

April 5, 1932.

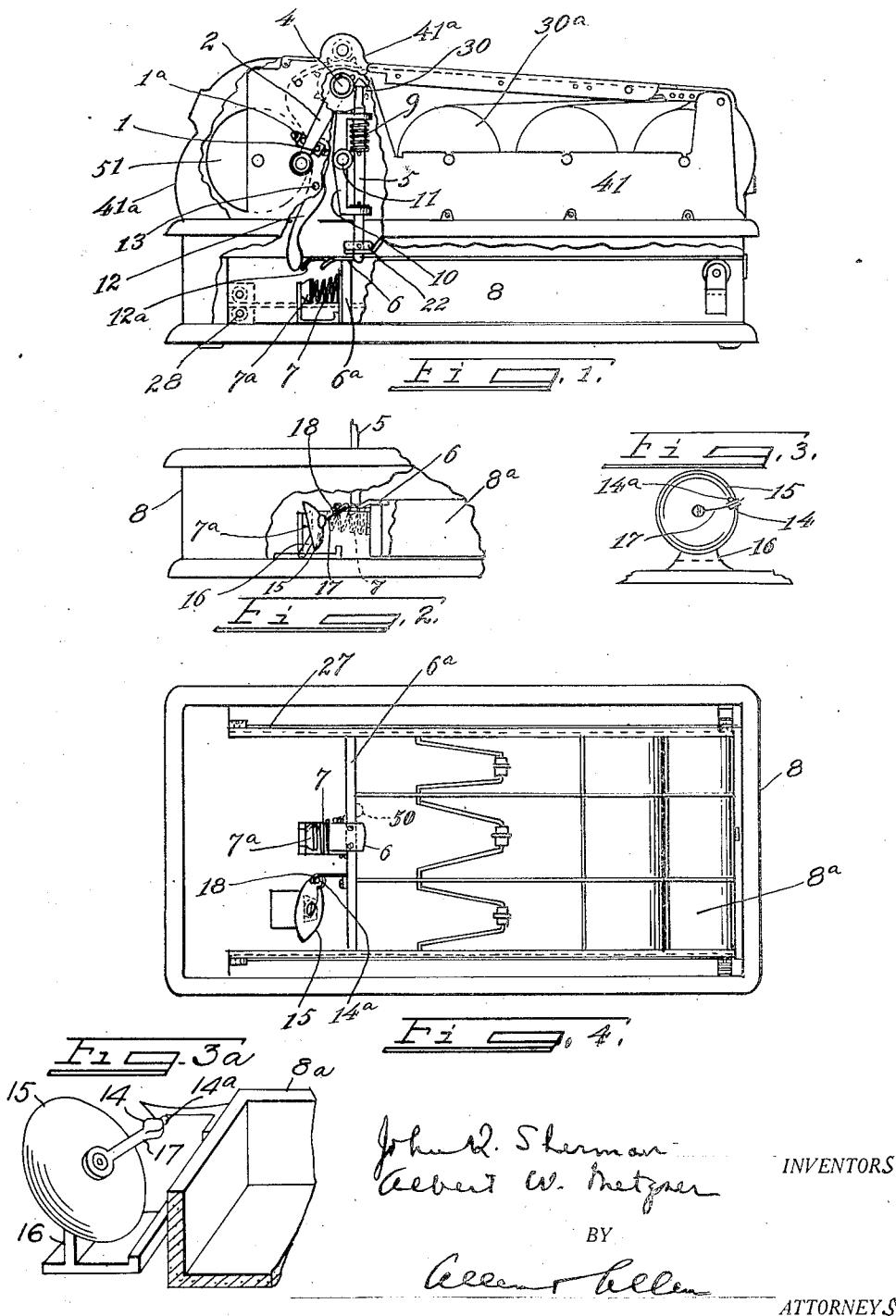
J. Q. SHERMAN ET AL

1,852,483

CASH DRAWER MANIFOLDER

Filed Aug. 9, 1922

4 Sheets-Sheet 1



John D. Sherman
Albert W. Metzger

INVENTORS

BY

Dear Helen

ATTORNEY'S

April 5, 1932.

