(No Model.) 2 Sheets—Sheet 1.

U. B. NEWMAN.

CASH REGISTER AND INDICATOR.

No. 489,086. Patented Jan. 3, 1893.

FIG. 1.

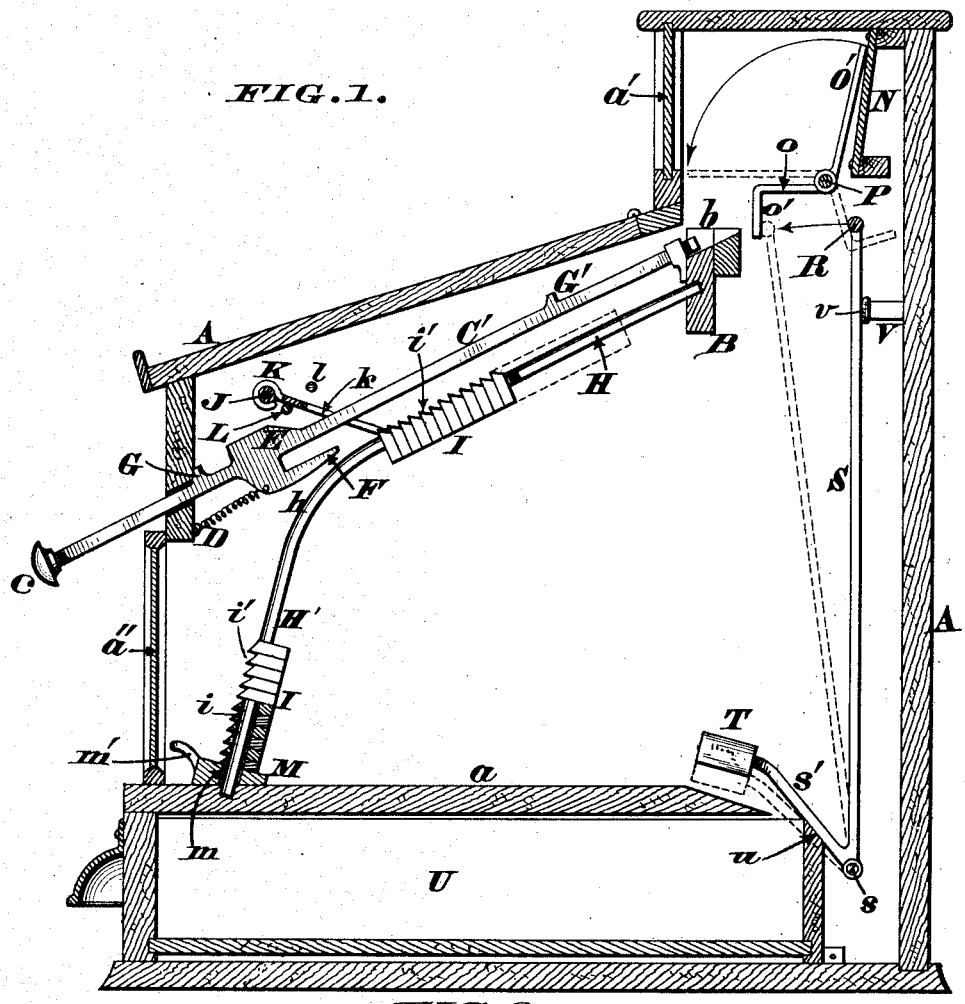
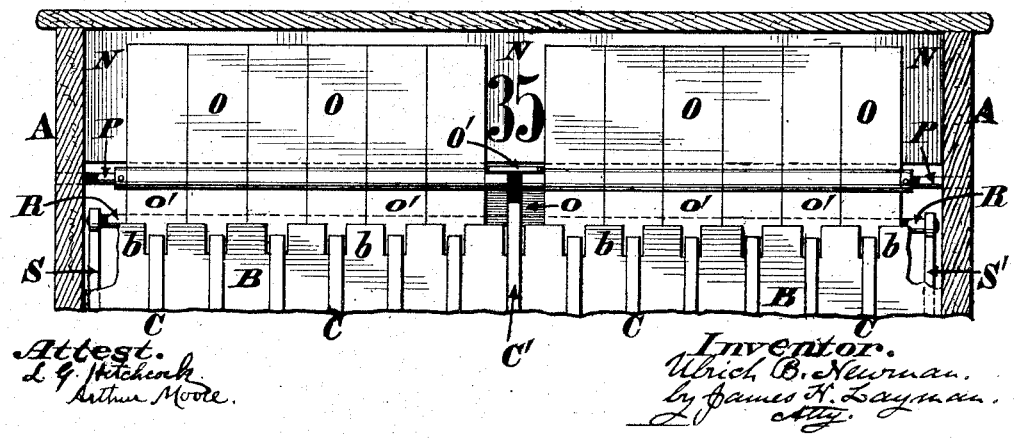


