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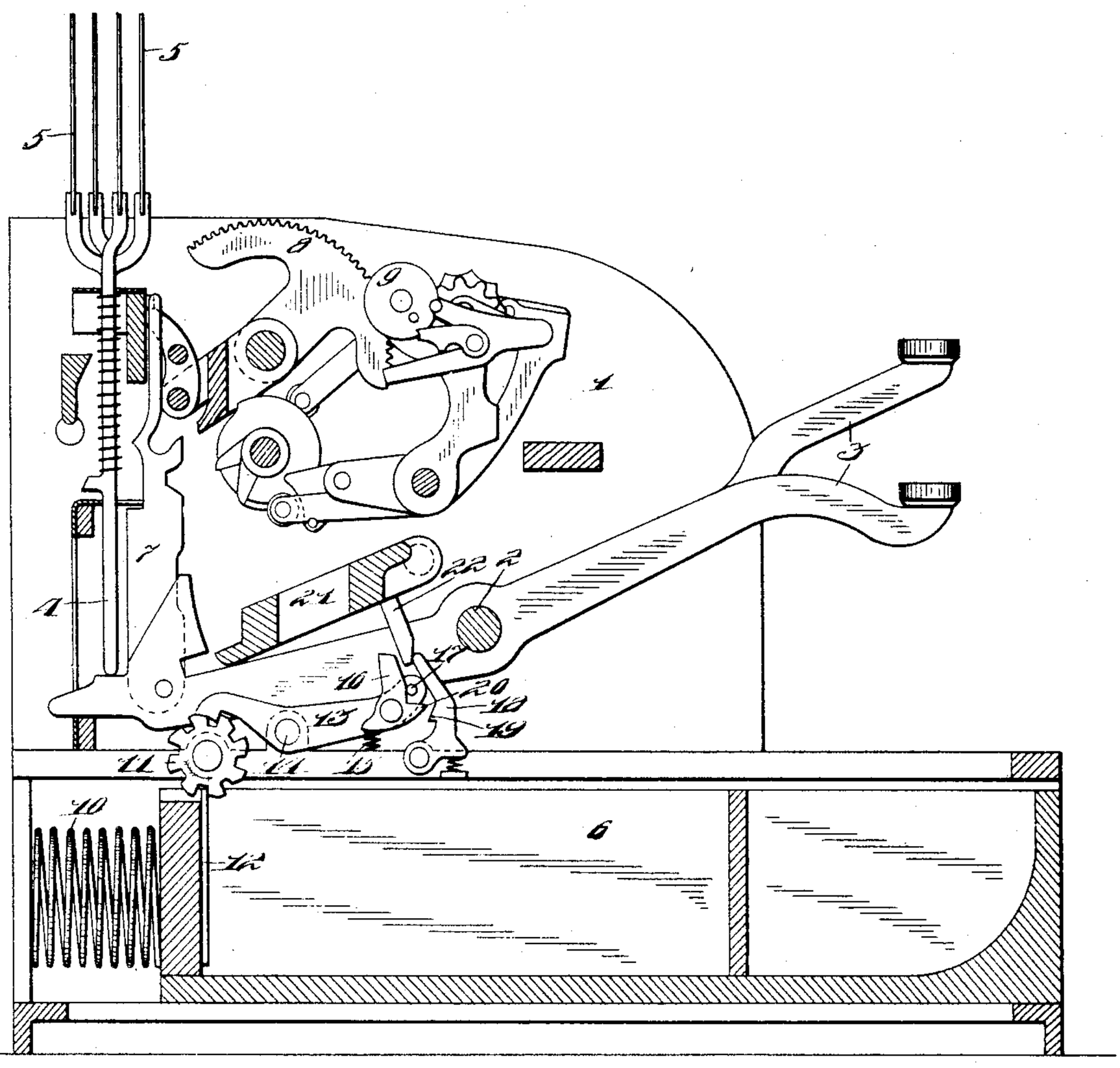
T. CARNEY.

LATCH FOR DRAWERS.

APPLICATION FILED JUNE 26, 1901.



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No. 790,104. Patented May 16, 1905.

UNITED STATES PATENT OFFICE.

THOMAS CARNEY, OF DAYTON, OHIO, ASSIGNOR TO NATIONAL CASH REGISTER COMPANY, OF JERSEY CITY, NEW JERSEY, A CORPORATION OF NEW JERSEY.

LATCH FOR DRAWERS.

SPECIFICATION forming part of Letters Patent No. 790,104, dated May 16, 1905.

Application filed June 26, 1901. Serial No. 66,162.

To all whom it may concern:

Be it known that I, THOMAS CARNEY, 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 Latches for Drawers, of which I declare the following to be a full, clear, and exact description.

My invention relates to improvements in latches for cash-drawers. It has particular reference and is shown as applied to cash-drawers of cash-registering machines.

The drawing represents a vertical section through a cash-register with a cash-drawer and embodying my invention.

