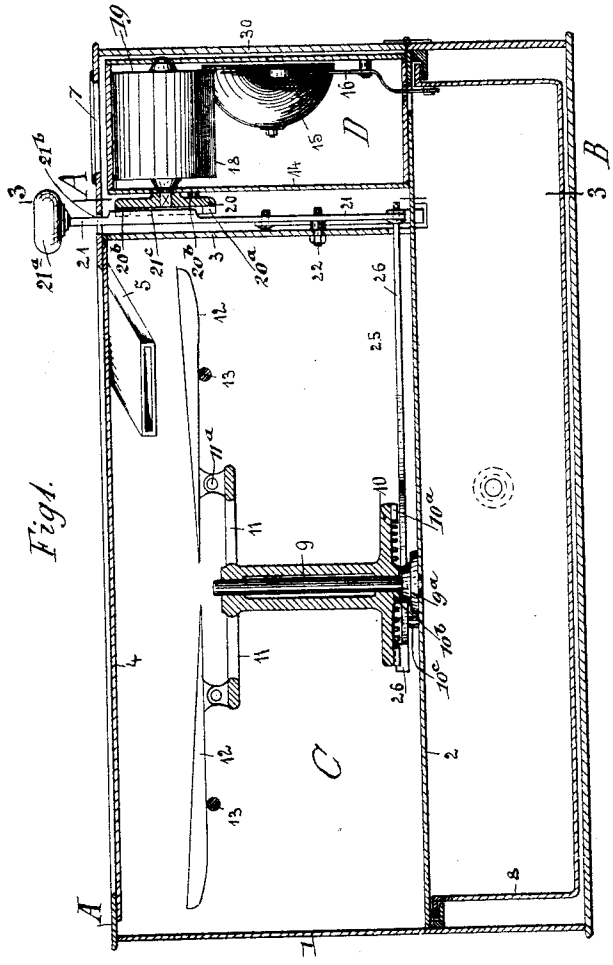
(No Model.) 4 Sheets—Sheet 1.

R. ZABEL.

MANUAL SALES RECORDER WITH COIN DISPLAYER AND CASH DRAWER.

No. 536,413. Patented Mar. 26, 1895.



WITNESSES:

J. van C. Abel

Geo. L. Wheelock

INVENTOR
Richard Zabel

BY Church & Kregeier

ATTORNEYS.

(No Model.) 4 Sheets—Sheet 2.

R. ZABEL.

MANUAL SALES RECORDER WITH COIN DISPLAYER AND CASH DRAWER.

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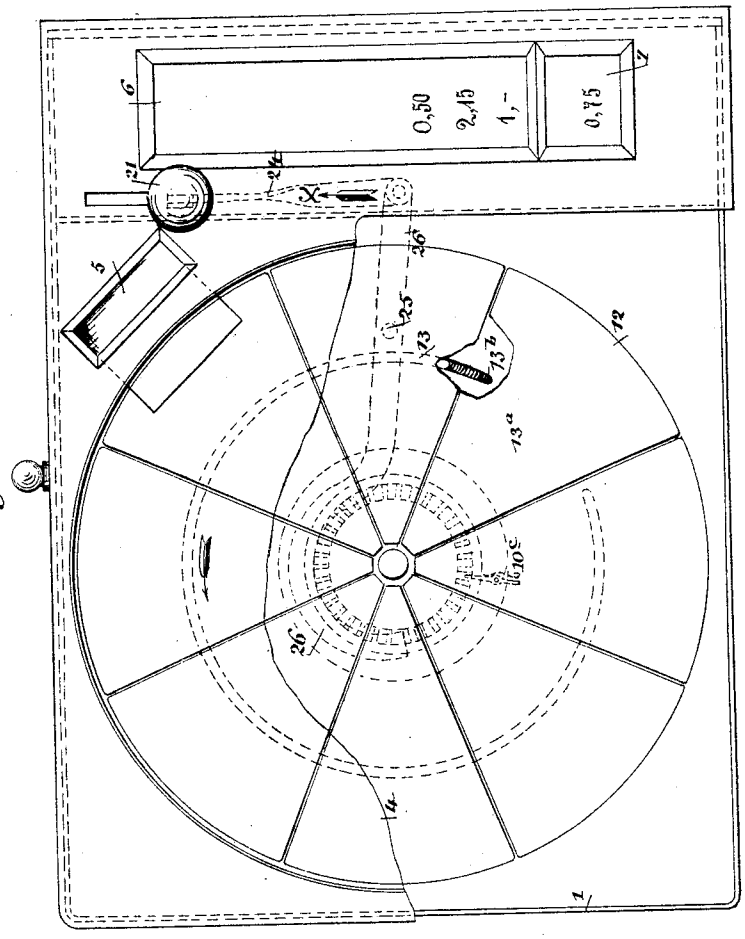


