

E. S. CHURCH
CASH REGISTER.

APPLICATION FILED JUNE 9, 1906.

998,601.

Patented July 25, 1911.
3 SHEETS-SHEET 1.

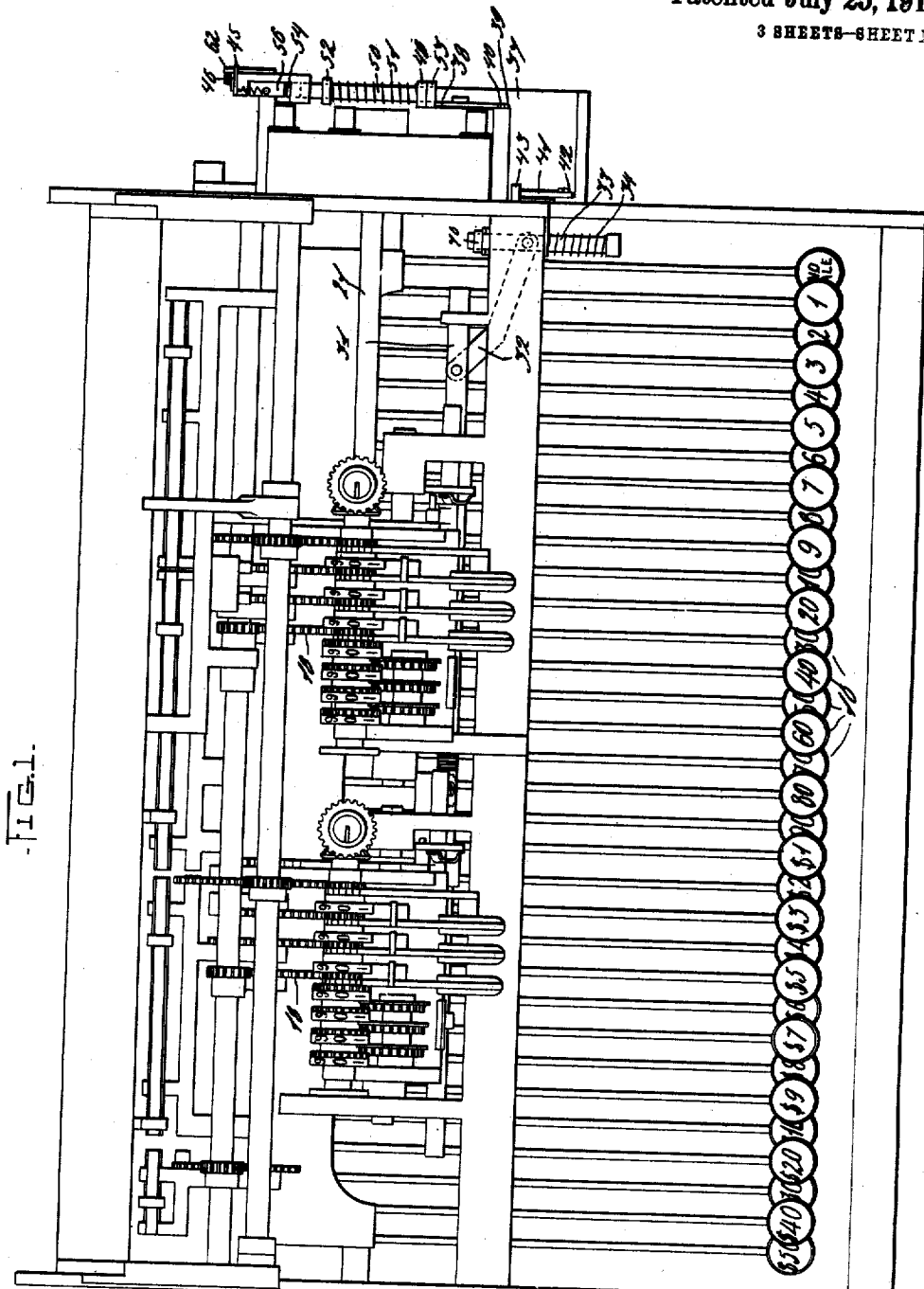


FIG. 1.

Witnesses
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Carl W. H. H.

