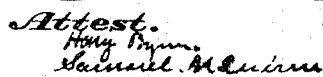


E. H. MURDOCK.
CASH INDICATOR AND REGISTER.

Patented Jan. 3, 1893.



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UNITED STATES PATENT OFFICE.

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CASH INDICATOR AND REGISTER.

SPECIFICATION forming part of Letters Patent No. 489,085, dated January 3, 1893.

Application filed October 14, 1892. Serial No. 448,818. (No model.)

To all whom it may concern:

Be it known that I, EDWIN H. MURDOCK, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Cash Indicators and Registers; and I do hereby declare the following to be a full, clear, and exact description of the invention, reference being had to the annexed drawings, which form part of this specification.

This invention relates to those machines commonly known as cash-indicators and registers, and the first part of my improvements, consists in applying a tablet to a vertically-reciprocating push-stem, which forces a series of numbered pieces or "counters" along a continuous forward path or circuit, said tablets being usually exposed on the descending or effective stroke of said stem, (although, in some cases, this exposure may take place on the upward stroke,) as hereinafter more fully described.

The second part of my improvements consists in applying a sliding top or cover to a fixed money-box of a cash-indicator, and providing said cover with a spring or other retractor, which normally tends to pull the cover back and thereby open said box. But this action of the spring is resisted by a special combination of locking appliances housed within the case or cabinet, the combination being such that when a button or knob is operated the lock is momentarily released and the cover opened. As soon, however, as the money is deposited in the box, and the proper "change" made, if necessary, the custodian of the machine draws the lid forward, and then it is automatically locked until another button is operated, as hereinafter more fully described.

My invention also includes other, but minor features, in the construction of these machines, the details of which are hereinafter more fully described.

In the annexed drawings, Figure 1 is a vertical section of a machine embodying my improvements, said section being taken in the plane of a push-stem, which is seen in its normal or elevated position, and a portion of a counter-housing being broken away to expose some of the movable pieces contained

therein. Fig. 2 is another vertical section, but taken directly in front of the counter-housings and looking rearward, one tablet being depressed and exposed at a window, while a pair of tablets are indicated in their normal or elevated position. Fig. 3 is an enlarged vertical section through one of the registering slides and its accessories. Fig. 4 is a plan of a portion of three of such slides. Fig. 5 is a horizontal section taken in the plane of the sliding cover, of which latter a portion only is shown. Fig. 6 is a similar section of the cabinet, taken in the plane of the bar that operates the locking appliances, the central portion of said bar being broken away. Fig. 7 is an enlarged vertical section through the base of one of the counter-housings.

The case or cabinet A, has near its top a pair of windows *a, a'*, in front a hinged door *a''*, and its base, a plate B, provided with an undercut groove *b* running across the machine, and a series of other grooves *b'*, extending from the front to the rear of said case. These grooves *b'* have vertical edges, as seen in Fig. 2, and are shallower than the groove *b*, as represented in Fig. 7. Dove-tailing within the groove *b* are the feet *c, c'*, of a pair of substantially ring-shaped plates C, C', which plates constitute one of the counter housings, the inner faces of said plates being grooved at *c''*, to afford a race or track for the counters to run in. These counters D are usually of metal, are numbered consecutively on their outer surfaces, as seen in Fig. 2, and one of them has an outwardly-projecting pin *d*, adapted to engage, successively, with notches *e* of a slide E, the latter being fitted within the groove *b'*. Furthermore, the upper surface of each slide is numbered to indicate its movements, as seen in Fig. 4, a separate slide being furnished for each housing, and being held in place by spring tongues *f* projecting from a bar F. The counters are driven around within the housing by a plunger G reciprocating vertically within a guide *c'''* of the former, and this plunger is either attached to or made integral with a push stem H, whose upper end carries an ordinary numbered-tablet *h*. Projecting laterally from this stem and traversing a slot *a'''* in the case is a rod I, the outer end of which is provided with a disk, button or knob *i* having a number cor-

responding with that on the tablet *h*. Located at the junction of this stem *H* and rod *I* is a bearing *i'*, against which pushes the upper end of a coiled spring *J* whose lower end rests upon the housing guide *c'''*, by which arrangement said spring normally elevates said rod and stem and raises the tablet above the windows *a, a'*, where it is concealed.

j is an upper guide for the push-stem.

