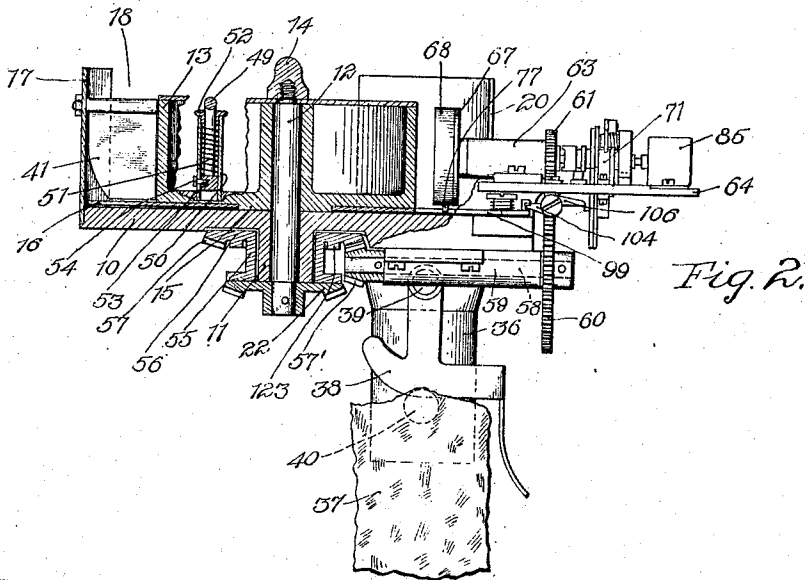


1,066,180.

2 SHEETS—SHEET 1.



Robert F. Bracke
Leonard W. Novander

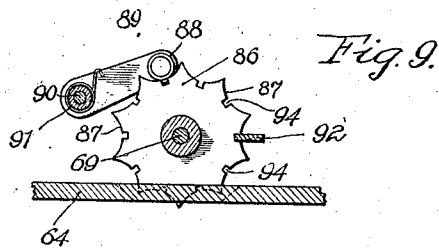
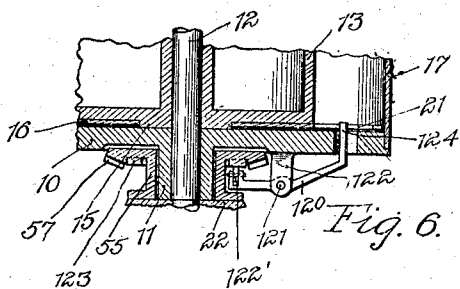
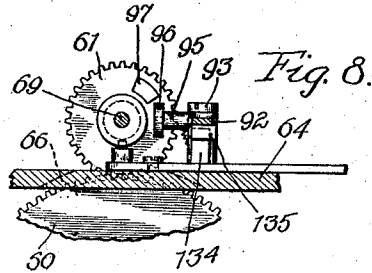
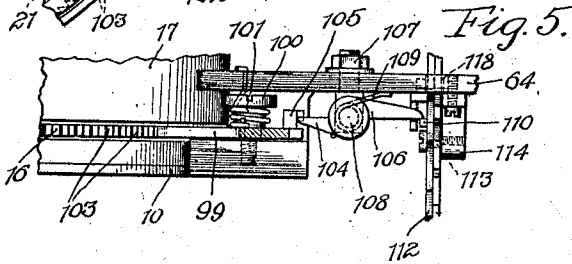
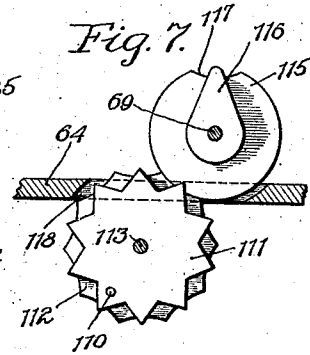
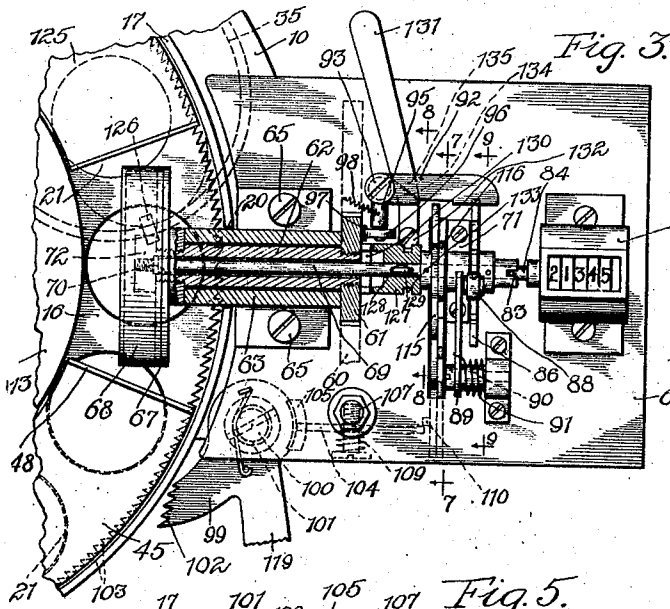
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C. L. BURDICK.
COIN COUNTING MACHINE.
APPLICATION FILED MAY 1, 1911.

