

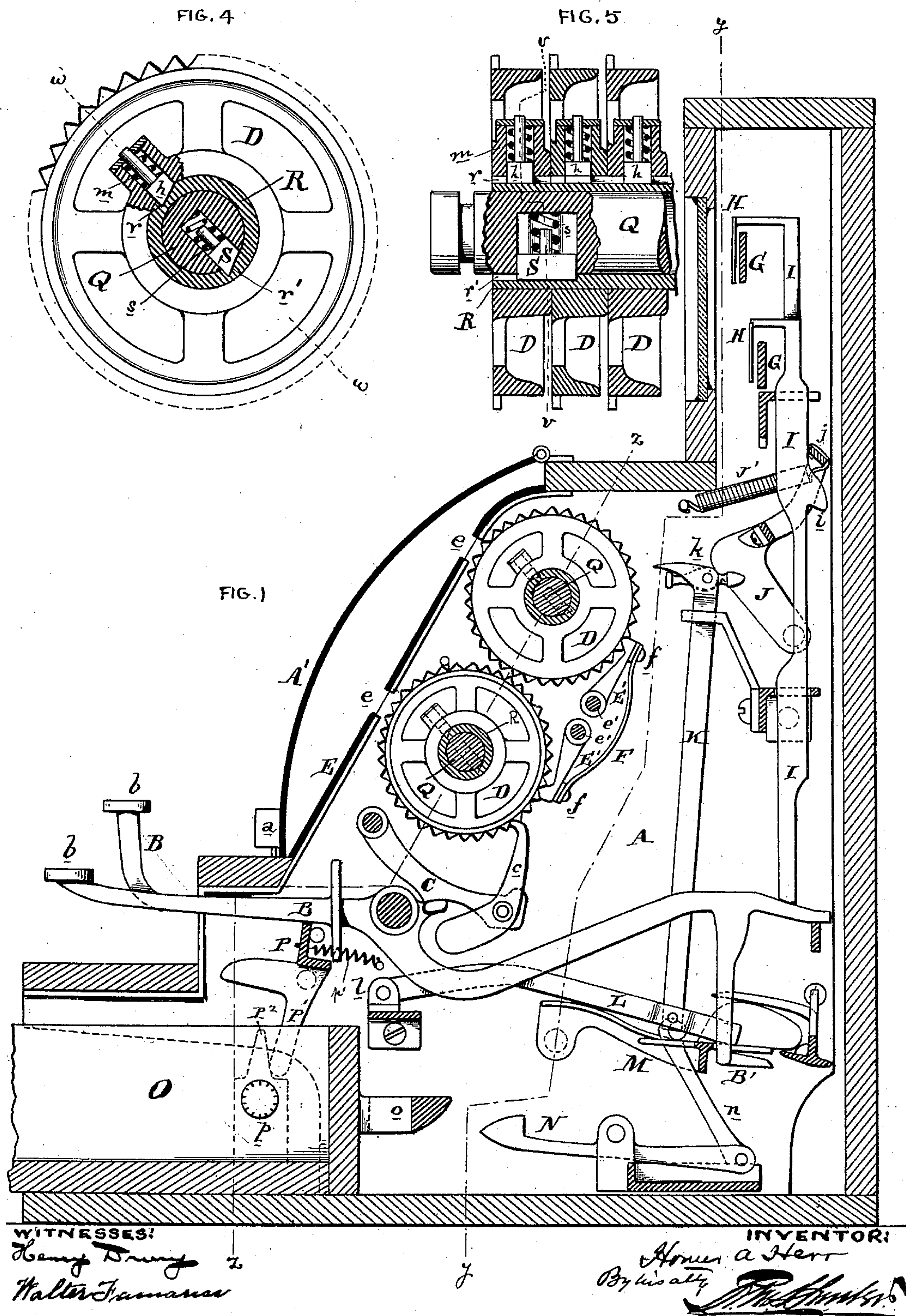
(No Model.)

3 Sheets—Sheet 1.

H. A. HERR.
CASH REGISTER.

No. 441,161.

Patented Nov. 25, 1890.



(No Model.)

3 Sheets—Sheet 2.

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CASH REGISTER.

