(No Model.)

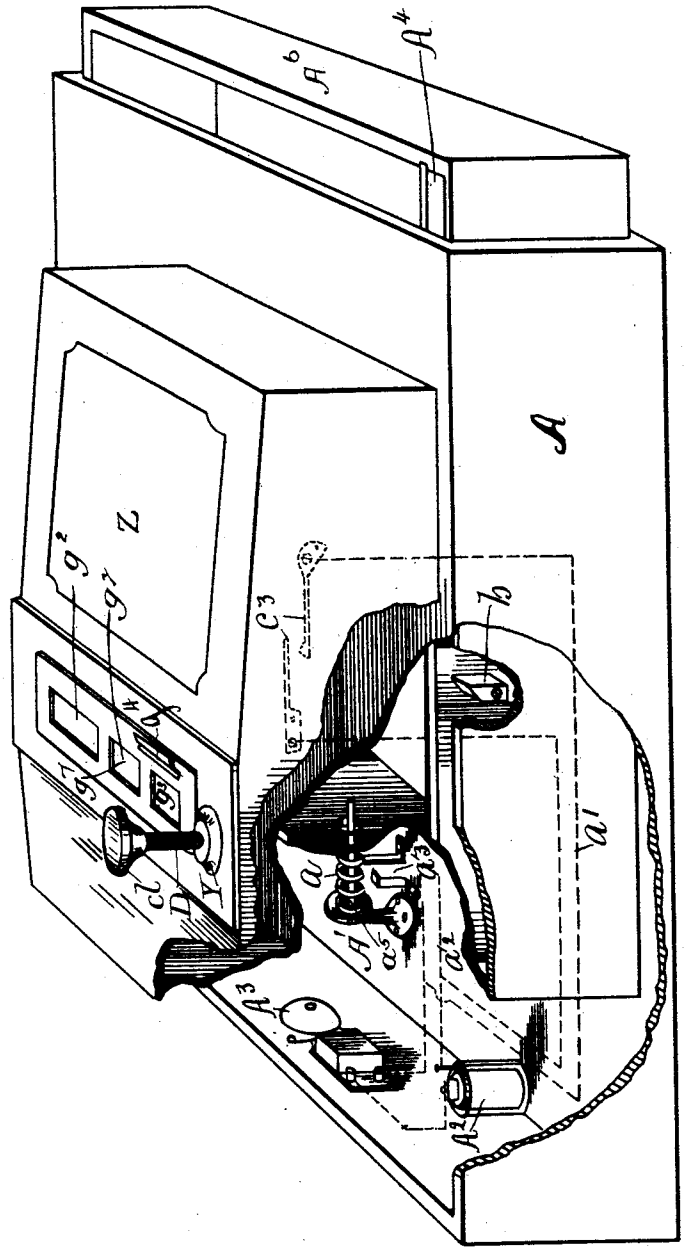
4 Sheets—Sheet 1.

C. H. COLES.

CASH RECORDER.

No. 472,336. Patented Apr. 5, 1892.

Fig. 1.



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(No Model.) 4 Sheets—Sheet 2.

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CASH RECORDER.