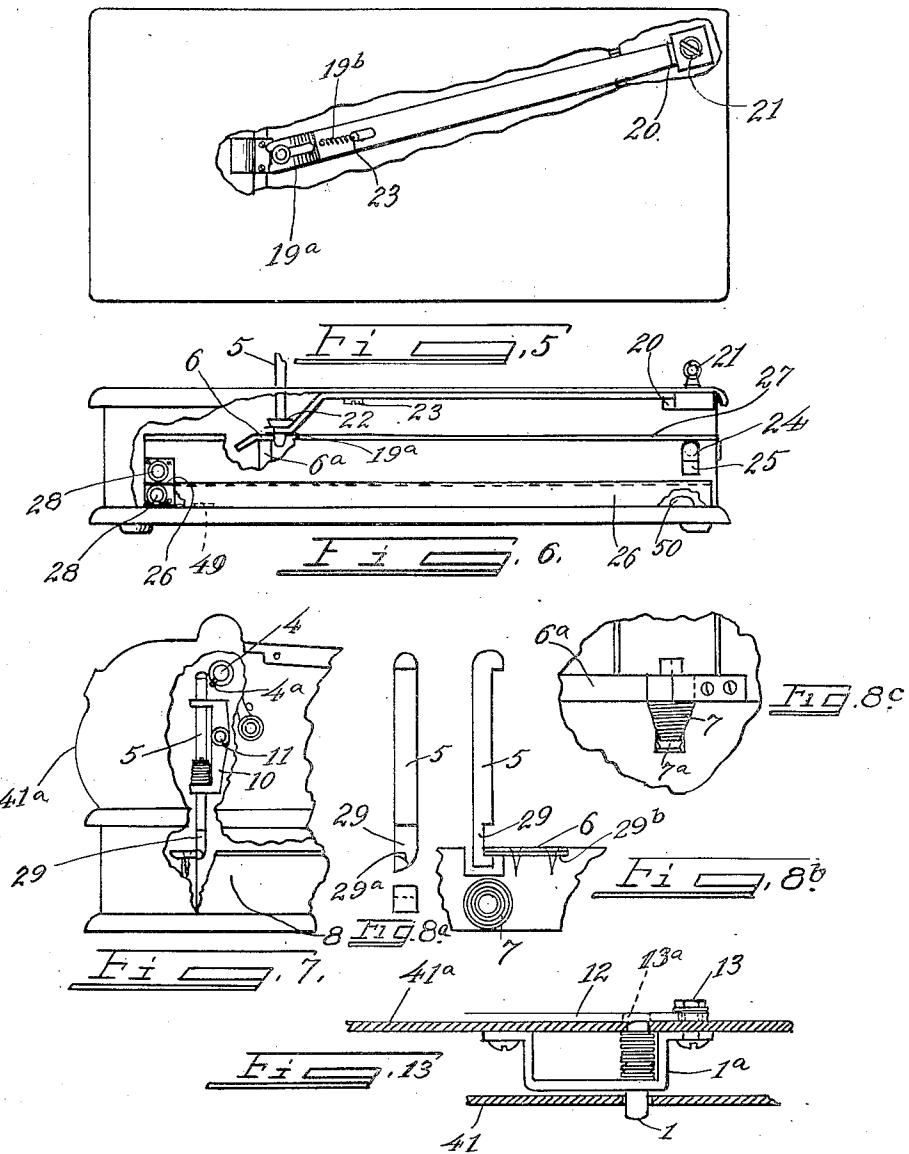
J. Q. SHERMAN ET AL

1,852,483

CASH DRAWER MANIFOLDER

Filed Aug. 9, 1922

4 Sheets-Sheet 2



John D. Sherman
Albert W. Wetzer

INVENTOR'S

BY

Acem, Helen

ATTORNEYS.

April 5, 1932.

