

No. 767,366.

PATENTED AUG. 9, 1904.

R. M. WATSON & W. T. MCGRAW.

CASH REGISTER.

APPLICATION FILED OCT. 25, 1902.

NO MODEL.

2 SHEETS—SHEET 1.

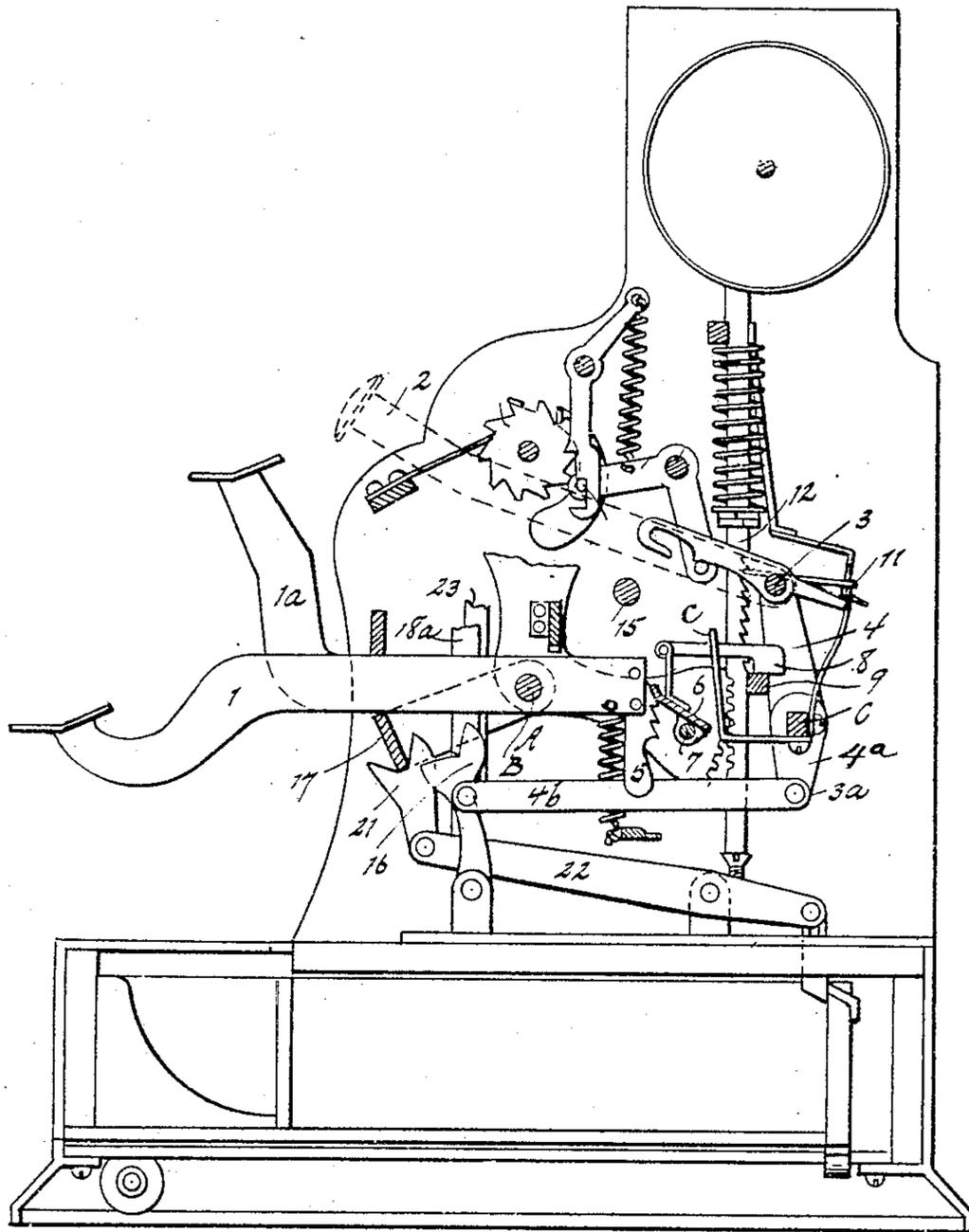
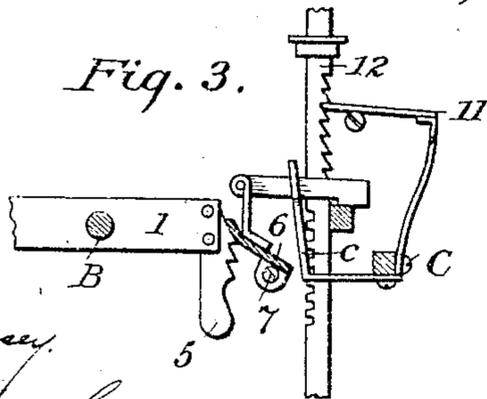


Fig. 1.

Fig. 3.



WITNESSES  
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2 SHEETS—SHEET 2.

