

(No Model.)

2 Sheets—Sheet 1.

J. J. RANGE.
CASH REGISTER.

No. 479,334.

Patented July 19, 1892.

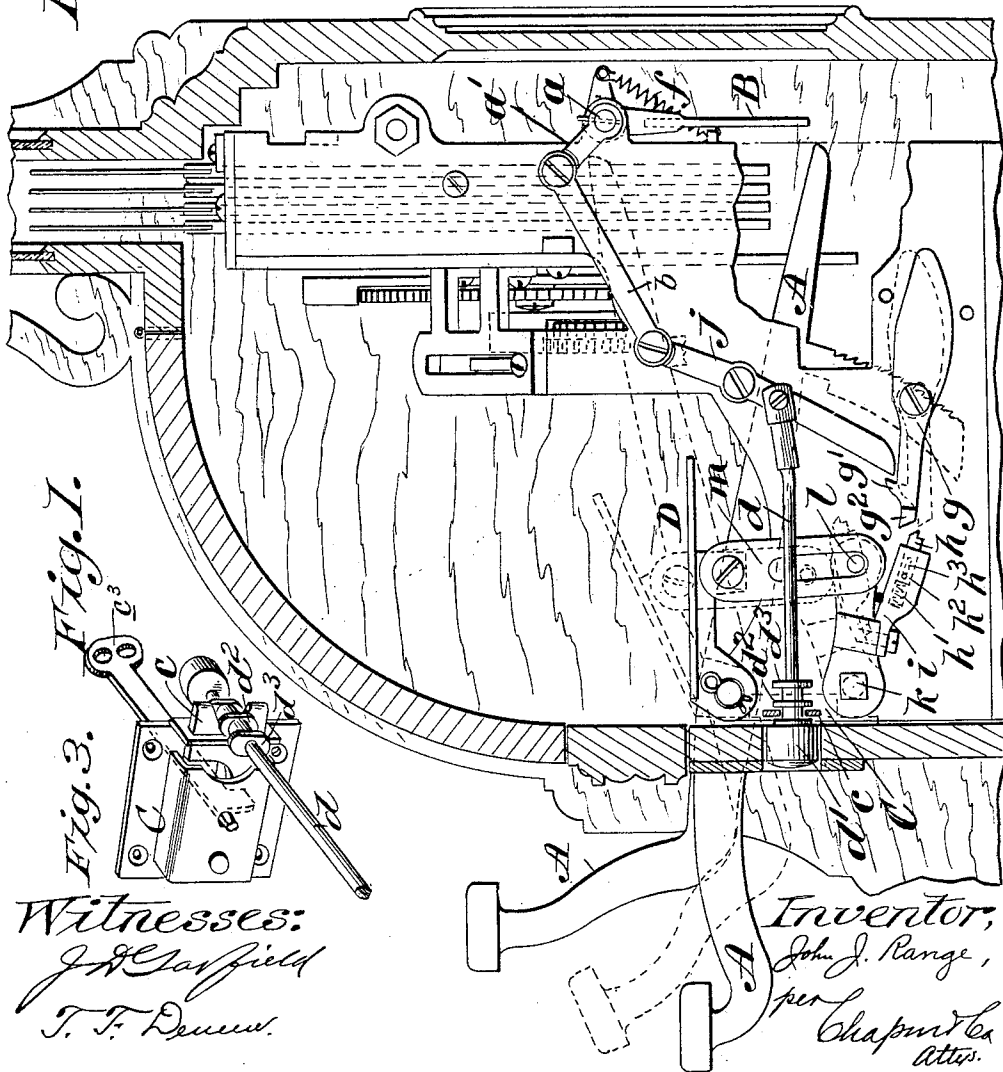
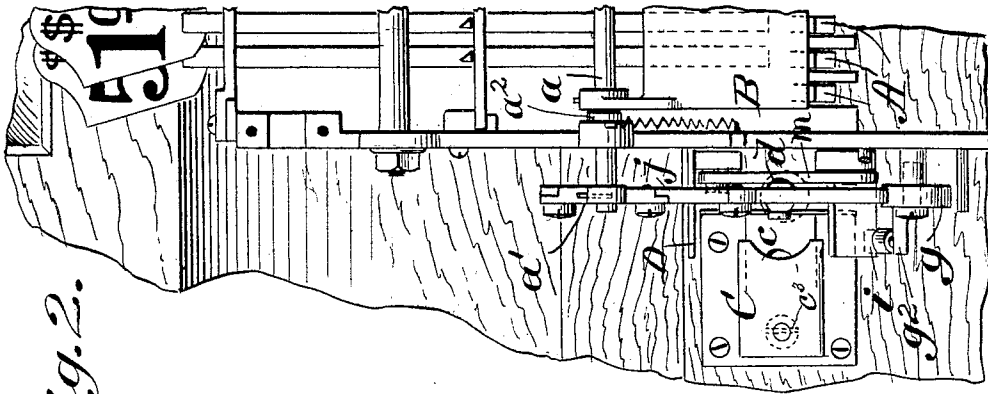
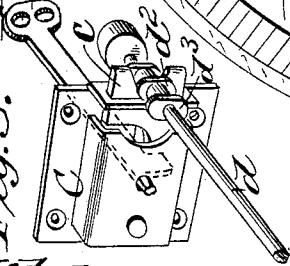


