

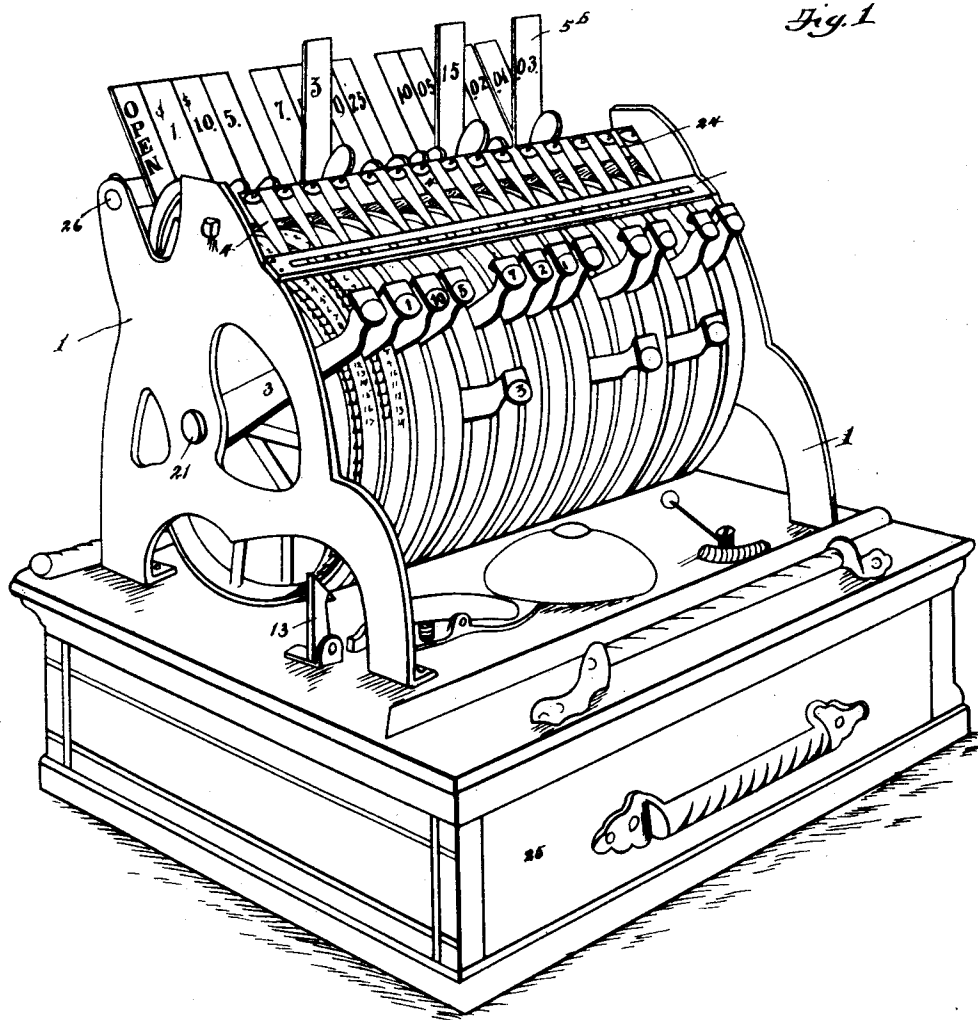
(No Model.)

3 Sheets—Sheet 1.

F. H. SEYMOUR.
CASH REGISTER AND INDICATOR.

No. 541,885.

Patented July 2, 1895.



WITNESSES
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(No Model.)

