

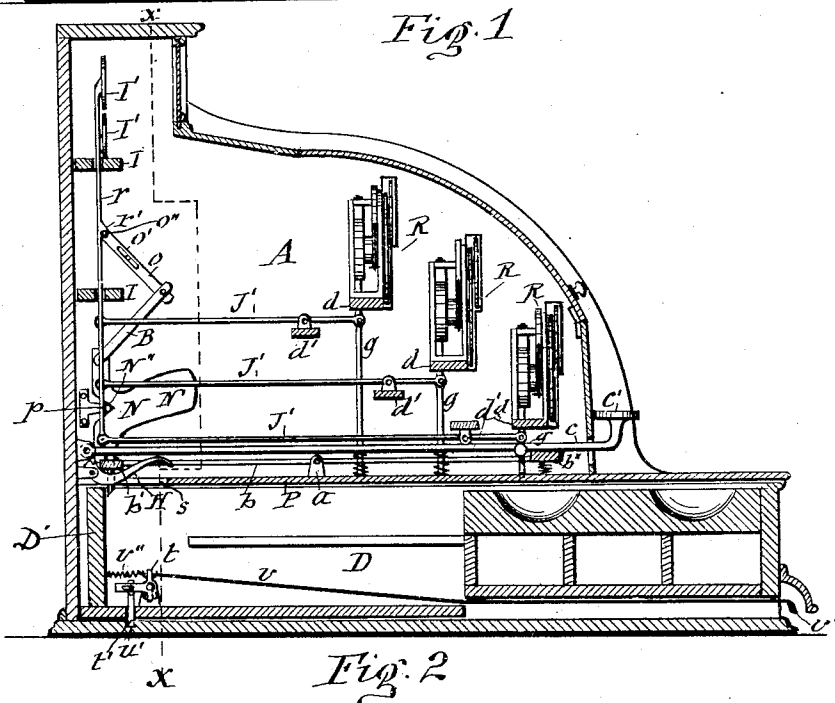
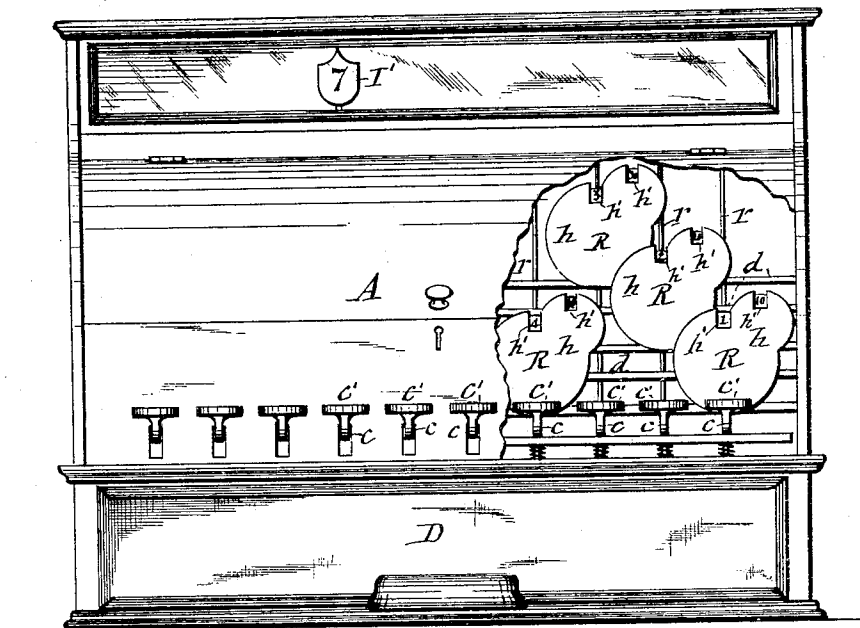
(No Model.)

2 Sheets—Sheet 1.

N. B. WRIGHT.
CASH REGISTER.

No. 478,532.

Patented July 5, 1892.