Fig. 3.



Witnesses:

J. J. Range
T. F. Deane.

Inventor,
John J. Range,
per
Chapman & Co.
Attys.

(No Model.)

2 Sheets—Sheet 2.

J. J. RANGE.
CASH REGISTER.

No. 479,334.

Patented July 19, 1892.

Fig. 4.

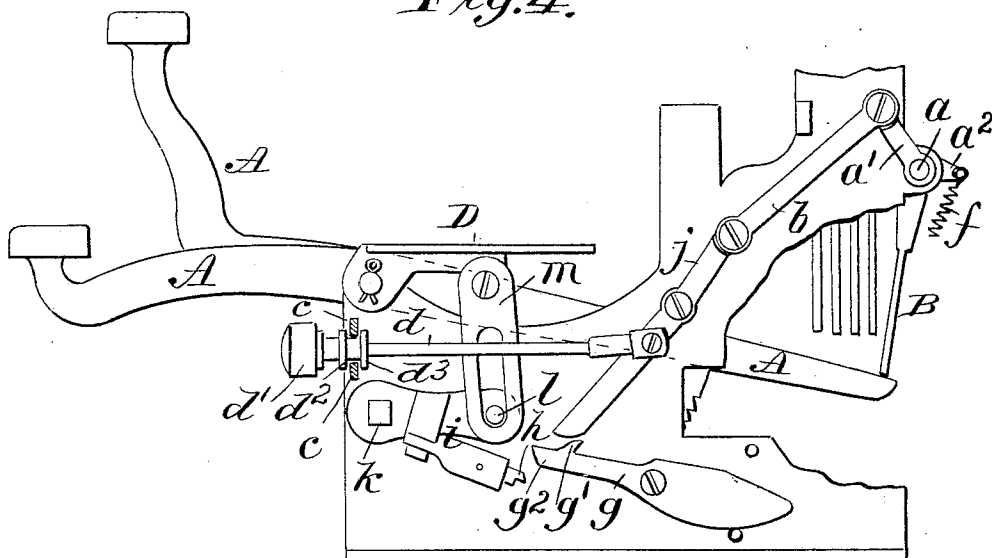
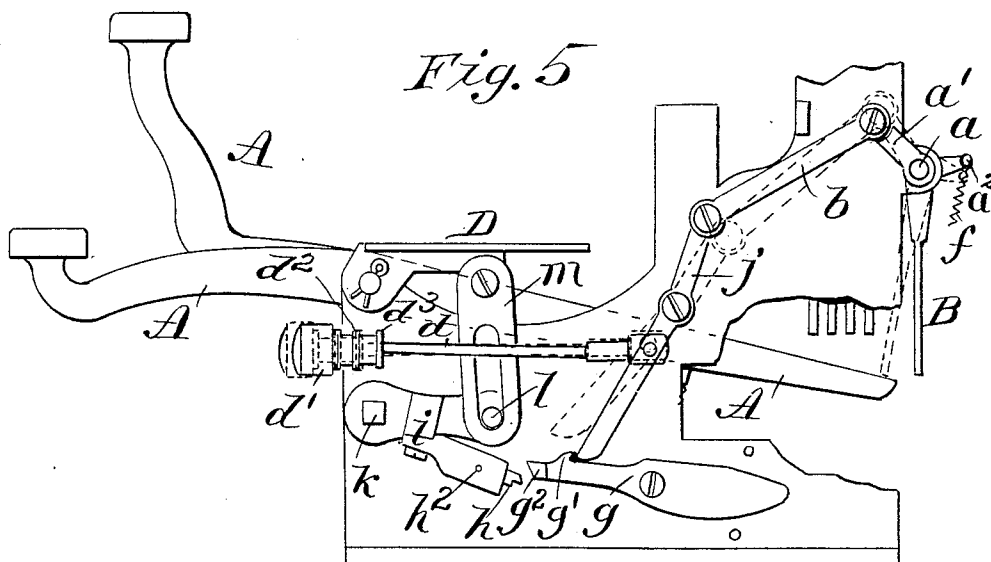