FIG. 2.



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Inventor.
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(No Model.) 2 Sheets—Sheet 2.

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CASH REGISTER AND INDICATOR.

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FIG. 3.

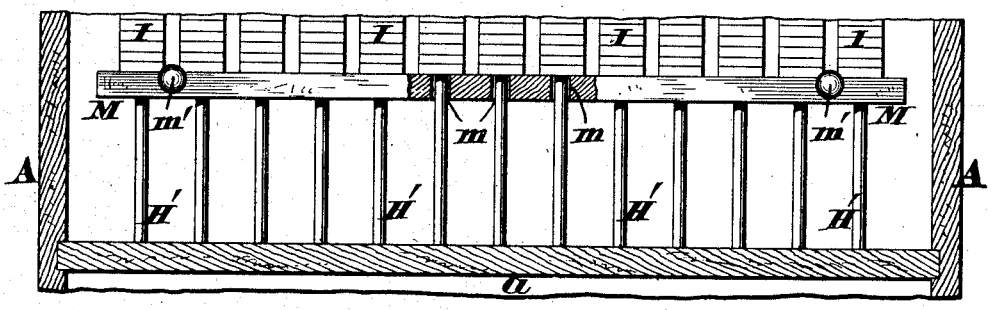


FIG. 4.

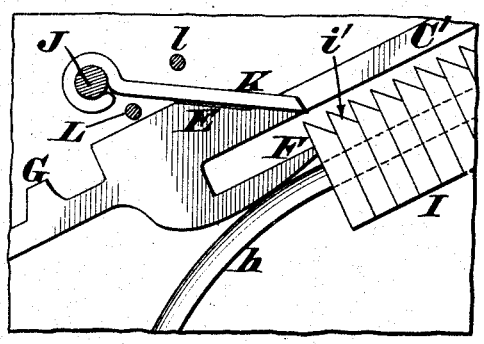


FIG. 5.

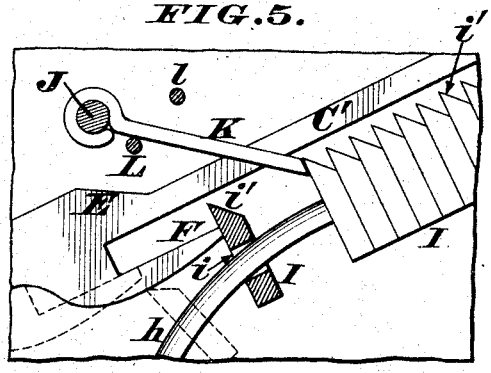


FIG. 6.

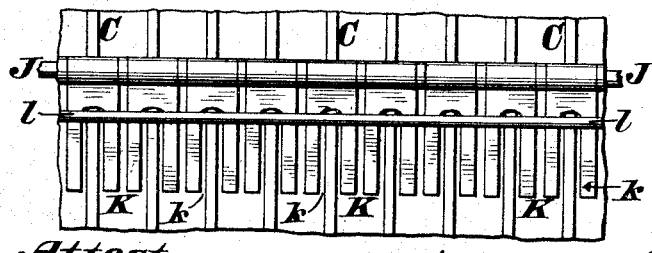


FIG. 7.

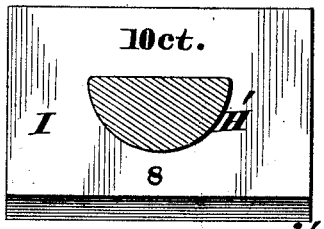


FIG. 8.