WITNESSES:

C. L. Bendixon
J. J. Laass

INVENTOR:

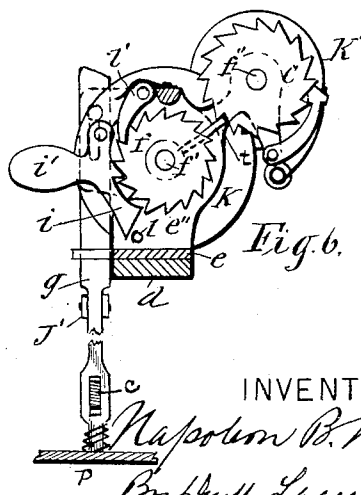
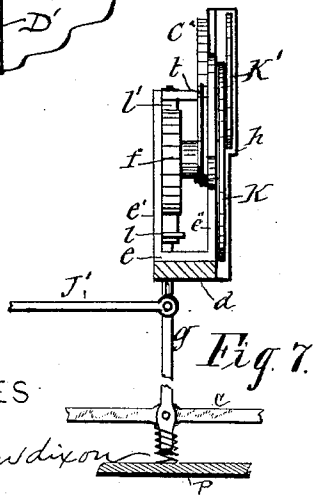
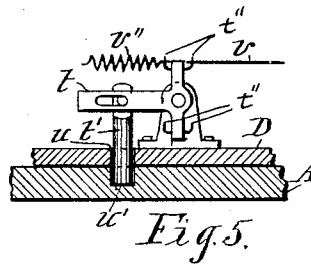
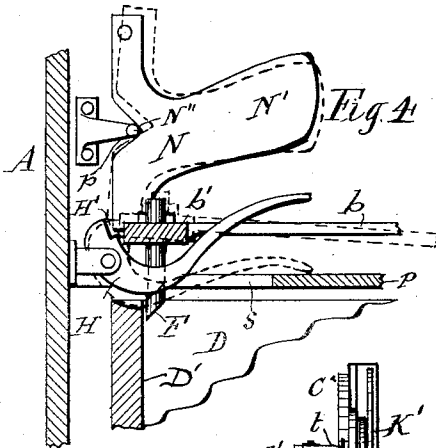
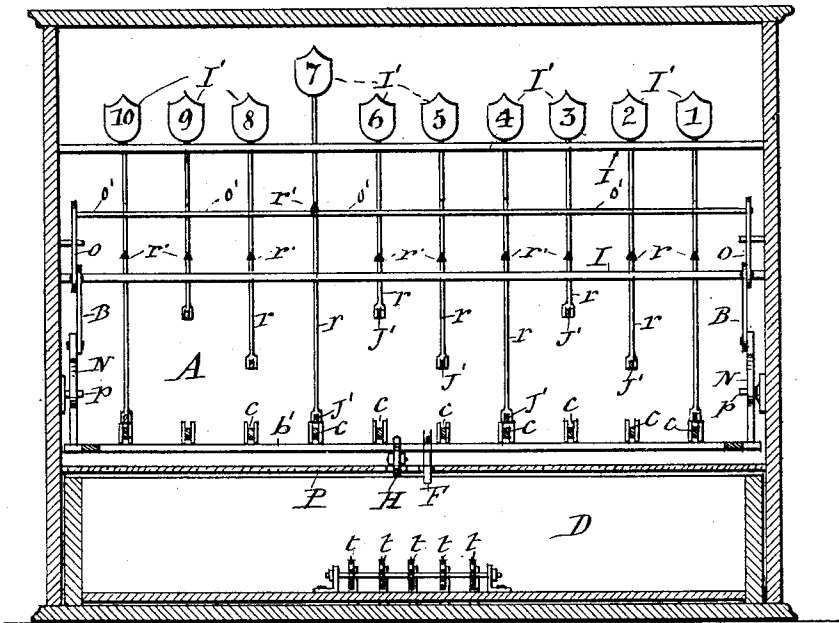
Napoleon B. Wright
By Bull, Leass & Bull
his ATTORNEYS

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CASH REGISTER.

