

No. 823,767.

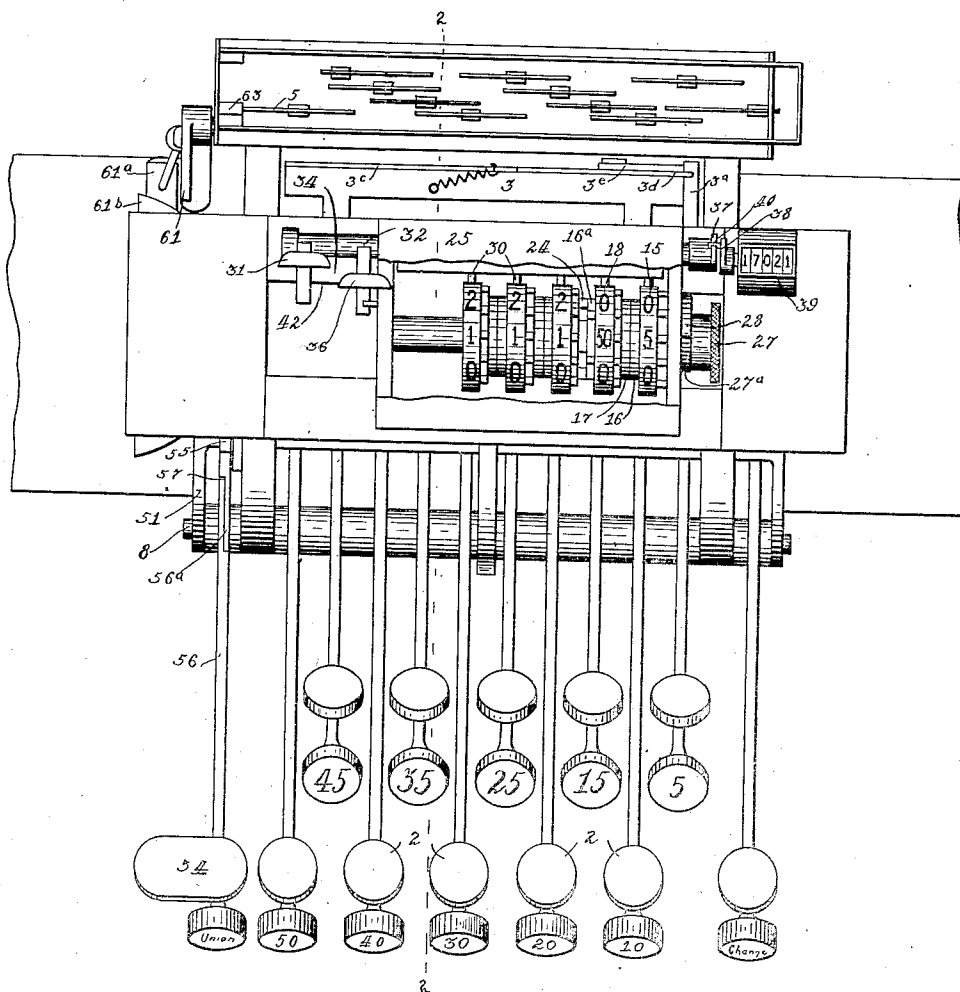
PATENTED JUNE 19, 1906.

L. COONEY, JR.
CASH REGISTER.

APPLICATION FILED JULY 27, 1904.

