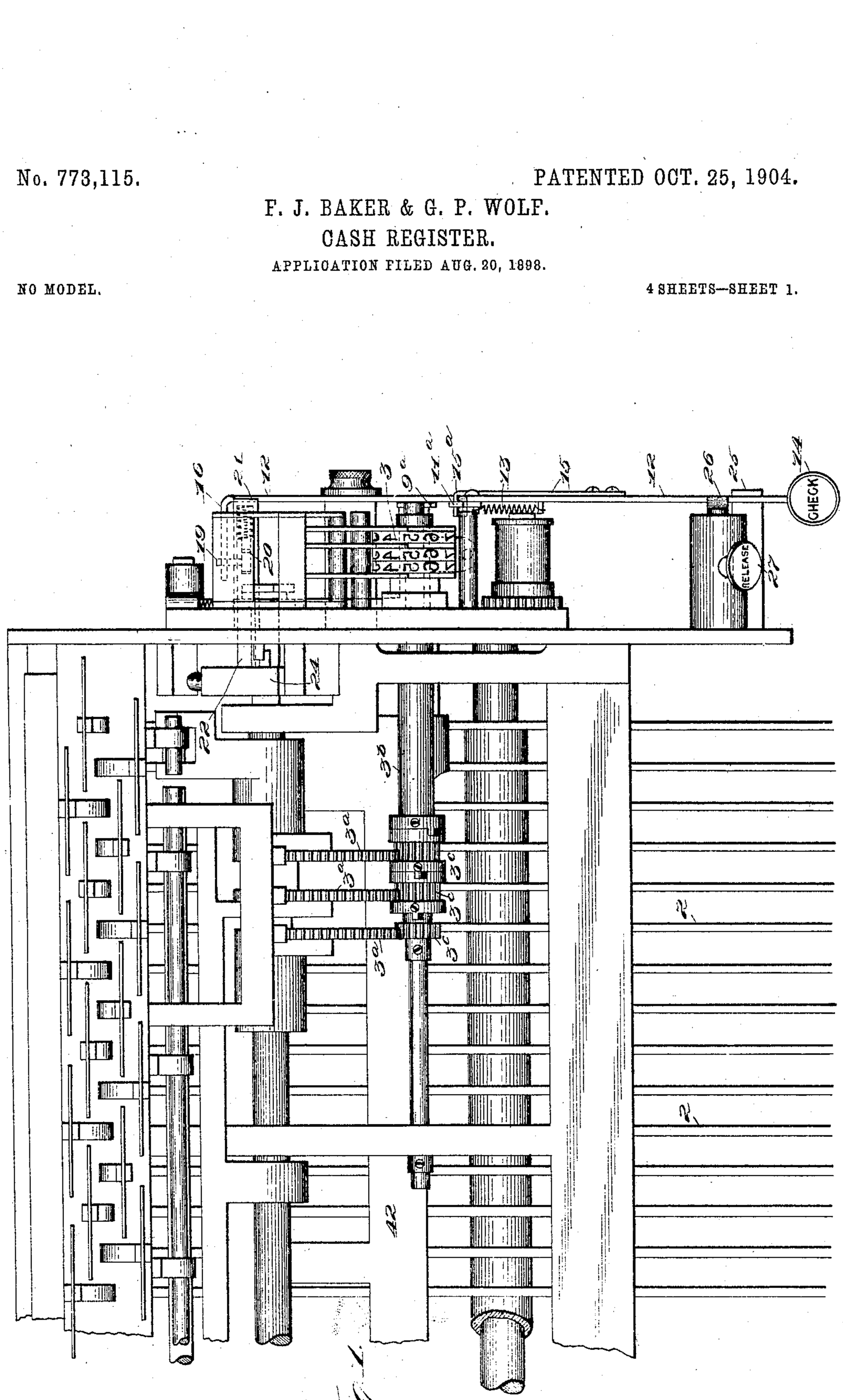
No. 773,115. PATENTED OCT. 25, 1904.

