

No. 748,934.

PATENTED JAN. 5, 1904.

J. E. DOLDT.  
MACHINE FOR OPERATING UPON COINS.

APPLICATION FILED MAR. 12, 1903.

NO MODEL.

4 SHEETS—SHEET 1.

FIG. 1.

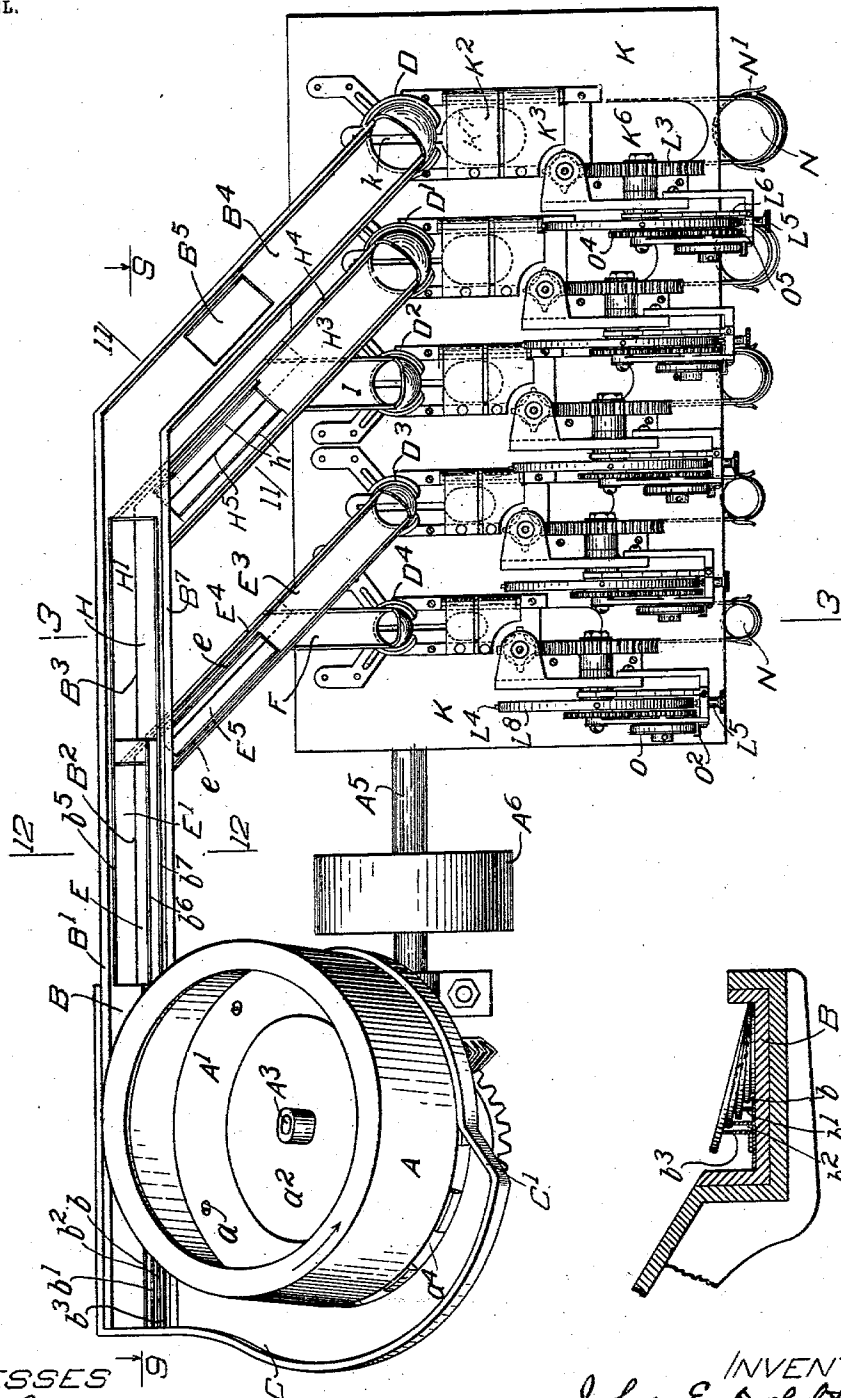


FIG. 10.