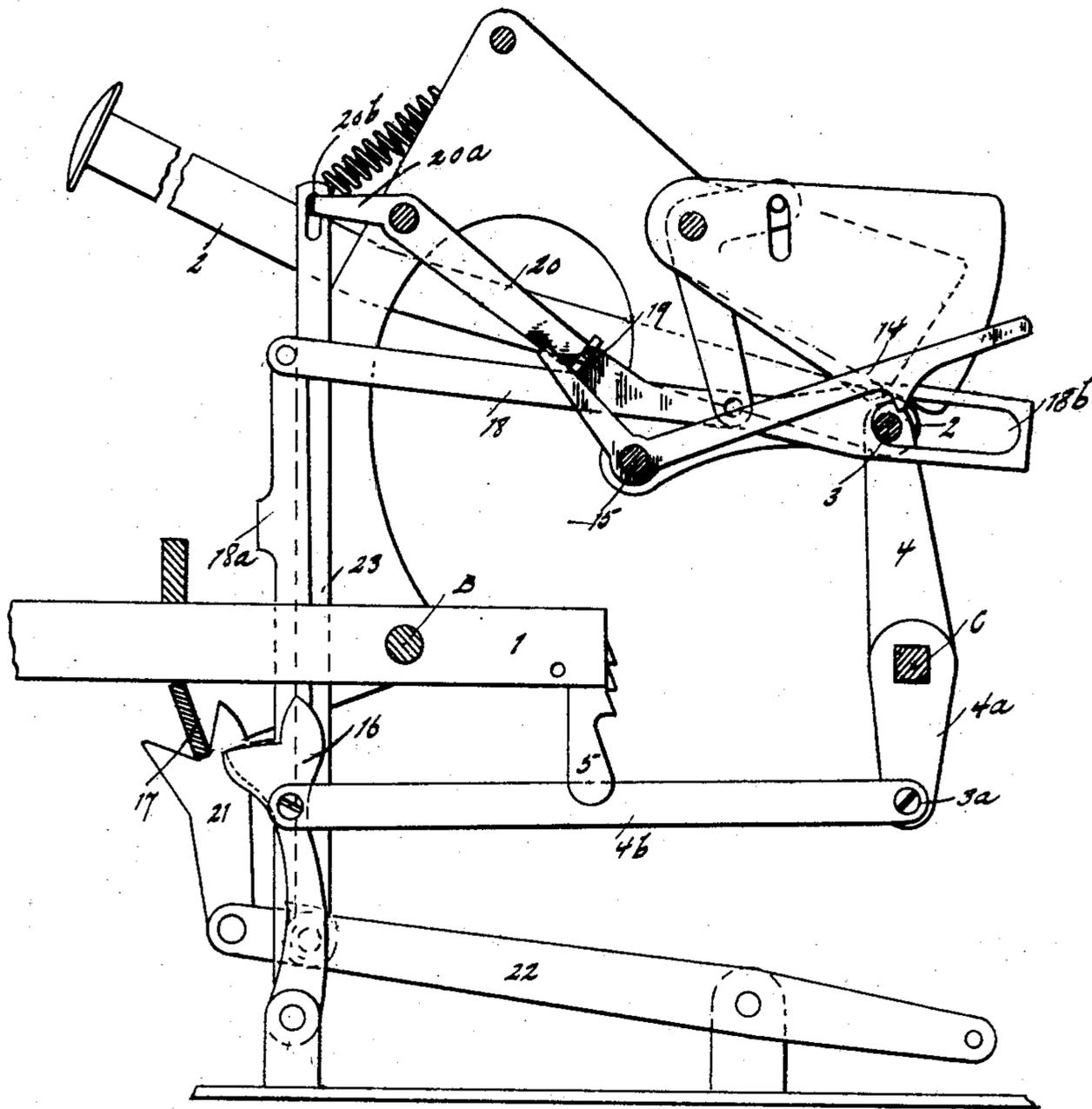


FIG. 1.

WITNESSES

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# UNITED STATES PATENT OFFICE.

RICHARD M. WATSON AND WILLIAM T. MCGRAW, OF DETROIT, MICHIGAN, ASSIGNORS TO GLOBE CASH REGISTER COMPANY, LIMITED, OF DETROIT, MICHIGAN.

## CASH-REGISTER.

SPECIFICATION forming part of Letters Patent No. 767,366, dated August 9, 1904.

Application filed October 25, 1902. Serial No. 128,722. (No model.)

*To all whom it may concern:*

Be it known that we, RICHARD M. WATSON and WILLIAM T. MCGRAW, citizens 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 we 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 a complete throw mechanism intended to be used to compel the operator to give to the main or primary key its complete swing and to hold the primary key until the readjusting-key is actuated at the end of a complete cycle of operations.

A further object of the invention is to lock the readjusting-key against actuation until the primary key has made its complete throw and returned to its normal position.

For a full understanding of the invention it is only necessary to examine the primary key, the readjusting-key, and the parts immediately connected with and in a way intermediate between the two without considering the other parts which enter into the full cycle of action in the operation of the register.

