(No Model.) 3 Sheets—Sheet 1.

W. R. FOWLER.

CASH REGISTER AND INDICATOR.

No. 494,374. Patented Mar. 28, 1893.

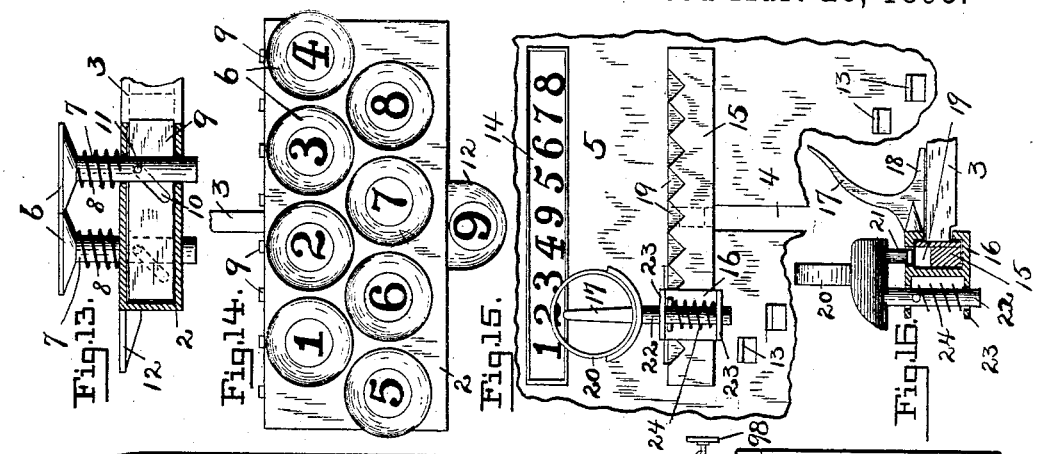


Fig. 13.

Fig. 14.

Fig. 15.

Fig. 16.

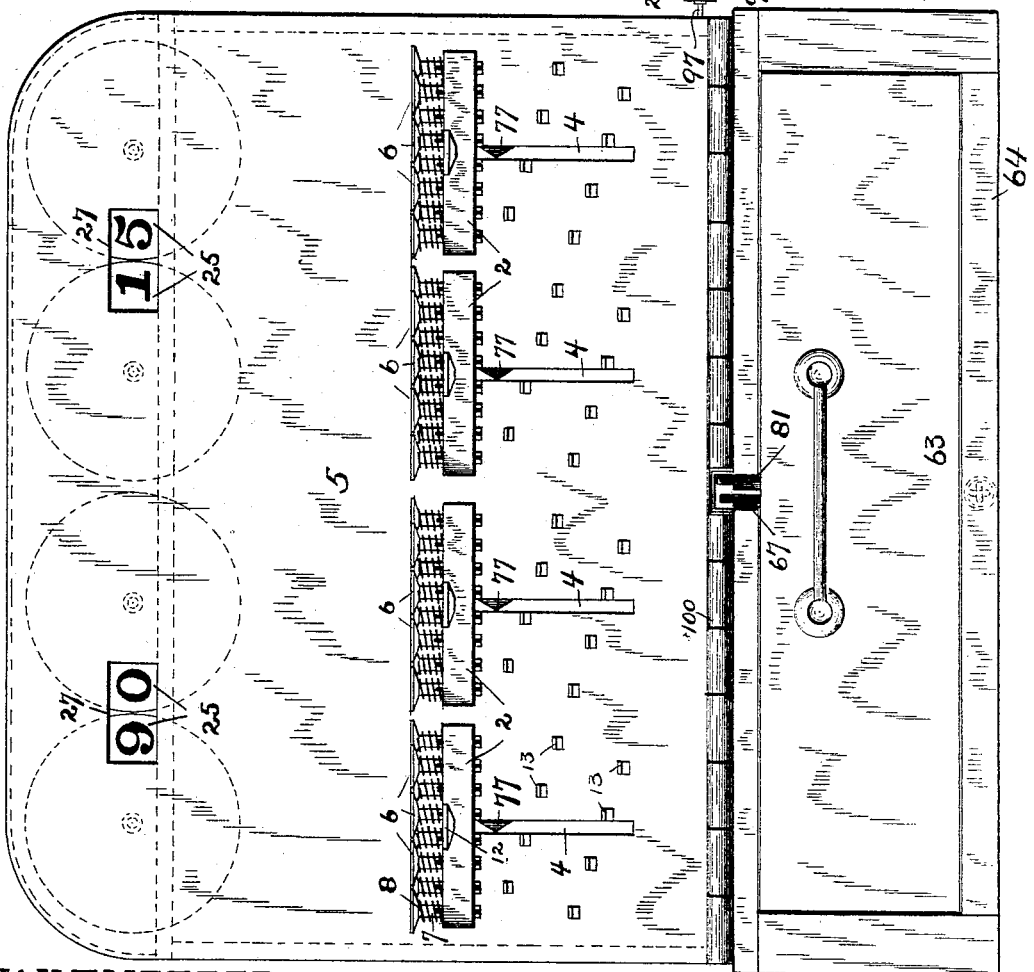


Fig. 1.

