

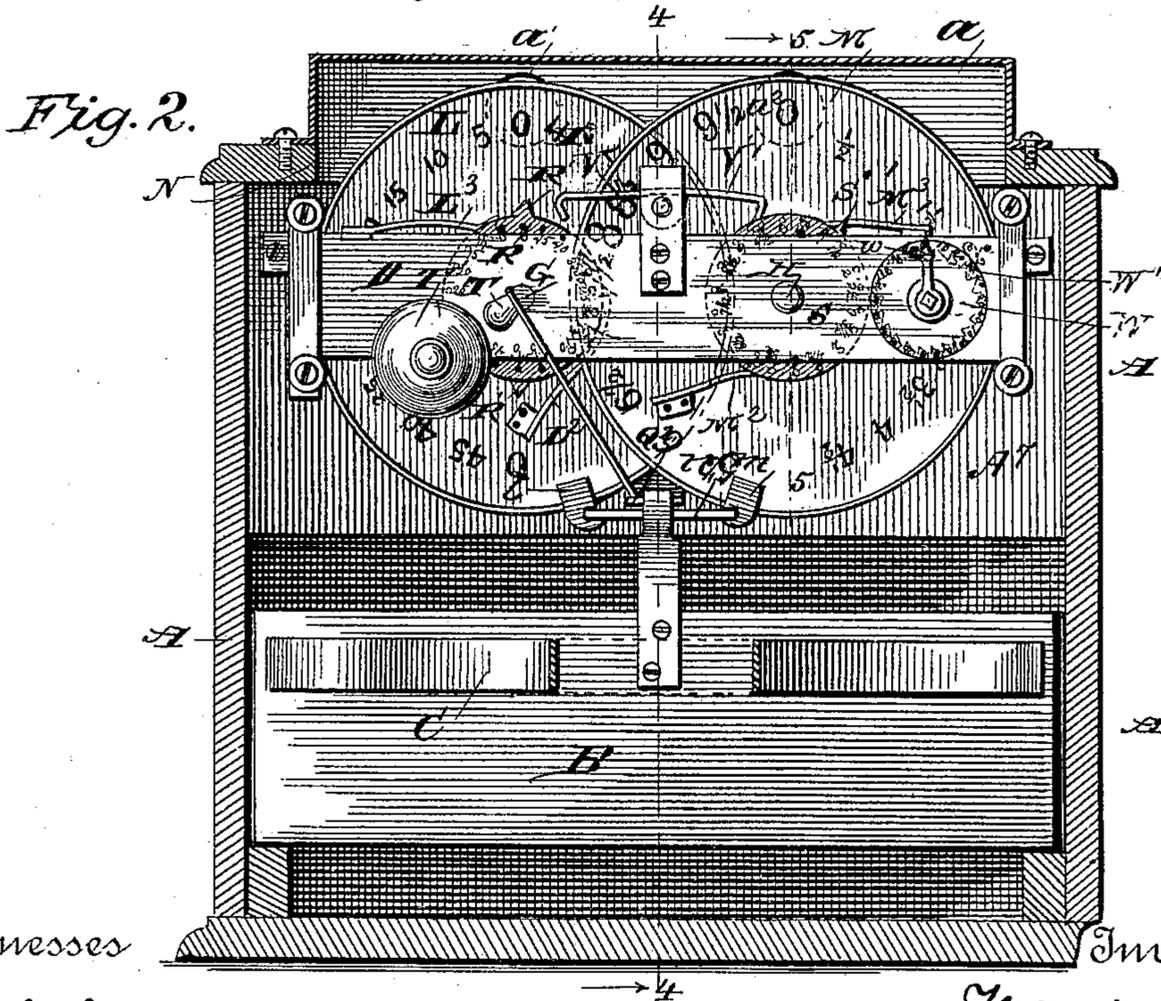
