

June 23, 1931.

J. JANOVSKY ET AL

1,811,503

COIN COUNTING MACHINE

Filed Jan. 20 1928

8 Sheets-Sheet 1

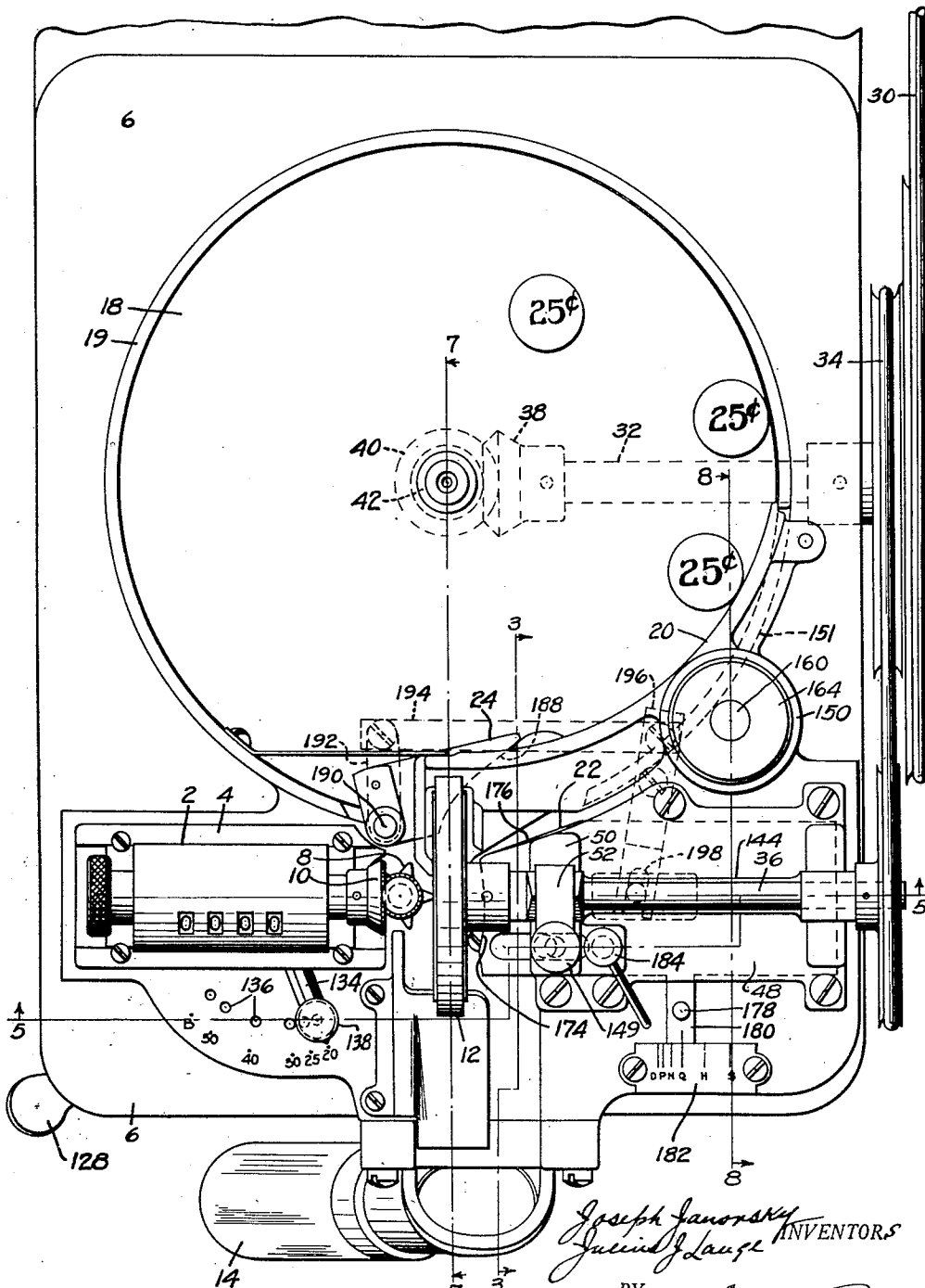


Fig. 1

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COIN COUNTING MACHINE

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8 Sheets-Sheet 2

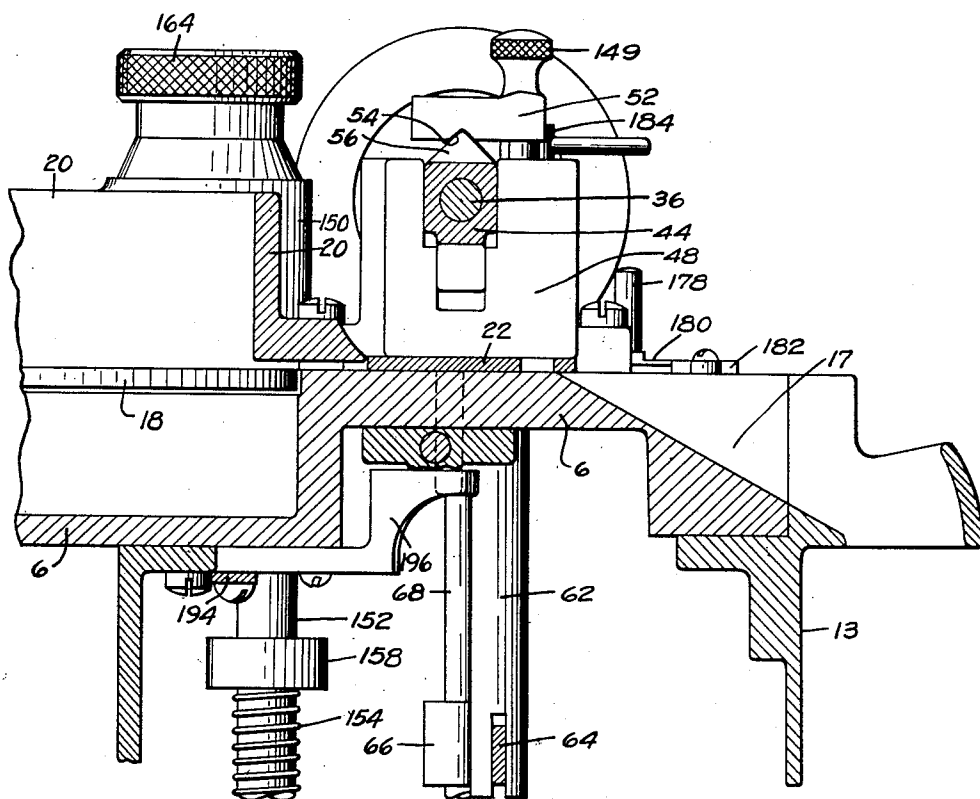


Fig 3

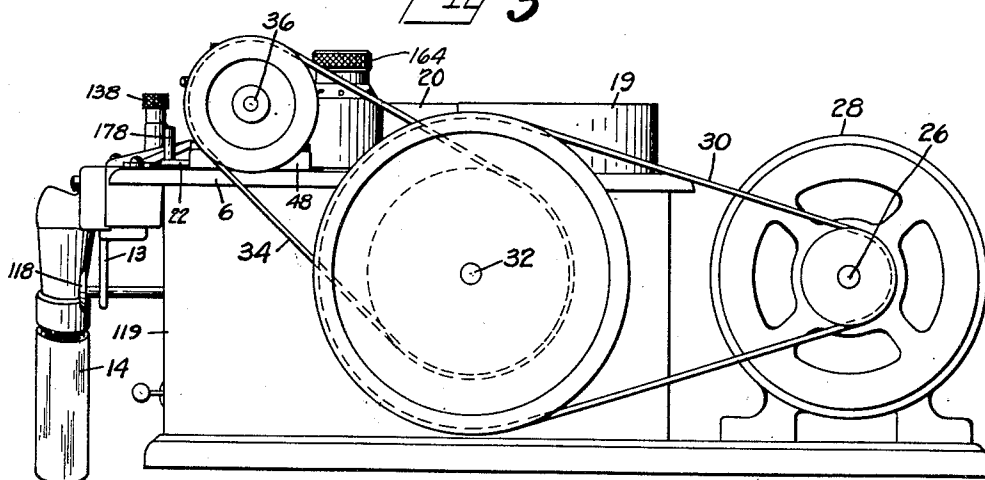


Fig 2