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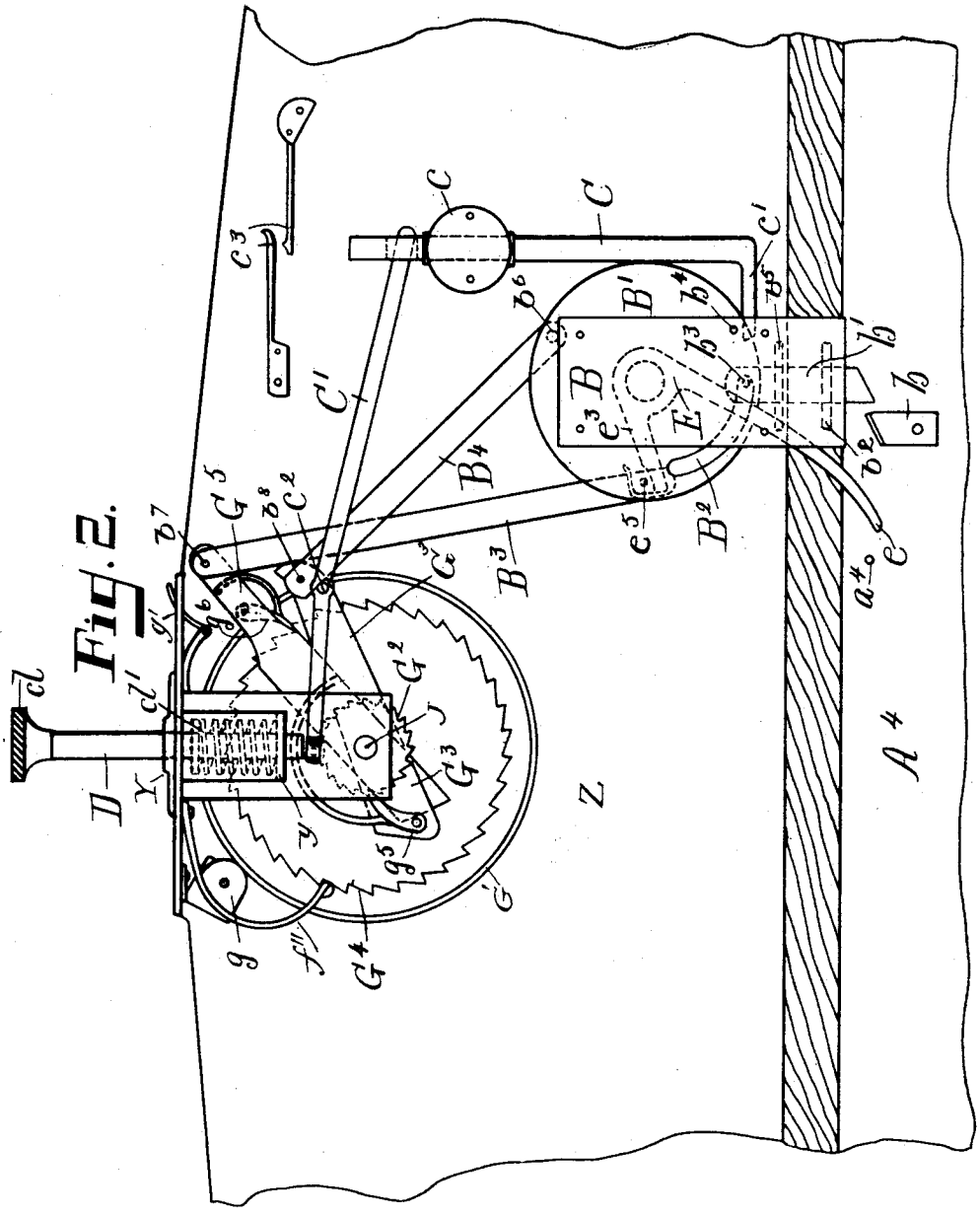
Fig. 2.



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CASH RECORDER.