# F. J. BAKER & G. P. WOLF.

## CASH REGISTER.

APPLICATION FILED AUG. 20, 1898.

NO MODEL. 4 SHEETS—SHEET 1.

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NO MODEL. 4 SHEETS—SHEET 2.

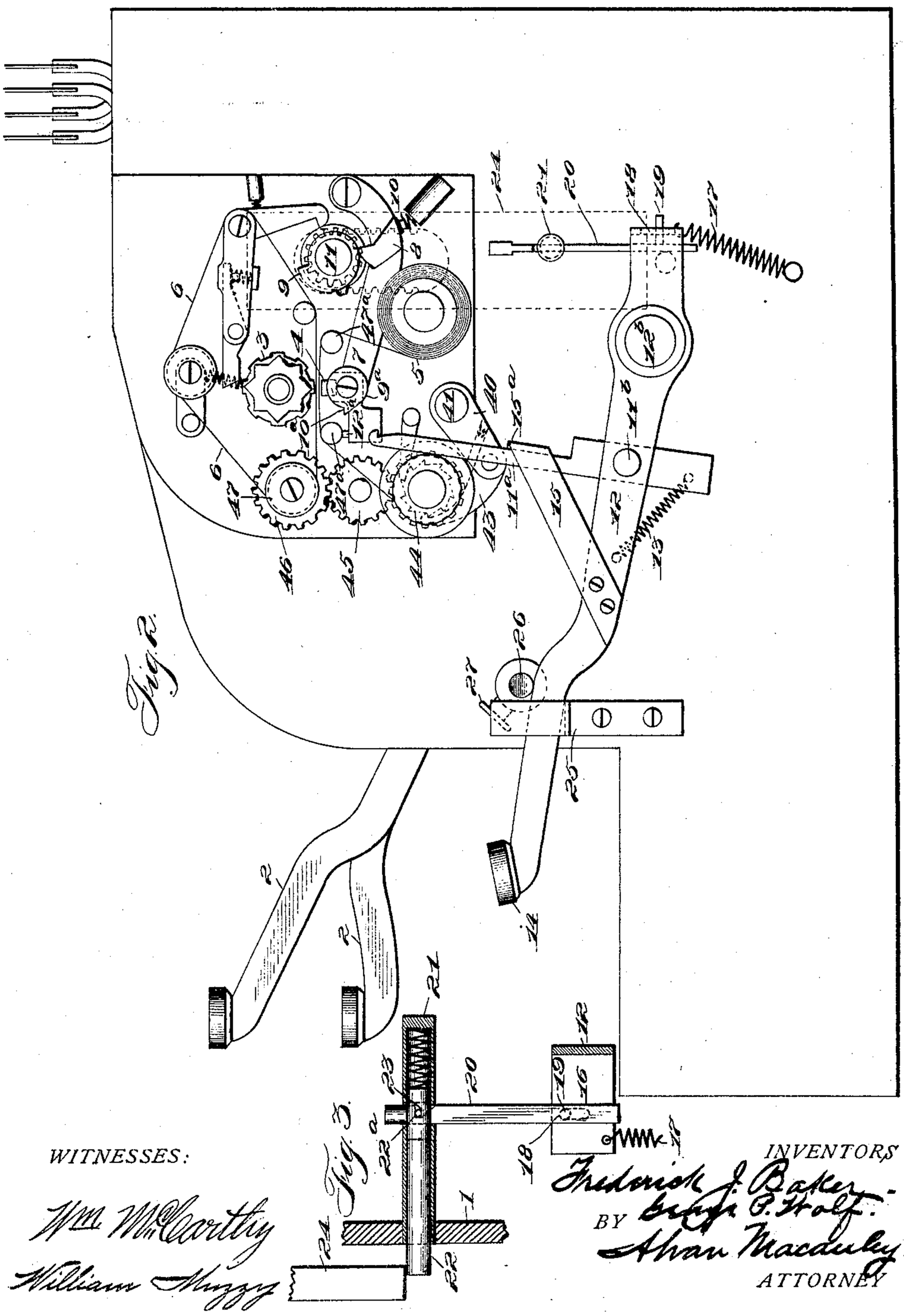

Fig. 2.



