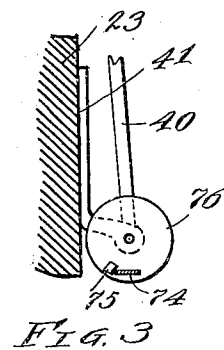
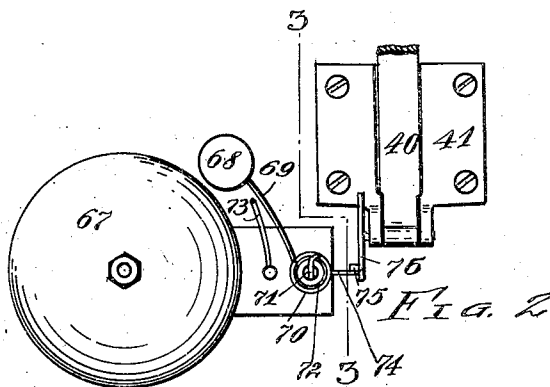
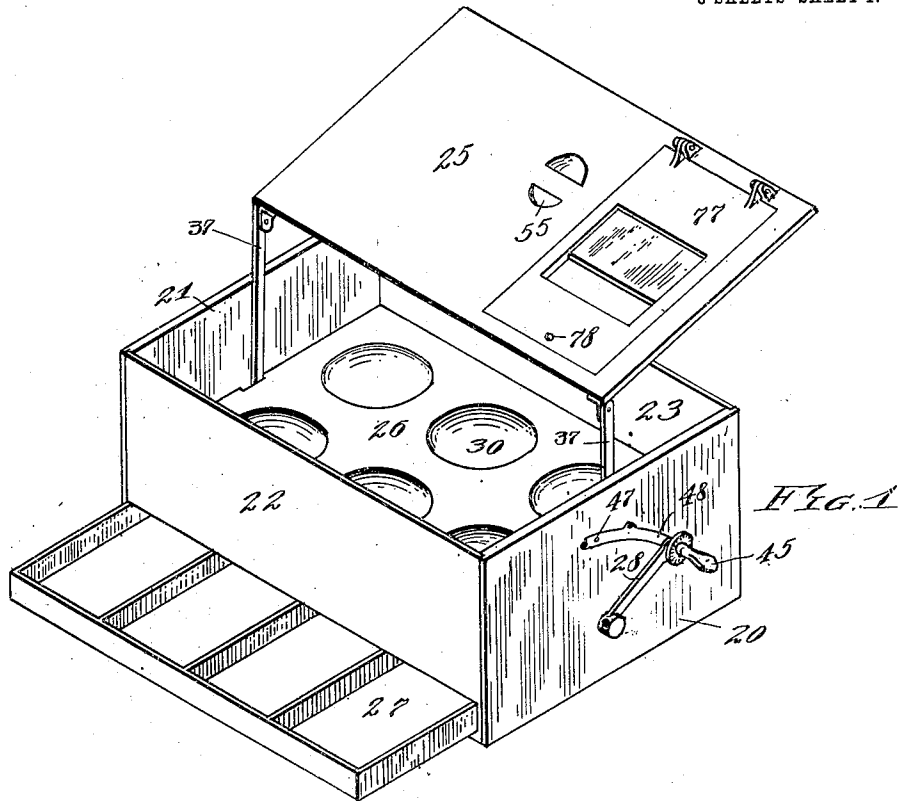


W. L. DEMING.
CASH DRAWER.
APPLICATION FILED JUNE 28, 1911.

1,051,200.

Patented Jan. 21, 1913.

3 SHEETS—SHEET 1.



WITNESSES:
Hugh B. McGill
L. K. Smith

INVENTOR
William L. Deming.
BY Albert H. Bates,
ATTY.