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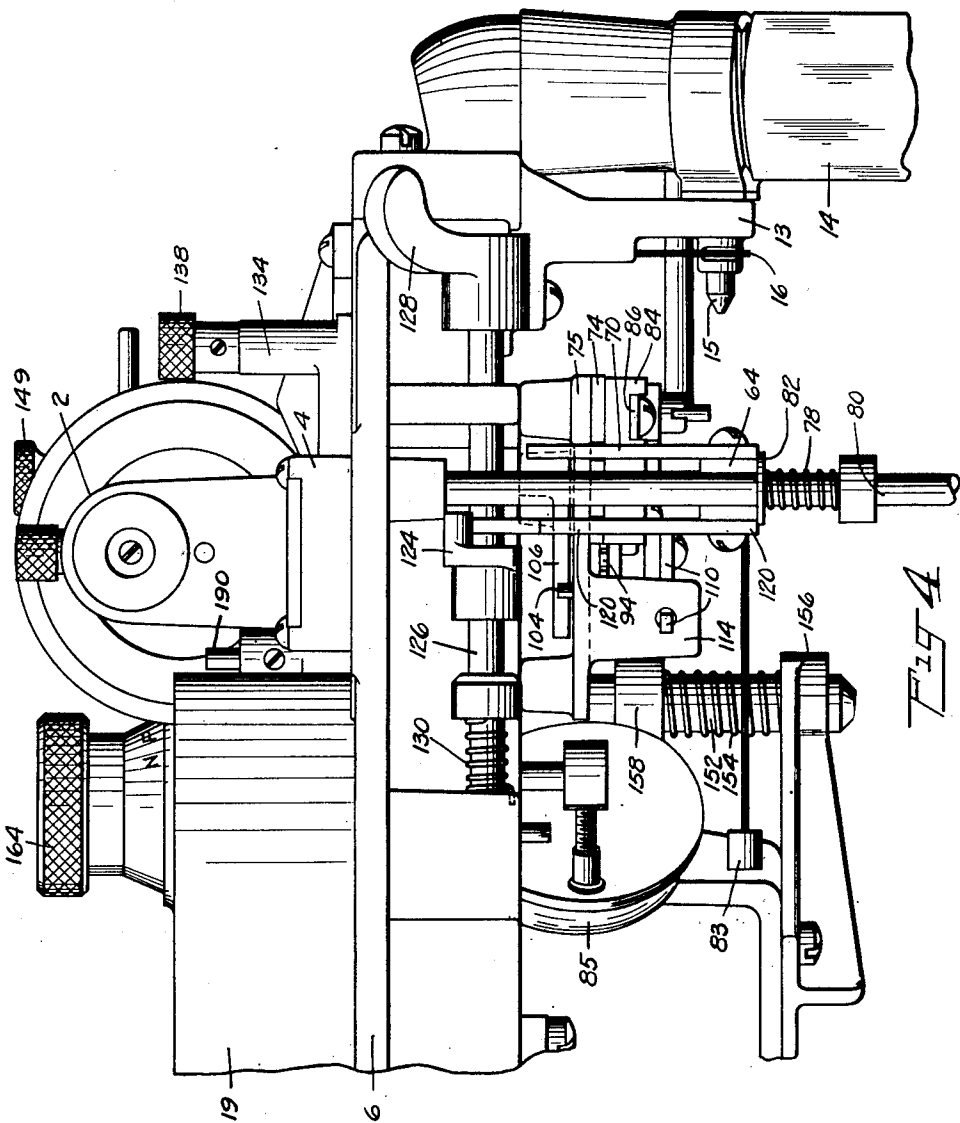
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COIN COUNTING MACHINE

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8 Sheets-Sheet 3



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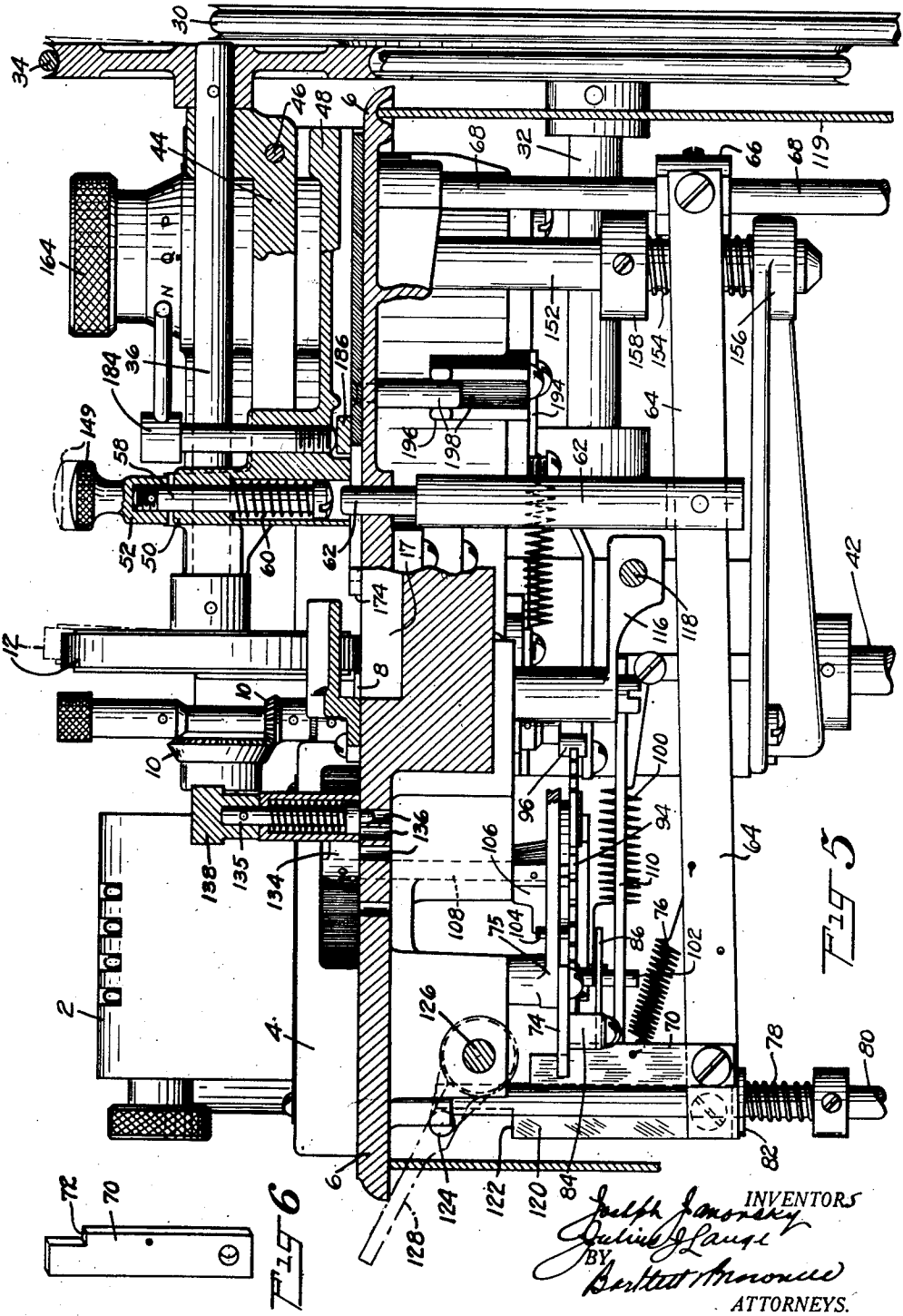
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June 23, 1931.