Fig. 3.

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NO MODEL. 4 SHEETS—SHEET 3.

Fig. 4.

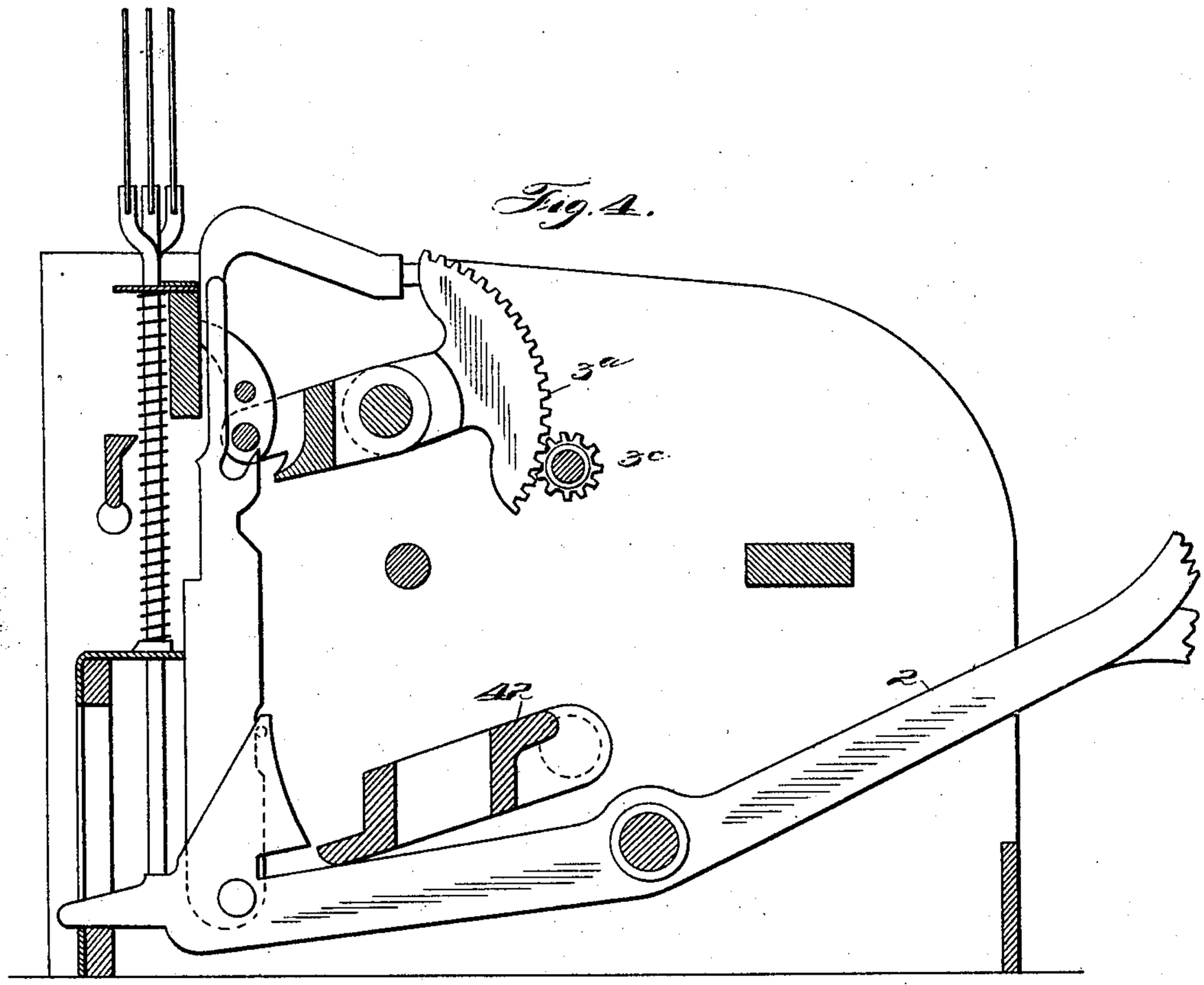


Fig. 5.