3 Sheets—Sheet 2

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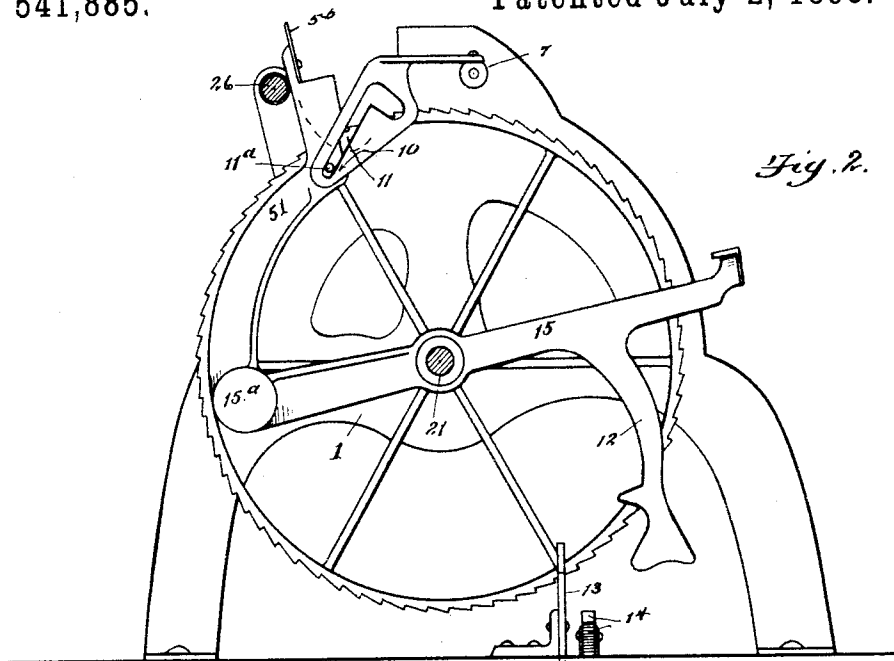


Fig. 2.

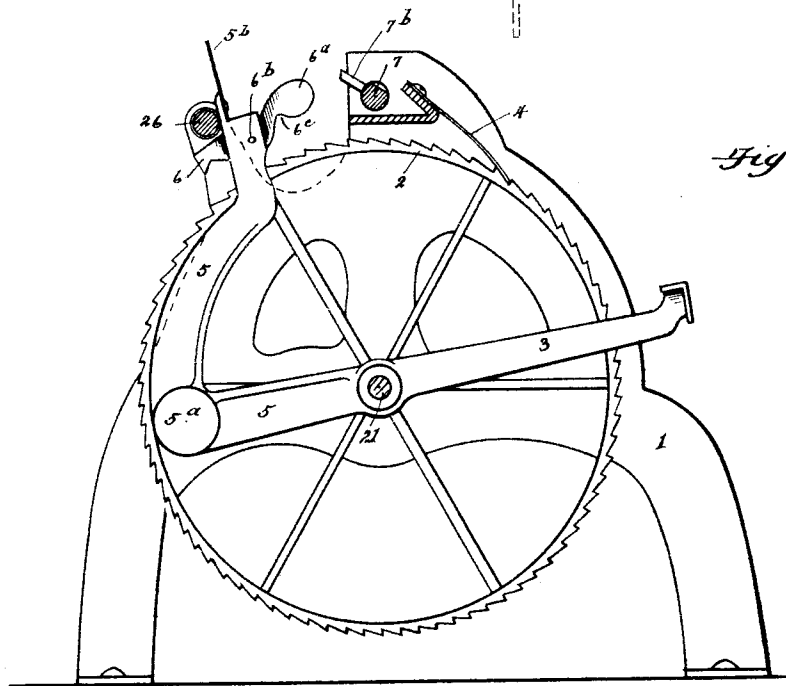


Fig. 3.