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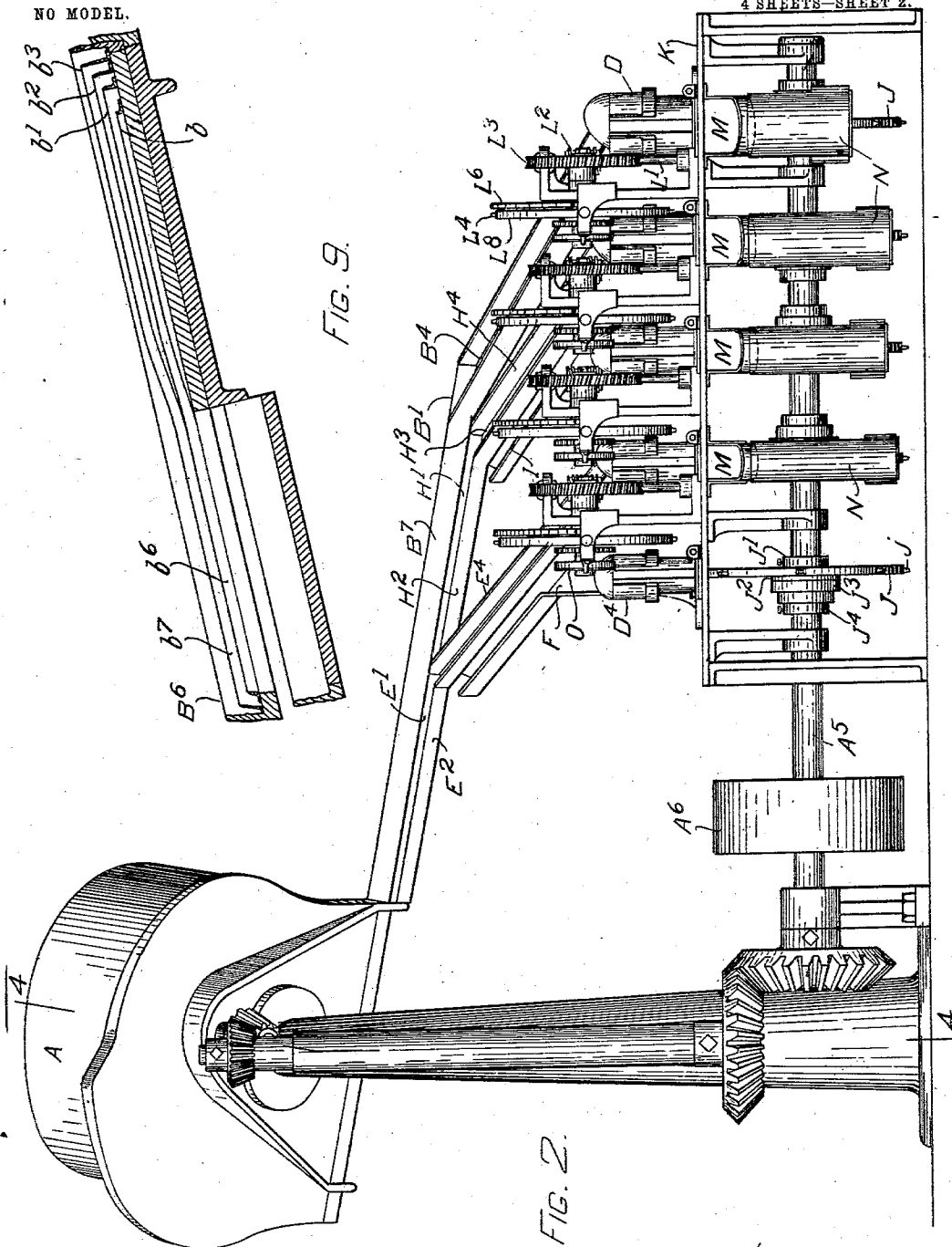
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4 SHEETS—SHEET 2.

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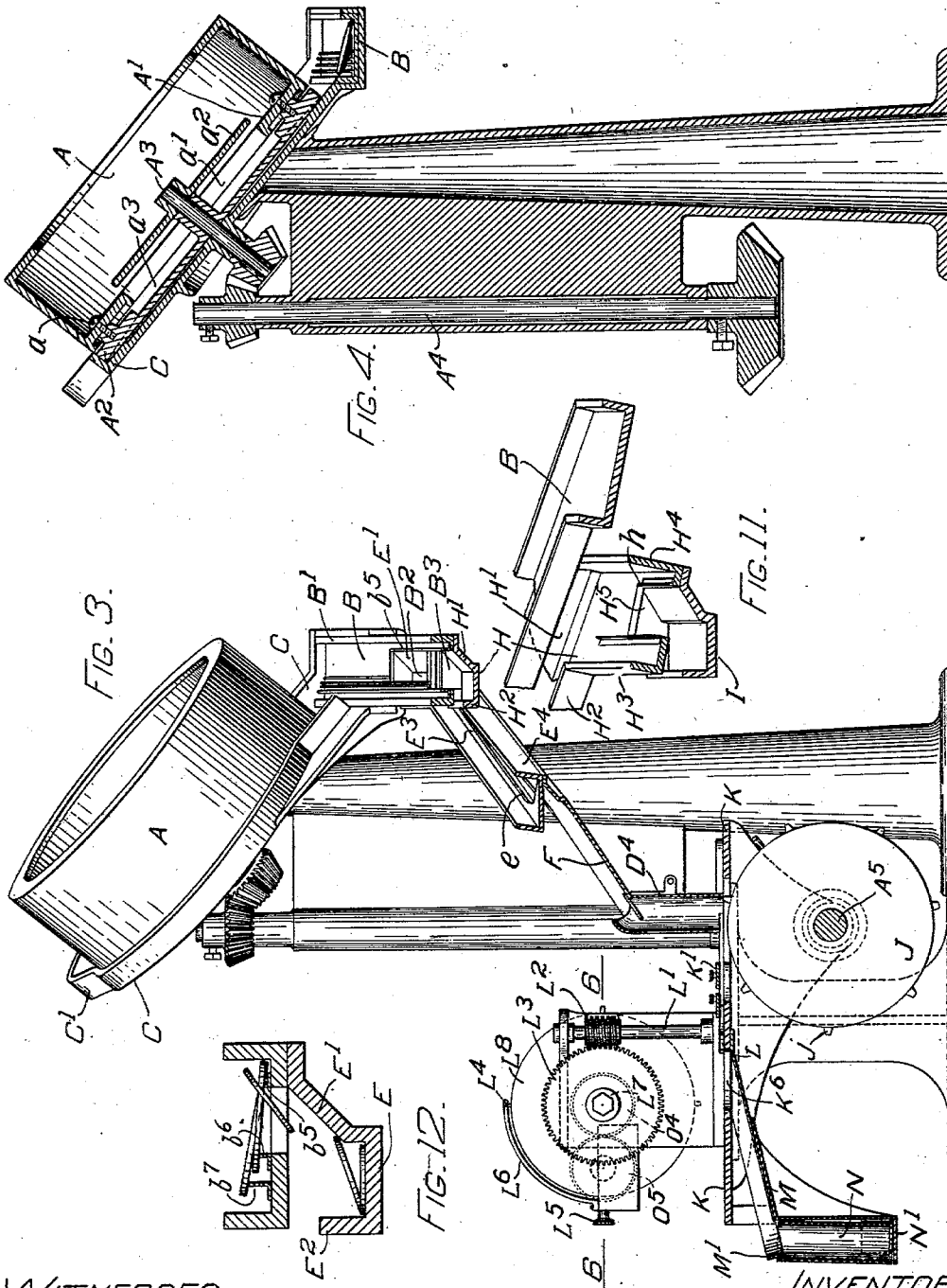
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4 SHEETS—SHEET 4.