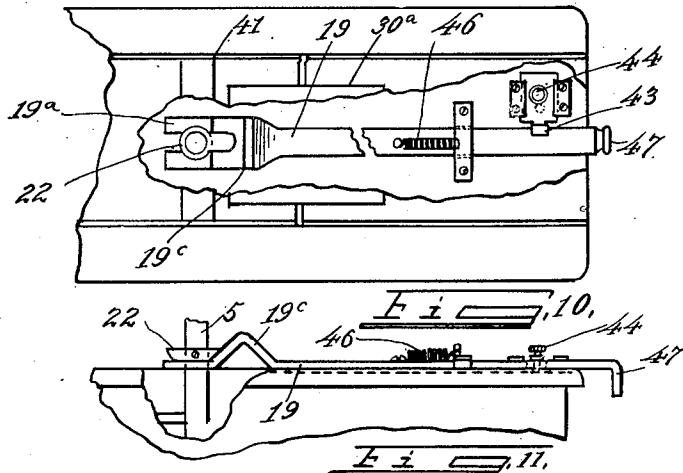
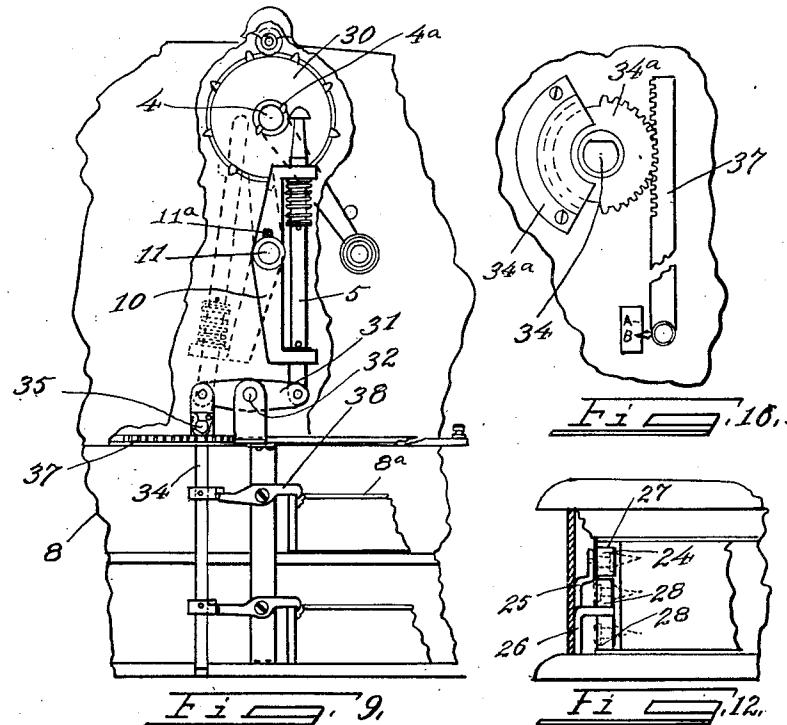
J. Q. SHERMAN ET AL

1,852,483

CASH DRAWER MANIFOLDER

Filed Aug. 9, 1922

4 Sheets-Sheet 3



John Q. Sherman
Leobert W. Metzger

INVENTORS

BY

Leemay, Allen

ATTORNEYS

April 5, 1932.

