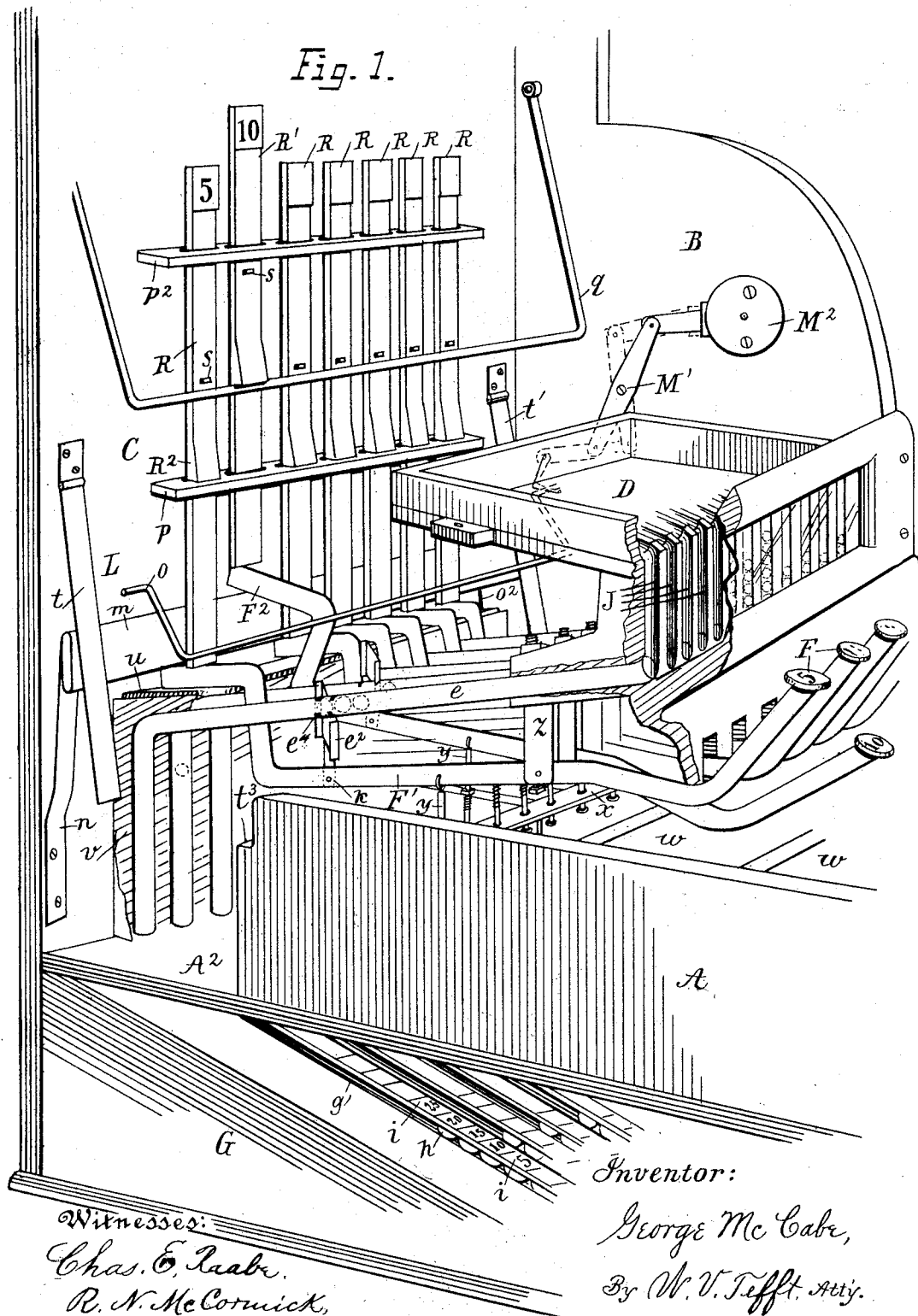


G. McCABE.
CASH REGISTER AND INDICATOR.

No. 506,715.