1,066,180.

Patented July 1, 1913.

2 SHEETS-SHEET 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

CHARLES L. BURDICK, OF LONDON, ENGLAND

COIN-COUNTING MACHINE.

1,066,180.

Specification of Letters Patent.

Patented July 1, 1913.

Application filed May 1, 1911. Serial No. 624,363.

To all whom it may concern.

Be it known that I, CHARLES L. BURDICK, a citizen of the United States, residing at London, in the county of Middlesex, England, have invented a certain new and useful Improvement in Coin-Counting Machines, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to counting devices and is directed particularly toward machines for counting coins and similar articles in the form of disks.

I contemplate the use of my invention especially in mints, banks and similar institutions wherein large numbers of coins are handled and require counting.

Broadly, my invention provides means for moving coins singly past a given point at which engaging mechanism is disposed. This engaging mechanism is operated intermittently by the passage of the coins and a certain motion, resulting from this operation, is transmitted to associated integrating mechanism.

My invention may be said to be somewhat in the form of a "mill" into which the coins are thrown and out of which they are passed after they have been registered in the manner described above.

As a feature of further utility I provide locking means in association with the registering mechanism which is brought into play automatically after a certain number of coins have passed through the machine. In this way a number of receptacles can be filled, each with a given number of coins, quickly and conveniently, the machine coming to a full stop when each particular allotment has been completed. After each stop the machine is reset, another receptacle is brought into place, and the operation proceeds as before.

In the embodiment of my invention herein shown, means for operating the device manually is provided.

A number of useful mechanical and structural features are employed, these features being made the subject matter of some of the more specific claims hereto appended.

The engaging mechanism is in the form of a rotating head which has a part that is adapted to make momentary contact with each coin or other article as it passes. This contact causes a certain movement of the

part referred to and means is provided whereby this movement is transmitted to the operating shaft of a register.

In the accompanying drawings Figure 1 is a plan view of the device embodying my invention, parts being shown in section to further illustrate the construction; Fig. 2 is a view partly in side elevation and partly in section taken substantially along the plane of the line 2—2 of Fig. 1, and looking in the direction indicated by the arrows; Fig. 3 is a fragmentary plan view, drawn on a larger scale than Fig. 1, some parts being shown in section to further illustrate the structure; Fig. 4 is an elevational view of the "counting head," the cover being removed; Fig. 5 is a fragmentary elevational view showing the automatic stop mechanism; Fig. 6 is a fragmentary sectional view taken approximately on the plane of the line 6—6 of Fig. 1, looking in the direction indicated by the arrows; Fig. 7 is a fragmentary elevational view, showing the gearing for the automatic stop; Fig. 8 is a fragmentary elevational view showing the means for momentarily releasing the mechanism for preventing under and over throw of the register; and Fig. 9 is a fragmentary elevational view of the mechanism for securing the proper alinement of the parts connected with the register.

Like reference characters are applied to the same parts throughout the various figures.