Fig. 5



Witnesses:
J. D. Garfield.
J. F. Bennett.

Inventor,
John J. Range,
per *Chapman & Co.*
Attys.

UNITED STATES PATENT OFFICE.

JOHN J. RANGE, OF NORTHAMPTON, MASSACHUSETTS, ASSIGNOR TO THE
BOSTON CASH REGISTER COMPANY, OF SAME PLACE.

CASH-REGISTER.

SPECIFICATION forming part of Letters Patent No. 479,334, dated July 19, 1892.

Application filed February 16, 1892. Serial No. 421,766. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. RANGE, a citizen of the United States, residing at Northampton, in the county of Hampshire and State of Massachusetts, have invented new and useful Improvements in Cash-Registers, of which the following is a specification.

This invention relates to improvements in cash-registers, the particular object being the provision of devices for locking at will all of the key-levers, whereby there can be no operation of the register, which devices, however, are capable of manipulation so that the key-levers may be successively operated, or, if desired under certain circumstances, so that a key-lever of the series may be once operated, all of the levers in the series then becoming locked and requiring for each successive operation thereof an intelligent manipulation of the devices.

To these ends the invention consists in constructions and combinations of parts, all substantially as will hereinafter fully appear and be set forth in the claims.

The invention is exemplified in the accompanying drawings, in which—

Figure 1 is a vertical sectional view through the casing of a cash-register, the register appearing in end elevation, together with the present novel devices applied thereto. Fig. 2 is a rear elevation of a portion of the cash-register and the improved devices. Fig. 3 is a perspective view of the lock and the push-rod which is adapted to be engaged thereby. Figs. 4 and 5 are end elevations showing the improved devices in different operative relations.

Similar letters of reference indicate corresponding parts in all of the views.

The key-levers A in series have over their rear extensions a common locking-bar or element B, that is hung on the horizontal rock-shaft or pivot forming support a, which at one end of the machine-support has the lever or crank-arm a'.

j indicates a lever intermediately and pivotally mounted on the end frame, with the upper end of which engages one end of a link b, which by its other end is pivoted to the said rock-shaft arm.

d represents a push-rod, which at its rear

end is connected to the intermediately-pivoted lever between the pivot and the lower end of the lever, the said rod having its forward end provided with a knob or button d', which projects through an aperture in the front wall of the casing.

The spring f is applied to normally maintain the locking-bar B forwardly swung, so that its lower edge engages the rear extremities of all of the keys, preventing any operation of the key-levers, and this spring force consequently exerts through the link-and-lever connections with the push-rod a forwardly-forcing action on the latter to carry the knobbed end outwardly beyond the front face of the casing. The spring, of course, may be substituted by a weight properly applied on the arm a² or otherwise to effect under the proper conditions the swinging of the bar into its position for locking engagement with relation to the key-levers.

C represents a lock mounted on the inner side of the front casing-wall, the bolt c of which is formed bifurcated and is adapted to be shot transversely of the axis of the push-rod and to engage either of the shoulders d² or d³, according as the push-rod is inwardly forced, as seen in Fig. 1, thus maintaining the locking-bar in its key-disengaging position to permit of the continuous operation of the machine, or the locking-bar forwardly swung and in its key-engaging position and there retained, preventing any operation of any of the keys until the push-rod-engaging bolt is withdrawn. Said bolt c of the lock C may be of any of the usual or approved constructions, the bolt being shot or withdrawn by the employment of the properly-fitted key, the key being indicated at c³.