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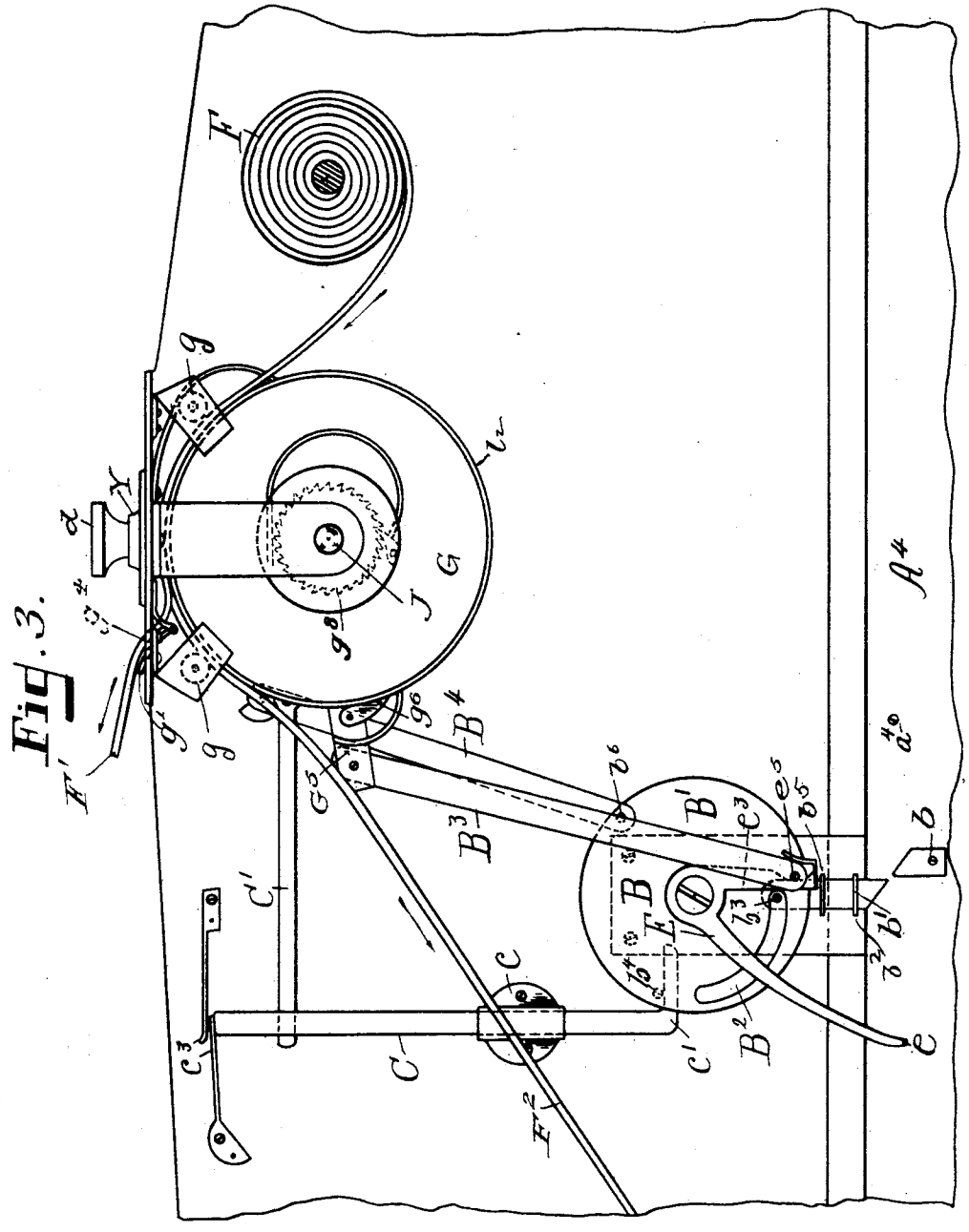

Fig. 3.

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(No Model.) 4 Sheets—Sheet 4.

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CASH RECORDER.

No. 472,336. Patented Apr. 5, 1892.

Fig. 5.

