

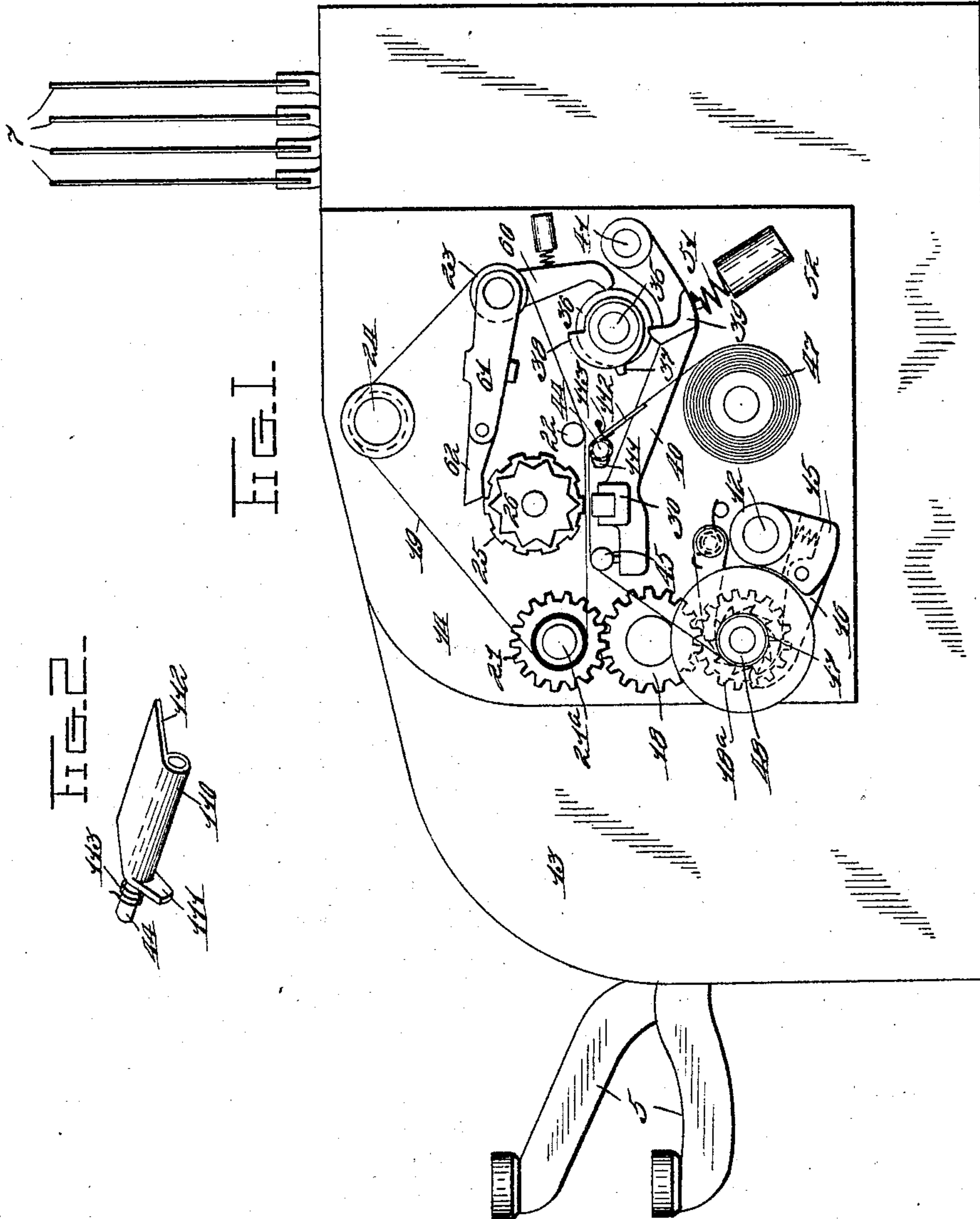
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J. L. GROBET.  
CASH REGISTER.

APPLICATION FILED MAY 4, 1903.

NO MODEL.



Witnesses  
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# UNITED STATES PATENT OFFICE.

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## CASH-REGISTER.

SPECIFICATION forming part of Letters Patent No. 773,073, dated October 25, 1904.

Application filed May 4, 1903. Serial No. 155,672. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN L. GROBET, a citizen of the United States, residing at the city of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Cash-Registers, of which I declare the following to be a full, clear, and exact description.

My invention relates to a controlling device for printing attachments principally as applied to cash-registers; and the special object and purpose of my invention is to provide a means whereby when the paper strip upon which is printed a record of each transaction is broken the printing devices of the machine become inoperative.

In the accompanying drawings, forming part of this specification, Figure 1 represents a side elevation of the right-hand end of the cash-register provided with a printing attachment and my present invention applied thereto. Fig. 2 represents a detail perspective view of the locking-lever.

