

(No Model.)

2 Sheets—Sheet 1.

J. S. HILLIARD.
CASH REGISTER AND INDICATOR.

No. 528,541.

Patented Nov. 6, 1894.

Fig. 1

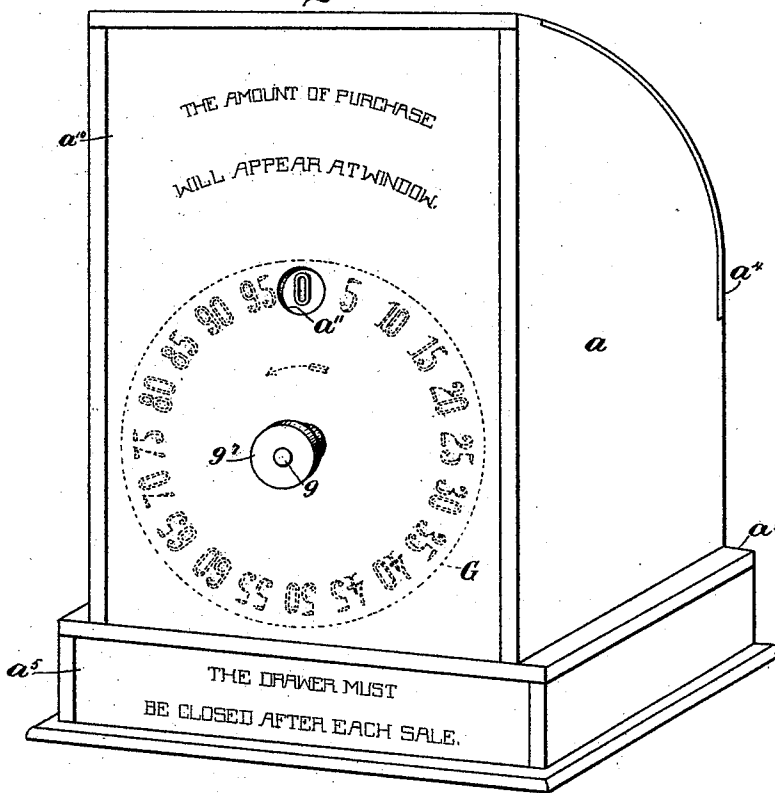
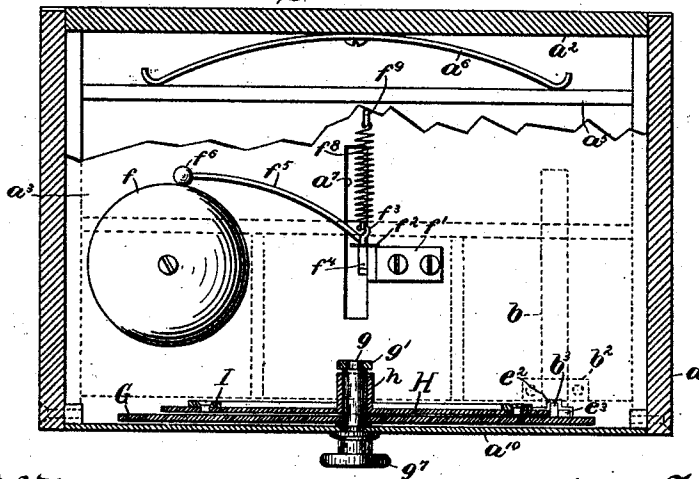


Fig. 2



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(No Model.)

