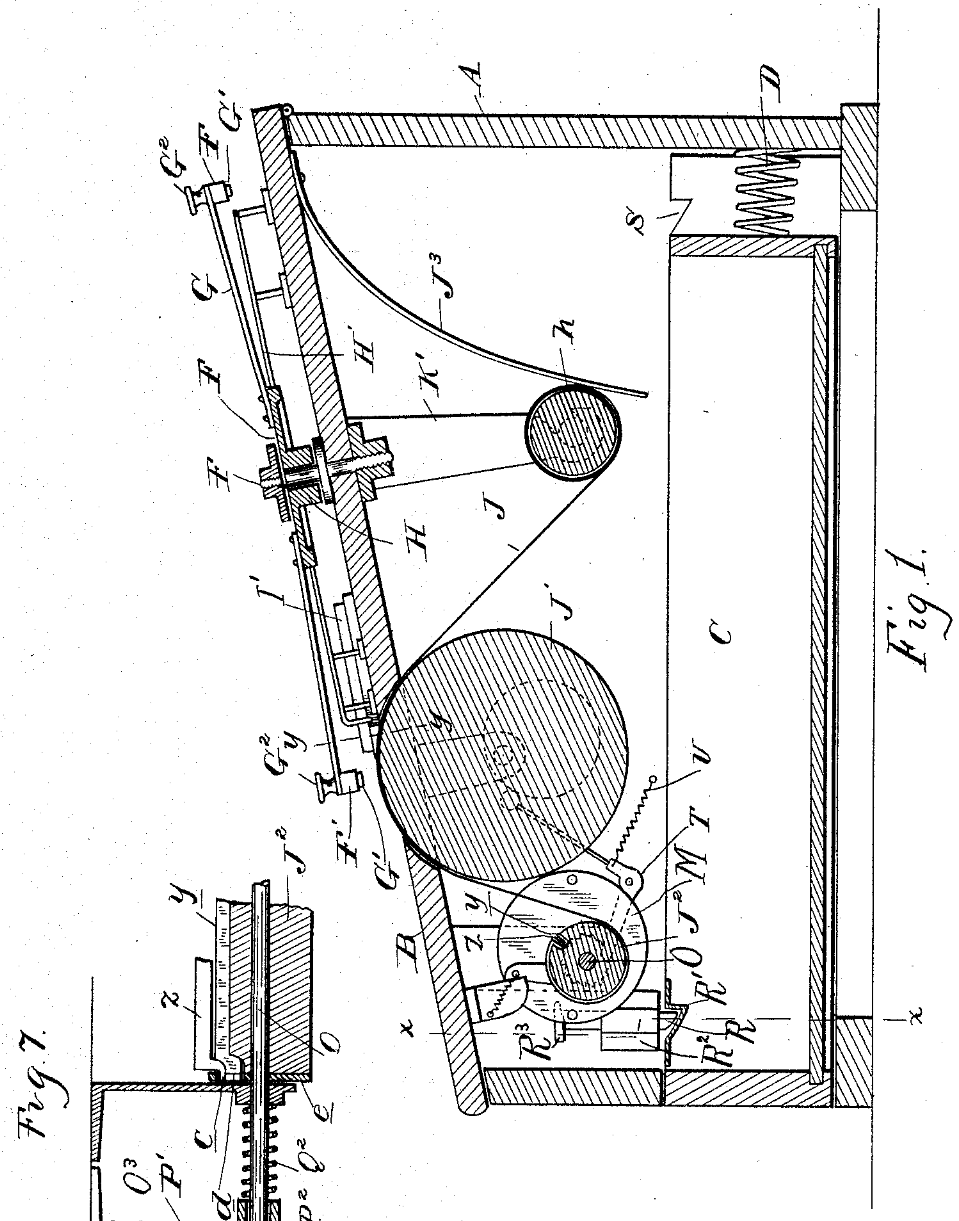
(No Model.) 3 Sheets—Sheet 1.