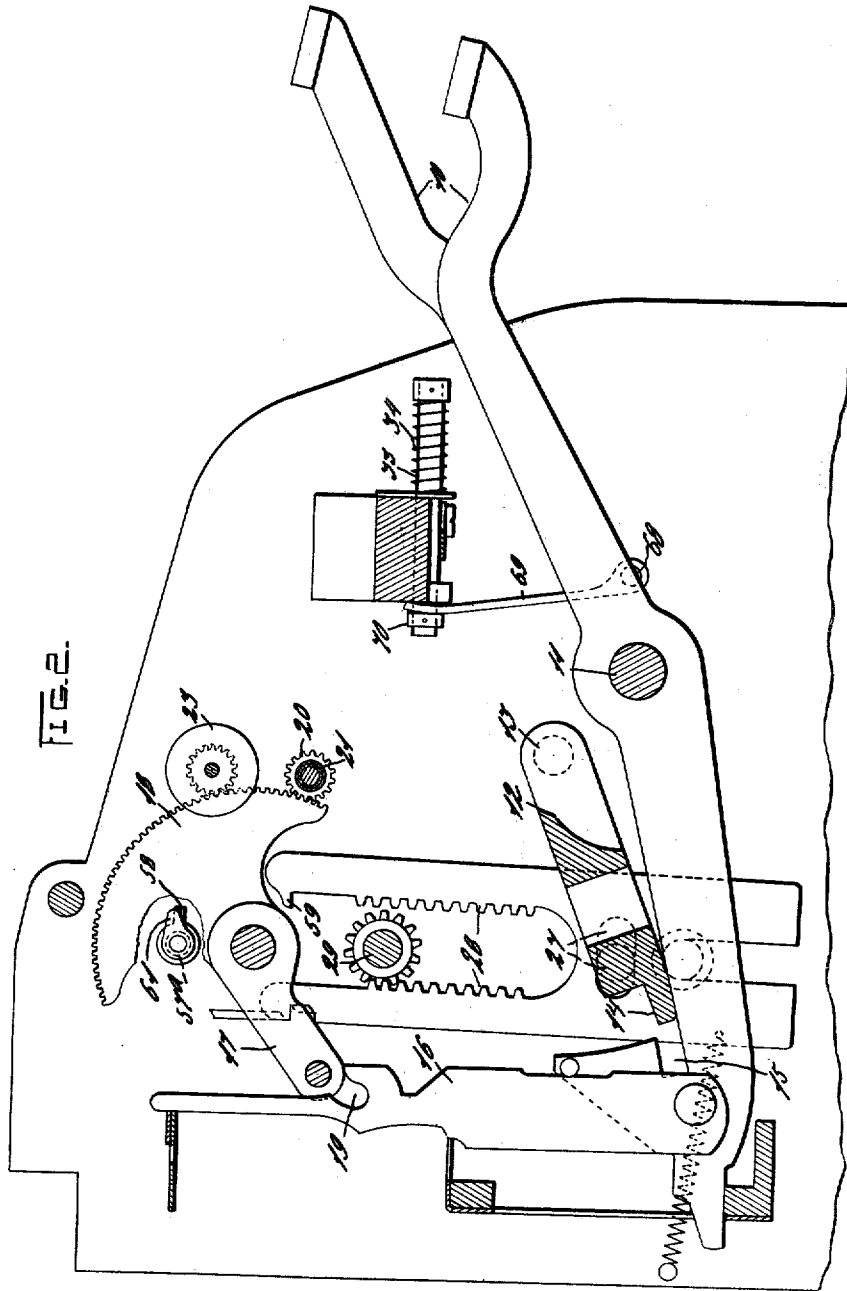
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3 SHEETS-SHEET 2