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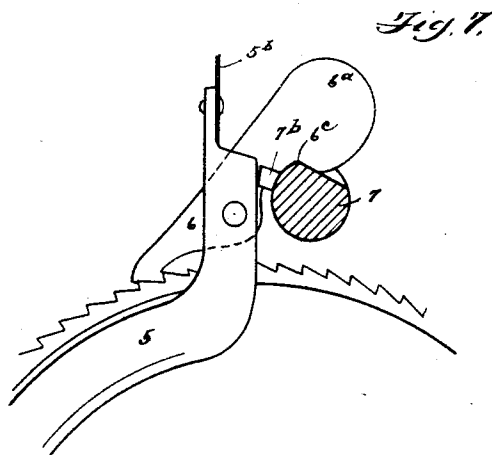
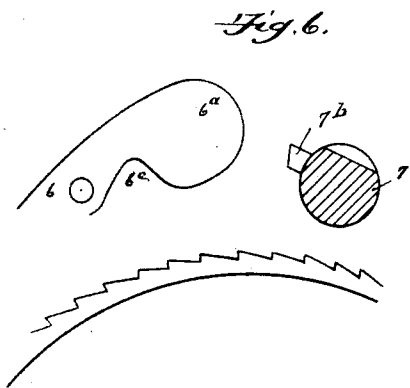
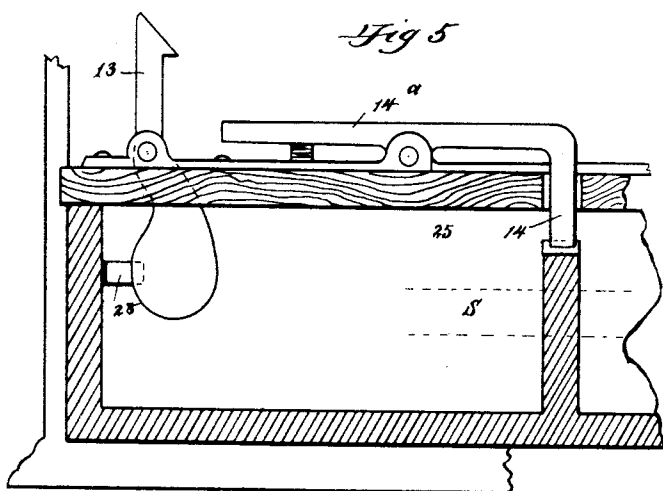
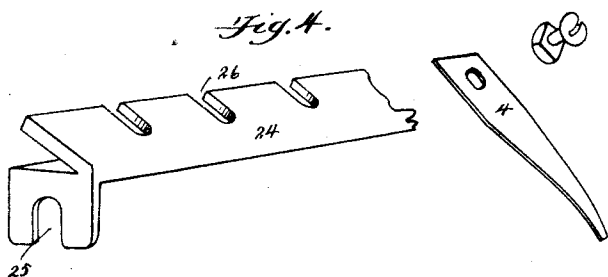
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UNITED STATES PATENT OFFICE.

FREDERICK H. SEYMOUR, OF DETROIT, MICHIGAN, ASSIGNOR TO THE SEYMOUR CASH REGISTER COMPANY, LIMITED, OF SAME PLACE.

CASH REGISTER AND INDICATOR.

SPECIFICATION forming part of Letters Patent No. 541,885, dated July 2, 1895.

Application filed July 23, 1894. Serial No. 518,300. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK H. SEYMOUR, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Cash-Registers; and I declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to cash registers, and has for its object an improvement to be used in connection with the registering mechanism shown and described in my pending application, Serial No. 505,717.

The improvement herein described relates more particularly to mechanism employed for turning the register wheels a definite distance, and the mechanism employed for readjusting the key levers, and dropping the indicating tablets preliminary to a further registering action.

In the drawings, Figure 1 shows in perspective the mechanism of my cash register, the outer case being removed. Fig. 2 is an end elevation showing the readjusting lever and its connections, and the parts with which it engages. Fig. 3 is an elevation of a single registering wheel and its actuating key. The parts in section are common to all the registering-wheels. Fig. 4 is a detail of the bar to which the spring-pawls 4 are secured. Fig. 5 shows the drawer-locking mechanism, the hook which holds the readjusting key in its lowermost position, and the means by which the hook is unlocked from the readjusting key. Figs. 6 and 7 indicate the means by which the actuating pawl used to actuate the register-wheels is thrown into engagement with those wheels, and means by which the tablets are held at the observation point.

1 indicates the main frame work secured to any appropriate base, as the top of a drawer case, and supporting a single shaft 21 upon which are journaled all of the register wheels and all of the actuating key levers, and the readjusting key lever, comprising all of the operative parts of the machine except the various holding mechanisms which hold the ro-

tative parts in position. These holding parts are the spring pawls 4, which are adjustably secured to a bar 24 that reaches from one side to the other of the frame work 1; also, a rocking detent bar 7, which is journaled in the frame work 1, and has a rocking or partially rotative movement, as will be described. A third holding part is the hook 13, which is partially above and partially below the top casing of the cash drawer 25.

There is one register wheel for each of the actuating keys of the register, and this register wheel is notched with ratchet teeth, to each one of which is given a number; and opposite to each ratchet tooth on the periphery of the wheel the number is in some way indicated, either by engraving it thereon, or by cementing to it a printed slip of paper. At each depression of the outer or protruding part of the actuating key, the register wheel is rotated a single notch, and the character appearing upon it at a given line is changed accordingly. The rotative motion of the register wheel is always forward and downward, and reverse motion is prevented by a spring pawl 4 that is secured to a cross bar 24. The cross bar 24 is provided with slits or notches, as shown in Fig. 4, and the spring pawl is secured by a bolt and nut, the stem of the bolt passing through a hole in the pawl and through the slit in the cross bar. This enables me to adjust the lower end of the spring pawl with respect to the register wheel with which it engages, saving much work in the manufacture of the device. The bar itself is adjustable vertically on the frame by means of a similar bolt which passes through the frame and through the slit 25 in the end of the bar 24.

