

No. 612,543.

Patented Oct. 18, 1898.

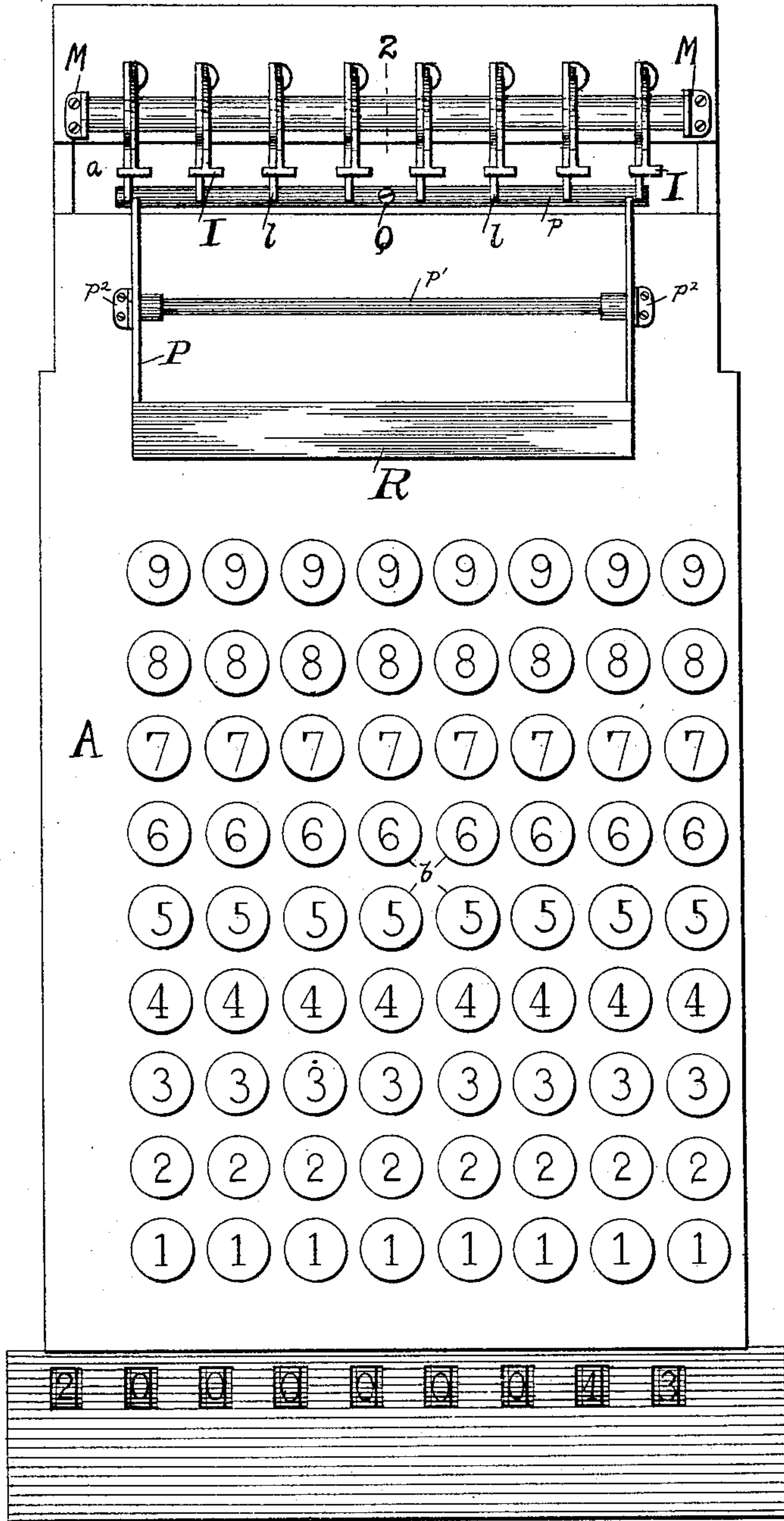
J. P. CLEAL.
CASH REGISTER.

(Application filed Aug. 9, 1897.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.



WITNESSES:

Wm. McCarthy
Ira Berkstresser

2

INVENTOR.