A. J. WALTERS.

CASH RECORDER.

No. 491,150. Patented Feb. 7, 1893.



Witnesses

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.) 3 Sheets—Sheet 2.

A. J. WALTERS.

CASH RECORDER.

No. 491,150. Patented Feb. 7, 1893.

Fig. 2.

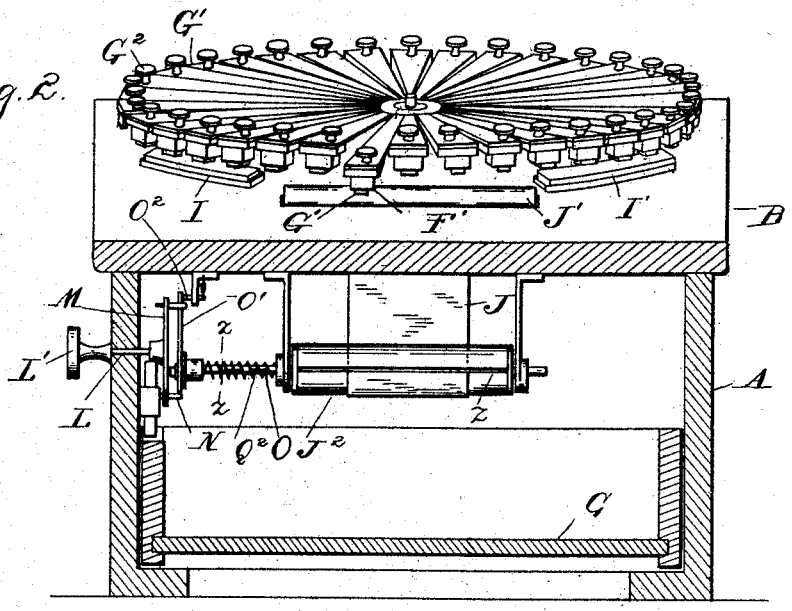


Fig. 5.

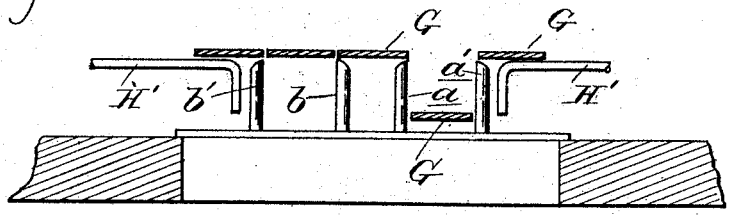
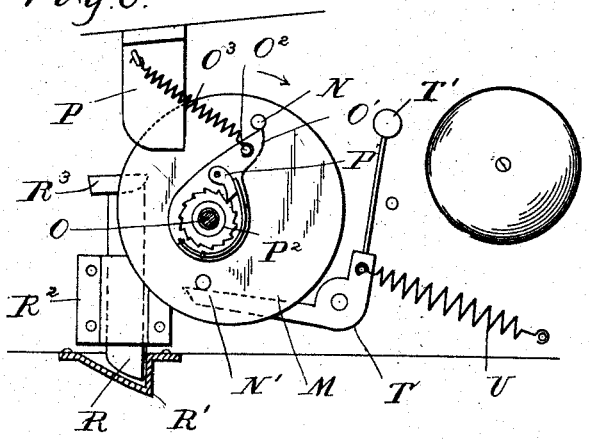


Fig. 6.



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(No Model.) 3 Sheets—Sheet 3.

A. J. WALTERS.

CASH RECORDER.

No. 491,150. Patented Feb. 7, 1893.

Fig. 3.

