

May 31, 1966

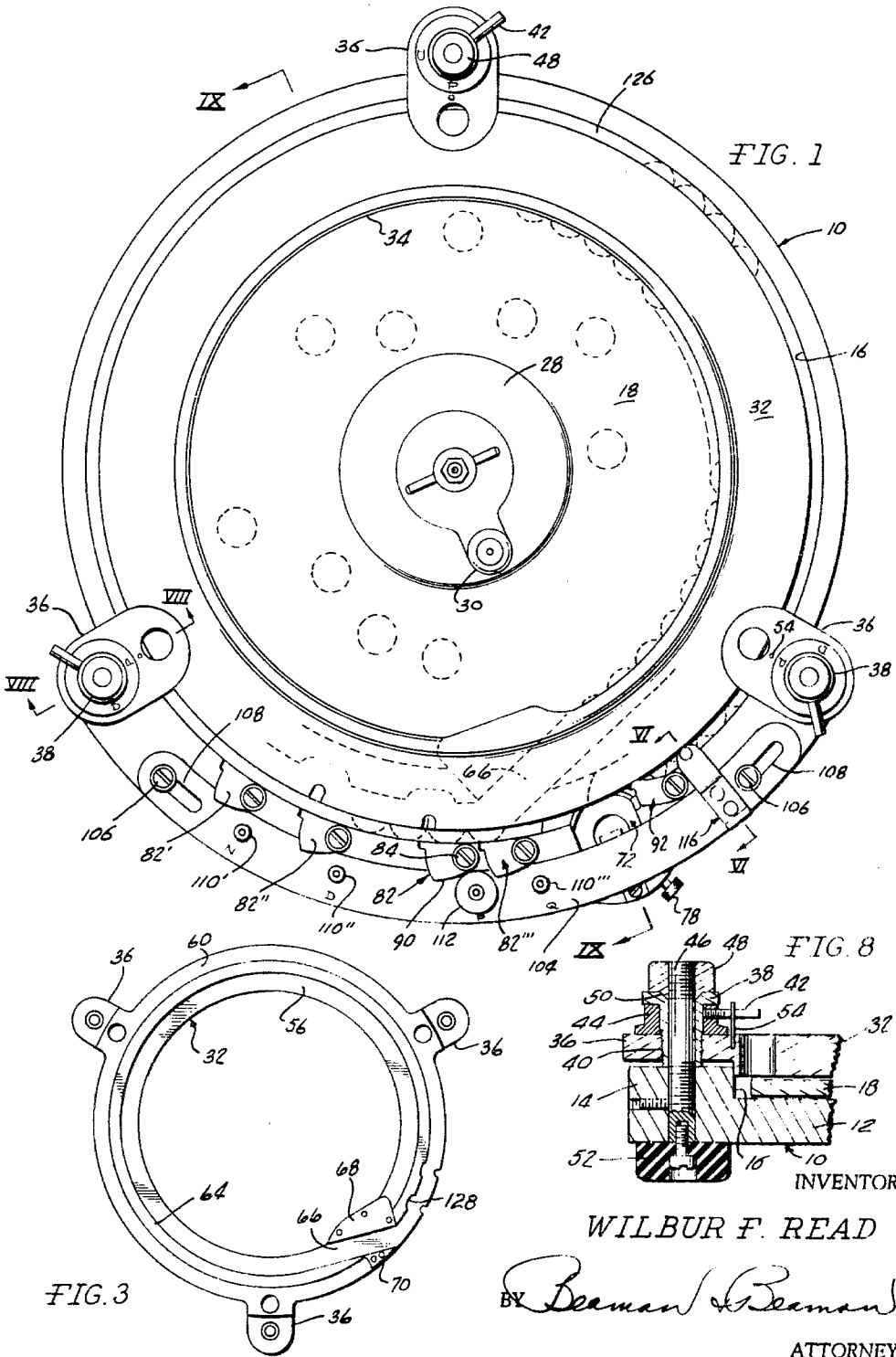
W. F. READ

3,253,604

COIN PACKAGING APPARATUS

Filed Aug. 26, 1964

3 Sheets-Sheet 1



WILBUR F. READ

BY *Beaman & Beaman*

ATTORNEYS

May 31, 1966

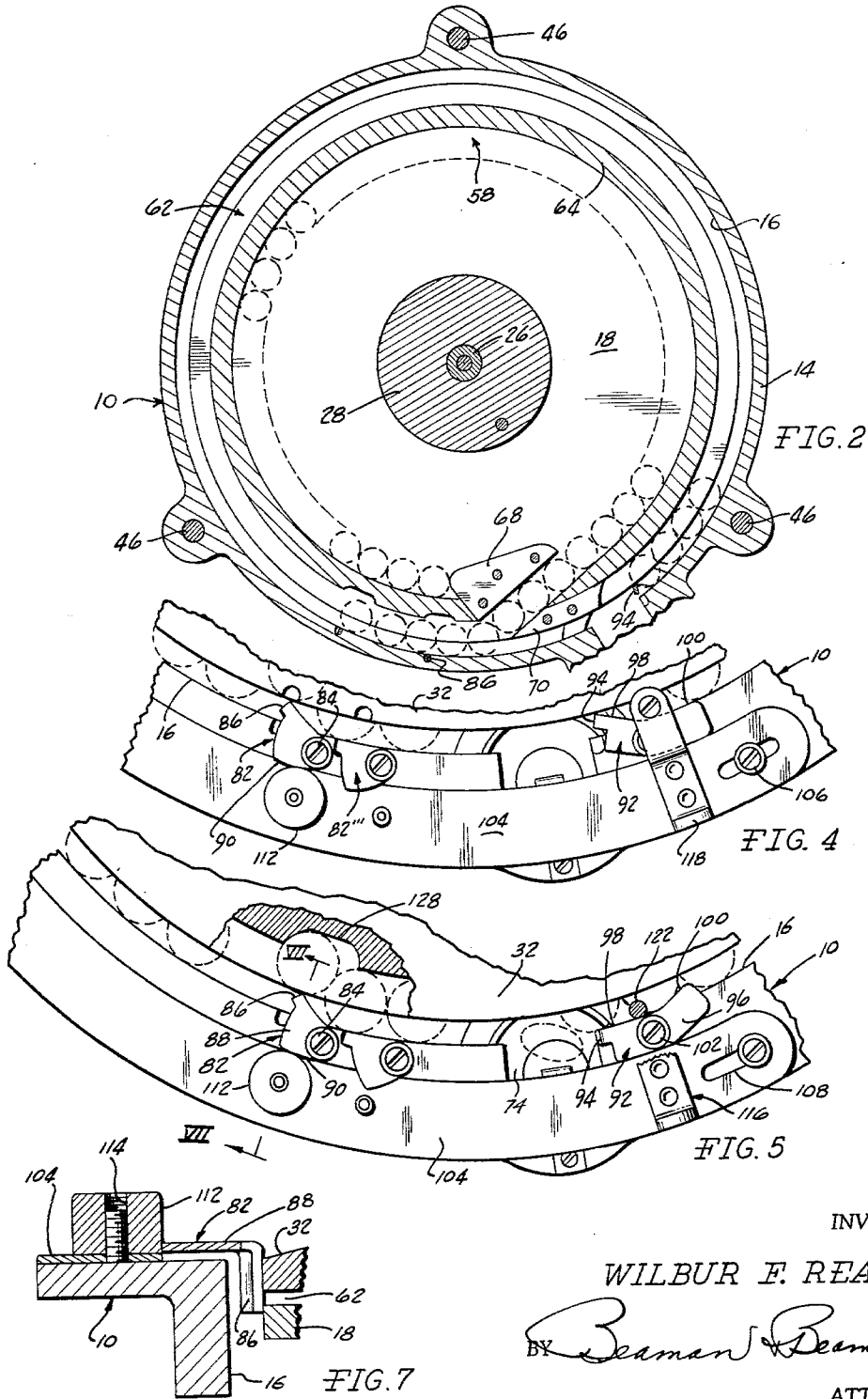
W. F. READ

3,253,604

COIN PACKAGING APPARATUS

Filed Aug. 26, 1964

3 Sheets-Sheet 2



INVENTOR

WILBUR F. READ

BY *Beaman Beaman*

ATTORNEYS

May 31, 1966

W. F. READ

3,253,604

COIN PACKAGING APPARATUS

Filed Aug. 26, 1964

3 Sheets-Sheet 3

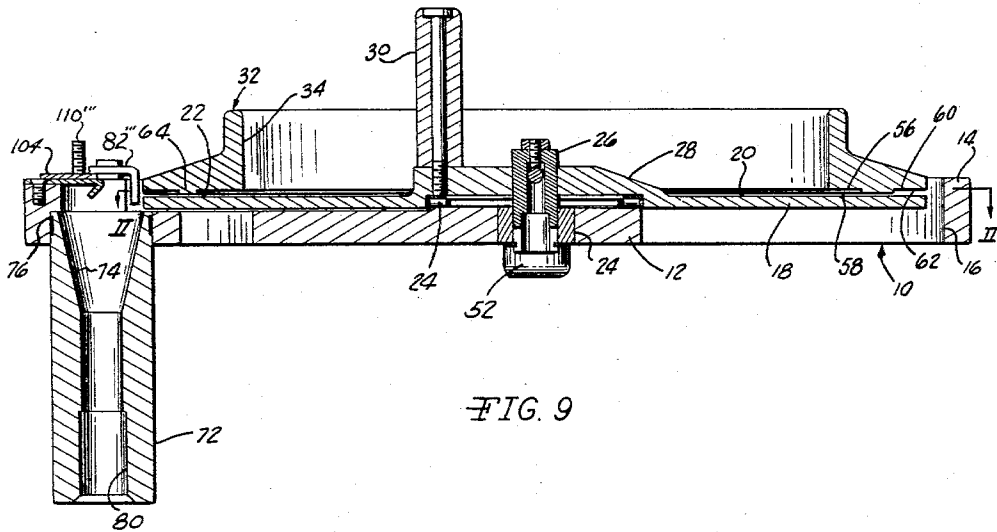


FIG. 9

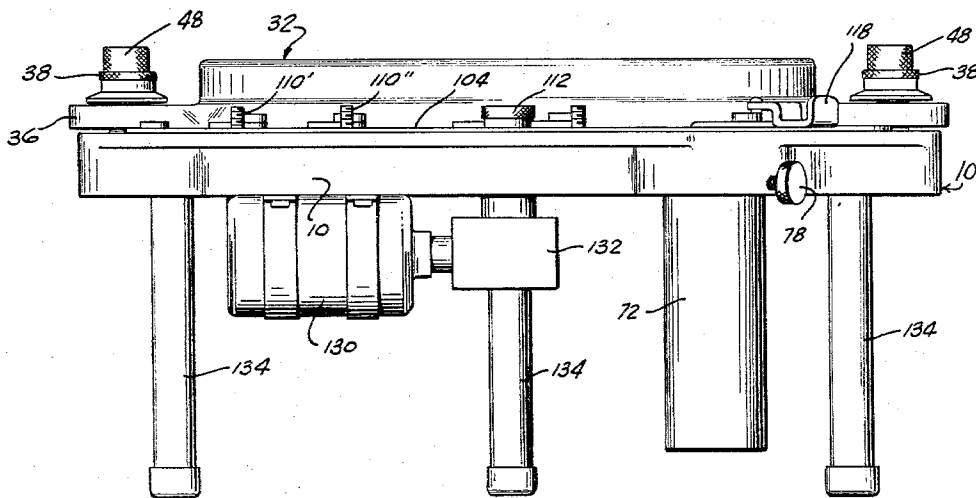


FIG. 10

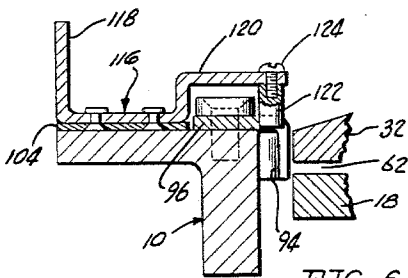


FIG. 6

INVENTOR

WILBUR F. READ

BY *Beaman Beaman*
ATTORNEYS

1

3,253,604

COIN PACKAGING APPARATUS
 Wilbur F. Read, R.F.D. 5, Coldwater, Mich.
 Filed Aug. 26, 1964, Ser. No. 392,091
 13 Claims. (Cl. 133-8)

The invention pertains to coin handling apparatus, and particularly relates to apparatus capable of counting and packaging coins.

