(No Model.)

3 Sheets—Sheet 1.

# H. A. MILES.

## CASH REGISTER.

No. 387,433. Patented Aug. 7, 1888.

Fig. 2.

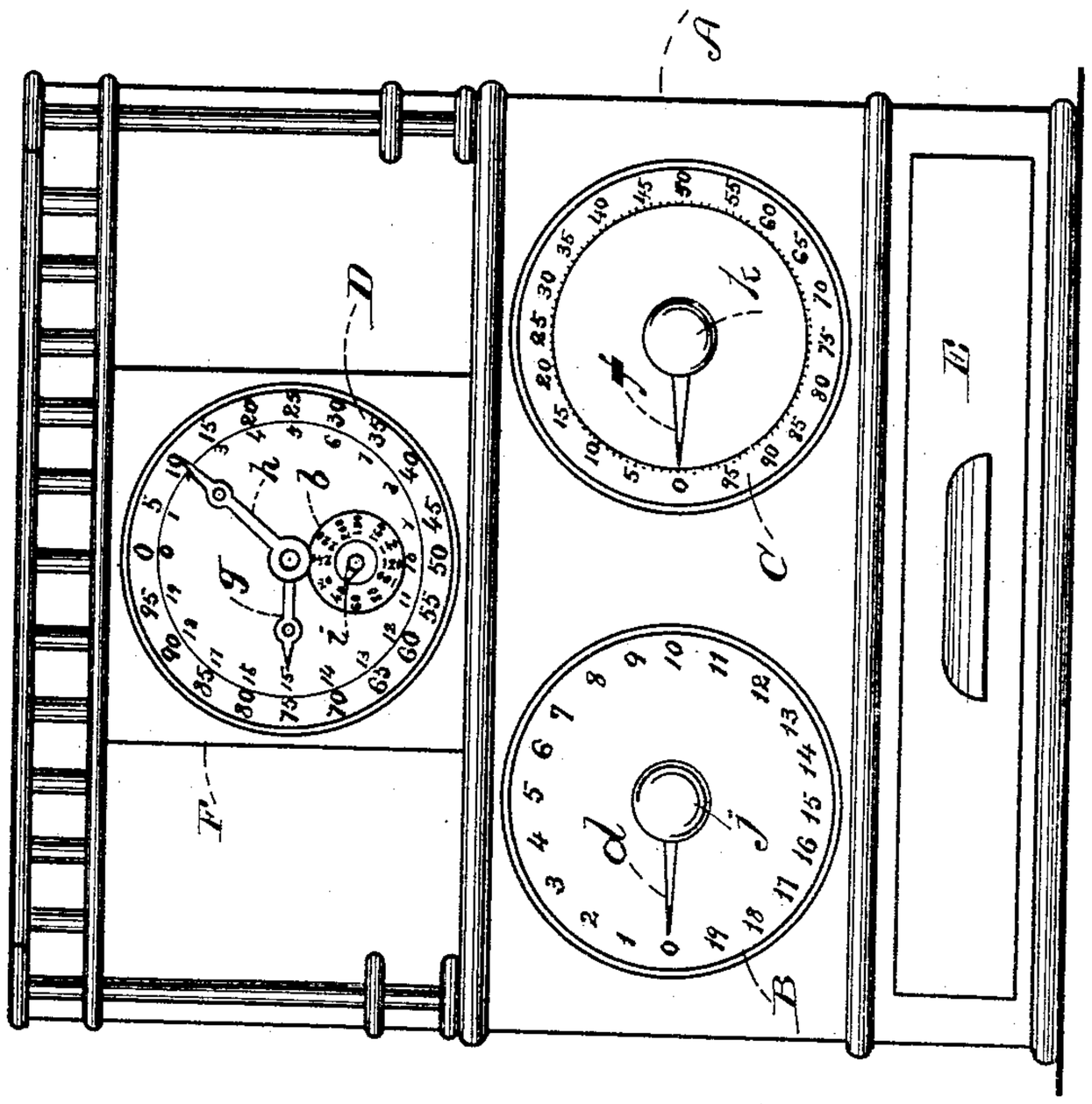
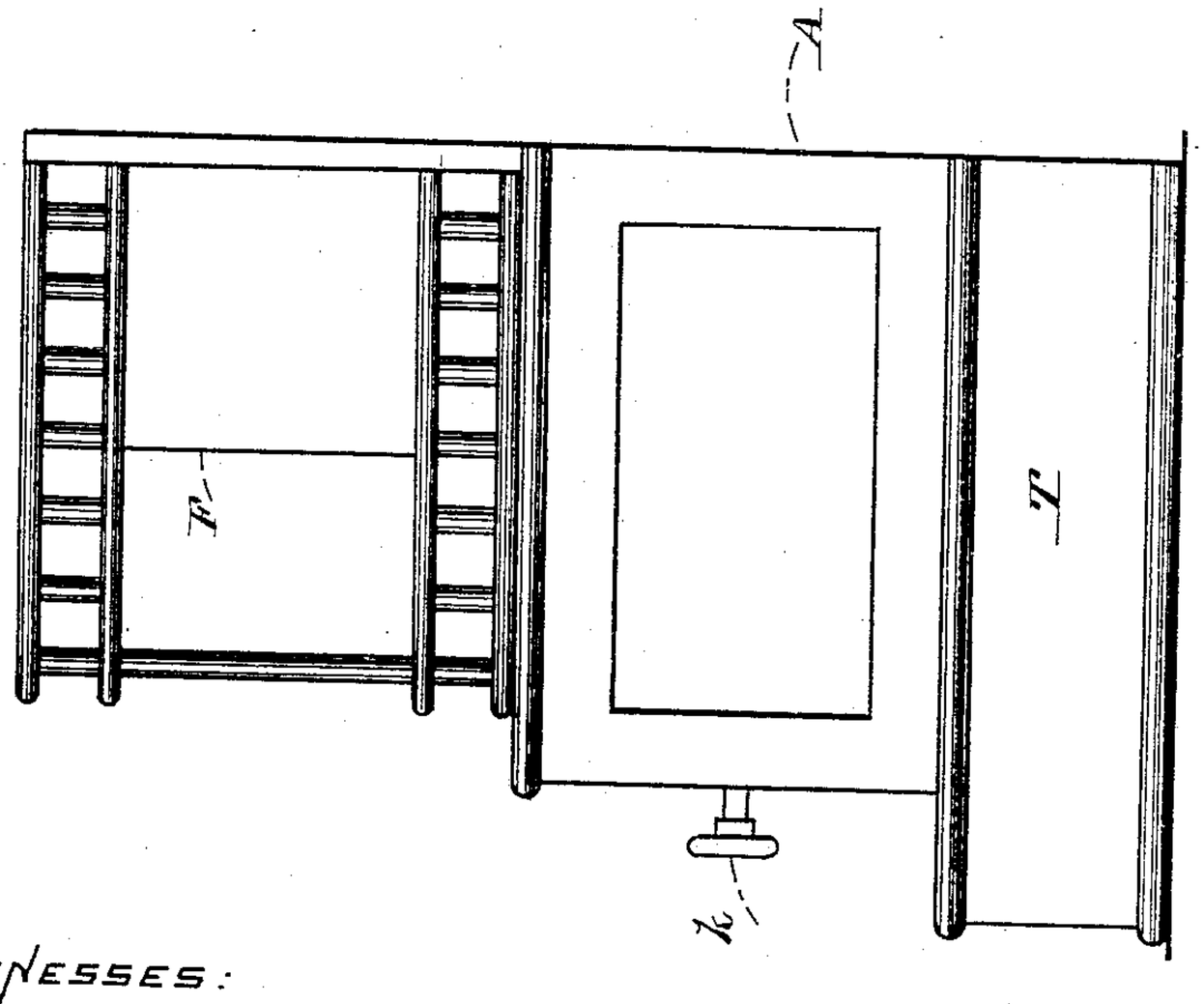