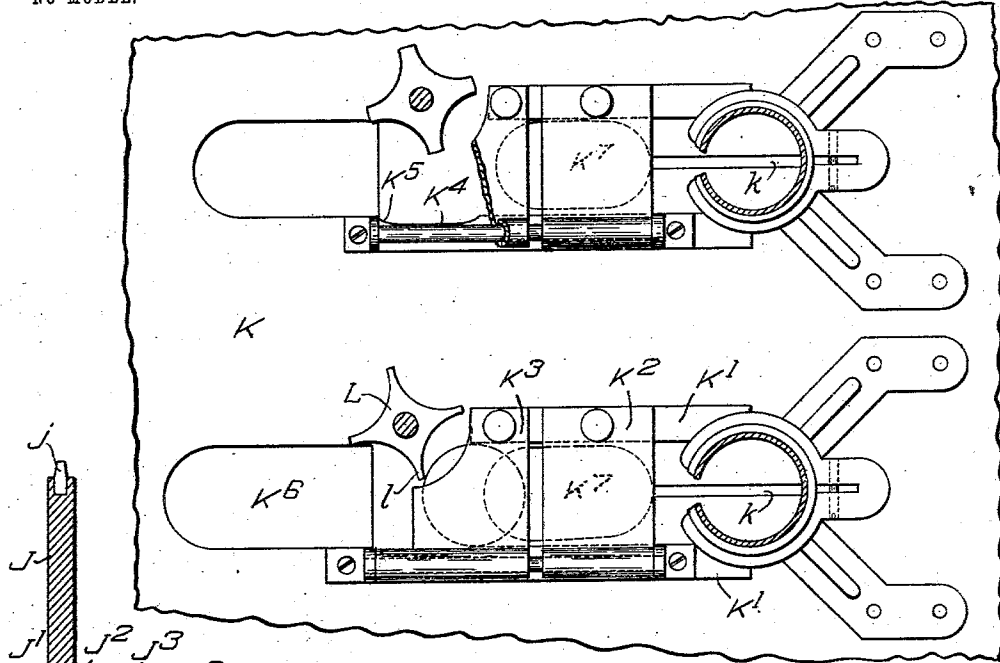


FIG. 5.

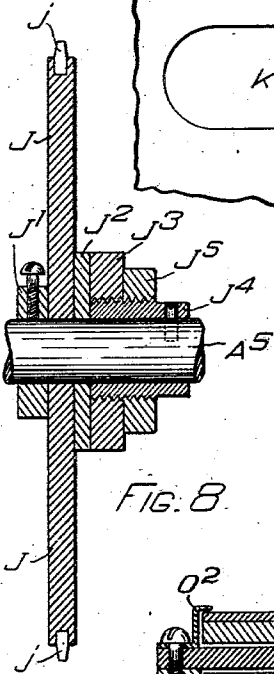


FIG. 8.

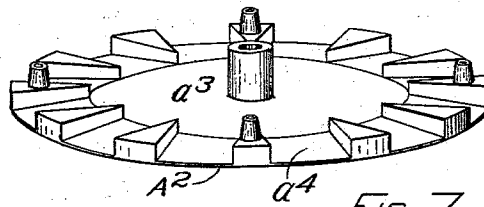


FIG. 7.

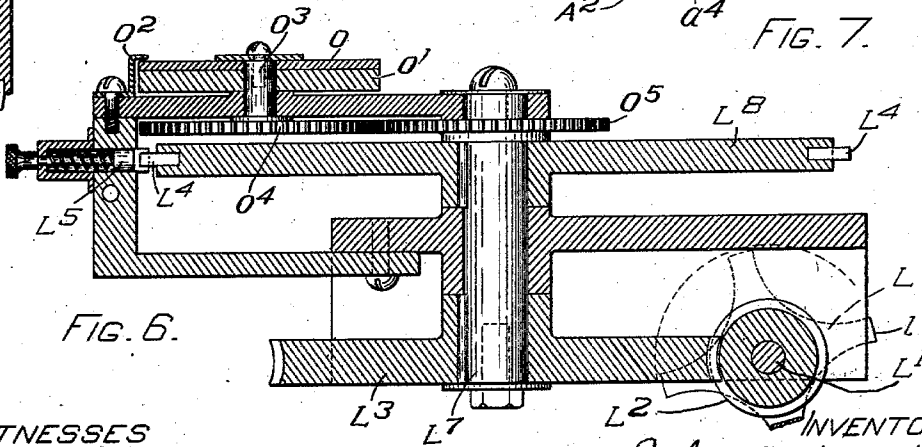


FIG. 6.