Witnesses
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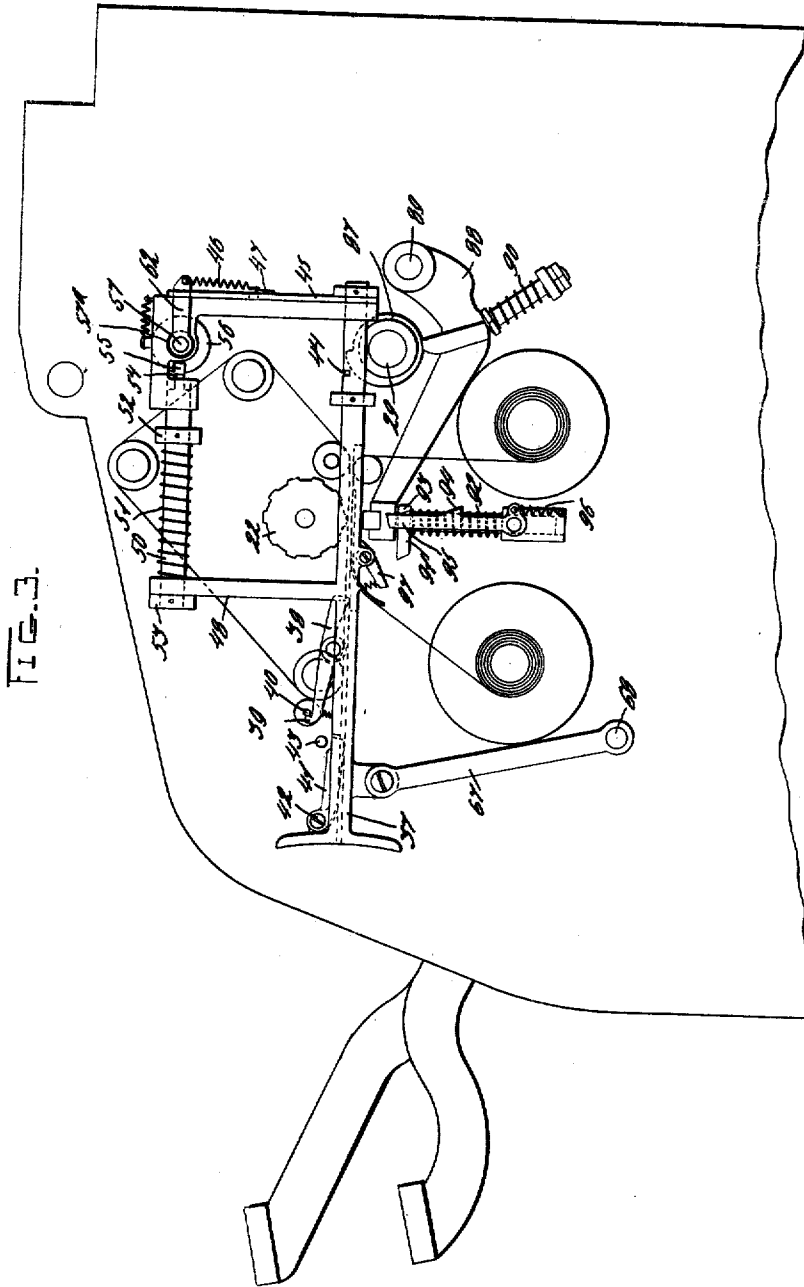
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

EDMUND S. CHURCH, OF DAYTON, OHIO, ASSIGNOR TO THE NATIONAL CASH REGISTER COMPANY, OF DAYTON, OHIO, A CORPORATION OF OHIO, (INCORPORATED IN 1906.)

CASH-REGISTER.

998,601.

Specification of Letters Patent. Patented July 25, 1911.

Application filed June 9, 1906. Serial No. 321,065.

To all whom it may concern:

Be it known that I, EDMUND S. CHURCH, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Cash-Registers, of which I declare the following to be a full, clear, and exact description.

This invention relates to cash registers and has among its objects to provide a machine in which there are a plurality of totalizers and a common operating mechanism, with means for connecting said mechanism to any of the totalizers as desired.

As a further object may be mentioned the provision of means for selecting which of the totalizers is to be operated by the movement of the check carrying table which not only carries a paper check into position to be printed on but also serves to control the selective mechanism for the totalizers.

With these and incidental objects in view, the invention consists in certain novel features of construction and combination of parts, the essential elements of which are set forth in appended claims and a preferred form of embodiment of which is hereinafter specifically described with reference to the drawings which accompany and form part of this specification.