Fig. 1.




Witnesses:
Robt. W. Matthews.
E. M. Sweeney.

Inventor:
Harmon A. Miles,
Per C. A. Shaw & Co.
Atty's.

(No Model.)

3 Sheets—Sheet 2.

# H. A. MILES.

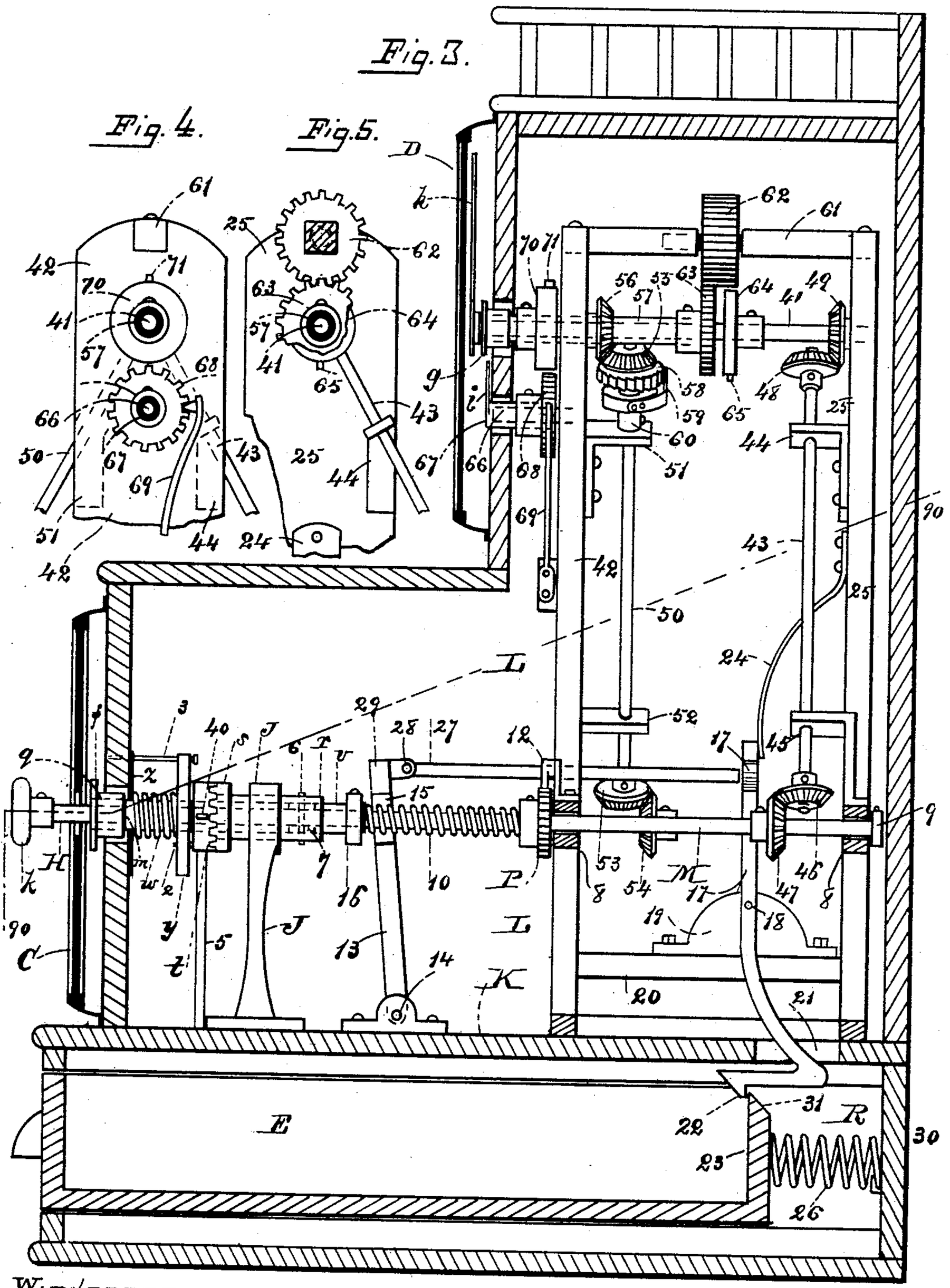
## CASH REGISTER.

No. 387,433. Patented Aug. 7, 1888.

