(No Model.) 2 Sheets—Sheet 1

W. B. METCALFE & F. A. ZIEGLER.

CASH RECORDER.

No. 474,672. Patented May 10, 1892.

Fig. 1.

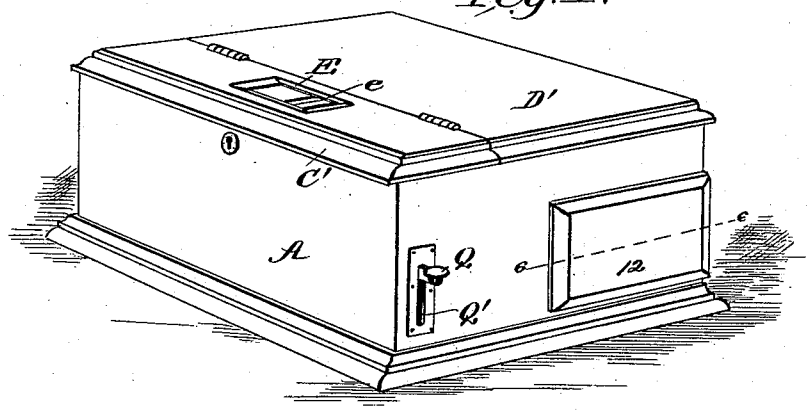


Fig. 2.

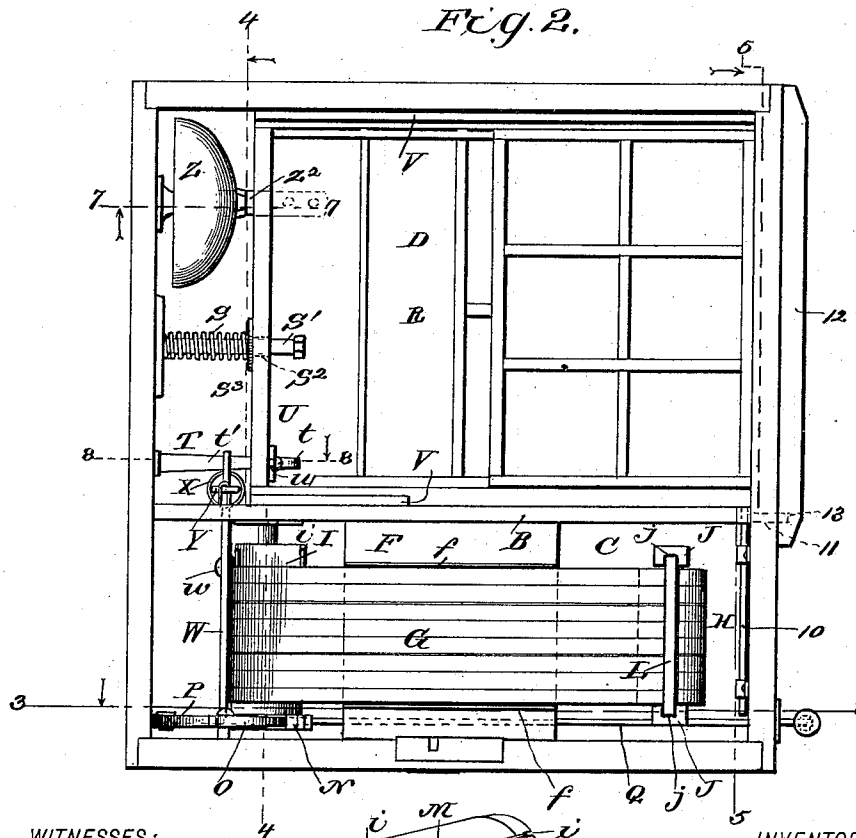
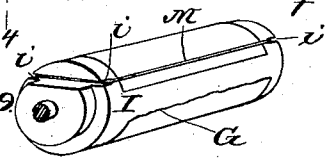


Fig. 3.



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(No Model.) 2 Sheets—Sheet 2.

W. B. METCALFE & F. A. ZIEGLER.

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Fig. 3.