2 Sheets—Sheet 2

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Fig. 3

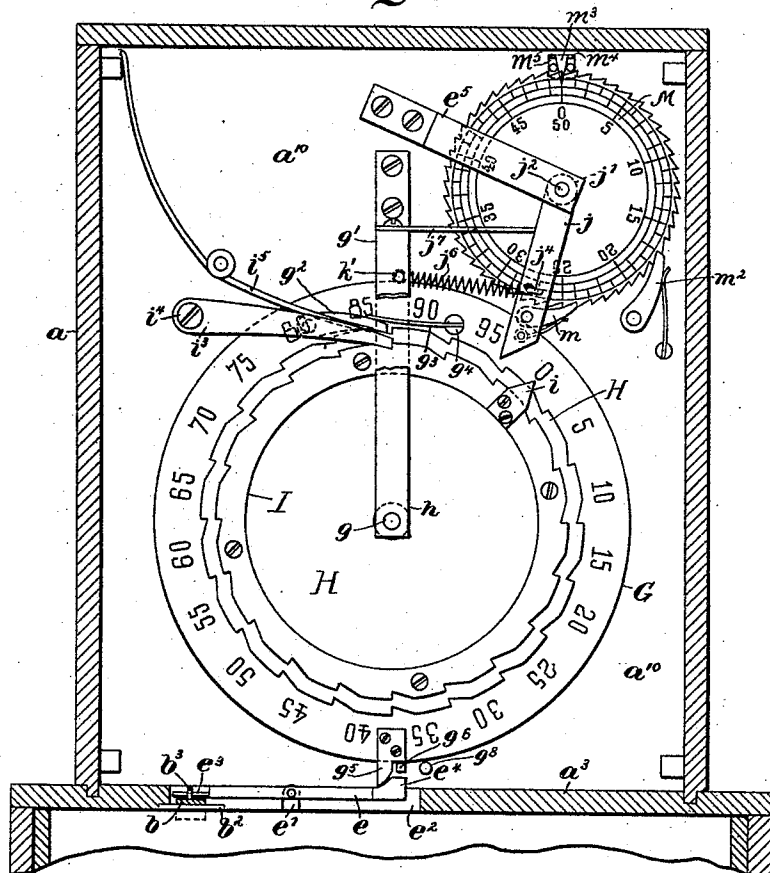
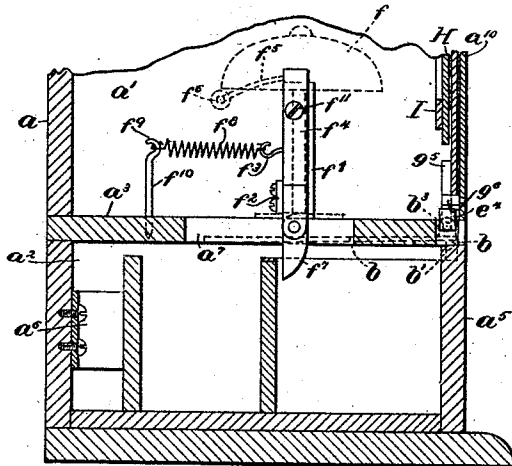


Fig. 4



Witnesses:
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Richard C. Maxwell.

Inventor.
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UNITED STATES PATENT OFFICE.

JOHN S. HILLIARD, OF PHILADELPHIA, PENNSYLVANIA.

CASH REGISTER AND INDICATOR.

SPECIFICATION forming part of Letters Patent No. 528,541, dated November 6, 1894.

Application filed December 22, 1893. Serial No. 494,373. (No model.)

To all whom it may concern:

Be it known that I, JOHN S. HILLIARD, a citizen of the United States, residing at the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Cash Registers and Indicators, of which the following is a specification.

My invention has relation to apparatus designated as cash registers and indicators; and it relates more particularly to the construction and arrangement of such an apparatus.

The principal objects of my invention are first, to provide a comparatively simple, durable and accurate or reliable cash registering apparatus; second, to provide a cash register and indicator that is a total adder, and in which the sale can be visibly indicated; and third, to provide a cash register in which the component or operative parts thereof are greatly simplified and the cost appreciably reduced without sacrificing or affecting the reliability and accurate registering and efficiency of the working thereof.

My invention stated in general terms, comprises a cash registering and indicating apparatus constructed, arranged and adapted for operation in substantially the manner hereinafter described and claimed.

The nature and characteristic features of my invention will be more fully understood from the following description taken in connection with the accompanying drawings forming part hereof, and in which—

Figure 1, is a perspective view of the front of a cash register and indicator, embodying features of my invention. Fig. 2, is a transverse central section of the register and indicator, showing the money-drawer, alarm-device and mechanism thereof and certain of the registering wheels and the stud or button for actuating the same. Fig. 3, is an elevational view of the registering mechanism of the apparatus; and Fig. 4, is a cross sectional view of the lower part of the apparatus.