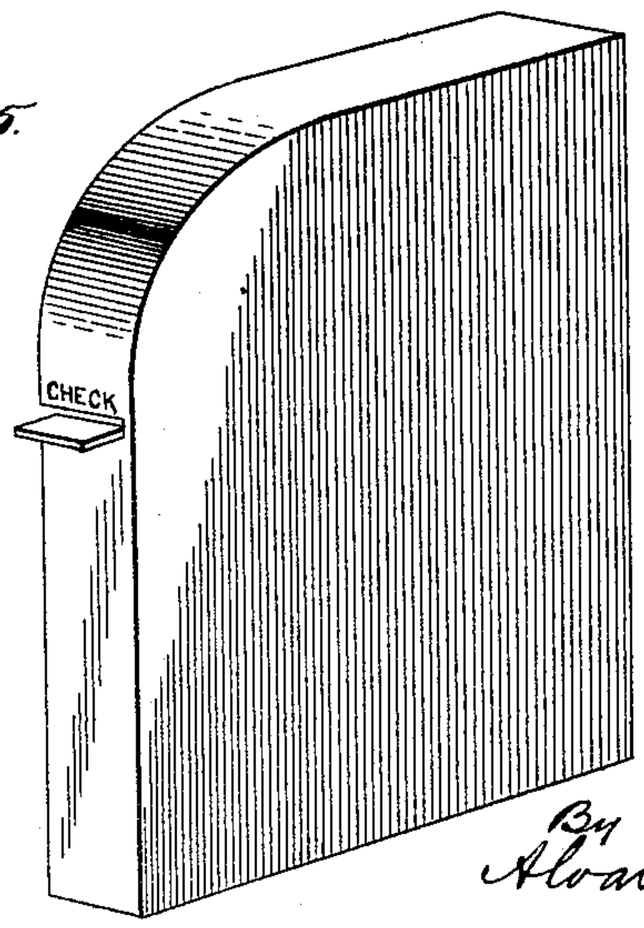


Fig. 6.