Fig: 2.

WITNESSES:
Juan C. Abel
Geo. L. Wheelock Jr.

INVENTOR
Richard Zabel.
BY Goepel & Wagener
ATTORNEYS.

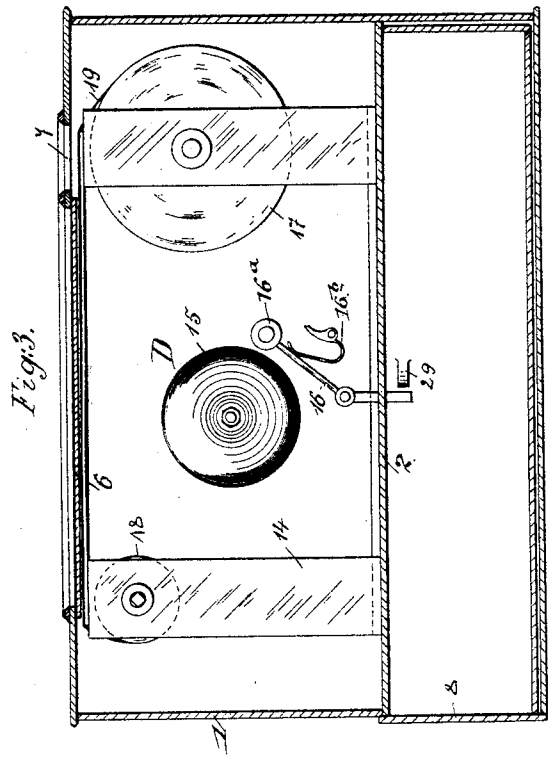
(No Model.) 4 Sheets—Sheet 3.

R. ZABEL.

MANUAL SALES RECORDER WITH COIN DISPLAYER AND CASH DRAWER.

No. 536,413. Patented Mar. 26, 1895.

Fig. 3.



WITNESSES:
Juan C. Abel
Geo. L. Wheelock

INVENTOR
Richard Zabel
BY Joseph Laguerre
ATTORNEYS.

(No Model.) 4 Sheets—Sheet 4.

R. ZABEL.

MANUAL SALES RECORDER WITH COIN DISPLAYER AND CASH DRAWER.

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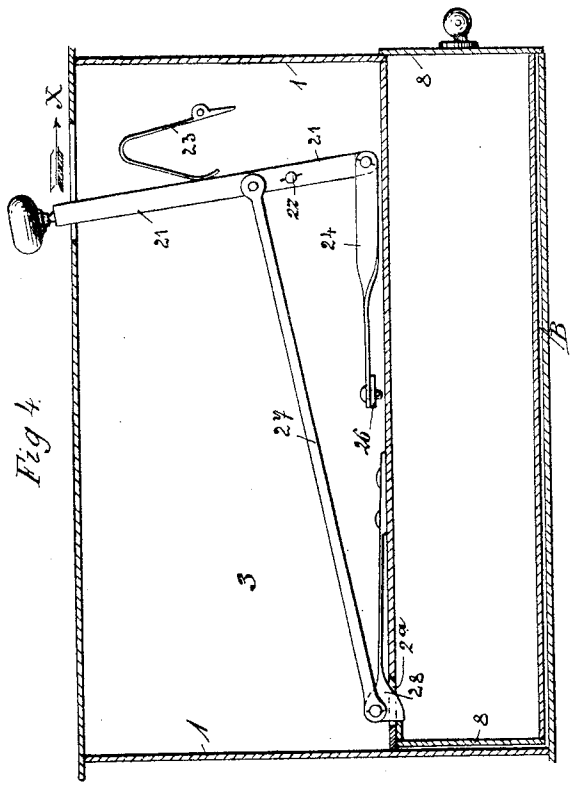

Fig 4.