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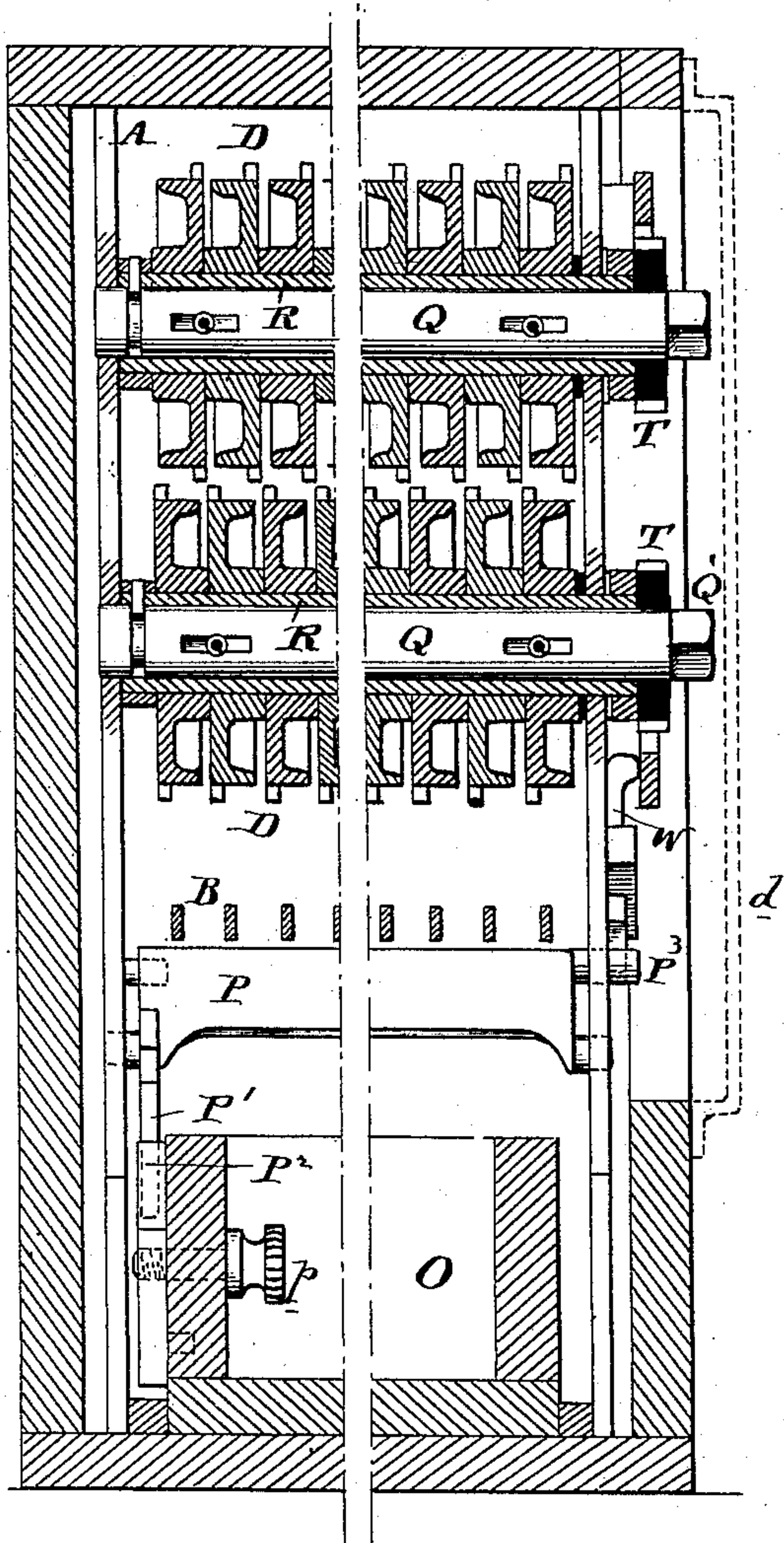