Fig. 3.

Fig. 4.

Fig. 5.




WITNESSES:
Robt. W. Matthews.
C. M. Bunney.

INVENTOR:
Harman A. Miles.
PER C. A. Shawley.
Atty's.

(No Model.) 3 Sheets—Sheet 3.

# H. A. MILES.

## CASH REGISTER.

No. 387,433. Patented Aug. 7, 1888.

Fig. 6.

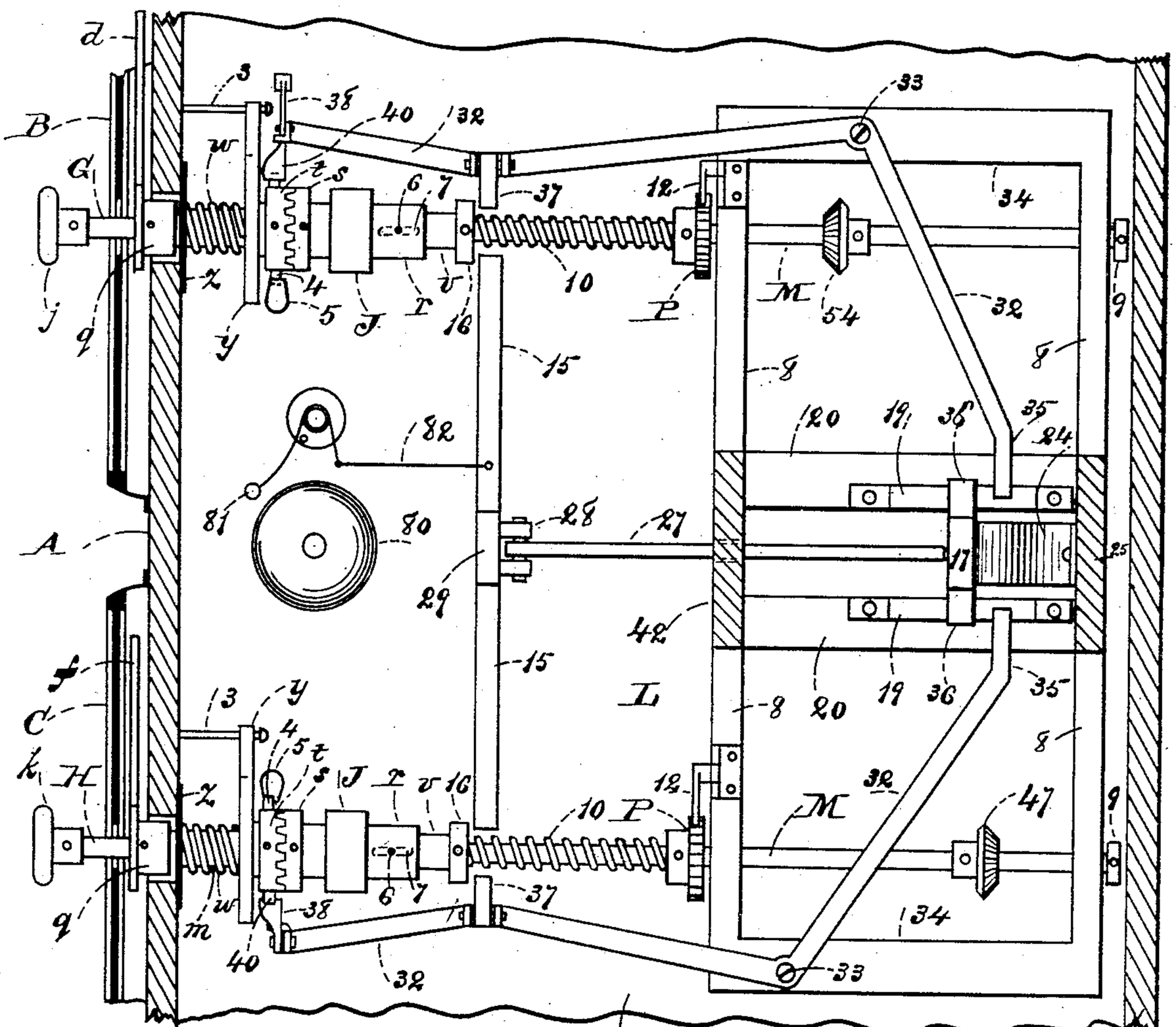



Fig. 7.

