

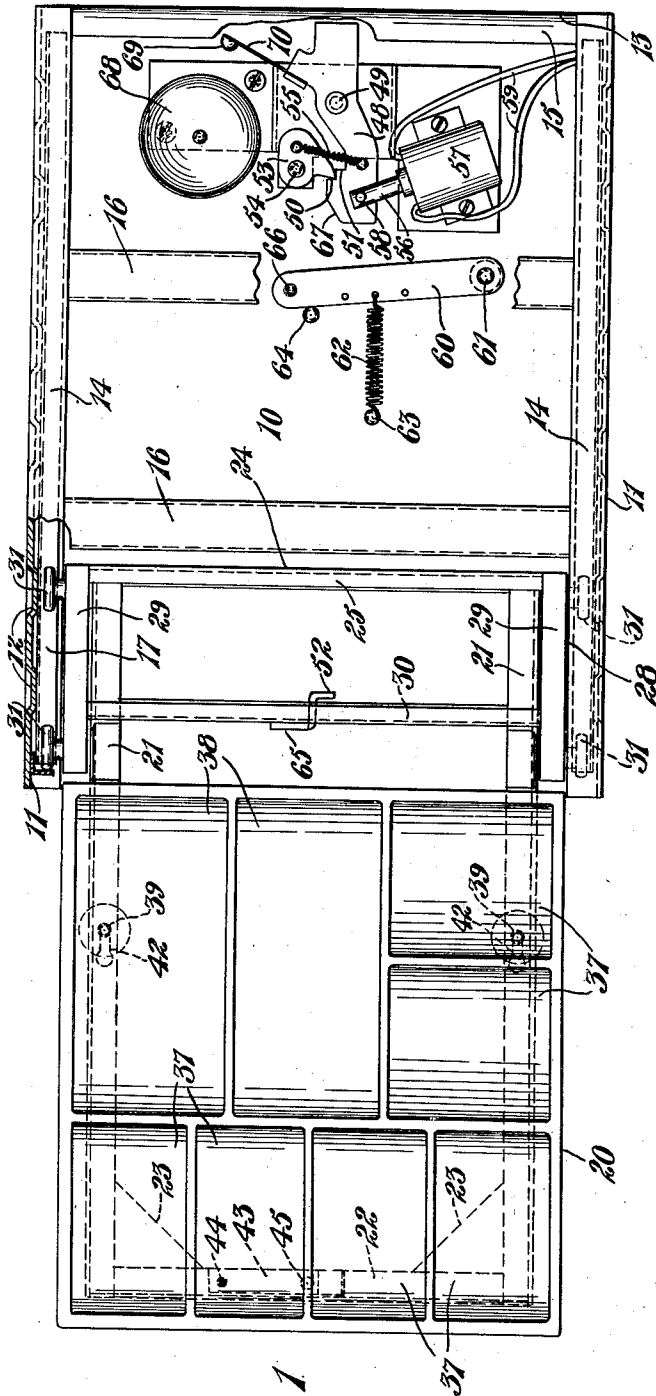
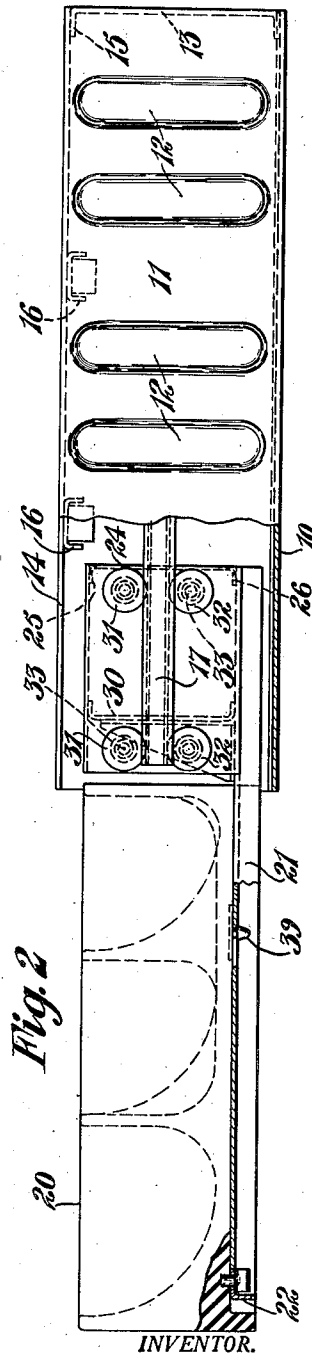
Jan. 15, 1952