In the drawings a , is the exterior housing provided with upper and lower compartments a' and a'' , separated by a partition a^3 . The upper compartment a' , is provided with a hinged lid or cover a^4 , having a lock, not shown, for securing it in closed position. The

lower compartment a'' , is adapted for the reception of a money-drawer a^5 , and is provided with an ejecting spring a^6 , tending to open the drawer.

b , is a spring catch secured to the underside of the partition a^3 , and tending to engage a lip b' , on the drawer a^5 .

b^2 , is a back-stop tending to limit the range of downward movement of the spring catch b .

e , is a lever centrally pivoted to a suitable bearing e' , which is secured into an oblong slot e^2 , formed in the partition a^3 . One extremity of the lever e , is provided with a pin e^3 , that engages a yoke b^3 , of the spring catch b , and the other extremity is provided with an integral detent e^4 , for a purpose to be presently fully explained.

f , is a bell or gong of suitable construction secured to the upper surface of the partition a^3 , and provided adjacent thereto with an oblong slot a^7 .

f' , is a right angular support provided with a transverse back-stop f^2 .

f^4 , is a weighted arm pivoted at f^{11} , and provided with a loop or eye f^3 , for a purpose to be presently explained. The weighted arm f^4 to the support f' , at its upper extremity is provided with a stem f^5 , having at its free end a sounder f^6 , and at the lower extremity of said arm is a pivotal or swinging pawl f^7 , adapted to be actuated by the money drawer a^5 , in the manner to be hereinafter explained.

f^8 , is a retracting spiral spring secured at one extremity to the eye f^3 , and at the other extremity to the eye f^9 , of a post f^{10} , secured into the partition a^3 . The retracting spring f^8 , is adapted to return the arm f^4 , to its vertical position after the same and the swinging pawl f^7 , have been actuated through the release automatically of the spring actuated money drawer a^5 , by the disengagement of the catch b , from a dog or lug g^5 , which is connected with an indicating disk G , as will be hereinafter more fully explained.

g , is a revoluble shaft disposed transversely to the front plate a^{10} , and extending through the same. The front plate a^{10} , is provided with a window or opening a^{11} , for exposing a numeral so as to indicate the last sale made and registered by the apparatus. The shaft g , is journaled at one end to a bracket g' , secured to the rear wall of the face plate a^{10} ,

and carries a back-stop arm j^7 , for a purpose to be presently described and at the outer end of the shaft g , is a fixed button or stud g^7 , for revolving the same. On the shaft g , is mounted a disk G , which is rigidly secured thereto and provided on both faces near the outer peripheries thereof with numerals, as shown, ranging from 0 to 95. The disk G , is provided with a pivotal pawl g^2 , having a spring g^3 , in engagement therewith and with a slotted pin g^4 , for maintaining the pawl g^2 , in contact with a tooth of the ratchet wheel H , fitting snugly up against the rear face of the disk G , and provided with a sleeve h , which is mounted on the shaft g , and forming a bearing for the wheel H , as clearly illustrated in Fig. 2. The rear face of the disk G , has secured thereto a dog g^5 , adapted to contact with a pin g^6 , projecting from the rear face of the front plate a^{10} , of the machine, for limiting the extent of rotary movement of the disk G , in one direction and with a back-stop g^8 , secured to the rear wall of the front plate a^{10} , to limit the range of movement of the disk G , in the opposite direction.

The ratchet wheel H , has a toothed or ratcheted rim I , secured thereto and provided with a detent or dog i , adapted to engage a depending lever arm j , provided with a bearing j' , mounted on a shaft j^2 , which shaft is journaled at one end in the rear wall of the front plate a^{10} , and at the other end to a curved bracket e^5 , which is rigidly secured to the rear surface of the front plate a^{10} . The depending lever arm j , is provided on one side thereof with an eye j^4 , normally engaged by a spiral spring j^6 , which is held at its opposite end to an eye k' , of the bracket g' . This lever arm j , carries a pivotal spring controlled detent or pawl m , normally engaging a tooth of a registering wheel M , which is mounted on the shaft j^2 , and having on one face thereof, numerals ranging from \$1 to \$50, as shown. It may however, be here remarked that by increasing the size of the wheel or the number of teeth thereof, the same may be adapted to register larger sums.

m^2 , is a spring controlled detent or pawl engaging with a tooth of the ratcheted surface of a registering wheel M , for preventing retrograde movement thereof and thereby to permit of accurate registering of the wheel M , when actuated by means of the pawl or detent m , by contact of the detent, pawl or dog i , with the lever-arm j , to move the wheel M , by a step-by-step movement.

i^2 , is a detent or pawl pivotally connected with a post i^4 , secured to the rear wall of the front plate a^{10} , and engaging therewith is a spring i^5 , for maintaining said pawl or detent i^2 , in contact with a notch or tooth of the annulus or rim I , fixed to the ratchet or notched wheel H .

m^3 , is a pointer provided with a base m^5 , and an arm m^4 , secured to the rear wall of the front plate a^{10} , and adapted to indicate on the registering wheel M , accurately the amounts

or sums that have been deposited in dollars into the money drawer a^5 .