WITNESSES:

A. O. Babendreier.

H. Parker Davis.

INVENTOR:

Wm R. Fowler

By Chas B. Mann

Atty

(No Model.) 3 Sheets—Sheet 2.

W. R. FOWLER.

CASH REGISTER AND INDICATOR.

No. 494,374. Patented Mar. 28, 1893.

Fig. 9.

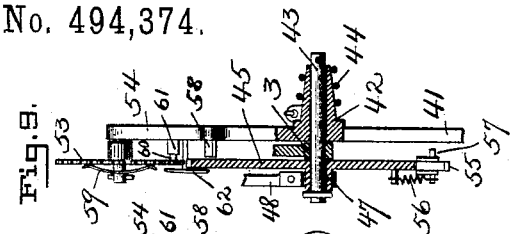


Fig. 10.

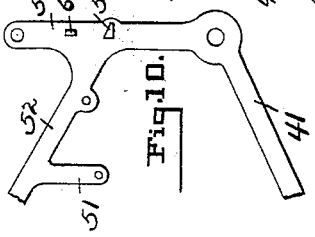


Fig. 11.

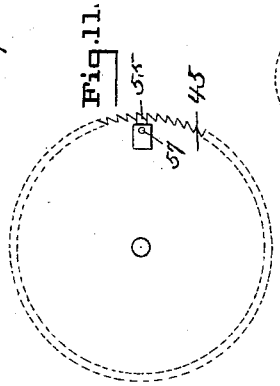


Fig. 12.

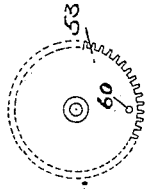
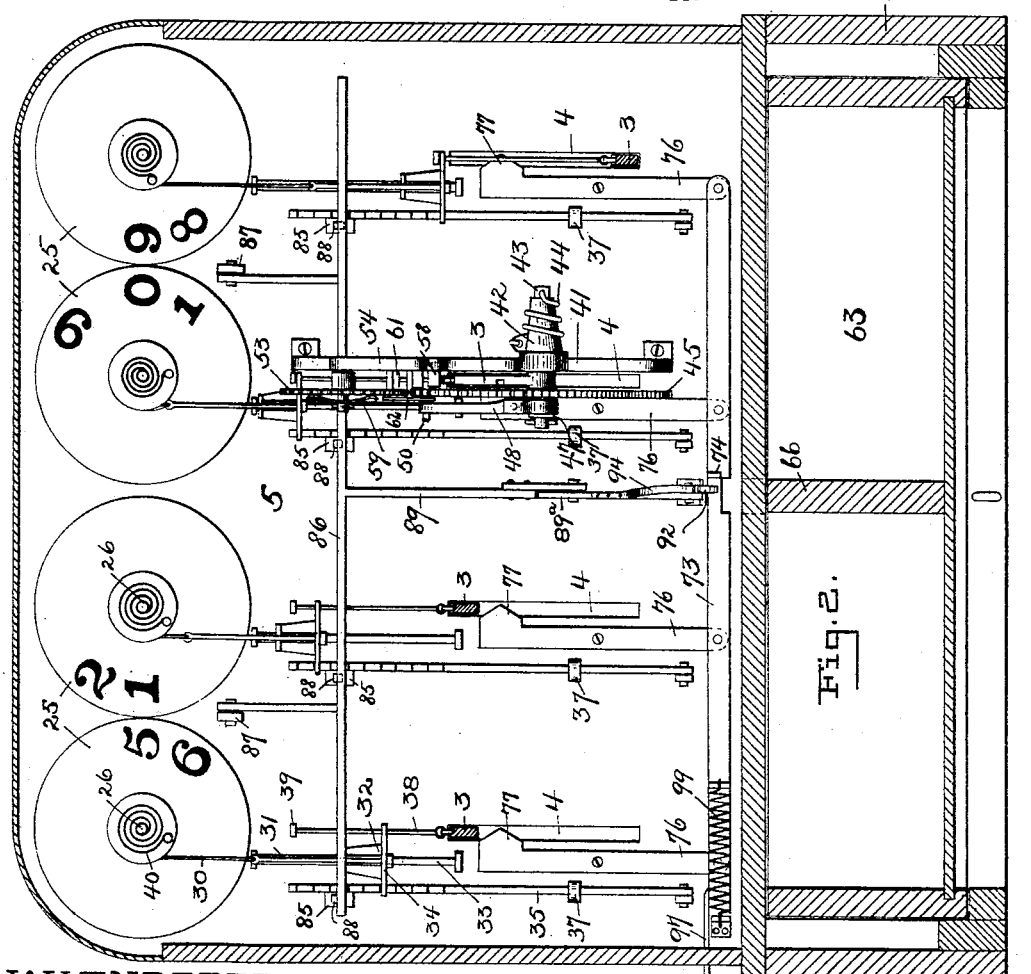


Fig. 2.



WITNESSES:—

A. C. Babendreier.

H. Parker Davis.

INVENTOR:—

Wm R. Fowler

By Chas B. Mann

Atty

(No Model.) 3 Sheets—Sheet 3.

W. R. FOWLER.

CASH REGISTER AND INDICATOR.

No. 494,374. Patented Mar. 28, 1893.