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Fig. 3.



WITNESSES

C. L. Buxton
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INVENTOR:

Napoleon B. Wright
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UNITED STATES PATENT OFFICE.

NAPOLEON B. WRIGHT, OF SYRACUSE, NEW YORK, ASSIGNOR OF NINETWENTIETHS TO CHARLES H. KNAPP AND WILLIAM J. WALTERS, OF SAME PLACE.

CASH-REGISTER.

SPECIFICATION forming part of Letters Patent No. 478,532, dated July 5, 1892.

Application filed November 24, 1891. Serial No. 412,986. (No model.)

To all whom it may concern:

Be it known that I, NAPOLEON B. WRIGHT, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Cash-Registers, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to the class of cash-registers which are provided with a normally-locked drawer for the reception of the money to be registered and in which the said drawer is unlocked, and at the same time the registering is effected by one of a plurality of keys which are arranged to be operated at the exterior of the register-case by the person intending to obtain access to the money-drawer.

The object of this invention is to obtain greater range of registry by simple and efficient mechanism and also to guard more effectually against surreptitious access to the money-drawer; and to that end the invention consists in the novel construction and combination of parts, as hereinafter fully described, and set forth in the claims.

In the annexed drawings, Figure 1 is a front view of a cash-register embodying my invention, a portion being broken away to expose some of the internally-arranged mechanism. Fig. 2 is a vertical longitudinal section of the cash-register. Fig. 3 is a vertical transverse section on line *xx* in Fig. 2. Fig. 4 is an enlarged detail view of the primary drawer-locking device. Fig. 5 is an enlarged side view of the supplemental drawer-locking device. Fig. 6 is a rear view of the register proper with the back plate indicated by dotted lines, and Fig. 7 is an edge view of the same.

Similar letters of reference indicate corresponding parts.

A denotes the inclosing case of the cash registering and indicating mechanism. The base of said case is provided with the drawer D for the reception of the money to be registered. Over the said drawer is a horizontal partition P, extending across the interior of the case A, and upon this partition at or near the sides of the case are posts *a a*, to which are pivotally connected the bars *b b*, extend-

ing along the sides of the case from the front to the rear of the interior thereof. Said bars are united at their ends by a cross-bar *b'*, extending across the rear end of the case, and another cross-bar *b''*, extending across the front portion of the interior of the case. Across the top of the front cross-bar *b''* lie the key-levers *c c c*, the front ends of which pass through vertical slots in the case and have fixed to their outer ends the finger-pieces *c'*, marked with numerals indicating the numbers registered by the respective key-levers. Above the levers *c c c* and at right angles thereto are cross-bars *d d d*, rigidly attached at their ends to the sides of the case A, and upon said cross-bars are mounted the registers R R R proper, one for each of said key-levers. These registers may be of any suitable form and construction and are connected to the aforesaid key-levers so as to be actuated thereby.

For simplicity and efficiency I prefer to construct said register as follows: The frame of the register R consists, mainly, of a base-plate *e*, from which rise two parallel vertical plates *e' e''*, as shown in Fig. 7 of the drawings. Between the said vertical plates is a ratchet-wheel *f*, fixed to a shaft *f'*, which is journaled in the aforesaid plates. To the protruding front end of said shaft is firmly secured the dial K, which is covered by a plate *h*, having an aperture *h'* through which to expose one of the numerals on the dial. I do not, however, wish to be limited to the specific arrangement of the dial and indicator, as it is obvious that the dial may be stationary and an indicator or hand affixed to the shaft. On the said frame of the register R is guided the plunger *g*, to which is pivoted the pawl *i*, which is weighted by an arm *i'*, so as to hold the pawl normally in engagement with the ratchet-wheel *f*, as shown in Fig. 6 of the drawings. The lower end of the pawl is beveled, and beneath the same is a stud-pin *l*, which said end of the pawl strikes, and is thereby thrown out of engagement with the ratchet-wheel after the pawl has turned said wheel one notch. A dog *l'* engages the ratchet-wheel and holds the same during the reverse

movement of the pawl. Said plunger is formed with a downward extension, which is pivotally connected with one of the key-levers *c*.

