No. 782,847. PATENTED FEB. 21, 1905.

H. S. HALLWOOD.

CASH REGISTER.

APPLICATION FILED DEC. 14, 1899.

4 SHEETS—SHEET 1.

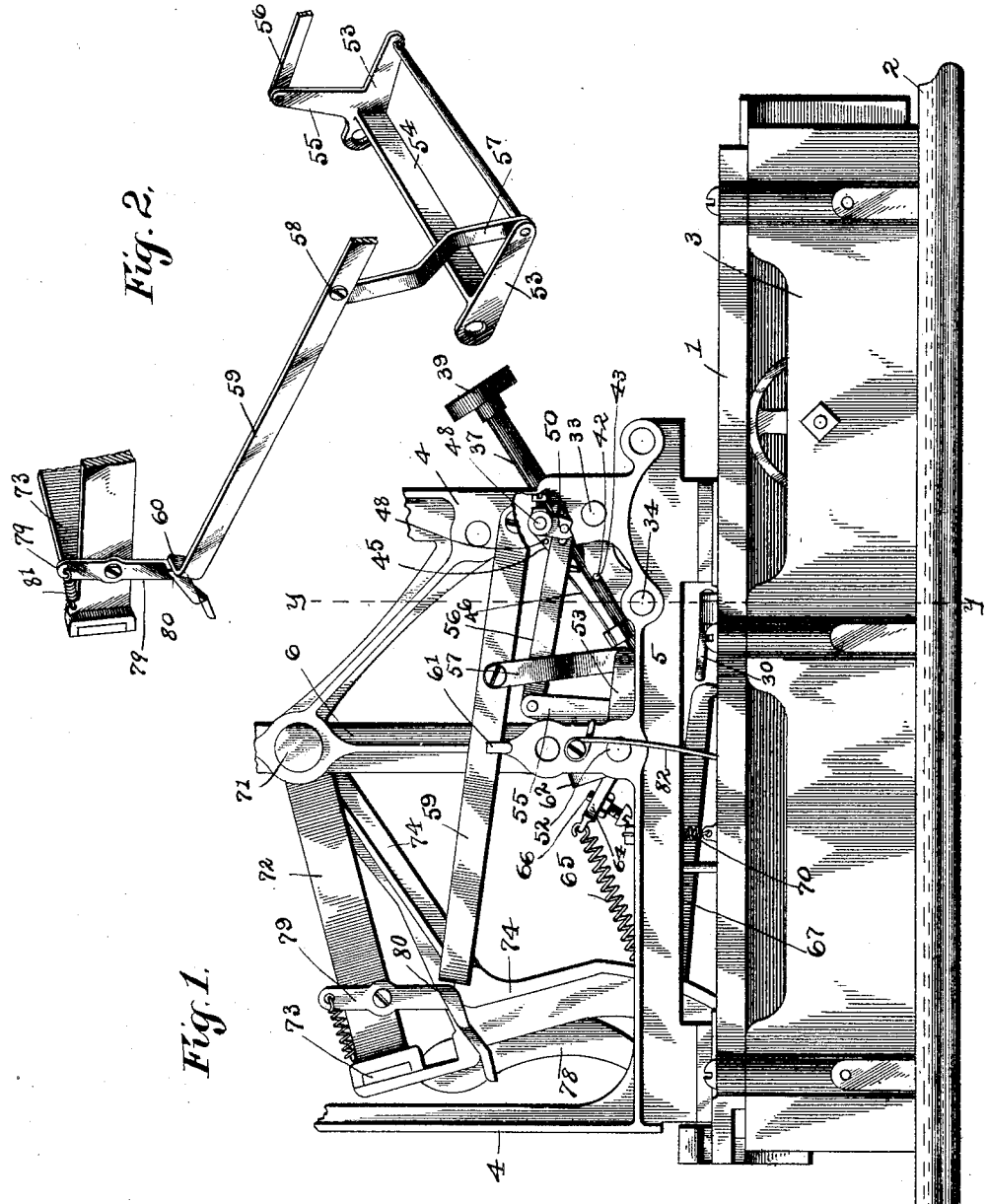


Fig. 2.

Fig. 1.

WITNESSES:

H. B. Bradshaw

J. N. Franck

INVENTOR

Henry S. Hallwood

BY C. C. Shepherd and S. E. Foote ATTORNEYS.

No. 782,847. PATENTED FEB. 21, 1905.