A number of devices are available for the counting and packaging of coins. However, available coin handling devices are of a relatively complex nature and are expensive to manufacture and maintain. Due to the cost of heretofore available coin counters and packagers, business men of smaller retail establishments have not been able to purchase such devices, even though their use would be of advantage. Also, as many coin counting and packaging apparatus individually count the coins and use gear systems, friction drives and dial counters, there is the possibility that malfunctions and jams may occur.

A basic object of the invention is to provide a coin counting and packaging machine which is of an economical construction, dependable in operation, and may be operated by nonskilled personnel.

Another object of the invention is to provide a coin counting and packaging machine wherein the machine may be manually operated with a minimum amount of effort, and wherein the packaging and counting is rapidly accomplished.

A further object of the invention is to provide a coin counting and packaging machine wherein those coins to be packaged in a common container are "counted" prior to being placed within the package, and the possibility of a miscount is substantially eliminated.

An additional object of the invention is to provide a coin counting and packaging machine wherein the coins to be placed in a common package are located in a track and gate means regulate the entering and discharge of the coins from the track. Operating means are associated with the gate means whereby the gates regulating entering and discharge of the coins from the track are operated by a common movement of the operating means such that "foolproof" operation of the gates is provided.

Yet another object of the invention is to provide a coin counting and packaging apparatus which may be manually operated, adapted for use with a variety of coin denominations, and may be converted to motor driven operation without extensive modification.

Another object of the invention is to provide a coin counting and packaging machine, having a minimum of moving parts, which is substantially self-cleaning and will provide a long effective service life.