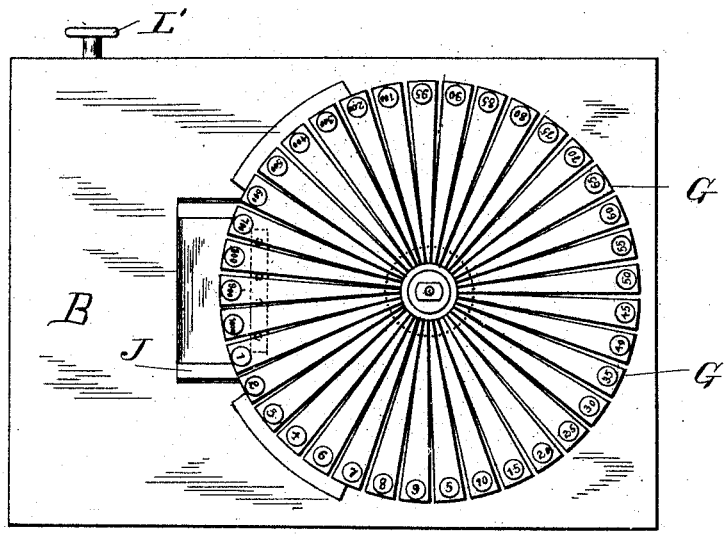
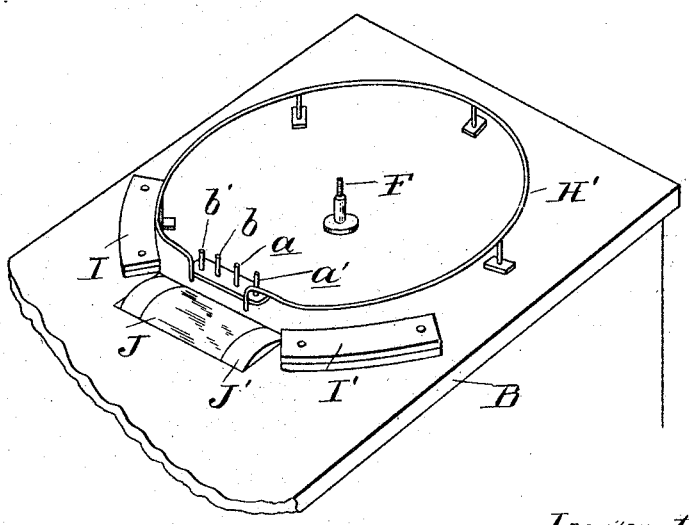


Fig. 4.



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UNITED STATES PATENT OFFICE.

ANDREW J. WALTERS, OF ADRIAN, MICHIGAN.

CASH-RECORDER.

SPECIFICATION forming part of Letters Patent No. 491,150, dated February 7, 1893.

Application filed March 25, 1892. Serial No. 426,413. (No model.)

To all whom it may concern:

Be it known that I, ANDREW J. WALTERS, a citizen of the United States, residing at Adrian, in the county of Lenawee and State of Michigan, have invented certain new and useful Improvements in Recorders, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to new and useful improvements in cash recorders, and the invention relates to that class of recorders in which the recording is effected by printing upon a strip of paper the amounts to be added together.

The invention consists in the peculiar construction of the printing mechanism, the actuating mechanism for the paper feed and the alarm, the lock for the drawer, and the means employed for recording both debits and credits in separate columns, and further in the peculiar arrangement and combination of the various parts all as more fully hereinafter described.

In the drawings, Figure 1 is a vertical, central longitudinal section through my machine. Fig. 2 is a cross section thereof on line $x\,x$ in Fig. 1. Fig. 3 is a plan view thereof. Fig. 4 is a detached perspective view of the top of the case with the type plate removed. Fig. 5 is a cross section on line $y\,y$ in Fig. 1. Fig. 6 is a cross-section on line $z\,z$ of Fig. 2. Fig. 7 is a horizontal section through the paper feed roll, its actuating shaft and connections.

A is a suitable casing, preferably of rectangular shape and B is the cover thereof hinged at the rear edge, the upper edges of the casing are inclined so that the cover will naturally assume an inclined position when closed, as shown in Fig. 1, the cover being provided with any suitable lock, (not shown.)