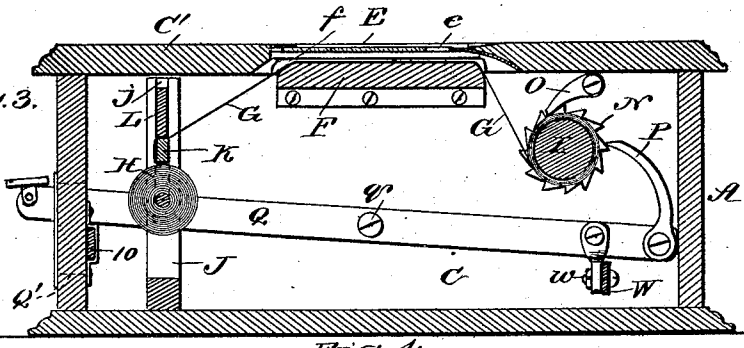


Fig. 6.

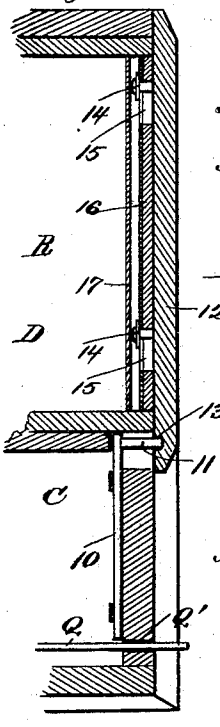


Fig. 4.

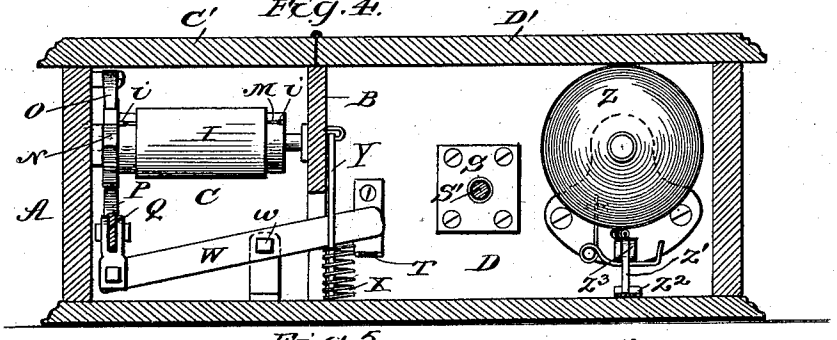


Fig. 5.

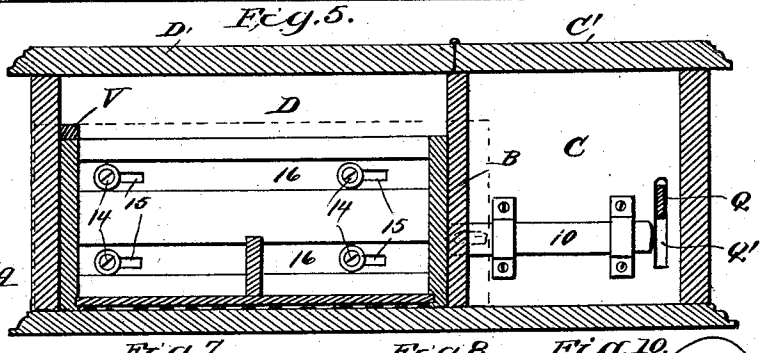


Fig. 7.

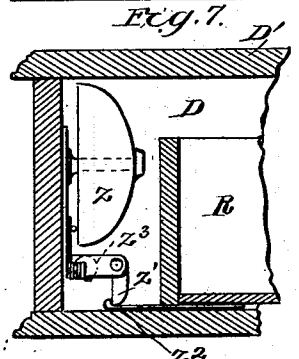


Fig. 8.

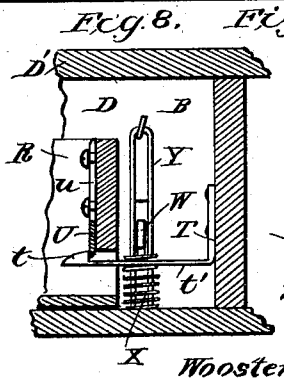
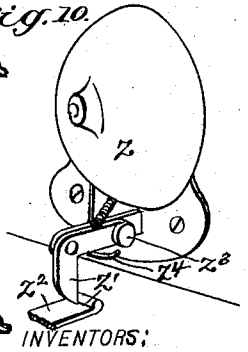


Fig. 10.



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UNITED STATES PATENT OFFICE.

WOOSTER B. METCALFE AND FRANK A. ZIEGLER, OF HANOVER, PENNSYLVANIA.

CASH-RECORDER.

SPECIFICATION forming part of Letters Patent No. 474,672, dated May 10, 1892.

