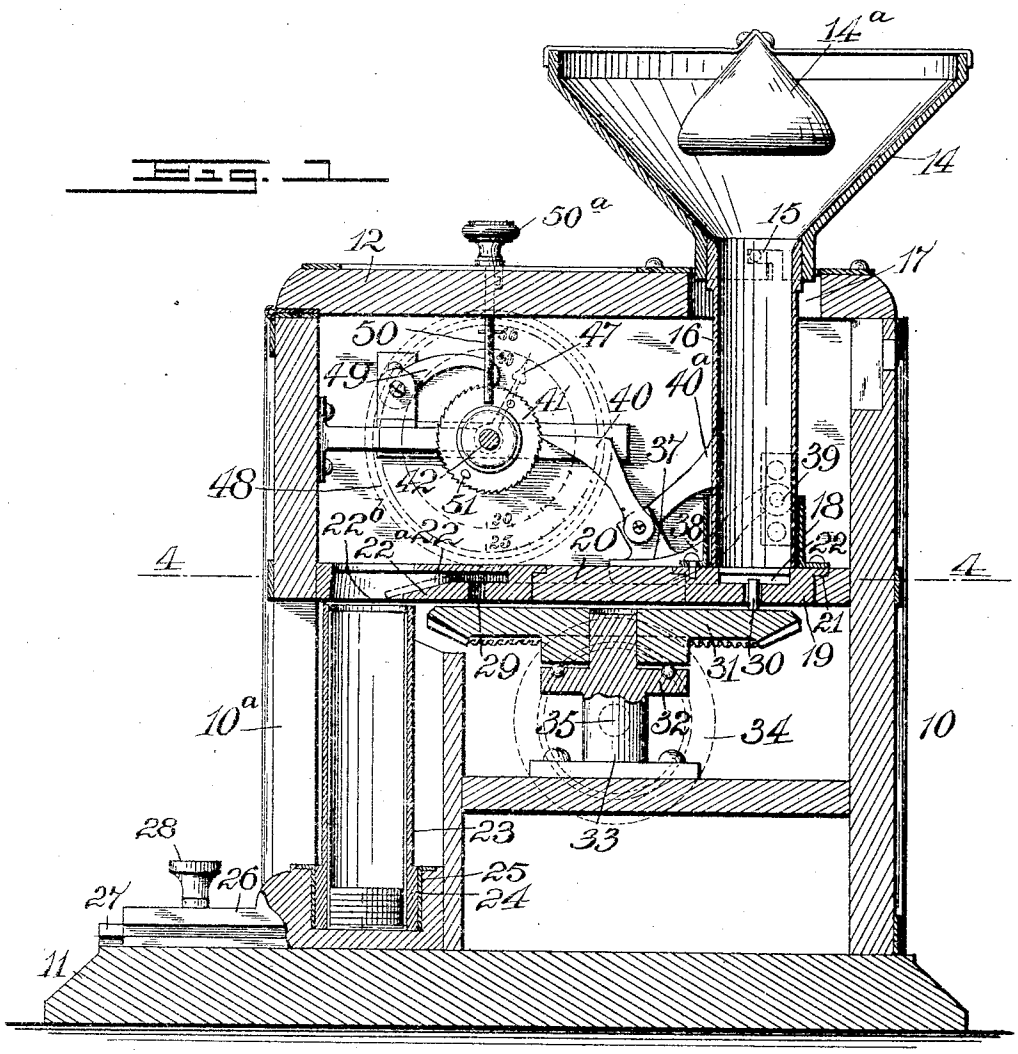
No. 765,741. PATENTED JULY 26, 1904.