The supporting base of the machine is shown at 10 and is of general circular form except that it is provided with parts which support some of the operating mechanisms. This circular base is provided with a central boss 11 in which a vertical shaft 12 is mounted, and a circular drum 13 is rigidly secured to this shaft in any suitable manner. In this instance the upper end of the shaft 12 is reduced and screw-threaded for the reception of a nut 14 which clamps down the top of the drum and completes the structure whereby the shaft is supported in its bearing. It is preferable for smooth-running purposes that only the central collar 15 of the drum bear down upon the base, and the resulting shoulder is adapted for the reception of an annular disk 16 which is secured to its under side in any suitable manner and which thus operates with the drum or capstan. The outside circumference of the disk 16 is within the periphery

of the base 10, and a circular wall 17 extending upwardly from the base completes the annular passage through which the coins are passed as will hereinafter be described. The circular wall is cut out at 18 for the reception of a shelf 19, and an inlet for the coin allotments is thus provided. The wall is also cut out at 20 for the reception of part of the counting mechanism as will be later pointed out. The annular disk 16 is provided near its periphery with the regularly spaced circular openings 21, 21 which are adapted to receive the coins to be counted, and in this way the coins are carried to and past the counting zone. At its lower end the shaft 12 carries the miter gear 22 with which a beveled pinion 23 meshes, as illustrated in Fig. 1, this pinion being carried upon a shaft 24 which is mounted in a bearing sleeve 25 and carried by or being a part of the base member 10. Just beyond the end of the bearing sleeve 25, the shaft 24 is provided with a sleeve 26, secured thereto by means of a cross-piece 27, this sleeve carrying the flange 28 which, as will be described, acts as a friction disk. A crank arm 29 is loosely mounted upon the outer end of the shaft 24 and a helical spring 30, which surrounds the shaft 24, is secured to the crank arm and also to a friction disk 31 which is mounted upon the sleeve 26, the disk 31 and the flange 28 being disposed face to face, with an annulus 32 of leather between them, to form a friction clutch. The end of the shaft is provided with a head 33 which is secured in place by means of a screw 34 so as to retain the crank arm in position. It will now be seen that when the crank 29 is turned the motion will be transmitted to the friction disk 31 through the spring 30, then to the friction disk 28, to the shaft 24, then gears 23 and 22, and then to the shaft 12 and the drum or capstan. In this way rotary movement may be imparted to the capstan and the disk carried thereby, and the coins may thus be carried through the annular passage in a manner to be described. The circular base 10 is provided, in the path of the openings in the disk, with an outlet opening 35 which leads into a downwardly extending chute 36 suitably supported from the base. A bag 37 may be hung upon this chute by means of a clamp 38, pivoted at 39, which cooperates with one or more buttons 40 carried by the chute.

The counting point or zone is on one side of the capstan approximately on a diametrical line and considerably distant from the inlet space 18. It is important that but one coin pass this counting zone or point at a time and in order that this may always be the case I provide a plurality of spring gates or brushes 41, 41 which, by means of screws 42, 42, are secured to brackets 43, 43

extending inwardly from the circular wall 17 and secured in place by means of bolts 44, 44. The spring gates 41, 41 thus occupy transverse positions in the annular passage and, since they extend downwardly almost to the plane of the disk 16, they will tend effectively to prevent coins, other than those actually lodged in the openings 21, 21, from passing. In fact, they operate to move the coins into the openings so that they may pass thereunder. I might state here that the capstan, with the disk, is rotated in the direction of the arrow *a* and, as a final precaution, a shearing plate 45 is disposed in the passageway near the counting point and is held in place by means of a screw (not shown) passing through a lug 46, which extends outside the wall 17, and into a part of the base. The edge 47 of this shearing plate, which is presented to the approaching coins, is made more or less sharp so that superfluous coins will be picked up, and to assist in this action this edge extends obliquely across the passageway. The shearing plate is disposed close to the top of the disk 16, in parallel relation thereto, and the other end thereof is provided with an upwardly extending barrier 48 against which such superfluous coins are caught.