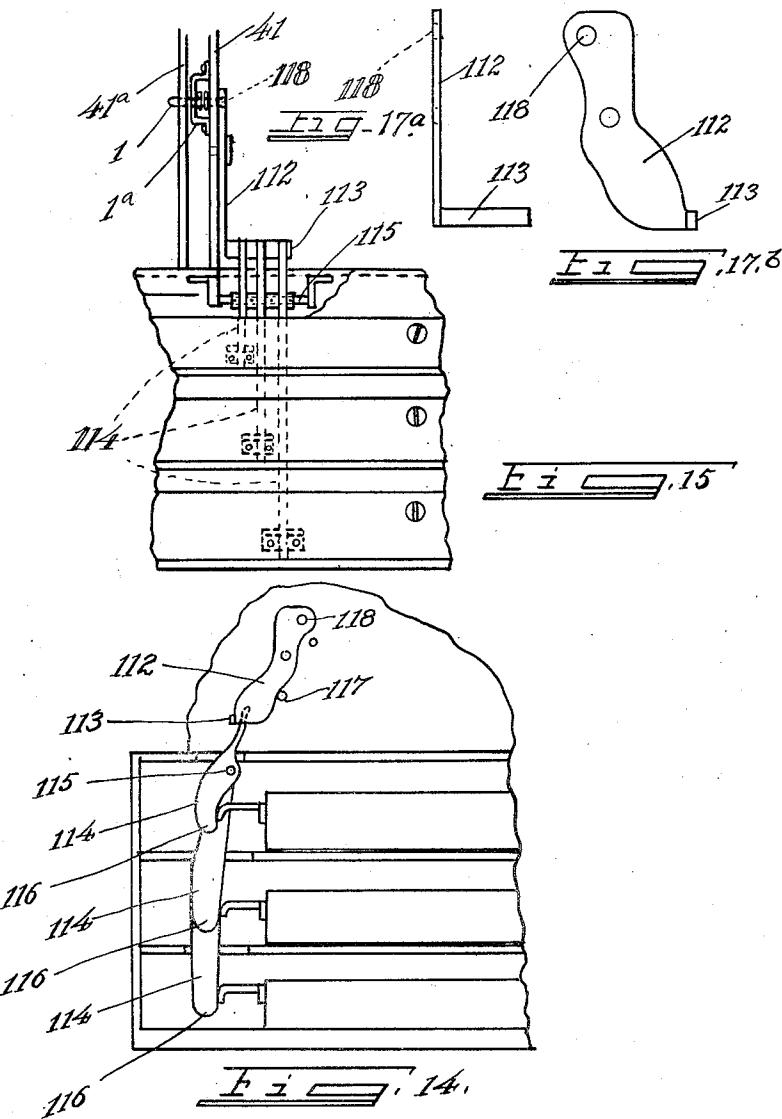
J. Q. SHERMAN ET AL

1,852,483

CASH DRAWER MANIFOLDER

Filed Aug. 9, 1922

4 Sheets-Sheet 4



John Q. Sherman
Albert W. Treppen

INVENTORS

BY

Allen, Helen

ATTORNEYS

UNITED STATES PATENT OFFICE

JOHN Q. SHERMAN AND ALBERT W. METZNER, OF DAYTON, OHIO, ASSIGNEES, BY
DIRECT AND MESNE ASSIGNMENTS, TO THE STANDARD REGISTER COMPANY

CASH DRAWER MANIFOLDER

Application filed August 9, 1922. Serial No. 580,777.

Our invention relates to manifolding machines of the type which are operated and mounted in connection with a cash drawer mechanism, whereby an inter-relation in operation between cash drawer and receipt slip can be maintained.

One of the primary objects of our invention is to simplify the structure of machines of this character, with a view of giving the 10 greatest possible advantage in interlocks, while preserving a unit feature in construction which will be adaptable to various sizes and multiples of the simplest form of device.

In connection with the cash drawer release, it is our object to provide a simple 15 spring plunger device, which is adjustable along some usual cross brace of the register frame.

We also desire to provide simple mechanism 20 whereby the receipt slips cannot be issued when the drawer or drawers are open.

In connection with the mounting of the 25 drawers and the individual release of the drawers by means of a key, we also provide improvements, which are effective and simple. We also provide improvements in connection with the ringing of a bell when any drawer is opened.

These various objects and other advantages 30 to be noted we accomplish by that certain construction and arrangement of parts to be hereinafter more specifically pointed out and claimed, whereby we obtain among other things, a cash drawer and manifolding register with the latch extending through the center line of each device, so that relative widths make no difference to the register, drawer and cabinet.