FIG. 3

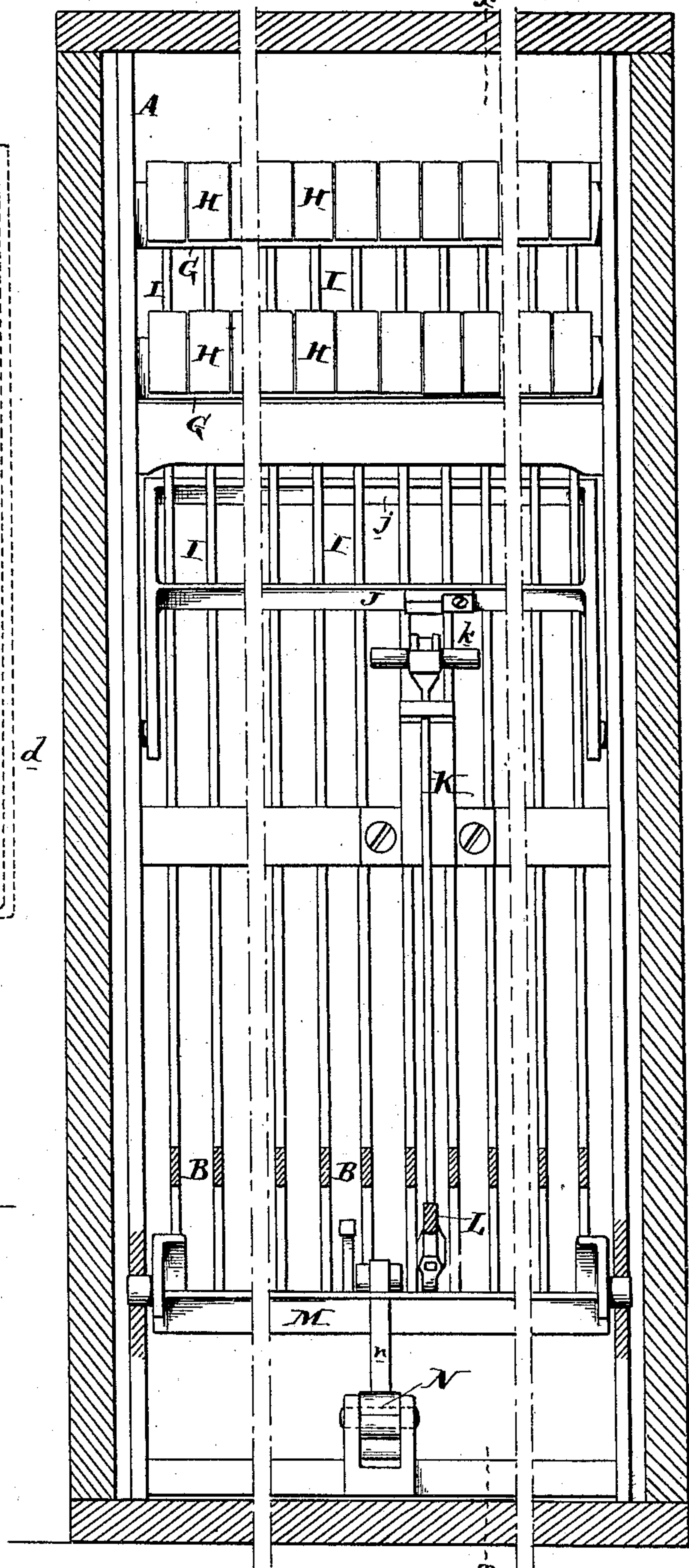


FIG. 2

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By his atty

J. M. Shook

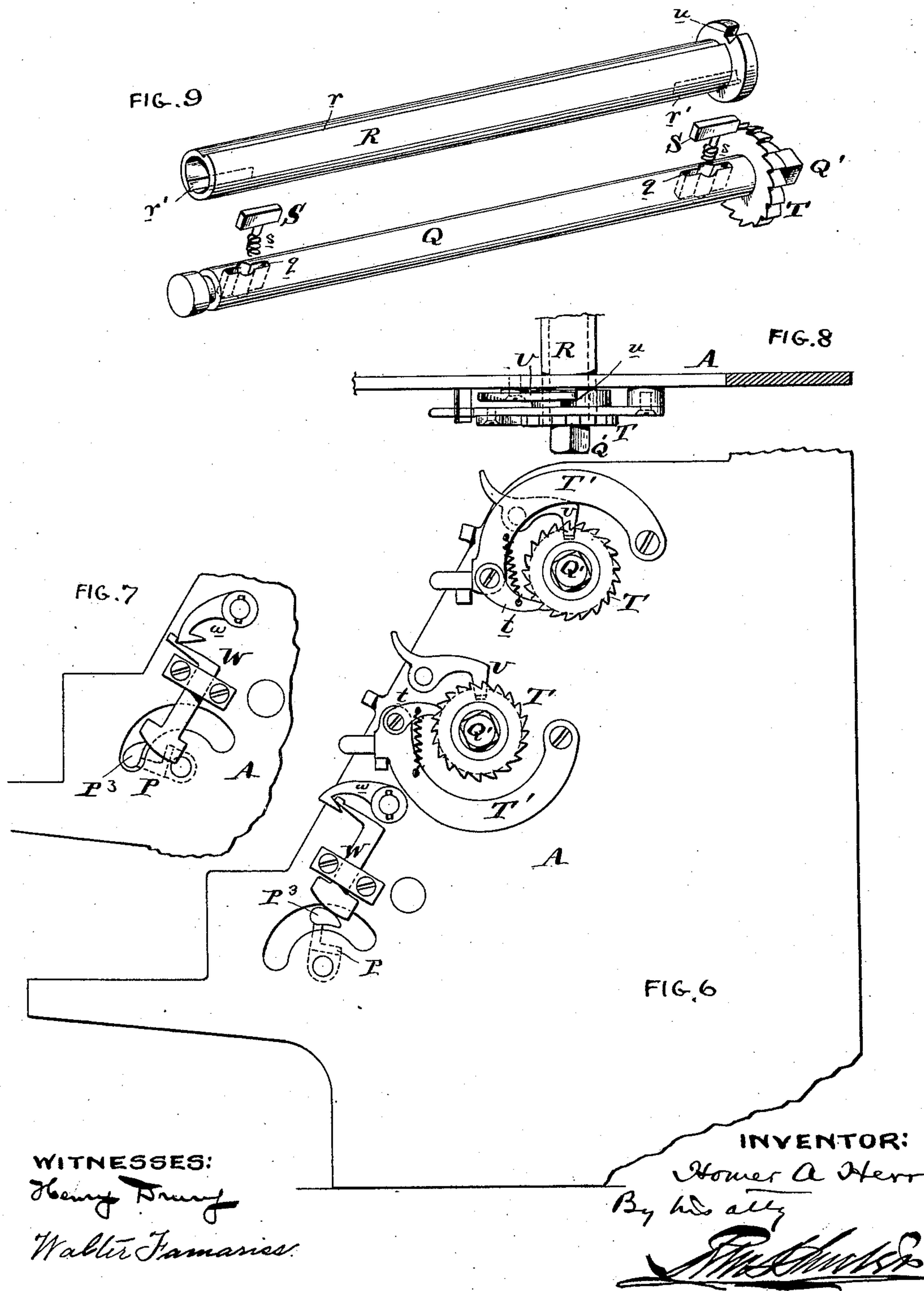
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UNITED STATES PATENT OFFICE.

HOMER A. HERR, OF PHILADELPHIA, PENNSYLVANIA.

CASH-REGISTER.

SPECIFICATION forming part of Letters Patent No. 441,161, dated November 25, 1890.

Application filed February 21, 1890. Serial No. 341,332. (No model.)

To all whom it may concern:

Be it known that I, HOMER A. HERR, of the city and county of Philadelphia, and State of Pennsylvania, have invented an Improvement in Cash-Registers, of which the following is a specification.

My invention has reference to cash-registering machines; and it consists of certain improvements which are fully set forth in the following specification and shown in the accompanying drawings, which form a part thereof.

My improvements relate more particularly to resetting mechanism for the registering-wheels, actuating devices for the indicators, and a device by which the drawer may be allowed to remain out or open without locking the operating keys or levers.

There are other minor improvements, which are fully set forth hereinafter.