A spring gate or brush 41, in general construction just like the other spring gates described, is provided at the inlet space 18. In this instance, however, the gate is secured upon an L-shaped bracket 49, the vertical leg of which extends down into a tube 50 secured to the shelf 19. A coiled spring 51 is disposed inside the tube between a head 52 on the tube and a collar 53 on the bracket. If a jam occurs the gate will be raised against the tension of the spring so as to allow it to pass thereunder. This movement of the gate is guided by means of a screw 54 operating in a slot in the tube and carried by the bracket.

Mounted upon and above the miter gear 22, in order to rotate therewith, is a sleeve 55 which carries a flange 56 upon the under side of which a miter gear 57 is provided. This miter gear meshes with a corresponding beveled pinion 57' which is secured upon a shaft 58 mounted in a sleeve bearing 59 carried on the under side of the circular base 10 and extending therebeyond. The outer end of the shaft 58 is provided with a gear 60 which meshes with a pinion 61 carried upon a tubular shaft 62 which, in turn, is mounted in a bearing 63 secured to a shelf 64 by means of screws 65, 65. The shelf 64 extends laterally from the general circular construction and is suitably supported by the base; this shelf being further provided with a slot 66 through which the gear combination, 60, 61, may extend. This arrangement is best shown in Figs. 3 and 8. The axis of the bearing 63 is coincident with

the line of the counting point, hereinbefore referred to, and this bearing extends through the slot 20 in the circular wall, hereinbefore described. The tubular shaft 62 is reduced and screw-threaded at its forward end for the reception of the casing 67 of the counting head, this casing being provided with a cover 68. A spindle 69 is mounted in the tubular shaft 62 by the intervention of a bushing 70 and is further journaled in a bearing 71 mounted upon the shelf 64 at a distance from the bearing 63. The spindle 69 extends forwardly into the casing 67 where it is provided with a toothed wheel 72, as best shown in Fig. 4. Still referring particularly to this figure, wherein internal mechanism for the counting head is shown, it will be seen that a lever 73 is pivotally mounted at 74 to the back of the casing. This lever passes under the toothed wheel and, at its end, has pivoted thereto, by means of the pin 75, a lever 76 one arm of which extends downwardly and is provided with a roller 77. The other arm of the lever 76 extends upwardly and a coiled spring 78 connects the upper end with a screw 79 on the back of the casing. A spring 80 mounted upon a stud 81 on the back of the casing engages the lever so as to move it downwardly and so as to normally move the teeth 82, provided on the upper side of the lever 73, out of engagement with the teeth on the wheel 72. It will now appear that, as the drum or capstan is rotated, the counting head will rotate and the gear ratios are such that the head will make one complete revolution during the time that the disk 16, which I term the "coin disk," passes through an arc equal to the arcs between the coin openings 21, 21. Furthermore, the gears are so timed that the roller 77 comes into contact with each of the coins as they pass by and so that it remains in such contact for the same length of time in all instances. In the machine which I have designed the roller is kept in contact with each of the coins for one-tenth of the complete revolution of the head. The spindle 69, in the normal operation of the machine, is always at rest except when the toothed wheel 72 carried thereby is engaged by the teeth on the lever 73. Then, if the machine is running, the spindle 69 will be carried around with the head while such engagement exists—in other words, while the roller is in contact with a coin. Thus, as operation proceeds, whenever the roller 77 comes around and finds a coin in the passing opening of the coin disk, the teeth on the lever 73 will be thrown into engagement with the teeth on the wheel 72 and the spindle 69 will be carried around for a certain part of a revolution. The required movement of the lever 76 is such that, if no coin is found in the passing opening, the roller will not

be engaged by anything so as to move it and the teeth 82 on the lever 73 will remain out of contact with the toothed wheel 72. The spindle 69 passes outwardly beyond the bearing 71 and, by means of a clutch 83, is connected with the shaft 84 of a totalizing register 85. My invention has nothing to do with the details of this register and it may therefore be of any adaptable construction. Another contacting system may be provided on the other side of the head to make two contacts instead of one. Just beyond the bearing 71, the spindle 69 has rigidly secured thereto a cam wheel 86 which is provided with a plurality of peripheral pockets 87, 87, regularly spaced and equal in number to the number of actuations of the lever 76 in the rotating head required to transmit a complete revolution to the spindle 69. A roller 88 carried upon the end of a swinging arm 89, which is mounted upon a stud 90 carried by the shelf 64, follows the periphery of this cam wheel, and a spring 91 tends to hold the roller down in such following engagement. Thus, the cam wheel 86 acts as an alining member since the spring-pressed follower will always tend to rest in the bottom of a pocket or depression. In this way, if the motion given to the lever 76 in the counting head is not precisely accurate—if it is given too little or too much movement—the spring-pressed follower will operate to complete the motion of the shaft so that the proper amount will always be delivered to the register 85. The arrangement just described is best shown in Fig. 9.