Application filed October 24, 1891. Serial No. 409,724. (No model.)

To all whom it may concern:

Be it known that we, WOOSTER B. METCALFE and FRANK A. ZIEGLER, of Hanover, in the county of York and State of Pennsylvania, have invented a new and useful Improvement in Cash-Recorders, of which the following is a specification.

This invention is an improvement in cash drawers and recorders; and it consists in certain features of construction and novel combinations of parts, as will be hereinafter described, and pointed out in the claims.

In the drawings, Figure 1 is a perspective view of the improved apparatus. Fig. 2 is a top plan view thereof, the top being removed. Fig. 3 is a vertical longitudinal section on about line 3 3 of Fig. 2, looking toward the main or hand lever. Fig. 4 is a transverse section on about line 4 4 of Fig. 2, drawn just in front of and looking toward the cross-lever. Fig. 5 is a transverse section on about line 5 5, Fig. 2, showing the lock-bar in its relation to the main lever and drawer. Fig. 6 is a horizontal section on about line 6 6 of Fig. 1, illustrating the sliding or false front for the drawer and the manner in which it operates the sliding lock. Fig. 7 is a detail section on line 7 7, Fig. 2, illustrating the mechanism for ringing the bell. Fig. 8 is a detail section on line 8 8, Fig. 2, illustrating the latch-hook for holding the drawer closed. Fig. 9 is a detail view of the feeding-roller, and Fig. 10 is a detail view of the bell and its sounding devices.

The box or casing A may be of the rectangular shape shown and divided by a partition B into two compartments C and D, the former encircling the recording devices and having a hinged lid C′ and the latter receiving the drawer and having a cover D′, which may preferably be fixed, as shown. The lid C′ may be secured by any approved lock, and the key being retained by the proprietor prevents the attendant from tampering with the record-slip or mechanism contained in the compartment C.

A partially-glazed opening E is provided in the lid C′, the space *e* at the front of such opening being unglazed and sufficiently large to permit the entry of amounts, characters, &c., on the record-slip passed below such opening. Immediately below this opening is the guide-table F for the record-slip, such table being provided with the side guides *f*, which are preferably plates of metal projecting up from the guide-table and arranged apart a distance equal to the width of the record-slip G. These side guides project beyond the end of the table a sufficient distance to properly conduct the record-strip to and from the table. In operation the side guides serve to confine the register-slip to the prescribed space and hold the record-strip so that the full use of the outside columns of the ruled record-strip may be secured. The record-strip winds in practice off the roll H and onto the roll I, said rolls being arranged, respectively, in front and rear of the table. The front roll has its ends or trunnions journaled in vertical slots *j* in supports J, and the record-strip is arranged to wind off the side of such roller H next to the guide-table. A friction-bar K is placed down in slots *j* upon the roll of paper, the record-strip being passed in front of the friction-bar and back over the upper edge thereof and a tension-bar or weight L being held in the slots *j* above the friction-bar and arranged to press upon the paper strip passing rearwardly over the upper edge of the friction-bar. This is most clearly shown in Fig. 3. By this construction the tension-bar not only acts directly upon the paper strip, but also indirectly, as by its weight acting upon the friction-bar such bar is caused to exert a greater friction than it otherwise would. By this means we secure sufficient tension to hold the record-slip taut across the guide-table.

In order to secure the record-slip to the roller I, we provide the latter with notches *i*, preferably the ends of grooves across the opposite ends of the roller, as shown. The record-slip is placed upon the roller, and a band M of rubber or other elastic material is sprung into the notches *i* and over the record-slip, the notches serving to retain the rubber on the roller and the rubber operating to secure the record-slip to the roller, as will be readily understood. This is a simple inexpensive construction and one which enables the quick application and removal of the record-slip. A ratchet-wheel N is connected with the roller

I. The detent O engages this ratchet to prevent its back motion, and the pallet P engages it to give it motion and turn the roller I to draw the record-slip under the partially-glazed opening. A lever Q is pivoted between its ends at *q* and projects at its front end through a vertically-elongated slot Q′ in the front of the casing and supports the pallet P at its rear end. In operation as the front end of the lever is depressed the pallet will be operated to move the ratchet-wheel and attached roller I forward the distance of one tooth; but manifestly the distance the lever may move the roller may be varied by varying the throw of the lever or the size of the ratchet-wheel without departing from some of the broad principles of the invention.