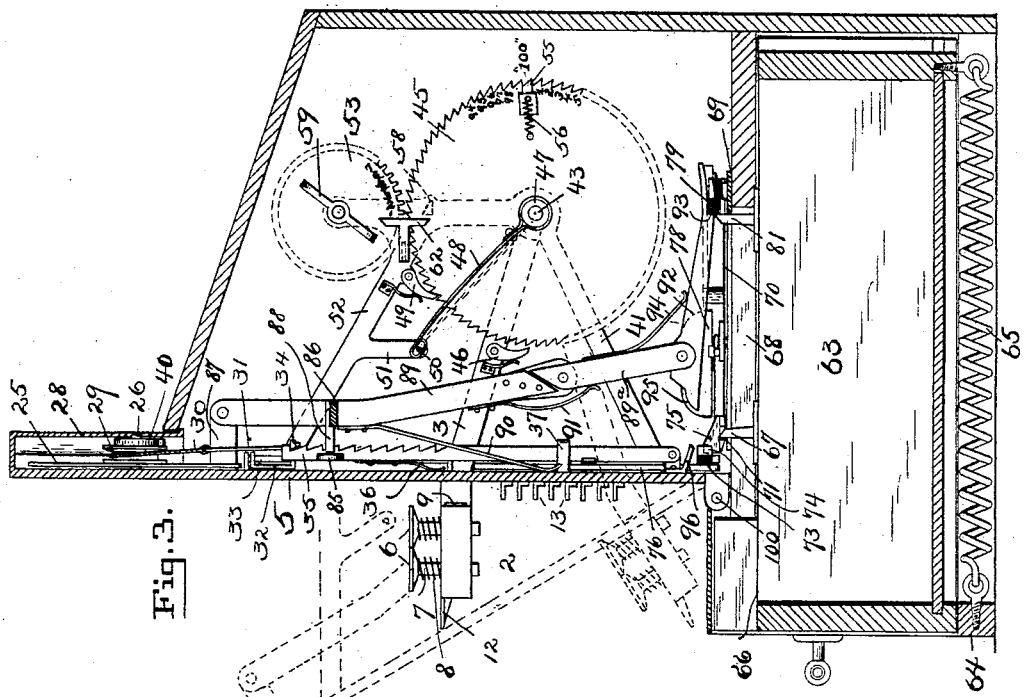


Fig. 3.

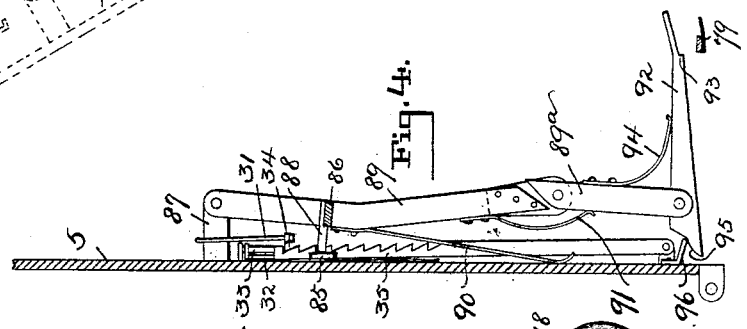


Fig. 4.

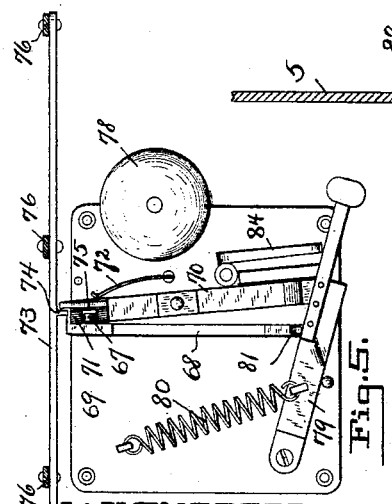


Fig. 5.

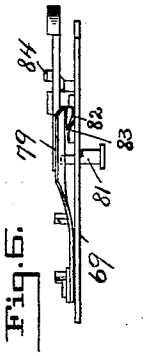


Fig. 6.

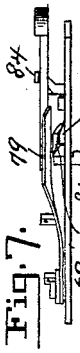


Fig. 7.

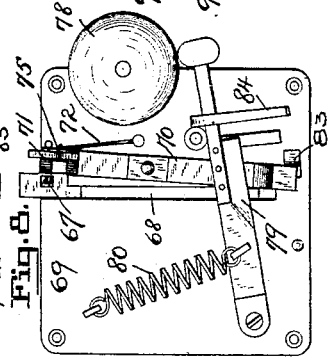


Fig. 8.

WITNESSES:—

A. O. Babendreier

F. Parker Davis.

INVENTOR:—

Wm R. Fowler

By Chas B. Mann

Atty.

UNITED STATES PATENT OFFICE.

WILLIAM R. FOWLER, OF BALTIMORE, MARYLAND.

CASH REGISTER AND INDICATOR.

SPECIFICATION forming part of Letters Patent No. 494,374, dated March 28, 1893.

Application filed June 7, 1892. Serial No. 435,825. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM R. FOWLER, a citizen of the United States, residing at Baltimore city, in the State of Maryland, have invented certain new and useful Improvements in Cash-Registers, of which the following is a specification.