In the drawings,

Figure 1 is a side elevation of a machine composed of a single cash drawer and a manifolding register, same being partly broken away to show the interlock or latch.

Figure 2 is a detail side elevation showing in a broken-away portion, the bell and actuating spring in connection with a cash drawer.

Figure 3 is a detail elevation of the bell 50 and striker.

Figure 3a is an enlarged detail perspective view of the same.

Figure 4 is a plan view looking down into a cabinet showing a cash drawer and its mounting.

Figure 5 is a plan view of the top of a cabinet showing in a broken-away portion, a key-controlled drawer release.

Figure 6 is a side elevation of a drawer cabinet with the side wall partly broken 60 away, showing the parts in Figure 4.

Figure 7 is a detail side elevation showing a modified form of drawer release bar and operator.

Figure 8a shows in side elevation, Figure 65 8b in another side elevation and Figure 8c in plan, the latching portion of the release bar shown in Figure 7.

Figure 9 is a detail side elevation with frame parts omitted of a multiple drawer 70 modification of the device shown in Figure 1.

Figure 10 shows in plan view, the top of a machine with a modified form of key-controlled drawer release.

Figure 11 shows the same parts as Figure 75 10 in side elevation.

Figure 12 is an end elevational detail of the drawer mounting.

Figure 13 is a plan view detail of the stop pin and interlock lever device shown in Figure 1.

Figure 14 is a side elevational detail of a modification of the interlock lever for use with multiple drawers.

Figure 15 is a front elevation of the same 85 parts shown in Figure 14.

Figure 16 is a detail of the drawer selector rack.

Figure 17a is a plan and Figure 17b a side 90 elevation of the multiple drawer feed control bar.

The cabinet 8, in which a cash drawer is to be mounted and on which is to be set a manifolding register or receipt issuing machine, may be of any form desired, to house as many drawers 8a, as are desired. We have confined our illustration for the most part to single drawer cabinets.

The manifolding machine shown is preferably formed with framework or mechanism 100

supporting parts 41 mounted on the top of the cabinet, and a cover 41a, which seats and may lock down onto the top of the cabinet, thereby concealing the mechanism.

5 The type of register shown, which is not essential, has a feed shaft 4, on which are pin wheels 30 adapted to feed paper from the rolls 30a over the writing table portion of the register. The shaft 4 is caused to revolve to accomplish a pre-determined amount of feed of the paper by means, as shown in the drawings, of a handle 2. This handle is stopped at the end of each complete revolution by a spring pin 1 mounted resiliently in

10 a bracket 1a on the frame 41.

15 The pin may be pressed in by hand or by any desired mechanical device.

One of the novel features of my machine is the blocking of this pin whenever a cash drawer is open, and this, as can be seen, acts to prevent any feed of paper when a drawer is open.

20

25 Mounted on a stud 13, so as to pivot thereon at the inside of the frame 41, is a lever 12, which because of its weight, will naturally take a position with a portion thereof exactly opposite the pin, thereby preventing its depression.

The cash drawer has a projecting arm 12a, 30 which contacts with this lever and swings it until a clearance hole 13a in the lever is opposite the pin. This takes place when the drawer is fully closed and latched in position, (Figure 13).

35 In a device having a number of drawers instead of the lever 12, a lever 112 (Figures 14 and 15) may be mounted on the frame 41 having an action similar to the lever 12. This lever 112 has a tail 113 extending laterally 40 therefrom, which tail engages the ends of a series of levers 114 set side by side.

These last mentioned levers are swung from a single shaft 115 set beneath the top of the cabinet, and have weighted ends 116 (or 45 springs if desired) which cause them to swing toward the open end of the drawer when any drawer is opened, thereby causing the lower end of the lever 112 to be struck over with its lower end, rearwardly, which will cause 50 the upper end of the lever to move to position to block the pin 1. When the open drawer is closed, its lever 114 will move back to the position shown in the drawings, whereupon the lever 112 will fall back against its stop 55 117. In the normal stopped position the pin 1 may be depressed because of the pin clearance slot 118 in the lever.