Each actuating key lever has two branches, as shown in Fig. 3. A forward extending branch 3 projects to the outside of the case, and is provided with the usual finger piece. The inner branch 5 extends to the rear of the shaft 21, where it is provided with a weight 5^a, preferably made integral with the key lever, and sufficiently heavy to counterweight the end 3 and cause the weight 5^a to drop. The inward extending arm turns and extends upward, and is provided at its end with an indicating tablet 5^b. The complete key lever is substantially a bell crank lever in form,

although the upward extending branch also reaches backward to the weight 5^a, as described, for the purpose of giving it the necessary overweight at the rear. At the upper
 5 end of the branch 5 is pinned a pawl 6, which swings freely on its pin 6^b. One end of the pawl 6 is adapted to engage with a tooth of the register wheel 2, and is thrown into en-
 10 gagement with the tooth when the protruding end of the key lever 3 is depressed and the tablet raised by the engagement between the end 6^a of the pawl 6 and the rocking detent
 15 7. The upper side of the detent 7 is flat, or substantially flat, so as to present an angle toward the rear that changes with respect to
 20 the axis of the detent 7. When in the position shown in Fig. 7, the flat upper surface is inclined forward and downward in a position
 25 such that its edge is received within a notch 6^c of the pawl 6. When the tablet is lifted, the up end of the branch 5 of the key lever is
 30 forced forward, and the end of the pawl 6 forced over the edge of the rocking detent 7. In the rocking detent 7 are inserted a number
 35 of pins 7^b, one for each key lever, and these pins extend backward and slightly upward in a position to engage with the upper end of the
 40 branch 5 of the key lever. When the detent 7 is rocked backward, as will be hereinafter described, the pin 7^b serves to push the arm
 45 backward and give it a slight initial impulse, compelling the rear end of the key lever to fall, and the tablet to fall out from its place
 50 of observation. At the same time that the pin engages with the arm 5 and pushes it back-
 55 ward, the engaging angular surface of the rocking detent 7 turns out from its rocking holding engagement with the notch 6^c, so that
 60 the pawl 6 presents no obstructions to the rearward motion of the branch 5 of the key lever. When the forward end of the key lever was
 65 depressed and the upper end thrown forward and the table raised, the end 6^a of the pawl 6 engaged first with the rear surface of the rock-
 70 ing detent 7, lifting the end 6^a and throwing the opposite end of the pawl into engagement
 75 with a tooth of the register wheel, and the parts are so adjusted that the forward motion of the pawl on the branch 5 engages only a
 80 single one of the teeth of the register wheel, and impels the register wheel forward only the distance of a single tooth.

At the back of the frame is a rod or bar 26 that serves as a stop to the backward move-
 55 ment of the branch 5 of the key lever. The lever at one end of the machine is modified somewhat in form. In the place of the tablet containing an indicating number, is a tablet
 60 containing some other indication, such as the word "Open," indicating, when it is in the position for observation, that the money drawer
 65 is open and that all the indicating tablets have been dropped back out of their position of observation, and this has been accomplished
 70 by the following mechanism.

On the end of the rocking detent 7 is a hanger 10, in which is an irregularly shaped