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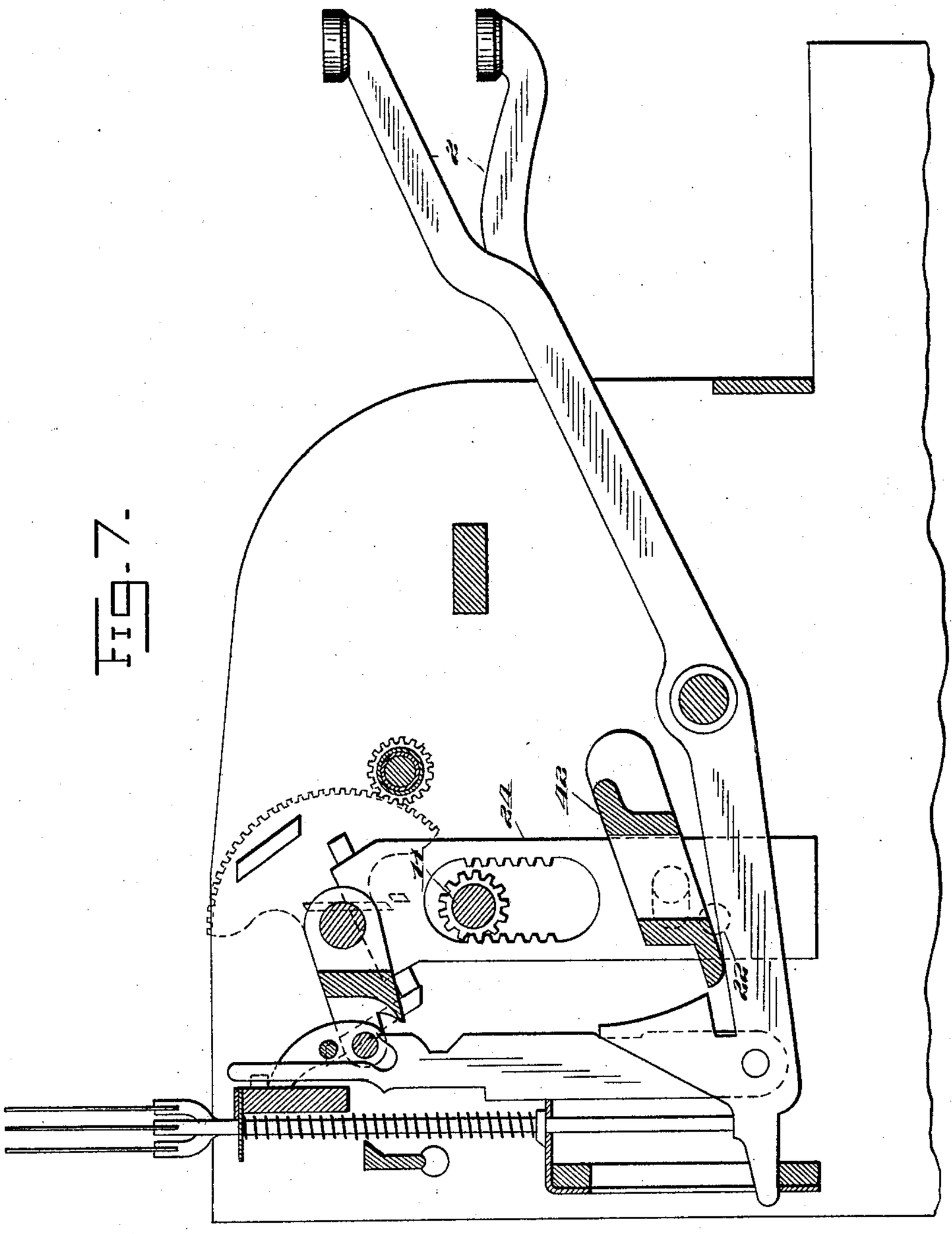
NO MODEL. 4 SHEETS—SHEET 4.

Fig. 7.

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No. 773,115. Patented October 25, 1904.

# UNITED STATES PATENT OFFICE.

FREDERICK J. BAKER AND GEORGE P. WOLF, OF DAYTON, OHIO, ASSIGNORS, BY MESNE ASSIGNMENTS, TO NATIONAL CASH REGISTER COMPANY, OF JERSEY CITY, NEW JERSEY, A CORPORATION OF NEW JERSEY.

## CASH-REGISTER.

SPECIFICATION forming part of Letters Patent No. 773,115, dated October 25, 1904.

Application filed August 20, 1898. Serial No. 689,095. (No model.)

*To all whom it may concern:*

Be it known that we, FREDERICK J. BAKER and GEORGE P. WOLF, citizens 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 we declare the following to be a full, clear, and exact description.

This invention relates to improvements in cash-registers, and has more particular relation to improvements in registers of the class patented to Thomas Carney March 19, 1895, and numbered 536,015, and also shown in a patent of said Carney, dated October 1, 1901, and numbered 683,877.

One of the several objects of the invention is to provide improved means in the class of machine mentioned for printing both a check and a detail strip.

In the appended drawings, forming part of this specification, Figure 1 represents a top plan view of the devices embodying our invention applied to a machine of the class mentioned. Fig. 2 represents an end elevation of the same. Fig. 3 represents an enlarged detail central vertical section through the key-locking devices. Fig. 4 represents a vertical transverse section through our improved devices. Fig. 5 represents an enlarged detail perspective view of the printer-hood. Fig. 6 represents an enlarged detail vertical section through the platen and its spring-pressed stud; and Fig. 7 represents a vertical transverse section through the machine, showing the connection between the keys and the revolution-rack and the printing-wheels.