As illustrated the apparatus is so constructed and arranged as to be capable of registering sales aggregating from five cents to fifty dollars and ninety five cents. However, the apparatus may be adapted to register sales ranging between different limits by changing the numerals and the number of teeth in the registering wheels, as will be understood by those skilled in the art to which my invention appertains. Consequently my invention is not limited to the employment and disposition of the numerals as hereinbefore mentioned.

For the sake of a further understanding of my invention, a description will now be given of the mode of operation of a cash register and indicator, such as illustrated in the accompanying drawings and of the character hereinbefore described.

To set the machine for use, the indicating disk G , is turned manually by means of the button or stud g^7 , into such position as that 0, will be visible through the window a^{11} , of the front plate a^{10} , and the disk G , and registering wheel M , on the respective faces thereof will indicate zero as will be disclosed by means of the pointers i and m^3 , from the interior of the apparatus, by raising the hinged lid or cover a^4 , thereof. A certain sum of money, for example, ten cents, is to be placed in the drawer a^5 , from a sale made. At the window a^{11} , is exposed the numeral 0. By a slight movement of the button or stud g^7 , to the right the drawer a^5 , may be thrown out through the release of the spring catch b , from its engagement with the dog g^5 , connected with the disk G . The range of movement in this instance of the disk G , with its dog g^5 , will be limited by a back stop g^6 , which is secured into the rear surface of the front plate a^{10} . At the moment of release of the drawer a^5 , the sounder or clapper f^6 will be actuated to produce an audible sound by its contact with the gong or bell f . The sum of ten cents representing the sale made, being deposited in the drawer, it is closed and this sale is registered by turning the stud or button g^7 to the left as indicated by the arrow in Fig. 1, so as to expose the numeral \$10 from the window a^{11} . Such movement will have moved the disk G , the distance represented thereon by the numeral 10 and the ratchet wheel H , two teeth to the right so as to be engaged by means of the spring pawl g^2 , and consequently when the next sale is to be registered, the button or stud g^7 , is first turned to the zero position to open the drawer a^5 , and in such movement the spring pawl g^2 , will slip to the left two teeth of the wheel H , and into engagement with the last tooth of those slipped in such rearward movement and engage therewith in such manner as that when zero is again exposed at the window a^{11} , the pointer i of the rim I , will indicate on the rear face of the disk G , the last sale and so each sale is regis-

tered by allowing the window to expose the last sale and then by turning by means of the stud or button g^7 , the disk G, to zero at the window a^{11} , the drawer will be opened, and by the release of the drawer a^5 , the bell will ring.

When the amount of the next sale is deposited in the drawer and it is closed, the button or stud is turned to the right so that such amount representing the sale last made will be exposed in numerals from the window a^{11} . The above described registration of sales may be continued and each revolution of the disk G, by means of the pointer i , arm j and pawl m , will actuate the wheel M, one tooth at a time to the left. The back-stop arm j^7 , limits the range of movement of the lever arm j , each time the registering wheel M, is shifted a space. It may be here remarked that the pointer m^3 , will indicate on the wheel M, the amount in dollars and the pointer i , will indicate on the disk G, the amount in cents that have been respectively deposited in the drawer a^5 and registered, until the sum of fifty dollars and ninety five cents has been deposited and registered, when the disk G, and registering wheel M, will be returned respectively to the zero positions for again registering the amount of sales represented by the different sums deposited in the money drawer a^5 , of the machine.

The total amount of money deposited in the money drawer a^5 , in the course of a day may be ascertained by simply unlocking the lid or cover a^4 , and inspecting the numerals indicated by the respective index fingers i and m^3 , of the disk G and the wheel M.

From the foregoing description it will appear that the window a^{11} , must indicate the amount of the last sale and that the money drawer must always be opened at the zero position and before the amount of sale is registered, and with the opening of the drawer a^5 , the gong or bell will thereby be automatically sounded.

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

1. A cash register and indicator, comprising a housing having a compartment in the bottom, a spring actuated money-drawer, a pivotal catch secured into the partition forming the top of said compartment and adapted to engage a lip on said drawer, a shaft extending through the front plate having a window and said shaft provided with a stud or button, a disk rigidly secured to said shaft in rear of the front plate and provided with a lug or dog, a back-stop extending from the rear surface of said front plate and adapted to permit of the lug or dog of said disk being brought into contact with said stop, a bell, a weighted arm supported from said partition and provided with a stem having a sounder and a swinging pawl adapted to be actuated by said drawer, a support, and a spiral spring connected with said support and weighted

arm, substantially as and for the purposes set forth.