In addition to the bolt for confining the locking-bar either in its key-engaging or key-disengaging positions there are devices provided which when the bolt is out of engagement with the push-rod and the locking-bar is in engagement with the key-levers secure temporarily the maintenance of the locking-bar out of the key-engaging position to permit of the operation of any key of the series, the said devices, however, then immediately acting after one operation of a key-lever to permit of the resumption of the locking-bar

in the key-engaging position, then preventing further operation of the key-levers until the conditions therefor are established by intelligent manipulation of the push-rod, and, referring to the drawings, it will be noted that there is a pawl or trigger *g* intermediately thereof pivotally mounted for a swinging motion in a plane coincident with the plane of movement of the lever *j*. This pawl has its forward portion provided with the upwardly-extended catch-tooth *g'*, in advance of which is the nose *g²*, having its forward end upwardly and forwardly inclined. The rear extremity of the pawl is of increased bulk, constituting a sufficient weight to maintain the tooth of the pawl normally in the lever-engaging position seen in Fig. 1.

h represents a dog adapted to have a bodily swinging motion concurrent with the swinging motion of either of the key-levers, said dog being located when a key-lever is in its normal position with its rearward extremity adjacent and just under the nose of the said pawl, and has said proximate end formed with the downward and rearward incline, so that as said dog upwardly swings it will have, in addition to its bodily movement concurrent with the key-lever, an endwise-sliding movement against its spring *h'*, as its inclined end impinges against the forwardly-extended nose of the pawl to permit of the passage of the dog above said nose. The said dog is mounted in a slide-socket of a rocking carrier *i*, which is pivoted for a swinging motion at *k*, and said member has a portion or arm with the stud *l*, which engages the slotted link *m*, that is pivotally connected to the tilting frame *D*, which is common to and traverses all of the key-levers of the series, and as is already well known in this class of cash-registering machines. The dog is held in its rearward presentation by said spring *h'*, which is set in the said socket at the inner end of the dog, the outward movement of the dog being limited by the pin *h²*, which is extended through the slot *h³* in the dog.

Explaining the operation of the last-described parts, it being assumed that the locking-bar is in engagement with the key-levers, the push-rod and its knob being forward, as indicated in Fig. 4, and that the bolt *c* is then withdrawn from all manner of engagement with the push-rod, and it is desired to operate the register once by means of any one of the series of key-levers *A*, the knob is inwardly pressed, and of course the lever *j* will be rearwardly swung and there retained by the tooth of the pawl *g*, holding the rocking bar *B* free

from the key-levers, all as seen in full lines in Fig. 5. Then upwardly swinging any one of the key-levers the plate *D* is upwardly tilted, and with it the carrier *i* and the dog *h*, which latter recedes into the carrier until it passes above the nose of the pawl. As the key-lever, tilting plate, carrier *i*, and dog return to their normal positions, the extremity of the dog engages the nose of the pawl, causing the swinging of the latter to free its engagement with the lever *j*, when of course the action of the spring *f* will insure the swinging of the rocking bar into the key-lever-engaging position. The engaging extremities of the pawl and dog are in such adjustment that as said parts complete their downward-swinging movement they become disengaged from each other. The operation of any of the key-levers cannot again ensue until the push-rod has again been inwardly forced.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a cash-register, the combination, with one or more operating key-levers, of a key-lever-engaging member mounted to normally engage the levers and movable to disengage a device for temporarily holding the locking member in its disengaging position, and means actuated by either of the key-levers on a registering movement thereof to terminate the engagement between said temporary holding device and said locking member, for the purpose set forth.

2. In a cash-register, the combination, with the series of key-levers, of the movable locking-bar, the lever *j*, intermediately pivoted and a medium of connection between said lever and the locking-bar, a pawl or trigger for engaging said lever, and a dog movable in conjunction with the operation of the key-levers to release said pawl, substantially as and for the purposes set forth.

3. In a cash-register, the combination, with a series of key-levers, of the common tilting plate, the swinging dog-carrier linked to said plate, and the spring-pressed dog, the pivoted lever *j*, the pawl *g* for engaging said lever and having its nose in proximity to the course of movement of said dog, a medium of connection between the said lever and said locking-bar, and the push-rod *d*, all arranged for operation substantially as described.

JOHN J. RANGE.

Witnesses:

WM. S. BELLOWES,
THERESA F. DENEEN.