In the said drawings, 1 represents the frame of the machine; 2, the operating-keys; 3, the printing-wheels; 4, the platen, and 5 the detail-strip. As a large part of the printer and the mechanism connecting the same with the register proper is fully described in said patents, we will only enter into a brief description of said parts here and will refer to said patents if a more detail description is desired.

The printing-wheels 3 coöperate, respectively, with the segmental operating-racks $3^a$ through the sleeves $3^b$, upon the opposite ends of which are respectively secured the type-carriers and pinions $3^c$, which mesh with the segments. As in said Carney patents, the gears coöperate with their respective segments, and thereby transmit a variable movement to said wheels 3, depending upon the numerical value of the operated key. Through the devices just referred to said variable movement is directly transmitted to the printing-segments or type-carriers, as will be readily understood. These wheels act in conjunction with an endless inking-ribbon 6 and the said platen 4 to print a detail of every transaction upon the detail-strip 5, said ribbon and strip being fed forward at each operation of the machine by means of the crank-arm 40, which is secured upon the end of a rock-shaft 41, which forms the right-hand pivot-shaft for the universal bar or key-coupler, which extends across all of the keys and is rocked or vibrated whenever a key is operated. Pivoted to the crank-arm is the actuating-pawl 43, which engages with the ratchet 44 (shown in broken lines in Fig. 2) to feed the detail paper strip 5 a determined distance at each operation of the machine. Through the intermediate gear 45 the movement is transmitted to the gear 46, upon which the driving-roller 47 is mounted, and thereby at each operation of any key the inking-ribbon 6 is also moved a fixed distance.

The platen 4 is mounted upon a pivoted lever 7, which is provided with an operating-nose 8, which is spring-pressed against the periphery of the cam 9 by a coiled spring 10. The said cam is rigidly mounted upon the rotation-shaft 11 of the machine, so as to be given one complete revolution during every operation of the machine. As the cam rotates it engages the nose 8 and forces the lever 7 down against the tension of its spring, so that when the reduced release portion of said cam passes said nose the latter will be released, and the lever will be thrown suddenly upward, because of the tension of its spring, and thus give the desired rapid stroke to the platen.

A spring-pressed stud $12^a$ is mounted on said platen and is arranged to strike one of the fixed posts $47^a$, over which the paper strip 5 passes, whereby the platen rebounds from the printing-wheels after making its stroke.

The above-described devices impart the usual single stroke to the platen 4. To provide for the desired double stroke, we secure a cam-disk $9^a$ to said platen, so that its square shoulder portion $10^a$ will normally lie in the path of a retracting-lever $11^a$. This lever is pivotally mounted at $11^b$ upon a check-key lever 12 and is further connected thereto by a coil-spring 13, so that its operating-hook end will normally project into the path of the shoulder portion $10^a$ of the cam, but may be drawn away from the same by the action of the key-lever; as hereinafter more fully described. The said key-lever is suitably pivoted at $12^b$ to the frame and is provided with the usual finger-button 14 and also with a rigid stop-arm 15, having an angular offset $15^a$, which latter is arranged to hold the retracting-lever normally in the position as shown in Fig. 2 against the tension of its spring 13. It also serves to disengage the hooked end of the retracting-lever $11^a$ from the shoulder $10^a$, as will be more fully described hereinafter.