The dial of each register is numbered in 5 arithmetical progression, beginning with "0" and increasing by a difference equal to the number marked on the finger-piece of the key-lever *c*, which is connected with the plunger *g* of the register—as, for instance, if the register *R* is actuated by a key-lever marked "2" 10 the dial of said register is marked "0, 2, 4, 6," &c., and if the register is connected with and operated by a key-lever marked "3" the dial is marked "0, 3, 6, 9," &c. The depression of 15 the key-lever causes the pawl *i* and ratchet-wheel *f* to turn the dial the distance from one number to the next number on the dial, and thus the total number of actions of each key-lever is indicated on its respective register *R*. 20 In order to increase the range of said registry *I* pivot to the plates *e' e''* a shaft *f''*, to which *I* attach a multiplying-wheel *C*, which is provided with teeth on its periphery, and from the side of the shaft *f''* extends a spur *t*, 25 which engages one of the teeth of said wheel so that each revolution of the shaft *f''* turns said multiplying-wheel from one tooth to the next. To the shaft *f''* is secured a dial *K'*, which is marked with numerals rising in arithmetical 30 progression, beginning with "0" and increasing at a rate equal to the highest number on the primary dial *K*. The disk *K'* is also covered by the plate *h*, provided with an aperture through which to expose one of the 35 numerals of said dial. Across the rear of the interior of the case *A* are fastened horizontal cleats *I I*, through which pass freely the vertical slides *r r*, each of which is connected with a limited lost motion to the plunger *g* of 40 one of the registers *R* by a lever *J'*, fulcrumed intermediately on a cross-bar *d'*, secured to the case *A*. To the upper end of each of said slides is secured the indicating-plate *I'*, which is marked with the same number as that on 45 the finger-piece of the key-lever which actuates the plunger *g*, to which the said slide is connected. Each of the slides *r* has a shoulder *r'* projecting from its front side, for the purpose hereinafter explained. 50 To each of the two sides of the interior of the case *A* is fulcrumed a lever *o*, which is provided with a longitudinal slot *o'*, through which the fulcrum passes, and thus permits a limited longitudinal movement of said lever. 55 The two levers *o o* are connected together at their upper ends by a cross-bar *o''*, which rests against the fronts of the slides *r r* and in such positions that in lifting said slides the shoulders *r'* thereof are caught on top of 60 the bar *o''*, and thereby retain the slides in their elevated position, in which position they present, through the front glass *L*, the numbers marked on the indicating-plates *I'*, as represented in Fig. 1 of the drawings. The 65 levers *o o* are inclined from their rear ends to their front ends, and to the lower front of each of said levers is connected a gravitating

arm *N* by means of a strap or link *B*. Said arm rests with its foot on the rear cross-bar *b'*, hereinbefore described. The front of the 70 lower portion of the arm is formed with a forwardly-extending supplemental arm *N'*, and in the rear edge of the arm *N* is a V-shaped cam *N''*. To opposite sides of the interior of the case *A* are fastened lugs *p*, which 75 engage the cams *N''* of the two arms *N*.

In operating the described registering and indicating mechanism the operator depresses the key-lever *c*, which is marked with a numeral corresponding to the amount of cash 80 to be deposited in the drawer *D*. The depression of said lever actuates the register *R* to register thereon the amount of cash about to be deposited, as aforesaid, and immediately thereafter the front end of lever *J'* is de- 85 pressed and the rear end thereof correspondingly raised and caused to lift the indicating-slide *r*. The levers *b* push up the arms *N* at opposite sides of the case, and in this movement the upper ends of said arms receive a 90 sudden slight rearward thrust by the engagement of the lugs *p* with the cams *N''*. Said thrust of the arms pulls the levers *o* down and throws the upper ends thereof forward sufficiently to cause the cross-bar *o''* to 95 release the shoulder *r'* of the previously-lifted indicating-slide *r*. The weights of the supplemental arms *N'* cause the arms *N* to immediately fall forward again to their normal position and thereby bring the cross-bar *o''* 100 back to its requisite position to catch on the shoulder *r'* of the rod *r*, last lifted.