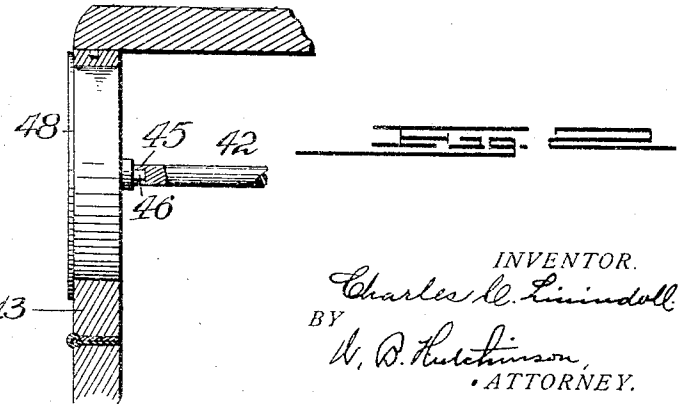
C. C. LININDOLL.

COIN COUNTING MACHINE.

APPLICATION FILED DEC. 26, 1903.

NO MODEL. 2 SHEETS—SHEET 1.





WITNESSES:

Wm. H. Canfield

John T. Carolan.

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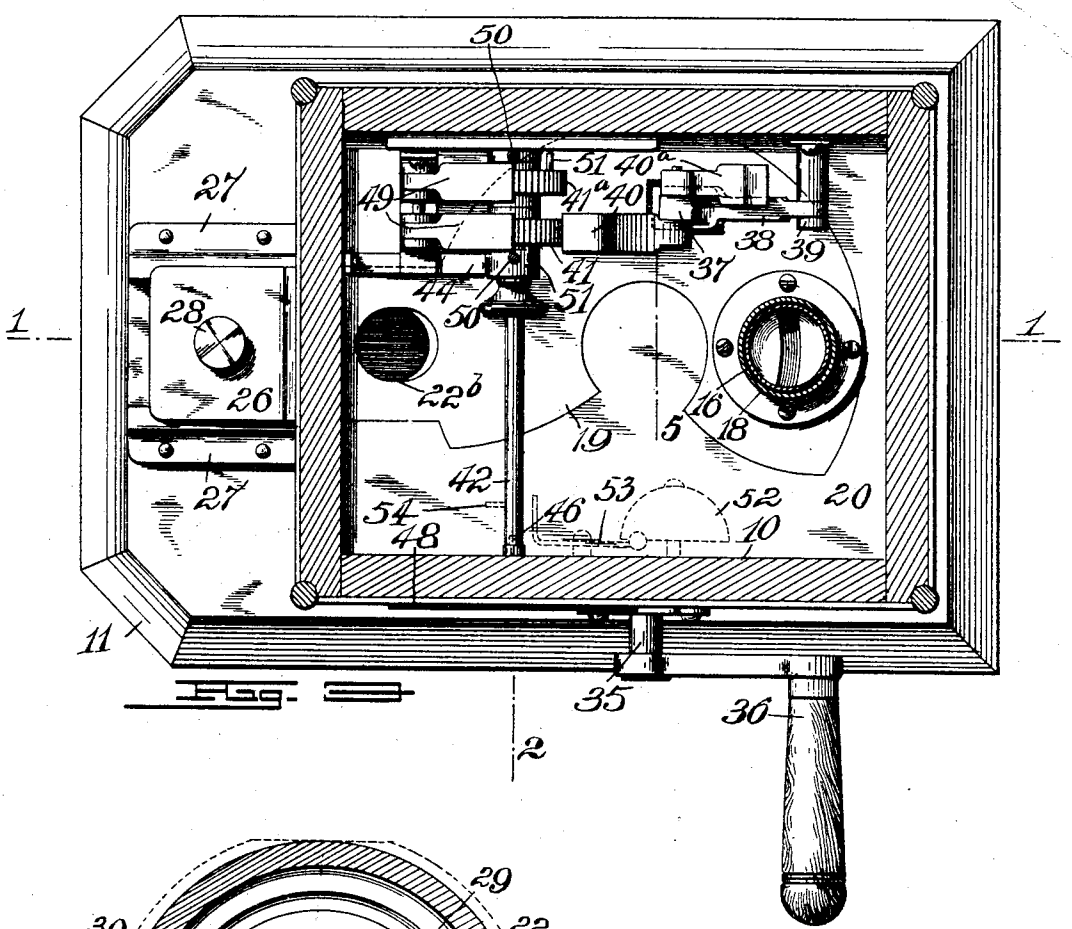


Fig. 3.