Joseph P. Cleal
BY Alvan Macaulay
ATTORNEY.

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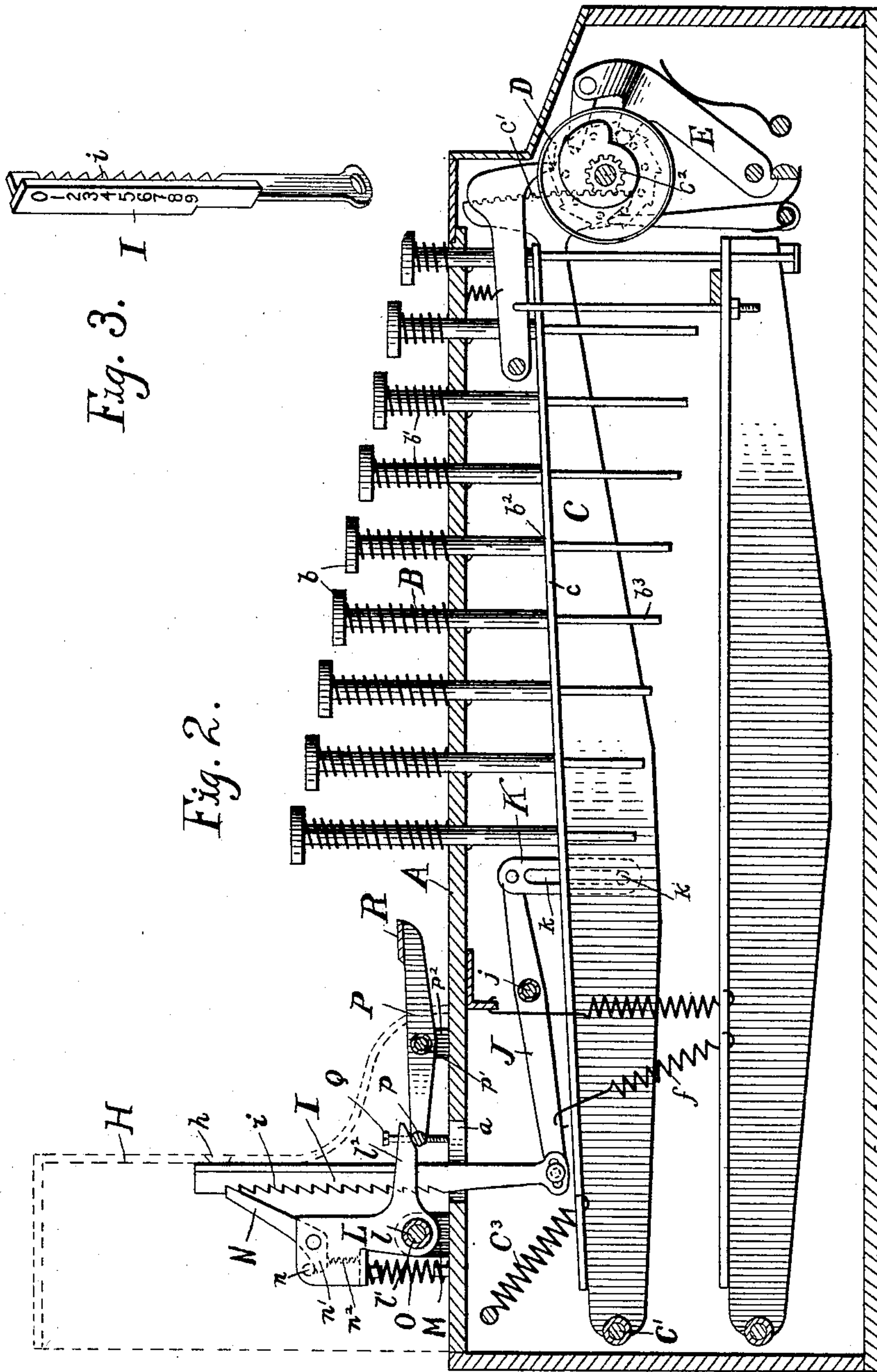


Fig. 3.
I

Fig. 2.