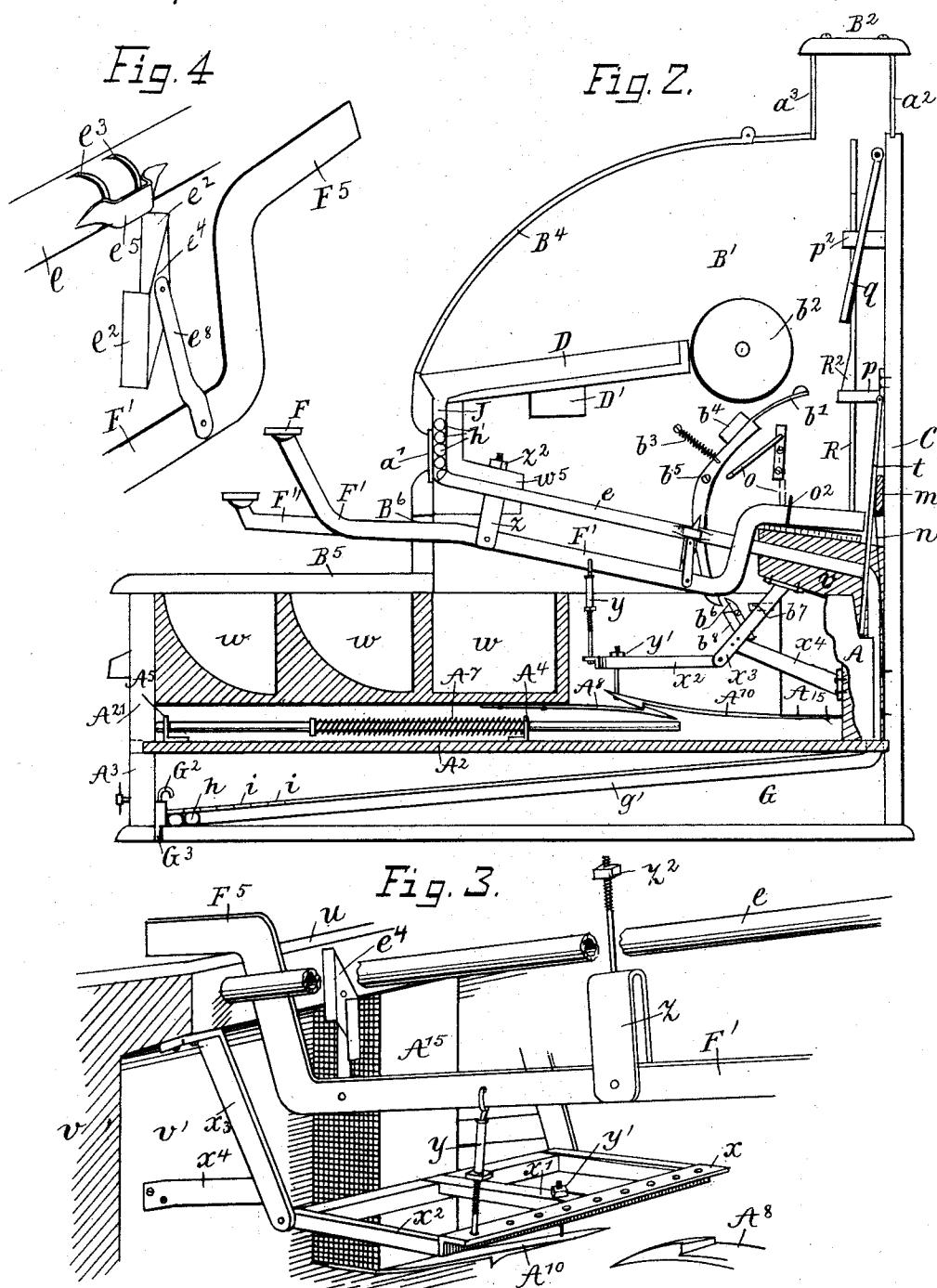
Patented Oct. 17, 1893.