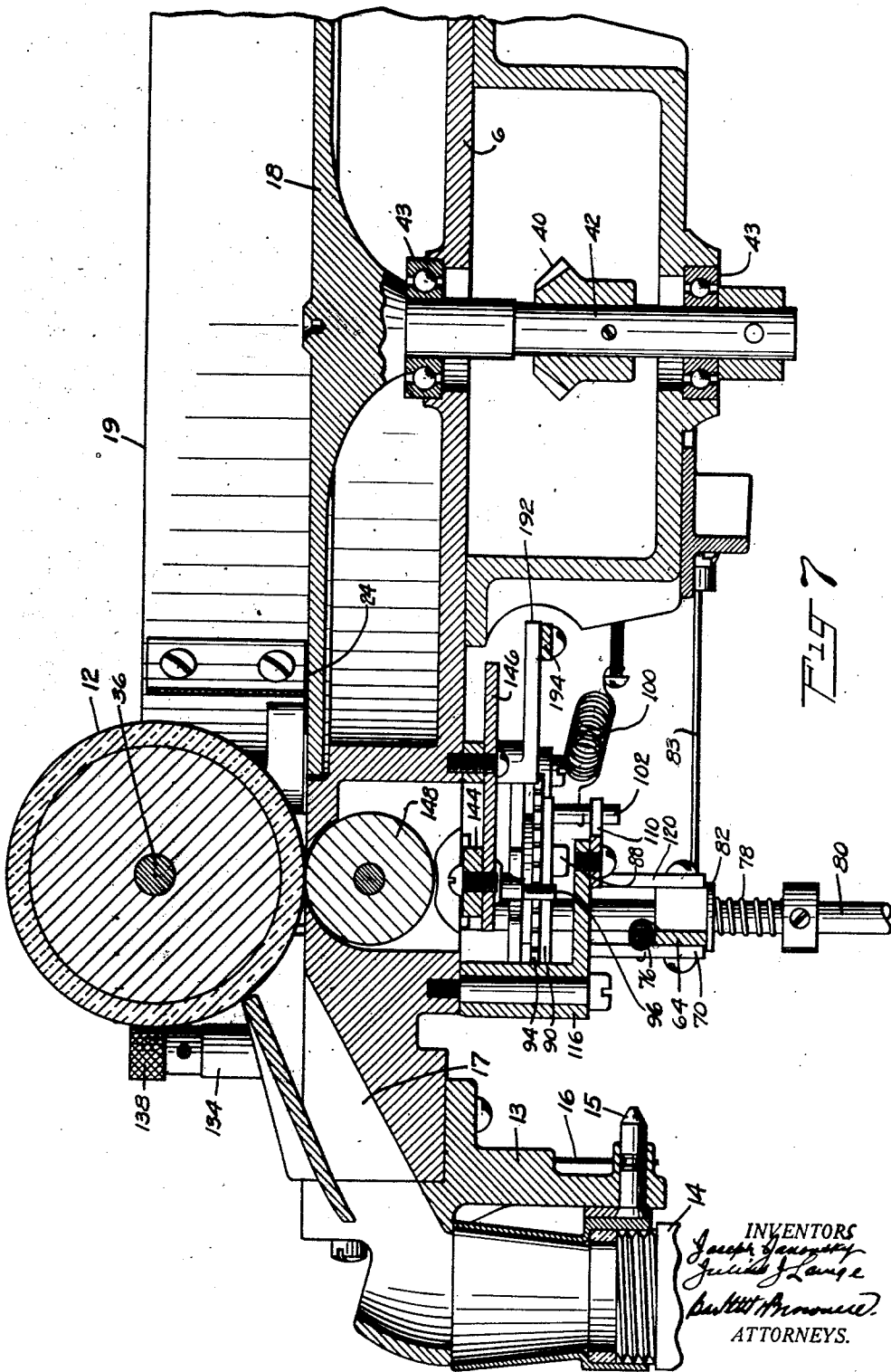
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COIN COUNTING MACHINE

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8 Sheets-Sheet 5



June 23, 1931.

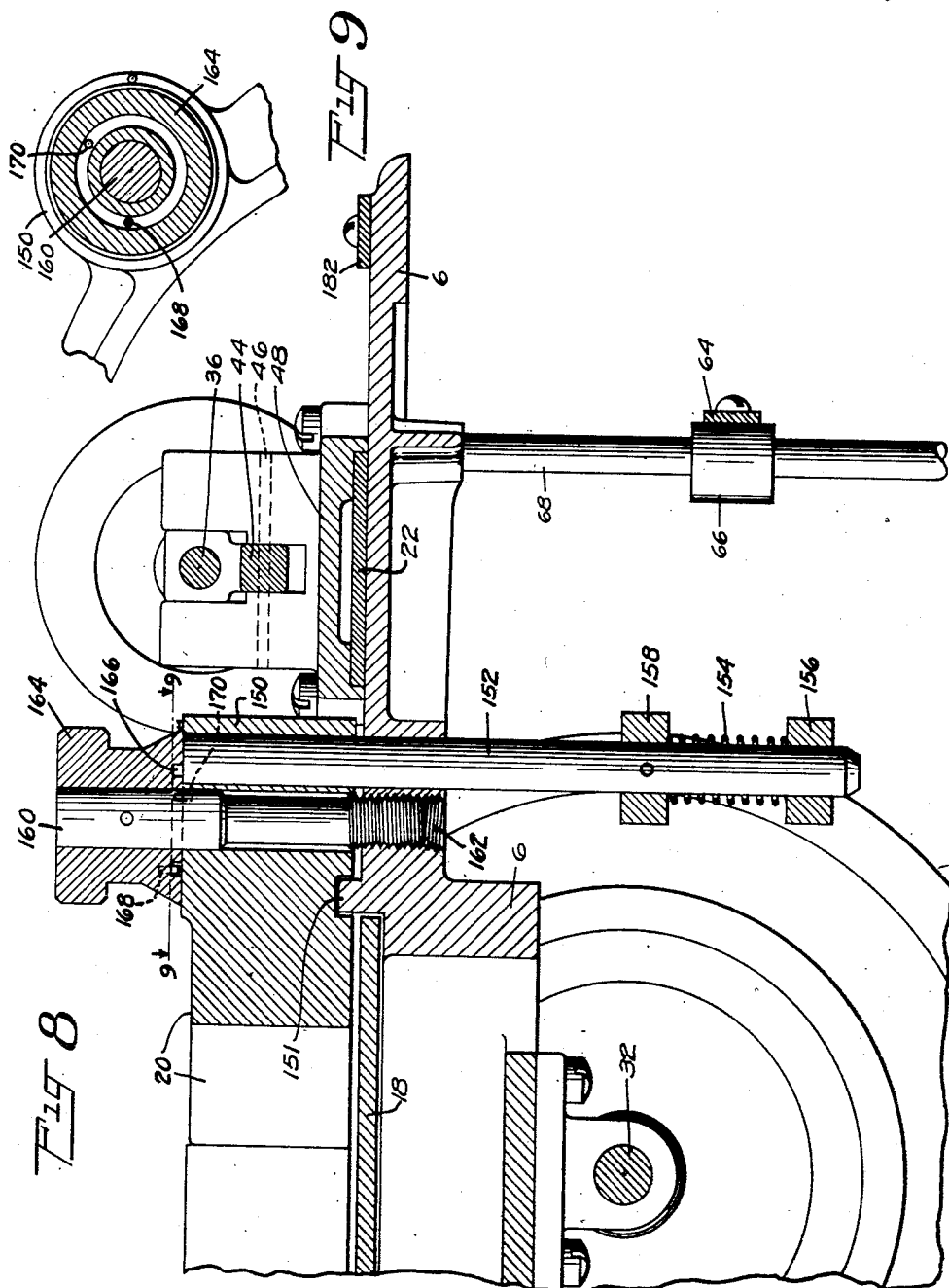
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COIN COUNTING MACHINE