H. S. HALLWOOD.

CASH REGISTER.

APPLICATION FILED DEC. 14, 1899.

4 SHEETS—SHEET 2.

Fig. 4.

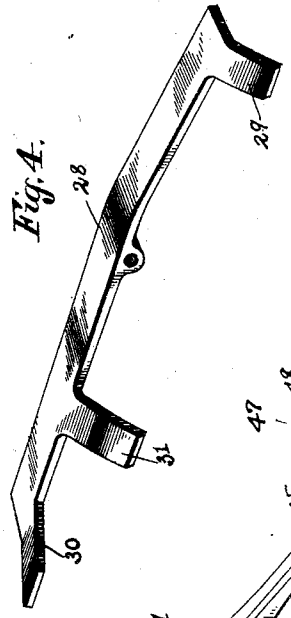
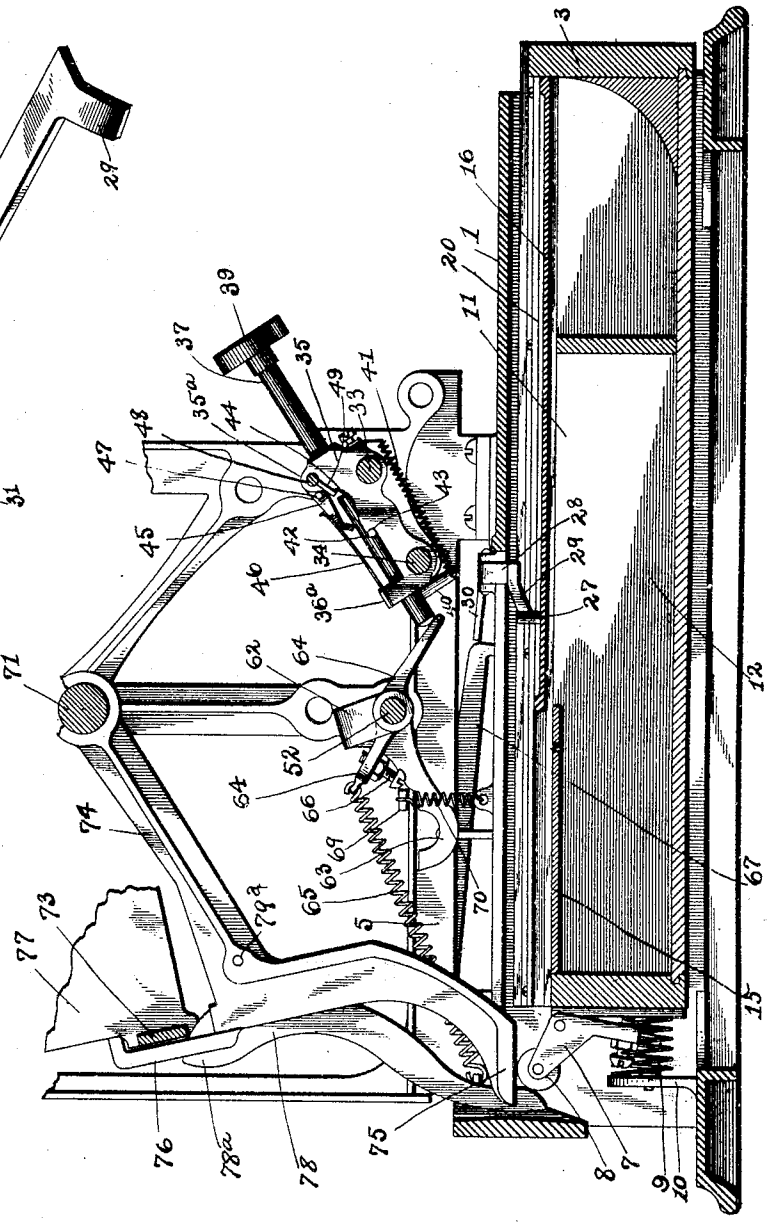


Fig. 3.



WITNESSES:

H. B. Bradshaw

J. H. Frank

INVENTOR

Henry S. Hallwood.

BY C. E. Shepherd and S. E. Foote, ATTORNEYS.

No. 782,847. PATENTED FEB. 21, 1905.