In the drawings, Figure 1 shows an elevation of the two keys and the parts immediately connected with them. Fig. 2 shows the locking device for the readjusting-key. Fig. 3 shows detached the parts that coact with the pawl 6.

A indicates the framework which supports the rod B, on which the main keys 1 are journaled. It also supports a rock-bar C, that is actuated by the readjusting-key 2. The readjusting-key 2 is a reach-rod extending from bar 3 to the outside of the case through a suitable opening in the case. The bar 3 is a tie-bar between two rock-arms, one of which, 4, is shown in the drawings and the other of which is not seen. To the inner end of the main key 1 is attached or secured a short rack 5, that hangs substantially vertical from the

end, and the lower end of the rack is radially further from the pivot or bar B than the upper end. A pawl 6, common to all the keys, is pivotally secured to a pivot 7, supported by hangers from some fixed part of the case, and connected with or attached to the pawl is a hook 8, arranged to engage at times over the edge of the square bar 9, that serves as a detent. The hook 8 is pivotally connected with the pawl and engages by gravity behind the corner of the bar 9. When the free end of the pawl 6 is lifted and the hook 8 pushed backward sufficiently to engage behind the rod 9, the pawl is held out of engagement with the rack and the key can swing, but will produce no actuating result on either indicating or registering mechanism. The rock-arm *c* from shaft C engages the stem of the hook 8 and lifts the hook off from its engagement with the bar 9 when the readjusting-key is pushed inward and the rock-bar C oscillated thereby. Contemporaneously with this movement a pawl 11, which has served to hold up the indicator-rod 12, is oscillated from engagement, the indicator-rod 12 drops, and the primary key is now in condition to again perform its proper part in a new cycle of action.

The readjusting-key is locked against actuation at times when during the cycle of operations it should be locked by a hook 14, that is pivotally supported on the frame-bar 15 and engages over the bar 3, that forms part of the rock-frame on the lock-bar C. The opposite bar 3<sup>a</sup> at the end of the rock-arm 4<sup>a</sup> is coupled by link 4<sup>b</sup> to a swinging strut 16, whose office is to engage under the locking-bar 17, on which the free end of the primary actuating keys rest. The bar 17 rests on a strut 21, that rises from a swinging lever 22, and the lever 22 is coupled by a link 23 to the arm 20<sup>a</sup> of a pawl-like lever that at times engages in front of tooth 19 on link 18. The forward end of link 18 is supported on swinging strut 18<sup>a</sup>, and the rear end of the link is provided with an elongated oval slot 18<sup>b</sup>, through which the rock-rod 3 engages. The link 18 actuates the indicator-shield through mechanism part

of which is shown, but which need not be referred to further, as it forms no part of this invention.

5 The pawl-like lever 20 20<sup>a</sup> is under tension of a spring 20<sup>b</sup> at all times. The end 20<sup>b</sup> of lever 20 engages the tail of the hook 14 and lifts the hook when the end 20 drops or allows the hook to drop when the end 20 is lifted.

10 The cycle of operations beginning with the readjusting push or inward thrust of the key 2 is as follows: The key 2 is pushed upward, pushing back the rock-bar 3, which draws back with it the link 18 until the link as-

15 sumes the position shown in the drawings. When in this position, the pawl 20 engages in front of the tooth 19 and prevents the link from returning to its forward position. When the key 2 was in its in position and the bar 3 drawn backward, the strut 16 was swung under the hanger-bar 17 and the free end of the primary key could not be depressed; but immediately upon releasing the key 2 the bar 3 swings forward and the strut 16 swings

20 back from under bar 17. The outer end of key 1 can now be depressed. The hook 8 has by this movement been released from detent-bar 9, and the pawl 6 is in position for its proper action with respect to the rack 5. The

25 depression of the outer end of key 1 swings down front end of lever 22, draws down link

23, swings lever 20<sup>a</sup> 20 from in front of tooth 19, and link 18 being released from the backward pressure of the lever 20 against the tooth 19 and being connected to the then actuated swing-strut 18<sup>a</sup> swings forward; but so long as the key is held down and the end 20 of lever 20 20<sup>a</sup> remains lifted and the hook 14 remains in engagement with bar 3 the key 2 cannot make a backward thrust, as soon, however, as key 1 is released the lever 20 drops, engaging against the short arm of the lever whose long arm carries the hook 14, lifts hook 14, and the cycle of operation is complete.

45 What we claim is—

In combination with the primary key, a pawl, a rack actuated by said primary key, engaging with said pawl and arranged to produce a consecutively step-by-step movement in the throw thereof, a hook arranged to detain the pawl after reaching its greatest throw, a readjusting-key and intermediate parts actuated thereby, arranged to release the hook, substantially as described.

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

RICHARD M. WATSON.  
WILLIAM T. MCGRAW.

Witnesses:

MAY E. KOTT,  
CHARLES F. BURTON.