3 SHEETS—SHEET 2.

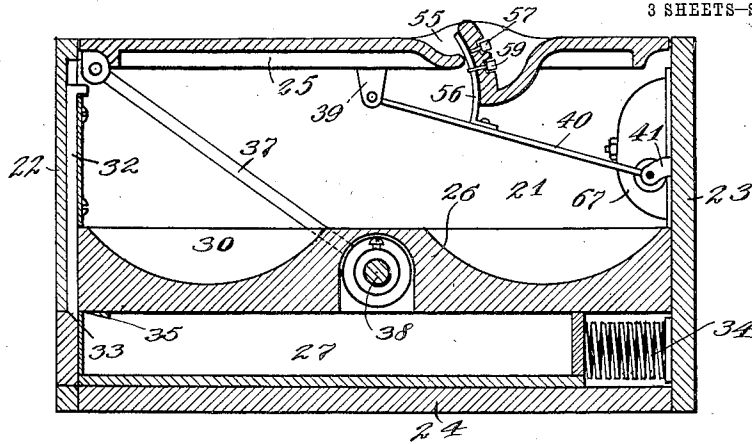


Fig. 4

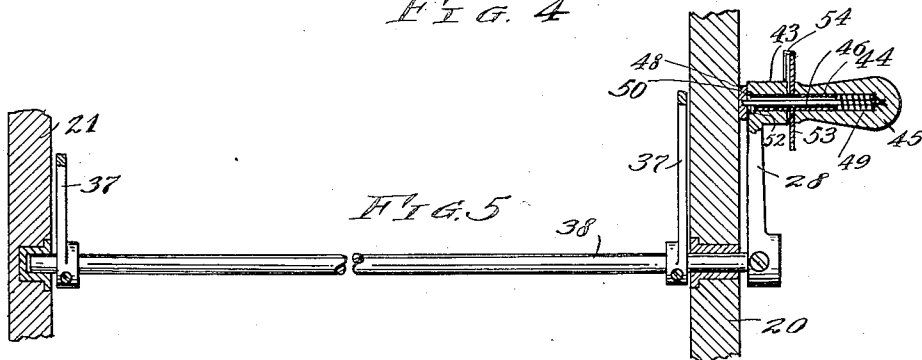


FIG. 5

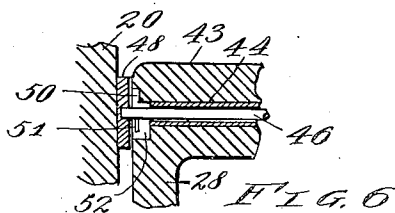


FIG. 6

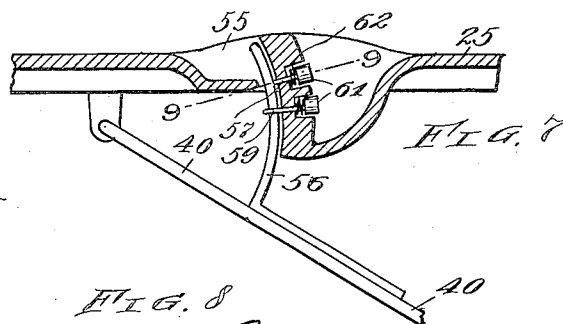


FIG. 7

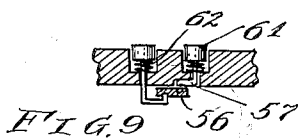


FIG. 9

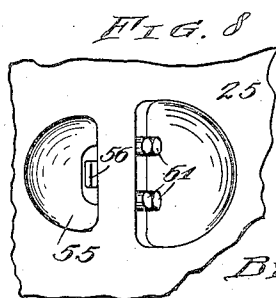


FIG. 8

WITNESSES:
Hugh B. McGill.
G. K. Smith

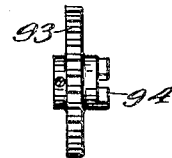
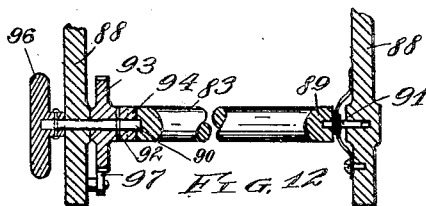
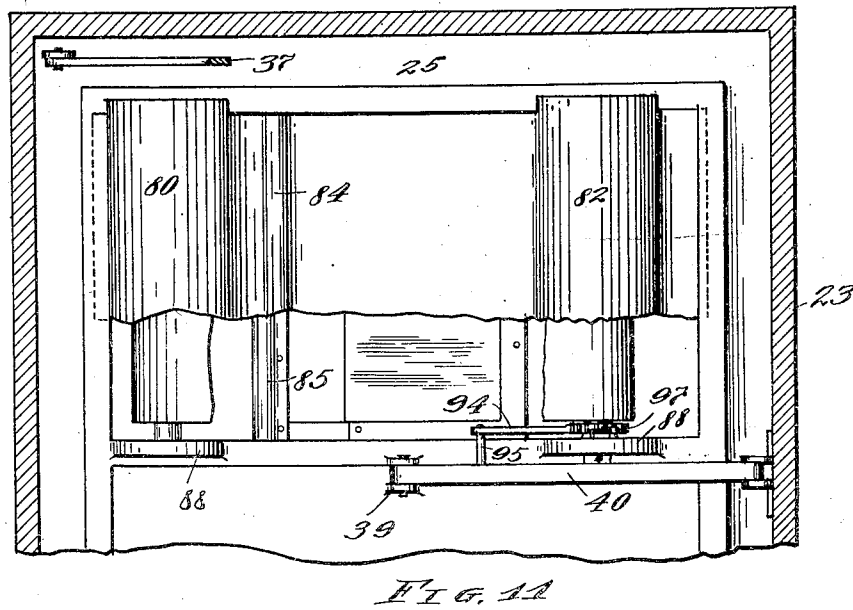
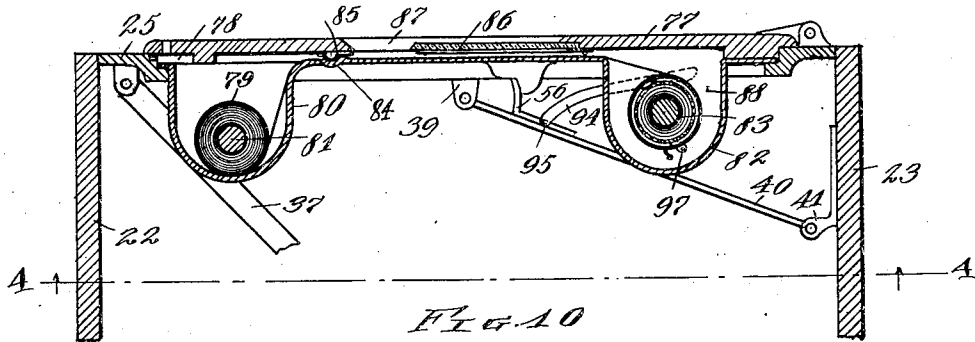
INVENTOR,
William L. Reming.
BY Albert H. Bates,
ATTY.

W. L. DEMING.
CASH DRAWER.
APPLICATION FILED JUNE 28, 1911.

1,051,200.

Patented Jan. 21, 1913.

3 SHEETS—SHEET 3.



WITNESSES:
Hugh B. McGill
W. K. Smith.

INVENTOR,
William L. Deming
BY Albert H. Baker,
ATTY.

UNITED STATES PATENT OFFICE.

WILLIAM L. DEMING, OF SALEM, OHIO.

CASH-DRAWER.

1,051,200.

Specification of Letters Patent.

Patented Jan. 21, 1913.

Original application filed June 13, 1910, Serial No. 566,536. Divided and this application filed June 28, 1911. Serial No. 635,877.

To all whom it may concern:

Be it known that I, WILLIAM L. DEMING, a citizen of the United States, residing at Salem, in the county of Columbiana and State of Ohio, have invented a certain new and useful Improvement in Cash-Drawers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

10 The object of this invention is to provide an efficient cash box or drawer for use with cabinets, desks, cash registers, or in other places desired.

My drawer is provided with an individual 15 cover controlled by a suitable combination lock so that when the drawer is brought into accessible position its contents are still inaccessible to one not knowing the combination. I have provided means whereby the 20 cover carries a recording strip on which records may be made, the strip being automatically fed by the opening or closing of the cover under the control of the combination lock. I have also provided a peculiar 25 form of lock which operates in conjunction with the mechanism for raising the cover. I have also combined with my raisable cover an alarm signal. These and other features 30 are comprised within the present invention and will be hereinafter more fully explained.

The present application is a division of my application #566,536, filed June 13, 1910, for an account cabinet, and showing 35 the cash drawer shown herein.

The present invention is concerned with the drawer and its mechanism, irrespective of the form of container for the drawer. In fact, the drawer may serve a useful purpose 40 as a cash box, independently of any container,—and the term "drawer" is intended to include all such uses.