This invention relates to an improvement in cash registers and is illustrated in the accompanying drawings in which,—

Figure 1 shows a front elevation of the machine; Fig. 2, a rear view with the outside casing in section and the registering mechanism of all but one of the four sets removed to simplify; the bell and its operating mechanism are also left out in this figure. Fig. 3 shows a cross-section through the middle of the machine. Fig. 4 shows a detail of the mechanism for releasing the indicator, in the act of so doing. Fig. 5 shows a top-view of the drawer-lock and bell mechanism, in their normal state; Fig. 6, an edge-view of the same. Fig. 7 shows a similar edge-view illustrating the action of the parts in releasing the bell-striker. Fig. 8 shows a top-view of the parts in this latter position with the bell-striker released. Fig. 9 shows a vertical section through one of the registering ratchet-wheels and its bearing, and also shows the toothed wheel above the ratchet-wheel. Fig. 10 shows a side-view of the end-portion of one of the arms or brackets which constitute supports for the registering mechanism. Fig. 11 shows a side view of one of the registering ratchet-wheels. Fig. 12 shows a side view of one of the smaller toothed-wheels which operate in conjunction with the ratchet-wheels. Fig. 13 shows a section through one of the key-boards. Fig. 14 shows a top-view of one of the key-boards. Fig. 15 shows a front view of a different key-board construction. Fig. 16 shows a cross-section of the latter.

I arrange four different sets of key-boards one for cents, one for dimes, one for dollars, and one for tens of dollars, respectively. Each of such key-boards as shown in Figs. 1 and 3 and 13 and 14 has the following construction:—a box or case, 2, is mounted on the end of a lever, 3, which projects through a vertical slot, 4, in the front piece or plate, 5, of the outside casing of the machine, and a number of finger-pieces or keys, 6, have stems 7, passing vertically through the said box, 2, and each having a spiral spring, 8, around it to hold it elevated. Each of said stems is bifurcated and straddles a slide-bar, 9, within the box, and having an oblique slot, 10, engaged by a pin, 11, which passes transversely through the bifurcated stem of the finger-piece. The spring on said stem normally holds this pin at the upper end of the slot and the slide-bar withdrawn into the box. Upon depressing the finger-piece or key it will be seen the said slide-bar will be pushed out of the box by the pin sliding on the inclined side of the slot. The spring, retracting, draws the slide-bar in again. The keys are numbered from "1" to "8" and a lip, 12, rigid with the box, 2, is numbered "9." Two inclined rows of stationary stops, 13, one row above the other, project from the front-plate, 5, of the machine, and the stops composing each of said rows are arranged in stair-step order, and those in the lower series below the spaces between those in the upper series, respectively. The key-board box may be depressed to the bottom of the vertical slot, 4, by pushing down on the lip, 12, which bears the number "9." But if finger-piece or key numbered "1" is pressed down, the slide-bar, 9, to which it is connected will be pushed out from the box toward the front-plate of the machine, in the manner heretofore explained, and the box can then only be depressed to a limited extent, as said slide-bar will encounter the highest one of the stops, 13, and stop the downward movement. If the box is depressed by applying pressure on the key bearing the number "2," the downward movement will be a little longer but will be limited by the slide-bar of said key-numbered "2" encountering the next highest of said stops, 13. And so on, the downward movement being greater as the denomination of the key increases.

Another key-board arrangement is illustrated in Figs. 15 and 16. Here a horizontal row of numbers, 14, running from "1" to "9," but the figure "9" in the middle, is on the front plate of the machine, and a cross-bar, 15, is fastened on the end of the lever 3. A slide-piece, 16, fits on said bar and may slide from one end to the other thereof; it is provided with a finger, 17, which projects upward in front of the horizontal row of figure

14, and an arm, 18, projecting toward the front-plate of the machine. The cross-bar, 15, has a series of notches, 19, in its upper side and a finger-piece, 20, has a spur, 21, which extends downward through the slide-piece, 16, and may engage in said notches. Said finger piece also has a stem, 22, which fits through guides, 23, on the slide-piece and has a spiral-spring, 24, around it to normally hold the finger-piece elevated. With this latter construction the slide-piece is moved along on the cross-arm until the finger, 17, is opposite the desired number, and then upon depressing the finger-piece its spur engages a notch in the cross-bar, whereby said slide-piece is prevented from sliding during the operation of depressing the lever, 3, and the stop-arm, 18, will stop against the projecting stop, 13, which is directly below. The stops, 13, are arranged in stair-step order as before,—only in this case they are all in one row instead of in two,—and the higher the number at which the indicator finger, 17, stands, the greater may be the depression of the lever, 3. When set at the figure "9" the said lever may be moved to the bottom of the slot, 4, without obstruction. Four circular disks, 25, are mounted side by side in pairs on studs, 26, projecting from the rear side of the front-plate 5, and each disk has numbers from "0" to "9" around its periphery on both side-faces, any one of which numbers on the outer side may show through an opening, 27, in the front-plate of the machine, and the same number on the back side through an opening in a casing, 28, which covers the disks.