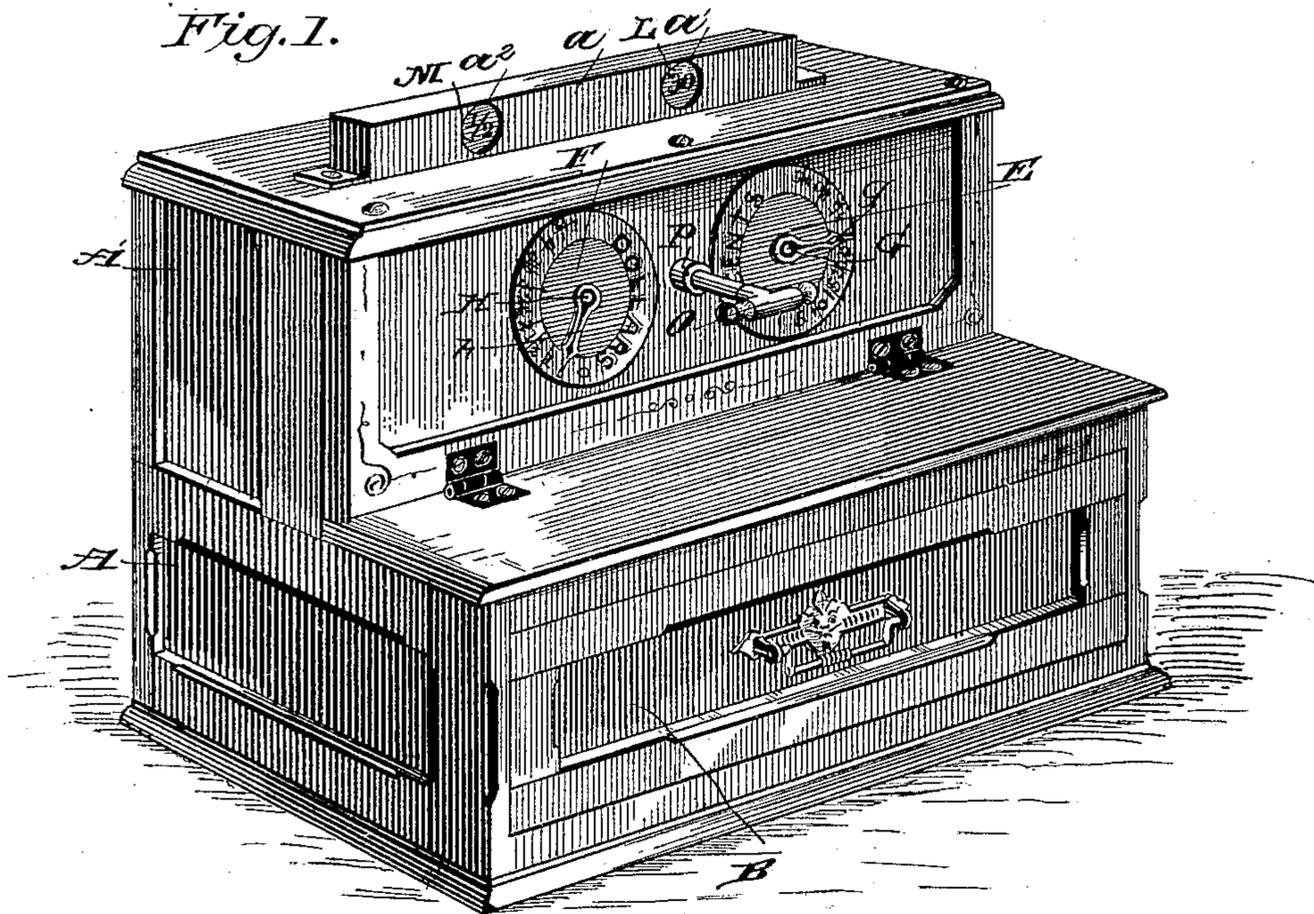
(No Model.)