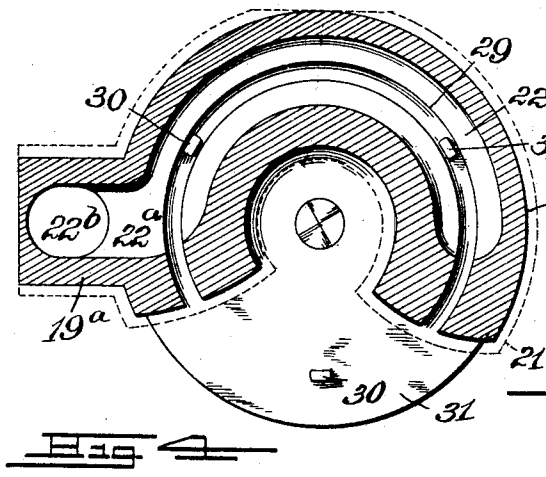


Fig. 4.

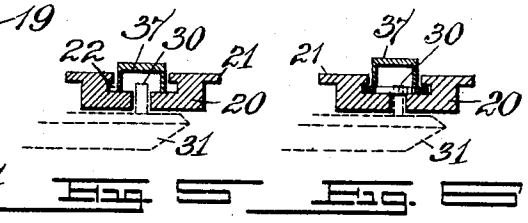


Fig. 5. Fig. 6.

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No. 765,741. Patented July 26, 1904.

UNITED STATES PATENT OFFICE.

CHARLES C. LININDOLL, OF FORT EDWARD, NEW YORK.

COIN-COUNTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 765,741, dated July 26, 1904.

Application filed December 26, 1903. Serial No. 186,529. (No model.)

To all whom it may concern:

Be it known that I, CHARLES C. LININDOLL, of Fort Edward, in the county of Washington and State of New York, have invented a new and Improved Coin-Counting Machine, of which the following is a full, clear, and exact description.

My invention relates to improvements in coin-counting machines. Counting coins by hand is a tedious and rather uncertain process, and, moreover, banks, large stores, and other institutions which handle small coins in quantities require that the coins shall be presented in packages and the packages appropriately marked to indicate the number of coins in each package.

The object of my invention is to produce a machine which is very simple, which can be quickly adapted to coins of various sizes and thicknesses, and in which each coin as it passes a certain point actuates the counting mechanism and in which the counting mechanism can only be actuated by a coin passing the said point, thus making it certain that the count is absolutely accurate.

Another object of my invention is to provide a simple means for preventing any coin getting past the counting mechanism without actuating it, to provide means for conveniently and automatically delivering the coins into their paper cartridge or package, to make certain parts of the machine readily adjustable to suit the different coins, to construct the device so that all the parts shall be readily accessible, and in general to produce a machine of the kind described which shall work perfectly and rapidly.

To these ends my invention consists of certain features of construction and combinations of parts, which will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a central vertical section of the machine on the line 1 1 of Fig. 3. Fig. 2 is a detail section taken on the line 2 of Fig. 3, showing how the dial can be tipped down and separated from its actuating-shaft. Fig. 3 is a plan of the invention with parts in section. Fig. 4 is a detail horizontal section on the line 4 4 of Fig. 1, showing particularly the coin-chute and the coin-actuating means. Fig. 5 is a section in detail on the line 5 of Fig. 3, showing the coin-contact foot in normal position; and Fig. 6 is a section similar to Fig. 5, but showing the contact-foot raised through contact with a coin.

The operating mechanism of my machine may be carried on any suitable supporting-frame; but I prefer to have an inclosing case 10, of suitable material, which also serves in part as a frame and which is preferably provided with a base 11 somewhat longer than the case to provide for the convenient withdrawal of the coin-slide, as hereinafter described. I also prefer to construct the case with a hinged lid 12 at the top and with a swinging side lid 13, (see Fig. 2,) which can be opened when the top lid is opened, so that the whole upper part of the case can be laid open for convenience in getting at the parts and especially in removing the coin-tube.