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8 Sheets-Sheet 6



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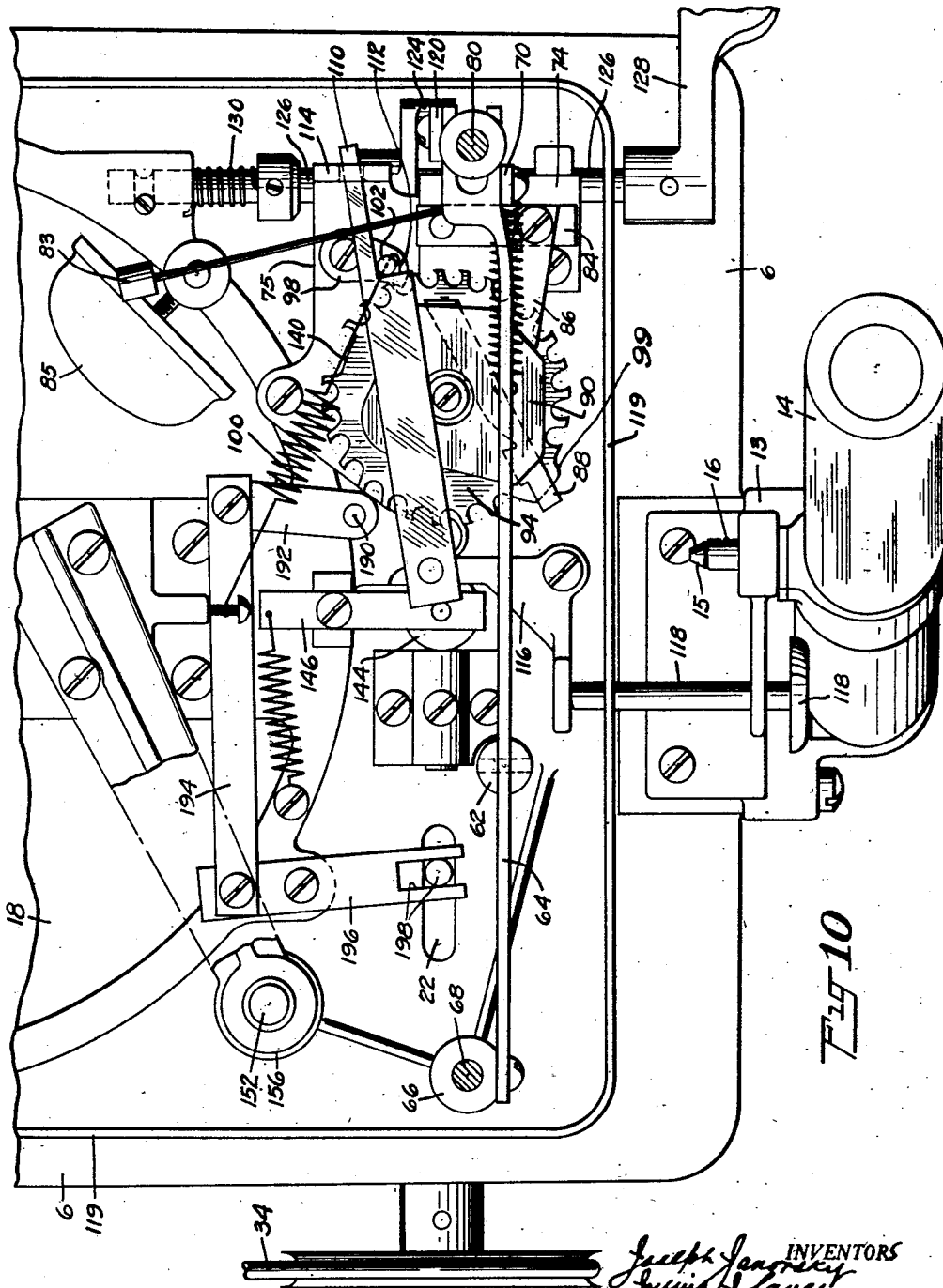
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COIN COUNTING MACHINE

Filed Jan. 20 1928

8 Sheets-Sheet 7



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COIN COUNTING MACHINE

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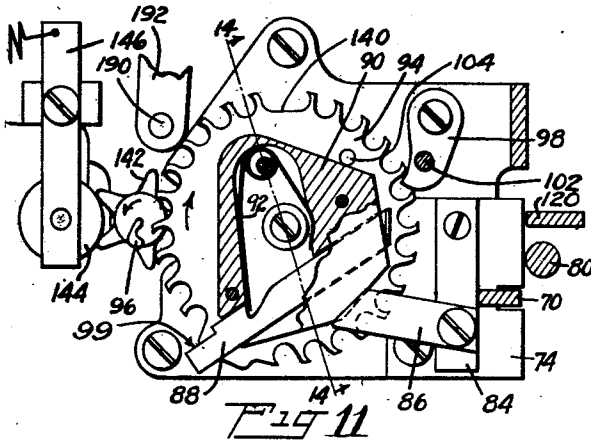