The construction set out in this application relates to improvements disclosed in my applications, No. 319,660, filed August 3, 1889, and No. 325,415, filed September 28, 1889.

Referring to the drawings, Figure 1 is a sectional elevation through my cash-register on line *x x* of Fig. 2. Fig. 2 is a sectional elevation of my cash-register on line *y y* of Fig. 1. Fig. 3 is a similar sectional elevation of same on line *z z* of Fig. 1. Fig. 4 is an elevation, with part in section, of the registering-wheel and resetting mechanism on line *v v* of Fig. 5. Fig. 5 is a sectional elevation on line *W W* of Fig. 4. Fig. 6 is a side elevation of a portion of my cash-register, showing the means for operating the resetting mechanism and also the devices for throwing the lock for the levers out of action. Fig. 7 is a similar view of the last-mentioned part of the preceding figure, shown in one of its extreme positions. Fig. 8 is a plan view of the upper portion of Fig. 6, and Fig. 9 is a perspective view showing the sleeve and shaft detached upon which the registering-wheels are supported.

A is the main case of the machine, and B are the operating keys or levers, having the ends *b* marked with the amount of the purchase corresponding to such levers or keys to which it is attached. These levers are connected in the usual manner by a single shaft.

D D are two sets of registering-wheels, the

upper set being operated by the lower set in the manner set forth in my application, No. 325,415, filed September 28, 1889. The numbers upon these wheels D are seen through the openings or slots *e* in the plate E when the hinged cover A' is unlocked and raised. The lock *a* is used to secure the cover A' in place.

Each pair of wheels D are marked with numbers corresponding to multiples of the number upon the part *b* of the lever which operates them. The lower set of wheels D are operated by pawls *c*, which are loosely pivoted to secondary levers C, which latter are operated by means of the levers B. The wheels D are prevented from accidental backward rotation during the downward movement of the pawls *c* by means of pawls E', supported independently upon separate shafts *e'* and having their extreme ends pressed in contact with the respective wheels of a pair by a spring F, preferably secured to the ends of each of the pawls, as shown.

The wheels D are supported upon a sleeve R, which sleeve in turn is supported upon a shaft Q, which is journaled in the main frame A. The shaft Q has one end extending through the end of the casing, and may be formed with a square head Q', and is also provided upon said end with a ratchet-wheel T and a locking-wheel provided with a notch *u*. The lever T' and pawl *t*, carried on the end of the main frame and within a casing *d*, Fig. 3, are employed to intermittently rotate said shaft, and the locking-pawl U, also pivoted to the main frame, is employed to operate in connection with the notch *u* to lock the shaft when in the desired position. Both the levers T and the locking-pawls U project to the forward part of the machine and are exposed by lifting the cover A'. This construction enables the setting of the machine without necessarily exposing its end or providing space for operating from the end, which has heretofore been the customary practice in machines of this class. The shaft Q is provided with slots *q*, in which are placed catches S, which are pressed outward by coil-springs *s*.

Loosely supported upon the shaft Q is the sleeve R, which is provided on its interior with notches *r'*, into which the catches S move, and by which the sleeve R is rotated with the shaft Q when the latter is rotated. The outer

surface of the sleeve R is provided with longitudinal groove *r*, into which the catches *h*, carried by the wheels D, are forced by the springs *m* when resetting the machine. When
 5 the levers B are operated, the wheels D are rotated, so that their spring-catches *h* are moved around out of the groove *r* of the sleeve R; but upon rotating the shaft Q both it and the sleeve become moved in such a manner as to
 10 bring the said groove *r* into position to catch upon the various catches *h* of the respective wheels and bring them all to the zero-point in front of the opening *e*.

G are the indicating-tablets, and have figures marked thereon corresponding to the initial figure of the key or lever B which corresponds to its particular tablet.

H are vertically-movable screens, which are adapted to cover or expose the said tablets.
 20 The upper tablets are somewhat in advance of the lower tablets, so that the lower screens in passing upward may be moved back of the said shafts. These screens H are secured to the upper parts of vertically-movable rods I,
 25 the lower parts of which rest upon the levers B, so that when the rear end of the lever is raised the screen corresponding thereto is also raised. These rods I are provided with hooks or shoulders *i*.