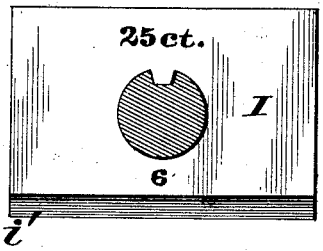


FIG. 9.

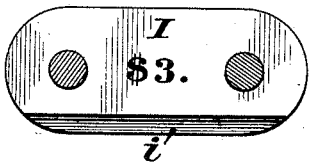
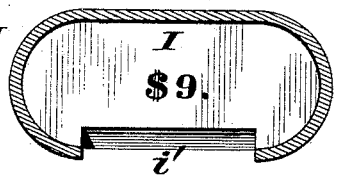


FIG. 10.



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UNITED STATES PATENT OFFICE.

ULRICH B. NEWMAN, OF GREENFIELD, OHIO.

CASH REGISTER AND INDICATOR.

SPECIFICATION forming part of Letters Patent No. 489,086, dated January 3, 1893.

Application filed April 29, 1892. Serial No. 431,155. (No model.)

To all whom it may concern:

Be it known that I, ULRICH B. NEWMAN, a citizen of the United States, residing at Greenfield, in the county of Highland 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.

My invention comprises a cash indicator and register in which a series of gravitating tags are used for keeping a correct account of the movements of the machine. These tags are, preferably, of metal and are carried by inclined tracks or guides secured within the case or cabinet, the slope of said guides being such as to normally launch the tags toward the front and bottom of said cabinet. But this forward and downward movement of the tags is prevented by a system of pawls, each of which can be raised by the advance of a push-stem, and when this is done, a single tag is released and allowed to slide down and rest upon a re-setting bar near the bottom of the case. Furthermore, this advance of the push-stem throws down a hinged shutter or flap and exposes a number that indicates the amount of the sale, and if desired, a gong may be sounded to draw attention to the fact that a correct account has been made. Each tag is properly numbered or otherwise designated to indicate its special value, by which arrangement a glance at the upper tag in each series will show exactly how much money should be found in the cash-drawer. After verifying the account, the re-setting bar is raised, thereby carrying all the tags up and back to their normal positions, where they are arrested by the pawls, as hereinafter more fully described.

In the annexed drawings,—Figure 1 is a vertical section of my improved cash indicator and register, said section being taken in the plane of one of the push-stems, which is seen in its normal or retracted position, while its pawl is shown as holding back part of the numbered tags. Fig. 2 is a transverse section through the upper portion of the cabinet or case, the thirty five cent push-stem being advanced and its shutter or flap thrown down. Fig. 3 is a similar section through the lower portion of the cabinet, the re-setting bar being seen in the act of raising all the used tags and restoring them to their normal positions. Fig. 4 is an enlarged view showing a push-stem sufficiently advanced to lift its pawl and liberate the first one of a series of tags. Fig. 5 is a similar view, but showing said push-stem slightly retracted, the first tag in contact with a spur of the stem, and the second tag arrested by the pawl. Fig. 6 is a plan of a number of the pawls and portions of their push-stems. Fig. 7 is an enlarged transverse section of one of the tracks or guides, a tag being applied thereto. Figs. 8, 9 and 10 show three different modifications of my invention.

A represents an ordinary case or cabinet, having near its bottom a horizontal partition *a*, and near its top a transverse rail or other suitable bearing B, the latter being grooved at *b* to serve as guides for the upper ends of a set of reciprocating push-stems C, whose outer ends carry knobs or buttons *c*, numbered to agree with the numerals each stem is to expose. These push stems are disposed at any suitable angle and normally tend to slide down toward the front of the machine, which movement may be assisted by a spring D, if desired. Furthermore, each stem has an inclined shoulder E, a spur F, and usually, a pair of stops G, G′, which stops limit the upward and downward strokes of the stem. Arranged under each push-stem, and running parallel therewith are inclined guides or tracks H, joined to lower portions H′, by easy curves *h*. The exact pitch of these two portions H, H′ of the tracks is immaterial, but is somewhat steep, so as to insure a certain and rapid descent of the tags, the instant either one of them is liberated. Again, these tracks are preferably of such a shape in transverse section as to prevent any turning of the tags, the half round shape of bar seen in Fig. 7 being used in some cases.