The arrangement of the disk is in pairs with the peripheral edges of a pair close to each other whereby a number on each disk of a pair may show through the one opening, side by side in a horizontal line, and said two numbers thus together indicate the amount of a purchase. Each disk has a drum, 29, and a cord, 30, or other flexible connection, attaches at one end to said drum and at the other end to the upward-extending stem, 31, of a slide-head, 32, which fits on a vertical rod, 33. Said slide-head has a cross-arm, 34, which engages a ratchet-rack, 35, pivoted at its lower end to the front-plate of the machine and actuated away from the latter by a spring, 36, and confined in its movement by a guide-loop, 37. A rod, 38, jointed to the lever, 3, extends loosely through the cross-arm of the slide-head and has an enlargement, 39, at its upper end to bear on the upper side of said cross-arm. In the normal position of these parts above described, zero shows on the disk, and the slide-head, 32, is at the upper end of the rod, 33, and the cord, 30, is wound upon the drum of the disk. Upon depressing the lever, 3, the head, 39, of the rod, 38, bearing on the cross-arm of the slide-head, draws the latter down, and thus revolves the disk by unwinding the cord from its drum. This downward movement of the lever, the extent of which is governed as heretofore explained, brings the proper number on the disk-dial at the opening in the front-plate, and the parts are held in this adjustment by the ratchet-rack, 35, engaging the cross-arm of the slide-head. A clock-spring, 40, wound about the stud, 26, is fastened at one end thereto and at the other end to the disk, 25, and this spring serves to return the parts to their normal positions when the slide-head is released by the rack, so that zero will again show through the openings in the case. A bracket, 41, is fastened to the rear side of the front-plate of the case and has bearing, 42, at its end, for a shaft 43, on which the lever, 3, is rigidly mounted. A coil-spring 44 is fastened to the said bearing and shaft and serves to hold the lever elevated. A registering ratchet-wheel, 45, is mounted to turn on the shaft, 43, and is engaged by a pivoted spring-pawl, 46, on the lever, 3. Said wheel has a projecting hub, 47, and a metal strap, 48, is fastened around the same to serve as a brake and prevent the wheel from gaining any momentum when actuated by the lever and pawl, and moving farther than desired. Said strap extends to a rod, 50, supported by arms 51 of the brackets, 41, and has an elongated loop taking around said rod. It will be seen said strap tends to retard the wheel in its forward movement. The friction of the strap on the hub of the wheel, causes the strap to spring as indicated by broken lines in Fig. 3, and the elongated loop permits the lengthening of the strap. A stop-pawl, 49, on an arm, 52, of the supporting bracket, 41, prevents a backward movement of the wheel. The ratchet-wheel will have one-hundred teeth and will bear a number on its face at each tooth, the numbers running from one to one-hundred. The depression of the lever, 3, turns the ratchet-wheel and the extent of such depression determines the amount of movement of the wheel. Thus the shortest movement of the lever, *i. e.*, when the finger-piece or key of the key-board marked "1" is depressed, moves the ratchet wheel the length only of one tooth, whereas the longest movement, *i, e.*, when the key-board itself is depressed by application on the lip numbered "9," moves the wheel the length of nine teeth. A toothed wheel, 53, is mounted at the end of an arm, 54, projecting upward from the bracket, 41, and in the present instance said wheel has sixty teeth. The one-hundredth tooth, 55, of the ratchet-wheel, 45, is a movable tooth and may slide outward in a radial slot in the ratchet-wheel; it is held in by a spring, 56, and has a projection, 57, on one side which rides over a cam-block, 58, on the bracket, 41, whereby the said tooth is pushed out as it arrives at the small toothed wheel and engages a tooth of said latter wheel, which it moves the length of one tooth. Thus with each revolution of the large ratchet-wheel, the small toothed wheel is moved one tooth. A flat spring, 59, bears against the side of said toothed wheel and serves as a brake therefor, and a pin, 60, pro-

jecting from one side of said wheel encounters a projection, 61, on the bracket, 41, and thereby the toothed wheel is stopped after it makes one complete revolution. A bar, 62, extends over the faces of the two registering wheels to serve as a division mark by which to read the amount registered.

There are four sets of registering mechanism,—one for each indicating dial. The ratchet-wheel of one set is marked up to one-hundred cents, and the small toothed wheel up to sixty dollars, one dollar for each tooth. The set adjoining has its ratchet-wheel marked up to one-hundred dimes, and the small toothed wheel up to six hundred dollars, ten dollars for each tooth. The third set has its ratchet-wheel marked up to one hundred dollars, and its small toothed wheel up to six thousand dollars, one-hundred dollars for each tooth. And the set adjoining this one has its ratchet wheel marked up to one-thousand dollars and its small toothed wheel up to sixty thousand dollars, one thousand dollars for each tooth. Supposing a purchase amounting to ninety dollars and fifteen cents, is to be registered. The lip, 12, of the ten-dollar key-board is pressed down and the lever, 3, depressed until it reaches the bottom of the slot, 4. This turns the dial disk so that it shows the figure "9" and the parts are set by the engagement of the ratchet-rack on the inside with the slide-head. At the same time the depression of the lever turns the registering ratchet-wheel the length of nine teeth and registers ninety dollars on the face of said wheel over the division bar, 62. The one-dollar key-board is left undisturbed, so that zero will be showing on the dial above. The key numbered, "1" of the dime key-board is pressed down and the lever depressed until the stop-bar of said key encounters the stationary stop, 13, below it, and the dial above shows "1" while the registering wheel registers ten cents. In like manner five cents is indicated and registered on the other dial and registering wheel. When one ratchet-wheel makes a complete revolution, the one-hundred cents, dimes, dollars, or ten-dollars, according to which wheel it is, is registered on the small toothed wheel as one dollar, ten dollars, one hundred dollars, or one thousand dollars, as the case may be. It will be seen that with this arrangement purchases amounting to very large sums may be registered.