In the drawings, Figure 1 is a perspective view of my cash drawer open; Fig. 2 is a 45 front elevation of the alarm mechanism contained in the drawer; Fig. 3 is a detailed sectional view on the line 3—3 of Fig. 2; Fig. 4 is a vertical section through the drawer in a plane extending from front to 50 back; Fig. 5 is a view partly in section and partly in elevation of the mechanism for unlocking and raising the cover of the cash drawer; Fig. 6 is a detail, being an enlarged sectional view of mechanism adjacent to the 55 inner end of the crank handle; Figs. 7, 8

and 9 are detail views showing a combination lock connected with the drawer cover for assisting in the control of the latter— Fig. 7 being a vertical section through a portion of the cover, Fig. 8 a plan of such portion, and Fig. 9 a section on the line 9—9 60 of Fig. 7; Fig. 10 is a vertical section on a larger scale through the upper portion of a drawer, the section plane passing from front to back through the record strip and its 65 operating mechanism; Fig. 11 is a bottom plan of the mechanism shown in Fig. 10, being a horizontal section on the line 10—10 of Fig. 10 looking upwardly; Fig. 12 is a 70 view, partly in section and partly in elevation, of one of the record strip rollers and its support; Fig. 13 is an end elevation of one of the rollers; Fig. 14 is a side elevation of the ratchet wheel for driving the 75 feeding roller.

The body of my cash drawer is a suitable rectangular box having ends 20 and 21, a front 22, back 23 and bottom 24. When the drawer is in place in a suitable drawer 80 compartment of a desk, cabinet or other structure, the end 20 may conveniently constitute the drawer front. The drawer is preferably arranged, however, in its compartment, so that, when it is drawn out, the side 22 is directly in front of the operator 85 and this side may then be said to constitute the receptacle front. 25 designates the individual top of the drawer, which may be closed within it, as shown in Fig. 4, or elevated to stand above it and extending toward the rear in the inclined position shown 90 in Fig. 1 to constitute a writing desk. 26 indicates a suitable till within the drawer, and 27 a drawer for bills or currency contained beneath the till and adapted to slide 95 out through the lower portion of the side wall 22. 28 indicates a suitable crank carrying a combination lock and connected with mechanism to raise the cover into the position shown in Fig. 1, this movement exposing 100 the till 26 and enabling the currency drawer 27 to be released to come into the position shown in Fig. 1.

Having described the general form of the cash drawer and indicated its operation, I 105 will now proceed to describe particularly the various parts shown and their individual operations.

The till 26 referred to is shown as provided with suitable rounded pockets 30 in 110

which the coins of the various denominations are separately contained. The currency drawer 27, below the till 26, is preferably a shallow drawer divided into a series of compartments for containing the various denominations of bills. This drawer is normally held in its closed position by a catch 32 that is guided for vertical movement on the inside of the front wall of the cash drawer, this catch engaging with a keeper plate 33 on the currency drawer. The latter drawer is adapted to slide in and out of the cash drawer through the front wall of the same, its movement, therefore, being at right angles to the movement of the cash drawer itself in drawing out of a drawer compartment. At the rear of the drawer is an ejecting spring 34, the same being placed under compression when the latter drawer is closed, and serving to eject the drawer whenever the catch 32 is lifted. The currency drawer is prevented from coming entirely out of the cash drawer by a stop lug 35 on the coin till 26, this lug, when the currency drawer is fully open, engaging the rear end wall of the latter.

Normally, the cash drawer is closed at its top by the writing table 25, the same fitting within the upper part of the drawer. When it is desired to reach the cash in the drawer, it is necessary to remove the table from this position; and, as I desire to use this table for carrying a record strip upon which the operator may write his memoranda of sales, I prefer to so mount the table as to cause it to swing bodily up and to the rear of the cash drawer, and to have it lie in an inclined plane when in the latter position, as this is the most convenient position for writing. I accordingly pivot the front edge of the table to a pair of arms 37, there being preferably one of said arms at each end of the table, and I rigidly secure these arms to a rock shaft 38 which is journaled in the cash drawer below the coin till, the latter being recessed on its lower side to receive the shaft. Near the center of the table I pivot, by ears 39, a supporting plate or member 40, the latter being somewhat shorter than the arms 37, and being pivoted in ears 41 to the rear wall of the cash drawer at a point above the shaft 38. When the table is swung into the position shown in Fig. 1, the member 40 extends in an approximately vertical direction; and, owing to the elevation of its lower end above the shaft 38, the table is held in the inclined position indicated.