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# UNITED STATES PATENT OFFICE.

JOHN E. DOLDT, OF PORTLAND, MAINE.

## MACHINE FOR OPERATING UPON COINS.

**SPECIFICATION** forming part of Letters Patent No. 748,934, dated January 5, 1904.

Application filed March 12, 1903. Serial No. 147,426. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN E. DOLDT, of Portland, in the county of Cumberland and State of Maine, have invented certain new and useful Improvements in Machines for Operating Upon Coins, of which the following is a specification.

The features of the invention relate to a machine by which coins of different denominations may be quickly and accurately separated and distributed and a predetermined number of coins of each denomination delivered into a receptacle or package.

Certain features of the invention relate more especially to the mechanism for separating the coins of each denomination from those of the other denominations and directing them into the appropriate magazine or containing-tube. Certain other features relate to the mechanism for counting the coins of each denomination and delivering a certain number from the magazine into a receptacle or package.

In a machine embodying all the features of the invention the coins are placed in a revolving hopper, by which they are directed in succession into an inclined chute, down which they slide one in advance of the other. As the coins pass down the chute all of the coins except those of the largest denomination fall through openings in the chute, thus separating the largest coins from the others. The coins which pass through the openings in the primary chute slide down secondary chutes, by which the separation is continued. Each chute leads to a coin-receiving tube, into which those coins which continue down that chute are delivered. These tubes form magazines in which the coins collect and from which they are removed one by one and delivered into receptacles until a certain number have been delivered, according to the amount to be contained in each package of coins. In the drawings I have shown such a machine adapted for coins of five denominations, in which I have embodied the various features of my invention in the forms in which I prefer to employ them.

In the drawings, Figure 1 is a plan view of the machine. Fig. 2 is a front elevation. Fig. 3 is a vertical section on line 3 3, Fig. 1, looking to the left. Fig. 4 is a section on line

4 4, Fig. 2. Fig. 5 is a detail plan view of a part of the counting mechanism. Fig. 6 is an enlarged sectional view of part of the counting mechanism. Fig. 7 is a detail of the distributing-plate of the hopper. Fig. 8 is a sectional view of a coin-feeding disk. Fig. 9, Sheet 2, is a sectional detail on line 9 9, Fig. 1, looking in the direction of the arrows. Fig. 10, Sheet 1, is a cross-section through the receiving end of the primary chute. Fig. 11, Sheet 3, is a section on line 11 11 of Fig. 1 looking to the left. Fig. 12, Sheet 3, is a section on line 12 12, Fig. 1, looking to the left.

The machine shown is intended for separating, distributing, and counting coins ranging from a penny to a half-dollar, including pennies, nickels, dimes, quarters, and halves. The coins to be separated and distributed are dumped into the cylindrical part A of a revolving hopper, which is arranged on an incline, so that the coins tend to remain in the lower side of the hopper. The coins rest with the flat sides against the flange A' at the bottom of the cylinder A and are carried up the inclined bottom by projections in the form of screw-heads *a*. After a coin has been carried part way up with the rotation of the hopper it will slide radially inward off of the carrying projection *a* and drop through a central opening *a'* in the bottom of the hopper. A plate *a*<sup>2</sup> is arranged over this opening at sufficient distance above the flange A' to allow the thickest coins to pass under. This plate prevents the coins falling through the opening until carried up by the carriers *a* and also acts as a guard-plate to insure proper passage of the coins through the opening. The coins as they fall through the opening *a'* drop into the central recess *a*<sup>3</sup> of a distributing-plate A<sup>2</sup>, arranged beneath the opening and having radial passages *a*<sup>4</sup>, leading from the recess *a*<sup>3</sup>, Fig. 7. These passages are wide enough for the half-dollars, but are not of sufficient width to allow two of the smallest coins (the dimes) to pass through side by side. The coins slide out through the radial passages as the hopper revolves and pass into the receiving end of an inclined chute B. By the action of the devices described the coins are separated from the mass of coins in the hopper and are delivered sub-