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UNITED STATES PATENT OFFICE.

GEORGE MCCABE, OF BUSHNELL, ILLINOIS.

CASH REGISTER AND INDICATOR.

SPECIFICATION forming part of Letters Patent No. 506,715, dated October 17, 1893.

Application filed July 7, 1892. Serial No. 439,200. (No model.)

To all whom it may concern:

Be it known that I, GEORGE MCCABE, a citizen of the United States, residing at Bushnell, in the county of McDonald and State of Illinois, have invented certain new and useful Improvements in Cash Registers and Indicators; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to certain new and useful improvements in cash registers and indicators by means of which a register is provided being simple in construction, efficient in operation, durable and cheap in first cost.

More particularly my invention relates to a special construction and mounting of gravitating tubes, or guiding conduits from a suitably adjusted hopper to a register drawer to which are designed to be conducted register balls and of a cut-off provided at a given point in each of the respective tubes to regulate the passage through of the said balls and of other suitable mechanism for operating the complete device, as will be hereinafter more particularly mentioned and described.

That my invention may be more fully understood reference is had to the accompanying drawings, in which—

Figure 1 is a view in detail of the working parts of the device shown in perspective. Fig. 2 is a sectional view through the central portion of the device. Fig. 3 is a perspective view in detail, showing the relative adjustment of the tubes and actuating levers with certain attachments and adjacent parts. Fig. 4 is a view in detail showing the cut-off in near adjustment to and detached from a slotted tube.

In the accompanying drawings on which like reference letters indicate corresponding parts, G represents the base of the machine provided with a super-structural case as nearly closed as possible to prevent the admission of dust or other foreign matter, but provided with suitable openings, as for instance B⁴, which is a hinged lid provided to facilitate the opening of the machine or the outside case thereof for the desired purposes and further provided with openings in the forward part of the machine in which are

fitted the drawers A³ and A²¹, A³ being the register drawer and A²¹ the cash drawer, there being provided the dividing partition A² between the respective drawers as shown. At the upper part of the case is provided the display frame a²—a³ formed of glass and B² of wood or other suitable material, the same being supported within the general frame-work by any suitable mechanical means.

e refers to a tube or guiding conduit adjusted at an incline and bearing from the forward part of the machine slightly downward to its rear portion and continuing downward opens into the register drawer or a particular apartment therein and opening at its forward end into groove J which said groove opens into the gravitating hopper D, there being a series of said tubes e set in the same relative adjustment with respective and corresponding grooves J and apartment in the registering drawer, the particular use of which said tubes and connected parts will be more fully set forth hereinafter.

F' refers to a series of levers pivoted as shown and provided with suitable banks of keys as F suitably formed to adapt themselves to operate certain elemental parts of the device, the rearward ends thereof as F² being designed to carry thereon the vertically adjustable bars R, the same being in series and numbered to correspond with the series and number of levers, there being one for each, which said vertically adjustable bars R are provided with display cards and are carried in the rack p—p², the said bars being provided with shoulders R² which bear upon the rack p in the normal adjustment of the said bars, the said bars being designed to be raised through the action of the pivoted levers F' as is fully illustrated in the drawings.

q is a hinged or pivoted adjustable rack designed to support and hold in a raised position the respective bars for the purpose of displaying the card thereon to indicate the amount of the purchase as may be desired.

x—x'—x² is a pivoted trip bar supported by the brackets x³—x⁴ with corresponding bracket on opposite end which has connected with its perforated portion of trip bar x the adjustable and reciprocal bolt y which connect with the levers F' at a point at the rear of the fulcrum point, there being provided one such

connecting bolt for each of the respective levers, the said bolt being formed of a suitable sleeve with hook attachment for connection with lever F' and threaded internally to receive a correspondingly threaded bolt to bear through the perforation in the trip bar x and having a suitable head to prevent its pulling through the said perforation and of a suitable lock nut or bolt as shown to provide for the easy adjustment of the said compound connecting bolt for useful purposes.