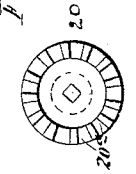

Fig 6

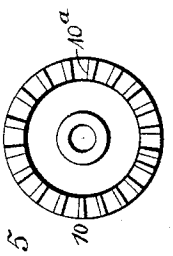

Fig 5

WITNESSES:

Juan C. Abel

Geo. L. Wheelock

INVENTOR

Richard Zabel

BY Goepel & Raegener

ATTORNEYS.

UNITED STATES PATENT OFFICE.

RICHARD ZABEL, OF LEIPSIC, GERMANY.

MANUAL SALES-RECORDER WITH COIN-DISPLAYER AND CASH-DRAWER.

SPECIFICATION forming part of Letters Patent No. 536,413, dated March 26, 1895.

Application filed October 23, 1894. Serial No. 526,719. (No model.)

To all whom it may concern:

Be it known that I, RICHARD ZABEL, a citizen of Saxony, German Empire, and a resident of Leipsic, in the Kingdom of Saxony, German Empire, have invented certain new and useful Improvements in Cash-Register Tills, of which the following is a specification.

My invention relates to certain new and useful improvements in cash-tills, the object being to provide a simple and compact structure wherein coins are deposited, an account of each amount received can be recorded upon a movable tape, and wherein the movement of the drawer is controlled by the device which actuates the recording-tape.

My invention consists to these ends of a suitably partitioned case, in one compartment of which is arranged a frame which supports the drums of the recording-tape, one of the drums being provided at one end with a crown-wheel having ratchet-teeth, and an operating-lever moving in said compartment and connected at its lower end with an actuating-pawl, the operative end of which takes into the ratchet-teeth of a crown-wheel arranged in an adjacent compartment, the hub of which crown-wheel supports radial arms to which are fulcrumed a series of segmental trays which are supported in raised positions by means of a circular rail arranged under the trays, while a portion of the rail is removed in order to permit each tray to tilt as it comes opposite the open portion of the rail. A coin-chute deposits the coins onto the trays as they are successively revolved in position under the chute, while a drawer in the lowermost compartment of the till is held in normal locked position by means of a locking-spring adapted to be released from the drawer by means of the operating-lever of the recording-tape.

My invention also consists of certain other features of construction which will be hereinafter described and then particularly claimed.

In the accompanying drawings—Figure 1 is a longitudinal section of my improved cash-till. Fig. 2 is a plan view of the same. Fig. 3 is a cross-section on line 3, 3, Fig. 1, looking to the right. Fig. 4 is a section on the same line looking to the left, and Figs. 5 and 6 are detail views of the crown-wheels.

Similar letters and figures of reference indicate corresponding parts.

The rectangular case 1 of the till is divided into an upper and a lower compartment C,—D and B respectively, by means of a horizontal partition 2, while the upper compartment is again sub-divided into two compartments respectively C and D by means of a vertical partition 3. The cover A of the case contains a glass plate 4, which comes over the larger upper compartment C and is also provided with an additional smaller glass plate 6 which comes over the smaller compartment D. The cover is moreover provided with a coin-chute 5 which leads into the compartment C from a coin-slot formed in the cover. At the end of the glass-plate 6 there is an orifice 7 through which a written record may be made upon the recording-tape 19 which is arranged in the compartment D immediately beneath said orifice, and which will be hereinafter particularly described.