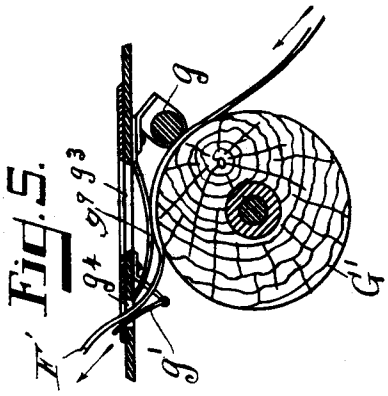
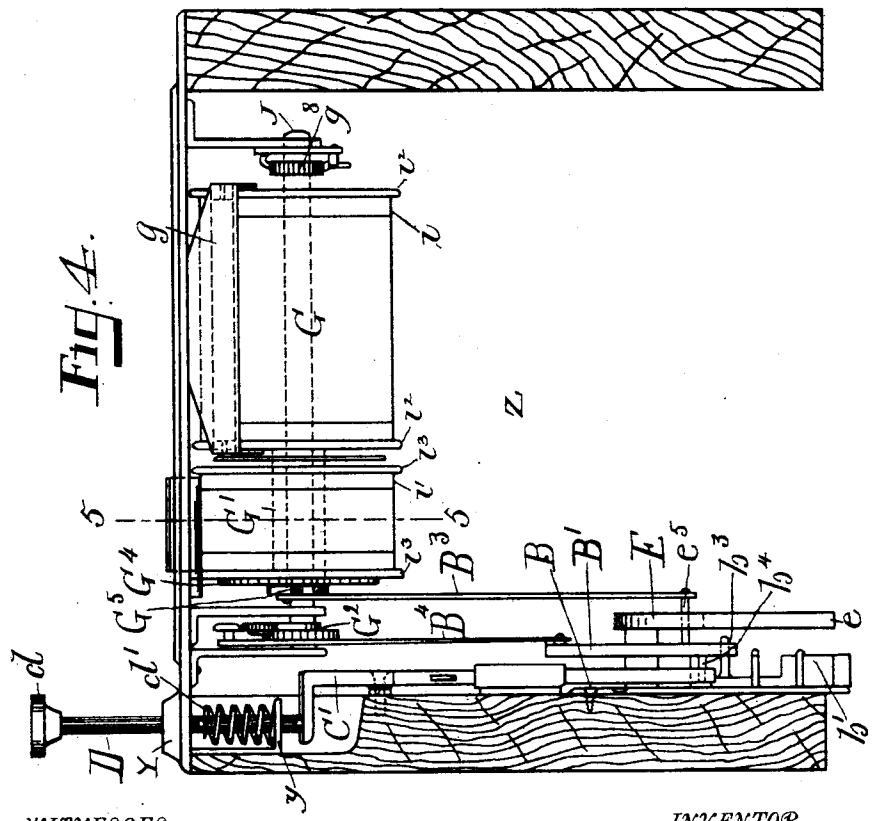


Fig. 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

CHARLIE H. COLES, OF OWOSSO, MICHIGAN.

CASH-RECORDER.

SPECIFICATION forming part of Letters Patent No. 472,336, dated April 5, 1892.

Application filed April 27, 1891. Serial No. 390,705. (No model.)

To all whom it may concern:

Be it known that I, CHARLIE H. COLES, a citizen of the United States, residing at Owosso, in the county of Shiawassee and State of Michigan, have invented a certain new and useful Improvement in Cash-Recorders; and I 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 specificatiion.

The object of my invention is to provide a cash-recorder having a cash-drawer, an electric bell adapted to ring when the drawer is opened or closed or interfered with when closed, and a printing device adapted to feed two strips of record-paper across suitable openings in the case, through which a record of sales can be made on the paper of each strip.

A special object of my invention is to provide for unlocking the drawer and ringing the alarm-bell by means of a key projecting above the case and connected within the case with suitable levers for operating rolls for feeding forward the respective strips of record-paper.

The mechanism employed by me is shown in the drawings, in which—

Figure 1 is a perspective of the case, partly broken away to show the interior of the case and the battery circuits and bell. Fig. 2 is an elevation of the operating mechanism of the recorder. Fig. 3 is also an elevation seen from the side opposite that shown in Fig. 2. Fig. 4 is an end elevation of the recorder mechanism. Fig. 5 is a sectional view of the feeding-roll for expelling the slip for the customer on line 5 5, Fig. 5.