C is a drawer slidingly secured in the lower part of the casing and in its closed position compressing a spring D, which when the lock for the drawer is released is adapted to throw the drawer open.

The operating mechanism of my machine I preferably attach to the cover. Upon the upper side of the cover is pivoted a type plate E upon the fixed stub shaft F.

G is a series of spring type bars secured to the type plate and radially extended therefrom and provided at the end with a type block F′ and type G′ representing preferably some figure or figures. Upon the upper face of the bar is the finger piece G^2 upon which is inscribed a number corresponding to the type upon that key. The type plate is raised a short distance above the plane of the top, by means of a hub H and the keys are preferably bent upward slightly at their outer ends so as to clear the guide rail H′, shown in detail in Fig. 4, which extends, with the exception of a short space in front, beneath all the keys.

I I′ are inking pads arranged at either side of the guide rail in the path of the type and of such height that when a type bar is pressed down to rest upon the rail H′ the type will come in contact with these pads and receive sufficient ink to enable a print to be made upon the paper strip as hereinafter described. Between the ends of the guide rail at the front are arranged the stop pins a and b and beside these stop rails are secured corresponding pins a' and b' forming between them a guide way of the width of the type bars.

It is evident that if the operator rests his finger upon a certain key at any point in the circle and presses it into contact with the rail, turning the key plate toward the front, that key would first pass over the inking pad and be inked, and then as it struck either one of the stops it would pass down into the guide way, stopping the further rotation of the guide plate, and making an imprint upon the paper strip J, which is located beside the opening in the guide rail, as plainly shown in Fig. 4, passing over the front printing roll J′, which extends slightly above the upper face of the top, as shown in Fig. 1.

K is the supply roll journaled in bearings at the lower end of the brackets K′. The strip of paper passes from that roll over the printing roll J′ and upon the feed roll J^2 at the front of the machine. These three rolls are all journaled in brackets which are suspended from the cover of the machine. The paper on the roll K is held at the proper tension by the spring J^3. The two guide ways are separated a sufficient distance to make two rows of figures on the paper strip as that strip is fed along for each successive imprint, it being the purpose to have one row repre-

sent the debits and the other row represent the credits.

In order to secure the end of the paper to the feed roll, I form therein a longitudinal groove *y* into which the end of the paper strip is inserted and then press the securing strip *x* into that groove to bind the end of the paper therein. This securing strip is provided at its end with the pin or projection *c* engaging in the slot *d* formed in the head *e* of the roll J^2, as plainly shown in Fig. 7. The paper being thus secured and arranged, in order to feed it forward the proper distance for each successive imprint and in order to open the drawer and sound an alarm, I preferably employ the following mechanism: L is a shaft journaled in the side of the machine and having a suitable handle or hand wheel L'. On its inner end this shaft is provided with a disk M.

N N' are pins arranged at diametrically opposite points of the disk and extending on opposite sides thereof.

O is the shaft upon which is rigidly secured the feed roll J^3. This shaft extends beyond the end of the feed roll and has secured on its outer end the arm O'. This arm near its outer end carries a pin O^2 to which is secured the spring O^3 normally holding said arm with its pin in contact with the stop P, as shown in Figs. 6 and 7. This arm carries the spring pawl P', Fig. 7, adapted to engage with the ratchet wheel P^2 which is sleeved on the shaft O beside the arm, and slidingly engaging thereon, being locked to said shaft by the key Q, engaging in the key way Q', a spring Q^2 holding the ratchet wheel in engagement with the key. By arranging the ratchet wheel to have an independent sliding movement on the shaft, the same is disengaged from the key and the shaft allowed an independent movement, so that the operator in taking the paper from the roll needs only to press the ratchet wheel back, preferably by hand, disengaging the key and allowing the paper to be unrolled. The ratchet wheel is thus held out of the path of the pawl. The shaft O extends in close proximity to the disk M, Fig. 2, and is eccentrically engaged thereto, the arm O' being arranged in the path of the pins N N' on said disk.