In the drawing the numeral 1 designates the frame of the machine, within which and on a horizontal shaft 2 are journaled the keys 3. Resting upon the rear ends of the keys, respectively, are the tablet-rods 4, bearing, as shown, at their upper ends the indicators 5. Sliding within a suitable compartment below the registering mechanism is the cash-drawer 6.

For purposes of illustration I have shown my invention as applied to a machine of the general type patented to me on the 23d of May, 1893, No. 497,860; but of course it is equally applicable to machines of other kinds and types, as will be readily understood.

In the machine as shown the power to operate the register is applied through the keys 3, which raise the lifting-plates 7, which in turn swing the segments 8, and the latter finally transmit the movement to the counter 9; but of course it is immaterial whether the power is applied through the keys or by means of a crank or otherwise.

As usual in machines of the class to which my invention is applied, the cash-drawer when closed is under the tension of the drawer-spring 10, which is located behind the cash-drawer and tends to eject it. The cash-drawer is held normally locked and closed against tension of the drawer-spring by the mechanism which forms the subject of my invention, which I shall now describe.

Pivoted to the fixed frame of the machine and just above the rear wall of the cash-drawer is a rotatable latching-wheel 11, which is provided with a number of teeth. There is secured to the rear wall of the cash-drawer a vertical latch-plate 12, and when the cash-drawer is closed the upper end of the latch-plate engages between the teeth of the latching-wheel, as shown in the drawing. The latching-lever 13 is suitably pivoted to the main frame. At its rear end it engages the latching-wheel 11, and the form of the teeth and of the front end of the latching-lever is such that the latching-wheel cannot turn in the direction of the arrow—that is to say, in a direction to release the cash-drawer—except when the latching-lever 13 is swung on its pivot 14 against the tension of a spiral spring 15, which intervenes between a portion of the main frame and the lower end of a wiper-plate 16, which is pivoted upon the front end of the latching-lever. A pin 17, secured to the latch-lever in front of the wiper-plate, limits the movement of the latter. The spring 15 holds the wiper-plate against the stop-pin and the rear end of the latch-lever in engagement with the latching-wheel, as shown. A spring-pressed trip-pawl 18 is pivoted also to the fixed frame of the machine and tends to swing in a rearward direction. It has a nose 19, which at a proper time is arranged to engage the trip-nose 20 of the wiper-plate. When the trip-pawl is in engagement with the wiper-plate, the latch-lever of course will be held out of operative position.

The cash-register, as shown, is provided with the usual universal bar or key-coupler 21, which extends above and across all of the keys. Secured rigidly to the under side of the key-coupler and projecting downward and forward is a trip-stud 22, which normally holds the trip-lever forward and out of engagement.

It will be seen that when the keys are in normal position the cash-drawer can be closed at any time, because then the latching-wheel is free to move against the direction of the arrow, because the latch-lever 13 will yield to

permit it. The drawer cannot be opened, however, except by the operation of a key. When a key is pressed, the universal bar or key-coupler 21 is swung upward, thereby swinging rearward and upward the trip-stud 22. The latter strikes the wiper-plate 16 and swings past it, so that during the initial movement of the keys the latch-lever is not moved. When the key, however, is returned to normal position, the key-coupler descends and the lower end of the tripping-stud strikes upon the upper end of the wiper-plate and as the stop-pin 17 prevents the wiper-plate from now moving it results that the front end of the latch-lever is swung downward, thereby raising the rear end and freeing the latch-lever 11, whereupon the drawer-spring immediately ejects the cash-drawer, as there is nothing to prevent the latching-wheel from turning.

When the key-coupler is moved from normal position, the trip-pawl 18 is released and swings rearward until it strikes the trip-nose 20 of the wiper-plate. When, therefore, the front end of the latch-lever 13 is swung downward, the trip-nose 20 of the wiper-plate passes under the nose 19 of the trip-pawl, and thereby the latch-lever is held so that its rear end is out of engagement with the latching-wheel. If at that time the drawer be closed, it will not remain in its closed position, but will spring out again, as there is nothing to prevent the latching-wheel from turning in both directions. Under this construction the drawer cannot be closed to remain closed until the operated key has fully returned to normal position, because not until then is the latch-lever released, so as to permit it to engage the latching-wheel, and this is the fact, because the latch-lever is held in its operated position until the trip-stud 22 strikes the trip-pawl and forces it forward, thereby finally releasing the latch-lever and permitting it to be moved by its spring 15 back into engagement with the latching-wheel.

It will be seen that where my invention is employed the cash-drawer is not released until during the return stroke of the key, which is usually considered an advantage, as it compels the clerk to complete the registration before he can have access to the cash-drawer. Of course if my invention were applied to another type of machine—as, for example, if the cash-drawer were operated by a crank—it would be arranged so that the cash-drawer would open near the close of the registering movement for the purpose just described.