stantially in succession into the chute B. It may happen, however, that some of the coins overlap each other more or less, so that one coin tends to ride down the chute B partially on top of another. To avoid this as far as possible, I provide the receiving end of the chute B with a series of supports  $b$ ,  $b'$ ,  $b^2$ ,  $b^3$ , extending longitudinally of the chute and arranged to support the coins of different sizes at different angles. As the coins slide into the chute they come against the rear side  $B'$  of the chute, and they slide down the chute in engagement therewith. The dimes lie flat on the bottom of the chute, Fig. 10, the pennies ride on support  $b$ , the nickels on support  $b'$ , the quarters on support  $b^2$ , and the halves on support  $b^3$ . By thus supporting the coins at different angles the smaller coins are less liable to ride on the larger coins as they pass down the chute. More than one size of coin may ride on the same support, thus reducing the number used; but I get the best results by providing supports which cause coins of each size to assume an angle different from the coins of each of the other sizes as they are delivered into the chute. The receiving part A of the hopper is secured to the distributing-plate  $A^2$ , and this plate and plate  $a^2$  are secured to a shaft  $A^3$ , geared to a vertical shaft  $A^4$ , which is in turn geared to the driving-shaft  $A^5$ . The plate  $A^2$  revolves above an inclined supporting-plate C, the rear lower edge of which delivers into the chute B. On the upper side of the hopper the plate C extends beyond the outer edge of the distributing-plate  $A^2$ , so that any coin which may be carried around in the delivery-passages  $a^4$  and projecting beyond the edge of the plate may be carried up with the rotation of the hopper and will either fall back into the recess  $a^3$  or be forced back into the passage  $a^4$  by a cam-shaped flange  $C'$  on the plate C, Fig. 1. As the coins slide down the chute B in succession, with one edge against the rear side  $B'$ , all of the coins except the half-dollars fall through either an opening  $B^2$  or an opening  $B^3$  in the bottom of the chute. The half-dollars continue down the chute B into a forwardly-extending extension  $B^4$ , which delivers them into a receiving-tube D. The opening  $B^2$  extends for some distance longitudinally of the main chute B, and the front edge of the opening is arranged at a distance from the rear side  $B'$  greater than the diameter of a penny, but less than the diameter of a nickel. The opening  $B^3$  is of similar shape and is so arranged that its front edge is at a distance from the rear side  $B'$  greater than the diameter of a quarter of a dollar, but less than the diameter of a half-dollar. When the pennies and dimes reach the opening  $B^2$ , they fall through, since they are supported only near the rear side, as indicated in Fig. 12. At the rear side of the opening  $B^2$  is a rib  $b^5$ , onto which the rear side of the coins ride, and this rib also tends to

tip the pennies and dimes and adds to their tendency to fall through the opening. The supports  $b$ ,  $b'$ ,  $b^2$ , and  $b^3$  not only support the coins at different angles, but they also form confining-guides for limiting the lateral movement of the coins away from the guiding side  $B'$  of the chute, the support for one size coin forming the confining-guide for the next smaller-sized coin. The rib  $b'$  extends down along the front side of the opening  $B^2$  and forms a confining-guide  $b^6$  for the pennies and dimes as they come over the opening and prevents forward movement of these coins. Thus these coins are all surely guided, so that the rear side is supported, and they will all fall through the opening in the same manner by tipping about the rear edge, as indicated in Fig. 12. The rib  $b^3$  also extends down the chute along the front side of the opening  $B^2$  and along the front edge of the opening  $B^3$  and forms a confining-guide  $b^7$  for the nickels and quarters. The front side  $B^7$  of the chute forms the confining-guide for the halves. The coins which fall through opening  $B^2$  are directed by an inclined plate  $E'$  against the front side  $E^2$  of an inclined chute E. The width of the receiving end of the chute is such that the dimes lie flat in the chute, while the pennies are supported at one side on the plate  $E'$ , Fig. 12, so that the coins are supported at different angles. The chute E is provided with a forwardly-extending extension  $E^3$ , down which the coins slide, with one edge against the rear side  $E^4$  of the chute. There is an opening  $E^5$  in the chute similar to the opening  $B^2$ , so arranged that the dimes fall through into a chute F, while the pennies continue down the chute  $E$  and are delivered into a receiving-tube  $D^3$ . The dimes which fall into the chute F are delivered by said chute into a receiving-tube  $D^4$ . Supporting-ribs  $e$  extend along each side of the opening  $E^5$  and lift the pennies as they pass over the opening and also lift the rear side of the dimes. This lifting of the coins tends to separate any coins which may be overlapping each other and contributes to the effective separation of the coins of different denominations. The front rib  $e$  also forms a confining-guide for the dimes, which prevents sufficient movement away from the guiding side  $E^4$  to carry the rear side of the coin off of the rear rib  $e$ . The quarters and nickels which pass over the opening  $B^2$  fall through the opening  $B^3$  into a chute H, similar to chute E, Fig. 1. These coins are supported at different angles in the receiving end of the chute, the nickels lying flat in the chute and the quarters resting on the plate  $H'$  and against the side  $H^2$  of the chute. The coins pass down the extension  $H^3$  of the chute, resting against the side  $H^4$ , and the nickels fall through an opening  $H^5$ , while the quarters continue down and are delivered into the receiving-tube  $D'$ . The nickels fall into a chute I and are delivered into a receiving-

tube D<sup>2</sup>. There are ribs *h* on the sides of the opening H<sup>5</sup> similar to ribs *e* in chute E<sup>3</sup> and act in a similar manner.

The chute B is provided with an opening B<sup>5</sup>, arranged beyond the openings B<sup>2</sup> and B<sup>3</sup> and so arranged that any coin smaller than a half-dollar may fall through in case any such coins have been carried over the openings B<sup>2</sup> and B<sup>3</sup>. The other chutes may also be provided with similar openings to allow any coins smaller than those which should be delivered by the chute to fall through.

By the devices described the coins are separated and distributed, the coins of different denominations being delivered at different points. I have provided the main chute with two openings of different width and have proportioned these openings, so that two sizes of coins fall through each opening and have then separated these two sizes by an opening in a supplemental chute. This results in a compact and simple arrangement, but is not essential. If desired, the main chute could be provided with successive openings for each size of coin to fall through; but this would require a longer chute and would not act in as efficient a manner.

The coins which are delivered into the receiving-tubes are automatically removed, counted, and collected in packages containing a predetermined number of coins varying with the denomination. The devices for performing these operations on the coins of each denomination are similar in construction and operation, and only one set of such devices will be described.