F. L. WEST
CASH DRAWER

2,582,471

Filed Jan. 5, 1946

2 SHEETS—SHEET 1



BY *Fletcher L. West*

Freese and Bishop

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2 SHEETS—SHEET 2

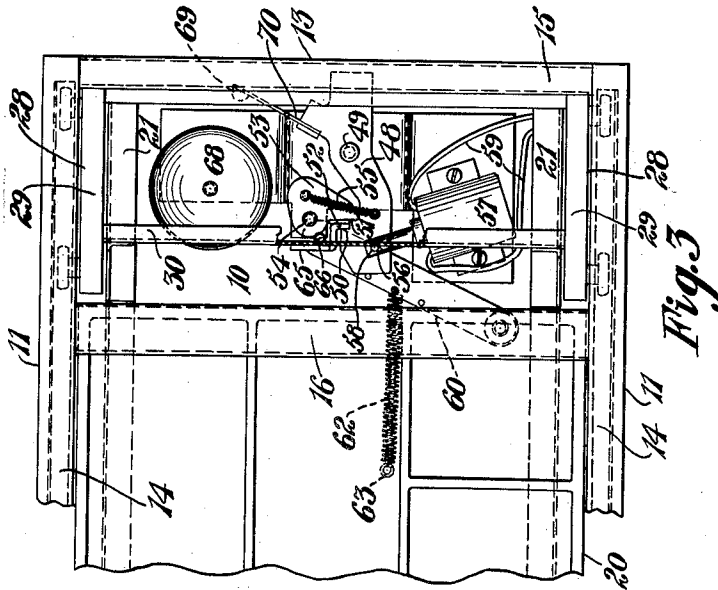


Fig. 3

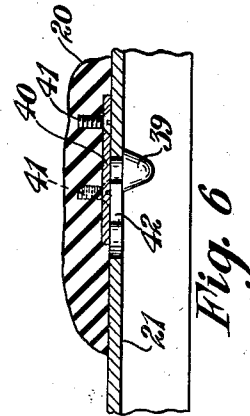


Fig. 4

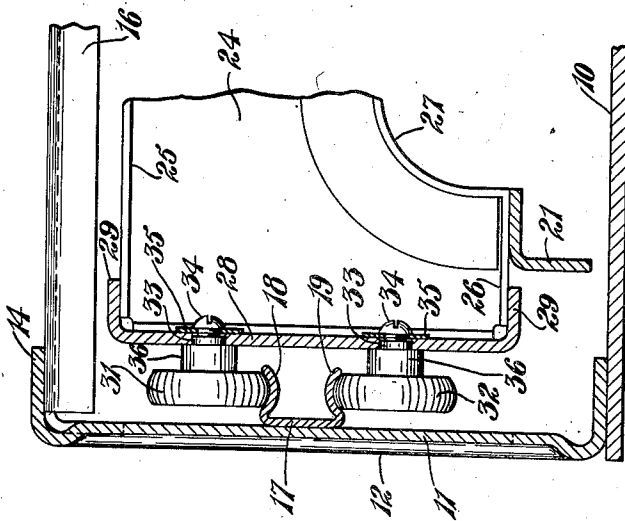
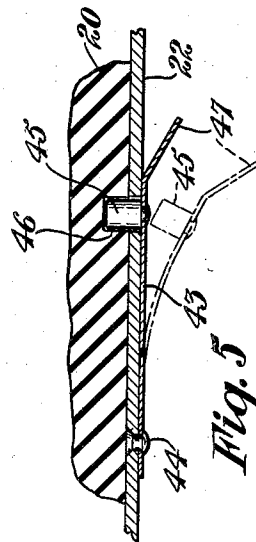


Fig. 5



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UNITED STATES PATENT OFFICE

2,582,471

CASH DRAWER

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Application January 5, 1946, Serial No. 639,250

3 Claims. (Cl. 312—343)

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The invention relates to cash drawers for cash registers and the like, and more particularly to means for slidably mounting the drawer in a chassis, and to means for automatically opening the drawer when desired and for latching the drawer in closed position when it is manually closed; and to means for detachably mounting the drawer upon its slidable frame.