These and other objects of the invention arising from the details and relationships of the components of an embodiment thereof will be apparent from the following description and accompanying drawings wherein:

FIG. 1 is a plan view of a coin counting and packaging apparatus in accord with the invention illustrating the coin track gates, and cam support, in the position wherein the coins may be received within the outer "counting" track,

FIG. 2 is a plan, sectional, detail view as taken along section II—II of FIG. 9,

FIG. 3 is an underside view of the coin guide ring, per se, as removed from the base,

FIG. 4 is an enlarged, detail view of the coin track gates, cams, and cam support means illustrating the intermediate position of the gates during movement of the cam support means,

FIG. 5 is a view similar to FIG. 4 illustrating the position of the gates and gate cam support means during

2

packaging of the coins, illustrating entering of the first coin into the packaging cylinder,

FIG. 6 is an enlarged, detail, elevational, sectional view of the cam track outlet gate and operating cam therefor as taken along section VI—VI of FIG. 1,

FIG. 7 is a detail, enlarged, elevational, sectional view of a coin track "counting" gate and operating cam therefor as taken along section VII—VII of FIG. 5,

FIG. 8 is an enlarged, detail, elevational, sectional view of the coin guide ring mounting and adjusting means taken along section VIII—VIII of FIG. 1,

FIG. 9 is an elevational, sectional view of the coin counting and packaging apparatus as taken along section IX—IX of FIG. 1, and

FIG. 10 is an elevational view of the coin counting and packaging apparatus of the invention illustrating the modifications necessary to motorize the rotation of the coin receiving plate.

The coin handling apparatus of the invention includes a substantially circular base 10 which is of a "dished" configuration having a lower spider portion 12 extending across the area of the base and a peripheral portion 14 of a vertical height greater than that of the spider 12. Thus, the base is provided with an annular recess defined by the spider and cylindrical base surface 16 in which the planar coin receiving plate 18 may be received.

The coin receiving plate 18 is provided with a planar upper surface 20 having an annular peripheral portion as indicated at 22. The plate 18 is rotatably mounted upon the base spider portion 12 by suitable bearings 24. The plate support includes a shaft 26 and a hub 28 to which a handle 30 may be rotatably mounted for rotating the plate upon the base. The plate surface 20 lies within the confines of the base and the periphery thereof terminates short of the cylindrical base surface 16.

An annular coin guide ring 32 is mounted upon the base 10 in such a manner as to overlie the peripheral portion 22 of the plate 18. The ring 32 is of a height as to include a cylindrical wall 34 which, together with the plate 18, defines a coin receiving chamber into which the bulk coins to be counted and packaged may be placed. The ring 32 is mounted upon the base 10 by means of adjusting structure located within the three ring bosses 36. With reference to FIG. 8, the ring supporting structure at each boss includes an adjusting nut 38 which is threadedly received within the ring threaded bore 40. The lower end of the adjusting nut 38 is adapted to bear upon the base 10 and a threaded pin 42 serves to affix annular dial 44 on the nut and permits rotation of the nut to raise and lower the ring relative to the base 10 and the plate 18. A threaded stud 46 extends through the nut 38 and is affixed to the base 10. A nut 48 located on the upper portion of the stud 46 is formed with conical surfaces which engage the nut conical surfaces 50 and prevent the ring 32 from being moved from the base. The conical surfaces of nuts 58 and 48 very accurately locate the ring on the base. A resilient foot 52 may be affixed to the lower end of the stud for support of the base.

As will be apparent from FIG. 1, dials 44 are provided with the indicia letters P and D indicating adjustment of the ring relative to the plate for the counting and packaging of pennies and dimes, respectively. A pin 54 extending from the ring 32 is used to indicate the position of the nut, whereby the appropriate coin denomination adjustment may be made by rotating the nut by means of the pin 42 and excessive rotation of nut 38 is prevented by engagement of pin 42 with pin 52.

The underside of the ring 32 is formed in such a manner as to define inner and outer coin receiving tracks. These tracks will be best appreciated from FIGS. 2, 3, and 9. The underside of the ring 32 is concentrically recessed at 56 to define the inner or "ready" track 58.

3

It is to be noted that the recess 56 intersects the ring wall 34 whereby coins lying upon their sides on the plate 18 may be received within the track 58 from all radial directions. The ring 32 is recessed adjacent its outer periphery at 60 to define the outer or "counting" coin track 62. Intermediate the recesses 56 and 60 an annular projection 64 separates the tracks, and a guideway 66 is defined through the projection 64 at a single location, as shown in FIG. 3, whereby coins may move from the inner track to the outer track. A wear and guide plate 68 affixed to the underside of the ring forms a portion of the guideway and a plate 70 partially forms the opposite side of the guideway. The guideway 66 is substantially tangentially related to the inner track 58, whereby coins supported on plate 18 may smoothly flow from the inner track to the outer track 62.