Fig 11

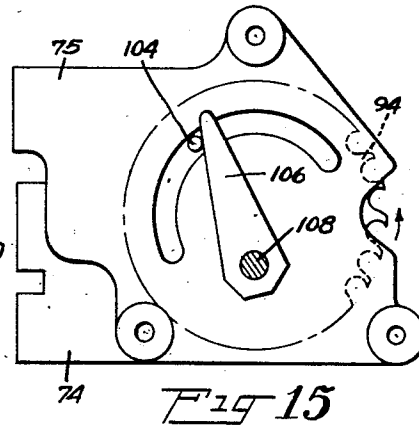


Fig 15

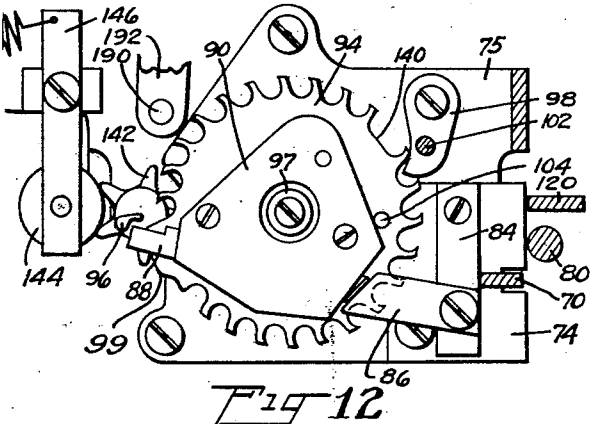


Fig 12

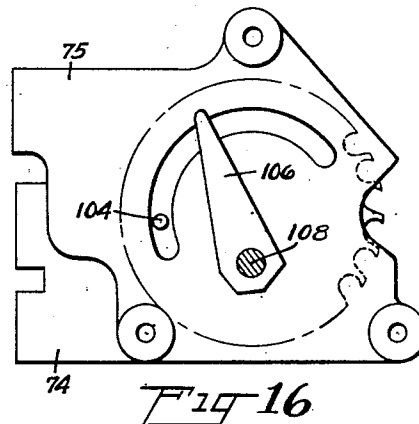


Fig 16

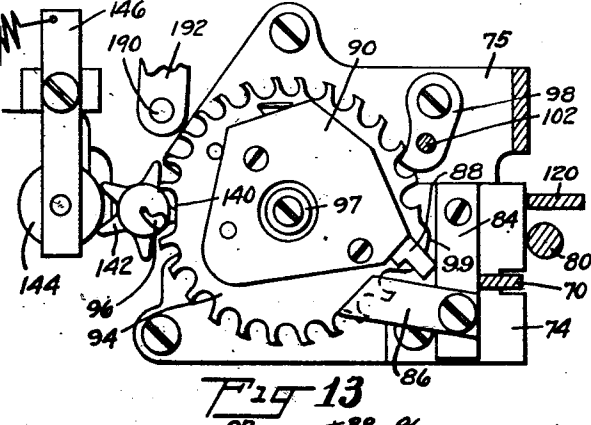


Fig 13

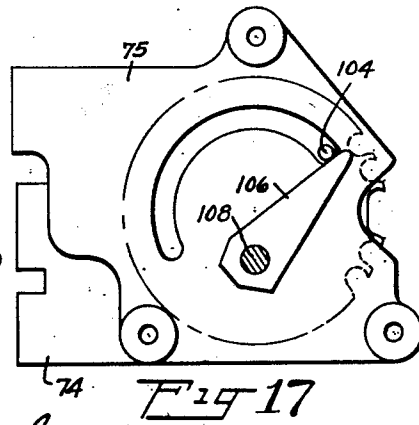


Fig 17

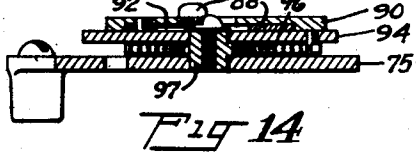


Fig 14

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COIN COUNTING MACHINE

Application filed January 20, 1928. Serial No. 248,061.

Our invention relates to coin counting machines, and has for its object generally to provide a machine of this character which is simple in construction, rapid and accurate in operation, and easily adjusted and controlled by the operator. Another object of the invention is to provide a machine of this character having novel and improved means for rendering the machine operative and inoperative to feed and count the coins when it is desired to count the coins in groups or batches. A still further object of the invention is to provide novel and improved means for deflecting and guiding coins from the centrifugal wheel toward the counting device of the machine.

The several features of the invention, whereby the above mentioned and other objects may be attained, will be clearly understood from the following description and accompanying drawings, in which:

Figure 1 is a plan view of a coin counting machine embodying the features of the invention in their preferred form;

Fig. 2 is a right hand side view, on a reduced scale, of the upper portion of the machine;

Fig. 3 is a sectional view, on an enlarged scale, taken on the line 3—3 of Fig. 1;

Fig. 4 is a left hand side view of the forward portion of the machine;

Fig. 5 is a sectional elevation taken on the line 5—5 of Fig. 1;

Fig. 6 is a detail view in perspective of a component part of the machine hereinafter described;

Fig. 7 is a sectional view taken on the line 7—7 of Fig. 1;

Fig. 8 is a sectional view taken on the line 8—8 of Fig. 1;

Fig. 9 is a detail sectional view taken on the line 9—9 of Fig. 8;

Fig. 10 is a bottom plan view, partly in section, of a portion of the machine;

Fig. 11 is a detail view, partly in section, corresponding to a portion of Fig. 10;

Figs. 12 and 13 are views corresponding to Fig. 11 but showing parts in different positions;

Fig. 14 is a detail sectional view taken on the line 14—14 of Fig. 11; and

Figs. 15, 16 and 17 are detail sectional plan views corresponding in position of parts to Figs. 11, 12 and 13, respectively.

The machine illustrated in the drawings is provided with a coin counting device 2 which is mounted on a block 4 secured upon the top of the base plate 6 of the machine; a coin actuated star wheel 8 which is operatively connected with the coin counting device through bevel gears 10; a continuously rotating feed wheel 12 for feeding the coins past the star wheel; a tiltable coin container 14 of the bottle type detachably secured to a bracket 13 by means of a pin 15 which is inserted through an aperture in the bracket and held in place by a spring 16 received in an annular slot in the pin; a coin chute 17 leading from the feed wheel 12 to the coin container; a centrifugal wheel or disk 18; a shell 19 surrounding the major portion of the periphery of the centrifugal wheel and integral with the base plate 6; a gate 20 under which the coins pass from the centrifugal wheel to the coin feed wheel 12; and guiding members 22 and 24 for guiding the coins from the centrifugal wheel to the feed wheel.

The machine is adapted to be driven from the shaft 26 of an electric motor 28 by means of a belt 30 which passes over a pulley on the motor shaft and a pulley on a shaft 32 which is the main driving shaft of the machine. The coin feed wheel 12 is rubber faced and is driven from the main shaft 32 by means of a belt 34 that passes over a pulley on the main shaft and a pulley secured on the outer end of a shaft 36 which carries the feed wheel. The centrifugal wheel 18 is driven by a bevel gear 38 on the main shaft which engages a bevel gear 40 secured on a vertical shaft 42 and carries a centrifugal wheel, said shaft being journaled in suitable ball bearings 43.

The illustrated machine is adapted to be operated to count coins in groups or batches containing any desired number of coins, or to be operated to count the coins continuously. When operated to count coins in groups or batches, the counted coins are delivered to the container 14 and when the desired number

of coins in a batch have been thus counted, the machine is rendered inoperative to feed and count the coins. The coin container is then tilted so as to remove the coins therefrom in the usual manner. Upon retilting the container, the machine is again rendered operative to feed and count the next batch of coins and deliver them to the container.

In accordance with our invention, the machine is rendered inoperative as above described by raising the feed wheel 12 out of position to engage and feed the coins past the star wheel 8 of the coin counting device, the machine being again rendered operative by returning the feed wheel into position to operatively engage the coins. By thus rendering the machine inoperative, the rotating feed wheel does not rub on the coins during the periods of rest of the machine while the coin container is being tilted, and, consequently, there is no wearing of either the surface of the feed wheel or the coins during these periods as would be the case if the rotating feed wheel were maintained in frictional engagement with the coins.