I will first describe the case and money-drawer with the battery and bell used in connection therewith. This case is double, consisting of the case A for the drawer, and the upper case Z for the cash-recorder.

A is the drawer-case, and is made of greater depth than the drawer to provide for a compartment A′ in the rear to accommodate the battery A^2 and the bell A^3. In the compartment A′, I provide a compression-spring *a*, held in place by a guide-arm a^5 and adapted to throw open the drawer. The spring *a* is in position to be compressed when the drawer is closing and is of sufficient strength to throw the drawer nearly open when the locking mechanism holding the drawer closed is unlocked, as hereinafter described. In connection with the battery A^2, I employ two circuits a' and a^2. In connection with the spring *a* I provide terminals a^3, which consist of a stationary upright terminal and a spring-terminal adapted to be forced against the stationary terminal by the compression of the spring *a*, so that when the spring-terminal is forced against the stationary terminal the circuit is closed and the bell rung. The contact between the two parts of the terminal is made only when the drawer is pushed into the case far enough to permit the catch *b* on the drawer to pass the bolt *b*′. This insures ringing the bell whenever the drawer is closed, because it is impossible to close the drawer far enough to permit the locking parts to pass without ringing the bell. At the same time this provides for ringing the bell whenever the drawer is pushed from the outside, as in case of an unauthorized interference with it. When the drawer is in its normal position and closed, the circuit is opened and the bell silent.

The mechanism employed to ring the bell when the drawer is opened I will describe in connection with the recorder.

The drawer A^6 has a compartment A^4 running the length of the drawer on one side, into which the locking mechanism of the recorder projects. It also contains the catch *b*, behind which the bolt *b*′ of the lock is shot. The lock consists of the catch *b*, attached to the side of the drawer, and a bolt *b*′, moving in suitable guides b^2 b^5 on a plate B on the inside of the recorder-case Z. When the bolt *b*′ is raised, the drawer is free to move in and out; but when the drawer is closed and the bolt dropped the bolt *b*′ engages with the catch *b* in the compartment A^4 and securely locks the drawer. The means for operating this bolt are connected with and operated at the same time with the recorder mechanism. Within the recorder-case Z, on one of its side walls and below the key D, is a plate B, adapted to support the locking mechanism of the drawer. On the plate B is journaled a disk B′. The disk B′ is provided with a cam-slot B^2, into which projects the pin B^3 from the locking-

bolt b', and whenever the disk B′ is turned the locking-bolt is raised or lowered. The disk B′ is rotated in one direction by means of a plunger C, that is supported in a suitable guide c on the side of the recorder-case. The lower end of the plunger C terminates with an arm c', that comes under a pin b^4 on the disk B′, so located on the disk that when the plunger is raised the disk is rotated in the proper direction to raise the lock-bolt b'. On the inside of the recorder-frame on a pivot c^2 is pivoted a lever C′, of which the short end extends under the key D. The key D extends through the walls of the case Z and terminates on its outer and upper end with a thumb-piece d. Within the case Z of the recorder is a stirrup y, supporting and guiding the stem of the key D, while the opening Y through the walls of the case Z furnish a second guide for the stem of the key D. The spring d' holds the key D normally in an elevated position. The long end of the lever C′ engages with the plunger C, so that when the key D is depressed the lever C′ is turned on its fulcrum, the plunger C elevated, and the bolt b' raised and the drawer unlocked by the partial rotation of the disk B′ and the cam-slot B^2.

In connection with the plunger C and operated by it are the electric terminals c^3. These terminals are connected with the second circuit a', as shown in Fig. 1, the terminals c^3 and the circuits with which they are connected being shown in that figure in dotted lines.