A^{21} is a drawer adjusted in the frame work as shown and designed to be actuated by the spring compression rod A^7 carried in the eyes in the lugs A^4 — A^5 and designed to be forwardly actuated and bears against the forward frame piece of the drawer shown in Fig. 2, the drawer in its closed position holding the rod to compress its spring attachment. A^8 is a hooked bar secured to its rear and bottom portion of the said drawer; and A^{10} is also a spring bar secured to the block or frame portion A^{15} and in their normal condition are designed to engage with each other in manner shown.

y' is a bolt connecting the spring bar A^{10} with the pivoted frame above or the portion x' thereof.

A refers to rearwardly extending portions of the drawer, they being formed on either side to correspond and are cut away as at t^3 . t — t' are hinged depending bars bearing over and resting upon the lock bar m which is supported by the spring bars n (one of which is shown but there being provided a corresponding bar upon the opposite side of the machine in the same relative position or adjustment), the said lock bar being designed in its normal position to support the rearward ends of the respective levers F' and to lock the remaining levers by bearing over rear ends of same when any one of the levers is depressed for the purpose of registering as shown in Fig. 1, one or more of the said levers being capable of operation at the same time, the said lock bar m being designed to be adjustable and is actuated or pushed backward by the action of the drawer A^{21} , being closed which action brings the side pieces A in contact with the hinged depending bars t — t' which push backward in their movement the lock bar m which action releases any levers that may be held in an elevated position which said levers are easily drawn to their normal position through the action of the springs y .

As before explained the drawer A^{21} in its closed position throws the spring levers A^8 — A^{10} or the hooks thereof in engagement which holds the drawer in such closed position but when any one of the pivoted levers F' are actuated the frame x — x' — x^2 is drawn upward which bears with it the spring lever A^{10} through and by means of the connections as shown and previously described which releases the drawer A^{21} which is thrown out-

ward through the action of the spring compression rod A^7 .

b^2 is a bell designed to be rung when the drawer is opened and is so rung through the action of the pivoted bar b^5 which bears the hammer b' which said bar is operated when the drawer is opened by the pivoted dog b^6 fixed to the side of the drawer as shown, contacting with and drawing forward the lower end thereof which said bar being released as the drawer passes forward and from out of engagement with pivoted dog b^6 is quickly returned through the action of the spring b^3 which throws the hammer b' in contact with the bell and when the drawer is closed the pivoted dog b^6 adjusts itself to pass beyond and under the lower end of the said pivoted bar b^5 in readiness for another engagement when the drawer is again opened.

O is a pivoted bar designed to lock the machine in such a manner as to prevent the action of the levers or the depressing of the same and is operated by suitable means the one here being shown consisting of a lock as M^2 which when operated by means of a key shifts the pivoted lever M' which by its connection with the rod O throws the same downward in position to bear against the pin O^2 which is immediately over the ends of the pivoted levers F' , thus locking the machine and is unlocked through the opposite action or the turning of the key which shifts the pivoted bar O into the position shown in the figures.

A^3 as before explained is a register drawer adjusted at the incline shown and is divided into troughs or compartments designed to receive the spheres and upon each of the dividing partitions there are provided suitable strips which partially cover the troughs and are graduated to conform with the exact diameter of the spheres (the same of course being uniform) and suitably numbered in manner as may be desired. The usual plan, however, is to provide a scale of figures increasing according to the figure represented by the display card. For instance the first trough on the left may have a scale on the strip adjacent increasing by five and at such distances between the figures that each sphere as it takes its place will be immediately under the figure of the scale. Thus the amounts represented by the spheres in the troughs may be reliably ascertained by observation without the trouble of counting the spheres contained in each trough. The register drawer thus divided off into incline troughs is very simple in construction, effective in operation and cheap in manufacture. In order to empty the drawer the block G^3 is removed thus allowing the balls to find free exit through an opening in the bottom of the drawer at its extreme forward portion.