To provide for thus rendering the feed wheel 12 operative and inoperative, the shaft 36 which carries the feed wheel is journaled in upstanding bearings on a supporting bar 44 which is pivotally mounted at its outer end on a pivot pin 46 extending through ears on a block 48 secured on the base plate 6. The forward end of the supporting bar 44 extends through a guideway in an upstanding bracket member 50 on the block 48. The inner end of the supporting bar 44 is yieldingly held downwardly so as to maintain the feed wheel in position to engage the coins, by means of a downwardly spring pressed block 52 which is provided with a V-shaped recess 54 (Fig. 3) that receives the upper end of an upwardly projecting wedge-shaped lug 56 on the supporting bar. The block 52 is secured on the upper end of a screw rod 58 which is mounted to slide vertically in an aperture in the bracket member 50 and is pressed downwardly by means of a spring 60 coiled about the rod and interposed between the head of the rod and a shoulder on the wall of said aperture.

When a predetermined number of coins have been counted and delivered into the coin container, a plunger 62 (Fig. 5) engages the lower end of the screw rod 58 to raise the retaining block 52 out of holding engagement with the feed wheel supporting bar 44, whereupon the tension of the belt 34 which drives the feed wheel serves to raise the feed wheel out of position to engage the coins. The lower end of the plunger 62 is pivotally connected with a lever 64 having one end pivotally mounted on a collar 66 secured on a supporting rod or standard 68 for the base plate 6. The other end of the lever 64 has the lower end of an upstanding pawl 70 (Figs.

5 and 6) pivotally mounted thereon. This pawl 70 is provided with a shoulder 72 which, when the machine is in normal operation, abuts against the under side of a stop plate 74 rigidly secured to the underside of a bracket plate 75, the pawl being held against the stop plate 74 by means of a coil spring 76 having one end connected therewith and its other end connected with the lever 64. The shoulder 72, by engagement with the under side of the stop plate 74, holds the plunger 62 out of engagement with the screw rod 58 and thus permits the retaining block 52 to hold the feed wheel in operative position. Upon disconnecting the pawl 70 from the stop plate 74, the lever 64 is turned to cause the plunger 62 to raise the block 52 out of holding engagement with the feed wheel supporting bar, by means of a spring 78 coiled about a rod or standard 80 and interposed between a collar on the rod and a washer 82 which engages the under side of the free end of the lever 64.

When the lever 64 is thus turned to render the feed wheel inoperative, a striker 83 carried by the lever strikes a bell 85 so as to indicate to the operator that the desired batch of coins has been counted.

The means for disconnecting the pawl 70 from the stop plate 74, comprises a bar 84 (Figs. 10 and 11) which is pivotally mounted on the under side of the stop plate and has an inwardly extending abutment arm 86 secured on the free end thereof. When a predetermined number of coins have been counted, one end of a sliding plunger 88 is positioned adjacent the inner end of the arm 86 and the plunger is shifted in a direction to swing the block 84 outwardly and thus disengage the retaining pawl 70 from the stop plate 74. The plunger 88 is mounted to slide in an aperture in a plate or block 90 and is normally held retracted by means of a suitable spring 92. The plate or block 90 is secured to one face of a ratchet wheel 94 which tends to be turned in a counter-clockwise direction, viewing Fig. 11, by means of a spiral spring 96 (Fig. 14) arranged between the ratchet wheel and the supporting bracket plate 75, the ratchet wheel being mounted on a stud 97 on the bracket plate. The ratchet wheel is adapted to be turned step by step in the opposite direction, against the tension of its spiral spring, by means of a cam 96 formed on the lower end of the shaft on which the star wheel 8 of the counting device is mounted. This cam 96, during the rotation of the star wheel as the coins are carried by the feed wheel 12 past the star wheel, engages suitably formed teeth on the ratchet wheel so that during each rotation of the star wheel and hence, at the completion of the feeding of each group of five coins past the star wheel, the ratchet wheel is turned in a clockwise direction, viewing Fig. 11, the distance of one

tooth. When, however, the ratchet wheel has been thus rotated to a definite angular position as shown in Fig. 12, the rear or inner end of the plunger 88 is so positioned that upon the next movement of the star wheel the cam 96 will engage the end of the plunger 88 and shift the plunger outwardly to disengage the stop pawl 70 from its plate 74, whereupon, as above described, the feed wheel will be raised out of operative position. As the plunger 88 reaches the limit of its outward movement the cam 96 engages a projection or abutment 99 on the ratchet wheel 94 so as to prevent further rotation of the coin actuated star wheel 8. The ratchet wheel is held from reverse rotation under the influence of its spiral spring, by means of a pawl 98 which is held against the teeth of the wheel by a coil spring 100 (Fig. 10) having one end secured to a stud 102 on the pawl and its other end secured to the machine frame. By mechanism hereinafter described, upon tilting the coin container 14 after a predetermined number of coins have been counted and delivered to the container, the pawl 98 is released from the ratchet wheel 94 to permit its spiral spring 96 to rotate the ratchet wheel in the reverse direction. The ratchet wheel is thus rotated by its spring until a stop pin 104 carried by the wheel engages a stop arm 106 (Fig. 15) secured on a shaft 108, the stop pin extending through a clearance slot in the bracket plate 75.

The mechanism above referred to for releasing the pawl 98 from the ratchet wheel 94 upon tilting the coin container 14, comprising a link 110 (Fig. 10) which has its outer end reduced in width to provide an abutment shoulder 112 engaging the stud 102 on the pawl 98, this outer end of the link extending through a guide aperture in a depending lug 114 on the bracket plate 75. The other end of the link 110 is pivotally connected with one arm of a bell crank 116, the other arm of which is adapted to be engaged by the end of the shank of a push button 118. The push button 118 is mounted to slide in apertures in the casing 119 of the machine frame and the bracket 13 on which the coin container is mounted. Upon tilting the coin container after a batch of coins have been counted and deposited therein, the operator swings the coin container so as to cause its upper end, which is more or less funnel-shape, to engage the head of the button 118 and thus press the button inwardly so as to cause it to act through the bell crank 116 and link 110 to swing the pawl 98 out of engagement with the ratchet wheel.

When the pawl 98 has thus been released from the ratchet wheel and the spiral spring 96 has returned the ratchet wheel to its initial position with the stop stud 104 against the stop arm 106 as above described, the plunger 88 is positioned out of alinement with the

abutment arm 86. The coin feed wheel 12 may then be returned to operative position to feed the next batch of coins through the machine. The feed wheel is returned to operative position by swinging the lever 64 in a direction to retract the plunger 62 from the end of the retaining block rod 58 and to permit the retaining pawl 70 to be carried by its spring into position to cause its shoulder 72 to re-engage beneath the stop plate 74. The means for thus rocking the lever 64 comprises an upstanding link 120 (Figs. 4 and 5) having its lower end pivotally mounted on the free end of the lever 64 and its upper or free end provided with a shoulder 122 which is adapted to be engaged by a stud 124 on an arm secured to a rock shaft 126. A handle 128 is secured on the outer end of the rock shaft 126. Upon swinging the handle 128 downwardly, the stud 124 by engagement with the shoulder 122 rocks the lever 64 to effect the re-setting of the coin feed wheel and the engagement of the pawl 70 with the stop plate 74. The rock shaft 126 is urged in a direction to return the handle 128 to raised position and to maintain it in this position by means of a spring 130 coiled about the shaft.