A sliding drawer, 63, fits in the lower part, 64, of the casing and a spring, 65, connects said drawer with the bottom of the said casing and tends to slide the drawer outward to an open position. The drawer has a central partition, 66 and a stud, 67, projecting upward from said partition. The top of the drawer-casing has a slot, 68, for the said stud to travel in, and a plate, 69, is secured on said casing-top and is likewise slotted. A lever, 70, is pivoted to said plate and has a notch, 71, at its forward end to receive the stud, 67 and thereby hold the drawer in; said lever is actuated by a spring, 72, into the path of said stud, and the latter is beveled to ride under the lever when the drawer is closed and lift it,—the lever being made of spring metal,—and thus enter the notch as seen in Fig. 5. A horizontally-placed bar, 73, extends along near the bottom of the front-plate 5, and has an ear, 74, which engages against a rib, 75, on the top of the lever 70. A number of vertically placed levers 76,—one for each set of registering mechanisms,—are jointed at one end to the said bar, 73, and pivoted at the middle to the front-plate, 5. Each of such levers has a projecting part, 77, with inclined edges which extend over the vertical slot, 4, in the front-plate, 5. The levers, 76, have a lateral movement as has also the bar, 73, and upon depressing any one of the operating levers, 3 it will ride down over the upper inclined side of the projecting part, 77, and push back the upper end of the lever, 76, thereby moving the bar, 73, laterally and pushing the notched lever, 70, to one side, releasing the stud on the drawer, and allowing the spring, 65, to pull the latter out. A spring 99 returns the bar, 73, and lever, 76, to their normal position. A bell, 78, is located in the case on one side of the slot, 68, in the drawer casing and a striker-arm, 79, is pivoted at one end on the opposite side of said slot, to the plate, 69, and carries a hammer at the other end to strike the bell. A spring, 80, is provided to throw the hammer against the bell. The sliding drawer has another upward-projecting stud, 81, back of the first-named one, and when the drawer is slid in this stud travels in the slot, 68, and pushes the striker-arm 79, back and away from the bell, and holds it in such withdrawn position, as seen in Fig. 5. With the releasing of the drawer, therefore, the bell striker-arm is released, but the stud, 81, would retard the said striker-arm, and prevent it from striking sharply against the bell. Hence means are provided to lift the striker-arm free of said stud so it may fly quickly against the bell. The lever, 79, is extended rearwardly and has a beveled under-surface, 82, at the end, which engages a beveled block, 83, on the upper side of the plate, 69. Said block and lever-end have position under the striker-arm when the latter is in its withdrawn position, and upon the shifting of the lever, 70, to release the drawer, its rear end is moved over the inclined block, 83, and rides up on the same as illustrated in Fig. 6,—the metal of the said lever 70, being resilient as before stated. It will be observed this lifts the bell-striker arm,—which is also of spring-metal,—above the stud, 81, whereupon the hammer flies against the bell. A suitable guide and stop, 84, is provided for the striker-arm, and the underside of the rear part of said arm is beveled, as is also the stud, 81, whereby the latter will readily ride under said arm as the drawer moves outward.

When one or more of the indicating dial disks stand indicating a purchase, the dials

must all return to the zero position before another purchase is registered, and to accomplish this I employ the following construction.

It will be remembered that the dials are held set by the slide-heads, 32, being engaged by the spring-held racks, 35. Each of these racks has a lateral projection, 85, and a frame is pivotally hung from arms, 87, on the rear side of the front plate, and comprises a cross-bar, 86, which has feet, 88, one for each of said lateral projections of the spring-held racks. A downward-extending arm, 89, is fastened to the middle of the bar, 86, and a spring, 90, acts to hold it out from the front-plate, 5, and the feet, 88, out of contact with the rack-projections, 85. Another arm, 89^a, is jointed to the arm, 89, and said two arms are beveled at the joint so that the lower one may not move backward with relation to the upper arm, but may move forward or toward the front-plate, 5, with relation to said upper arm. A spring, 91, holds the arms normally in alignment with each other. A lever, 92, is pivoted to the lower end of the arm, 89^a, and projects rearwardly over the bell striker-arm, where it has an offset, 93, to drop down in front of said striker-arm. A spring, 94, serves to hold the lever, 92, in such relation to said bell striker-arm. Upon the release of the sliding drawer, the bell striker arm will carry the lever, 92, and jointed arm, 89,—89^a, forward,—by engaging against the offset, 93,—and thereby push the suspended bar, 86, in toward the front-plate, 5, and release all the racks, 35, by causing the feet, 88, to press against the projections of the latter and push the racks back against the said front-plate, 5. This allows the dials to be returned to the zero position by their springs.