2 Sheets—Sheet 1.

W. C. McGILL.
CASH REGISTER.

No. 405,111.

Patented June 11, 1889.



Witnesses
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UNITED STATES PATENT OFFICE.

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CASH-REGISTER.

SPECIFICATION forming part of Letters Patent No. 405,111, dated June 11, 1889.

Application filed January 31, 1887. Serial No. 226,050. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM C. MCGILL, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Cash-Registers; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention consists in an improved cash-register and indicator for money-drawers and the like, which will be hereinafter fully described and claimed.

Referring to the accompanying drawings, Figure 1 is a perspective view of my invention. Fig. 2 is a longitudinal vertical sectional view taken on the plane indicated by line 2 2, Fig. 4, as seen from the rear. Fig. 3 is a top plan view taken with the top of the upright portion of the casing removed. Fig. 4 is a vertical sectional view taken on the plane indicated by line 4 4, Fig. 2. Fig. 5 is a vertical sectional view taken on the plane indicated by line 5 5, Fig. 2; and Fig. 6 is a detail view, the nature of which will be hereinafter described.

The same letters of reference indicate the same or corresponding parts in all the figures.

The principal feature of my invention is that it employs only one key or operating-handle to indicate and register either cents or dollars, or both, this single key also operating to unlock the money-drawer, ring the bell, and cancel the amount previously indicated, as hereinafter described.

Referring to the several parts by letter, A indicates the casing, in the lower portion of which slides the money-drawer B, which, when the catch which retains it in its closed position is released, as hereinafter described, is slid out into its open position by a spring C.

In the upright part A' of the casing A is inclosed a metallic frame D, securely bolted to the front of the casing A', this frame consisting of a front wall A⁵, middle partition A⁶, and rear wall A⁷, secured by suitable bolts in parallel vertical planes, forming between them the forward and rear spaces D' D².

On the front of the casing A' are secured or marked two circular dials E F, the right-hand dial E, which indicates cents, having marked on the right-hand half of its periphery at regular intervals numerals running from 0 to 45, increasing by five in regular order, the numeral 5 being at the bottom or beginning of the dial, while the left-hand dial F is marked on its left-hand outer portion with a series of numerals increasing in regular order from $\frac{1}{2}$ to $4\frac{1}{2}$, increasing one-half at each step, as shown. The right-hand dial-plate is also preferably marked with the word "Cents," and the left-hand dial-plate is marked with the word "Dollars."

Through the center of each dial-plate projects the outer end of a transverse shaft, (lettered, respectively, G H,) an indicator-hand g h being secured to the said end of each shaft, respectively. These shafts extend transversely through the front A⁵ of the casing A' and through the frame D, turning in the bearings formed therein. Upon that part of each of the said shafts between the middle partition and rear wall of the frame D is rigidly mounted a disk I, having formed in it near its periphery an annular series of transverse apertures I', Fig. 6, while a gear-wheel J is loosely mounted on each shaft between the said fixed disk and the front wall of the frame D, each fixed disk having a spring-pawl K, these pawls being so arranged that when either gear-wheel is rotated toward the center of the machine its teeth will engage with the free end of the pawl on that side of the casing, while the teeth of the gear-wheel which is turning in the outward direction will raise the free end of the pawl on that side and slip under the same without engaging therewith.

Upon each of the shafts, to the rear of the partition A⁶ of frame D, is rigidly mounted a large indicator-disk, the disk L on the right-hand shaft G being marked near its periphery on both sides with a series of numbers from 0 to 45, corresponding with the numerals on the cents-dial on the front of the casing, and the disk M on the left-hand shaft H is marked in a similar manner on both sides with a series of numbers corresponding with those on the dollar-dial on the front of the casing. These indicator-disks are of such diameter that the upper segments of their

peripheries extend up through a longitudinal slot N in the flat top of casing A', and are there inclosed in a small auxiliary casing a, preferably of metal, having in both its front and rear sides openings a' a' a² a², for the purpose hereinafter specified.

O indicates the single key, which turns and slides in a metal sleeve P, which extends transversely through the front of casing A' and the front wall of frame D, the rear or inner end of the key having rigidly secured upon it a cog-wheel O' of such diameter that its teeth mesh with both of the gear-wheels J at the same time. The inner extremity of the key-shaft O bears against an extension of a spring-actuated upright plate Q, Fig. 4, which is hinged at its upper end at Q³ to the upper part of the partition of frame D, and is normally pushed forward by a spring Q'. The lower portion of this spring-plate (which I shall call the "latch-plate") is bent rearwardly at a slight upward inclination to form a latch Q², the free end of which engages with the free upper end of a spring-catch b, secured to the rear side of the money-drawer B.