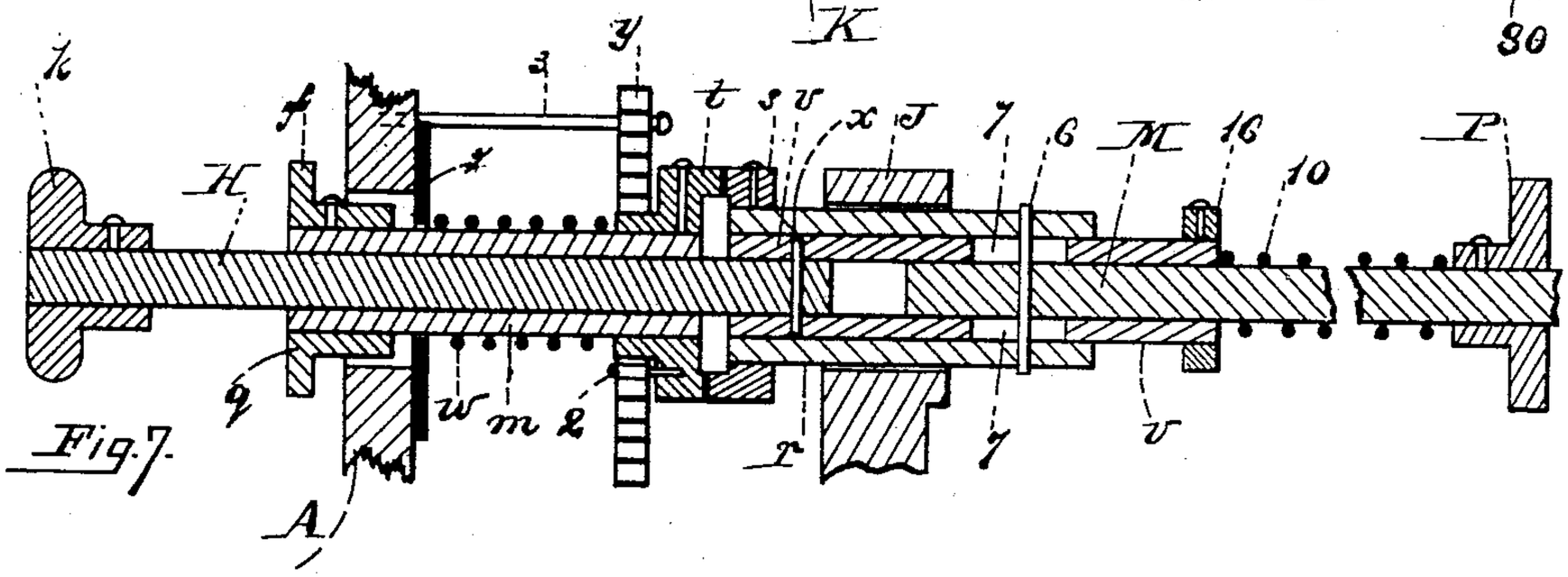



Fig. 9.

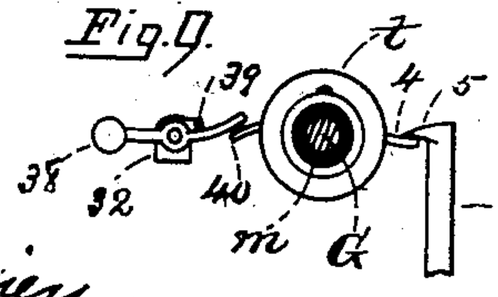
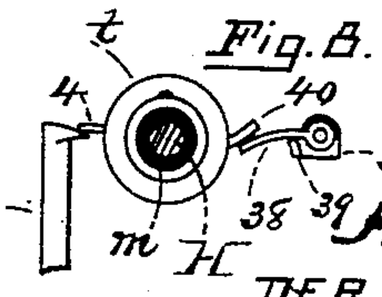



Fig. 8.




Witnesses—
Robt. W. Matthews,
C. M. Spruiey.

Inventor—
Harmon A. Miles
per C. A. Shaw & Co.
Atty's.

# UNITED STATES PATENT OFFICE.

HARMON A. MILES, OF BOSTON, MASSACHUSETTS.

## CASH-REGISTER.

SPECIFICATION forming part of Letters Patent No. 387,433, dated August 7, 1888.

Application filed April 26, 1888. Serial No. 271,973. (No model.)

*To all whom it may concern:*

Be it known that I, HARMON A. MILES, of Boston, in the county of Suffolk, State of Massachusetts, have invented a certain new and useful Improvement in Cash-Registers, of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science to which said invention appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation of my improved cash-register; Fig. 2, a front elevation of the same; Fig. 3, an enlarged vertical transverse section of the case, the working parts being shown in side elevation; Figs. 4 and 5, sectional views showing certain details of construction; Fig. 6, an enlarged horizontal section, taken on line 90 in Fig. 3, the lower working parts being shown in top plan view and the upper working parts removed; Fig. 7, an enlarged vertical longitudinal section of one of the actuating-rods and its immediately-connected mechanism, the case, standard, and a portion of the rod being represented as broken off; and Figs. 8 and 9, sectional views showing certain details of construction.

Like letters and figures of reference indicate corresponding parts in the different figures of the drawings.

My invention relates especially to that class of cash-registers which are adapted to indicate the gross amount of sales; and it consists in certain novel features, as hereinafter fully set forth and claimed, the object being to produce a simpler, cheaper, and more effective device of this character than is now in ordinary use.

The nature and operation of the improvement will be readily understood by all conversant with such matters from the following explanation:

In the drawings, A represents the case; B C D, the dials, and E the cash-drawer.

The case may be of any suitable form desired, the drawer E being fitted to slide in its lower portion, R.

The dials B C are circular in shape and attached to the front of the case immediately above the drawer E, as shown in Fig. 2. The dial B is employed to indicate the amount in dollars of each sale, and is provided peripherally with numerals upon its face from 0 to 20 consecutively, beginning centrally at the left of the circle and numbering from left to right, as shown in Fig. 2. The dial C indicates the amount in cents of each sale, and is numbered upon its face with each consecutive fifth numeral, beginning centrally on the left of the dial at 0, and numbering from left to right to 95, inclusive, as shown in Fig. 2.

The dial D is affixed centrally to the front of a small supplemental case, F, which is disposed above and at the rear of the body of the case, (see Fig. 1,) said dial D being designed to indicate at all times the gross amount of sales made or the amount of money in the drawer E. The dial D is provided on its face near its periphery with numerals, beginning centrally at the top thereof with 0 and numbering consecutively from left to right with each fifth numeral to 95, inclusive, a similarly-arranged row of numerals from 0 to 19, inclusive, being disposed just within the outer row, as shown in Fig. 2, number 1 of the inner row being placed beneath number 5 of the outer row, number 2 beneath number 10, and so on throughout the series. A small circle, *b*, is formed on the dial D just below its center, said circle being provided peripherally with a row of numerals beginning with 20 and numbered from right to left with every twentieth numeral up to 220, inclusive, as shown in Fig. 2.

The dials B C are provided with movable index-fingers *d f*, and the dial D with movable hands *g h i*, disposed in a similar manner to the hour, minute, and second hands of an ordinary watch, the movement of said fingers and hands being hereinafter described.

Rods G H provided on their outer ends with knobs *j k* pass, respectively, through the dials B C, and are loosely journaled horizontally by means of sleeves *m r* (see Fig. 7) in a plate, *z*, secured to the front of the case A, and in a standard, J, disposed within said case. As the operation and construction of the mechanism disposed on said rods and immediately connected therewith are practically identical, a description of the operation of the rod H is deemed sufficient for present illustration.

The indicating-fingers *d f* are secured, re-

spectively, to rings *q*, fastened to the outer ends of the sleeves *m* by means of set-screws.