3 SHEETS—SHEET 1.

Fig 1



Witnesses
~~Chas. E. ...~~
 Wm. Henderson

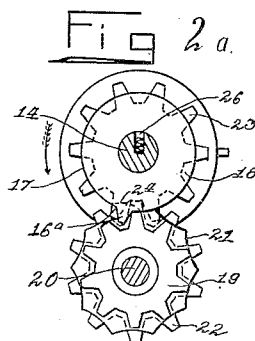
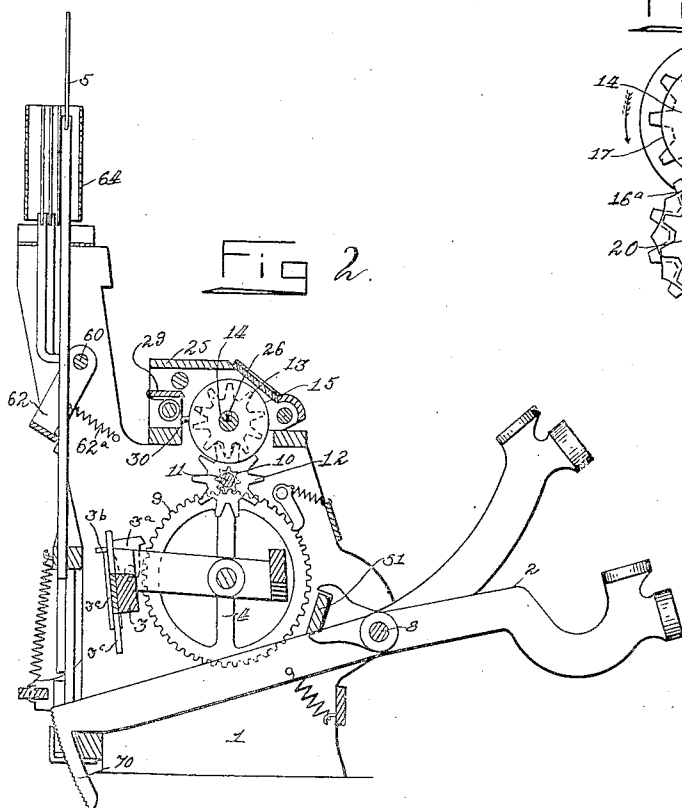
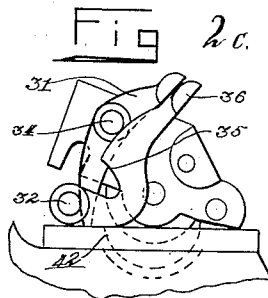
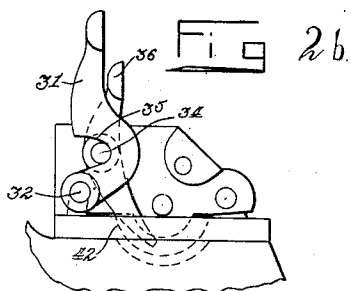
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3 SHEETS—SHEET 2.



Witnesses

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Inventor

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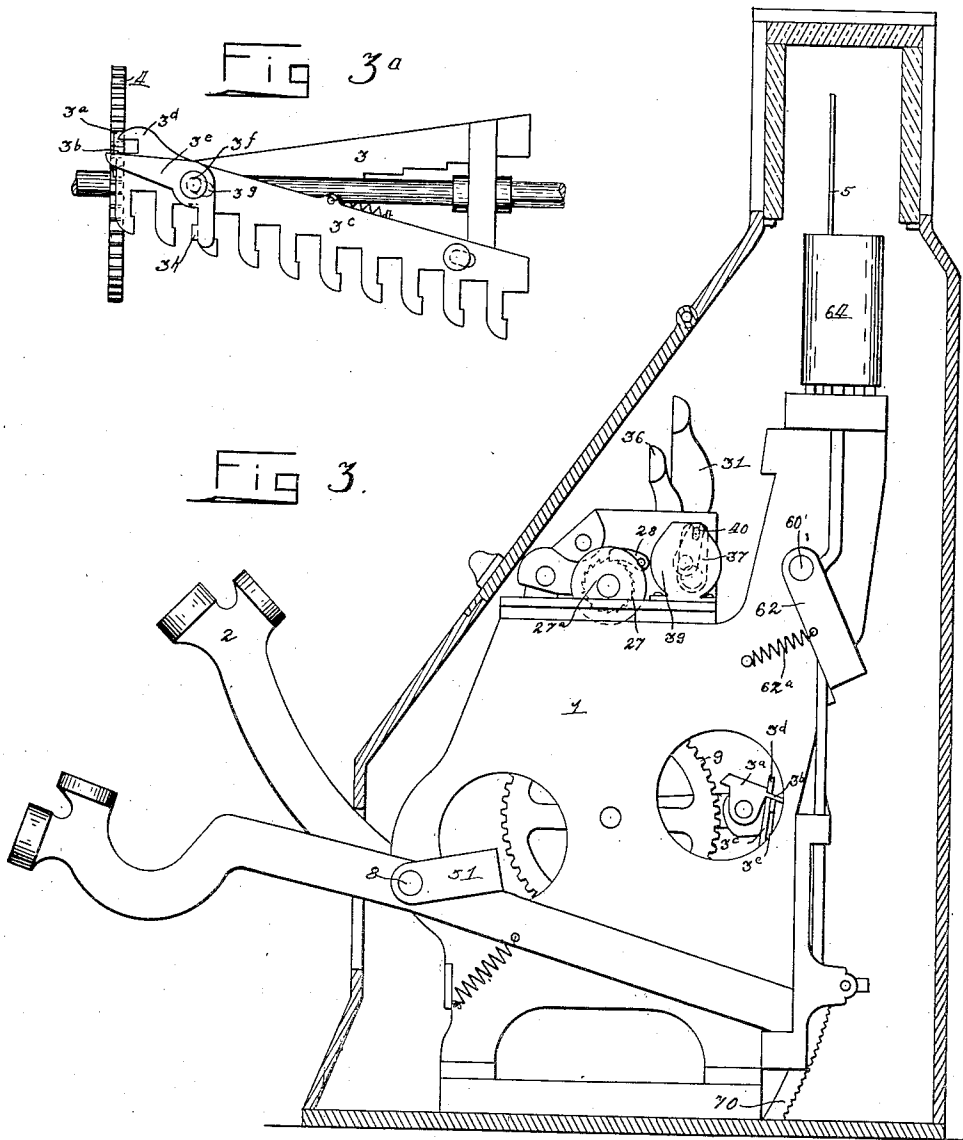
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3 SHEETS—SHEET 3.