Upon each shaft G and H, to the rear of the indicator-disks L M, is loosely mounted a registering-drum, the drum R on the right-hand shaft, which registers cents, having twenty equidistant spokes, the rear head of the drum being marked at the rear end of each spoke with numerals running from 0—45, and again from 0 to 45, increasing five at each step, while it has formed at its periphery at the numerals 0 0, diametrically opposite to each other, lugs or projections R', while the drum S, loosely mounted on the left-hand shaft, registers dollars, having twenty equidistant spokes, its rear head being marked at the rear ends of the spokes with numerals running from 0—9½, increased by halves, and having formed at its periphery, between the numerals 9½ to 0, a lug or projection S'.

The operation of my invention is as follows: The money-drawer B being closed and held in its closed position by the free or latch end Q² of the latch-plate Q engaging with the upper end of the spring-catch b, when a sale, say, for example, of thirty cents is made, the cashier pushes in the key O by pressing against its outer end, thus forcing back the hinged plate Q against the tension of its spring until its rear free end rises above and is clear of the spring-catch b, when the drawer is slid open by its spring C. As soon as this occurs the cashier removes the pressure of his hand, when the spring behind the latch-plate throws the plate forward into its normal position, when a spring-hammer T, secured to the free portion of the latch-plate, comes in contact with and rings the bell T', mounted on the back of frame D. The money having been placed in the drawer, the cashier pushes the drawer in into its closed position, the free upper end of the catch b raising the free end of the latch-plate as it passes under it, the said end springing back into the posi-

tion shown in Fig. 4, and thus locking the drawer, the bell being rung at the same time. The teeth of the cog-wheel O' on the inner end of the key-shaft then mesh with the teeth of both gear-wheels J, and to indicate and register the sale the cashier turns the key to the right, thus rotating the right-hand gear-wheel toward the center of the machine and the left-hand gear-wheel outward, as indicated by the arrows 6 7 in Fig. 6, the spring-pawl K of the fixed disk I on the left-hand shaft II slipping over the teeth of the left-hand gear-wheel, while the teeth of the right-hand gear-wheel will engage with the spring-pawl of the right-hand fixed disk, as will be readily understood, thus rotating the right-hand shaft until its hand g reaches the numerals 30 on the outside dial E. The shaft is held at this point to indicate the last sale until released, as hereinafter described, by a spring retaining-plate U, which is secured transversely and centrally to the upright spring-plate Q, and has its free ends bent forward and beveled on their upper edges, as most clearly shown in Figs. 6 and 3, to a point to enter and engage with the apertures I' of the fixed disks I, the beveled upper edges of the said ends permitting either fixed disk to rotate inwardly by forcing back its end of the retaining-plate, while the lower straight edges of the said ends will, by entering a hole I', operate to lock the disk in its adjusted position or the disks in their adjusted positions. The retaining-plate being secured by its center, as described, its ends operate independently, so that one end can hold a disk and its shaft stationary, while the other end is forced back as the other disk and shaft are adjusted. As the right-hand shaft, with its indicator-hand, is turned, as above described, to indicate the sale, it carries with it its large indicator-disk L, so that when the indicator-hand g points to the numerals 30 the disk L will display the same number through the sight-openings a' a' (which may be protected by glass) both at the front and the rear of the casing. The fixed indicator-disk L carries with it, secured to its rear side, a spring-pawl I², which, when the disk is turned inward, engages with one of the spokes of the loosely-mounted drum R, which registers cents, and turns the drum to add to the register the amount of the sale made, and the drum is prevented from turning backward by a spring-pawl I³. If dollars instead of cents are to be indicated and registered, the cashier turns the key to the left, when the dollars and halves thereof are indicated and registered in precisely the same manner as that above described when cents were to be indicated and registered, the indicator-disk M having a spring-pawl M², which turns the dollar-registering drum S when the said disk is turned inward, while a spring-pawl M³ prevents the said drum from turning backward.