When the plunger C is raised, the upper end of the plunger raises one of the terminals c^3 against the other and closes the circuit a', causing the bell to ring, thus providing for the ringing of the bell whenever the key D is depressed to unlock the drawer. The lug b is attached to the side of the drawer in the compartment A^4 and moves in and out with it, so that whenever the bolt b' is dropped into engagement with the lug b the drawer will remain closed until the lock-bolt b' is again raised by depressing the key D.

Mounted on a common pivot with the disk B′ is a readjusting-lever E, having one arm e extending below the recorder-case Z into the compartment A^4 in the drawer and having its opposite arm e^3 engaged on one side with the pin e^5 on the disk B′, but having a free movement in the opposite direction. Within the compartment A^4 is a pin a^4, against which the arm e of the lever E strikes and is thrown upward when the drawer is closed, bringing the arm e^3 in engagement with the pin e^5 on the disk and causing the disk B′ to revolve and shoot the bolt b' by means of the cam-slot B^2. Thus the disk B′ is operated in both directions, in one direction by the plunger C and in the opposite direction by the readjusting-lever E, operated by a pin A^4 on the drawer.

The strips of paper themselves are provided in rolls and placed in the machine at F. The free ends of the strips pass up over the rolls G and G′. I prefer to employ strips F′ F^2 of different widths, a narrow strip F′ for the slip to be ejected from the machine and given to the customer, and the wide strip F^2, (to be retained as a permanent record in the machine,) on which I may write a description of the article sold in connection with the amount of the sale. Consequently I employ feed-rolls of different lengths for moving these strips forward. In connection with the rollers I employ any suitable means for pressing the paper against the feeding-rolls, preferably small auxiliary rollers g; or spring-pressure bars may be used. Two of these pressure-rollers are employed, the inner one adapted to hold the paper back toward the bottom of the recorder. In connection with the roller G′, I employ a deflecting-plate g' to lift the end of the strip F′ of paper and carry it outside of the machine. The manner of presenting these strips F′ F^2 to the exterior of the recorder to receive the record, which I purpose to write in pencil, is shown in Fig. 1, the opening g^2 being above the wide strip F^2, and through it the record of the sale and description of the article sold is made, and the opening g^3, through which is written the amount of the sale, is above the narrow strip F′. The opening g^4 is provided at one side of the opening g^3, and from this opening the narrow strip F′ of paper is projected. In connection with this last-named opening a serrated edge may be employed, or any other means for tearing off or cutting the slip projected therefrom. The purpose of the mechanism now to be described is to provide for moving these respective strips of paper different distances, as it is manifest that the record-sheet presented to the opening g^2 is to be moved but a short distance, sufficient to pass the record already made along within the machine and present sufficient paper on which to make the new record, while the strip F′ of paper being passed under the opening g^3 is to be projected through the opening g^4 a sufficient distance to provide a card or slip of sufficient size to be of use to the customer.

As it is necessary that the slip to be given to the customer shall be projected and torn off at the time the sale is made, I provide for feeding this slip during the operation attending the sale and when the drawer is closed, as follows: On the shaft J, carrying roll G, is a ratchet-wheel G^2 and a lever G^3, provided with a pawl g^5, and connecting the outer end of this lever with the disk B′ is the connecting-rod B^4, reaching from the crank-pin b^8 on the lever G^3 to the wrist-pin b^6 on the disk B′. When the disk B′ is revolved through the movement of the readjusting-lever E, the connecting-rod B^4 operates the lever G^3 and the roll G by means of the ratchet-wheel G^2 and pawl g^5. For operating the roll G′, I provide the ratchet-wheel G^4, and in connection therewith the lever G^5, provided with the pawl g^6, and connecting the lever G^5 with the disk B′ is a connecting-bar B^3, reaching from the crank-pin b^7 on the lever G^5 to the wrist-pin e^5 on the disk B′. The lever G^5 is of greater length

than the lever G^3, to provide for moving the roll G a less distance than that of roll G'. The bar B^3 is connected to the disk B' at the side opposite the connection of B^4, so that as the disk is revolved the levers are caused to move in opposite directions, one feeding its roll, while the other is moving back preparatory to feeding. When the key D is depressed and the disk is revolved by the movement of the plunger C, the connecting-bar B^3 is drawn down and causes the roller G' to revolve and feed the record-paper through the operation of the ratchet mechanism.