Witnesses

C. H. Foster
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UNITED STATES PATENT OFFICE.

LUKE COONEY, JR., OF CHICAGO, ILLINOIS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE NATIONAL CASH REGISTER COMPANY, OF DAYTON, OHIO, A CORPORATION OF OHIO, (INCORPORATED IN 1906.)

CASH-REGISTER.

No. 823,767.

Specification of Letters Patent.

Patented June 19, 1906.

Original application filed June 4, 1903, Serial No. 160,033. Divided and this application filed July 27, 1904. Serial No. 318,385.

To all whom it may concern:

Be it known that I, LUKE COONEY, JR., a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Cash-Registers, of which I declare the following to be a full, clear, and exact description.

This invention relates to improvements in cash-registers, and is a division of my co-pending application, Serial No. 160,033, filed June 4, 1903.

It is among the particular objects of the present invention to provide certain improvements in connection with the registering mechanism, and I have shown these improvements as applied to the type of machine shown and described in my Patent No. 575,331, dated January 19, 1897, although it will be apparent that these improvements could equally well be applied to various other types of machines.

With these and incident objects in view the invention consists in certain novel features of construction and combinations of parts, the essential elements of which are set forth in appended claims and a preferred form of embodiment of which is hereinafter specifically described with reference to the drawings which accompany and form part of this specification.

Of said drawings, Figure 1 represents a top plan view of a machine of the class mentioned with my improvements applied thereto, the cabinet of the machine being removed. Fig. 2 represents a transverse vertical section through the same on a line 2-2 shown in Fig. 1. Fig. 2^a represents a detail vertical section through the counter and counter-actuating devices. Figs. 2^b and 2^c represent detail views of the counter, showing the parts in two different positions. Fig. 3 represents a side elevation taken from the right of the machine, the cabinet being shown in section. Fig. 3^a represents an enlarged detail rear elevation of one of the registering-frames, its register-operating wheels, and the connecting parts.

Many of the parts shown in the present drawings are described in detail in the aforesaid patent, to which patent reference may

be had for a complete description of the machine, only enough being described herein to give a complete understanding of the nature of the present improvements. Described in general terms, however, this machine comprises a series of pivoted key-levers which cooperate with a rocking frame to actuate the latter and cause it to effect the operation of a register-operating gear-wheel, said frame turning the counter-wheel in one direction only, and the operation of the keys results in the raising of suitable tablet-indicators to display the amount of the purchase.

In the drawings, 1 represents the frame of the machine; 2, the amount-keys; 3, the registering-frame; 4, the register-operating wheel, and 5 the indicators. The keys 2 are pivoted upon a transverse shaft 8 in such manner that their rear ends cooperate with and become coupled to the stepped registering-frame 3. This frame 3 carries a pivoted pawl 3^a, (see Figs. 3 and 3^a), which engages the register-operating wheel 4 and is provided with a tailpiece 3^b, whereby it is locked in engagement with the register-operating wheel. This locking is accomplished by the longitudinal slide 3^c, which locks the keys to the registering-frame, as described in said patent. An arm or hook 3^d of the slide projects over the tail 3^b of the pawl when the plate 3^c is moved longitudinally by the keys. A pivoted bell-crank pawl 3^e is mounted on the registering-frame by a pin 3^f, which projects through an elongated slot 3^g, formed in the slide 3^c. A lug 3^h projects from the bell-crank pawl 3^e into the path of one of the fingers of the plate 3^c, so that when the latter is moved longitudinally the pawl 3^e will be turned upon its pivot and will engage the under side of the tailpiece 3^b to lock the pawls 3^a firmly to the register-operating wheel. It will be observed that the locking engagement between the pawl 3^e and the pawl 3^a is a direct pressure and will result in very little wear taking place at these points.