The table 25 is swung into its open position by the rotation of the shaft 38; and, for rotating the shaft, I secure to its outer end, beyond the cash drawer, the hand crank 28, the latter having a tubular boss 43 projecting outwardly from its free end. Secured within the tubular boss is a tubular housing 44, the same projecting outwardly some dis-

tance beyond the boss. Journaled upon the projecting part of the housing is a handle member 45, the same having an inwardly projecting plunger-rod 46 secured therein, this rod projecting through the tubular housing 44 into position for engagement with notches or holes 47 in a segment plate 48 secured to the outer end of the cash drawer and being bent in an arc concentric with the shaft. I may employ but a single pair of the holes 47, the same being located in position for engagement by the plunger rod 46 when the crank handle is in its extreme positions. If desired, the end portion of the plunger may be flattened on one side, and the rear hole 47 correspondingly shaped, so that there will be no danger of losing the set position of the crank handle when the cover is standing open. The plunger rod 46 is drawn toward the segment 48 by a spring 49 within the handle, the spring being secured at one end to the plunger and at its opposite end to the tubular housing.

In order to prevent unauthorized movement of the table and exposure of the cash, the crank handle 28 is under control of a combination lock, of which the boss 43 and the plunger rod 46 form the cooperating members. The inner end of the tubular boss is provided with a circular recess 50 within which a pin 51 projecting from the plunger rod may move while the rod is in its inner position, at which time the handle 45 and the plunger rod may be freely rotated. At one point in the bottom of the recess 50, I form a notch 52, into which the pin 51 may be received. When the handle has been rotated so as to bring the notch and pin into register, the handle may be pulled outwardly against the tension of its spring 49, until the plunger 46 clears the segment 48, when the hand lever may be swung and the shaft 39 rocked, such movement resulting in swinging the table 25. As an index to the position of the pin 51, I secure to the handle 45 a graduated disk 53, with which coöperates a stationary pointer 54 on the boss 43.

It will be observed, by reference to Figs. 4 and 10, that the arms 37 may propel the table rearwardly in a direction that does not vary greatly from the direction of the member 40, and that the latter tends to hold the table against such movement. I therefore provide means by which the table may be partially lifted by hand in starting it toward its open position. As shown there is a recess 55 in the upper surface of the table into which the operator may engage his thumb or finger to lift the table. He may, of course, lift directly on the table itself; but I prefer to have him engage and lift on a curved arm 56 that projects from the pivoted member 40 and extends through the table into the recess 55 thereof. This curved arm 56 referred to I also use as one part of

an additional lock for the table, the remaining parts of the lock comprising spring-pressed plungers 57 and 59. The positions of the ends of the plungers, with respect to the curved member, are indicated in Fig. 9. Each of these plungers is provided with a head or button 61 that is adapted to be depressed into a socket in the table, the spring 62 for each plunger being located in the socket beneath the head of the latter. Certain of the plungers are adapted to normally extend into sockets on the under side of the curved member 56, and the remaining plungers are adapted to be depressed into corresponding sockets on the upper or outer side of the member, but being normally out of engagement therewith. The curved member can be released, therefore, only by the depression of the proper combination of plungers. Before the table can be lifted to expose the cash, therefore, the operator must not only turn the handle 28 until he has secured the proper indication at the pointer 54 so that the plunger 46 may be drawn outwardly, but he must depress the proper combination of buttons 61. These buttons may be more conveniently operated by the fingers of the left hand, as the thumb of that hand may, at the same time, be inserted under the end of the curved member 56 so that the latter may be lifted. Simultaneously with this operation, the crank handle may be turned with the right hand.