slot, and on the branch 51 of the readjusting lever is a pin that engages with the slot, and
 70 as the upper end of the branch 51 is thrown forward, the pin moving along the slot forces the lower end of the hanger 10 forward and
 75 rocks the upper rear engaging edge of the detent 7 downward and backward. The down-
 80 ward and backward motion of the edge of the detent 7 permits the pawl 6 to disengage themselves therefrom, and the backward and
 85 downward movement of the pins 7^b forces the upper ends of any of the keys that have been in engagement with the detent 7 backward,
 90 giving them an initial impulse which is continued by the force of the weight 5^a, and thus all of the tablets are caused to drop back out
 95 of the place of observation. The shape of the slot 11 is such that, when the pin 11^a has
 100 traversed one portion of it and rocked the detent 7 in the way just described, it passes into a second portion of the slot, and rocks
 105 the detent in the opposite direction, so that the actuating engagement of the pin 11^a with
 110 the slot 11 rocks the detent 7 in both direc-
 115 tions. From the forward branch 15 of the readjusting lever depends a hanger 12, termi-
 120 nating in a foot that engages with the locking lever 14 of the drawer, and also with the
 125 rocking hook 13, under the hooked part of which the foot of the hanger 12 engages and
 130 holds the readjusting lever with its outer end depressed. The drawer is pushed in against
 135 a spring in the way common in cash registers, and is held locked by the locking lever 14
 140 that engages with some obstruction on the interior of the drawer. When the foot of the
 145 hanger 12 engages with the end 14^a of the locking lever, forcing it downward, the end 14
 150 is lifted out of engagement with the obstruction, and the drawer is thrown open by the
 155 force of the spring S behind it. On the drawer, is another projection 28, the path of which
 160 impinges with the lower swinging end of the hook 13, and when the drawer is pushed in
 165 swings the upper end of the hook 13 out of engagement with the foot of the readjusting
 170 lever, and the readjusting lever is then drawn upward by means of the weight 15^a.

It will be noticed that the depression of the
 175 outer end of the readjusting lever permits the drawer to be forced open, and that the
 180 outer end of the readjusting lever remains depressed so long as the drawer is open. Dur-
 185 ing the time that the registering lever is depressed, the detent 7 is in position such that
 190 it will not engage with and hold any of the pawls 6. It follows that the drawer must be
 195 closed and the readjusting lever released from engagement with the hook 13 before the tab-
 200 lets can be brought and kept by the machinery of the register at their point of ob-
 205 servation, and that the tablets will leave the point of observation and drop back out of
 210 sight whenever the registering lever is pushed downward and the drawer is opened.

I claim—

1. In a cash register, the combination of a

ratchet wheel, a counterweighted key lever, a pawl carried thereby, a rocking detent adapted to throw the pawl into engagement with the wheel whereby said wheel is operated during the latter part of the throw of the lever.

2. In a cash register the combination of a ratchet wheel, a key lever, a pawl carried thereby, said pawl being normally out of engagement with the teeth of the ratchet wheel, a guide adapted to engage the pawl and bring it into engagement with the ratchet teeth, a detent adapted to engage the pawl and thereby prevent the backward motion of the lever, and means for disengaging the pawl and detent.

3. In a cash register the combination of a key lever, carrying a tablet and a swinging pawl, a ratchet wheel mounted upon the shaft which forms the fulcrum for said key lever and actuated by said pawl, means for holding the pawl out of engagement with the wheel during a portion of its throw, and means for forcing the pawl and ratchet wheel into engagement during a portion of its throw.

4. In a cash register the combination of a ratchet register wheel, a swinging pawl carrying tablet bearing key lever, a rocking detent adapted to engage the pawl and thereby hold the key lever from backward movement, a swinging readjusting lever engaging with said detent and adapted to rock the same, substantially as described.

5. In a cash register the combination of a ratchet register wheel, a swinging tablet and pawl carrying key lever, a detent adapted to engage said pawl and first force it into engagement with the ratchet wheel and after-

ward hold the key lever with the tablet elevated, a holding pawl and means for adjusting the same to properly co-operate with the actuating pawl, substantially as described.

6. In a cash register in combination with a ratchet register wheel, a swinging pawl carrying key lever, a rocking detent adapted to engage with and detain said key lever, a radial arm on the rocking detent adapted to produce an initial backward impulse of the key lever, substantially as specified.

7. In a cash register in combination with a spring actuated drawer, a locking bolt, a tablet carrying swinging key lever a swinging pawl pinned to the tablet carrying lever, a rocking detent adapted to engage with said swinging pawl and hold said key lever, a swinging readjusting lever adapted to simultaneously rock the detent and release the drawer locking bolt, substantially as specified.

8. In a cash register in combination with a spring actuated drawer, a locking bolt, a tablet carrying swinging key lever, a rocking detent adapted to engage with and hold said key lever, a swinging readjusting lever adapted to simultaneously rock the detent and release the drawer locking bolt, a catch adapted to engage the readjusting lever and means actuated by the drawer for releasing the engagement between the catch and the readjusting lever, substantially as described.

In testimony whereof I sign this specification in the presence of two witnesses.

FREDERICK H. SEYMOUR.

Witnesses:

EFFIE I. CROFT,
F. CLOUGH.