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UNITED STATES PATENT OFFICE.

JOSEPH P. CLEAL, OF DAYTON, OHIO, ASSIGNOR TO THE NATIONAL CASH REGISTER COMPANY, OF SAME PLACE.

CASH-REGISTER.

SPECIFICATION forming part of Letters Patent No. 612,543, dated October 18, 1898.

Application filed August 9, 1897. Serial No. 647,561. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH P. CLEAL, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Cash-Registers; and I do hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to an improvement in cash-registers or adding-machines. In the drawings I have shown it as applied to a machine like that shown in the patent to D. E. Felt, No. 371,496, dated October 11, 1887, simply for purposes of illustration, and it is to be understood that its application is not restricted to any particular type or form of machine.

My invention consists, specifically, in applying an indicator to each bank of keys of a calculating-machine like that referred to above, the purpose being to enable the person operating the machine to tell at a glance whether he has struck the proper keys, so that if he makes a mistake he can detect it at once.

Referring to the drawings, Figure 1 shows a top plan view of an adding-machine with my indicators applied thereto. Fig. 2 shows a vertical longitudinal section of the machine on the line 2 2 of Fig. 1. Fig. 3 is a detail perspective view of one of the indicator-slides.

The same letters of reference designate identical parts in all the figures of the drawings, in which—

The letter A designates various fixed parts of the frame or case of the machine. The keys B, which in the drawings are arranged in eight banks of nine keys each, pierce the top of the case A, and the finger-buttons b are, as usual, secured upon the upper ends of the keys, which are held in normal position, as shown in Fig. 2, by the coiled springs b' , which surround the stem of the key between the finger-buttons and the top of the case. The lower ends b^3 of the keys are of reduced diameter and pass through the registering-levers C, only one of which is shown in the drawings, although by reference to the Felt patent, before referred to, it will be seen that there are eight registering-levers, of which one coöperates with each of the eight

banks of keys. At the upper end of the reduced portion of the key is formed a shoulder b^2 , which rests upon the laterally-extending flange c of the registering-lever C, which latter is suitably pivoted at its rear end upon a transverse shaft C' . The forward end of each lever carries a segment-rack c' , which meshes with the series of pinions c^2 , (shown in Fig. 2,) one of which is carried by each of the registering-wheels D. The pivoted carrying-levers E coöperate with the registering-wheels to transfer amounts from the lower registering-wheels to those of higher denomination in the usual manner.

The parts and their coöperation as I have thus far referred to them are old and well known, and for a more detailed description reference may be had to the Felt patent, before referred to. My invention consists, as before stated, only in applying indicating devices to such a machine.

Secured upon the top of the case A is a supplemental frame or case H, (shown in broken lines in Fig. 2,) within which is located the indicating mechanism. The indicating device applied to each bank of keys is substantially identical with the indicating devices applied to every other bank of keys, and this fact being understood I shall confine my description to the indicating devices which coöperate with the bank of keys shown in Fig. 2 of the drawings. The indicator-slide I extends vertically through a slot a in the top of the case A, and the front face of the indicator-slide, which bears a series of numbers from "0" to "9," inclusive, (see Fig. 3,) is always pressed against the rear side of the front of the supplemental case H when the indicator-slide is at rest, so that one of the figures carried by the slide is always visible through the opening h in the front of the said supplemental case. At its lower end the slide has a slot-and-pin connection with the rear end of the operating-lever J, which is centrally pivoted upon the transverse shaft j . At its forward end the operating-lever is pivoted to the upper end of the link K, which is provided with a longitudinal slot k and a stud k' , which is carried by the registering-lever C and rides in the slot k in the said link for a purpose to be presently described. The