The coins are removed one by one from the bottom of the tube into which they are delivered and which forms a magazine for the coins. The means which I employ for this purpose consists of a feeding-finger which removes the bottom coin from the pile by pushing it forward from beneath the pile. The front of the tube is cut away to form a delivery-opening of a height to allow the passage of but a single coin. This delivery-opening opens into a guideway, along which the coins are fed by the feeding-finger and by which they are directed into inclined chutes leading to receptacles or packaging-tubes. As the coins are fed along the guideway each coin acts upon a counting mechanism, which causes the feed of coins to be arrested when a predetermined number have been fed through the guideway. In the machine which I have shown there are a series of feeding-fingers *j*, which act successively, and these fingers are mounted on a disk J, from which they project radially, Fig. 3. The plate K, which forms the bottom of the magazine-tube and also the bottom of the guideway leading therefrom, is slotted at *k* for the passage of the feeding-fingers, Figs. 3 and 5. The disk J is carried by the driving-shaft A<sup>5</sup>, and the fingers pass up through the slot in the plate K as the disk revolves and engage the rear edge of the bottom coin, carrying it forward out of

the magazine. The coin is guided in its forward movement between guide-rails K', secured to the upper surface of the plate K. Each feeding-finger pushes a coin forward between the guide-rails and under a retaining-plate K<sup>2</sup>. This plate is pivoted at one side of the guideway and rests on top of the coin, keeping it on the plate K. The succeeding coin when pushed forward by a feeding-finger pushes this coin forward under a second plate K<sup>3</sup>, similar to plate K<sup>2</sup>. Thus each coin in the guideway is retained on the bottom of the guideway as the series of coins in the guideway are pushed forward even when succeeding coins have been unequally worn and are of different thickness. This insures the proper feed of the coins and avoids danger of one coin crowding under or over the preceding coin. During the succeeding forward movement of the coins in the guideway the coin which is under plate K<sup>3</sup> acts upon one of the points *l* of a star-wheel L. This wheel operates the counting mechanism and is arranged at the side of the guideway, with one of its points extending transversely of the guideway. In order that the points of the star-wheel may project into position to be effectively acted on by the coins and the wheel be turned sufficiently to bring the next point into this position and at the same time allow the shaft of the wheel to be arranged close to the guideway, I form an offset K<sup>4</sup> in the guideway, which allows the coin to move laterally as it passes the star-wheel. This offset is formed by providing the rail K' opposite the star-wheel with a lateral curve. The front face K<sup>5</sup> of this offset forms a cam for forcing the coin laterally toward the star-wheel after the coin has passed the center of the wheel, thus increasing the movement given to the wheel and bringing the succeeding point *l* well across the path of the succeeding coin. As the coin passes the star-wheel it passes over the edge of an opening K<sup>6</sup> in the plate K and falls into an inclined guide-chute M. The coin slides down the chute M and falls into a tube N, arranged at the end of the chute. The tube N may be a paper tube, which forms the package for the coins, or may be a receptacle from which the coins are taken and wrapped in a package. The tube N is held in a holder N', from which it may be readily removed and replaced by an empty tube. This holder may be constructed to spring to allow the removal of the tube and to force the tube up against the chute when the tube is in place. The upper end of the tube partially surrounds a curved nose M' at the end of the chute M, which fits within the tube N and holds it in place and also forms a curved stop for stopping the coins, so that they fall properly into the tube N. When a predetermined number of coins have been fed to the tube N, (the number depending upon the value of the coins and the amount to be contained in each package of coins,) the feed of the coins is arrested and the tube N

removed and an empty tube applied to the end of the chute. The mechanism for causing the feed of the coins to be arrested is the mechanism which I have referred to as the "counting" mechanism and is operated by the star-wheel L, Figs. 3 and 6. The star-wheel is secured to a vertical shaft L', which carries a worm L<sup>2</sup>. This worm engages and drives a worm-wheel L<sup>3</sup>, secured to a shaft L<sup>7</sup>, carrying a disk L<sup>8</sup>, which is provided with one or more projections L<sup>4</sup>, there being four such projections on the disk shown. The worm and worm-wheel are so proportioned that a predetermined number of movements of the star-wheel, corresponding to the number of coins to be contained in each package, will turn the worm-wheel a quarter of a revolution. A stop is arranged in the path of projections L<sup>4</sup> and consists of a spring-pressed pin L<sup>5</sup>, which normally projects into the path of the projections L<sup>4</sup>, but which may be drawn back to allow the projections to pass and will return to normal position when released. When a projection L<sup>4</sup> engages the stop L<sup>5</sup>, further rotation of the worm-wheel is prevented, and consequently rotation of the star-wheel L is also prevented. This arrests the feed of the coins through the guideway until the stop is removed from the path of the engaging projection L<sup>4</sup>. A scale L<sup>6</sup> may be arranged adjacent to the path of the projections L<sup>4</sup> and graduated to indicate the number of movements given to the worm-wheel in making a quarter of a revolution. The position of the projection L<sup>4</sup> on the scale will therefore indicate the number of coins which have been fed to the tube N at any time.

In order that the arrest of the feed of coins of one denomination may not affect the feed of the coins of other denominations each coin-feeding means is adapted to be operated independently of the others. This is accomplished in the mechanism shown by providing a frictional connection between each disk J and the driving-shaft A<sup>5</sup>, which allows the shaft to continue its rotation after the rotation of any disk has been arrested. Such a connection is shown in Fig. 8. The disk J is loose on the shaft A<sup>5</sup> and is held between a collar J' and a friction-disk J<sup>2</sup>. The disk J<sup>2</sup> is forced against the disk J by a nut J<sup>3</sup>, mounted on a collar J<sup>4</sup>, which is secured to shaft A<sup>5</sup>, and the nut J<sup>3</sup> is held in adjusted position by a locking-nut J<sup>5</sup>.