Referring first to the single cash drawer device, it will be noted that we accomplish a 60 drawer latch and trip by a single reciprocating member in a very simple way.

Thus on one of the cross braces or fixed bars of the mechanism frame, in this case the bar 11, we mount a bracket 10, which has a collar 65 to slide on the bar and a set screw 11a or other

tightening means to hold it in desired position on the bar.

Sliding in this bracket is a reciprocating rod 5, which is pressed down by a spring 9 coiled around it and engaging some suitable 70 stop pin, and the upper bracket arm.

In normal position the lower end of the rod lies behind a face plate 6 on the rear wall 6a of the cash drawer. We provide a stud or collar nose 4a adjusted on the shaft to engage 75 and depress the rod 5. The radial position of the stud will usually be so arranged as to trip and pass beyond the rod before the close of each feeding operation.

In the form of rod shown in Figures 7 and 8a, the end of the rod is equipped with a laterally facing notch 29. A notch 29b is formed in the back wall of the drawer and the plate 6 is screwed down so as to partially overlie this notch 29b.

85 In this form the rod will rest normally in a position with its portion just below the notch 29 in front of the projection of the plate 6, which will hold the drawer closed. A depression of the rod will bring the notch 29 opposite 90 to the projection and permit the drawer to open. The face of the notch 29 at its lower end will be slanted as shown at 29a, so that when drawer is closed the rod will be pushed down by camming action to permit the rod to spring 95 back up in front of the plate 6 and hold the drawer closed. In this device the stud or nose 4a raises up the rod by engaging a bent end thereof instead of depressing it.

90 Referring to the mounting of the drawers 100 in the cabinet of our invention, we provide a simple, double roller support, which allows for easy removal of the drawer from the cabinet.

Thus on the walls of the cabinet, small 105 brackets 25 (Figure 6) serve to mount rollers 24, one on each side of the drawer space, at the front of the cabinet. Also extending clear along the drawer spaces are angle strips 26 mounted on the cabinet walls 8.

110 At the upper side edges of each drawer are mounted strips similar to the strips 26, same being shown at 27, which strips rest on the rollers 24, while at the inner, lower corners of the drawers are arranged a pair of inter-spaced rollers 28, which bear on each side of the projecting portion of the strips 26.

115 Set on the inner, under side of each drawer is a rubber bumper 49, which engages a stop 50 set in the drawer partitions or cabinet bottom.

120 As a projecting device for each drawer we provide spiral springs 7 set on the back wall of each drawer, which springs engage cups 7a erected on the partitions.

125 As so constructed, the drawers operate as follows: The rollers 28 ride on and under the angle strips 26, and the angle strips 27 ride on the rollers 24. This limits the roller construction to six rollers for each drawer and

four similar angle strips, and provides anti-friction bearings for the drawer throughout their movement.

When a drawer is closed, the spring for that drawer is compressed and the drawer latched, by plunger 5. The release of the latch will permit the energized spring to throw the drawer open until the bumper strikes the stop.

10 We have shown in Figure 9 a multiple drawer release and latch device, in which triggers 38 engage the drawer plates and a rotary jump bar 34 controlled from a rack 37 acts to release the latches. The rod 5 in this instance merely rocks a lever 31 pivoted at 32, and the lever engages through a ball and socket connection 35 with the upper end of the jump bar.

The construction in Figure 9, except so far 20 as the rod 5 and its connections are concerned, forms no particular part of this invention. In Figure 16 is shown the rack 37 engaging the segment 34a on the end of shaft 34. The segment 34a holds the rod in position.

25 We have shown two ways of providing a separate key-controlled release for a desired drawer, both of which can be mounted to operate at any angle and thus can be set where desired.

30 A tapered collar 22 on the rod 5 is arranged at the desired point, preferably near the top or bottom of the cabinet, and a slide bar 19 mounted to reciprocate adjacent the position of the collar as, for example, on a stud 23 35 engaging a slot in the bar, (Figure 5).