As will be readily seen, a sale of dollars and cents can be registered and indicated by

one and the same key as soon as the money is placed in the drawer by first turning the key to the left to indicate and register the number of dollars and halves thereof, and then turning it to the right to indicate and register the cents. The sale stands thus indicated until the next sale is made, when, in order to unlock and open the drawer, the cashier presses the key in, freeing its cog-wheel *O'* from the gear-wheels *J*, and pressing the latch-plate *Q* back, as before described, to unlock and open the drawer and ring the bell, and as this latch-plate is pressed back it carries with it the retaining-plate *U*, freeing the ends thereof from the apertures *I'* of the disks *I*, thus freeing the shafts, when they are immediately set back to zero by springs *v*, coiled around the shafts and secured rigidly thereto at their inner ends, and secured at their outer ends to the bolts of frame *D*, thus restoring the shafts with their indicator-hands and disks to their original or normal positions. When the amount of this second sale has been placed in the drawer and the latter closed, so as to automatically lock itself, as previously described, the spring-actuated latch-plate *Q* presses the key forward, so as to hold the teeth of its cog-wheel *O'* in engagement with the gear-wheels *J*, when the sale is indicated and registered in the manner previously described and stands indicated until the drawer is again opened. It will thus be seen that it will be impossible for any one to open the drawer surreptitiously, as the indications of the amount of the last sale are at once removed by the act of unlocking the drawer, and any attempt to replace these indications by turning the key would add that much additional to the amount registered by the final registers. When the amount registered by the right-hand or cents drum *R* reaches forty-five cents, as the next sale is added to it, increasing the amount to fifty cents, the said drum in turning presses one of the two projections *R'* on its periphery under the right-hand inclined end of a centrally-pivoted lever *V*, raising the said end and depressing the left-hand end *V'*, which, coming in contact with one of the spokes of the left-hand drum *S*, turns the said drum for one space, registering therewith the one half-dollar which is thus transferred from the cents to the dollar drum. When the dollar-drum has registered nineteen half-dollars, (nine and one-half dollars,) the lug *S'* on its periphery, as the drum is moved to register the next amount, engages with the teeth of a registering-wheel *W*, turning the said wheel to move its indicator-hand *w* for one space over a suitable dial of figures, each of said movements registering ten dollars. A spring-pawl *W'* prevents the wheel

W from turning backward. When the indicator-disks *L M* are released and rotated back into their normal positions by the springs *v*, they are caught at their normal positions and prevented from rotating back too far by stops *l m*, secured to their peripheries and coming in contact when the disks are thrown back with a stop-plate *n*.

From the foregoing description, taken in connection with the accompanying drawings, the construction, operation, and advantages of my invention will be readily understood. It will be seen that by the use of a single key I unlock the money-drawer, ring the bell, cancel the indications of the last sale, and indicate and register all sales made, whether of cents, dollars, or both.

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

1. The combination, with a cash receptacle or casing, of an exterior dial, an indicator-disk having a series of numbers arranged on both its faces corresponding with the numbers on the exterior dial, the shaft upon which said dial and disk are mounted, said shaft carrying a register-drum upon its inner end, and an operating-handle adapted to operate said shaft, and thereby the said dial, disk, and drum, substantially as and for the purpose set forth.

2. The combination, with the spring-actuated drawer, of the exterior dials, the shafts having the indicator-hands, and having the fixed disks formed with the annular series of perforations, and having the spring-pawls, the loosely-mounted gear-wheels, the sliding key having the cog-wheel affixed on its inner end, and the spring-actuated locking-plate centrally secured to it, and the retaining-plate formed with the beveled ends, substantially as and for the purpose described.

3. The combination, with the spring-actuated drawer, of the exterior dials, the shafts carrying the indicator-hands, the gear-wheels and registering-drums loosely mounted on said shafts, and the indicator-disks rigidly mounted upon the said shafts, having the spring-pawls, and having marked upon them the series of numbers corresponding with those of the exterior dials, and the perforated disks having the spring-pawls, the spring-actuated locking-plate having centrally secured to it the transverse plate formed with the beveled ends, and the sliding key having the cog-wheel affixed to its inner end.

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

WM. C. MCGILL.

Witnesses:

J. FRED. REILY,
M. A. BALLINGER.