It will be apparent that at the completion of the counting of each batch of coins the machine cannot be again operated to count the next batch of coins until after the container which has received the counted batch of coins has been tilted to discharge the coins. Upon tilting the container, as above described, the pawl 98 is released from the ratchet wheel and the ratchet wheel returned by its spring to its initial position, the end of the plunger 88 being moved therewith out of alinement with the abutment arm 86 and the abutment 99 being moved out of engagement with the cam 96. Thus the operator, after one batch of coins has been counted and delivered to the coin container, cannot inadvertently restore the coin feed wheel to operative position until after he has released the ratchet wheel to permit it to return to its initial position, the releasing of the ratchet wheel being effected only during the tilting of the coin container.

With the stop arm 106 in the position shown in Fig. 15, it will be apparent by reference to Fig. 11 which shows the parts in a corresponding position, that the machine is set to count batches of twenty-five coins, the cam 98 engaging the plunger 88 to render the feed wheel inoperative at the completion of the counting of each batch, and the reverse rotation of the feed wheel when released being limited by the engagement of the stud 104 with the stop arm 106. By proper adjustment of the stop arm 106 the machine may be operated to successively count batches of coins in any desired multiple of five. To provide for adjustment of the stop arm 106,

the shaft 108 on which it is mounted extends upwardly through the base plate 6 of the machine, and has secured on its upper end an operating arm 134 which is adapted to be moved by the operator over the base plate 6. The adjusting arm 134 is held in the position moved by means of a downwardly spring pressed plunger 135 mounted in the outer end thereof, the plunger being provided with a reduced lower end adapted to be received in any one of a series of apertures 136 in the base plate, and being adapted to be disengaged from its aperture and the arm moved by means of a knob 138 secured on its upper end.

In case it is desired to operate the machine to count coins continuously, as distinguished from counting them in batches, the stop arm 106 is moved to the position shown in Fig. 17 so that the ratchet wheel 94 when released will be carried by its spiral spring to the position shown in Fig. 13. In this position of the ratchet wheel, the star wheel actuated cam 96 is opposite a clearance space 140, which is provided by leaving out one tooth of the ratchet wheel, so that during the continued rotation of the star wheel the cam 96 will not operate the ratchet wheel and thus the coin feed wheel will remain in operative position.

In order to insure the star wheel 8 being turned step by step uniformly as the coins are fed past it, a second star wheel 142 is secured on the shaft on which the coin actuated star wheel is mounted, and a retaining roll 144 is yieldingly held between adjacent teeth of the wheel 142 by means of a spring pressed lever 146 on which it is mounted.

In order to assist the feed wheel 12 in feeding the coins with a minimum amount of frictional resistance, an idler roll or wheel 148 extends upwardly through a slot in the base plate 6 directly beneath the feed wheel 12 so as to cooperate with the feed wheel to feed the coins between them.

The retaining block 52 for the feed wheel supporting arm 44 is provided with a knob 149, by means of which the operator may lift the block clear of the lug 56 on said arm and swing it to one side to permit the feed wheel and arm to be swung upwardly and thus permit access to the coin path beneath the feed wheel and adjacent parts of the machine.

In the illustrated machine, the gate 20 (Figs. 1, 4, 8 and 9) under which the coins pass from the centrifugal wheel to the feed wheel, is substantially 90 degrees of the shell 19 that surrounds the periphery of the centrifugal wheel, the shell being cut away to receive the gate and the portion 151 of the shell below the plain of the lower edge of the gate being curved outwardly so as to guide the coins toward the guiding members 22 and 24. This gate is adapted to be adjusted vertically to compensate for coins of

different thicknesses or denominations. To provide for this a boss 150 on the gate is secured on the upper end of a vertical rod 152 which is mounted to slide in an aperture in the base plate 6 and is pressed upwardly by means of a spring 154 coiled about the rod and interposed between a lug 156 on the machine frame and a collar 158 secured on the lower end of the rod. The boss 150 is provided with a central aperture through which extends a stem 160, the lower end of which is screw-threaded into an aperture 162 in the base plate 6. An index knob 164 is secured on the upper end of the stem 160. With this construction, the gate 20 may be raised and lowered as desired in accordance with the thickness of the coins to be counted by the machine. The screw threads in the aperture 162 on the lower end of the stem 160 are so formed that any desired adjustment of the gate may be effected by turning the knob 164 a distance less than three hundred and sixty degrees so that suitable index characters may be used on the knob to indicate the position to which the knob should be turned for any particular coin. In order to prevent the knob being turned more than a complete revolution or in the wrong direction while effecting such adjustment the lower end of the knob is provided with an annular groove 166, and cooperating stop pins 168 and 170 are respectively secured in the knob and in the boss 150 so as to project into said groove. The gate may be removed to obtain access to the path of the coins beneath the gate and the associated parts of the machine, by pressing it downwardly against the tension of the coil spring 154 so as to position the stop pin 170 out of the path of the stop pin 168 on the knob 164 and thus permit the knob to be turned to unscrew its stem from the base plate 6.

The provision of this relative long gate 20 and the outwardly curved guiding portion 151 of the shell 19, ensures the coins being uniformly and continuously delivered between the guiding members 22 and 24 and to the feed wheel 12.

The coin guiding member 22 comprises a plate which is mounted on the base plate 6 and is provided with a suitably shaped edge surface 174 arranged opposite the coin actuated star wheel 8 for guiding the coins past the star wheel, and an inclined edge surface 176 for guiding the coins after they leave the guiding portion 151 of the shell 19 from beneath the gate 20 to the feed wheel 12. The guiding member 22 is adjustable longitudinally toward and from the star wheel to compensate for coins of different diameters or denominations, the member being mounted in a suitable guideway in the bracket block 48. Such adjustment may be conveniently effected by the operator by means of an upstanding handle 178 which is secured to an

arm 180 projecting forwardly from the guiding member. Adjacent the outer end of the arm 180 a suitable index member 182 is provided on which is indicated the different positions to which the guiding member may be moved to effect the various desired adjustments. The guiding member is held in adjusted position by means of a set screw or bolt 184 which is screw-threaded through a boss on the bracket block 48 and engages a block 186 resting on the guiding member 22.

The guiding or deflecting member 24 extends beneath the gate 20 and projects a distance inwardly beyond the gate over the centrifugal wheel 18. This member is provided with an inclined surface 188 for separately deflecting coins from the centrifugal wheel and through the space beneath the gate 20, and together with the inclined surface 176 of the guide member 22 guiding the coins toward the feed wheel 12. This deflecting member 24 is secured on a pivot shaft 190 so as to permit the member to be adjusted about the axis of the shaft to vary the distance between its inclined surface 188 and the opposite inclined surface 176 of the guiding member 22, and to vary the extent that the coin engaging end of the member extends over the centrifugal wheel 18. It will be apparent that by suitably adjusting this member 24 there will be no danger of the several coins becoming jammed as they pass from the centrifugal wheel and they will be uniformly and separately guided to the feed wheel. Such adjustment of the deflecting member 24 in accordance with the size of the coins to be counted is conveniently accomplished upon adjustment of the guiding member 22. To provide for this an arm 192 is secured to the pivot shaft 190 and its free end is connected by a link 194 with one end of a lever 196 that has its other end connected through a pin and slot connection 198 with the under side of the guiding member 22. Thus, upon adjustment of the guiding member 22 the link and lever connection will act to correspondingly adjust the deflecting member 24.

As will be evident to those skilled in the art, our invention permits various modifications without departing from the spirit thereof or the scope of the appended claims.

What we claim is:

1. A coin counting machine having, in combination, a counting device, a feed wheel for feeding coins past the counting device to actuate the same, and means acting automatically to move the feed wheel out of the path of the coins when a predetermined number of coins have been fed past said device.