Of said drawings: Figure 1. is a plan view of a machine to which the invention may be adapted. Fig. 2. is a vertical section through the machine. Fig. 3. is an elevation of the right hand end of the machine, the main frame being partly broken away.

The machine to which the invention is shown as adapted is of a well known type now on the market and comprises a plurality of keys which when operated cause a differential movement of one of a plurality of totalizers shown in the present case. The operating mechanism is common to both of the totalizers and a means is provided for creating and destroying an operative relation between either of the totalizers and the operating mechanism. A check carrying table is employed adapted to be moved to carry the check into position to be printed and the mere movement of the table is arranged to automatically shift the counter selecting mechanism.

It will be evident that with a structure such as above outlined a transaction for which it is desired to issue a check will be

entered upon one totalizer. Transactions requiring no check will be entered upon the other totalizer.

This machine may be used to segregate special classes of transactions such as charge sales by causing such transactions to be entered on the special totalizer and a check issued for them.

The machine comprises a plurality of amount keys 10 journaled loosely on the main rod 11 and all adapted to cooperate with a key coupler 12 journaled on a trunnion 13. The coupler has at its rear end a projection 14 adapted to engage notches 15 in the rear end of the keys 10. Each key carries a lifting bar 16 adapted to operate a frame 17 and thereby move a segment 18. The notches 19 of the lifting bars 16 are arranged at different heights and so cause a differential motion of the segment 18. There are two sets of segments 18 as shown in Fig. 1. for the two separate totalizers and a movement of any amount key will cause a corresponding movement of one segment 18 in each set. Geared to one set of the segments 18 are pinions 20 mounted on nested sleeves 21, which sleeves at their outer ends carry printing wheels 22. Totalizers 23 are mounted in movable frames and are adapted to be thrown separately into connection with the segments 18 thereby providing adding devices on which amounts indicated on the keys may be entered.

Connected by a pin and slot 27 to the coupler 12 is a double reciprocating rack 28. This rack is adapted to move up and down at each operation of the machine and to thereby cause a rotation of a pinion 29 on the main rotation shaft of the machine.

The mechanism so far described is well known in the art being shown for example in the patent to Cleal No. 718,565 granted Jan. 13, 1903.

Referring to Fig. 1. it will be seen that a lateral shifting bar 31 is employed which is adapted to control the relation of the counters to the operating mechanism. This bar 31 is moved laterally by a link 32 connected to a bar 33 which is normally pressed forward by a spring 34. When the bar 33 is moved rearwardly the bar 31 will shift laterally and bring the left hand counter into operative condition. In the patent referred to the shift of bar 33 was by a push key carried on its outer end, but in the pres-

ent case there are provided means controlled by a check table for performing this function.

In Fig. 3, is shown a check table 37 adapted to have a check placed thereon and then to be slid rearwardly to bring the check to printing position. A pawl 38 is mounted on the table 37 and has a lug 39 thereon normally engaging square pin 40 thereby preventing the inward motion of the check table. When the check is placed on the table the rear end of the check will raise the rear end of the pawl 38 thereby withdrawing lug 39 from the pin 40. The table can then be pushed in. To hold the check firmly on the table a piece 41 is pivoted to the pin 42 on the check table; when the table is moved rearwardly the upper edge of the piece 41 engages pin 43 on the main frame and forces part 41 downwardly to hold the check tightly on the table. When the check table is pushed in the notch 44 therein moves under the reciprocating bar 45 which will then drop into the notch under the pressure of its spring 46 this spring being fastened at one end to the pin 47 on the main frame. The check table also carries a vertical arm 48 adapted to support a horizontal bar 50. Surrounding the bar 50 is a spring 51 tending to force the check table outwardly by abutting against a stationary collar 52. The arm 48 loosely surrounds the bar 50 and is prevented from moving too far forwardly by a nut 53 on bar 50. It will be evident that when the check table is pushed rearwardly the arm 48 will tension spring 51 and thereby through collar 52 move bar 50 rearwardly until the projection 54 on bar 50 moves into the notch 55 on a disk 56 this disk being tight on a sleeve 57 which surrounds shaft 57. Also tight on this sleeve is an arm 58 which is adapted to be engaged by a lug 59 on the rotation rack 28, as shown in Fig. 2. Shaft 57 carries a round arm 61 shown in Fig. 2 and an additional arm 62 shown in Fig. 3, this arm 62 passes through a slot in the vertically movable bar 45.