In order that the momentum of the parts, when the machine is running at high speed, may not carry the counting mechanism over more than one unit for each actuation of the lever 76 in the head, I provide the positive detent arrangement best illustrated in Figs. 3 and 9. A lever 92 is pivoted at 93 to the shelf 64 and is mounted approximately on the horizontal plane of the axis of the spindle 69. This lever is arranged to enter slots 94, 94 in the periphery of the cam wheel 86, these slots being equal in number to the number of times that the operating lever 76 must be actuated in order to secure one complete revolution of the spindle 69. The wheel 86 therefore acts further as a detent member. The lever 92 carries the lateral projection 95 which, by reason of the proper disposition of the pivot 93, extends partly over the face of the pinion 61. This projection carries a roller 96 which is adapted to follow a cam 97 carried upon the face of the pinion 61. A spring 98 holds the roller 96 in engagement with the face of the pinion and, simultaneously maintains the lever 92 in engagement with one of the slots 94, 94 in the periphery of the cam wheel 86. The cam 97 is of such form that it tends to move the roller 96 away from the

face of the pinion and consequently tends to bring the lever 92 out of engagement with the cam disk. Furthermore, this cam is made of such effective length that the lever 92 will be out of engagement with the wheels during that part of the revolution of the head which is transmitted to the spindle 69. The spring 98 then operates to restore the lever to the succeeding slot and in this way the machine has positive and reliable operation.

The mechanism for automatically stopping the machine when a predetermined number of coins have been registered is illustrated in Figs. 2, 3 and 5. As here shown, a pawl 99 is pivoted to the base by means of a stud 100. A spring 101 tends to swing the pawl 99 in a clockwise direction (Fig. 3) so that the teeth 102 on the end thereof may come into engagement with teeth 103, 103, on the outer periphery of the disk 16, the pawl and the disk being disposed in approximately the same plane, and the circular wall 17 being provided with a suitable opening through which the pawl may pass for this purpose. The tension of the spring 101, however, is restrained by means of a detent 104 which normally engages with a catch 105 on the pawl. The detent 104 is on a lever 106 which is pivoted by means of a universal joint 107, 108 to the shelf 64. A spring 109 tends to draw the detent 104 upwardly so that, when the catch part 105 engages therewith, a latch action takes place. The other arm of the lever 106 has its end in the path of a pin 110 which is carried upon a duplex wheel comprising the star wheel 111 and the locking wheel 112, these members being mounted upon a stud 113 secured in a support 114 depending from the shelf 64. The locking wheel 112 is provided with a plurality of pockets in its periphery, each of which is adapted to be snugly engaged by the locking disk 115 rigidly carried upon the spindle 69. The star wheel 111 is provided with a corresponding number of teeth and an actuating tooth 116, carried with the locking disk 115, is arranged to engage these teeth on the star wheel. At the zone of the tooth 116, the disk 115 is cut out as indicated at 117 so that when the tooth 116 engages one of the teeth on the star wheel, the locking disk 112 will be able to move through the free passage thus provided. This arrangement of parts extends through a suitable slot 118 in the shelf 64. In the present case I have disclosed an arrangement wherein the spindle 69 makes one complete revolution for every ten actuations of the operating lever in the counting head. Furthermore, I have provided the star wheel 111 with ten teeth and it will therefore appear that the pin 110 will revolve once about the center 113 for every one hundred actuations