At the top of the machine I provide a hopper 14, into which the coins are poured or placed in bulk, and the hopper has preferably a nearly conical deflector 14^a supported therein, which has a tendency to prevent the coins from getting cocked and which causes them to slide in proper position into the coin-tube 16, which is detachably secured to the hopper by a bayonet-joint 15, although other means of connection can be used or the hopper and tube can be made integral, if preferred; but in the latter case there would have to be a hopper for every tube. By having the hopper separable from the tube, however, various tubes can be used, each of a size to receive a coin of a certain denomination.

The coin-tube is vertically arranged and at its lower end is seated in a socket 18, which is secured to a removable plate 19 of irregular form, but of a generally segmental outline, the plate being supported on a horizontal partition 20 of the case 10 and having at one side an offset 19^a to provide for the coin-chute to be presently referred to. The plate 19 has

preferably edge flanges 21, which fit into corresponding recesses in the partition 20, though this construction is not material.

In the plate 19 is a horizontal coin-chute 22 of a size to receive a particular coin, so that the coin may lie flatwise and be pushed along therein, and this chute describes a segment of a circle and at its outer end is projected laterally into the offset 19^a and is inclined, as shown at 22, the said chute delivering through a hole 22^b into the receiver 23, which is tubular in form and which is of the same approximate size as the tube 16. The receiver 23 may be thickened at the bottom, as shown at 24, so that it will fit nicely in the socket 25 of the slide 26; but the receivers for larger coins will not be thickened; but the several sizes of the receivers will be made of the appropriate thickness at the bottom to cause them to fit nicely in the socket 25. These receivers are adapted to hold the ordinary paper cartridges or packages to receive the coins. The slide 26 is movable outward on the base 11 and slides in a suitable way 27 and is preferably provided with a pull or knob 28 to facilitate handling it. The case 10 has an opening 10^a above the slide, through which the receiver 23 may move.

The plate 19 is provided with a segmental slot 29, which passes through the bottom of the groove or chute 22, so as to receive the pins or abutments 30, which project upward into the chute 22 and which severally engage the coins and push them longitudinally through the chute. These abutments may be of any appropriate form, and they are spaced apart, so that the coins will not be too near together, and it will be seen that as the abutments move through the chute they will severally engage the bottom coins in the coin-tube 16 and will push the coins to the end of the chute 22, and here the chute curves outward slightly and downward also, as specified, (see Figs. 1 and 4,) and the coins are severally and successively delivered into the receiver 23 and into the package prepared to receive them.

The abutments 30 can be moved by any suitable mechanism; but I have shown a simple form in which the abutments are fixed to the upper flat face of a gear-wheel 31, which is preferably supported on ball-bearings 32, (see Fig. 1,) and the bearings are carried by a supporting-post 33. The gear-wheel 31 is driven by a suitable gear 34 (indicated by dotted lines in Fig. 1) and carried by a shaft 35, which projects outward through the case 10, and has a crank-handle 36 or equivalent turning means. Thus the turning of the handle causes the gear-wheel 31 to revolve rapidly, and the abutments 30 act on the coins as just described.

As the coins are pushed through the chute 22 they successively engage the arched contact-foot 37, which by reason of its arch shape (see Figs. 5 and 6) permits the abutments 30 to pass freely, but is raised by a coin which is pushed beneath it. This foot is pivotally supported on an arm 38, which is pivoted at its end, as shown at 39, and the foot also carries a pawl 40, which engages a ratchet-wheel 41 on the dial-staff 42, which staff is journaled at one end in the case 10, is also supported on a convenient bracket 44, and which at the point next the dial is socketed, as shown at 45, so as to engage the squared end 46 of the shaft which carries the end 47 of the dial 48. This mechanism I have shown and described in detail, because I find it most convenient; but I do not limit myself to this particular connection with the dial. The dial 48 may be of any convenient kind, and by reason of its connection just shown with the staff 42 it can be swung out with the lid 13 when it is desired to shift the tube 16 or open the case for any other purpose.