The rear end 16 of the check-key lever is bent at an angle to the main portion of the lever and is normally held in a depressed position by a coil-spring 17, which connects the same with the frame. The said angular portion 16 is formed with a vertical slot 18, into which projects a pin 19, mounted on a vertical slide 20, which latter projects through a transverse aperture formed in a hollow rod 21. A spring-pressed locking-rod 22 is mounted in said hollow rod and is also formed with a vertical aperture, through which said slide 20 extends, whereby when a notched portion 23 of said slide is brought into alinement with the pin $22^a$, which extends transversely through the vertical slot in the bar 22, its spring will force it partly out of the hollow rod 21, with its end pressed against the side of the vertical revolution-rack 24, so that when subsequently a key is operated the revolution-rack will be moved up in the usual manner by the key-coupler, and when said rack attains its highest position the slide 22 will snap under the lower end thereof and lock it in its elevated position. The slot 18 permits of movement of the key-lever independently of the slide 20. In other words, the check-key lever moves the length of the slot without moving the slide 20, so that the revolution-rack 24 is not released by the withdrawal of rod 22 until the check-key lever has almost completed its downward movement and the second impression has been made. The downward movement of the key-lever is limited by an angular arm 25, mounted upon the main frame. When depressed, said lever is held in such depressed position by a spring-pressed latch-bolt 26, mounted on the frame and arranged to be operated to be withdrawn out of the path of the key-lever by the usual release-button 27.

It will be observed from the above that when the check-key is depressed it is caught and held in this depressed position by the latch-bolt. In this position the retracting-lever is held away from possible engagement with the cam-disk of the platen and the rod 22 is retracted into the hollow rod, so that it will not interfere with the action of the machine. If the check-key is permitted to remain in this position, only one movement will be given to the platen, and thus only one impression made.

If it is desired to print both a detail-strip and a check, the operation is as follows: By pressing the release 27 the check-key is unlatched, whereupon its spring 17 throws it to its upper position, thereby moving down the slide 20 to the position shown in Fig. 3, whereupon the locking-rod 22 is projected, so that when an amount-key is operated and the revolution-rack 24 raised said rod will catch under the said rack and hold the operated key in its depressed position. The movement of the operated key thus far has resulted in the usual operation of the platen to print the amount upon the detail-strip. The ticket or check is now inserted, through a suitable slotted hood, (see Fig. 5,) so as to project between the detail-strip and the printing-wheels or type-carriers, and finally the check-key is depressed. As the hooked end of the pivoted lever $11^a$ descends it engages the shoulder $10^a$, which is carried by the platen, and as the check-key is moved downward the platen is thereby retracted against the force of its spring until the portion $15^a$ of the stop-arm 15 striking against the pivoted bar forces it off the said shoulder, so that the platen is released and under the impulse of its spring forces the check against the ink-ribbon to receive an impression from the printing-wheels or type-carriers 3. When the check-key is depressed, as before stated, it is caught and held by the latch-bolt 26, and no check can be thereafter printed until the check-key is again released and operated. Normally, therefore, the machine is arranged to print simply the detail-strip. When so operated, it is only necessary to press the amount-keys 2 in the usual manner. To print the check in addition to the detail-strip, it is necessary to perform the following extra operations, viz: press the release 27, insert the check, depress the check-lever 12, and finally remove the printed check.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a cash-register, the combination with a printing mechanism, of a platen, a special

key, a movable retracting device carried by said key and arranged to engage and operate the platen, and a relatively stationary projection on said key and arranged to disengage the retracting device from the platen.

2. In a cash-register, the combination with a printing mechanism, of a platen, a special key, a pivoted spring-pressed retracting-lever carried by said key and arranged to engage the platen, and a relatively stationary projection on said key and arranged to disengage the retracting-lever from the platen.

3. The combination with a printing mechanism including a pivoted platen, of an operating-lever, a second lever pivoted upon the operating-lever and arranged to engage the platen, and means mounted on said operating-lever for disengaging said second lever from the platen after the operating-lever has made a predetermined movement.

4. In a cash-register, the combination with a type-carrier, of a platen, a check-key, a retracting-lever carried by said key and arranged to engage said platen, and an arm also mounted on said key and adapted to disengage said lever from the platen.

5. In a cash-register which is arranged to print both a check and a detail-strip, the combination with a type-carrier, of a platen, a series of keys arranged to operate said platen, a check-key, a retracting-lever pivoted on said check-key and arranged to engage and operate the platen, and means for holding said lever normally out of engagement with the platen.