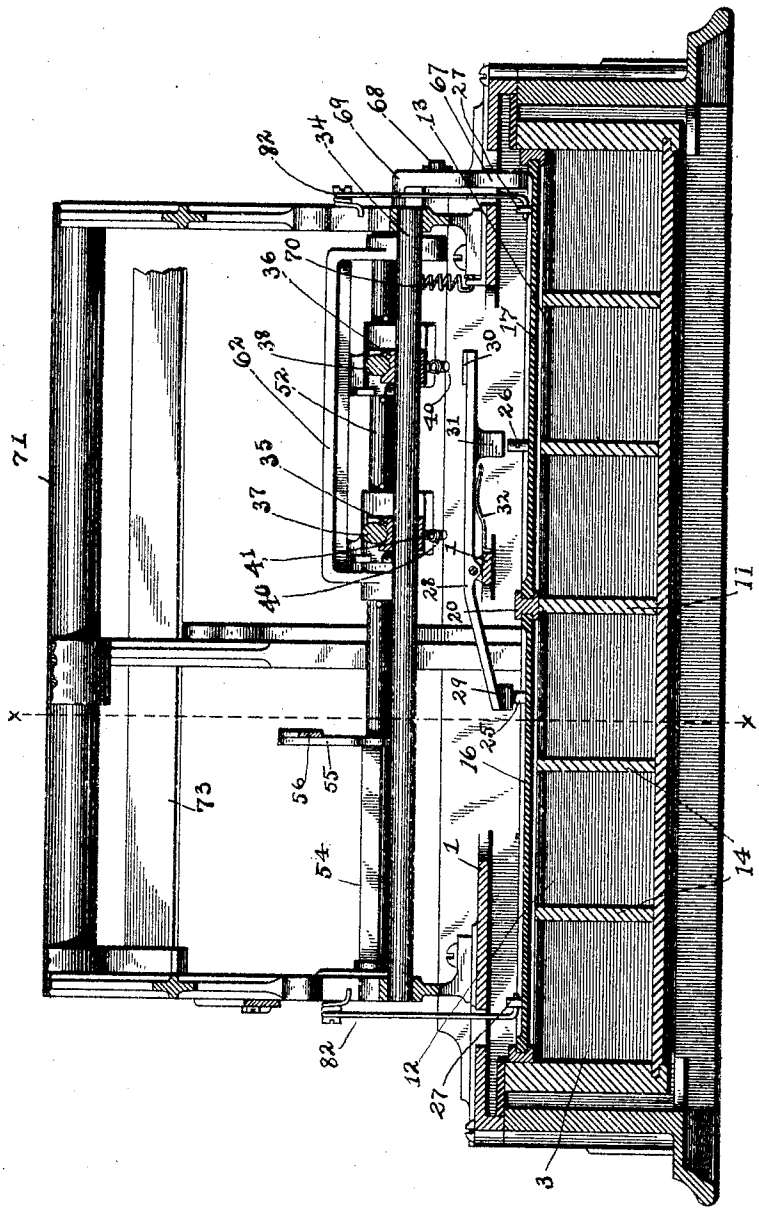
H. S. HALLWOOD.

CASH REGISTER.

APPLICATION FILED DEC. 14, 1899.

4 SHEETS—SHEET 3.

Fig. 6.



WITNESSES:

H. B. Bradshaw

J. H. Francel

INVENTOR

Henry S. Hallwood

BY C. C. Shepherd and S. E. Foote, ATTORNEYS

No. 782,847. PATENTED FEB. 21, 1905.

H. S. HALLWOOD.

CASH REGISTER.

APPLICATION FILED DEC. 14, 1899.