The drawer R fits in the compartment D and is actuated to open position by the spring S, which, as shown, is a coil-spring and is supported on a rod S′, projected from the inner end of the case, the rod being arranged to project through an opening S^2 in the end of the drawer, and the spring being provided with a cap-plate S^3 to press against the back of the drawer. This spring operates to open the drawer when the latter is released from its latch by the mechanism presently described.

To secure the drawer closed, we provide the latch T, which is in the nature of a hook *t*, supported on one end of a spring-bar *t′*, which is secured to and projects inwardly from the rear end of the casing. This hook engages a bearing on the drawer, which bearing is preferably the edge of a metal plate U, secured to the drawer by screws passed through a slot *u* in the plate, so it can be adjusted to permit the latch to release the drawer at the desired instant, as more fully described hereinafter.

When the drawer is pushed in, it will automatically engage with the latch, being guided to such engagement by the guides V, which hold its inner end down to engagement with the hook, so that the drawer cannot escape its engagement with the latch except by moving the latch out of such engagement.

To release the latch, we provide a cross-lever W, pivoted between its ends at *w*, connected at one end with the lever Q and arranged at its opposite end to operate the latch T to release the drawer.

A spring X is arranged to actuate the lever W, and also serves to actuate the lever Q through the connection thereof with the lever W. This spring encircles the guide-bars Y, between which the lever W passes, and bears below the arm of such lever, which engages the latch, so that such end of the lever W is normally elevated and clear of the latch. The bell Z is arranged to be struck by the hammer Z^3, which is at the end of one arm of a bell-crank, such crank being actuated by a spring Z^4 and having its arm Z′ arranged to be operated by a plate Z^2 on the rear end of the drawer, the bell being sounded as the drawer is opened. In the operation of such part when the drawer is opened its plate Z^2 pulls the arm Z′ forward, depressing the other arm of the bell-crank, which arm retracts the hammer, so that the bell will be sounded when the part Z′ escapes from engagement with the plate Z^2.

The operation of the described parts is quite simple. If a transaction occurs either by way of cash purchase, credit purchase, making change, paying out an amount, or otherwise, the entry is made in the proper column of the record-slip and the hand-lever is pushed down. This moves the record-slip to adjust the entry up under the glass, where it cannot be erased or altered, operates the latch to release the drawer, and the bell is sounded. It will be seen that the bell is not sounded until the drawer is opened, and it is desirable that the drawer should not be released from its latch until the record-slip has been moved up under the glass. We therefore set the bearing for engagement by the hook of the latch so such hook will not release the bearing and permit the drawer to open until the slip has been moved up the desired distance. It is desirable when the attendant leaves the recorder temporarily that it should be locked, so it will not be tampered with. To this end we provide a bolt or plate 10, supported on the inner face of the front of the casing and movable longitudinally, so it may be set at one end below the front arm of the lever Q when said lever is in its normal position or back clear of such lever. When the bolt 10 is under the lever, the latter cannot be depressed to operate the record-slip and release the drawer, and as the drawer can only be opened through the manipulations of such lever it is manifest that such bolt so operates to prevent the forward movement of the record-slip and also the opening of the drawer. This bolt 10 is provided with a forwardly-projected pin or stud 11, which projects beyond the front of the case near to the drawer-opening and may serve as a handle in manipulating the bolt. It is preferred to operate this bolt by the aid of the laterally-movable blind front 12 of the drawer, such front being held to the drawer so it can be moved laterally therein and yet present the appearance of the ordinary drawer-front. This front 12 projects at its ends beyond the sides of the drawer and has in its inner side near one end a socket 13 to receive the end of the pin 11. By this construction when the drawer is closed its false front may be moved laterally to adjust the bolt under the hand-lever to lock the same and then back to unlock it. At the same time the false front when the drawer is closed covers the pin 11 and hides it from view. In securing the false front to the drawer it is held by means of screws 14, passed through slots 15, the heads of which screws slide in metal-lined grooves 16 in the drawer, such grooves, screw-heads, and slots being covered by a board 17, so they will not be exposed when the drawer is open.

Having thus described our invention, what we claim as new is—

1. In an apparatus substantially as described, the combination of the frame or casing, the drawer, the latch by which to hold such drawer closed, the cross-lever by which to release such latch, and the main lever arranged to operate such cross-lever, all substantially as and for the purposes set forth.

2. The combination, substantially as described, of the casing having a partially-glazed sight-opening, the guide-table below such opening, and the upwardly-projected side guides on said table, all substantially as described, and for the purposes set forth.