The register or counter operating wheel 4 is formed upon its periphery with gear-teeth 9, which mesh with a pinion 10, mounted fast upon a short shaft 11, which is journaled in the main frame. This shaft 11 carries a toothed wheel 12, which meshes with a simi-

larly-toothed wheel 13, journaled on the counter-shaft 14. (See Fig. 2.) This wheel 13 carries a registering or counting wheel 15, a transfer-disk 16, and a locking-disk 17, as more clearly shown in Fig. 1. The registering-wheel 15 is numbered from "5" to "50" in multiples of five. Therefore after it has made one complete revolution it must register fifty cents on the succeeding registering-wheel 18, also journaled on the shaft 14. To accomplish this result, the transfer-disk 16 is provided with a single tooth 16^a, which when the wheel 15 has made a complete revolution engages a toothed wheel 19, journaled on a shaft 20, which is mounted in the main frame and turns said wheel one tooth. The wheel 19 carries a scalloped locking-disk 21 and a toothed wheel 22. (See Fig. 2^a.) The scalloped disk cooperates with the locking-disk 17, while the toothed wheel 22 engages the teeth of a driving-wheel 23, fast to the registering-wheel 18. The locking-disk 17, however, is formed in proximity to the tooth 16^a with a recess 24 for the accommodation of one of the teeth of the scalloped wheel 21 during the transferring operation, which construction of locking and transferring teeth and disks is old and well known in the art.

The above description suffices for all the succeeding transfers, which are identical, excepting the transfer of the wheel 18, which alternately registers zero and fifty and must be thus provided with a corresponding number of transfer-teeth 16 and recesses 24 in its locking-disk. As before stated, the shaft 20 is mounted in the main frame; but the shaft 14 of the counter-wheels is mounted in a pivoted or hinged frame 25, which is in turn mounted on the main frame, so that it may be rocked to disengage the driving-pinions of the counter-wheels from the transfer-pinions and the primary driving-wheel 12. This disengagement becomes necessary when it is desired to rotate the shaft 14 to turn the counter-wheels to their zero positions. The shaft 14 is provided with a series of small spring-pressed plungers 26, which engage their respective counter-wheels with a frictional contact, so that while said wheels are free to turn independently they will be picked up by the shaft and returned to a zero position when said shaft is rotated. This rotation of the shaft is accomplished by a milled thumb-nut 27, fast to the protruding end of the shaft. A ratchet-wheel 27^a, (see Fig. 3,) mounted on the shaft, is engaged by a gravity-pawl 28, mounted on the counter-frame. This pawl prevents retrograde movement of the shaft 14 and compels the operator to turn the counter-wheels to zero in the proper direction. In order to arrest the wheels at the zero position when the shaft is rotated, I provide the main frame with a cross-bar 29, which normally lies out of the path of stop-

pins 30, mounted on the respective counter-wheels. When the frame 25 is rocked back to disengage the counter-pinions from the transfer-pinions and the main driving-pinion, the counter-wheels are moved to such a position that the bar 29 will be engaged by the pin 30 and arrest the counter-wheels at the zero position.

The counter-frame 25 is normally locked in its lowered position by a notched lever 31, mounted upon a rock-shaft 32, which is mounted in the main frame. (See Figs. 2^b and 2^c.) A pin 34, mounted on the counter-frame, normally projects into the notch 35 of the lever 31. When it is desired to elevate the counter-frame to disengage the pinions, the lever 31 is drawn forward, which action moves the walls of the notch 35 out of engagement with the pin 34, which can then be elevated with the counter-frame. This elevation of the counter-frame is accomplished by a short finger-lever 36, journaled on the pin 34 so that its lower end will engage the main frame. After the pin 34 has been released, as above described, the lever 36 is drawn upward and forward, which causes the counter-frame to move upward and forward, the lower end of the lever 36 passing over the bar 42 of the main frame and holding the counter in this position, as shown in Fig. 2^c. As it is desirable to keep an account of the number of times the counter-frame is so elevated to turn the counter-wheels to zero, the shaft 32 is provided with a crank-arm 37, which is connected to a similar crank-arm 38 of any suitable form of counting device 39 by a pinion 40. This counting device 39 is a sealed counter and is arranged to count one upon each operation in a manner well known in the art. It will be observed from the above description that the counter-wheels are locked against being turned to zero when the counter-frame is in its lower position and that said frame cannot be moved to its upper or disengaging position until the lever 31 has first been operated, which operation results in the operation of the counter 39.