4 SHEETS—SHEET 4.

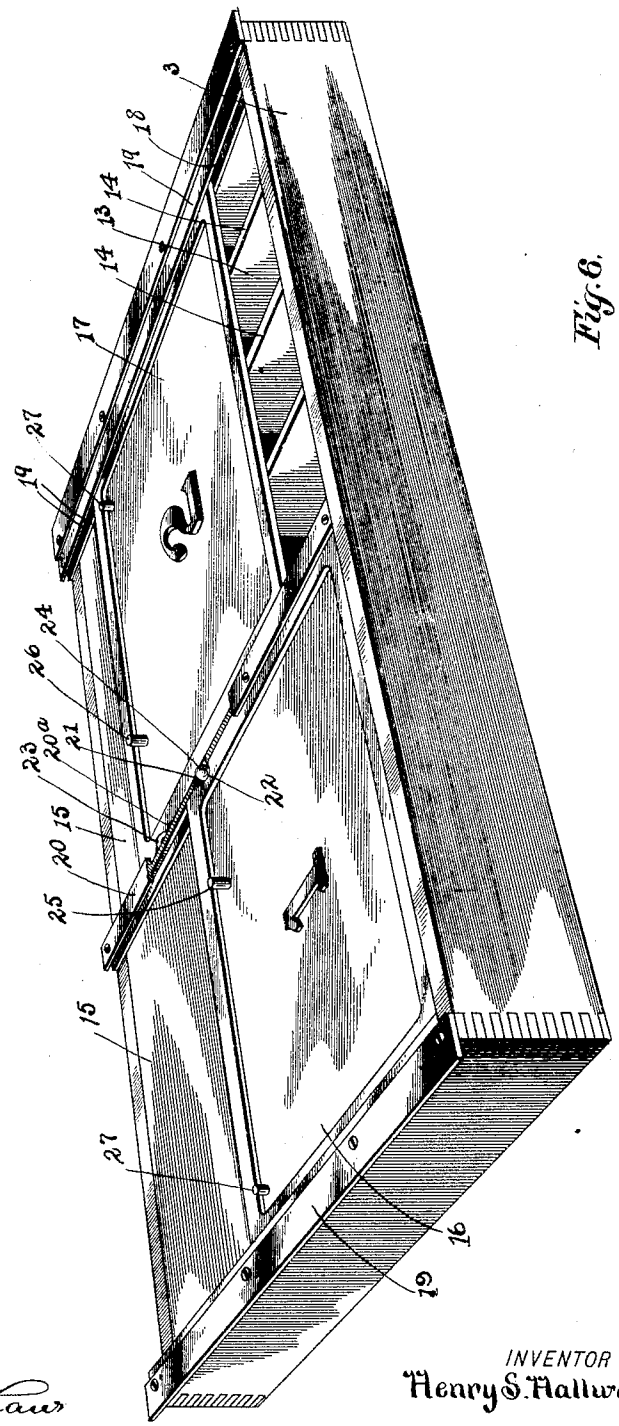


Fig. 6.

WITNESSES:

H. B. Bradshaw

J. H. Travel

INVENTOR

Henry S. Hallwood,

BY C. C. Shepherd and S. E. Foulds, ATTORNEYS.

No. 782,847. Patented February 21, 1905.

UNITED STATES PATENT OFFICE.

HENRY S. HALLWOOD, OF COLUMBUS, OHIO, ASSIGNOR, BY MESNE ASSIGNMENTS, TO HALLWOOD CASH REGISTER COMPANY, OF JERSEY CITY, NEW JERSEY, A CORPORATION OF NEW JERSEY.

CASH-REGISTER.

SPECIFICATION forming part of Letters Patent No. 782,847, dated February 21, 1905.

Application filed December 14, 1899. Serial No. 740,242.

To all whom it may concern:

Be it known that I, HENRY S. HALLWOOD, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented a certain new and useful Improvement in Cash-Registers, of which the following is a specification.

My invention relates to the improvement of cash-registers of that class which employ a cash-drawer and means in conjunction therewith for releasing and moving the drawer to the open position.

The objects of my invention are to provide a double-compartment cash-drawer of improved construction and arrangement of parts and combine therewith improved means whereby a preliminary operation will result in but one of said compartments being open or accessible when the drawer is open, to provide in connection therewith an improved drawer-releasing and compartment-cover-plate-operating mechanism, to provide improved means for locking a drawer-releasing key in a depressed position until the drawer is closed, and to produce other improvements in details of construction and arrangement of parts, which will be more fully pointed out hereinafter. These objects I accomplish in the manner illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the lower or drawer-containing portion of a cash-register with the drawer-releasing and compartment closing and opening mechanism connected therewith. Fig. 2 is a detail view in perspective of a key-releasing mechanism which I employ in the manner hereinafter described. Fig. 3 is a longitudinal section on line *x x* of Fig. 5. Fig. 4 is a detail view in perspective of the compartment-cover-plate-locking bar. Fig. 5 is a sectional view on line *y y* of Fig. 1; and Fig. 6 is a view in perspective of the cash-drawer, showing one of the compartments partially open.

Similar numerals refer to similar parts throughout the several views.

For the sake of clearness I have illustrated in connection with the cash-drawer only those portions of a cash-register frame and mechanism which bear an operative relation to said drawer and which are deemed necessary to illustrate the present invention.