The cash drawer is opened each time a purchase is made by pressing key or keys representing the purchase which lifts pivoted frame

and trip bar, thus disconnecting A^8 and A^{10} , allowing cash drawer to open.

e^8 is an arm pivoted to the lever F' (Fig. 4) and carrying at its upper end and pivoted thereto the cut-off e^2 formed as shown and is designed to bear within the pocket e^5 with the forwardly projecting edges thereof bearing in the openings e^3 in the gravitating conduit e , there being provided one such cut-off for each such conduit and lever and are useful for regulating the passage of the spheres or balls within the said conduit.

It will be seen from the drawings that the levers e are suitably supported at the fulcrum point by bifurcated strap Z connected with a bolt which is carried in the frame work as shown and that opening immediately in front of the grooves J is provided with a glass to enable the spheres or balls within the said grooves to be readily seen.

The operation of the device for the purpose designed is very simple. The various elements of the machine being first adjusted in the relative positions herein shown to operate for the purpose of registering and indicating amounts of purchases, it is first necessary that a number of spheres or balls be provided which must be of uniform size. The said spheres are placed in the inclined receptacle D (the same being readily accessible by the provision of the hinged lid B^4) and the adjustment will cause the balls to run down the grooves therein provided into the grooves J and finally down the gravitating conduits until they come in contact with the cut-off or the flange e^3 thereof as shown in Fig. 1 which stops their progress and each conduit is so filled, the balls lying in series and in contact one with the other, ready to be fed through the conduits in the operation of registering purchases or in the operation of the machine. When it is desired to register a purchase, as for instance, a purchase amounting to ten cents, the lever bearing such indicating number is depressed as shown in the figure which operates to raise the vertically adjustable bar R which bears the indicator card 10 from its normal position and in being so raised the raised portion upon its face pushes outward the pivoted rack q which immediately drops under the lug provided thereon and supports the bar in the elevated position, which exposes to view through the glass a^3 the said number and also through the glass a^2 if there be a corresponding number on the opposite side. The same action of the lever which raises the said bar R' to display the card thereon causes the cut-off or projection e^2 to be raised and in such movement the projection e^2 is carried upward through the aligning incisions in the conduit e in such position as to separate the two adjacent spheres and at the same time the projection e^2 is borne upward to a sufficient height to release the first ball which readily passes on through the conduit and down into the aligning or corresponding trough in the register drawer below.

The same action which disposes the display card and operates the cut-off to release one of the spheres, also releases the drawer A^{21} through the action of the spring y and its further connection with parts that operate the spring lever A^{10} and the drawer being so released is thrown outward through the action of the compression spring bar A^7 and the moving outward of the drawer relieves the hinged levers $t-t'$ from contact with the side pieces A of the drawer and allows the lock bar m to spring forward and in doing so the said lock bar passes under the end F^2 to hold it in elevated position and bears over the ends of the remaining levers not so elevated locking the depressed lever up and the remaining levers down in such position so as to prevent the operation of any said levers of the series while the drawer is open. The opening of the drawer also causes the bell to be rung through the action of the pivoted dog b^6 on the side of the drawer engaging the pivoted bar b^5 which said bar being actuated by the tension spring b^3 in returning the bar after the said dog has passed, causes the hammer b' thereon to strike the bell. In closing the drawer the same being pushed within the frame work the sides A contact with the pivoted bars $t-t'$ and bear them backward and with them the lock bar m with which they are in contact until the end F^2 of the depressed lever is relieved or freed and the same readily drops backward into its normal position which action causes the spring A^{10} to again engage the hooked spring A^8 on the drawer, thus holding the same in a closed position and the same action of the said lever returning to its normal position draws the cut-off downward until the projection e^3 closes the opening in the conduit and the projection e^2 is drawn below which relieves the ball next adjacent which rolls downward in contact with wing e^3 ready to be cut out or freed by the next operation of the same lever. When any other lever in the series than the one just before operated is operated the same results will be attained so far as releasing the drawer and cutting out a ball but a different bar R will be raised exposing a different display card and any other bar being raised the action will cause the pivoted rack q to be borne outward by the incline surface of the lug thereon until the bar which it has just supported will be freed and will return to its normal position while the one just raised will be engaged and held upward to display the card thereon.