As an additional safeguard against tampering with the cash drawer, I provide an alarm bell 67, the same having a striker 68 that is carried upon the end of a spring 69, the latter being secured to a sleeve 70 journaled on a stud 71. A coiled spring 72 tends to throw the striker against the bell; but the latter is normally held out of contact with the bell by a spring arm 73 which may engage with the spring 69. The sleeve 70 and the striker are rocked against the action of the spring 72 by an arm 74 on the sleeve, the arm being adapted to be engaged and depressed by a lug 75 on a disk 76, the latter being so secured to the member 40 as to turn therewith when the table is lifted. It will be understood, therefore, that the bell is sounded each time that the table is lifted.

I prefer to provide a record strip in connection with the writing table upon which the operator may note any desired memoranda regarding a transaction, and to provide means for feeding said strip along step by step as the table is moved. I therefore pivot to the table top at the rear edge near one of the ends a cover plate 77, the same being provided with a suitable lock at its front end for holding the same in closed position, the lock being indicated at 78 in Figs. 1 and 10. The table 25 has an opening beneath the cover plate 77; and, within this opening I

support a housing member for the record roll 79, such member being bowed downwardly at 80 to provide a receptacle for the supply roller 81 of the record strip, and being similarly bowed downwardly at 82 to form a receptacle for the take-up roller 83 of the strip. Between the bowed portions 80 and 82 the member is substantially parallel to the cover-plate 77, except for a small rounded groove 84, into which a spring tongue-plate 85 on the cover-plate bears for producing a friction upon the record strip so that it will not move too easily.

Near its center, and above the housing member, the cover-plate 77 is provided with an opening, the greater part of which is closed by a plate of glass or other transparent substance 86 so that several of the last transactions made on the strip will remain in view. The memoranda are written on the strip through an aperture 87 at the edge of the plate 86. The receptacles for the record strip rollers 81 and 83 are closed at their ends by lugs 88 that project downwardly from the writing table, so that the writing strip is entirely inaccessible from the under side of the table, and can only be reached by operating the lock 78 and lifting the cover-plate 77. As the key to the lock is retained by the proprietor, unauthorized access to the record strip is effectually prevented.

The roll of paper upon the roller 81 simply rests in the bottom of its receptacle 80; but the roller 83 is journaled in the lugs 88 at the ends of the receptacle 82. The specific construction of this roller is shown in Fig. 12, from which it will be seen that the roller proper 83 is provided in one of its ends with a socket 89, while in its opposite end is a slot 90, the same being enlarged at its center. Projecting from one of the lugs 88 into the socket 89 is a spring-pressed plunger or pin 91 upon which the roller is journaled at this end. Journaled in the opposite lug 88 and carrying the other end of the roller 83, is a short shaft 92. Rigid upon this shaft is a ratchet wheel 93 which drives the roller 83 through the engagement of its clutch face 98 with the slot 90 in the end of the roller, and the ratchet wheel is turned by a ratchet bar 94 which is pivoted on a stud 95 projecting from the link 40 of the table, the ratch bar having teeth on its under side near its free end to engage with teeth of the ratchet wheel. The roller 83 may be turned by hand whenever desired, by turning the hand knob 96 on the shaft 92.

As the table 25 is raised and the link 40 rises toward its vertical position, the ratchet bar 94 is drawn forwardly a slight distance over the ratchet wheel until new teeth on the bar and wheel are brought into engagement. Subsequently, when the table is closed, the ratchet bar is restored to its normal position, and the ratchet wheel and

take-up roller are turned slightly thereby effecting the feed of the record strip. For preventing backward movement of the ratchet wheel, a detent pawl 97 is pivoted
 5 on a stud on the inner side of the adjacent lug 88, this pawl being spring-pressed into engagement with the ratchet wheel. As will be seen from Figs. 10, 11 and 12, all of the feeding mechanism (except the knob 96) as
 10 well as the record strip, is contained within the housing member below the cover-plate 77 so that neither the mechanism nor the strip can be reached except by unlocking and opening the cover-plate 77.

15 I may make the rollers 81 and 83 interchangeable, so that when the record strip has been transferred from the supply roller 81 to the roller 83, the roller 83 containing the strip may be filed away and the roller
 20 81 put in its place to receive the next record. Or the supply roll of paper may be made without a core, and any portion of the strip wound onto the roller 83 may be removed whenever desired.

25 It will be seen from the above description that my cash drawer is a self-contained complete structure, serving the double purpose of a normally locked cash receptacle and a recording system for keeping account
 30 of the cash received and paid out. The opening of the drawer is conveniently effected by an authorized person, whereas it is protected against unauthorized opening, both by the two locks shown and by the
 35 alarm signal.