The slide bar has a forked end 19a engaging under the collar, said end being so angled as to press up (or down) on the collar, when the rod is reciprocated.

40 In one form the outer end of the slide bar is formed to engage over a spring bolt 20, which is actuated only by means of a key 21. The act of operating the spring bolt will force the bar to move to tripping position of 45 the rod 5 and then away from tripping position by the return spring 19b. A bend 19c acts to lift the collar.

In Figures 10 and 11 the slide bar is shown as lying on the top of the cabinet frame, 50 sliding between the side walls of the register mechanism supports. A spring 46 engages the bar in this form and tends to hold it in non-tripping position. The handle 47 is used to move the bar to tripping position. 55 Any ordinary spring slide bolt 48 operated by a button 44 acts to latch the rod in non-releasing position, as pulled by the spring.

Since the outer cabinet comes down over the frame parts of the register, it will conceal and render inaccessible, the operating button and slide bolt. The owner of the key for lifting the cabinet will then be the only person who can get at the spring bolt for permitting a drawer releasing movement of 60 the slide bar.

As stated, any of the key release devices can be operated from whatever angle appears to be convenient in the setting up of the machine.

The interlock arrangements prevent any unauthorized access to the drawers without a record being left in the register, as, for example, on a record roll 51. Unlike all registers with which we are familiar, the drawer has to be closed before another receipt slip 75 can be issued.

Among other simplified constructions of our device we call attention to the device for ringing a bell when the drawers are opened.

At the back of each drawer space a bell 15 is mounted, which bell is preferably set at 80 an angle, as shown.

The striker on this bell is formed of a spring strip 17 mounted at the center of the bell by the same nut that holds the bell down 85 on the bracket or post 16.

On the end of the strip 17 is a hammer 14, which strikes the bell when pulled back and released. This motion is accomplished by a hook 18 on the rear wall of the drawer, which 90 is shown as engaging a pin 14a that is formed on the hammer.

Due to placing the bell and spring strip at an angle to the vertical, the engagement of the drawer hook over the pin on the hammer 95 will be easy and will be a simple snap engagement when closing the drawer. As the drawer starts to open, the hook will slide down on the pin and take a firm grasp, so that the bell will not be released until the spring strip is well energized and is swung back to an angle away from the bell, which permits the hook to slip off the pin laterally.

The method of mounting the drawer trip 100 is adjustable to permit of locating the trip at the center (which is preferable) on any size of manifolding machine with the rod itself extending down to engage at the center, the rear walls of the drawer or drawers. We are not advised of any instance in the past where a single bar is used in one drawer machines for latching, tripping and being operated upon by the feeding mechanisms of a register.

We do not wish to be limited to other than 115 the usual range of equivalents in the claims that follow, because of failure above to do more than point out an exemplary structure made in accordance with our invention.

Having thus described our invention, what we claim as new and desire by Letters Patent, is:—

1. In combination, a cabinet, a paper feeding mechanism connected therewith, a cash-drawer, a manually shiftable stop for the paper feeding mechanism requiring manipulation for each single feeding operation of said mechanism, and means controlled by the drawer for preventing the manipulation of this stop when the drawer is open. 125 130

2. In combination, a cabinet, a paper feeding mechanism connected therewith, a cash drawer, a manually shiftable stop for the paper feeding mechanism requiring manipulation for each single feeding operation of said mechanism, and means controlled by the drawer for preventing the manipulation of this stop when the drawer is opened, said means comprising a lever resting against the drawer, and automatically movable to position to block the stop upon a small movement of the drawer.

3. In combination, a cabinet, a paper feeding mechanism comprising a manually controlled handle, said mechanism being connected with the cabinet, a manually depressible spring pin movable normally to position to block the movement of the handle at a given point in its feeding path, thereby confining individual movements of the handle to single feeding operations, a cash drawer in the cabinet, and means controlled by the cash drawer for moving into the path of said pin to prevent movement thereof away from normal handle blocking position.