In the event that two numbers should be registered at the same time it will be seen that two bars will be raised and engaged by the pivoted rack q and should it be desired that one of the same numbers that are exposed should be desired to register the next succeeding purchase it will be seen that the device as here shown in operating to register this purchase will not contact with any of the said bars and as a result both numbers will be still exposed as there is no provision shown whereby the pivoted rack q may be actuated

to release the said bars, but it is the purpose of the inventor to provide a simple means for actuating the said pivoted rack *q* independent of the raised surfaces or lugs upon the respective bars.

The frame work of the device may be such in form and material to suit the application in which it may be desired to be used and the elemental parts may be modified in form, rearranged, substituted or changed as to best facilitate the practical and economical operation of the device.

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

1. In a cash register and indicator, the combination, of the lever *F'*, the cut-off *e*¹ obliquely formed and provided with wings *e*², pivoted to lever *F'* and the slotted conduit *e*, substantially as described and shown.

2. In a cash register and indicator, the combination of the lever *F'*, the obliquely formed cut-off *e*¹ provided with wings *e*², in combination with the slotted conduit *e*, substantially as described and for the purpose set forth.

3. The combination, with a register case of a series of conduits mounted therein, a hopper having opening ducts into each of the respective conduits, which is designed to contain a large number of spheres which feeding downwardly through the connecting ducts into the main ducts will keep them constantly filled, the cut-off formed with the obliquely adjusted wings mounted upon suitable operating levers, it being designed that the said wings work within slots cut through the body of the respective conduits to obstruct the passage of the spheres from the conduits and to cut them out one by one through the action of operating levers upon which cut-offs are pivotally mounted, a register drawer having inclined troughs corresponding in number and adjustment and with the said series of conduits and adapted to receive the said spheres when released by the respective cut-offs and provided with a scale of figures to successively register the amounts represented by the said balls, all substantially as described and shown.

4. The combination with a register case of a hopper adapted to contain a large number of spheres, a register drawer having inclined troughs provided with scales of figures to register the amounts represented by said balls, a series of conduits obliquely mounted therein and opening into at their respective extremities the hopper designed to contain the spheres and the register drawer designed to finally receive them, the cut-offs formed with the obliquely adjusted wings and mounted upon suitable operating levers designed to work within slots cut through the body of the respective conduits, and spheres adapted to enter from the hopper and fill the respective conduits of the series to the point where they are obstructed by the cut-offs and are designed to be cut out one by one through the

action of the said cut-off being operated by suitable levers with which they are pivotally connected for the purpose of registering the amounts of purchase, all substantially as described and shown.

5. The combination, with a register case of a series of conduits mounted therein, the respective ends thereof opening into a hopper and a register drawer, a scale of figures carried upon and over the respective troughs in the register drawer, the hopper connected with the upper and forward ends of the conduits, spheres adapted to travel in said conduits, indicator cards mounted upon vertically adjustable bars having figures corresponding in dimension to said conduits and normally hidden from view, lever mechanism for operating the vertically adjustable bars upon which the cards bearing the figures are mounted, the cut-offs formed with the obliquely adjusted wings and pivotally connected with the operating levers and purposed to cut out the spheres one by one as the respective levers are operated and a pivoted rack for engaging the perpendicularly adjustable bars bearing the figure cards and retain the said cards in sight, all substantially as described and shown.