2. A coin counting machine having, in combination, a counting device, a support over which coins are adapted to be fed past said device to actuate the same, a feed wheel for thus feeding the coins, and means acting automatically when a predetermined number of

coins have been fed past said device to raise the feed wheel out of position to engage the coins.

3. A coin counting machine having, in combination, a counting device, a support over which coins are adapted to be fed past said device, a feed wheel for thus feeding the coins, a spring for yieldingly pressing the feed wheel toward said support to cause it to operatively engage the coins, and means acting automatically when a predetermined number of coins have been fed past said device to render said spring ineffective to press the feed wheel toward said support.

4. A coin counting machine having, in combination a counting device, cooperating wheels for feeding coins between them past said device, and means acting automatically to move one of the wheels away from the other wheel to render said wheels inoperative to feed the coins when a predetermined number of coins have been fed past said device.

5. A coin counting machine having, in combination, a counting device, a support over which coins are adapted to be fed past said device, a feed wheel for thus feeding the coins, a shaft on the inner end of which the feed wheel is mounted, a supporting member having bearings for the shaft pivotally mounted at its outer end to permit it to be moved to move the feed wheel toward and from said coin support, means adapted to be released by the operator for holding said supporting member in position to hold said feed wheel in coin feeding position, and means for driving the shaft.

6. A coin counting machine having, in combination, a counting device, a support over which coins are adapted to be fed past said device, a feed wheel for thus feeding the coins but capable of being displaced so as to be ineffective to feed the coins, means for holding the feed wheel in coin feeding position, and means acting automatically when a predetermined number of coins have been fed past said counting device to release said holding means.

7. A coin counting machine having, in combination, a counting device, a support over which coins are adapted to be fed past said device, a feed wheel for thus feeding the coins but capable of being displaced so as to be ineffective to feed the coins, means for holding the feed wheel in coin feeding position, and means for releasing said holding means comprising a rod acting when moved in one direction to release said holding means and when retracted to permit said holding means to hold the feed wheel in coin feeding position, a stop for holding said rod in said retracted position, and means acting automatically when a predetermined number of coins have been fed past said counting device to release said stop to permit said rod to be moved to release said holding means.

8. A coin counting machine having, in combination, a counting device comprising a coin actuated star wheel, a support over which coins are adapted to be fed to actuate said star wheel, a feed wheel for thus feeding the coins but capable of being displaced so as to be ineffective to feed the coins, means for holding the feed wheel in coin feeding position, and means controlled by said star wheel for releasing said holding means when a predetermined number of coins have been fed past the star wheel.

9. A coin counting machine having, in combination, a counting device, means for feeding coins past the counting device to actuate the same, a container for receiving the coins thus fed past the counting device, said container being adapted to be moved into and out of position to receive the coins, devices acting automatically to render the feeding means inoperative when a predetermined number of coins have been fed past the counting device, mechanism capable of being operated by the operator to reset said devices to render said feeding means again operative, and means for preventing said mechanism from being thus operated, said means being released automatically to permit said mechanism to be thus operated upon movement of the container out of operative position.

10. A coin counting machine having, in combination, a counting device, means including a rotating centrifugal wheel for feeding coins past the counting device, mechanism for rendering said feeding means inoperative when a predetermined number of coins have been fed past said device and for maintaining said feeding means inoperative during the continued rotation of said centrifugal wheel, and a plurality of manually operable devices capable of effective operation only in a definite sequence for re-setting said mechanism to render said feeding means again operative.

11. A coin counting machine having, in combination, a counting device comprising a coin actuated star wheel, means for feeding coins past the star wheel to actuate the same, a ratchet wheel, connections between the ratchet wheel and said star wheel for rotating the ratchet wheel in one direction in timed relation to the rotation of the star wheel, a spring tending to rotate the ratchet wheel in the reverse direction to return it to its initial angular position, a pawl for preventing said ratchet wheel from rotating in said reverse direction, a plunger carried by the ratchet wheel, means for shifting the plunger in one direction when the ratchet wheel reaches a definite angular position, mechanism actuated by said plunger when thus shifted to render said feeding means inoperative, a manually operable device for releasing said pawl to permit said spring to return the ratchet wheel to its initial angular position, and means for re-setting said mechanism to render said feeding means operative, said resetting means being incapable of effective operation until said pawl has been released.

12. A coin counting machine having, in combination, a counting device, means for feeding coins past the counting device to actuate the same, a centrifugal wheel, guiding members spaced apart for guiding the coins from said centrifugal wheel to said feeding means, and means for adjusting both of said guiding members toward and from each other to accommodate coins of different diameters.

13. A coin counting machine having, in combination, a counting device, means comprising a coin operated star wheel for operating the counting device, a centrifugal wheel, a coin deflecting member projecting a distance over said wheel for deflecting the coins toward said star wheel, a guiding member for guiding the coins past the star wheel and means for simultaneously adjusting both the deflecting member and the guiding member to accommodate coins of different diameters.

14. A coin counting machine having, in combination, a counting device, means for operating the counting device comprising a star wheel, a centrifugal wheel, a coin deflecting member projecting over said centrifugal wheel for deflecting the coins toward said star wheel and pivotally mounted to permit it to be projected different degrees over said centrifugal wheel, a guiding member for guiding coins past said star wheel and adjustable toward and from the star wheel to accommodate coins of different diameters, and means for effecting said adjustment of said deflecting member upon adjusting said guiding member.

15. A coin counting machine having, in combination, a counting device, means for feeding coins past the counting device, a centrifugal wheel for delivering coins to said feeding means, a shell surrounding said wheel, a gate extending over substantially 90 degrees of the periphery of said wheel, extending increasing distances over the wheel toward its forward end and spaced a distance above the plane of the wheel to permit the coins to pass beneath it throughout substantially the length thereof to said feeding means, said shell having a portion for guiding the coins after they pass beneath said gate, and means for adjusting said gate vertically to vary the height of the space beneath it in accordance with the thickness of the coins to be counted.

16. A coin counting machine having, in combination, a counting device, means for feeding coins past the counting device, a centrifugal wheel for delivering coins to said feeding means, a shell surrounding said wheel, a gate arranged eccentrically of said wheel so as to extend increasing distances

over the wheel toward its forward end and spaced a distance above the plane of the wheel to permit the coins to pass beneath it throughout substantially the length thereof to said feeding means, said shell having a portion for guiding the coins after they pass beneath said gate, and means for adjusting said gate vertically to vary the height of the space beneath it in accordance with the thickness of the coins to be counted, said gate being adapted to be removed to permit access to the space beneath it.

17. A coin counting machine having, in combination, a frame, a counting device, means for feeding coins past the counting device, a centrifugal wheel for delivering coins to said feeding means, a shell surrounding said wheel, a gate spaced a distance above the plane of the wheel to permit the coins to pass beneath it to said feeding means, an upwardly spring-pressed rod secured to said gate for pressing the gate upwardly, means comprising a screw extending through an aperture in the gate, screw-threaded into an aperture in said frame and adapted to be turned to cooperate with said spring-pressed rod to adjust the vertical position of the gate, and cooperating means on the gate and screw for limiting the turning movement of the screw a distance not over three hundred and sixty degrees, said cooperating means being adapted to be disengaged to permit the screw to be removed from said frame so as to permit the gate to be removed to allow access to the space beneath the gate.

In testimony whereof, we have signed our names to this specification this 19th day of January, 1928.

JOSEPH JANOVSKY.
JULIUS J. LANGE.