of the actuating lever in the counting head. I wish it to be understood, however, that my invention contemplates other combinations. As before stated, one end of the lever 105 lies in the path of the pin 110 and it will appear that when the pin engages that end of the lever, the other end will be lowered against the tension of the spring 109, so that the pawl 99, under the influence of the spring 101, will move over to bring its teeth into engagement with the teeth on the rotating disk. This will stop the machine and it will be impossible to proceed until the pawl 99 has been removed from its engagement with the disk. A handle 119 is provided for this purpose and it will appear that when, by means of it, the pawl is moved in a counter-clockwise direction, the detent 104 will again be lodged in the catch 105 and the parts remain in these relative positions until the pin 110 again comes into engagement with the lever. It is clear that the number of registrations required for the automatic stop may be changed by providing more pins in the star wheel. For instance, if a second pin were disposed diametrically opposite the pin shown, the machine would be stopped automatically for every fifty registrations. The friction disk arrangement which I have described eliminates a dead stop when the automatic mechanism takes effect, since the handle can be moved for a considerable part of a revolution against the resilient drag of the spring 30.

In order to provide against the registration of coins when the machine is turned in the wrong direction, I have provided the arrangement shown in Figs. 1 and 6. Here a lever 120 is mounted at 121 in a support 122 extending downwardly from the base 10 near the flange 56 which operates around the main shaft 12. One arm of this lever is provided with a roller follower 122' which rides upon the under side of the flange 56, this under side being provided with a plurality of cams 123, 123. These cams are equal in number to the number of the openings in the disk 16 and the other arm of the lever is provided with a toe 124 which passes upwardly through a slot 125 in the base and through an alining opening in the disk. The cams 123, 123 are so timed relative to the disk that the toe 124 will be brought upwardly whenever one of the openings 21, 21 is in alinement therewith. In this way, should the machine be turned the wrong way and coins supplied in the openings, the coins would be removed therefrom and caught by a shearing plate 125, similar to the shearing plate 45. The plates 45 and 125 could be made in one piece with just an opening for the head.

While the operations of the various parts of my machine have been described in con-

nection with the structural explanations, I shall set forth a brief summary of the complete operation as follows: A quantity of coins is introduced into the annular passage between the capstan and the outer wall by way of the inlet space 18 and the crank 29 is turned in a direction so that the capstan will rotate in the direction of the arrow *a*. The coins will be carried with the disk, some of them dropping into the openings 21, 21 and the gates 41, 41 will tend to prevent superfluous coins from passing on to the counting point. When the shearing plate 45 is reached any coins which might nevertheless remain upon the disk and not in one of the openings, will be removed. Then the coins, in the openings, pass by the counting point where they are each engaged by the rotating lever 75. Each such engagement results in a definite advance of the spindle 69 and of a corresponding advance of the register 85. Proper alinement of the register is maintained by the cam disk which has been described and improper operation, by reason of inertia, is prevented by the detent lever 92 and the associated parts, as pointed out. After the coins have been registered in the manner described, they pass on to the opening 35 through which they fall into a suitable receptacle below. The recoil of the spring 78 violently ejects the coins from the opening in the disk into the chute, and a small roller 126 may be provided in the base, at the edge of the chute, for reducing the friction at this point. During the operation of the spindle 69 the star wheel arrangement is gradually advanced and, when a predetermined number of coins have been registered, the pawl 99 is released and the machine is stopped. When the pawl is removed from its engagement with the disk and is caught by the latch, the operation may proceed as before.

In order that the totalizer 85 may be re-seated quickly and conveniently, I provide means whereby its shaft may be temporarily connected directly with the pinion 61 rather than through the intervention of the mechanism of the counting head. This arrangement is in the form of a clutch member 127 which is slidably guided upon the spindle 69 by means of a pin 128 and a slot 129, and clutch members 130 on the face of the pinion 61. A lever 131, pivoted at 132 to the shelf 64 is provided with a part which engages in the peripheral groove 133 in the member 127 and it will be clear from Fig. 3 that when the handle 131 is thrown over, the clutch members will be brought together so as to connect the pinion 61 directly with the spindle. The lever 131 is provided with the upright extension 134 which coöperates with the downward extension 135 on the lever 92. Thus, when the handle is thrown over, these parts, which have oblique faces

engaging each other, coöperate to withdraw the lever 92 from the wheel 86. In this way the totalizer is released for operation and when the crank 29 is turned the motion will be transmitted directly to the totalizer and it may be operated at high speed.