The tags I are usually small metallic pieces of any convenient size and shape, and each one is pierced at *i* to ride freely along the tracks or guides without turning around on the same. The upper edge of each tag is beveled off rearwardly at *i*′, for a purpose that will presently appear, and each tag is properly numbered to designate its value. These

numbers appear on the upper surface of the tag, so as to be easily read, Fig. 7 showing the eighth ten-cent tag, while Fig. 8 represents the sixth twenty-five cent tag, and so on for each distinct denomination of tags in the register.

J is a shaft placed across the cabinet, and carrying a series of pawls K, one for each push-stem, the free ends of said pawls being slotted, as seen at *k*, in Fig. 6. These slots permit free play of the stems.

L is a stop bar that limits the downward swing of the various pawls, and *l* is another bar that prevents the pawls being thrown up too high when the push stems are operated quite forcibly.

Normally resting upon the horizontal partition *a* is a resetting-bar M, having a series of transverse holes *m*, through which the lower portions H', of the guides or tracks are passed, as more clearly seen in Fig. 3, the bar being further provided with knobs or other lifters *m'*. Secured within the upper part of the cabinet is a plate or other medium N, whose front surface has a set of numbers applied to it, which numbers usually increase five each time, beginning at the left. These numbers are quite conspicuous, so as to be plainly read at a window *a'*, when the proper shutters or flaps are thrown down, one shutter O being provided for each number, and each shutter being operated by its own push-stem. Again, each shutter has a horizontal portion *o*, terminating with a vertical flange *o'*.

P is a shaft upon which the shutters swing.

R is a shutter-closing bar extending across the cabinet and having its ends attached to the long arms S, S', of a pair of bell-cranks. The details of one of these cranks are seen in Fig. 1, *s*, being a pivot wherewith the crank is coupled to the cabinet, and *s'*, being the shorter arm of said crank.

T is a weight applied to this arm *s'*, and having a constant tendency to swing the bell-crank to the position indicated by the dotted lines in said illustration.

U is a sliding money-drawer, the rear end of which is chamfered off at *u*, to wedge against the crank arm *s'*, when said drawer is pushed in.

a'' is a window in the front of the cabinet, to permit an inspection of the numbers on the uppermost of all the dropped tags.

V is a rail that may be secured within the cabinet and have a pad *v* to prevent any concussion when the arms S, S', are thrown back.

In the normal position of my machine, all the tags are carried by the upper portions H, of the appropriate tracks or guides and extend back about as far as indicated by the dotted lines in Fig. 1, each set of tags being retained in this position by the proper pawl K bearing against the lower one in each set, and all the push stems C, being now retracted to keep their spurs F, some distance away from the pawls. The shutters O, are now raised or shut, their upper edges resting against the plate N, and concealing the numbers thereon, the inclined position of said shutters being all that is necessary to retain them in place. Drawer U is also shut, and the contact of its chamfered end *u*, with the short arms *s'*, of the bell cranks S S', so swings the latter as to bring the shutter-closing bar R quite near the back of the cabinet.