3. The combination, in an apparatus substantially as described, of the roller supporting the record-slip, the uprights having slots, the friction-bar fitted at its ends in said slots and over and partially around which the record-strip is passed, and the tension-bar fitted at its ends in said slots and bearing upon the record-strip passed over the friction-bar, all substantially as set forth.

4. In an apparatus substantially as described, the roller I, provided in its ends with notches *i*, the band sprung into said notches and extended across the roller, and the slip held by said band, all combined substantially as set forth.

5. The combination of the box or casing, the drawer movable into and out of the same and provided at its inner end with a bearing for engagement by the hook, the hook supported in the casing at the inner end of the drawer-recess and arranged to engage the bearing of the drawer, the cross-lever arranged to move said hook out of such engagement, and the hand-lever arranged to operate such cross-lever, substantially as set forth.

6. The combination of the box or casing, the drawer, the latch for holding the drawer closed, the cross-lever arranged to release said latch, a spring arranged to actuate said cross-lever, and the main lever connected with the cross-lever, whereby it may operate such cross-lever and be also actuated by the spring which actuates the cross-lever, substantially as set forth.

7. The combination, substantially as described, of the box or casing having a partially-glazed opening, the record-slip and its rollers, one of which has a ratchet-wheel, the main or hand lever pivoted between its ends and projecting at its front end through a slot in the casing, a pallet supported on the rear end of the main lever and arranged to engage the ratchet-wheel, the detent-pawl, the cross-lever pivoted between its ends and connected at one end with the inner arm of the main lever, the spring arranged to actuate said cross-lever, the drawer, and the latch by which to hold the drawer closed, said latch being arranged for operation by the cross-lever, all substantially as and for the purposes set forth.

8. In an apparatus substantially as described, the combination of the casing, a lock device, and a drawer provided with a lateral movable false front arranged and adapted to operate said lock device, substantially as set forth.

9. In an apparatus substantially as described, the combination of the box or casing, the record-slip, the drawer having a bearing-piece for engagement by its securing-latch, the latch movable into and out of engagement with said bearing-piece, the mechanism for advancing the slip, and the latch-releasing devices arranged for operation by the said mechanism, the said bearing-piece being adjustable, whereby it may be set to effect the release of the drawer at different points of movement of the releasing devices, all substantially as and for the purposes set forth.

10. In an apparatus substantially as described, the combination of the box or casing, the pivoted main lever, and intermediate operating and supporting devices whereby the said lever may operate to advance the record-slip, and the lock consisting of a bolt movable into and out of engagement with said main lever whereby to lock and unlock the same, substantially as and for the purposes set forth.

11. In a cash-recorder, the combination, substantially as described, of the casing, mechanism for supporting and advancing a record-strip, a locking device to lock said mechanism, and a drawer provided with a laterally-movable false front extending beyond the side of the drawer and adapted to conceal a portion of the said locking device located alongside such drawer, substantially as described, and for the purposes set forth.

12. The combination, substantially as herein described, of the box or casing, the main lever, the slide-bolt for locking said lever, and the drawer having a laterally-movable false front, the false front and slide-bolt being provided with interengaging parts, whereby the lateral movement of the front may adjust the bolt into and out of engagement with the lever, substantially as and for the purposes set forth.

13. In an apparatus substantially as described, the combination, with the box or casing, the bolt, and the part to be locked by such bolt, of the drawer provided with a false front movable laterally and arranged to adjust the said bolt into and out of locked position, substantially as set forth.

14. The combination of the box or casing, the drawer, a latch within the casing by which to hold the drawer closed, mechanism by which such latch may be released to permit the drawer to open, and a bolt by which to lock such mechanism, substantially as set forth.

15. The combination, substantially as described, of the box or casing, a latch within said casing, mechanism by which said latch may be adjusted to unlatched position, said mechanism including a main or hand lever, the bolt by which said lever may be locked from movement, and the drawer arranged to

be held closed by the said latch and provided with a laterally-sliding false front arranged to operate the bolt into and out of locked position, substantially as and for the purposes set forth.

16. In an apparatus substantially as described, the combination, with the box or easing and the sliding bolt having a forwardly-projected pin or stud, of the drawer having a laterally-sliding false front having in its inner face a socket or seat arranged to receive the end of said pin or stud, whereby the movement of the front may operate to set the bolt into and out of locked position, substantially as set forth.

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Witnesses:
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