1 and 2 respectively represent the parallel upper and lower frame base-plates, between which the cash-drawer 3 is supported and adapted to move in the usual or any desirable manner. The top plate 1 is provided with such openings or mortises as are necessary for the projection and movement therethrough of parts hereinafter described.

4 represents vertical frame-standards which rise from the top base-plate 1, and 5 represents one of the lateral frame-arms, which run in directions parallel with the sides of the drawer, and 6 represents vertical frame-standards which rise from said frame-arms 5.

Connected with the rear end of the sliding cash-drawer 3 is a bracket 7, in the upper end portion of which is mounted a roller 8. I also preferably provide in rear of the drawer a coiled spring 9, which projects from a suitable standard 10, rising from the lower base-plate, said spring adapted to be compressed by the drawer when the latter is in its closed position and to cushion said drawer against the closing shock. In constructing the drawer I provide the same with a central vertical partition or wall 11, which extends from back to front thereof and which thus divides said drawer into two compartments 12 and 13, each of the latter preferably being separated into a suitable number and arrangement of subcompartments through the medium of partitions 14. Each of the compartments 12 and 13 have their rear portions permanently closed on their upper sides by fixed top plates 15, while the forward portions of said compartments are adapted to be covered by horizontal and movable cover-plates 16 and 17. The outer edges of these cover-plates are adapted, as shown more clearly in Fig. 6 of the drawings, to be supported and slide within grooves 18, formed in guide-pieces which are supported in the sides of the drawer, and said plates are held in place by the flanges 19 on each side of the grooves. Instead of a guide-

piece with grooves it is evident that guide-plates on each side of the cover-plate could be employed. The inner sides or edge portions of the cover-plates are adapted, as shown, to slide in channels or ways formed in opposite sides of a central bar 20, which is supported upon the central partition 11. In the central vertical rib 20^a of the channel-bar 20 I provide a central recess 21, and in the inner edge portion of each of the plates 16 and 17 I form a lateral recess, near the rear end thereof, these recesses being indicated at 22 and 23, respectively.

24 represents a small locking-ball which when resting partially in the channel-bar recess 21 and partially in one of the recesses 22 or 23 of one of the sliding top plates prevents the sliding movement of the top plate with the recess of which it is engaged without interfering with the movement of the remaining top plate.

From the upper side and rear portion of each of the top or cover plates 16 and 17, and near the inner end portion thereof, I cause to project a pin or stud, the latter being indicated, respectively, at 25 and 26. I also cause to project from near the outer side or end portion of each of the plates 16 and 17, and near the rear sides thereof, pins 27.

28 represents a locking-bar which at a point near the center of its length is fulcrumed on a portion of the top frame-plate 1. This locking-bar, which extends in the direction of the width of the drawer, has that portion thereof which extends over a part of the cover-plate 16 inclined downwardly and at the termination of said downwardly-inclined portion is provided with a laterally-extending and downwardly-inclined finger 29. The horizontal portion of the locking bar or lever, which extends over a portion of the cover-plate 17, is also provided at its termination with a laterally-extending and upwardly-inclined finger, which is indicated at 30, while between said finger 30 and the fulcrum-point of the locking bar or lever is a laterally-extending and downwardly-inclined finger 31, this construction being shown clearly in Fig. 4 of the drawings. Through the pressure of a spring-strip 32, one end of which is secured to the top plate 1 and the outwardly-projecting portion of which bears against the under side of the locking bar or lever, the downwardly-inclined lateral finger 29 of said locking-bar normally engages the forward side of the pin 25 of the cover-plate 16. (See Fig. 5.)