Secured to the inner end of the sleeve *m* is a crown-gear, *t*, a companion crown-gear, *s*, the teeth of which are adapted to intermesh with those of the gear *t*, being secured to the adjacent end of the sleeve *r*, said crown-gears performing the functions of a clutch when in use, as hereinafter described.

The inner end of the rod H is secured by a pin, *x*, in a sleeve, *v*, which is fitted to slide horizontally in the sleeve *r*. A stiff coiled spring, *w*, is disposed around the sleeve *m* between the plate *z* and gear *t*. A strong flat spring, *y*, similar to the spring of a clock, is coiled around the hub of the gear *t*, to which its inner end is attached by a pin, 2, its outer end being secured to a pin, 3, in the front of the case. By grasping the knob *k* and pulling out the rod H and sleeves *v* and *m* until the teeth of the gears *t s* are disengaged the spring *y*, acting torsionally, will cause the sleeve *m* to revolve from right to left until a stud, 4, on the gear *t* meets a stop, 5, (see Figs. 6 and 8,) secured to the floor K of the case, the index-finger *f* at the same instant stopping at 0 on the dial C.

A rod, M, of the same size as the rod H, has its inner end disposed in the sleeve *v*, and is secured to the sleeve *r* by a pin, 6, which passes through longitudinal slots 7 in the sleeve *v* to enable said sleeve to slide in the sleeve *r*, as described, without carrying with it said sleeve *r*, said rod being journaled in cross-bars 8 (see Fig. 3) of a frame-work, L, disposed within the case and prevented from being withdrawn by a collet, 9, secured to its outer end.

A stiff coiled spring, 10, is disposed on the rod M between the outer end of the sleeve *v* and the hub of a ratchet-wheel, P, secured on said rod near the front cross-bar, 8.

A spring-pawl, 12, is secured to the cross-bar 8 in engagement with said ratchet-wheel to prevent it from being accidentally turned from right to left, said wheel being provided with twenty teeth to correspond with the number of numerals on the dials B C.

Two vertically-arranged arms, 13, (see Fig. 3,) are pivoted at their lower ends to the floor K of the case, as shown at 14, their upper ends being connected by a horizontally-arranged rod, 15, so disposed that its end will be engaged, when in use, by a collet, 16, secured to the outer end of the sleeve *v* for that purpose.

A vertically-arranged lever, 17, (see Fig. 3,) is pivoted at 18 between two standards, 19, secured to centrally-disposed cross-bars 20 of the frame-work L, said lever passing downward through a hole, 21, in the floor K into the drawer-case, R, where it is bent horizontally, its lower end being provided with a hook, 22, which engages the inner edge of the rear end, 23, of the drawer E and prevents said drawer from being opened until released from said hook.

A strong flat spring, 24, secured by one end to a centrally-arranged vertical standard, 25, has its free end pressing the upper end of the lever 17 outward, thereby holding the hook 22 of said lever in engagement with the rear end, 23, of the drawer and securely locking the same.

A coiled spring, 26, is disposed in the drawer-chamber R between the rear end, 23, of the drawer and rear walls, 30, of the case A, the purpose of said spring being to force said drawer partially out from its chamber when released from the hook 22.

A horizontally-arranged rod, 27, is pivoted at 28 to a rigid centrally-arranged vertical arm, 29, on the cross-bar 15, the opposite end of said rod being in position to engage the upper end of the lever 17. When the knob *k* is turned from left to right until its finger *f* indicates upon the dial C the amount desired, if in cents, or the corresponding finger, *d*, on the dial B, if in dollars, the rod H in revolving carries with it the sleeve *v*, which revolves the rod M and its ratchet P, the pawl 12, engaging said ratchet, preventing the mechanism from being turned in the opposite direction. Revolving the rod M causes the sleeve *r*, to which it is secured by the pin 6, to turn, and at the same time the gear *s* on said sleeve, intermeshing with the gear *t*, carries with it the sleeve *m* and the indicating-hand secured to said sleeve, as described. By pushing inward on the knob *k* the spring 10 is compressed and the collet 16 brought into contact with an end of the cross-bar 15. This throws forward the rod 27 against the upper end of the lever 17, thereby causing said lever to overcome the spring 24 and disengage the hook 22 from the drawer E, which, being thus released, is immediately forced outward from its chamber by the coiled spring 26, so that the money may be deposited therein. The upper edge of the inner end, 23, of the drawer is beveled at 31, so that when the drawer is forced inward against the spring 26 it will readily slip past the hook 22, which at once locks it again. By pulling outward on the knob *k*, as before described, thereby bringing the inner end of the sleeve *v* in contact with the adjacent end of the sleeve *m*, and thus disengaging the gear *t* from the gear *s*, the torsion-spring *y* will turn the sleeve *m* on the rod H and carry the finger *f* back to 0 on the dial C in position to repeat the indicating process. It will readily be seen that by moving the rod H horizontally in either direction the sleeve *v* will slide in the sleeve *r* without moving it or the rod M. A horizontally-arranged lever, 32, (see Fig. 6,) is pivoted at 33 to a bar, 34, of the frame-work L, and is provided with a short arm, 35, on its inner end, which projects behind an arm, 36, formed on the upper end of the locking-lever 17 to engage it. The lever 32 is also extended toward the front of the case beside the bars H M, being bent inward toward the collet 16 and provided at this point with a piv-

oted arm, 37, the free end of which falls into the path of the collet 16 and forms a stop to prevent said collet from being pushed inward to engage the bar 15 and open the drawer until the index-finger has been moved away from 0, as above described. To the outer end of the lever 32 is pivoted a curved arm, 38, (see Figs. 3 and 8,) said arm being prevented from falling below a horizontal position by a stop, 39, (see Fig. 8,) formed on said lever. The free end of the pivoted arm 38 as thus disposed projects into the path of a stud, 40, on the periphery of the gear *t*, said stud engaging said arm as the knob *k* is revolved from left to right to indicate a sale on the dial C, and by forcing its way past the end of said arm moves the lever 32 on the pivot 33, thus taking the arm 37 from the track of the collet 16 and permitting said collet to engage the bar 15 and open or release the drawer E when the knob *k* is pushed inward, as above described. As this operation takes place the arm 36 on the locking-lever 17 engages the arm 35 on the lever 32 and forces said lever back into position, with its arm 37 again in the path of the collet 16.