4. In combination with a cash drawer and a cabinet therefor, same having a paper feeding device and a drawer latch, means operated by the paper feeding device for releasing the latch, and a lock-controlled member for also operating said latch to release it, said member having independent means to return it to position of non-releasing said latch automatically.

5. In combination with a cash drawer and a cabinet therefor, same having a paper feeding device and a drawer latch, means operated by the paper feeding device for releasing the latch, a lock-controlled member for also operating said latch to release it, said member and said latch means so shaped as to be operable from any desired angle to the cabinet.

6. In combination with a cash drawer and a cabinet therefor, same having a paper feeding mechanism and a drawer latch comprising a reciprocating member actuated by the feeding mechanism, a separate mechanism lock-controlled so shaped and positioned as to reciprocate said member independently of the paper feeding mechanism, said mechanism arranged to return to disengaged position automatically upon release.

7. In combination with a cash drawer and a cabinet therefor, having a paper feeding mechanism and a drawer latch comprising a reciprocating member actuated by the feeding mechanism, an abutment on the reciprocating member, a bar having means for acting as a wedge on said abutment, and lock-controlled means for actuating said bar.

8. In combination with a cash drawer and a cabinet therefor, having a paper feeding mechanism and a drawer latch comprising a reciprocating member actuated by the feed-

ing mechanism, an abutment on the reciprocating member, a bar having means for acting as a wedge on said abutment, and lock-controlled means for actuating said bar, said bar being adapted to return by a spring to non-actuating position.

9. In combination with a cash drawer and a cabinet therefor, having a paper feeding mechanism and a drawer latch comprising a reciprocating member actuated by the feeding mechanism, an abutment on the reciprocating member, and a bar having a fork to straddle and act as a wedge on said abutment to enforce a reciprocation of said member, said bar being lock-controlled.

10. In combination, a cabinet, a drawer slideable in the cabinet, a bell or sounder mounted in the cabinet, a resilient arm secured to the bell, said arm having a striker for the bell, and means on the drawer for directly engaging said arm, said means being adapted to pass said arm and move it sideways of the bell as the drawer moves to open position, said arm so positioned that the engagement by the drawer moves it positively away from the bell as the drawer starts to open, for the purpose described.

11. In combination, a cabinet, a drawer slideable in the cabinet, a bell or sounder mounted in the cabinet, a resilient arm secured to the bell, said arm having a striker for the bell, and means on the drawer for directly engaging the arm and pulling it back and then releasing it as the drawer opens, said arm being set at a divergent angle from the plane of drawer movement, whereby said arm is moved sideways of the bell during engagement, and afterwards, as the drawer moves toward open position the arm is moved away from the bell up to releasing position.

12. In combination with a cabinet, a cash drawer therein, a reciprocating bar adapted to move resiliently to position of latching the drawer, paper feeding mechanism, and means carried by the feeding mechanism for directly contacting with the bar for moving it to drawer releasing position, and means for mounting said bar at any desired position transverse the said machine, comprising a cross bar in said machine and a bracket thereon for slidably holding said bar.

13. In combination with a cabinet, a cash drawer therein, said drawer having a rear wall, a resilient reciprocating bar adapted to engage ahead of said rear wall for retaining the drawer in closed position, a paper feeding mechanism, and means on said mechanism for reciprocating said bar to move it to non-latching position, means for mounting the reciprocating bar in any desired position parallel with the innermost position of the drawer rear wall, said feeding mechanism comprising a shaft, and an abutment on said shaft to engage the bar at the

desired position during the shaft movement.

14. In combination with a cabinet and a cash drawer therein, a register frame, and paper feeding mechanism, said frame comprising a cross bar, a bracket adjustably mounted on said cross bar, a reciprocating bar in said bracket having a spring for moving it into position for engaging directly with the cash drawer to hold it in latched position, and means on the feeding mechanism for contacting with the said bar, for moving it to drawer releasing position.

JOHN Q. SHERMAN.

ALBERT W. METZNER.

15

20

25

30

35

40

45

50

55

60

65