Attached to the plunger *G*, or stem *H*, or bearing *i'*, but in the present case to the latter is a wedge *K*, adapted, at the proper moment, to come in contact with the beveled front edge of a bar *L*, extending across the cabinet, the opposite ends of said bar taking the shape of rearward extensions *M, M'*, terminating with upward bends *m, m'*. These extensions play within guides secured to said cabinet, and are normally forced forward by springs *N, N'*, seen in Fig. 6.

O is a vertical rod, the upper end of which is at all times in contact with the incline *m*, said rod being bent horizontally at *O'* and pivoted to the cabinet at *o*. *o'* is a short lateral extension at the front end of this horizontal part *O'*, said parts *O, O'*, constituting a bell-crank that turns on the pivot *o*.

P is a spring that pushes upon the rod *O*, and thereby maintains this bell crank in its normal position.

R, R', is another bell crank on the opposite side of the cabinet, and operated by the other incline *m'*.

S is a money box secured to the base of the cabinet, and having at top a sliding lid or cover *T*, the sides of which travel in horizontal grooves *t, t'*, of said cabinet, *U, U'*, being springs or other retractors that normally tend to pull this cover back.

By referring to Fig. 1, it will be seen at a glance that when the button *i* is pressed until rod *I* is forced down to the lower end of slot *a'''*, the tablet *h* will be brought in line with the windows *a, a'*, as represented in Fig. 2, and, at the same time, the inclined plane *K* will wedge against the bar *L*, and force it back a limited distance. As this bar recedes, the inclines *m, m'*, wedge against the rods *O, R*, the result being the rocking of bell-cranks *O, O' R, R'*, and the raising of the stops *o', r'*, a sufficient distance to enable the springs *U, U'*, to retract the cover *T*, and thereby afford convenient access to the money drawer *S*. Said bar *L*, recedes but for a moment, and when it flies forward it engages over the wedge *K*, and thus holds the stem *H* and plunger *G*, in a depressed position, the down stroke of

the latter serving to drive the numbered pieces *D* around within the housing the distance of one counter. After the custodian of the machine has made the proper deposit of money within the box *S*, the lid *T*, is drawn completely forward, at which moment the stops *o', r'*, are again brought to bear against the rear edge of said lid, thereby effectually locking it. But this sliding of the lid has no effect on the lowered tablet, as it will remain constantly exposed until another plunger is depressed by another knob or button, and the instant this is done the lower tablet flies up and is again concealed in the top of the cabinet. This prompt ascent of the lowered tablet is due to the fact that the depression of the second plunger momentarily forces back the bar *L*, and during this interval sufficient time is afforded for the spring *J* to perform its work, of restoring the first tablet to its normal position. Every time the counters perform a complete circuit within the housing, the pin *d*, projecting from one of them, engages with a notch of the slide *E* and advances it one number. Consequently, the reading of the machine can be taken off at any time after the door *a''* is opened, the numbers on the slide showing how often all the counters have passed completely around the circuit of the housing, while the numbers exposed on the faces of the counters will indicate how many partial circuits have been made. But as these housings, counters and slides are more fully described in my application Serial No. 438,938, filed July 5, 1892, they are expressly disclaimed from this case.

I claim as my invention,

1. In a counting-machine, a push-stem that advances a series of numbered counters along an endless route of a housing, and a numbered tablet carried by said stem, substantially as herein described.

2. In a counting-machine, a stationary money-box *S*, sliding lid *T*, retractors *U, U'*, pivoted bell-cranks *O, O', R, R'*, springs *P, P'*, bar *L*, having extensions *M, M'*, with inclined planes *m, m'*, and springs *N, N'*, and a push-stem *H*, having a wedge *K*, that acts against said bar, in the manner described, and for the purpose stated.

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

EDWIN H. MURDOCK.

Witnesses:

JAMES H. LAYMAN,
ALFRED M. DAVIES.