Extending vertically upward from the partition 2 at the middle of the compartment C is a spindle 9 on which revolves the sleeve or hub of a crown-wheel 10, the ratchet-teeth 10^a of which are presented downwardly. The crown-wheel 10 has a boss 10^b which turns upon the raised base 9^a of the spindle and elevates the crown-wheel sufficiently above the partition 2 to permit the actuating-pawl 26 to pass under it. Radiating from the upper end of the sleeve or hub of the crown-wheel 10 are a number of arms 11, to the outer ends of which are fulcrumed at 11^a a circular series of segmental cash-trays 12. The series of cash-trays 12 is supported in normal position by means of a curved rail 13 which is concentric with the spindle 9, and is open at 13^a so that all of the trays are supported in raised position excepting that one which comes opposite the opening in the rail. As the series of trays revolves, it will hence be seen that as each tray arrives successively opposite the opening in the rail, it will tilt downward at its outer heavier end under its own weight and the weight of the coins thereon, and allow the latter to fall off of the same. Each tray 12 having thus tilted and discharged the coins, is at the next partial revolution of the series caused to ride upwardly on

the downwardly-turned end 13^b at one end of the rail until the same arrives in its normal raised position, so that it can pass under the coin-chute 5 and receive the coins which are dropped therethrough.

Adapted to be arranged within the compartment D is the removable frame 14 in which are journaled at each end the drums 17 and 18 respectively. Upon the drum 17 is wound the unused part of the recording-tape 19, while the drum 18 serves for the winding-up of the tape after the records of the amount received have been made thereon through the orifice 7 in the cover A. Fixed on one end of the shaft of the drum 18 is a crown-wheel 20 provided with ratchet-teeth 20^a, with the perpendicular faces of which a check-pawl 20^b is adapted to engage, so as to prevent retrograde movement of the wheel. Pivoted at 22 to the partition 3 between the compartments C and D is an operating-lever 21 having a knob 21^a at the end which projects beyond the cover A, said operating-lever extending through a slot 21^b in the cover. At one side of this lever is a lip 21^c which forms a dog adapted to take into the teeth of the crown-wheel 20 so as to rotate the same. Below the pivot 22 of the operating-lever 21 the same is connected by means of a link 24, which passes through an opening in the lower part of the partition 3, with a pawl 26 which at 25 is pivoted to the horizontal partition 2 at the bottom of the compartment C, said pawl when it is oscillated in the forward direction taking into the ratchet-teeth 10^a of the crown-wheel 10 and turning the same so as to revolve the circular series of cash-trays 12. This crown-wheel 10 may also be provided with a check-pawl such as 10^c which prevents retrograde movement of the wheel. A spring 23 which is secured to the partition 3 acts upon the operating-lever 21, so as to return the same to operative position.

In the lower compartment of the case of the till is a cash-drawer 8 which is held closed by means of the nose of a locking-spring 28, which is secured to the upper part of the partition 2, said nose extending through an opening 2^a in the partition, and engaging with the rear-end of the drawer. Pivotally connected with the free end of the locking-spring 28 is a link 27 which is also connected with the operating-lever 21 above its pivot 22. On the inner side of the drawer 8 is a lug 29 which, when the drawer is opened, moves the lever 16 of the bell-hammer 16^a against the action of its spring 16^b, and, when the lug passes the lower end of said lever, it permits the spring to act upon the lever so as to cause the hammer to strike a bell 15 which is applied to the removable frame 14.