Suitable means may be employed for preventing the feeding-rolls revolving backward and disarranging the paper, such as a ratchet-wheel g^8 and a pawl, or any other means desired.

To hold the strip of paper on the roll G' directly beneath the opening g^3, I employ the spring g^9. This spring operates in the nature of a pressure-bar.

To aid in confining the strips of paper to the rolls G G', I provide each roll with rubber tires l l' with flanges l^2 l^2 l^3 l^3. Such tires aid in furnishing a frictional feeding-surface.

What I claim is—

1. In a cash-recorder, a money-drawer, a bolt for locking said drawer, a rotatable disk provided with a cam-slot, engaging with said bolt, means for rotating said disk, consisting of a key, a lever, and a plunger connecting said lever with said disk, a battery within the case of said recorder, provided with a circuit having an alarm-bell, and a circuit-closer operated by said plunger, substantially as described.

2. In a cash-recorder, two independent rolls adapted to feed forward two independent strips of paper, a rotating disk, a plunger for rotating said disk in one direction, a money-drawer adapted to operate said disk in the opposite direction, and means connecting said disk with said rolls, whereby one is operated when the disk is rotated in one direction and the other when it is rotated in the opposite direction, substantially as described.

3. In a cash-recorder, independent slips of paper for receiving records of sales, one adapted to be retained in the machine as a permanent record and the other projected from the machine for the customer, independent rolls for feeding each of said strips, provided with a ratchet-wheel, levers provided with dogs engaging said ratchet-wheels for operating said rolls, a rotatable disk, means for rotating said disk in either direction, and connecting-levers pivoted to the opposite sides of said disk at one end and to the ratchet-levers operating said feeding-rolls at the other end, whereby one of said rolls is operated when the said disk is revolved in one direction and the other roll when the said disk is operated in the opposite direction, substantially as described.

4. In a cash-recorder, two independent rolls adapted to feed forward independent strips of paper, a rotating disk, a plunger for rotating said disk in one direction, a money-drawer adapted to operate said disk in the opposite direction, and means connecting said disk with said rolls, consisting of connecting-rods pivoted to the opposite sides of said disk, and levers fulcrumed on the shaft of said rolls, pivoted to said connecting-rods and carrying pawls adapted to engage with ratchet-wheels on said rolls, the said ratchet-wheels being of different diameters, whereby said rolls are adapted to feed different amounts of record-paper, substantially as described.

5. In a cash-recorder, independent record-sheets, one provided with a pressure-roll adapted to direct its sheet into the machine and the other provided with a deflecting-plate adapted to project its record-sheet outside the machine, a key operated from the exterior of said machine and adapted to operate the roll feeding the record retained within the machine, and a money-drawer adapted to rotate the roll feeding the sheet projected from the machine, substantially as described.

6. In a cash-recorder, a money-drawer provided with a lock, in combination with a key operated from the exterior of said recorder for unlocking said drawer, a battery having a double circuit, each circuit provided with a circuit-closer, and a bell adapted to be rung by either circuit, one of said circuits closed by said plunger and the other by said drawer, substantially as described.

7. In a cash-recorder, two independent rolls adapted to feed forward independent strips of paper, one of said rolls being adapted to direct one of said strips of paper forward within the machine and the other of said rolls being adapted to project its record from the machine, a key adapted to operate the roll for feeding the sheet within the machine a sufficient distance for receiving a new record, and a money-drawer adapted to operate the other roll a sufficient distance to provide a card for a customer, substantially as described.

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

CHARLIE H. COLES.

Witnesses:

MARION A. REEVE,

FRANK P. HAINES.