The device is simple in construction and is neat in appearance and there is little about it to get out of order.

40 Having thus described my invention, what I claim is:

1. In a device of the character described, the combination, with the body of a receptacle, of a horizontal bodily movable cover therefor, mechanism for guiding the cover
 45 so that when raised to open the receptacle it assumes an inclined position suitable for a writing desk, and means for controlling the raising of the cover.

2. In a device of the character described, the combination, with the body of a receptacle, of a till within the same, a drawer beneath the till, a cover above the till, and mechanism for raising the cover and moving it bodily backward and for concurrently releasing the drawer.
 55

3. In a device of the character described, the combination, with the body of a receptacle, of a raisable cover therefor, spools carried on the under side of the cover and
 60 having a record strip accessible from the top of the cover, and means for automatically feeding said strip consequent upon the movement of the cover.

4. The combination, with the body of a
 65 receptacle, a cover for the same, mechanism

for raising the cover and moving it backwardly, a housing carried on the under side of the cover, spools in and protected by said housing, a record strip carried by said spools, an opening through the cover for
 70 allowing the making of entries on the record strip, and mechanism automatically operating when the cover is moved to feed the record strip.

5. The combination, with the body of a
 75 receptacle, a cover for the same, mechanism for raising the cover and moving it backwardly, a record strip carried by the cover on its under side, an opening through the cover for allowing the making of entries on
 80 the record strip, mechanism automatically operating when the cover is moved to feed the record strip, a till within the receptacle, a currency drawer beneath the till, mechanism for automatically releasing the cur-
 85 rency drawer when the cover is raised, and a combination lock for controlling both mechanisms.

6. The combination, with the body of a receptacle, of a raisable cover therefor,
 90 mechanism for raising the cover, a lock for controlling such mechanism, a finger lift for the cover, and an additional lock for the cover adjacent to the finger lift and controlled by finger pressure.
 95

7. In a device of the character described, the combination, with the body of a receptacle, of a movable cover therefor, a crank, mechanism operated thereby for raising the cover, and a combination lock controlled by
 100 the handle of the crank.

8. The combination, with the body of a drawer, of a cover therefor, inclined arms supporting said cover, one of the arms engaging the cover near its forward edge and
 105 the other at a point at the rear thereof, pivots for the lower portions of the arms, the rear arm being pivoted at a higher point than the forward arm, whereby when the cover is raised from a horizontal position it
 110 is automatically caused to assume a position inclining downwardly from the rear.

9. The combination, with the body of the drawer, of a cover therefor, raising mechanism for the cover within the drawer, an
 115 outside handle for operating the raising mechanism, a lock for said handle, a finger lock carried by the cover and engaging the raising mechanism operable by the hand which raises the cover.
 120

10. The combination, with the body of a drawer, of a cover therefor, inclined arms within the drawer pivotally connected with the cover, the arms being pivotally supported, a connection from one of the arms
 125 extending adjacent to the cover, and a plurality of plungers carried by the cover and adapted to hold said extension, thereby locking the cover and to be operated in a predetermined manner to release said extension.
 130

11. In a device of the character described, the combination of a cash drawer, a writing table normally closing the said drawer, a rock shaft journaled in the drawer, a hand crank secured to the rock shaft outside the drawer, arms secured to said rock shaft and pivotally connected to the table whereby the latter is swung from over the table when the shaft is rocked by the crank, and a lock coöperating with the crank for holding the table in its closed position.

12. In a device of the character described, the combination of a cash drawer, a rock shaft journaled in the said drawer, a crank handle secured to the rock shaft outside the drawer, a writing table normally closing the drawer, arms secured to the rock shaft and pivoted to the table, whereby a rocking movement of the shaft moves the table from over the drawer, a combination lock coöperating with the drawer, and the crank handle for preventing movement of the shaft until the lock has been properly set.

13. In a device of the character described, the combination of a cash drawer, a writing table normally covering said drawer, a rock shaft journaled in the cash drawer, arms secured to the rock shaft and pivoted at their outer ends to the front edge of the writing table, a supporting member pivoted at one of its ends to the under side of the table and at its opposite end to the cash drawer, and a hand crank secured to the outer end of the rock shaft for rocking the latter and thus lifting the table upon the said arms and the support, as and for the purpose specified.