The counting mechanism may be provided with a registering device from which the number of packages of coins taken from the machine may be determined. As shown, Fig. 6, this device consists of a scale-plate O, frictionally held on a disk O' and cooperating with an indicating-finger O<sup>2</sup>. The disk O' is secured to a shaft O<sup>3</sup>, which is connected by gears O<sup>4</sup> O<sup>5</sup> with the shaft L<sup>7</sup>. The gears O<sup>4</sup> O<sup>5</sup> are so proportioned that there is one more revolution of the shaft L<sup>7</sup>, therefore, the disk O' and plate O will advance the distance of

one graduation with relation to the finger O<sup>2</sup>. On starting the disk O may be set with the finger at the zero-mark, when one of the projections L<sup>4</sup> is against the stop L<sup>5</sup>. Then by reading the indication on the plate O at any time when the same projection L<sup>4</sup> is against the stop the number of packages of coins of the corresponding denomination which have passed through the machine may be ascertained.

To insure the assembling of coins of like size and denomination, so that the machine may be relied upon to assemble only coins of the proper size and denomination, the devices for assembling the coins from the magazines are provided with means for rejecting such coins as have been improperly distributed by the assorting devices. This means in the machine shown consists of openings K<sup>7</sup>, formed in the bottoms of the guideways through which the coins are fed. These openings are shaped to allow any coin of smaller size than the coins which should be in the guideway to fall through. These openings are located in advance of the counting mechanisms, so that only coins of the proper size pass the counting mechanism and are assembled ready for packaging. Thus any inaccuracy in the assorting is rectified before the counting and assembling is completed and only coins of like size are counted and assembled.

The machine may be operated by a pulley A<sup>6</sup>, applied to the shaft A<sup>5</sup>, or may be manually operated.

The coins in mass are thrown into the hopper, and by the operation of the machine the coins of different denominations are assorted and the coins of each denomination assembled into lots or packages containing a definite number of coins. While the machine which I have shown performs all these operations automatically, it will be understood that various features of the invention may be embodied with advantage in machines in which only a part of these operations are performed.

What I claim, and desire to secure by Letters Patent, is—

1. A machine for operating upon coins having in combination means for assorting coins of different sizes, means for separating coins of the same size and assembling the same, and means for arresting the separation when a predetermined number of coins have been assembled, substantially as described.

2. A machine for operating upon coins having in combination, means for assorting coins of different sizes, and means for delivering the coins of each size and means for arresting the delivery of the coins of a size after a predetermined number have been delivered, substantially as described.

3. A machine for operating upon coins having in combination, means for separating coins from a mass and delivering them in succession, means for assorting said coins, and

means for separating a predetermined number of coins of the same size and assembling the same, substantially as described.

4. A machine for operating upon coins having in combination, means for separating coins from a mass and delivering them in succession, means for assorting said coins, means for delivering the coins of each size and means for arresting the delivery of the coins of a size after a predetermined number have been delivered, substantially as described.

5. A machine for operating upon coins having in combination, an inclined hopper, carriers for carrying the coins up the inclined bottom of the hopper, and a central opening through which the coins fall, substantially as described.

6. A machine for operating upon coins having in combination, a rotary inclined hopper, carriers for carrying the coins up the inclined bottom of the hopper, a central opening through which the coins fall and a distributing-plate below said opening for delivering said coins in succession, substantially as described.

7. A machine for operating upon coins having in combination, a rotary inclined hopper, carriers for carrying the coins up the inclined bottom of the hopper, a central opening through which the coins fall, and a plate covering said opening and arranged above the bottom of the hopper, substantially as described.

8. A machine for operating upon coins having in combination, a rotary inclined hopper, carriers for carrying the coins up the inclined bottom of the hopper, a central opening in the bottom of the hopper through which the coins fall, a distributing-plate below said opening having radial distributing-passages, substantially as described.

9. A machine for operating upon coins having in combination a rotary inclined distributing-plate provided with a central recess and radial distributing-passages for the coins, and a stationary cam for acting on a coin projecting from said radial passages, substantially as described.

10. A machine for operating upon coins having in combination, devices for separating coins from a mass and delivering them in succession, an inclined plate over which the coins are delivered, an inclined chute at the side of the plate and means for causing the coins to assume different angles as they are delivered laterally into the chute, substantially as described.

11. A machine for operating on coins having in combination an inclined chute B provided with openings B<sup>2</sup>, B<sup>3</sup>, chute E below opening B<sup>2</sup> provided with an opening E<sup>5</sup>, a chute H below opening B<sup>3</sup> provided with an opening H<sup>5</sup>, chutes F and I below the openings E<sup>5</sup>, H<sup>5</sup>, respectively and a series of receiving-tubes at the ends of said chutes, substantially as described.

12. A machine for operating upon coins

having in combination, a series of receivers for coins of different sizes, means for assorting coins and distributing them to said receivers, means for separating coins from said receivers and assembling the coins from each receiver, and means for arresting the separation of coins from a receiver after a predetermined number of coins have been assembled, substantially as described.