6. In a cash-register, the combination with an operating mechanism, of a type-carrier, a platen arranged to be operated by said operating mechanism; and a special key having platen-operating provisions, said key being at all times operative to actuate said platen independently of the operation of said operating mechanism.

7. In a cash-register, the combination with an operating mechanism, of a printing mechanism connected thereto and including a platen, a special key for operating said platen, and a lock for normally holding the special key out of coöperative relation with the platen.

8. In a cash-register, the combination with a type-carrier, of a series of amount-keys, means connecting said keys and carrier whereby the latter is set to print the proper amount, a special cash-register key, means for locking the amount-keys after an initial movement, devices operated by the special key for releasing said locking means, and a lock for holding said special key normally inoperative.

9. In a cash-register, the combination with a series of keys each of which is normally free to operate through its entire cycle of movement, a special cash-register key, means connected to the special key and arranged to be released thereby to arrest the aforesaid keys after they have made an initial movement, and a lock for holding said special key normally inoperative.

10. In a cash-register, the combination with a printing mechanism, of a series of amount-keys, a member common to said keys, a lock and connections for said member, a special key arranged to operate said lock, and a locking device for holding the special key out of operative position.

11. In a cash-register, the combination with a type-carrier, of a series of amount-keys, means connecting said keys and carriers, a member common to said keys, a lock and connections for arresting said member after it has made its initial movement, a special cash-register key for operating said lock, and a lock for holding said special key normally inoperative.

12. In a cash-register, the combination with a printing mechanism, of a series of amount-keys, a key-coupler common to said keys, a lock and connections arranged to arrest the coupler after its initial movement, a special key arranged when depressed to withdraw the lock from coöperation with the coupler, and a special latch for holding the key in its depressed position.

13. In a cash-register, the combination with an operating mechanism, of a type-carrier and means for setting the same, a platen adapted to be actuated by the operating mechanism, a lock for the operating mechanism, a special key arranged to operate both the platen and said lock, and a locking device for holding the special key out of operative position.

14. In a cash-register, the combination with a type-carrier, of a series of amount-keys connected thereto, a check-key, means for effecting the printing of a check when said key is operated, devices for locking the keys of the series and actuated by said check-key, and a locking device for locking said check-key.

15. In a cash-register, the combination with a type-carrier, of a series of operating-keys, a platen, a check-key for operating said platen, devices for locking the keys of said series and actuated by said check-key, and a locking device for holding the check-key normally out of operative position.

16. In a cash-register, the combination with a printing mechanism, of a series of amount-keys connected thereto and each of which is normally free to operate through its entire cycle of movement, a check-key, means for holding the latter disabled, and means connected to the check-key and adapted to lock the amount-keys when said check-key is released.

17. In a cash-register, the combination with a printing mechanism, of a series of amount-keys connected thereto and each of which is normally free to operate through its entire

cycle of movement, a check-key normally locked in inoperative position, means for releasing said key, and devices connected to said check-key and adapted to lock the amount-keys after an initial movement thereof.

18. In a cash-register, the combination with a printing mechanism, of a series of amount-keys connected thereto and each of which is normally free to operate through its entire cycle of movement, a normally locked check-key arranged to have an initial and a secondary movement, and means arranged to be set by the initial movement of the check-key to lock an amount-key after its initial movement, the secondary movement of said check-key releasing the amount-keys.

19. In a cash-register, the combination with a type-carrier, of a series of amount-keys, means connecting said keys and carrier, a member common to said keys, a lock and connections for arresting said member after it has made its initial movement, a platen arranged to be operated by the amount-keys, a special key arranged to also operate the platen and actuate said lock, and a lock for holding said special key normally inoperative.

In testimony whereof we affix our signatures in the presence of two witnesses.

FREDERICK J. BAKER.
GEORGE P. WOLF.

Witnesses:
ALVAN MACAULEY,
IRA BERKSTRESSER.