging mechanism, and a chute having a separate compartment for the coins from each coin tube adapted to expose the coins in the chute to the view of the customer through plates of transparent material and to deliver them at will into the hand operating the discharging mechanism, substantially as specified.

76. In a coin delivery machine, a series of tubes adapted to hold coins, a series of tubes arranged in line with these coin tubes adapted to hold coin ejectors for discharging the coins from the coin tubes, a spring about each plunger, a friction roller within each plunger and a lever adapted to move within each ejector tube bearing on the friction roller, friction rollers on each coin ejector outside the ejector tube and adjacent to each coin tube, levers between each pair of ejector tubes adapted to bear upon the outer friction rollers and to operate two coin ejectors at once, a bell adapted to be rung by the action of each coin-ejecting lever, a tilting lever pivoted below each coin tube adapted to lock the coin ejector and two indicator

tablets for each coin tube with suitable means to lift them through the action of the coin used as a plunger, means to hold them exposed to view and to drop them from sight, tappet levers and plungers adapted to discharge the coins from the coin-moving levers, means for registering the coins discharged from the coin tubes, levers fitted to each indicator rod and adapted to lock and unlock the coin-ejecting levers, a coin chute adapted to retain the coins discharged from the coin tubes and to deliver them at will into a hand operating the discharging mechanism, a chute having a separate compartment for the coins from each coin tube adapted to expose the coins in the chute to the view of the customer through plates of transparent material, and a sliding gate adapted to open and close the chute and a delivery tube adapted to operate the gate and to discharge the coins into the hand, substantially as specified.

77. In a coin delivery machine, a series of tubes adapted to hold coins, a series of tubes arranged in line with these coin tubes adapted to hold coin ejectors for discharging the coins from the coin tubes, a spring about each plunger, a friction roller within each plunger and a lever adapted to move within each ejector tube bearing on the friction roller, friction rollers on each coin ejector outside the ejector tube and adjacent to each coin tube, levers between each pair of ejector tubes adapted to bear upon the outer friction rollers and to operate two coin ejectors at once, a bell adapted to be rung by the action of each coin-ejecting lever, a tilting lever pivoted below each coin tube adapted to lock the coin ejector and two indicator tablets for each coin tube with suitable means to lift them through the action of the coin used as a plunger, means to hold them exposed to view and to drop them from sight, tappet levers and plungers adapted to discharge the coins from the coin-moving levers, means for registering the coins discharged from the coin tubes, levers fitted to each indicator rod and adapted to lock and unlock the coin-ejecting levers, a coin chute adapted to retain the coins discharged from the coin tubes and to deliver them at will into a hand operating the discharging mechanism, a chute having a separate compartment for the coins from each coin tube adapted to expose the coins in the chute to the view of the customer through plates of transparent material, a sliding gate adapted to open and close the chute, a delivery tube adapted to operate the gate and to discharge the coins into the hand, and suitable means to drop the indicator cards by the fall of the delivery gate, substantially as described.

78. In a coin delivery machine adapted to hold and to discharge coins by the action of

one mechanical impulse, indicator tablets, suitable means to transmit this impulse through the coin used as a plunger to operate said indicator tablets, a chute, a sliding gate adapted to retain and to deliver 5 coins falling into said chute, combined with a pivoted support adapted to retain the indicator tablets in sight of the customer by means of suitable catches, an arm extending 10 from said support, a rod attached to the arm and connected to a lever adapted to be normally held in a horizontal position, and thus to hold the indicator support in a position to hold the indicator catches when 15 they are lifted up, a lever having one end adapted to lift the horizontal lever, and a catch at the other end adapted to engage with the sliding gate when it has been lifted up and to depress the lever upon the fall of 20 the gate and disengage the indicator support, substantially as described.

79. In a coin-delivery machine, a holder adapted to retain coins, having at its lower end two slots, one for the entrance of a coin ejector and an opposite slot for the passage 25 of the coin from the holder, a coin support adapted to receive the coins discharged from the holder and to display them to the view of the customer, and a coin indicator adapted to display figures to the customer by the 30 action of the coin as it passes from the coin holder and to remove the figures from sight by the impulse which discharges the coins from the coin display support into the cus- 35 tomer's hand.

In testimony whereof I have affixed my signature, in presence of two witnesses.

ANSON K. CROSS.

Witnesses:

T. R. ROULSTONE,
P. W. PEZZETTI.

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