The ring adjusting nuts 38 are rotated to the position which will space the recesses 56 and 60 from the plate 18 for the particular coin being handled. The illustrated adjustment of FIG. 1 positions the ring for handling pennies and, thus, the separation between the recesses and the plate upper surface 20 is such as to be slightly greater than the thickness of a penny. Thus, only a single layer of pennies may enter the track 58. The width of the outer track 62, which is defined by the outer shoulder of the projection 64, and the base cylindrical surface 16, is such that both pennies and dimes may be handled by a common ring. A second ring is also available for counting and packaging nickels and quarters. This ring is identical in appearance to the guide ring 32 illustrated. However, the recesses 56 and 60 would be of slightly greater depth and the width of the coin tracks is determined as to handle these larger size coins. The substitution of one coin guide ring for the other is readily facilitated by removing the nuts 48 from the studs 46 and lifting the ring 32 from the base 10 and placing the other ring upon the studs 46.

A coin receiving and orienting cylinder 72 is mounted in the base 10 having a tapered coin orienting chamber 74 disposed below the plate upper surface 20. At the base location above the cylinder 72 the base cylindrical surface 16 is interrupted, as will be apparent from FIGS. 2, 4 and 5, whereby coins disposed above the cylinder may drop into the chamber 74. The cylinder 72 is received within a socket 76 defined in the base and held therein by a setscrew 78, FIG. 1. A cylinder 72 is provided for each size of coin to be packaged. The lower portion 80 of the cylinder bore is adapted to receive the conventional cylindrical paper coin packages, whereby coins falling into the chamber 74 may be packaged in the well-known manner.

Counting and packaging of each denomination of coin is controlled by two gates adapted to be selectively interposed within the outer or "counting" coin track 62. One of the gates controls the entering of coins into the outer track from the inner track and prevents coins from entering track 62 during packaging, and the other gate controls the discharge of coins from the outer track into the cylinder 72. A separate inlet or "counting" gate for each denomination is mounted upon the base 10 for controlling the entering of the coins into the outer track. However, as these gates are of identical configuration, only the gate 82, used in handling pennies, will be described in detail. The gate 82 consists of a formed sheet metal element pivotally mounted upon the base 10 by a pivot screw 84. The gate 82 includes a downwardly extending portion 86 adapted to be interposed within the outer track 62, as will be apparent from FIG. 7. The horizontally disposed portion 88 of the gate is provided with a cam surface 90 adapted to cooperate with an actuating cam, as will be later described.

The outlet gate 92 for controlling discharge of coins from the outer track 62 is best shown in FIG. 5, wherein a portion of the cam supporting bracket has been cut away for purposes of illustration. The gate 92 includes

4

a downwardly extending portion 94 adapted to selectively extend into the outer track and a horizontally extending portion 96 upon which angularly disposed cam surfaces 98 and 100 are defined. Pivot screw 102 is interposed adjacent the intersection of the cam surfaces 98 and 100 and pivotally mounts the gate 92 upon the base 10.

The means for operating the gates 82 and 92 includes a cam-supporting, arcuate, rigid slide 104 which is slidably supported upon the base 10 by means of headed screws 106 received within slide slots 108. The screws 106 prevent the slide from being removed from the base and the slots limit the sliding movement thereof.

Four threaded studs 110 extend upwardly from the cam support slide 104, a threaded stud being employed for each coin denomination capable of being handled by the machine. A cylindrical cam 112 is provided with a threaded bore 114 and is adapted to be threaded upon the desired stud 110, depending upon the coin denomination being counted and packaged. In FIG. 1 the cam 112 is mounted upon the stud for counting and packaging pennies. If nickels are to be counted, the cam 112 will be threaded upon the stud 110' disposed adjacent the "nickel" gate 82'. If dimes are to be counted, the cam 112 will be mounted upon the stud 110'' disposed adjacent the gate 82'', and if quarters are being counted, the cam will be mounted upon the stud 110''' disposed adjacent the quarter gate 82'''.

As best shown in FIGS. 4 and 6, the cam operating means for the coin outlet gate 92 is in the form of a shaped bracket 116 affixed to the slide 104. The bracket 116 includes an upstanding handle portion 118. A horizontally extending portion 120 extends over the gate and a downwardly extending, cylindrical cam 122 is affixed to portion 120 by screw 124. The cam 122 is adapted to selectively engage the gate cam surfaces 98 or 100.

Operation of the coin handling apparatus in accord with the invention is as follows:

The proper ring 32 is placed upon the base 10 for counting and packaging the desired coin denomination. The nuts 48 are tightened to accurately locate the ring upon the base, whereby the coin tracks 58 and 62 will be concentrically related to the axis of rotation by the plate 18. The nuts 38 are adjusted to produce the proper spacing between the ring 32 and the plate 18 for the particular coin being handled. Bulk coins are placed upon the plate 18 within the ring wall 34. The operator moves the cam support slide 104 to the extreme right position shown in FIG. 1 wherein the cam 112 will be removed from engagement with the gate cam surface 90, and the cam 122 will engage the outlet gate cam surface 100 to pivot the gate 92 in the clockwise position locating the portion 94 within the outer coin track 62.