33 represents a transverse shaft which extends between the forward frame-standards 4, and 34 represents a similar shaft which extends between the side frame-bars 5 on a lower plane than the shaft 33. These shafts 33 and 34 serve to support, preferably at points to the right of the center of the width of the machine and over the drawer-compartment 13, inclined pin-bearing blocks or frames 35 and 36, each of these blocks or frames being provided with upwardly-extending end portions 35^a and 36^a, through each of which pass the stem of a drawer-releasing pin, these pins being indicated at 37 and 38 and each being provided with a suitable enlarged head or pressing-button 39, upon which may be made to appear the figures "1" and "2," respectively, "Clerk 1" and "Clerk 2," or any other suitable identification marks or characters. Projecting downwardly from each of the pin-stems 37 and 38, at right angles therewith and near the inner end thereof, is a finger 40, the outer end of the latter being connected through the medium of a forwardly and upwardly extending spring 41 with the forward end of the corresponding pin-bearing frame 35 or 36. These springs serve to normally hold the drawer-releasing pins in their outermost positions or in such positions that laterally-projecting stop-pins 42 of said key-stems engage shoulders 43 in the upper sides of the key-bearing frames, these pins 42 serving to prevent rotation of said key-stems. The finger projection 40 of the key 38 is in such position as to result in its contacting with the finger projection 30 of the lock bar or lever 28 when said key 38 is depressed. In each of the key-stems, on its upper side, I form a notch or recess 44, and in the head of each of the bearing frames or blocks 35 and 36 I pivot one end of a rearwardly-extending pawl 45, the downturned tooth of which is pressed into engagement with the upper surface of said key-stem by a spring-strip 46, the rear end of which is connected with the inner or rear end of the key-stem-bearing-block projection 36^a. As shown at 47, I provide each of the pawls 45 on the rear side of the bearing-block projection 35^a with laterally-projecting pins. The shaft 48, on which the pawls 45 are fulcrumed, extends through and is journaled in the projecting head portions 35^a of the frames 35 and 36, and on one side of each of these frames said shaft carries a downwardly-projecting finger 49. The shaft 48 also has projecting downwardly therefrom a short arm 50, as indicated in Fig. 1.

Mounted on a shaft 52, which extends transversely between the lower portions of the frame-standards 6, are the inner or rear ends of the side arms 53 of a rocking frame 54, the latter being shown more clearly in Figs. 2 and 1 of the drawings. One of the side arms or bars of the frame 54 is provided with an upwardly-extending arm 55, to the upper end of which is fulcrumed the rear end of a forwardly-extending bar 56, said bar 56 having its forward end jointedly connected with a laterally-projecting pin of the shaft-arm 50. With that end of the frame 54 which is opposite the end thereof on which is formed the arm 55 I pivotally connect the lower end of an upwardly-extending connecting-bar 57, the upper end of which is jointedly connected

at 58 with a rearwardly-extending lever-bar 59, the latter having its forward end pivoted to one of the forward frame-standards 4 and its rear end provided with a laterally-bent projection 60.

On the outer side of one of the frame-standards 6 I provide a hook-shaped projection 61, in which the lever-bar 59 is adapted to rest, as indicated in Fig. 1.

Upon the shaft 52 is fulcrumed a yoke 62, the latter having formed therewith on one side a rearwardly and downwardly extending arm 63. I also fulcrum on the shaft 52 at points opposite the keys 37 and 38 the central portions of levers 64, the forwardly-extending portions of these levers being extended, respectively, beneath the ends of said key-stems. The rearwardly-extending portions of the levers 64 are normally pulled downward and rearward, thereby insuring an engagement of the forward portions of said levers with said key-stems, by means of springs 65, which connect said levers with a point on the rear portion of the main frame. These rearwardly-extending portions of the levers 64 are each provided with an adjustable screw 66, which passes therethrough from the under side and the upper ends of which are adapted when said levers are swung on the shaft 52 to engage the horizontal bar of the yoke 62.

67 represents a drawer latch-bar of an ordinary character, the forward downturned end of which is adapted to engage the drawer or a suitable shoulder or projection thereof (not herein shown) and the rear end of which is in the usual manner suitably pivoted at 68 (see Fig. 5) to the rear framework of the machine. This drawer latch-bar is provided with an upwardly and thence inwardly extending arm 69, the inturned end of which projects over the adjoining frame-bars 5, and is connected with a lug projecting from the top base-plate 1 through the medium of a vertical coiled spring 70.

71 represents a shaft which extends between the frame-standards 6, said shaft having pivoted thereon the forward ends of the rearwardly-extending side arms 72 of a yoke 73.

74 represents an angular drawer-propelling lever, which is also pivoted on the shaft 71, this lever 74 having its downturned member terminating in a rearwardly-extending horizontal foot 75, which is adapted when the drawer is closed, as indicated in Fig. 3, to rest upon the friction-roller 8 at the rear of said drawer. The lever 74 has, as indicated at 76, a hook connection with the rear bar of the yoke 73, the latter preferably being provided with a weight enlargement 77.

78 represents a supplemental drawer-propelling lever-arm which is pivoted at 79^a to the lever 74 and which is provided with a head portion 78^a, which extends above said lever 74. The downwardly-extending and curved end portion of the lever 78 engages the rear side of the friction-roller 8, while the upwardly-projecting head portion 78^a thereof engages the under side of the rear bar of the yoke 73 and serves to raise the latter when the drawer is closed to a point above the lever 74.