It will be seen that the lever 32 and its adjunctive mechanism effectually prevents the drawer from being opened unless the knob *k* is turned, so that the finger *f* indicates a number other than 0 upon the dial. It will also be seen that the coiled springs 10 and *w* instantly return the parts to their original positions as soon as the knob *k* is released after being pushed inward in the act of opening the drawer or pulled outward to adjust the finger on the dial C. A lever, 32, is situated in the same relative position to the rod G as the lever 32 is to the rod H, and as the knob *k* is turned from left to right in indicating a sale the stud 4 on the gear *t* engages the stop 5 and the stud 40 engages the pivoted arm 38, but on the under sides of said stops, instead of upon the tops, as described in connection with the rod H, making it necessary to provide a counter-balance for the arm 38, as shown in Fig. 9. A horizontally-arranged shaft, 41, (see Fig. 3,) passes through the center of the dial D, and is journaled in the centrally-arranged vertical standards 42 and 25 of the frame-work L, the long hand *h* being secured to the outer end of said shaft. An inclined vertically-arranged shaft, 43, is journaled in a bracket, 44, secured to the standard 25, and in a bracket, 45, secured to the cross-bar S. The shaft 43 is provided with a beveled gear, 46, on its lower end, which intermeshes with a similar gear, 47, secured to the rod M, a corresponding gear, 48, being secured to the upper end of said shaft, which intermeshes with a gear, 49, secured to the rear end of the shaft 41. A correspondingly-inclined shaft, 50, is journaled in brackets 51 and 52, said shaft being provided on its lower end with a beveled gear, 53, intermeshing with a gear, 54, on the rod M, which is connected with the dial B. A loose beveled gear, 55, is journaled in the upper end of the shaft 50 and intermeshes with a similar gear, 56, secured to a sleeve, 57, fitted to revolve easily on the shaft 41.

The gear 55 is secured to a ratchet-wheel, 58, journaled on the shaft 50, said ratchet being prevented from revolving from right to left by a spring-pawl, 59, secured to the shaft 50 by a hub, 60.

Journaled centrally in a cross-bar, 61, secured to the tops of the standards 42 and 25 of the frame-work L, is a broad gear, 62, and secured to the inner end of the sleeve 57 is a gear, 63, whose teeth intermesh with the teeth of the gear 62, the short hand *g* of the dial D being secured to the outer end of said sleeve. A plain wheel, 64, is secured to the shaft 41, said wheel being provided with a stud, 65, on its periphery, adapted to engage a tooth of the gear 62 at each complete revolution of said shaft and move said gear the distance of one tooth, which causes the sleeve 57 to rotate a corresponding distance, carrying with it the hand *g*, or moving said hand one space on the dial D. A short horizontally-arranged shaft, 66, passes through the center of the small dial or circle *b* of the dial D, and is journaled in the standard 42. A sleeve, 67, is fitted to rotate on said shaft 66, the hand *i* on the dial *b* being secured to the outer end of said sleeve.

A ratchet-wheel, 68, is secured to the inner end of the sleeve 67, a spring-pawl, 69, being secured to the standard 42, which engages said wheel and prevents it from being turned from left to right. A plain wheel, 70, is secured to the sleeve 57, said wheel being provided with a stud, 71, on its periphery adapted to engage the ratchet 68 and move it from right to left one tooth at each complete revolution of said wheel, thereby causing the hand *i* to move over one space on the small circle *b* of the dial D.

A bell, 80, is mounted in any convenient position in the case A, and provided with a spring-actuated hammer, 81, which is connected to the cross-bar 15 by a pivoted arm, 82, so that the hammer will strike the bell and sound an alarm when the drawer is opened, as described.

In describing the use of my improvement it may be supposed, for example, that the amount of the sale made is twenty five cents. To indicate said sale, the knob *k* of the dial C is turned from left to right until the finger *f* points to the figures 25 on said dial, the pawl 12 engaging the ratchet P, and thereby preventing said finger from being turned backward by means of said knob. The knob *k* is then forced inward, releasing the drawer E from the hook 22, as already described, and at the same time ringing the bell 80, whereupon the spring 26 at once forces the drawer out, so that the money may be deposited therein or change made. The knob *k* is then pulled outward, separating the crown gears or clutch *t s* and causing the finger *f* to fly back to the 0, as specified, and in position to repeat the operation. As the knob *k* is turned to rotate

the rods H M, the shaft 43 is caused to rotate from left to right, thereby turning the shaft 41 in the same direction and moving the long hand *h* a proportionate distance on the dial D. The teeth in the gears of the connecting mechanism between the knob *k* and hand *h* are so formed and arranged that the hand *h* will be moved the same distance as the finger *f* and indicate the cents on the dial D of the gross amount. When the finger *f* has been turned twenty spaces, or the equivalent of one dollar, the stud 65 on the wheel 64 will engage the gear 62, forcing it from left to right and moving the gear 63 on the sleeve 57 a corresponding distance, thus carrying the short hand *g* one space on the inner circle of the dial D, and thereby indicating the gross amount in dollars, under twenty, of the sales.

It will be seen that the beveled gear 55, being loose on the shaft 50, does not interfere with the operation of the sleeve 57, as last described. When the hand *g* has passed, as described, through twenty spaces on the dial D, indicating twenty dollars, the stud 71 on the wheel 70 engages the wheel 68 and moves it the space of one tooth, thereby causing the hand *i* to move one space from right to left on the small circle *b* and registering the gross amount of sales in sums of twenty dollars.

The dial D reads as shown in Fig. 2 of the drawings, or shows that fifty-five dollars and ten cents have been deposited in the drawer E, forty dollars of said sum being indicated by the hand *i* on the small circle *b*, fifteen dollars by the hand *g*, and ten cents by the hand *h*.

The dial B is employed when the amount of a single sale is more than one dollar, the finger *d* being turned to indicate the number of dollars, and the finger *f* to indicate the number of cents exceeding the dollar of the sale.