The operator then rotates the plate 18, by means of the handle 30, in the clockwise direction, FIG. 1. A centrifugal force acting upon the coins moves the coins radially outwardly into the inner track 58. The coins, so received within the inner track 58, will tend to be moved in the clockwise direction due to the projection 64 preventing further radial movement, and the coins will enter the outlet of coin track 58 defined by the guideway 66. The guideway 66 also constitutes the inlet for the outer coin track 62 and should the inlet gate portion 86 still be located within the outer track from the previous cycle of operation, the coins passing through the guideway 66 will engage portion 88 and rotate the gate to move the portion 88 from the track. The coins thereupon enter the outer track 62 and continue their movement in a clockwise direction about the outer track until the outlet gate portion 94 is engaged by the first coin. The operator continues to rotate the plate 18 until the outer track 62 is completely filled with coins contiguously engaging at their edges. When the outer track is completely "filled," this condition will be readily observed by the operator through the annular space 126 defined between the outer periphery of the ring 32 and the base surface 16.

5

The operator then ceases rotation of the plate 18 and places a coin package tube within the cylinder portion 80. Thereupon, the operator grasps the cam support slide handle 118 and shifts the slide 104 to the left, FIG. 1. As will be apparent from FIG. 4, the first half of the movement of the slide 104 to the left causes the cam 112 to engage the inlet gate cam surface 90 and pivots the gate 82 in the clockwise direction to cause the gate portion 86 to engage the fifty-first penny located within the outer track 62, it being assumed that it is desired to package fifty pennies at a time, as is the usual practice. The engagement of the gate projection 86 with the fifty-first coin moves this coin radially inwardly toward a recess 128 defined in the ring projection 64, FIG. 5, and prevents the further entrance of coins into the outer track. Continued movement of the slide 104 to the left causes the cam 122 to engage the outlet gate cam surface 98 and pivot the gate 92 in the counterclockwise direction removing the gate portion 94 from the outer track. It is to be noted that the gate 82 will, therefore, be actuated to block entrance of coins into the outer track 62 prior to the gate 92 being removed from the outer track.

The slide 104 is now in the position shown in FIG. 5 and the fifty-first coin will be fully located within the recess 128. The operator now rotates the handle 30 in the clockwise direction to rotate the plate 18. Such rotation causes the fifty coins located in the outer track 62 to move about the outer track and pass into the cylinder 72 and the coin package associated therewith. It will be appreciated that the movement of the coins in the outer track 62 is due to the fact that the coins are at all times supported upon the plate 18. The rotation of the plate 18 to "unload" the outer track also tends to fill the inner track 58 with coins, if it is not already filled. Rotation of the plate is continued until all fifty of the coins have been discharged from the outer track into the cylinder 72. Thereupon, the operator removes the coin package from the cylinder portion 80 and folds the ends of the package to complete the packaging operation.

After the outer track 62 has been emptied of coins, the operator moves the slide 104 to the right to the position shown in FIG. 1. This action initially causes the cam 122 to engage the outlet gate cam surface 100 and pivot the gate 92 in the clockwise direction to once again place the cam portion 94 within the outer track to block the outlet of the track. The operator then repeats the cycle by rotating the plate 18 in the clockwise direction. As the inner track 58 will be substantially filled with coins due to the prior rotation of the plate 18, the outer track 62 will be quickly filled with coins, and subsequent counting and packaging operations may be readily accomplished. The inner track 58, thus, prepares the coins for entering the outer track and serves as a "ready" track and substantially minimizes the number of rotations of the plate 18 necessary to perform the counting and packaging operations.

As coins wear during use, it is to be appreciated that the "length" of fifty coins placed end-to-end in track 62 may vary as much as one-fourth inch. Accordingly, by pivotally mounting the gate 82, as shown, wherein portion 86 moves counter to the direction of coin movement as they enter track 62 and engages the side of the fifty-first coin and displaces this coin into the recess 128, this type of engagement between the coin and gate compensates for variations in the "length" of the fifty coins by using the length of the fifty-first coin as a compensating factor. The gate 82 is so dimensioned that portion 86 would engage the fifty-first coin if all fifty coins in track 62 were worn, and, yet, if all of the coins in track 62 were new the increased length of the fifty coins would not cause a miscount, as the portion 86 still engages the fifty-first coin and displaces it into recess 128.