It is to be understood that my invention is equally applicable to any one of the various styles of cash-registers, and with a very slight modification requiring only mechanical skill it can readily be applied to any of the well-known forms of printing attachments for such cash-registers.

For the purpose of illustration I have shown my invention as applied to the part form of cash-register shown and described in Letters Patent of Thomas Carney, No. 497,860, dated May 23, 1893, and No. 683,877, dated October 1, 1901.

A series of value-keys 5 cooperate with suitable registering devices and move them graduated distances according to the value of the key pressed in the usual manner, and these value-keys also move into exposed position the ordinary form of tablet-indicators 7, thus denoting the value of the key depressed and the amount of the purchase. Since these registering and indicating devices constitute no part of my invention, I have not shown them. Upon the depressing of any key and its return to normal upward position a complete rotation is given to a revolution-shaft 35, which ex-

tends through the side frame 13 of the machine and through the printing-frame 14. All of the keys also serve to rock a common member or key-coupler at each operation, the supporting-trunnion 12 of which also extends through the printing-frame 14. Type-wheels 25 are intermediately connected with the different banks of value-keys, so as to be set thereby according to the value of the key depressed, and thus to be brought into position to print the amount of each transaction.

The detail-strip is unrolled from the supply-roll 47, Fig. 1, and passes over two guide-pins 44 and 45 and is wound upon a feed-roll 48. The right-hand end of the trunnion 12 of the key-coupler has fast upon its outer end a crank-arm 15, pivoted to which is a pawl 16, which engages with a ratchet-wheel 17, fast upon the winding-roller 48. At each operation of the machine the crank-arm 15 is rocked rearwardly, thus serving to space the detail-strip at each operation of the machine. The winding-roller has fast upon it a gear-wheel 18<sup>a</sup>, which meshes with an intermediate pinion 18, which pinion in turn meshes with another gear-wheel 21, fast upon the end of a roller 21<sup>a</sup>, and over this roller 21<sup>a</sup> passes an endless inking-ribbon 19, which is led over a guide-pin 22 and rollers 23 and 24. It is evident that by means of the gears 18<sup>a</sup>, 18, and 21 the feed-pawl 16 imparts a spacing movement to the inking-ribbon 19 at each operation of the machine.

The right-hand end of the rotation-shaft 35 extends through the printing-frame 14, as before stated, and there is secured to this right-hand extension a disk cam 36, having a single tooth 37 and a drop-cam 38. Cooperating with the drop-cam 38 is a projection 39, rigidly secured and carried by the platen-carrying arm or printer-hammer 40, which is pivoted upon a stub-shaft 41. The printer-hammer 40 carries a platen 30, situated below the printing-line of the type-wheels 25. The hammer 40 is normally pressed upward toward the printing-type by means of a coiled spring 51, seated in a pocket 52, attached to the printing-frame 14. The tooth 37 cooperates with an arm 60, formed on a bracket 61, the outer



end of which carries alining-pawls 62. Upon the revolution of the rotation-shaft 35, as hereinbefore described, the drop-cam 38 bears against the projection 39 and forces the printing-hammer 40 downward against the tension of the spring 51 and then releases the hammer, which flies upward, and the platen 30 thereupon forces the detail-strip against the type-wheels and the intervening inking-ribbon, and the tooth 37 is so situated upon the revolution-shaft that after the type-wheels have been set to their printing position by the keys the tooth 37 bears upon the arm 60, and thereby forces the alining-pawls 62 into operative position to aline the type-wheels while the impression is being taken.

I have given only a brief description of the general operation of the cash-register and printing mechanism, since this forms no part of my present invention, and for a more detailed description reference may be had to the aforesaid Letters Patent Nos. 497,860 and 683,877.

The construction of my automatic locking device is as follows: Mounted upon the guide-pin 44 is a sleeve 110. (See Fig. 2.) The inner end of this sleeve has attached to it a lug 111, and attached lengthwise of the sleeve is a flange 112. A spring 113, fast at one end to the side frame 14 and wound around the pin 44 and pressing at the other end against the flange 112, normally tends to force said flange upward, (see Fig. 1,) and thereby bring the lug 111 into its downward position, in which case the said lug would be in the path of the printing-hammer 40, and upon the releasing of the hammer 40 by the cam 38 in the manner before described the hammer 40 would spring up toward the type, but would come in contact with the lug 111, and the platen 30 would therefore not strike the type-wheels 25. However, the presence of the detail-strip in its normal path from the supply-roll 47 to the guide-pin 44 serves to hold the flange 112 in its depressed position, as shown in Fig. 1, and the lug 111 is thereby held out of its locking position, and the hammer 40 may have the full extent of its upward stroke in such manner as to strike the type-wheels 25 and cause an impression to be taken upon the detail-strip in the usual manner. It is thus obvious that the tension on the detail-strip serves to hold the locking device out of operation, and in case the detail-strip breaks this tension is removed, and the flange 112 immediately swings to its upward position, carrying the lug 111 into the path of the printer-hammer 40, thereby locking the printer-hammer from complete movement, as before described. Of course the tension of the spring 113 need only be very slight and must not be enough to cause the flange 112 to press so hard against the detail-strip that it will cause the paper to unwind from the roll 47, and thereby allow the flange to move upward and cause the ham-