30 J is a pivoted frame, which is provided with a transverse bar *j*, adapted to lock under the shoulders or hooks *i* to the rods when the latter are raised.

J' is a spring adapted to draw the bar *j* against the rods I, or so as to snap in under the hooks or shoulders *i*.
 35

The rear ends of each of the levers B are provided with depending portions B', substantially as set out in my application, No.
 40 319,660, filed August 3, 1889, except that in this case they are not shown pivoted, and said parts operate in conjunction with a pivoted frame M, so that the lock may be moved vertically. Resting upon the frame M is one end
 45 of an arm L, which is pivoted at the other end *l* to the main frame, and to this arm is hinged or pivoted an upwardly-extending bar K for actuating the locking-frame of the indicators. Pivoted to this arm L is an up-
 50 wardly-extending arm K, carrying at its upper or free end a pawl *k*, which, upon being elevated, forces the frame J away from the rods I, so as to release such of said rods as were elevated by previous action of the keys.
 55 After throwing the frame J to one side the pawl passes beyond, and the spring J' throws the arm K back into locking position again, sustaining the last screen-rod which has been elevated. Upon releasing the key B the frame
 60 M, the arm L, and arm K are lowered, and the pawl *k* moves back over the projection on the frame J without actuating it.

In my application last above referred to I employed a series of pawls, each of which is
 65 independently operated by a separate lever B. In this case I employ but a single pawl and one arm for operation with all of the

levers B, and this is accomplished by means of the employment of the frame M and arm L, which are arranged to be actuated by all
 70 of the levers B. This mechanism for actuating the lock which supports the screen-rods is in effect a pawl device common to all of the hand-operated levers or keys B, which are operated from without the case. It is
 75 evident that if desired the arm L might be dispensed with and the bar K connected directly with the frame M.

O is the money-drawer, and is provided on the rear with a lock or projection which
 80 is adapted to be caught by a hook N when moved in and locked. This hook N is pivoted and is connected by a link *n* to the frame M. It is thus seen that with each movement of any lever B the drawer is unlocked. It
 85 may be automatically forced out by means of a spring, as set out in other of my applications hereinbefore referred to.

P is a locking-frame adapted to be moved under the levers B, so as to prevent them be-
 90 ing depressed when the drawer is open. This locking-frame P is drawn in one direction by a spring *p'* and in the other direction by a projection *p''*, carried by the drawer, striking the depending arm P' of the pivoted lock-
 95 ing-frame. The projection P² is upon a frame which is adjustable vertically upon the side of the drawer O by means of a clamping-screw *p*. Sometimes it is desired that the drawer shall be allowed to remain open, in
 100 which case the frame P is turned down and locked in such position, as indicated in Fig. 7.

Referring to Fig. 6, it is seen that a slide W on the main frame is held in an elevated position by means of a hook-pawl *w*, so that
 105 the projections P³ from the locking-frame P might be reciprocated through a slot in the main frame by the movement of the drawer. If now it is desired to hold the locking-frame out of its vertical position, it is depressed by
 110 moving the slide W down and throwing in the pawl *w*, as indicated in Fig. 7, in which case the locking-frame P is held in a depressed position and the drawer may be al-
 115 lowed to remain open without interfering with the movement of the levers B.

I do not limit myself to the minor details of construction which are here shown, as they may be modified in various ways without departing from the spirit of my invention.
 120 Many of the constructions which are here disclosed are not claimed in this application, as they form subject-matter of my applications hereinbefore referred to.

Having now described my invention, what
 125 I claim as new, and desire to secure by Letters Patent, is—

1. In a cash-register, the combination of a main frame, a shaft, a sleeve loosely supported upon said shaft, interposed catches
 130 whereby the rotation of said shaft will catch upon and move said sleeve, a series of registering-wheels loosely supported upon the sleeve and each having independent catches

for catching upon one place in the circumference of said sleeve, and a series of independent operating parts for operating said wheels.