6. In a cash register and indicating apparatus, the combination, of the lever *F'* suitably supported for vertical movement, the obliquely formed cut-off mechanism *e*¹ provided with projecting wings as *e*² supported upon lever *F'*, the perpendicularly adjustable bar *R* provided with display cards as shown designed to be upwardly actuated by lever *F'*, the gravitating conduit *e* and a number of spheres carried therein designed to be cut out or released by the cut-off *e*¹ actuated by lever *F'*, all substantially as described and shown.

7. In a cash register and indicating apparatus, the combination, of the lever *F'* suitably pivoted for vertical movement, the obliquely formed cut-off mechanism *e*¹ provided with extensions as *e*², the obliquely adjusted gravitating conduit *e* provided with incisions as *e*³ cut partially through its body, a number of spheres carried therein and designed to be cut out one by one through the action of cut-off *e*¹ actuated by lever *F'*, the perpendicularly adjustable bar *R* provided with display card and shoulder as *R*², and the pivoted rack *q* for engaging and holding the said perpendicularly adjustable bar in elevated position when so elevated through the action of the lever *F'*, all substantially as described and shown.

8. The combination, in a cash register and indicating apparatus of a series of levers as *F'* suitably supported and having connected therewith the obliquely formed cut-off mechanism *e*¹, the perpendicularly adjustable bars as *R* provided with display cards as shown, the pivoted rack *q* for engaging and holding the said perpendicularly adjustable bars in elevated position when so elevated through

the action of the levers, the series of gravitating conduits filled with spheres from the hopper D which are designed to be cut out or released by the cut-off e^4 actuated by the levers as F' , all substantially as described and shown.

9. The combination with the register case, of a series of conduits mounted therein a hopper opening into each of the respective conduits by means of suitable grooves or ducts which is designed to contain a large number of spheres which feed downwardly into the ducts and keep them constantly filled, cutoffs mounted upon suitable operating levers and working within slots cut through the body of the respective conduits to obstruct the exit of said spheres from the conduits and to cut them out one by one, the series of levers F' the pivoted frame $X^2 X'$ connected with said levers and actuated thereby to release the cash drawer, the vertically adjustable bars designed to be actuated by the said levers and the pivoted rack q designed to engage with lugs on the said vertically adjustable bars for the purpose of holding them in a raised position for the purpose of exposing to view the indicator cards upon the upper ends thereof when said vertically adjustable bars have been thrown upwardly through the action of the said levers, all substantially as described and set forth.

10. The combination with the register case of a series of conduits obliquely mounted therein, a hopper having opening ducts connecting with each of the respective conduits which is designed to contain a large number of spheres which feeding downwardly through the connecting ducts into the main ducts will keep them constantly filled, the double winged obliquely cut cut-offs mounted upon suitable operating levers and the wings thereof working within slots cut through the body of the respective conduits to obstruct the exit of the spheres from the conduits and to cut them out one by one through the action of the respective cut-offs, the series of levers F' and pivoted frame $X^2 X'$ connected with said levers and actuated thereby to release the cash drawer, the vertically adjustable bars designed to be actuated by the said levers and the pivoted rack q designed to engage with lugs on the said vertically adjustable bars for the purpose of holding them in a raised position for the purpose of exposing to view the indicator cards upon the upper ends thereof when said vertically adjustable bars have been thrown upwardly through the action of the said levers, the register drawer A^3 provided with a series of inclined troughs corresponding in number to the number of conduits and adapted to receive the spheres from the said conduits when released therefrom by the cut-offs and provided with a scale of figures upon the upper edge of the respective troughs to successively register the amount represented by the said spheres and provided with the block G^3 designed to be withdrawn for the purpose of allowing the spheres a

suitable exit through the opening thus formed, all substantially as described and set forth.