In order to free the bell striker-arm from the lever, 92, after the racks have been released, so as to permit the hammer to strike the bell freely, the said lever, 92, is extended forward of its pivot-point and its upper edge given a cam-shape as seen at, 95, Fig. 3, and a projecting piece, 96, is fastened to the front-plate, 5, in such position that the upper cam-edge of the lever, 92, will encounter it. After the racks, 35, have been released, the lower arm, 89^a, is shoved still farther toward the front-plate, 5,—turning on its joint with the upper arm, 89,—and the lever, 92, strikes the projection, 96, and is tilted up thereby out of engagement with the bell striker-arm so that the latter may be free to fly against the bell.

I provide for obtaining change without registering a purchase, by attaching a stem, 97, to the laterally-movable bar, 73, and extending said stem out through the side of the case where it has on its end a knob, 98. By pushing in said knob the drawer is released, as will be obvious from the description heretofore given. The front plate, 5, is hinged at, 100, to the case so that it and all the parts connected with it may be turned outward and downward and the registry of purchases read from the registering wheels. It will be observed, by reason of the arrangement of parts as here described, this can be done without disturbing the adjustment of the parts, as none of those connected with the front-plate are joined permanently to those connected with the casing, and upon returning the front-plate to its upright position, the parts assume their proper relation, the offset of the lever, 92, dropping in front of the bell striker-arm, and the ear of the laterally swinging bar, 73, taking position alongside the rib on the drawer-holding lever, 70.

When the machine has registered to the limit, or when it is desired to reset it, the pawls will be held out of engagement with the ratchet-wheels, and the latter turned backward to the starting point; the smaller wheels will also be turned backward to the starting point.

It is evident the construction here described may be varied without departing from the invention.

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

1. In a cash-register, the combination of a rotary spring-actuated indicator-disk having a drum; a slide-head; a flexible connection between said drum and slide-head; an operating lever having sliding connection with said slide-head; and means for holding the slide-head at different positions to which it is brought, substantially as described.

2. In a cash-register, the combination of a rotary spring-actuated indicator disk having a drum; a slide-head; a flexible connection between said drum and slide-head; an operating lever having a rod which extends loosely through the said slide-head and has an enlargement at the end; and means for holding the slide-head at different positions to which it is brought, substantially as described.

3. In a cash-register, the combination of a rotary spring-actuated indicator-disk having a drum; a slide-head; a flexible connection between said drum and slide-head; an operating lever having sliding connection with said slide-head; and a movable rack for engaging and holding said slide-head.

4. In a cash-register, the combination of a rotary spring-actuated indicator-disk having a drum; a slide-head; a flexible connection between said drum and slide-head; an operating lever having sliding connection with said slide-head; a movable rack for engaging and holding said slide-head; and means for automatically releasing the slide-head from said rack.

5. In a cash-register, the combination of a toohted registering wheel; a registering ratchet-wheel one of whose peripheral ratchet-teeth is arranged to be automatically projected outward into engagement with the toothed wheel upon each revolution of the ratchet-wheel; and an operating lever having a pawl which engages the ratchet-wheel.

6. In a cash-register, the combination of a

toothed registering wheel; a stationary part having a cam-block; a registering ratchet-wheel one of whose peripheral ratchet-teeth is mounted to slide radially and is provided with a projection to ride over the cam-block on the stationary part whereby the said tooth is projected outward into engagement with the toothed registering wheel upon each revolution of the ratchet-wheel; and an operating lever having a pawl which engages the ratchet-wheel.

7. In a cash-register, the combination of a drawer-casing; a spring-actuated drawer therein and having a stud which projects upward through the top of said casing; a lever pivoted above said casing-top to move in a horizontal plane and engaging the said drawer-stud to hold the drawer closed; a vertically-movable operating lever; and a laterally movable trip-piece actuated by said operating lever and acting upon the drawer-holding lever to release the drawer.

8. In a cash-register, the combination of a drawer-casing; a spring-actuated drawer therein and having a stud which projects upward through the top of said casing; a lever pivoted above said casing-top to move in a horizontal plane and engaging the said drawer-stud to hold the drawer closed; a vertically-movable operating lever; a vertically-placed trip-lever having a lateral projection in the path of the operating lever; and suitable connections from said trip-lever to the drawer-holding lever whereby the latter is moved and the drawer released upon the depression of the operating lever and consequent lateral movement of the trip-lever.

9. In a cash-register, the combination of a drawer-casing; a spring-actuated drawer, therein and having a stud which projects upward through the top of said casing; a lever pivoted above said casing-top to move in a horizontal plane and engaging the said drawer-stud to hold the drawer closed; a number of vertically-movable operating levers; a corresponding number of vertically-placed trip-levers each having a lateral projection in the path of one of the operating levers; and a bar connecting all of said trip-levers together and arranged to engage the drawer-retaining lever whereby the latter is moved and the drawer released upon the depression of any one of the operating levers and consequent lateral movement of the trip-levers and connecting-bar.

10. In a cash-register, the combination of a sliding spring-actuated drawer having a projecting stud; a lever engaging said stud to hold the drawer shut; a number of operating levers; a number of trip-levers each having a projecting part in the path of one of the said operating levers; and a bar connecting said trip-levers and arranged to move the drawer-holding lever out of engagement with the projecting stud on the drawer, said bar having a stem and a knob thereon outside the machine-casing for the purpose described.