The intervening mechanism described connects the rod G directly with the sleeve 57 and moves the hand *g* as the knob *j* is turned.

It will readily be seen that by changing the number of teeth in the ratchet-wheel P and gears connected with the rod M and altering the spaces in the dials C D the dial C may be made to indicate a single cent at a time, instead of five, as shown, and the dial D to indicate dollars in hundreds or thousands, if desired.

Having thus explained my invention, what I claim is—

1. In a cash-register, a case containing a money-drawer, a dial on said case for indicating the amount of the sale in cents, an index-finger, a knob for turning said finger, adjunctive mechanism for releasing and forcing out said drawer when said knob is pressed inward, and a spring acting torsionally for returning said finger to the 0 when said knob is pulled outward, all being combined substantially as set forth.

2. In a cash-register, a case containing a money-drawer, a dial for indicating the amount of a single sale in dollars, a dial for indicating the amount of a single sale in cents, an index-finger on each dial, a knob for turning each finger, adjunctive mechanism for releasing and forcing out the money-drawer when either of said knobs is pressed inward, and means for automatically returning said fingers to the 0 point when the corresponding knob is pulled out, all being combined substantially as described.

3. In a cash-register, a case containing a money-drawer, a dial for indicating the amount of a single sale in cents, a dial for indicating the amount of a single sale in dollars, an index-finger for each of said dials, knobs for turning said fingers, a dial provided with three hands for registering the gross amount in dollars and cents of the total sales, adjunctive mechanism for correspondingly moving said hands when said knobs are turned, means for releasing and forcing said drawer outward when either of said knobs is forced inward, and means for automatically returning said fingers to the 0 point when the corresponding knob is pulled out, all being combined substantially as set forth.

4. In a cash-register, a case, a dial, a rod passing through the center of said dial and provided with a knob on its outer end, a sleeve inclosing said rod and having an index-finger on its outer end and a crown gear on its inner end, a sleeve secured to the inner end of said rod and fitted to slide in a containing-sleeve journaled in a standard in said case, a crown-gear on said containing-sleeve intermeshing with the corresponding gear on said inclosing-sleeve, a coiled spring disposed between the case and the gear on said inclosing-sleeve to keep said gears engaged, and a spring secured to the case and to the gear on said inclosing-sleeve, said spring being adapted to revolve said sleeve when said gears are separated by withdrawing said rod, and a stop for preventing the inclosing sleeve from being rotated too far, all being combined substantially as described.

5. In a cash-register, a case provided with a cash-drawer, a vertically-arranged lever pivoted in standards in said case and provided with a hook on its lower end for detachably locking said drawer in said case, a spring for holding said hook in engagement with said drawer, a spring for forcing said drawer out of the case when released from said hook, and adjunctive mechanism for moving said lever to release the drawer when a sale is registered, all being combined substantially as set forth.

6. In a cash-register, a case containing a cash-drawer, a vertically-arranged lever pivoted in a frame-work in said case and provided with a hook on its lower end for locking said drawer in the case, a spring for holding said hook in engagement with said drawer, a spring for opening the drawer when released, a horizontally-arranged bar pivoted to pivoted standards for engaging the top of the lever and overcoming the lever-spring to release the drawer, and adjunctive mechanism for forcing said horizontal rod into engagement with

said lever, all being combined substantially as described.

7. In a cash-register, a case provided with a cash-drawer and indicating-dial, a rod provided with a knob and passing through the center of said dial, said rod being journaled by means of sleeves in a standard within said case, a collet secured to the outer end of one of said sleeves, a pivoted vertically-arranged lever within said case provided with a hook for securing said drawer, a spring for holding said hook in engagagement with said drawer, a horizontally-arranged bar pivoted to pivoted standards, said standards being adapted to be forced forward by the collet on said rod when pushed inward and cause said bar to engage said lever and release said drawer, a horizontally-arranged pivoted lever having an arm projecting into the path of said vertical lever and a pivoted arm projecting into the path of said collet to prevent said collet from engaging said standards excepting at specified times, adjunctive mechanism for throwing said pivoted arm out of the path of said collet, and a spring for opening said drawer when released from said vertical lever, all being combined substantially as set forth.

8. In a cash-register, a case provided with a dial for indicating the amount of a single sale and with a dial for registering the gross sales, a horizontal shaft passing through the center of said registering-dial and journaled in a frame within said case, a hand secured to the outer end of said shaft for registering the amount in cents of the gross sales, a vertically-arranged inclined shaft journaled in said frame and provided with a beveled gear engaging a gear on said shaft, a horizontal rod journaled in said frame and provided with a beveled gear intermeshing with a gear on the lower end of said inclined shaft, adjunctive mechanism for connecting said rod with a rod passing through the center of said indicating-dial, a finger for said indicating-dial, and a knob for rotating the rod which passes through said indicating-dial, all being combined substantially as described.

9. In a cash-register, a case provided with a dial for indicating the amount of a single sale and a dial for registering the gross sales, a horizontal shaft passing through the center of said registering-dial, a hand on the outer end of said shaft, a sleeve adapted to rotate on said shaft, a hand on the outer end of said sleeve for registering the amount in dollars of the gross sales, a gear-wheel journaled within the case above said shaft and intermeshing with a gear on the inner end of said sleeve, a wheel on said shaft provided with a stud adapted to engage a tooth in the upper gear, adjunctive mechanism for rotating said shaft, said mechanism being actuated by a rod passing through said indicating-dial, whereby the hand on the outer end of said sleeve is moved one space at each complete revolution of said rod, all being combined and arranged to operate substantially as set forth.

10. In a cash-register, a case provided with a dial for indicating the amount of a single sale and a dial for registering the gross sales, a horizontal shaft passing through the center of said registering-dial, a sleeve adapted to rotate on said shaft, a hand on the outer end of said sleeve for registering the amount in dollars of the gross sales, a beveled gear on said sleeve intermeshing with a gear on an inclined shaft, adjunctive mechanism for rotating said shaft, said mechanism being actuated by a rod provided with an index-finger and passing through the center of said indicating-dial, whereby said hand is moved a distance corresponding with the distance said finger is advanced, all being constructed, combined, and arranged to operate substantially as set forth.