In connection with the registering mechanism *I* employ automatic locking devices for 105 locking the drawer *D*. Said devices consist of the vertical bolt *F*, which passes freely through the rear cross-bar *b'*, and is suspended therefrom by a key passing transversely through said bolt above the cross-bar. 110 To the inner side of the rear wall of the case *A* is pivoted an arm *H*, which extends under the cross-bar *b'*, and thence forward and gradually upward through a slot *s* in the partition *P*. The rear end of the arm *H* extends slightly 115 above the fulcrum of the arm and is formed with a notch *H'* in its front edge, by which notch the arm engages the rear bottom corner of the cross-bar *b'* when raised by the depression of the key-lever *c*, as hereinbefore described, in which engagement it is held by 120 gravity of the forward extension of the arm *H*. The cross-bar *b'* is thus retained in its raised position, the bolt *F* being raised with said cross-bar sufficiently to allow the rear cross-plate *D'* of the drawer *D* to pass under 125 the bolt and the drawer to be opened. In closing the drawer the aforesaid end plate of the drawer strikes the under side of the free end portion of the arm *H* and thereby lifts the same, so as to cause the notch *H'* to re- 130 lease the cross-bar *b'*, which then drops into position to be again lifted by the depression of one of the key-levers. The dropping of the said cross-bar brings down with it the

bolt F, which slides freely vertically in the cross-bar *b'*, and has its lower end beveled at the front to allow the ingoing-drawer to push it up. The bolt then dropping in front of the rear cross-plate of the drawer locks the same.

In order to guard against surreptitious access to the drawer I connect thereto a suitable combination-lock. For simplicity and cheapness of construction I prefer to form said lock as follows: To the bottom of the interior of the drawer I secure suitable brackets, to which I pivot a plurality of three armed tumblers *t t t*, the pivot being at the junction of the three arms, and two of the arms stand normally vertical, while the third extends rearward and terminates with a vertical bolt *u'*, which passes through a hole *u* in the bottom of the drawer and enters a socket *u'* in the bottom of the case A when the tumbler is in its normal position. The two vertical arms are each provided with two hooks *u''* or eyes or other suitable devices adapted to connect with a rod *v* and a spring *v''*. The rod extends to the front of the drawer and is provided thereat with a suitable finger-piece *v'* by which to pull the rod forward. The spring *v''* is connected to the drawer back of the tumblers. By connecting both the said spring and rod to the upper arm of the tumbler the spring holds said tumbler in its locked position and a pull on the rod unlocks the tumbler, and by connecting the rod and spring to the lower arm of the tumbler the reverse effect is produced. The combination is obtained by connecting some of the rods *v* and springs *v''* to the upper arms of their respective tumblers and the remainder of the rods and springs to the lower arms of their respective tumblers. Inasmuch as the pulling of the rods which are connected to the lower arms of the tumblers causes said tumblers to be locked it is obvious that the person attempting to open the drawer must know which of the rods *v* are to be pulled.

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

1. A cash-register comprising a plurality of key-levers, separate registers connected to the respective key-levers to receive positive action thereby, supplemental levers acting independently of each other by the respective key-levers and having lost motion in their constructions, and indicating-slides each of which is actuated by one of the supplemental levers, as set forth.

2. In combination with key-levers *c c c*, pivoted at their rear ends, registers R R R, one for each of said levers, the plungers *g g g*, connecting the registers with the key-levers in front of their fulcrums, levers *J' J' J'*, pivoted intermediate their lengths and actuated at their front ends by said plungers and connected at their rear ends to vertically-movable slides *r*, carrying indicator-disks I, and

means for holding said slides when raised, substantially as shown and described.