I have shown in the drawings two ratchet-wheels 41 and 41^a on the staff 42 and corresponding pawls 40 and 40^a to engage them; but there can be as many ratchet-wheels as there are varieties of coin to be counted in the machine, and the teeth on the ratchet-wheels correspond to the thickness of the coin and to the number of coins which it is desired to put into a package. The pawl 40 or 40^a which is not in use is thrown back manually to the position shown by the pawl 40^a in Figs. 1 and 3. It will be seen that as the coin passes beneath the foot 37 it will lift the foot, actuate the pawl 40 and ratchet-wheel 41, and so turn the staff 42 and hand 47 a distance of one tooth and will indicate "1" on the dial. After the coin passes the foot drops back, together with the pawl, and the action is repeated with each passing coin. To prevent any backlash or displacement of the ratchet-wheels, each is provided with a detent 49, and to provide against any miscount and to actually stop the mechanism when the desired number of coins have passed the foot 37 I provide stop-pins 50, which can be lifted up through the top of the case and have, preferably, handles 50^a, these pins having preferably a bayonet-joint lock and being adapted to engage the cross-pins 51 on the ratchet-wheels 41 41^a. The pins 51 are placed so as to strike the pin 50 at the completion of the count, and the mechanism then stops, and the pin 50 has to be lifted to permit the further turning of the ratchet-wheel.

As shown in Fig. 3, I can install a bell 52, which can be rung by means of the lever 53, which in turn is tripped by the pin 54 on the shaft 42 when the last coin of the predetermined number has been registered.

From the foregoing description it will be seen that I have provided a very simple mechanism which is absolutely positive in operation and which works rapidly.

The machine above described will operate successfully, it will be seen, without the dial, and the latter is merely a convenience, and it will also be understood that it will count other articles similar in shape to coins and of a uniform size.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. A coin-counting machine, comprising an essentially circular and horizontal coin-chute having at one point an outward bend, a slide moving in and out beneath the said bend, a coin-receiver carried by the slide, means for carrying coins through the chute, and counting mechanism actuated by the passage of coins through the chute.

2. A coin-counting machine, comprising an essentially horizontal coin-chute having a suitable discharge, means for delivering coins flatwise into the chute, abutments movable through the chute to engage the coins, a contact-foot entering the chute, and counting mechanism actuated by the rise and fall of the contact-foot.

3. A machine of the kind described, comprising an essentially horizontal and longitudinally-slotted coin-chute having a suitable discharge, a series of abutments movable longitudinally through the chute, means for delivering coins flatwise into the chute, a contact-foot shaped to engage the coins but to escape the abutments, and counting mechanism actuated by the movement of the contact-foot.

4. A machine of the kind described, comprising an essentially horizontal and longitudinally-slotted coin-chute, a rotating device carrying abutments movable through the coin-chute, a discharge for the coin-chute, means for inserting coins in the chute, a contact-foot shaped to escape the abutments, but to engage the coins, and counting mechanism actuated by the rise and fall of the contact-foot.

5. A coin-counting machine, comprising an essentially circular horizontal coin-chute having its discharge end provided with an outwardly-extending bend, a receiver movable in and out below the said discharge end, a wheel rotating opposite the coin-chute and in a plane parallel therewith, abutments extending from the wheel into the chute, and counting mechanism actuated by the passage of coins through the chute.

6. In a coin-counting machine, the combination with the coin-chute having a suitable inlet and discharge, and the abutments movable longitudinally through the chute, of the pivoted contact-foot riding in the chute to engage the coins, a pawl carried by the contact-foot, a ratchet-wheel driven by the pawl, and a stop to engage and stop the ratchet-wheel at a predetermined point in its revolution.

7. The combination with the coin-chute, means for forcing coins therethrough, and the contact-foot actuated by the passage of coins beneath it, of plural counting mechanisms, and means for placing the contact-foot into operative engagement with either counting mechanism.

8. The combination with the coin-chute, and means for forcing coins therethrough, of the slide movable in and out below the chute and the receiver carried by the slide.

9. The combination with the main case, and the counting mechanism having a staff, of the swinging lid, the dial carried thereby, and an operative connection between the dial-hand and staff.

CHARLES C. LININDOLL.

Witnesses:
CHARLES W. DEAN,
GEORGE CURTIS BEVERLY.