The operation of the cash-till is as follows: The salesman records the amount of the sum received, through the orifice 7 of the cover A, on that portion of the recording-strip 19 which is underneath the orifice, which being done, the coin or coins is or are dropped into the coin-chute 5, so that they will fall into that tray 12 which is under the chute. The operating-lever 21 is now moved forward in the direction of arrow x against the action of the spring 23, causing its lip or dog 21^c to engage the teeth of the crown-wheel 20 and turn the winding-up drum 18 for a short distance so as to draw a portion of the recording-tape off of the drum 17 and expose a fresh surface underneath the orifice 7, while at the same time the money tray which was just under the coin-chute 5 is moved away and the next one brought under the same, those coins in the tray which come opposite the open portion of the rail 13 falling off of such tray, by reason of the tilting of the same, into the compartment C. At this moment, if desired, the drawer 8 can be opened for the reason that through the medium of the link 27 the nose of the locking-spring 28 is withdrawn from the drawer. On releasing the operating-lever 21 it is caused to resume its original position by means of the spring 23, and the drawer is again locked by means of a locking-spring. It will be seen that one face of the nose of the locking-spring is inclined, so as to offer no impediment to the complete insertion of the drawer 8. In order that the operating-lever 21 and the actuating-pawl 26 may clear certain of the teeth of the respective crown-wheels in being returned to operative position they must have a slight lateral play, which is permitted by their resiliency, so that they can ride over the inclined faces of the teeth. The door 30 which is hinged to one end of the case 1 of the till, affords access to the compartment D, so that the frame 14 with the parts carried thereby may be removed for inspection or readjustment. Should the partition 2 be in the nature of a skeleton-frame, which is evident without additional illustration, the cash received may fall from the trays into the drawer; but if the partition 2 is imperforate the money received will remain in the compartment C distinct from the money in the drawer, which may be used for the purpose of making change only.

By means of my improved cash-till a check is obtained on the salesman, for the reason that all amounts entered on the recording-tape must correspond with the amounts which are in the compartment C. Whenever change is given an audible signal is made by the bell, which is caused to sound by the opening of the drawer.

The glass-plates 4 and 6 enable the purchaser to see both the cash deposited by the salesman in the till and the entry made on the recording-tape.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a cash-till having a coin-chute, the combination of a series of cash-trays, means to which each of the trays is separately fulcrumed near one end, whereby the trays are adapted to be carried past the coin-chute,

means for guiding the heavier ends of the trays in their movement under the coin-chute, a recording-tape, and means for simultaneously moving the cash-trays and the recording-tape, substantially as set forth.

2. In a cash-till having a coin-chute, the combination of a revolving series of separately-tilting cash-trays, means for supporting the trays, so as to move in a circular course beneath the coin-chute, a curved rail for supporting the trays against tilting, during a portion of their revolution, a recording-tape, and means for simultaneously moving the cash-trays and recording-tape, substantially as set forth.

3. In a cash-till having a coin-chute, the combination of a series of separately-tilting revolving cash-trays, a device for revolving the same and to which the trays are fulcrumed at their inner ends, a curved rail for supporting the trays against tilting during a portion of their revolution, a recording-tape, an operating-lever, and means respectively for moving the recording-tape and revolving said device, substantially as set forth.

4. In a cash-till, the combination of a revolving series of cash-trays, a spindle, a crown-wheel having ratchet-teeth and mounted on the spindle, arms radiating from the hub of the crown-wheel and to which the trays are fulcrumed, means for supporting said trays against tilting during a portion of their revolution only, a pawl acting on the crown-wheel, and means for oscillating the pawl, substantially as set forth.

5. In a cash-till, the combination of a case having a number of compartments, a recording mechanism in one compartment, a rotatory series of cash-trays in another compartment, means to which said trays are independently fulcrumed, a cash-drawer in a third compartment, means for locking the drawer and devices for simultaneously actuating the recording mechanism and the trays, and for unlocking the drawer, substantially as set forth.

6. The combination in a cash-till, of a rotatory circular series of cash-trays, means for supporting all of the cash-trays in one horizontal plane, pivots separately connecting the inner ends of the trays to said supporting means, means for guiding the outer heavier ends of the trays in their movement, a recording tape, a cash-drawer, and actuating mechanism for rotating the trays, moving the tape and releasing the lock of the drawer, substantially as set forth.

7. In a cash-till, the combination of the case having a top-opening, a recording-tape under the top-opening revoluble drums to which the tape is applied, a crown-wheel carried by one of the drums, and provided with ratchet-teeth a pivoted operating-lever extending through the top of the case, and adapted to take into the teeth of said wheel, a coin-chute extending downwardly from the top of the case, a series of suitably supported movable cash-trays under the coin-chute, and means connected with the operating-lever for moving the trays in succession past the coin-chute, substantially as set forth.

In witness whereof I hereunto set my hand in presence of two witnesses.

RICHARD ZABEL.

Witnesses:
PAUL SCHULZ,
LEO ROJEWSKI.