As shown in Fig. 1 of the drawings, I employ a trip-bar 79, which is fulcrumed to the outer side of one of the side bars 72 of the yoke 73, said trip-bar having its lower end portion provided with an inclined outturned shoulder or foot 80, which is adapted to contact in the manner hereinafter described with the turned end 60 of the bar 59. The upper end of the trip-bar 79 is connected with the outer portion of the yoke 73 through the medium of a coiled spring 81.

With the rear sides of the drawer-compartment-cover-plate pins 27 are engaged the lower inwardly-bent ends of spring-rods 82, the upper ends of which are rigidly connected with the side frame-standards.

In order to illustrate the operation of my improved apparatus, we will assume that it is desired to open the drawer and at the same time to uncover the compartment 13 and retain the compartment 12 closed. In carrying out this operation the key 38 is depressed until its pawl 45 drops into engagement with the notch 44 of the key-stem. In this inward movement of the key-stem the forward portion of one of the levers 64 is moved inward and downward, while the rear portion of said lever is moved forward and upward until the end of its screw 66 by contact with and pressure on the yoke 62 results in a lifting of the yoke-arm 63. This lifting movement of said yoke-arm results in the latter contacting with the under side of the inwardly-projecting portion of the upward extension 69 of the drawer latch-bar 67. In this manner the latch-bar is raised until its downwardly-extending forward end is out of engagement with the drawer. The drawer is now permitted to move to the open position through pressure of the levers 78 and 74, the latter being assisted by the weight of the yoke 73, which follows the forward swinging movement of said levers. In the inward movement of the key 38 above described it will be observed that the key-finger 40 thereof will come into contact with the projecting finger 30 of the lever, resulting in tipping the lock-lever 28 until its finger 29 is out of engagement with the pin 25 of the compartment cover-plate 16 and the finger 31 is in front of the pin 26 of the cover-plate 17. It will thus be observed that as the drawer opens the cover-plate 17 will be retained in its inner position, while the cover-plate 16 will move outward with the drawer, thereby leaving the compartment 13 uncovered when the drawer is open. This outward movement of the drawer and cover-plate 16 has resulted, as will readily be seen, in the locking-ball 24 moving out of the recess 23 in the edge

of the plate 17 and being retained partially within the channel-bar recess 21 and partially in the plate-recess 22, where it will operate to prevent the cover-plate 16 being moved to the open position when the drawer is open. When the drawer is moving to the open position and the yoke 73 is descending, it is obvious that the contact of the lower and forward side of the foot projection 80 of the trip-bar 79 with the end of the bar 59 will only result in said trip-lever being swung on its pivot-point in passing said bar 59. In the closing operation of the drawer, however, and consequent lifting of the yoke 73 it will be seen that the turned end 60 of the bar 59 will come into contact with the upper side of the shoulder or foot 80, resulting in lifting said bar 59 until its end has passed said shoulder. This lifting movement of said bar 59 is sufficient to impart an upward swing to the side arms of the frame 54 and a consequent rearward movement of the bar 56, which in turn causes an upward swinging movement of the shaft-arm 50 sufficient to contact with and raise the shaft-finger 49 until the latter by engagement with the laterally-projecting pin 47 of the corresponding pawl 45 has raised said pawl out of engagement with the notch 44 in the key-stem, thus permitting the key to move outward to its normal position.

It is obvious that in order to open the drawer and at the same time open the drawer-compartment 12 and retain the drawer-compartment 13 closed the key 37 is depressed. As there is no contact of said key-stem or any projection thereof with the locking-lever, it will be seen that the finger projection 29 will remain in front of the compartment cover-pin 25, so that the cover-plate 16 will be prevented from moving out with the drawer.

From the construction and operation which I have described it will be seen that simple, reliable, and effective means are provided for releasing and moving a cash-drawer to the open position and opening the desired one of the compartments thereof and retaining the remaining compartment in a closed condition.

It is obvious that a construction of the character shown and described will be of great utility where a compartment-drawer is employed and where it is desired that but one compartment shall receive the results of transactions of one or more clerks. It will be observed that the means which I employ for retaining one of said compartments closed when the other is open are exceedingly simple and that a clerk having once depressed the proper key for gaining access to his compartment is prevented from gaining access to the remaining compartment.