As thus far described the operation will be as follows: when the amount is to be added on the left hand totalizer, a check is inserted on the check table thereby raising the rear end of the pawl 38. The check table may then be moved rearwardly, this rearward motion through the link 67 which is rigid with a short shaft 68 causes rearward movement of the link 69 also rigid with said shaft 68. This link 69 presses against the collar 70 on the totalizer shifting bar 33 so that when the check table 37 is moved rearwardly the lateral shift of bar 31 will be given and this will throw the operating mechanism into relation to the left hand totalizer. The check table 37 is moved rearwardly until notch 44 therein allows bar

45 to drop. At the same time the bar 50 is moved rearwardly until its lug 54 enters notch 55 in disk 56 and locks the same from movement. When the impression has been taken on the check as will be hereafter described, the rotation rack 28 has by this time reached its highest point and is shifted rearwardly at the top, as is usual in this type of machine. The projection 59 on rack 28 during this rearward movement will strike the rounded projection rocking the same downward thereby raising arm 62. This will raise bar 45 releasing the check table which immediately moves outward under the force of spring 51. When the check table reaches its outermost position the lug 54 will be withdrawn from notch 55 and will then allow a rotation of the disk 56. A square arm 58 is rigidly connected to disk 56. It will be evident that the rack 28 will be suspended in a raised position with its lug 59 engaging the square arm 58. When the disk 56 is released the rotation rack can then drop to complete the operation of the machine. It will be seen that this mechanism provides for latching the operating mechanism in an intermediate position and at the same time releasing the check table. The operating mechanism is held latched until the check table has reached its outermost position.

The latching means above referred to is rendered necessary by the fact that the printing wheels in this type of machine are restored to zero at each operation. It is therefore necessary to take the impression from the wheels before the operating mechanism returns to normal position as is usual in this type of machine. The rotation shaft 29 carries a cam 87 adapted to engage and operate a platen 88 pivoted at 89 and normally forced upward by the spring plunger 90. The platen when released would cause an impression on the inserted check but no impression would be made on the detail strip, and to cause this latter impression are employed means comprising a reciprocating plunger 91 arranged to be operated by a spring 92. The plunger 91 is directly under the platen 88 and has a projection 93 which when the plunger is depressed moves under the lug 94 on a pivoted bar 95. This bar is normally forced to the position shown by the spring 96. Mounted on the check carrying table is a wiper pawl 97 which in the rearward motion of the table will ride over the pivoted bar 95 but in the forward motion of the table will rock said bar around its pivot. When the platen 88 is depressed by cam 87 it will also cause a depression of the spring plunger 91 and this plunger will remain depressed as lug 94 will move over the lug 93 on the plunger. The platen 88 will rise under the force of its spring plunger 90 and take an impression on the inserted check. When the table is released and moves out-

wardly the wiper pawl 97 will engage and rock the pivot bar 95 thereby releasing the spring plunger 91 which will then rise. As it rises it will strike the platen 88 and force it again against the type wheels but this time the check has been removed and the printing will take place on the detail strip.

It is thought that the operation of the mechanism will be clearly understood from the preceding description. It will be noted that this mechanism comprises the printing of the check in connection with all amounts added on one of the totalizers.

While the form of mechanism here shown and described is admirably adapted to fulfil the objects primarily stated, it is to be understood that it is not intended to confine the invention to the one form of embodiment herein disclosed, for it is susceptible of embodiment in various forms all coming within the scope of the claims which follow.

What is claimed is as follows:

1. In a cash register, the combination with an operating mechanism, of a plurality of accounting devices controlled thereby, a selecting device for determining which accounting device shall be operated, and a check holder for operating said selecting device.

2. In a cash register, the combination with an operating mechanism, of a plurality of totalizers arranged to be separately operated thereby, a selecting device controlling the operative relation between the totalizers and operating mechanism, and a movable check holder for controlling the selecting device.

3. In a cash register, the combination with an operating mechanism, of an accounting device, normally in operative relation therewith, a second accounting device normally out of operative relation to said operating mechanism, means for changing the control by the operating mechanism from the first accounting device to the second, and a check holder for operating said means.