mer to be locked. To prevent too much paper from thus being unwound from the roll 47, the said roll may be supplied, if desired, with any suitable friction device, various forms of which are well known in the art; but such a friction device is not necessarily essential, since the weight of the roller itself and its own friction upon its bearings is sufficient to prevent this occurrence.

The advantage of my invention is apparent in that when the detail-strip becomes broken the printing-hammer becomes locked from operation, and in the absence of any paper intervening between the platen and the type the ceaseless hammering upon the type and the inking-ribbon is prevented, thus also preventing permanent injury to the type, the ink-ribbon, and the platen.

Having thus described my invention, what I claim as new is as follows:

1. In a printing attachment for cash-registers the combination with the type-carriers, a platen, and supports for a detail-strip passing between the same; of an obstructing member for said platen normally held in inoperative position by engagement with a stretch of the detail-strip, and when in operative position, obstructing the normal movement of said platen while permitting the operation of the cash-register.
2. In a printing attachment for cash-registers the combination with the type-carriers, a platen, and supports for a detail-strip passing between the same; of means controlled by the tension of the detail-strip for automatically obstructing the engagement of said type-carriers and said platen, while permitting the operation of the cash-register.
3. In a printing attachment for cash-registers the combination with the type-carriers, a platen, and supports for a detail-strip passing between the same; of an obstructing device for said platen arranged to obstruct the normal operation of said platen while permitting the operation of the cash-register; and means intermediate said obstructing device and a stretch of the detail-strip to hold said obstructing device normally in inoperative position.
4. In a printing attachment for cash-registers the combination with the type-carriers, a platen spring-pressed toward said type-carriers, and supports for a detail-strip passing between the same; of an obstructing means to prevent the full extent of movement of the platen toward said type-carriers, said obstructing means being held in inoperative position by engagement with a stretch of the detail-strip.
5. In a printing attachment for cash-registers the combination with the type-carriers and a platen, and supports for a detail-strip passing between the same; of an obstructing member for said platen, and means for automatically forcing said obstructing member into



operative position upon the breaking of the detail-strip, to obstruct the operation of the platen while permitting the operation of the cash-register.

- 5 6. In a printing attachment for cash-registers the combination with the type-carriers, a platen, and supports for a detail-strip passing between the same; of a locking member adapted to engage said platen but normally held in inoperative position by engagement with a stretch of the detail-strip, with provisions for forcing said locking member into engagement with said platen upon the breaking of the detail-strip.
- 15 7. In a printing attachment for cash-registers the combination with the type-carriers, a platen, a detail-strip, and a feeding device for the same whereby a portion of said strip is normally kept under tension; of a locking device for said platen normally held in inoperative position by the tension of said detail-strip, with provisions for forcing said locking device into engagement with said platen upon the breaking of said strip.
- 25 8. In a printing attachment for cash-registers the combination with the type-carriers, the platen, and a detail-strip; of obstructing means intermediate said detail-strip and said platen to prevent the engagement of the platen and the type-carriers upon the breaking of the detail-strip, while permitting the operation of the cash-register.
- 35 9. In a printing attachment for cash-registers the combination with the type-carriers, the platen, and a detail-strip, of an automatic locking means for the platen comprising a spring-pressed arm normally in engagement with said strip, and a normally retracted lock-

ing-piece for said platen, with suitable connections between said spring-pressed arm and said locking-piece to effect the engagement of the latter with the platen upon the breaking of the detail-strip. 40

10. In a printing attachment for cash-registers the combination with the type-carriers and the platen, of an automatic locking means for the platen comprising a spring-pressed arm adapted to engage the paper upon which the impression is to be made, and a locking-piece for said platen, with suitable connections between said spring-pressed arm and said locking-piece to hold the latter from its locking position by the engagement of said arm with said paper. 50

11. In a printing attachment for cash-registers the combination with the type-carriers and the platen, of an automatic locking means for the platen comprising a spring-pressed arm, and a locking-piece for said platen, with suitable connections between said spring-pressed arm and said locking-piece to effect engagement of the latter with the platen in the absence of the paper to be printed upon. 55

12. In a printing attachment for cash-registers the combination with a printing-hammer and operating means, of a spring-actuated locking device for said hammer comprising a journaled body portion, a lug to engage the hammer, and a flange to engage the work, substantially as described. 65

In testimony whereof I affix my signature in the presence of two witnesses. 70

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