It is an object of the invention to provide means for slidably mounting the drawer in the chassis, said means comprising a channel rail fixed to each inner side of the chassis, the channel rail having oppositely concaved upper and lower flanges, and spaced upper and lower pairs of correspondingly curved rollers journaled upon the rear portion of the drawer frame and engaging the upper and lower concaved flanges respectively of the rails.

Another object is to provide a latching device for normally holding the drawer in closed position within the chassis, with means for automatically releasing the latch when desired, and spring means for automatically ejecting the drawer from the chassis when the latch is released.

A further object is to provide a cash drawer including a frame slidably mounted in a chassis and means for detachably mounting the cash drawer proper upon the frame so that the drawer with the money therein may be detached from the frame and placed in a safe or vault at night.

A still further object is to provide a solenoid operated latch for normally holding the drawer in closed position within the chassis and for releasing the drawer so that the spring may automatically eject the drawer from the chassis.

Still another object is to provide means for maintaining the drawer ejecting spring under tension when the latch is holding the drawer in closed position.

It is a further object of the invention to provide a detachable cash drawer in combination with a slidable frame, in which a pair of shouldered studs are fixed upon the under side of the drawer and received in elongated, key-hole slots in the frame, and a spring mounted stud is carried by the frame and received in a socket in the under side of the drawer.

The above objects, together with others which will be apparent from the drawings and following description, or which may be later referred to, may be attained by constructing the improved cash drawer in the manner illustrated in the accompanying drawings in which:

Figure 1 is a top plan view of a chassis and

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cash drawer embodying the invention, the cash drawer being shown in the open position with the latch released, parts being broken away for the purpose of illustration;

Fig. 2 a side elevation of the chassis and drawer in the position shown in Fig. 1, parts being shown in section;

Fig. 3 a fragmentary plan view of the rear portions of the chassis and drawer, showing the drawer in the closed position and the latch in the locking position;

Fig. 4 a fragmentary, vertical sectional view on a larger scale, through adjacent side walls of the chassis and drawer frame, showing the channel rail and rollers for slidably mounting the drawer frame within the chassis;

Fig. 5 an enlarged, fragmentary, sectional view of a portion of the frame and an adjacent portion of the bottom of the drawer, showing the spring mounted stud for detachably mounting the drawer upon the frame; and

Fig. 6 a similar view showing one of the depending, shouldered studs upon the drawer, and the key-hole slot in the frame, which receives the stud.

The chassis in which the drawer is slidably mounted may be in the form of a case or box open at its top and front end, and comprising the bottom wall 10, the side walls 11, corrugated or reinforced as at 12, and the back wall 13; inturned, angular flanges 14 and 15 respectively being provided at the upper edges of the side and back walls.

For the purpose of strengthening and reinforcing the chassis, transversely disposed, channel cross bars 16 may be welded, or otherwise attached at their ends to the under sides of the flanges 14 upon the side walls, thus forming a strong, rigid chassis within which the drawer is slidably mounted as will be later described.

In order to mount the drawer for slidable movement into and out of the chassis, a longitudinally disposed, channel rail 17 is welded, or otherwise attached, to the inner surface of each side wall 11 at a point intermediate the top and bottom of the wall.

The flanges of each channel rail 17 are oppositely concaved transversely, the upper flange 18 being downwardly concaved and the lower flange 19 being upwardly concaved, as best shown in Fig. 4 of the drawings.

The drawer, indicated generally at 20, is preferably detachably mounted upon a slidable frame comprising the angle side rails 21 and angle front rail 22, connected together at their

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adjoining ends in any usual and well known manner, and preferably braced as by the corner pieces 23.

The rear ends of the side rails 21 are connected, as by welding, to the back wall 24 flanged at its upper and lower ends, as at 25 and 26 respectively and having its lower edge relieved between the side rails 21 as indicated at 27.