FIG. 10 illustrates a modification to the coin handling apparatus wherein an electric motor 130 may be attached to the underside of the base spider portion 12 associated

6

with speed reduction transmission means 132 which may be drivably connected to the plate shaft 26 by conventional drive connection means. If the motor 130 is to be attached to the base 10, extension legs 134 are affixed to the base to provide the necessary clearance for the motor.

It will, therefore, be appreciated that the aforescribed structure produces a coin counting and packaging device of a simplified nature wherein the number of moving parts is substantially reduced over prior constructions and no gears or other complicated mechanical elements are needed. The device produces very accurate counting of the coins and is so constructed as not to be affected by worn coins. The interlocked action of the gates 82 and 92 by their associated cams simplifies the operation and prevents miscounting, or improper operation, as would be possible if the gates were individually operated. By sequentially operating the gates by a common actuator, an accurate count will be assured during each packaging cycle.

It is to be noted that the ring projection 64 is so located that the coins entering the inner track 58 slightly project inwardly of the ring wall 34, FIG. 1. This relationship prevents the coins from "shingling" and minimizes malfunctioning. By providing adjustment means for the ring 32, only two rings are needed to handle four denominations of coins and the adjustment means permits the ring to be raised or lowered as wear thereof occurs.

It is appreciated that various modifications to the disclosed embodiment may be apparent to those skilled in the art without departing from the spirit and scope thereof, and it is intended the invention should be defined only by the scope of the following claims.

What is claimed is:

1. Coin handling apparatus comprising, in combination,
 - (a) a base,
 - (b) a plate rotatably mounted upon said base, a coin receiving surface defined upon said plate,
 - (c) an annular coin guide ring mounted upon said base superimposed over at least a portion of said plate, and substantially concentric to the axis of rotation thereof,
 - (d) a first coin track defined in said ring adapted to receive coins located upon said plate and displaced by centrifugal force upon rotation of said plate, an outlet defined in said first track,
 - (e) a second coin track defined in said ring adapted to receive coins located on said plate and having an inlet and outlet, said inlet defined in said second track communicating with said first track outlet whereby said second track is adapted to receive coins from said first track,
 - (f) first and second gates mounted on said base adapted to be selectively positioned within and from said second track, said gates being spaced apart a predetermined distance in the direction of said second track, and
 - (g) operating means operating said gates.
2. Coin handling apparatus comprising, in combination,
 - (a) a base,
 - (b) a plate rotatably mounted upon said base upon a vertical axis, an upper planar coin receiving surface defined on said plate having a peripheral portion,
 - (c) means associated with said plate for rotating said plate,
 - (d) an annular coin guide ring mounted upon said base superimposed over said plate peripheral portion,
 - (e) a first coin track defined in said ring adapted to receive coins located upon said plate and displaced by centrifugal force upon rotation of said plate, an outlet defined in said first track,
 - (f) a second coin track defined in said ring adapted to receive coins located on said plate and having an inlet and outlet, said inlet defined in said second track communicating with said first track outlet

7

- whereby said second track is adapted to receive coins from said first track,
- (g) first and second gates mounted on said base adapted to be selectively positioned within and from said second track, said gates being spaced apart a predetermined distance in the direction of said second track, and
- (h) operating means operating said gates.
3. In a coin handling apparatus as in claim 2 wherein:
- (a) said operating means operating said gates comprises first and second cams operatively associated with said first and second gates, respectively.
4. In a coin handling apparatus as in claim 3,
- (a) cam support means movably supported upon said base, said first and second cams being mounted upon said cam support means.
5. In a coin handling apparatus as in claim 4 wherein:
- (a) said first gate restrains coins from entering said second track upon said first gate being positioned therein and said second gate selectively prevents discharge of coins from said second track through said second track outlet, and
- (b) said first cam means positions said first gate into said second track prior to said second cam means withdrawing said second gate from said second track upon movement of said cam support means in the direction to permit the discharge of coins from said second track.
6. Coin handling apparatus comprising, in combination
- (a) a base,
- (b) a plate rotatably mounted upon said base upon a vertical axis, an upper planar coin receiving surface defined on said plate having a peripheral portion,
- (c) means associated with said plate for rotating said plate,
- (d) an annular coin guide ring mounted upon said base superimposed over said plate peripheral portion,
- (e) a first coin track defined in said ring adapted to receive coins located upon said plate and displaced by centrifugal force upon rotation of said plate, an outlet defined in said first track,
- (f) a second coin track defined in said ring adapted to receive coins located on said plate and having an inlet and outlet, said inlet defined in said second track communicating with said first track outlet whereby said second track is adapted to receive coins from said first track,
- (g) first and second gates pivotally mounted on said base adapted to be alternately positioned within and from said second track, said first gate regulating the entering of coins into said second track and said second gate regulating the discharge of coins from said second track outlet, said gates being spaced apart a predetermined distance in the direction of said second track corresponding to the number of coins to be discharged from said second track,
- (h) a cam support movably mounted on said base, and
- (i) first and second cams mounted on said cam support adapted to actuate said first and second gates, respectively.
7. In a coin handling apparatus as in claim 6 wherein:
- (a) said first cam means positions said first gate into said second track prior to said second cam means withdrawing said second gate from said second track upon movement of said cam support means in the direction to permit the discharge of coins from said second track.
8. Coin handling apparatus comprising, in combination,
- (a) a base,
- (b) a plate rotatably mounted upon said base upon a vertical axis, an upper planar coin receiving surface defined on said plate having a peripheral portion,
- (c) means associated with said plate for rotating said plate,