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

1. In a cash-register, the combination with a framework, and a sliding drawer therein, said drawer having separated compartments and a sliding cover-plate for each of said drawers, each of said cover-plates having a projection, of drawer-releasing devices and a cover-plate-projection-engaging device adapted to engage one of said compartment-cover-plate projections at a time, the projection engaged depending upon the drawer-releasing device operated, substantially as specified.

2. In a cash-register, the combination with a framework, a sliding drawer therein, said drawer having separated compartments and a sliding cover-plate for each of said compartments, each of said cover-plates being provided with a stop projection, of drawer-releasing devices, a fulcrumed locking-lever having projecting fingers one of which is normally in contact with one of said cover-plate projections, said locking-lever adapted by operation of one of said drawer-releasing devices to release said locking-lever finger from its normal contact with said cover-plate projection and to produce an engagement of another of its fingers with the corresponding projection of the remaining cover-plate, substantially as specified.

3. In a cash-register, the combination with a framework, a sliding drawer therein having separated compartments, a sliding cover-plate for each of said compartments and a stop projection on each of said cover-plates, of a fulcrumed locking-lever having projecting fingers one of which normally engages one of said cover-plate projections, depressible drawer-releasing keys, one of said keys having a projection adapted when said key is depressed to engage said locking-lever and move one of its fingers out of contact with one of said cover-plate projections and another of its fingers into contact with the remaining cover-plate projection, substantially as specified.

4. In a cash-register, the combination with a framework, a sliding drawer therein having separated compartments, of a sliding cover-plate for each of said compartments, a bar between said cover-plates having a recess therein, a lateral recess in the inner edge of each of said cover-plates, a ball adapted to rest partially in one of said cover-plate recesses and partially in said bar-recess and means for holding one of said cover-plates in its inner position when the drawer is opened, substantially as specified.

5. In a cash-register, the combination with a framework, a sliding drawer therein having separated compartments and a cover-plate for each of said compartments, of a drawer latch-bar adapted to engage the drawer when the latter is closed, a depressible key for each of said compartments, a fulcrumed latch-bar-operating lever for and adapted to be operated by each of said keys and mechanism operated by and depending upon one of said keys for

retaining one of said drawer cover-plates in its inner position when the drawer is opened, substantially as specified.

6. In a cash-register the combination with a framework, of a cash-receptacle therein, said receptacle having separate compartments, a covering device for each compartment, and means whereby the machine in registering automatically opens one compartment and maintains the other compartment closed, substantially as described.

7. In a cash-register, the combination with a framework, and a sliding drawer therein, of a drawer-releasing key having a recess in its stem, a pivoted pawl adapted to engage said stem-recess, a projection on said pawl, a journaled shaft 48, a finger on said shaft and mechanism for partially rotating said shaft and causing an engagement of its finger and pawl projection, said mechanism operated by the closing of the drawer, substantially as specified.

8. In a cash-register, the combination with a framework, and a sliding drawer therein, of a drawer-releasing key having a recess in its stem, a pivoted pawl adapted to engage said recess, a rocking frame 54 journaled in said framework, a journaled shaft 48 having a projection adapted to engage said pawl, a bar connecting said journaled shaft and rocking frame and mechanism for swinging the frame 54 operated by the closing of the drawer, substantially as specified.

9. In a cash-register, the combination with a framework, and a sliding drawer therein, of a depressible drawer-releasing key, a device for locking the same in a depressed position, a yoke or frame journaled in said framework adapted to move upward at the closing of the drawer and to swing downward at the opening thereof, and mechanism for releasing said key-locking device and means connected with said swinging yoke for operating said pawl-releasing mechanism, substantially as specified.

10. In a cash-register, the combination with a framework, and a sliding drawer therein, of a depressible drawer-releasing key, a device for locking the same in a depressed position, a swinging yoke 72 journaled in the framework and means for raising said swinging yoke when the drawer is closed, a drawer-bar pivoted to said yoke, a journaled shaft 48 carrying a projection adapted to engage said key-locking device, a rocking frame journaled in the machine-frame, said rocking frame connected with said shaft projection and a pivoted bar 59 jointedly connected with said rocking frame, one end of said bar adapted to contact with said yoke trip-bar and to be temporarily lifted thereby when the yoke is moved upward, substantially as specified.

HENRY S. HALLWOOD.

In presence of—
H. B. BRADSHAW,
ANNA G. BAGLEY.