11. In a cash register and indicator, the combination, of a series of levers as F' suitably pivoted for vertical movement, the pivoted rack $X' X^2$ having connected therewith hook-bar A^{10} , the adjustable connecting rods y formed of the threaded bolt and sleeve, the drawer A^{21} provided with hook A^8 for engagement with hook-bar A^{10} , secured to block A^{15} at its rear extremity and with the pivoted rack $X' X^2$ at its forward extremity by means of bolt y' , and the spring and rod actuating mechanism A^7 , all provided so that by depressing any of the said levers as F' the pivoted rack $X' X^2$ would be raised which would disengage the hooks of bars A^8 attached to the drawer, and A^{10} connected with the said rack so that the drawer A^{21} will be thrown outwardly through the action of actuating mechanism A^7 , and so that when the said lever so depressed is released the parts will be in such adjustment that when the drawer is pushed in the hooks on bars $A^8 A^{10}$ will engage to hold the drawer in closed position, all substantially as described and set forth.

12. In a cash register and indicator, the combination with a casing, and a number of levers mounted therein, of inclined slotted conduits, register balls adapted to travel therein, a hopper for said balls, and a cut-off mechanism operatively connected to said levers to cut out said balls successively from the conduits to the register troughs corresponding to said conduits and levers.

13. In a cash register and indicator, the combination with a casing and a number of levers mounted therein, of a number of inclined slotted conduits, registering balls adapted to travel therein, a hopper at one end of said conduits and drawer divided into a number of troughs reversely inclined to said conduits and in communication therewith, and a cut-off mechanism operatively connected to said levers adapted to cut out the balls successively from the respective conduits, all substantially as described and shown.

14. The combination with a casing, levers mounted therein a hopper and a registering device corresponding to each of said levers, of register balls used in connection with said registering device and a cut-off mechanism obliquely formed, and having wing projections to cut out said registering balls successively from inclined slotted conduit by bearing within the slots therein, and adapted to be operated by said levers to cut out the balls successively to allow them to be conducted by said conduits into register troughs, all substantially as described and shown.

15. The combination with balls, a series of slotted conduits for said balls, and a register drawer located lower than said conduits, and adapted to receive and register said balls, of an adjustable cut-off mechanism obliquely formed, and provided with extended wings

adapted to bear within slots in the respective conduits to cut out one ball at a time from said conduits releasing the same to allow it to pass through the said conduits from a higher to a lower plane, and to deliver it to said register drawer, all substantially as described and shown.

16. In a cash register and indicator the combination with a registering device of a series of conduits, and registering balls therein, and cut-off mechanism bearing in slots through the bodies of the respective conduits adapted to obstruct the passage of the balls to a register drawer, communicating with said conduits, and operating levers connected with said cut-offs for operating the same for releasing said balls one by one to allow them to pass through the conduits to the said register drawer.

17. In a cash register and indicator, the combination, with an inclined conduit, and an inclined trough in a register drawer communicating therewith, of a cut-off obliquely formed and provided with wing projections for bearing in slots through the body of the said conduit for obstructing the passage of said balls through the said conduit to the said register drawer, and a lever connected with said cut-off for operating the same within the slots in

the conduit for releasing the balls successively from said conduit whereby said balls are released from the conduit and pass into said register drawer, all substantially as described and set forth.

18. In a cash register and indicator the combination, with an inclined conduit, and an inclined trough in a register drawer communicating therewith, of a cut-off obliquely formed and provided with wing projections for bearing in slots through the body of the said conduit for obstructing the passage of said balls through the said conduit to the said register drawer and a lever connected with said cut-off for operating the same within the slots in the conduit for releasing the balls successively from said conduit whereby said balls are released from the conduit and pass into said register drawer, and an adjustable bar bearing indicating number, and adapted to be actuated upwardly by the said lever to show said indicating number, all substantially as described and shown.

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

GEORGE MCCABE.

Witnesses:

W. V. TEFFT,

R. N. M'CORMICK.