The ends of the back wall 24 project outwardly beyond the side rails 21 and have connected thereto the side plates 28 having inturned angular flanges 29 at their upper and lower edges, the forward portions thereof being connected to an intermediate plate 30 which is also attached to the side rails 21 and may be relieved on its under side in the same manner as the back plate 24, to clear the latching mechanism in the bottom of the chassis which will be later described.

Upper and lower pairs of rollers 31 and 32, having transversely rounded peripheries, are journaled upon the side plates 28 and mounted upon the concaved upper and lower flanges 13 and 19 respectively of the channel rails 17, the transverse curvature of the rollers conforming to the curvature of the channel flanges.

Each roller 31 and 32 is journaled upon a stud 33 detachably connected to the adjacent side plate 28 by means of a screw 34 and washer 35, a spacing shoulder 36 being formed upon the stud to properly position it relative to the channel rail 17. The rollers 31 and 32 are so positioned that they snugly engage the upper and lower flanges respectively of the channel rails in rolling contact therewith, without any lost motion so as to hold the drawer rigid even in the fully opened position, thus overcoming the usual tendency of cash drawers to be loose and unsteady.

The cash drawer proper, indicated generally at 20, is detachably mounted upon the sliding frame, above described, so that the drawer containing money and valuables may be easily removed from the register at the end of the day's business and placed in a safe or vault for safe keeping.

The drawer 20 may be formed of any suitable material, being preferably molded or cast from a suitable plastic, hard rubber or the like, as indicated, and having the usual coin compartments 37 and bill compartments 38 therein. In order to detachably mount the drawer 20 upon the slidable frame, a pair of shouldered studs 39 may depend from the under side of the drawer, being preferably connected thereto as by the escutcheon plate 40 and screws 41.

These studs are adapted to enter key-hole slots 42 formed in the side rails 21 of the slidable frame, being inserted through the large ends of the slots after which the drawer is slidably moved rearward to engage the shouldered studs 39 in the restricted portions of the key-hole slots as best shown in Fig. 6.

A leaf spring 43 is connected at one end to the under side of the front rail 22 of the sliding drawer frame, as indicated at 44 and has a stud 45 fixed to its upper surface near the other end thereof for engagement in a socket 46 in the under side of the drawer 20, the free end of the leaf spring being downturned as at 47 so that it may be manipulated by the finger to withdraw the stud 45 from the socket 46, as indicated in broken lines in Fig. 5, when it is desired to detach the drawer from the slidable frame.

With the stud 45 withdrawn in this manner, the drawer may be slidably moved forward upon the frame and the shouldered lugs 39 may be re-

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moved from engagement with the side rails of the frame through the enlarged forward ends of the key-hole slots 42.

The slidable frame carrying the drawer 20 is normally held in closed position within the chassis by means of the latch mechanism located in the bottom of the chassis at the rear end thereof.

This latch mechanism includes a latch bar 48 pivoted as at 49 upon the bottom wall 10 of the chassis and having the stepped shoulders 50 and 51 for engagement with the lug 52 upon the intermediate wall 30 of the drawer frame and the pivoted dog 53 which is pivoted as at 54 upon the bottom wall of the chassis, a coil spring 55 being connected at opposite ends to the latch bar 48 and dog 53 respectively.

For the purpose of operating the latch bar 48, the armature 56 of a solenoid 57 is pivotally connected to the latch bar as at 58. Wires 59 connect the solenoid 57 with any suitable circuit which may be closed in any usual and well known manner to energize the solenoid 57 when it is desired to release the latch bar 48 to open the drawer.

A lever 60 is pivoted at one end upon the bottom wall of the chassis as indicated at 61 and a coil spring 62 is connected near the other end of said lever and to a stud 63 upon the bottom wall of the chassis for normally urging the free end of the lever toward the stop pin 64 mounted in the bottom wall of the chassis.

When the drawer is in closed position, as shown in Fig. 3, the depending lug 65 upon the intermediate wall 30 of the slidable drawer frame engages the stud 66 upon the free end of the lever 60 moving said lever to the position shown in Fig. 3, the lug 52 being engaged by the stepped shoulder 50 of the latch bar holding the drawer in closed position with the coil spring 62 under tension.

When it is desired to open the drawer, the solenoid 57 is energized, the armature 56 thereof pulling the adjacent end of the latch bar 48 toward the solenoid a sufficient distance to release the lug 52 from engagement with the shoulder 50 of the latch bar.