11. In a cash-register, the combination of a sliding drawer having two projecting studs; a bell; a spring-actuated bell striker-arm engaged and held withdrawn by one of the said drawer-studs; a lever engaging the other of said drawer-studs to hold the drawer closed and also arranged to release the bell-striker-arm; an operating lever; and means whereby a movement of the latter trips the drawer-holding lever.

12. In a cash-register, the combination of a sliding drawer having two projecting studs; a bell; a spring-actuated bell striker-arm engaged and held withdrawn by one of the said drawer-studs; a lever engaging the other of said drawer-studs to hold the drawer closed and extending beneath the bell-striker-arm; a beveled stationary block for engagement of said lever whereby it will be raised to free the bell-striker-arm from the drawer-stud; an operating lever; and means whereby a movement of the latter trips the drawer-holding lever.

13. In a cash-register, the combination of a casing having a slot; a sliding drawer having a projection to reciprocate in said slot; a lever of resilient material having a notched end over the slot and arranged to engage the drawer-projection to hold the drawer closed; an operating-lever; and a trip-device actuated thereby to release the drawer-holding lever.

14. In a cash-register, the combination of a casing having a slot; a sliding spring-actuated drawer having two projections to reciprocate in said slot; a bell; a resilient spring-actuated bell striker-arm engaged and held withdrawn by one of said drawer-projections; a lever of resilient material having a notched end projecting over the casing-slot and arranged to engage the other of said drawer-projections and thereby hold the drawer closed, the opposite end of said lever extending beneath the bell striker-arm and beveled on the under side; a beveled block for said beveled end of the lever to ride upon and thereby free the bell striker-arm from the drawer-projection; an operating lever; and means whereby a movement of the latter trips the drawer-holding lever.

15. In a cash-register, the combination of a rotary indicator; an operating lever; suitable connections between the indicator and lever whereby a movement of the latter turns the indicator; mechanism for setting the indicator at the position to which it is brought by the operating lever; a sliding spring-actuated drawer having a projecting stud; a spring-actuated bell striker-arm engaged and held withdrawn by said projecting stud; a lever for holding the drawer closed; trip-devices for releasing the drawer from said lever which holds it; means for automatically releasing the bell-striker-arm from the drawer-stud; and suitable connections between said striker arm and the setting mechanism for holding the indicator, whereby the said indicator is released by the striker-arm, substantially as described.

16. In a cash-register, the combination of a rotary spring-actuated indicator having a drum; a slide-head; a flexible connection between the latter and the drum; an operating lever having sliding connection with said slide-head; a movable rack for engaging and holding the slide-head; a swinging frame having a depending arm; a bell; a spring-actuated bell-striker arranged to engage said depending arm and move it to throw the swinging frame into contact with the movable rack and thereby move the latter out of engagement with the slide-head; a sliding drawer having a projection which engages the bell-striker and holds it withdrawn; and trip-devices actuated by the operating lever for releasing the bell-striker from the drawer-projection.

17. In a cash-register, the combination of a rotary spring-actuated indicator having a drum; a slide-head; a flexible connection between the latter and the drum; an operating lever having sliding connection with said slide-head; a movable rack for engaging and holding the slide-head; a swinging frame having a depending jointed arm carrying a lever pivoted to its lower end; a bell; a spring-actuated bell-striker-arm arranged to engage said lever on the depending arm and move it and the depending arm so as to throw the swinging frame against the movable rack and thereby move the latter out of engagement with the slide-head; a stationary projection to trip the depending-arm lever out of engagement with the bell-striker-arm; a sliding drawer having a projection which engages the bell-striker-arm and holds it withdrawn; and trip-devices actuated by the operating lever for releasing the bell-striker arm from the drawer-projection.

18. In a cash-register, the combination of a number of rotary spring-actuated indicators each having a drum; slide-heads; flexible connections between the drums and slide-heads; operating levers having sliding connection with the slide-heads respectively; movable spring-actuated racks to engage and hold the slide-heads; a swinging frame having feet for contact with the rack, and a depending arm; a bell; a spring-actuated bell-striker-arm arranged to engage said depending arm and actuate it to throw the feet of the swinging frame against the racks and thereby move the latter out of engagement with the slide-heads a sliding drawer having a projection to engage the bell-striker-arm and hold it withdrawn; and trip-devices actuated by the operating levers for releasing said bell-striker-arm.

19. In a cash-register, the combination of an outside casing having a hinged front-plate; rotary indicating dials on said front-plate; mechanism for operating the said dials, also on said front plate; registering mechanism carried by said front plate; levers for operating the dials and registering apparatus also carried by the front-plate; a sliding drawer in the lower part of the casing; a lock for the drawer; a bell; a striker therefor; and suitable means of connection between the apparatus carried by the front plate of the casing, and the apparatus connected with the drawer and bell whereby the said front-plate may be turned outward on its hinges and replaced without disturbing the operative adjustment of parts.

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

WILLIAM R. FOWLER.

Witnesses:
JNO. T. MADDOX,
F. PARKER DAVIS.