2. A cash register and indicator, comprising a housing provided with upper and lower compartments separated by a partition, the upper compartment provided with a hinged lid or cover and the lower compartment provided with a money drawer having an ejecting spring, a spring catch secured to the under side of said partition and adapted to engage a lip on said drawer, a lever pivoted in an oblong slot in said partition, one extremity of said lever being provided with a pin engaging a yoke of said spring catch and the other extremity provided with a detent, a shaft extending through the front plate having a window, a disk with numerals arranged on both faces thereof rigidly secured to said shaft in rear of said front plate, a ratchet-wheel loosely mounted on said shaft and provided with a lug or dog, said ratchet wheel having a ratcheted rim, spring controlled pawls connected with said disk and the rear surface of said front plate for engaging the teeth of said wheel and rim, substantially as and for the purposes set forth.

3. A cash register and indicator, comprising a housing provided with a front plate having a window, a revolvable shaft extending through said plate, a disk with numerals displayed on both faces thereof rigidly secured to said shaft and provided with a projecting lug or dog, a back-stop projecting from the rear face of said front plate and adapted to permit the lug or dog of said disk to contact therewith, a ratchet-wheel with a sleeve and a toothed rim, the sleeve of said wheel being loosely mounted on said shaft, spring controlled pawls connected with said disk and front plate and engaging respectively with said rim and wheel, said rim being provided with an index finger, a money-drawer provided with a spring catch adapted to engage with the lug or dog of said disk to permit of the release of said money-drawer, a bell, a support, a sounder connected with a weighted arm, and a spring connected with said support and arm, substantially as and for the purposes set forth.

4. A cash register and indicator, comprising a housing provided with upper and lower compartments separated by a partition, the upper compartment being provided with a hinged lid or cover and the lower compartment provided with a money-drawer having an ejecting spring tending to open the same, a shaft extending through the front plate provided with a window, said shaft being provided with a button or knob, a disk with numerals displayed on both faces of the same, said disk secured to said shaft and provided with a projecting lug or dog, a back-stop projecting from the rear face of said front plate, a toothed wheel loosely mounted on said shaft, said toothed wheel being provided with a ratcheted rim, spring detents and pawls

connected with said disk and front plate and engaging said toothed wheel and ratcheted rim, a shaft supporting a revoluble registering wheel carrying a spring controlled lever arm having a spring controlled pawl normally engaging a tooth of said wheel, a spring controlled detent held in engagement with a tooth of said wheel and pivotally connected with the rear face of said front plate to prevent retrograde movement of said wheel and a lug or dog projecting from said ratcheted rim, substantially as and for the purposes set forth.

5. A cash register and indicator, comprising a housing having a compartment in the bottom, a spring actuated money drawer mounted therein, a pivotal catch secured to the partition of said compartment and adapted to engage a lip on said drawer, a shaft extending through the front plate having a window, said shaft provided with a stud or button, a disk secured to said shaft and having numerals displayed on both faces thereof, and said disk provided with a lug or dog adapted to engage with said catch, a back-stop extending from the rear face of said front plate and adapted to permit of the lug or dog of said disk being brought into contact therewith, a bell, and a weighted pivot-

ally supported arm provided with a swinging pawl and a stem carrying a sounder, substantially as and for the purposes set forth.

6. A cash register and indicator, comprising a housing having compartments separated by a partition, one of said compartments having a spring actuated money drawer, a pivotal catch secured to said partition and adapted to engage a lip on said drawer, a shaft extending through the front plate having a window, said shaft provided with a stud or button, a disk having numerals displayed on both faces thereof and secured to said shaft and having a projecting dog or lug ^g, adapted to engage when the drawer is closed with said pivotal catch, and a pin ^g, extending from the rear face of said front plate and adapted to permit of said dog or lug being brought into contact with said pin by the actuation of said disk by means of the button or stud of said shaft, substantially as and for the purposes set forth.

In testimony whereof I have hereunto set my signature in the presence of two subscribing witnesses.

JOHN S. HILLIARD.

Witnesses:

THOMAS M. SMITH,
RICHARD C. MAXWELL.