4. In a cash register, the combination with an operating mechanism, of a plurality of totalizers, one normally in condition to be operated by said mechanism, means for rendering a second totalizer operative, and a check holder for controlling said means.

5. In a cash register, the combination with an operating mechanism, of printing mechanism controlled thereby, an adjustable check holder and means for latching it in adjusted position, means operated by the operating mechanism for releasing the latching means, and means for latching said operating mechanism until said check holder returns to normal position.

6. In a cash register, the combination with an operating mechanism, of type carriers controlled thereby, a movable check holder and means for latching it in a position such

that the check may be printed upon, means for obstructing the operating mechanism at an intermediate position, means controlled by the operating mechanism for releasing the check holder latching means, and means operative on the return of the check holder to normal position for releasing the operating mechanism.

7. In a cash register, the combination with an operating mechanism, of a totalizer arranged to be controlled thereby but normally out of operative relation therewith, and a check holder which when adjusted creates an operative relation between said totalizer and said operating mechanism.

8. In a cash register, the combination with an operating mechanism, of a plurality of accounting devices arranged to be operated thereby, means normally establishing an operative relation between one accounting device and the operating mechanism, and means for shifting the operative relation to a second accounting device, said means being normally restrained but adapted to be released by a check.

9. In a cash register, the combination with an operating mechanism, and a plurality of totalizers actuated thereby, of printing mechanism also actuated by said operating mechanism, a record carrying device movable to position the record for printing thereon by said printing mechanism, and connections from said carrying device constructed to establish an operative relation between a desired one of said totalizers and said operating mechanism.

10. In a cash register, the combination with an operating mechanism, of a plurality of accounting devices controlled thereby, a selecting device for determining which accounting device shall be operated, a check holder for operating the selecting device, and means for rendering said check holder inoperative until the insertion of a check therein.

11. In a cash register, the combination with an operating mechanism, of a plurality of accounting devices arranged to be separately operated thereby, and means compelling the insertion of a check in the machine before one of the accounting devices can be operated.

12. In a cash register, the combination with a printing mechanism, of a platen for taking impressions therefrom, a plunger arranged to be adjusted by said platen, means for latching the plunger in adjusted position and means for tripping the latch.

13. In a cash register, the combination with a printing mechanism, of a platen for taking impressions from same, a check holder, a plunger arranged to be adjusted by said platen, a latch for holding said plunger when adjusted, and means on said check holder for tripping the latch.

14. In a cash register, the combination with a printing mechanism, of a platen therefor, and means for giving said platen two impressing movements at one operation of the machine, said means comprising a spring pressed plunger, means for latching it when adjusted, a pawl for tripping said latch, and a slidable part carrying said pawl.
15. In a cash register, the combination with a series of type carriers, of a platen for taking an impression therefrom upon a check, an operating mechanism for adjusting the type carriers and actuating the platen, a holder for the check adjustable to a position to have an impression taken upon the check by the platen, means for latching the holder in its adjusted position, means, controlled by the operating mechanism, for releasing said latching means, means for returning the holder to normal position and devices carried by the holder for causing the operation of the platen, to take an impression upon a record strip as the holder is returned to normal position.
16. In a cash register, the combination with a series of type carriers, of a platen for taking an impression therefrom upon a check, an operating mechanism for actuating the platen, a holder for the check adjustable to a position to have the impression

taken upon the check by the platen, means for latching the holder in its adjusted position, means, controlled by the operating mechanism, for releasing said latching means, a plunger depressed by the operation of the platen, a device for latching the plunger in its depressed position, a spring for returning the check holder to normal position when said holder is unlatched, and means carried by the holder for tripping the latching device for the plunger so that the latter may operate the platen to take an impression upon a record strip.

17. In a cash register, the combination with a type carrier, of means for taking an impression therefrom upon a check, a holder for said check, means for latching said holder in an inoperative position, the said latching means being operable by the placing of the check on the holder, and means for securely holding the check in place on the holder when the latter is moved into an operative position.

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

EDMUND S. CHURCH.

Witnesses:

ROY C. GLASS,
CARL W. BEUST.