I claim as new and desire to secure by Letters Patent:

1. In a coin counting machine, a horizontally movable member for carrying coins one at a time past a given point, a rotatable member at said given point, said rotatable member being mounted above said movable member, a totalizer having its shaft associated with said rotatable member and coincident therewith, said rotatable member being disposed in a plane at right angles to the movable member, and an actuating member carried by said rotatable member, said actuating member being adapted to engage the coins and to thereby transmit motion to the shaft of said totalizer.

2. In a coin counting machine, a horizontally movable member for carrying coins regularly spaced past a given point, a rotatable member at said given point, said contacting member being mounted above said movable member, said rotatable member being disposed in a plane at right angles to the movable member and making one revolution while said movable member travels a distance equal to that between the coins, a totalizer having its shaft associated with said rotatable member, and an actuating member being adapted to engage the coins and to thereby transmit motion to the shaft of said totalizer.

3. In a coin counting machine, a movable member for carrying coins regularly spaced past a given point, a rotatable head at said given point, said head making a revolution while said member travels a distance equal to that between the coins, a totalizer having a shaft terminating in said head and carrying a toothed wheel, a lever carried by said head and having teeth for engaging with said wheel, an actuating lever carried by said first-named lever, resilient means for holding said first-named lever out of engagement with said wheels, and resilient means for holding said actuating lever so that it may pass through the path of the coins, said actuating lever when engaged by a coin moving said first-named lever so that the teeth thereon will come into contact with said wheel to carry the shaft of said totalizer around for part of a revolution.

4. In a coin counting machine, a movable member for carrying coins, a contacting member past which the coins are moved, a totalizer operatively connected with said contacting member, a spring-pressed pawl tending to engage said movable member to stop it, a latch normally restraining said pawl, a trip for said latch, and intermit-

tently operated mechanism associated with said totalizer for advancing said trip.

5. In a coin counting machine, a movable member for carrying coins, a contacting member past which the coins are moved, a totalizer associated with said contacting member, driving means operating said totalizer through said contacting member, and clutch mechanism for shifting the driving means directly to said totalizer.

6. In a coin counting machine, a movable member for carrying coins, a rotatable contacting member past which the coins are moved, and a shearing plate for removing superfluous coins from said member before it reaches said contacting member, said contacting member making a complete revolution between engagements thereof with each coin.

7. In a coin counting machine, the combination of a movable member for carrying coins, a rotatable contact member past which the coins are moved, a totalizer associated with said member, said movable member having teeth at its periphery, a spring pawl for engaging said teeth after a predetermined number of coins have passed through the machine.

8. In a coin counting machine, the combination of a movable member for carrying coins, a rotatable contact member past which the coins are moved, a totalizer connected with said member, serrations on the periphery of said movable member, a spring pawl normally held out of engagement with the serrations, and means for releasing said pawl to stop the rotation of the movable member.

9. In a coin counting machine, the combination of a movable member for carrying coins, a rotatable contact member past which the coins are moved, a totalizer associated with said member, teeth on said movable member, a spring pawl normally held out of engagement with said teeth, releasing means operating to cause said pawl to engage the teeth to stop the rotation of the movable member after a predetermined number of coins have engaged said contact member.

10. In a coin counting machine, the combination of a movable member for carrying coins, a rotatable contact member past which the coins are moved, a totalizer co-axially connected with said member, projections on said movable member, a spring pawl normally held out of engagement with said projections, releasing means operating to cause said pawl to engage the projections to stop the rotation of the movable member after a predetermined number of coins have been registered.

11. In a coin counting machine, the combination of a movable member for carrying coins, a rotatable contact member past

which the coins are moved, a totalizer connected with said member, projections on the periphery of said movable member, a spring pawl normally held out of engagement with said projections, releasing means operable from the shaft of the contact member, and operating to cause said pawl to engage the projections to stop the rotation of the movable member after a predetermined number of coins have passed into engagement with said contact member.