14. In a device of the character described, the combination of a cash drawer, a writing table normally covering the drawer, mechanism for moving the table from the drawer to uncover the latter, said table having an opening therein, a housing supported from the table beneath the opening, spool and a record strip within the housing, a movable cover plate for closing the entrance to the housing, said cover plate having a writing aperture therethrough, and means automatically operated as the table is moved for feeding the record strip beneath the said aperture.

15. In a device of the character described, the combination of a cash drawer, a writing table normally covering the drawer, said table having an opening therethrough, a housing for containing a record strip secured to the table and projecting beneath the same below the said opening, a compartment in said housing for containing the supply roll of the strip, a second compartment in the housing, a take-up roller journaled in the end walls of said latter compartment, the record strip being attached to the take-up roller, a ratchet wheel secured to the take-up roller, and a ratchet

bar coöperating with the ratchet wheels to turn the take-up roller as the table is moved into position for closing the drawer.

16. In a device of the character described, the combination of a cash drawer, a rock-shaft journaled in the end walls of the drawer, a crank handle for rocking said shaft, arms secured to the shaft, a writing table normally covering the said drawer and pivoted to the outer ends of the said arms, a supporting member pivoted to the under side of the writing table near its center and to the rear wall of the drawer, the construction being such that when the shaft is rocked the cover is moved backwardly and upwardly into an inclined position with the drawer uncovered, mechanism below the writing table for supporting a record strip, and means connected with the said supporting member for feeding the record strip as the table is moved into position for closing the drawer.

17. In a device of the character described, the combination of a cash drawer, a coin-till mounted within the cash drawer, a currency drawer below the coin till and mounted for sliding movement through the front wall of the cash drawer, a spring at the rear end of the currency drawer for throwing the latter open, a catch for holding the currency drawer closed, a writing table normally covering the cash drawer and preventing access to both the coin till and the catch, a rock shaft journaled within the cash drawer, arms projecting from the rock shaft and pivoted to the front edge of the table, a supporting member pivoted to the under side of the table and to the rear side of the cash drawer, and means for rocking the rock shaft, whereby the table is moved to uncover the cash drawer and to thus permit access to both the coin till and the catch.

18. In a device of the character described, the combination of a cash drawer, a writing table normally covering the said drawer, a rock shaft journaled within the cash drawer, connecting mechanism between the rock shaft and writing table, a crank secured to the rock shaft outside the cash drawer, a handle on the crank, a plunger secured to the crank handle and extending through the crank, a segment plate secured to the cash drawer, said plate having apertures therein to receive the end of the plunger, a spring for forcing said plunger into the apertures of the segment, and a combination lock for locking the plunger into engagement with the segment.

19. In a device of the character described, the combination of a cash drawer, a writing table normally covering the cash drawer, a rock shaft journaled in the drawer below the table, a pair of arms projecting from the rock shaft upwardly and

forwardly and being pivoted at their free
ends to the front edge of the table, a sup-
porting member pivoted to the rear wall of
the cash drawer at a point that is higher in
5 the drawer than the rock shaft, said sup-
porting member projecting upwardly and
forwardly and being pivoted to the under
side of the table near its center, said table
being provided with an opening therein, a
10 cover plate pivoted to the table at one edge
of the said opening, said plate, when in its
closed position, covering the said opening, a
lock for holding the cover plate in its
closed position, two pairs of lugs projecting
15 downwardly from the under side of the
table, a housing member secured to the table
and extending about the said pairs of lugs,
said member and lugs forming two com-

partments below the table, a record strip
supply roll within one of said compart- 20
ments, a take-up roll for the strip journaled
in the lugs for the other compartment and
extending through the latter, a ratchet
wheel connected with the take-up roller, a
ratchet bar pivoted to the supporting mem- 25
ber and engaging with the ratchet wheel,
a detent pawl also engaging with said
wheel to prevent backward movement of
the latter, and means for rocking the rock
shaft, all as and for the purpose specified. 30

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

WILLIAM L. DEMING.

Witnesses:

CHAS. P. MORLAN,
W. G. BUTLER.