3. In combination with the inclosing case, key-levers *c c c*, pivoted at their rear ends to the case, levers *b b*, extending from the rear to the front of the interior of the case and pivoted intermediate of their lengths, a cross-bar attached to the front end of the levers *b b* and extending across the entire series of key-levers to receive the pressure thereof, the levers *J' J' J'*, fulcrumed intermediate of their lengths and connected at their front ends to the key-levers with a vertical lost motion between them, the indicating-slides *r r*, connected, respectively, to the rear ends of the levers *J' J' J'*, a bar extending across said slides and adapted to engage and release the same, and levers transmitting motion from the levers *b b* to the said bar, as set forth.

4. In combination with the key-levers *c c c*, pivoted at their rear ends, the levers *J' J' J'*, actuated at the front ends by the respective key-levers, the indicating-slides *r r r*, connected to the rear ends of the levers *J' J' J'* and provided with the shoulders *r' r' r'*, the levers *b b*, pivoted intermediate of their lengths, the cross-bar *b''*, attached to the front end of the said levers and extending across the under side of the series of key-levers, the cross-bar *b'*, uniting the rear ends of the levers *b b*, the cross-bar *o''*, extending across the series of indicating-slides and adapted to engage the shoulders thereof, and tripping-levers connected to said cross-bar and actuated by the rear cross-bar *b'*, substantially as set forth.

5. In combination with the case and the key-levers *c c c*, pivoted to the rear portion of said case, the levers *J' J' J'*, actuated at their front ends by the key-levers, the indicating-slides *r r r*, connected to the rear ends of the levers *J' J' J'* and provided with the shoulders *r' r' r'*, the levers *b b*, pivoted intermediate of their lengths, the cross-bar *b''*, attached to the front ends of the latter levers and extending across the under side of the series of key-levers, the cross-bar *b'*, attached to the rear ends of the levers *b b*, the lug *p*, fixed to the case, the arms N, riding on the cross-bar *b'* and provided with the cam *N''*, engaging the aforesaid lug, the bar *o''*, lying across the indicating-slides beneath the shoulders *r'* thereof, and levers connecting said bar to the arms N, substantially as described and shown.

6. In combination with the case A, drawer D, key-levers *c c*, and indicating-slides *r r r*, actuated by the said key-levers, the levers *b b*, cross-bars *b' b''*, attached to opposite ends of the latter levers and actuated by the key-levers, the cross-bar *o''*, adapted to engage and release the indicating-slides, levers transmitting motion from the cross-bar *b'* to the cross-bar *o''*, and the gravitating arm H, pivoted to the case and having its rear end adapted to support the rear cross-bar *b'* and its front

end curved downward and upward and in the path of the rear wall of the drawer to be lifted by the closing of the drawer and thereby release the cross-bar *b'*, substantially as described and shown.

7. In combination with the indicating-slides *r*, provided with shoulders *r'*, and the key-levers *c c*, actuating said slides, the levers *b b*, actuated by said key-levers, the arms *N*, formed with the weighted supplemental arm *N'* and with the cam *N''*, the stationary lug *p*, engaging said cam, the levers *o*, pivoted to the case and movable longitudinally, the links *B*, connecting the lower ends of said levers to the arms *N*, and the cross-bar *o''*, connected to the upper ends of said levers and adapted to engage and release the shoulders *r'* of the indicating-slides, substantially as described and shown.

8. A cash-register comprising a series of key-levers, a separate register connected to each key-lever, a dial for each register, a plate for each dial, said plate being provided with an opening for exposing to view the figures on the dial, a supplemental lever for each key-lever, and an indicating-slide for each of said key-levers, each supplemental lever actuated by a key-lever and each slide by a supplemental lever, substantially as specified.

In testimony whereof I have hereunto signed my name this 18th day of November, 1891.

NAPOLEON B. WRIGHT. [L. S.]

Witnesses:

C. L. BENDIXON,
H. M. SEAMANS.