11. In a cash-register, a case provided with a dial for indicating the amount of a single sale, a dial for registering the gross sales, a horizontal shaft passing through the center of said registering-dial and provided with a hand for registering cents on said dial, a sleeve on said shaft provided with a hand for registering single dollars on said dial, a journaled stub-shaft passing through the center of a small circle on said registering dial which records the amount by tens in dollars of the gross sales, a sleeve on said stub shaft provided with a hand on its outer end for said small circle and a ratchet on its inner end, a spring-pawl engaging said ratchet to prevent it from turning in one direction, a wheel secured to the sleeve on said central shaft, said wheel being provided with a stud adapted to engage said ratchet and move it the distance of a tooth, and adjunctive mechanism for causing said sleeve to rotate, said mechanism being actuated by a rod passing through the center of said indicating-dial, all being combined and arranged to operate substantially as described.

12. In a cash-register, the case A, provided with the dial C, the rod H, provided with the knob *k*, the sleeve, *m*, having the finger *f* and crown-gear *t*, the coiled spring *w*, disposed on said sleeve, the sleeve *r*, disposed in the standard J, and provided with the gear *s*, intermeshing with the gear *t*, the sleeve *v*, pinned to said rod and fitted to slide in the sleeve *r*, and the spring *y*, secured to the gear *t*, and case A, whereby the sleeve *m* may be caused to rotate when the gears *t s* are disengaged by pulling outward on the knob, all being combined and arranged to operate substantially as set forth.

13. In a cash-register, the case A, having the drawer E, the sleeve *r*, disposed in the standard J, the sleeve *v*, fitted to slide in the sleeve *r* and provided with the slot 7, the rod H, secured in the sleeve *v* and provided with the knob *k*, the rod M, disposed in the sleeve *v* and secured to the sleeve *r*, the ratchet P, secured to the rod M, the pawl 12, engaging said ratchet, the spring 10, disposed on the rod M between the sleeve *v* and said ratchet, the vertical lever 17, pivoted in said case and provided with the hook 22 for locking said drawer, the

spring 24 for keeping said hook in engagement with said drawer, adjunctive mechanism adapted to be actuated by the rod H when pressed inward for releasing the drawer from said hook, and the spring 26, for opening said drawer when released, all being combined to operate substantially as set forth.

14. In a cash-register, the case A, provided with the dials B C *b* and the drawer E, the frame-work L, disposed in said case, the lever 17, pivoted in said frame and having the hook 22, adapted to engage and lock said drawer, the spring 24, for holding said hook engaged with said drawer, the rod 27, pivoted to the bar 15, secured to pivoted standards 13, for disengaging the hook 22 from said drawer, rods passing through said dials B C and provided with collets adapted to engage the bar 15 and force the rod 27 against the lever 17 to release said drawer, and the spring 26, for opening the drawer when released, substantially as described.

15. In a cash-register, the case A, provided with the dials B C and drawer E, the frame-work L, the pivoted lever 17 and spring 24, for securing said drawer, the pivoted bar 27, adapted to be forced against said lever and release the drawer, a rod passing through said dials and provided with a collet adapted to force the bar 27 against said lever 17, the pivoted lever 32, having an arm, 35, projecting into the path of the lever 17, and a pivoted arm, 37, projecting into the path of said collet, adjunctive mechanism connected with said rod for throwing the arm 37 out of the path of said collet and the arm 35 into the path of the lever 17 when said rod is rotated, and the spring 26, for opening said drawer when released, all being combined and arranged to operate substantially as set forth.

16. In a cash-register, the combination of the case A, provided with the dials C D, the frame L, disposed in said case, the shaft 41, journaled in said frame and provided with the hand *h* and gear 49, the inclined shaft 43, journaled in said frame and carrying the gears 48 and 46, the rod M, provided with the gear 47, the rod H, having the knob *k*, and connecting mechanism for causing the rod M to rotate when the knob *k* is turned, whereby the hand *h* may be moved, substantially as described.

17. In a cash-register, the combination of the case A, having the dials C D, the frame L, the shaft 41, journaled in said frame and provided with the hand *h*, the sleeve 57, disposed on said shaft and provided with the hand *g*, the gear 62, journaled in said frame, the gear 63 on said sleeve, the wheel 64, provided with the stud 65, secured to said shaft, and adjunctive mechanism connecting said shaft and a rod passing through the dial C, whereby said shaft and sleeve may be rotated when said rod is turned, substantially as set forth.

18. In a cash-register, the combination of the case A, provided with the dials C D, the frame L, the shaft 41, journaled in said frame and provided with the hand *h*, the sleeve 57, disposed on said shaft and provided with the hand *g*, and wheel 70, having the stud 71, the shaft 66, the sleeve 67, disposed on said shaft and provided with the hand *i*, the ratchet-wheel 68, secured to said sleeve, the spring-pawl 69, engaging said ratchet-wheel, the inclined shaft 50, journaled in said frame and provided with the gear 55, intermeshing with the gear 56 on the sleeve 57, the rod M, provided with the gear 54, intermeshing with a gear on the shaft 50, the rod G, passing through the dial B, and connecting mechanism whereby the hands *g i* may be caused to turn when said rod G is rotated, substantially as described.

19. In a cash-register, the combination of the case A, having the dials C D, the frame L, the shaft 66, the sleeve 67, disposed on said shaft and provided with the hand *i* and ratchet 68, the pawl 69, the shaft 41, journaled in said frame and provided with the hand *h*, gear 49, and wheel 64, having the stud 65, the gear 62, journaled in said frame, the sleeve 57, disposed on the shaft 41 and provided with the hand *g*, and wheel 70, having the stud 71, the gear 63, disposed on the sleeve 57 and intermeshing with the gear 62, the rod H, passing through the dial C, and mechanism for connecting said rod and the gear 49, whereby the hands *g h i* may be caused to turn when said rod is rotated, substantially as set forth.

HARMON A. MILES.

Witnesses:
E. M. SPINNEY,
O. M. SHAW.