12. In a coin counting machine, a movable member for carrying coins, a rotatable contacting member past which the coins are moved, a totalizer co-axially connected with said contacting member, a spring pressed pawl tending to engage said movable member to arrest its motion, a latch normally restraining said pawl, a trip for said latch, and mechanism associated with said totalizer for advancing said trip.

13. In a coin counting machine, a movable member for carrying coins regularly spaced past a given point, a rotatable head at said given point, said head making a revolution while said member travels a distance equal to that between the coins, a totalizer having a shaft terminating in said head and carrying a notched wheel, a lever carried by said head and having projections for engaging with said wheel, an actuating lever carried by said first-named lever, mechanism for holding said first-named lever out of engagement with said wheel, and means for holding said actuating lever so that it may pass through the path of the coins, said actuating lever when engaged by the coin moving said first-named lever so that the projections thereon will come into contact with said wheel to carry the shaft of said totalizer around for a part of a revolution.

14. In a coin counting machine, a movable member for carrying coins regularly past a given point, a rotatable head at said given point, said head making a revolution while said member travels a distance equal to that between the coins, a totalizer having a shaft terminating in said head and carrying a notched member, a lever carried by said head and having teeth for engaging with said member, an actuating lever carried by said first-named lever, mechanism for holding said first-named lever out of engagement with said member, and resilient means for holding said actuating lever so that it may pass through the path of the coins, said actuating lever when engaged by a coin moving said first-named lever so that the teeth thereon will come into contact with said member to rotate the shaft of said totalizer a predetermined amount, and means for locking the totalizer except when said first-named lever engages with said member.

15. In a coin counting machine, a movable member for carrying coins regularly spaced past a given point, a rotatable head at said given point, said head making a revolution while said member travels a distance equal to that between the coins, a totalizer having a shaft terminating in said head and carrying a toothed-wheel, a lever carried by said head and having teeth for engaging said wheel, an actuating lever carried by said first-named lever, resilient means for holding said first-named lever out of engagement with said wheel, and means for holding said actuating lever so that it may pass through the path of the coins, said actuating lever when engaged by a coin moving said first-named lever so that the teeth thereon will come into engagement with said wheel to carry the shaft of said totalizer around for a part of a revolution, and detent mechanism for locking the shaft of said totalizer after each rotation.

16. In a coin counting machine, a movable member for carrying coins regularly spaced past a given point, a rotatable head at said given point, said head making a revolution while said member travels a distance equal to that between the coins, a totalizer having a shaft terminating in said head and carrying a toothed-wheel, a lever carried by said head and having teeth for engaging with said wheel, an actuating lever carried by said first-named lever, means for holding said first-named lever out of engagement with said wheel, and resilient means for holding said actuating lever so that it may pass through the path of the coins, said actuating lever when engaged by a coin moving said first-named lever so that the teeth thereon will come into contact with said wheel to rotate the

shaft of said totalizer around one-tenth of a revolution, mechanism for preventing more than one-tenth of a revolution at each actuation of the totalizer shaft, and means for locking said totalizer shaft after such rotation.

17. In a coin counting machine, the combination of a horizontally movable member for carrying coins of different denominations one at a time past a given point, a rotatable member at said given point, said rotatable member being mounted above said movable member and disposed in a plane at right angles to said movable member, a totalizer having its shaft associated with said rotatable member and coincident therewith, and actuating devices carried by said rotatable member, said devices being adapted to engage the coins and to thereby transmit motion to the shaft of said totalizer.

18. In a coin counting machine, the combination of a horizontally movable member for carrying coins of different denominations one at a time past a given point, a rotatable member at said given point, said rotatable member being mounted above said movable member and disposed in a plane at right angles to said movable member, a totalizer having its shaft associated with said rotatable member and coincident therewith, and actuating levers carried by said rotatable member, said levers being adapted to engage the coins and to thereby transmit motion to the shaft of said totalizer.

In witness whereof, I hereunto subscribe my name this 12 day of April, A. D. 1911.

CHARLES L. BURDICK.

Witnesses:

D. LURTIN,
CHAS. PIKE.