While the form of mechanism here shown and described is admirably adapted to fulfil the objects primarily stated, it is to be understood that it is not desired to confine the invention to the one form of embodiment here disclosed, for it is susceptible of embodiment in various forms, all coming within the scope of the claims which follow.

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

1. In a registering-machine, the combination with a counter-operating mechanism, of a counter mounted in a movable frame for permitting disengagement of the counter from its operating mechanism, stop provisions formed on the counter elements, and a

stationary abutment coöperating with said stop provisions when the counter is rocked out of engagement with its operating mechanism to limit the zero-setting movement of the counter elements.

2. In a registering-machine, the combination with a counter-operating mechanism, of a series of counter-wheels operated thereby and mounted in a movable frame, a manipulative device for moving said frame to rock said counter-wheels out of engagement with their operating mechanism and to hold the same latched in depressed position, a turn-to-zero shaft for said counter-wheels, stop projections mounted on said wheels, and a stationary abutment coöperating with said projections to limit the zero-setting movement of said wheels when the same are rocked out of engagement with the counter-operating mechanism.

3. In a registering-machine, the combination with a counter-operating mechanism, of a series of counter-wheels operated thereby and mounted in a movable frame, a manipulative device for moving said wheels to rock said counter-wheels out of engagement with their operating mechanism and to hold the same latched in depressed position, a turn-to-zero shaft for said counter-wheels, spring-pressed pins carried by said shaft and frictionally engaging said counter-wheels to reset the same to zero by the rotation of said shaft, stop projections mounted on said wheels, and a stationary abutment coöperating with said projections to limit the zero-setting movement of said wheels when the same are rocked out of engagement with the counter-operating mechanism.

4. In a registering-machine, the combination with a counter-operating mechanism, of a series of counter-wheels operated thereby and mounted in a movable frame, a hand-operated lifting-lever attached to said frame for rocking the latter to disengage the counter-wheels from their operating mechanism, a latching-lever adjacent to said lifting-lever and coöperating with a projection on said frame to latch the latter in normal position, a stationary abutment coöperating with said lifting-lever to latch the frame in displaced position when the same is rocked to disengage the counter, stop provisions carried by the counter-wheels, and a stationary abutment coöperating with said stop provisions to limit the resetting movement of the counter-wheels when said frame is rocked to dis-

engage the counter, substantially as described.

5. In a cash-register, the combination with a series of keys, of a registering-frame operated thereby, an operating-pawl mounted on said frame, a register-operating wheel arranged to be engaged by the pawl, a locking-pawl mounted on said frame and arranged to lock the first-mentioned pawl to the wheel, means operated by the keys for positively actuating the said locking-pawl to cause the same to engage the operating-pawl, and a counter controlled by the operating-wheel.

6. In a cash-register, the combination with a series of operating-keys, of a registering-frame, a slide carried by said frame and operated by the keys, a register-operating wheel, a pawl mounted on the frame and engaging the wheel, a pivoted pawl also mounted on said frame and operated by the slide to lock the first-mentioned pawl to the operating-wheel, and a counter controlled by said wheel.

7. In a cash-register, the combination with a register-operating member, of a registering-frame, a pawl mounted on said frame and arranged to engage said member, a pivoted locking-pawl engaging the first-mentioned pawl, and a movable part on said frame engaging said locking-pawl.

8. In a cash-register, the combination with a series of keys, of a pivoted registering-frame, a register-operating wheel, a pivoted pawl mounted on said frame and engaging said wheel, a sliding plate mounted on the frame for locking the pawl to the wheel and for also locking the keys to the frame, and an additional locking-pawl mounted on the frame and operated by the slide to lock the first-mentioned pawl to the wheel.

9. In a cash-register, the combination with a series of operating-keys, of a registering-frame, a register-operating wheel, a pawl mounted on the frame and engaging the wheel, and a movable device carried by said frame and actuated by said keys upon their initial movement to positively actuate said pawl and lock the same into engagement with the register-operating wheel, and likewise effect the locking of said pawl to said movable device.

In testimony whereof I affix my signature in the presence of two witnesses.

LUKE COONEY, Jr.

Witnesses:

WM. O. HENDERSON,
J. B. HAYWARD.