13. A machine for operating upon coins having in combination, a series of receivers for coins of different sizes, means for assorting coins and distributing them to said receivers, a series of coin-receptacles, means for transferring coins from each receiver to the corresponding receptacle, and means for arresting the transfer when a predetermined number of coins have been transferred, substantially as described.

14. A machine for operating upon coins having in combination, a series of magazines for coins of different sizes, a corresponding series of coin-receptacles, means for transferring coins from each receiver to a corresponding receptacle, and means for arresting the transfer when a predetermined number of coins have been transferred, substantially as described.

15. A machine for operating upon coins having an inclined chute provided with a guiding side against which the coins rest as they pass down the chute, successive openings in the bottom of the chute extending longitudinally thereof each opening arranged to allow coins of two sizes to drop through, chutes below said opening provided with openings in their bottoms to allow one size of coins to drop through, and chutes under said openings, substantially as described.

16. A machine for operating upon coins having in combination, an inclined chute provided with a guiding side against which the coins rest as they pass down the chute, an opening in the bottom of the chute extending longitudinally thereof and of a width to allow two sizes of coins to drop through, an inclined plate below said opening, and a chute at the side of said plate the width of which is less than the diameter of one size of coins, substantially as described.

17. A machine for operating upon coins having an inclined chute provided with a guiding side against which the coins rest as they pass down the chute, an opening in the bottom of the chute extending longitudinally thereof, and a supporting-rib along the side of the opening adjacent to the guiding side of the chute, whereby the coins are lifted at the side adjacent to the guiding side of the chute as they pass over the opening, substantially as described.

18. A machine for operating upon coins having in combination a series of magazines for coins of different sizes, means for separating and distributing coins to said magazines, means for feeding coins successively from said magazines, and means for arresting

the feed from a magazine after a predetermined number of coins have been fed therefrom, substantially as described.

19. A machine for operating upon coins having in combination a series of magazines for coins of different sizes, a feeding mechanism for each magazine for feeding coins successively from the magazine, means for operating said feeding mechanisms independently of each other and means for arresting the operation of any feeding mechanism after a predetermined number of coins have been fed from said magazine, substantially as described.

20. A machine for operating upon coins having in combination, a magazine for coins, a delivery-opening at the bottom of the magazine, a guideway for the coins, feeding-fingers for pushing the coins forward and a counting mechanism operated by the coins in the guideway for arresting the feed of the coins, substantially as described.

21. A machine for operating upon coins having in combination, a guideway for the coins, means for feeding the coins through the guideway, a counting mechanism provided with a star-wheel projecting across the guideway, an offset in the side of the guideway opposite the star-wheel which allows the coin to move laterally as it passes the center of the wheel and then moves said coin laterally toward the wheel, substantially as described.

22. A machine for operating upon coins having in combination a guideway along which the coins are fed, a chute at the end of the guideway, a tube-holder at the end of the chute and a counting mechanism for arresting the feed of the coins after a predetermined number have been fed, substantially as described.

23. A machine for operating upon coins having in combination a guideway, means for pushing a series of coins along the guideway, two retaining-plates arranged to rest independently upon successive coins, substantially as described.

24. A machine for operating upon coins having in combination a magazine for coins, a delivery-opening at the bottom of the magazine, a guideway for the coins, and a series of feeding-fingers for acting on the bottom coin in the magazine and pushing it forward, and a counting mechanism for arresting the feed after a predetermined number of coins have been fed, substantially as described.

25. A machine for operating upon coins having in combination a series of magazines for coins of different sizes, a series of frictionally-driven disks having feeding-fingers for pushing forward the bottom coins in the magazines, and a series of counting mechanism operated by the coins pushed forward by the feeding-fingers for arresting the feed of the coins from each of the magazines, whereby

the feed from one magazine is arrested without arresting the feed from the others, substantially as described.

26. A machine for operating upon coins having in combination, a magazine-tube for holding a pile of superposed coins, devices for separating coins in succession from the pile, and means for assembling the coins of proper size and rejecting coins of smaller size, substantially as described.

27. A machine for operating upon coins having in combination, a magazine-tube for holding a pile of superposed coins, a guideway, devices for separating individual coins from the coins in the magazine and forwarding them along the guideway, and an opening in the guideway for rejecting coins of small size, substantially as described.

28. A machine for operating upon coins having in combination, a magazine-tube for holding a pile of superposed coins, a guideway, devices for separating individual coins from the coins in the magazine and forwarding them along the guideway, and counting mechanism operated by the coins as they pass through the guideway, and an opening in the guideway in advance of the counting mechanism for rejecting coins of small size, substantially as described.

29. A machine for operating upon coins having in combination, devices for assorting coins of different sizes, devices for assembling predetermined numbers of coins of like size distributed by the assorting devices, and rejecting coins improperly distributed by the assorting devices, substantially as described.

30. A machine for operating upon coins having in combination, means for separating coins from a mass and delivering them in succession, devices for assorting said coins, devices for assembling predetermined numbers of coins of like size distributed by the assorting devices, and rejecting coins improperly distributed, substantially as described.

31. A machine for operating on coins having in combination a magazine for coins, devices for assembling a predetermined number of coins of like size from the magazine and rejecting coins of a smaller size, substantially as described.

32. A machine for operating upon coins having in combination, a series of magazines for coins of different sizes, devices for assorting coins and distributing them to said magazines, devices for assembling predetermined numbers of coins from each magazine and rejecting the coins improperly distributed by the assorting devices, substantially as described.

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

JOHN E. DOLDT.

Witnesses:

IRA L. FISH,

KATHARINE A. DUGAN.