rocking frame L is secured to the sleeve *l* on the transverse shaft *l'*, which is secured at its ends in brackets M. Near its upper ends the rocking frame carries a detent N, which
 5 engages the teeth of the rack *i*, which is formed in the rear edge of the indicator-slide I. The detent normally engages the rack; but when the frame L is rocked backward the stop-pin *n* abuts the tail *n'* of the detent
 10 and the latter is thereupon rocked out of engagement with the rack. A small coiled spring *n*², bearing against the under side of the tail of the detent, keeps the latter normally in engagement with the rack. A larger coiled
 15 spring O, bearing at one end against the top of the case A and at the other against the rocking frame, tends to swing the rocking frame forward; but the said frame is normally held in position by the forwardly-extending
 20 arm *l*², which rests upon the cross-bar *p* of the release-frame P, which is centrally pivoted upon a transverse shaft *p'*, secured at its ends in brackets *p*². A vertical set-screw Q passes through the cross-bar of the release-frame,
 25 and its lower end rests upon the top of the case A. The spring O, before described, therefore tends to swing the rocking frame forward; but the arm *l*² of the rocking frame rests upon the cross-bar of the release-frame,
 30 which is held rigidly in position by the set-screw Q, and thereby the rocking frame is held in normal position. The wide finger-bar R forms the front side of the release-frame and is made wide, so that the operator may
 35 have no difficulty in touching it when he desires to do so.

The practical operation of the machine with my invention applied thereto is as follows: If one of the keys be pressed, the swinging
 40 end of the registering-lever C may be moved downward and its segment-rack *c'* will actuate the registering-wheel D. As the registering-lever moves downward the indicator-slide I will be raised, as previously described.
 45 When the registering-lever reaches the extremity of its downward movement, the indicator-slide will reach the upper extremity of its movement, and the detent N, engaging with the rack *i*, will hold the indicator-slide
 50 in position to exhibit the proper number through the sight-opening *h*. The registering-lever C meanwhile returns to normal position under impulse of the spring C³. After examining the numbers shown through
 55 the sight-opening to see if his registration was correct the operator touches and depresses the finger-bar R, thereby raising the cross-bar *p* and likewise the arm *l*². This rocks the frame L rearward, and the detent
 60 N, abutting the stop-pin *n*, is thereby withdrawn from engagement with the rack *i*, whereupon the spring *f*, which is attached at one end to the operating-lever J, immediately returns the indicator to normal or zero posi-
 65 tion. When the hand of the operator is removed from the finger-bar R, the release-

frame and the rocking frame return to normal position and the detent again engages with the rack of the indicator-slide.

In the practical use of a machine with my 70 invention applied thereto the operator presses the keys to register the desired amount. He then by a glance at the indicators determines whether he has registered the correct amount. If so, he presses the finger-bar and the indi- 75 cators are immediately returned to normal position ready to correctly indicate the succeeding registration of the keys.

Having thus described my invention, I claim— 80

1. In a device of the class described, the combination with a series of normally spring-pressed indicators, a rock-frame, a plurality of indicator-locking pawls pivotally mounted on said frame and capable of independent 85 movement thereon to engage their respective indicators, devices for causing all of said pawls to move simultaneously with the rock-frame to disengage them from the indicators and means for moving said frame at will. 90

2. In a device of the class described, the combination with a registering mechanism, of operating devices for the same, a plurality of indicating-slides, a rock-frame carrying a plurality of independently-movable pawls ar- 95 ranged to engage the respective slides and an independent key or finger-bar connected to said rock-frame and arranged to tip it and simultaneously disengage all of said pawls from their respective slides independently of 100 the operation of the machine proper.

3. In a device of the class described, the combination with a registering mechanism, of operating-levers for the same, indicator-slides, pivoted levers for operating the respec- 105 tive slides, slotted bars connecting the operating-levers and the slide-levers whereby said operating-levers may return to normal position but leave the slide-levers in their set positions, a rock-frame carrying a plurality of 110 independently-movable pawls arranged to engage the respective slides and an independent key or finger-bar for operating said rock-frame.

4. In a device of the class described the 115 combination with registering mechanism, of operating devices for the same, a plurality of indicating-slides, a rock-frame, a plurality of slide-locking pawls independently pivoted on said frame so as to be capable of independ- 120 ent movement in one direction but be locked to simultaneous movement with the rock-frame in an opposite direction and an independent key or finger-bar for operating said rock-frame. 125

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

JOSEPH P. CLEAL.

Witnesses:

ALVAN MACAULEY,
 IRA BERKSTRESSER.