It will be observed by reference to the drawing that the fulcrum of the lever 13 is practically in the same horizontal plane with the end of the lever that engages the locking-wheel 11, so that when said lever is oscillated its hooked end will pass out of engagement with the tooth of the locking-wheel with which it is engaged without tending to rotate the wheel against the tension of the spring 10. It has been customary heretofore to employ pivoted latches for cash-drawers. The pivot of the latch has invariably been located some distance above the horizontal plane in which the end of the latch engages the cash-drawer. When such a latch is operated to disengage it from the cash-drawer, it must necessarily force the cash-drawer rearwardly against the tension of its ejecting-spring before it can be disengaged from the drawer. This construction throws an additional load upon the keys or other operating devices. In the present construction this defect has been altogether avoided, as there is practically no movement of the locking-wheel 11 until after the latch-lever is disengaged therefrom. The wheel 11 in the present case is interposed between the latching-lever and the cash-drawer, so that the disengagement of the lever from its connection with the drawer may be made in the same horizontal plane occupied by the fulcrum of the lever.

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

1. In a cash-register, the combination with operating devices, of a cash-receptacle, a latching-wheel for locking said receptacle, a latch-lever engaging said wheel, and means connected to the operating devices for actuating said lever.

2. In a device of the class described, the combination with a latching-wheel, of a cash-drawer arranged to engage said wheel, a latch-lever arranged to engage the wheel, means arranged to operate the latch-lever to release the cash-drawer, and a trip-pawl arranged to temporarily hold the latch-lever in operated position.

3. In a cash-register, the combination with the keys and a common member moved thereby so as to have a constant movement at each operation of the machine, of the latching-wheel, the cash-drawer arranged to engage the latching-wheel, the latch-lever also arranged to engage the latching-wheel to hold the cash-drawer in its closed position, and means for causing the common member to operate the latch-lever to unlock the cash-drawer.

4. In a cash-register, the combination with a common member which is moved at each operation of the machine, of the latching-wheel, the cash-drawer arranged to engage therewith, the latch-lever also arranged to engage the latching-wheel to hold it in its closed position, means connected with the common member and arranged to operate the latch-lever to release the cash-drawer, and a trip-pawl arranged to hold the latch-lever in its operated position until the close of the registering movement.

5. In a device of the class described, the combination with a common member which has a definite movement at each registration, a latching-wheel, a spring-impelled cash-

drawer which is arranged to engage the latching-wheel, a latch-lever also engaging the latching-wheel, a wiper-plate, and means connected with the common member and arranged to operate the wiper-plate and through it the latch-lever to release the cash-drawer.

6. In a cash-register, the combination with a latching-wheel, of a cash-drawer arranged to engage it, a latch-lever arranged to engage the latching-wheel and hold it immovable so as to lock the drawer in its closed position, and means engaging with the latch-lever to unlock the latching-wheel so as to release the cash-drawer upon each operation of the machine.

7. In a cash-register, the combination with a latching-wheel, of a spring-impelled cash-drawer engaging said wheel, the latch-lever arranged also to engage the latching-wheel, the wiper-plate pivoted upon the latch-lever, means connected to the operated parts of the machine to rock the latch-lever, and a trip-pawl arranged to engage the latch-lever and hold it temporarily in its operated position.

8. In a cash-register, the combination with operating devices, of a cash-receptacle, a rotary latching member engaging said receptacle, means for locking said member against movement in one direction while permitting movement in a reverse direction, and mechanism connected to the operating devices for actuating said locking means.

9. In a cash-register, the combination with operating devices, of a cash-receptacle, a rotary wheel for locking said receptacle in its closed position, a latching device engaging said wheel, and means connected to the operating devices for actuating said latching device.

10. In a cash-register, the combination with operating devices, of a cash-receptacle, a latching-lever for said receptacle located out of the same horizontal plane therewith, and means intermediate the receptacle and the latching-lever coöperating with the former to receive therefrom a movement effective for latching purposes in the same horizontal plane as the pivot of the latching-lever.

11. In a cash-register, the combination with operating devices, of a cash-drawer, a rotatable toothed wheel engaging said drawer, a latch arranged to engage said wheel, and means for actuating said latch connected to the operating devices.

12. In a cash-register, the combination with operating devices, of a cash-receptacle, a rotatable latching device for said receptacle, latching means for said device, means for actuating said latching means from the operating devices, and a device for holding the latching means out of operative position after said latching means have been disengaged from the rotatable latch.

13. In a cash-register, the combination with operating devices, of a cash-receptacle, a rotatable latching device therefor, and the means intermediate the operating devices and rotatable latch; said means being held out of engagement with the latching device during a certain portion of the movement of the operating devices.

14. In a cash-register, the combination with operating devices, of a cash-receptacle, a rotatable latch-wheel engaging said receptacle, a latching-lever engaging said wheel, and means for temporarily holding the latching-lever disengaged from the latching-wheel.

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

THOMAS CARNEY.

Witnesses:
IRA BERKSTRESSER,
W. MCCARTHY.