To illustrate the operation of the machine, I will suppose the push-stem C', seen in Fig. 1 and 2 is designed to operate a shutter O', that conceals the number 35. Therefore, when a thirty-five cent sale is made, the custodian of the machine, pushes said stem C', in as far as the stop G', will permit, by which act the upper end of the stem is caused to strike the flange *o'* of the shutter, thereby swinging the latter down to the horizontal position seen in Fig. 2, and indicated by dotted lines in Fig. 1. Consequently, the number 35, is plainly exposed, as represented in Fig. 2. This advance of the stem brings its inclined shoulder E in contact with the under side of pawl K, and elevates it clear of the tags, as seen in Fig. 4. Evidently the entire series of tags would now descend the track H in a body, if there were nothing to hold them back, but this is prevented by the spur F, bearing against the lower one of the series. As soon, however, as pressure is removed from the stem, and it retracts a limited distance, the pawl K swings down and arrests the second tag in the series, the first one being still in contact with the end of said spur. (See Fig. 5.) But the complete retraction of the stem frees the tag from the spur, as indicated by dotted lines in said illustration, and then the liberated tag slides down the bend *h*, track H', and rests upon the re-setting bar M. Now, as all the tags on this track are numbered 35, on their upper surfaces, and may also be numbered consecutively, if desired, to avoid the trouble of counting, it is evident a glance through the window *a''*, will expose this number on the dropped tag, and show that it agrees with the numeral seen on plate N. Before the purchase money can be deposited in the drawer, the latter must be pulled out, and as it is advanced the chamfered end *u*, ceases to support the arm *s'*, and then the weight T swings the bell cranks S, S', forward to the position indicated by dotted lines in Fig. 1. Rod R, must, of course, advance accordingly, and in so doing it bears against the portion *o* of the shutter, and thus elevates or closes the latter and again conceals the number 35. When the drawer is closed, the bell cranks are again swung back and the rod R restored to a position where it will not interfere with the opening of either of the shutters. By repeating, the above described operations all the tags will be dropped upon the bar M, Fig. 1 showing there are eleven thirty-five cent tags resting on said bar, and twelve more to be released at the proper moment. In taking off the registration of the machine, it is necessary only

to note the serial numbers on all the uppermost of the dropped tags, then make the proper calculations, and see exactly how much money the cashier must account for. The window a'' is then opened, and the bar M raised, as seen in Fig. 3, and by carrying said bar up a sufficient distance all the tags will be brought to a normal position, thus re-setting the entire machine by a single movement. Or, either one of the series of tags can be reset by itself, independently of the others. Bar M is again lowered to its normal position and the register is at once ready for use during another day.

In the modification of my invention, seen in Fig. 8, the track or guide is composed of a round bar having a longitudinal groove to receive a tongue projecting from the tag, whereby the latter is at all times preserved in a proper position to enable its number and denomination to be read. But in Fig. 9, the tag is oblong and is carried by a pair of bars or wires, while in Fig. 10, the oblong or elliptical tag is confined within a tubular housing, suitably slotted to enable the pawl to act.

I claim as my invention,—

1. The combination, in a counting or registering apparatus, of an inclined guide, a series of numbered gravitating-tags applied to said guide, a retaining device that holds said tags in their normal positions, and a liberating appliance that first releases said retaining-device and then permits the descent of a single tag, substantially as herein described.

2. A counting or registering apparatus including inclined-guides, a series of numbered tags applied to each guide, pawls that arrest said tags, and reciprocating push-stems that first raise said pawls and then permit said tags to descend, substantially as described.

3. A counting or registering apparatus including inclined guides, a series of numbered tags applied to each guide, pawls that arrest said tags, reciprocating push-stems that first raise said pawls and then permit said tags to descend, and a common re-setting bar upon which the dropped tags rest, substantially as described.

4. The combination in a cash indicator and register, of the push stem C′, having a shoulder E, and spur F, the inclined guide H H′, having a curved portion *h*, a series of numbered tags I *i*, adapted to travel freely along each guide, and pawls K that arrest said tags, in the manner described.

5. The combination, in a cash-indicator and register, of the fixed, numbered piece N, the shutter O′, pivoted upon a rod P in front of said piece, so as to normally incline rearward, and having an extension *o* and depending flange *o′*, and the reciprocating push-stem C′, adapted to strike the front of said flange *o′*, for the purpose of swinging said shutter forward and down, and thereby exposing one number on said piece N, all as herein described.

6. The combination, in a cash indicator and register, of the fixed piece N, suitably numbered, the pivoted shutter O *o o′*, located in front of this numbered piece, a push stem C′, adapted to strike the flange *o′*, of said shutter, and a forwardly-swinging bar R adapted to bear against the back of the portion *o* of said shutter, for the purpose described.

7. The combination, in a cash indicator and register, of the fixed piece N, suitably numbered, the pivoted shutter O *o o′*, located in front of this numbered piece, the bell-cranks S S *s s′*, the cross bar R attached to the upper ends of said cranks, the weight T applied to the arm *s′*, and the sliding money drawer U, adapted to raise said weighted arm when shoved back, for the purpose described.

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

ULRICH B. NEWMAN.

Witnesses:
WM. M. SHIMP,
JOSEPH IRONS.