2. In a cash-register, the combination of a
5 main frame, a shaft, a sleeve loosely supported upon said shaft, interposed catches whereby the rotation of said shaft will catch upon and move said sleeve, a series of registering-wheels loosely supported upon the
10 sleeve and each having independent catches for catching upon one place in the circumference of said sleeve, mechanism for rotating said shaft, a lock for locking said shaft and sleeve in a fixed position at one place in
15 their revolution, and a series of independent operating parts for operating said wheels.

3. In a cash-register, the combination of a main frame, a shaft, a sleeve loosely supported upon said shaft, interposed catches
20 whereby the rotation of said shaft will catch upon and move said sleeve, a series of registering-wheels loosely supported upon the sleeve, mechanism for rotating the said shaft, consisting of a ratchet-wheel secured to the
25 shaft, a pivoted lever, and a pawl carried by said lever operating in conjunction with the ratchet-wheel, a lock for locking said shaft and sleeve in a fixed position at one place in their revolution, and a series of independent
30 operating parts for operating said wheels.

4. In a cash-register, the combination of a shaft having one or more spring-catches carried thereby, a sleeve loosely supported upon said shaft and adapted to be rotated there-
35 with and formed with internal notches at one place in its circumference for said catches, and also provided with a longitudinal groove upon its outer circumference, a series of independent registering-wheels loosely supported upon said sleeve, intermediate independent catches between each of said wheels and the longitudinal groove of the sleeve, and independent levers or actuating parts for inter-
40 mittently rotating the registering-wheels.

5. In a cash-register, the combination of a shaft having one or more spring-catches carried thereby, a sleeve loosely supported upon said shaft and adapted to be rotated there-
45 with and formed with internal notches at one place in its circumference for said catches, and also provided with a longitudinal groove upon its outer circumference, a series of independent registering-wheels loosely supported upon said sleeve, intermediate inde-
50 pendent catches between each of said wheels and the longitudinal groove of the sleeve, independent levers or actuating parts for intermittently rotating the registering-wheels, and mechanism for intermittently rotating the
55 shaft carrying the sleeve and registering-wheels.

6. In a cash-register, the combination of a

shaft having one or more spring-catches carried thereby, a sleeve loosely supported upon said shaft and adapted to be rotated there- 65 with and formed with internal notches at one place in its circumference for said catches, and also provided with a longitudinal groove upon its outer circumference, a series of independent registering-wheels loosely support- 70 ed upon said sleeve, intermediate independent catches between each of said wheels and the longitudinal groove of the sleeve, independent levers or actuating parts for inter- 75 mittently rotating the registering-wheels, mechanism for intermittently rotating the shaft carrying the sleeve and registering-wheels, and a lock for locking the sleeve in one position of its revolution.

7. In a cash-register, the combination of a 80 shaft having one or more spring-catches carried thereby, a sleeve loosely supported upon said shaft and adapted to be rotated there- with and formed with internal notches at one place in its circumference for said catches, 85 and also provided with a longitudinal groove upon its outer circumference, a series of independent registering-wheels loosely supported upon said sleeve, intermediate independent catches between each of said wheels and 90 the longitudinal groove of the sleeve, independent levers or actuating parts for intermittently rotating the registering wheels, and mechanism for intermittently rotating the shaft carrying the sleeve and registering- 95 wheels, consisting of a ratchet-wheel secured to the shaft and a pawl mechanism extending at right angles to the shaft for actuating said ratchet-wheel.

8. In a cash-register, the combination of 100 registering mechanism and a series of independently-operating keys or levers or movable parts for operating said registering mechanism with a pivoted locking-frame acting upon and preventing the movement of said 105 keys or levers or operating parts and formed with an extension secured thereto or formed integral therewith, a movable cash-drawer provided with a projection or part which directly acts upon the projection of the locking- 110 frame, whereby said frame may be moved into locking position when the drawer is opened, and an auxiliary lock independent of the drawer for locking said locking-frame out of contact or locking position with re- 115 spect to said keys or levers or operating parts when it is desired to operate the machine with the drawer open.

In testimony of which invention I have hereunto set my hand.

HOMER A. HERR.

Witnesses:

ERNEST HOWARD HUNTER,
A. J. DUNN.