8

- (d) an annular coin guide ring mounted upon said base superimposed over said plate peripheral portion and spaced therefrom to define a coin track having an inlet and an outlet whereby a single layer of coins may be received between said plate upper surface and said ring in contiguous relation,
- (e) first and second gates movably mounted on said base adapted to be alternately positioned within and from said coin track, said first gate regulating the entering of coins into said coin track and second gate regulating the discharge of coins from said coin track, said gates being spaced apart a distance in the direction of said coin track corresponding to the number of coins to be discharged from said track,
- (f) operating means operating said gates, and
- (g) linkage means interconnecting said operating means.
9. In a coin handling apparatus as in claim 8, wherein:
- (a) said operating means operating said gates comprises first and second cam means operatively associated with said first and second gates, respectively, and
- (b) said linkage means comprises a cam support movably mounted on said base, said first and second cams being mounted on said cam support.
10. Coin handling apparatus comprising, in combination,
- (a) a base,
- (b) a plate rotatably mounted upon said base upon a vertical axis, an upper planar coin receiving surface defined on said plate having a peripheral portion,
- (c) means associated with said plate for rotating said plate,
- (d) an annular coin guide ring mounted upon said base superimposed over said plate peripheral portion and spaced therefrom to define a coin track having an inlet and an outlet whereby a single layer of coins may be received between said plate upper surface and said ring in contiguous relation,
- (e) Adjustable means supporting said ring upon said base, said adjustable means comprising a threaded member adapted to bear upon said base, and a threaded bore defined in said ring adapted to receive said threaded member.
11. Coin handling apparatus comprising, in combination,
- (a) a base,
- (b) a plate rotatably mounted upon said base upon a vertical axis, an upper planar coin receiving surface defined on said plate having a peripheral portion,
- (c) means associated with said plate for rotating said plate,
- (d) an annular coin guide ring mounted upon said base superimposed over said plate peripheral portion and spaced therefrom to define a coin track having an inlet and an outlet whereby a single layer of coins may be received between said plate upper surface and said ring in contiguous relation,
- (e) first and second gates movably mounted on said base adapted to be positioned within and from said coin track, said first gate determining the number of coins to be discharged from said track and said second gate regulating the discharge of coins from said coin track, said gates being spaced apart a distance in the direction of said coin track corresponding to the number of coins to be discharged from said track,
- (f) a recess defined in said ring adjacent said track in opposed relation to said first gate, said first gate adapted to move toward said recess when being positioned within said coin track whereby said first gate engages and displaces a coin into said recess thereby retaining the displaced coin and the coins disposed

9

therebehind from movement in said coin track, and
(g) operating means adapted to operate said gates.

12. In coin handling apparatus as in claim 11 wherein:

(a) said first gate is pivotally mounted on said base
upon an axis transversely disposed to the plane of 5
said coin receiving surface.

13. Coin handling apparatus comprising, in combination,

(a) a base,

(b) a plate rotatably mounted upon said base upon 10
a vertical axis, an upper planar coin receiving surface defined on said plate having a peripheral portion,

(c) means associated with said plate for rotating said 15
plate,

(d) an annular coin guide ring mounted upon said 20
base superimposed over said plate peripheral portion and spaced therefrom to define a coin track having an inlet and an outlet whereby a single layer of coins may be received between said plate upper surface and said ring in contiguous relation,

(e) first and second gates movably mounted on said base adapted to be positioned within and from said

10

coin track, said first gate determining the number of coins to be discharged from said track and said second gate regulating the discharge of coins from said coin track, said gates being spaced apart a distance in the direction of said coin track corresponding to the number of coins to be discharged from said track,

(f) coin receiving and retaining means defined in said ring adjacent said track in opposed relation to said first gate, said first gate adapted to laterally displace an engaged coin from said coin track into said coin receiving and retaining means to prevent movement of the displaced coin and the coins disposed therebehind in said track, and

References Cited by the Examiner

UNITED STATES PATENTS

2,977,961 4/1961 Buchholz et al. ----- 133—3

RAPHAEL M. LUPO, *Primary Examiner*.

STANLEY H. TOLLBERG, *Examiner*.