As the drawer is thus released the lever 60 will be quickly drawn by the spring 62 from the position shown in Fig. 3 to that shown in Fig. 1, the stud 66 upon the lever being in contact with the depending lug 65 of the drawer frame, driving the drawer to the open position shown in Fig. 1.

At the same time the pivoted dog 53 will be rocked from the position shown in Fig. 3, where it contacts the stepped shoulder 51 of the latch bar to the position shown in Fig. 1, where the dog contacts the stepped shoulder 50 of the latch bar, the spring 55 holding these parts in this position until the drawer is again closed.

Upon closing of the drawer the depending lug 65 upon the slidable drawer frame will contact the stud 66 upon the lever 60 swinging the lever upon its pivot to the position shown in Fig. 3 and again placing the spring 62 under tension. As the lug 52 connects the bevelled end 67 of the latch bar 48, it will swing the latch bar toward the solenoid 57 a sufficient distance to permit the lug 52 to ride up along the edge of the latch bar and contact the shoulder 50 thereof.

At the same time the lug 52 will move the dog 53 back to the position shown in Fig. 3, engaging said dog with the shoulder 51 of the latch bar and holding the drawer latched in closed position.

A gong or bell 68 may be mounted upon the bottom wall of the chassis and a tapper 69 may be carried upon a latch spring 70 fixed at one end

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upon the latch bar 48 so that with each opening movement of the drawer, the gong will be struck producing an audible signal indicating that the drawer has been opened.

I claim:

1. Apparatus comprising a chassis having a bottom wall and side walls, a horizontal rail fixed to the inner side of each side wall throughout its entire length, a slidable frame within the chassis, said slidable frame comprising side rails, a front rail, a back wall, an intermediate plate spaced from the back wall and side plates between the back wall and intermediate plate, spaced pairs of rollers journaled on each side plate and engaging the upper and lower sides of the corresponding rail, and a drawer detachably mounted upon the side rails and front rail of the slidable frame.

2. Apparatus comprising a chassis having a bottom wall and side walls, a horizontal rail fixed to the inner side of each side wall throughout its entire length, a slidable frame within the chassis, said slidable frame comprising side rails, a front rail, a back wall, an intermediate plate spaced from the back wall and side plates between the back wall and intermediate plate, spaced pairs of rollers journaled on each side plate and engaging the upper and lower sides of the corresponding rail, and a drawer detachably mounted upon the side rails and front rail of the slidable frame, cooperating means upon the drawer and side rails for attaching the drawer to the side rails by relative longitudinal sliding movement of the drawer and cooperating latch means upon the drawer and front rail for preventing sliding movement of the drawer relative to the slidable frame.

3. Apparatus comprising a chassis having a bottom wall and side walls, a horizontal rail fixed to the inner side of each side wall throughout its

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entire length, a slidable frame within the chassis, said slidable frame comprising side rails, a front rail, a back wall, an intermediate plate spaced from the back wall and side plates between the back wall and intermediate plate, spaced pairs of rollers journaled on each side plate and engaging the upper and lower sides of the corresponding rail, and a drawer detachably mounted upon the side rails and front rail of the slidable frame, key-hole slots in the side rails, shouldered studs upon the drawer for longitudinal sliding engagement with the key-hole slots, a spring loaded stud upon the front rail and a socket in the bottom of the drawer for receiving said spring loaded stud to normally prevent longitudinal movement of the drawer relative to the slidable frame.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
721,981	Vahjen	Mar. 3, 1903
1,527,282	Steadmen	Feb. 24, 1925
1,713,147	Ruze	May 14, 1929
1,985,550	Raggio	Dec. 25, 1934
2,070,064	Pasinski	Feb. 9, 1937
2,083,349	Seyl	June 8, 1937
2,169,769	Regenhardt	Aug. 15, 1939
2,179,904	Strayer	Nov. 14, 1939
2,203,716	Bergman	June 11, 1940
2,329,846	Lucas	Sept. 21, 1943
2,471,245	Shoenberg	May 24, 1949

FOREIGN PATENTS

Number	Country	Date
173,383	Great Britain	Jan. 5, 1922