R is a bolt adapted to engage at its lower end in the notched plate R' in the top of the drawer, sliding in a guide way R^2. This bolt is provided with a beveled head R^3.

The parts being thus constructed the operator having printed the desired number upon the paper strip turns the hand wheel L', which rotates the disk M in the direction shown by the arrows in Fig. 6, causing one of the pins N to strike the arm O' and turn it until the pin N slips over the end. In this rotary motion, through the medium of the ratchet and pawl, the shaft O and feed roll J^2 will also be turned, and the paper moved along for another imprint. As soon as the arm has slipped off from the pin N, the spring O^3 will return it to its normal position. In the rotation of the disk M the pin N' will strike the beveled head R^3 of the bolt R and raise that bolt from the notched plate R', allowing the spring D to act to throw open the drawer. As soon as the pin N' has passed the head of the bolt, the bolt will again drop, and at the rear of the drawer will engage the notch S, to prevent the withdrawal of the drawer from the casing. As soon as the disk begins to turn, one of the pins N' will strike the bell crank lever T which carries the hammer T' and raise the hammer. When the pin has passed over the end of the bell crank lever the spring U will be free to act and will cause the hammer to strike the bell and sound the alarm. Thus each time the drawer is opened to take out or put in any money, the amount having been previously printed as before described, the paper will be fed along the drawer unlocked and thrown open, and the alarm sounded.

It is evident that when a debit is desired to be printed, the type wheel should be turned in one direction, and when a credit is to be printed the type wheel should be turned in the opposite direction. The inking pads are arranged upon both sides of the paper, so that the rotation in either direction will properly ink the type, before it reaches the stop and guide way in which it moves while being depressed to print.

What I claim as my invention is:

1. In a cash recorder, the combination of a fixed rotary type wheel, a series of radially arranged spring type bars thereon, an inking pad, a paper strip upon which said type are adapted to be pressed, a guide rail extending beneath said type bars except at the strip, and a series of vertical guides for the type bars, arranged at points near the edge and center of the strip for dividing the strip into columns, substantially as described.

2. In a cash recorder the combination with a casing and a hinged top, of printing mechanism on the top, paper supporting rolls supported on the underside of the top, an actuating shaft independent of the top extending to the outside of the casing, a detachable connection between the shaft and one of the rolls and a pawl actuated by the movement of the shaft to actuate the roll, substantially as described.

3. In a cash recorder, the combination of the printing type bars, a paper strip, secured at one end to a supply roll, an intermediate printing roll and a feed roll, of an actuating mechanism therefor comprising an actuating shaft, a disk thereon having projecting pins, and a spring actuated oscillating arm controlling a ratchet and pawl connection to the feed roll, substantially as described.

4. In a cash recorder, the combination with the paper strip, the feed roll, the shaft L, disk M secured thereto the pins N thereon, the feed roll, the shaft thereof eccentrically arranged in relation to the disk, the spring act-

uated oscillating arm O′ journaled on said shaft, the spring pawl thereon, and the ratchet wheel on the shaft with which the pawl engages, substantially as described.

5. In a cash recorder, the combination with a printing mechanism, of a series of feed rolls, an actuating shaft for one of the rolls, extending to the outside of the casing a pawl actuated by the shaft for rotating the roll and a slidable connection intermediate the pawl and roll, substantially as described.

6. In a cash recorder, the combination with the paper strip and its feed roll, an actuating mechanism therefor comprising a rotary disk having pins thereon, a cash drawer, a locking bolt therefor and a head on said bolt adapted to be struck by one of said pins in the rotation of the disk, substantially as described.

7. In a cash recorder, the combination of the casing, a cover hinged thereto carrying printing mechanism and paper supporting and feed mechanism, of an actuating mechanism for said feed mechanism in the frame, and a detachable connection in said mechanism, substantially as described.

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

ANDREW J. WALTERS.

Witnesses:
M. B. O'DOGHERTY,
N. L. LINDOP.