

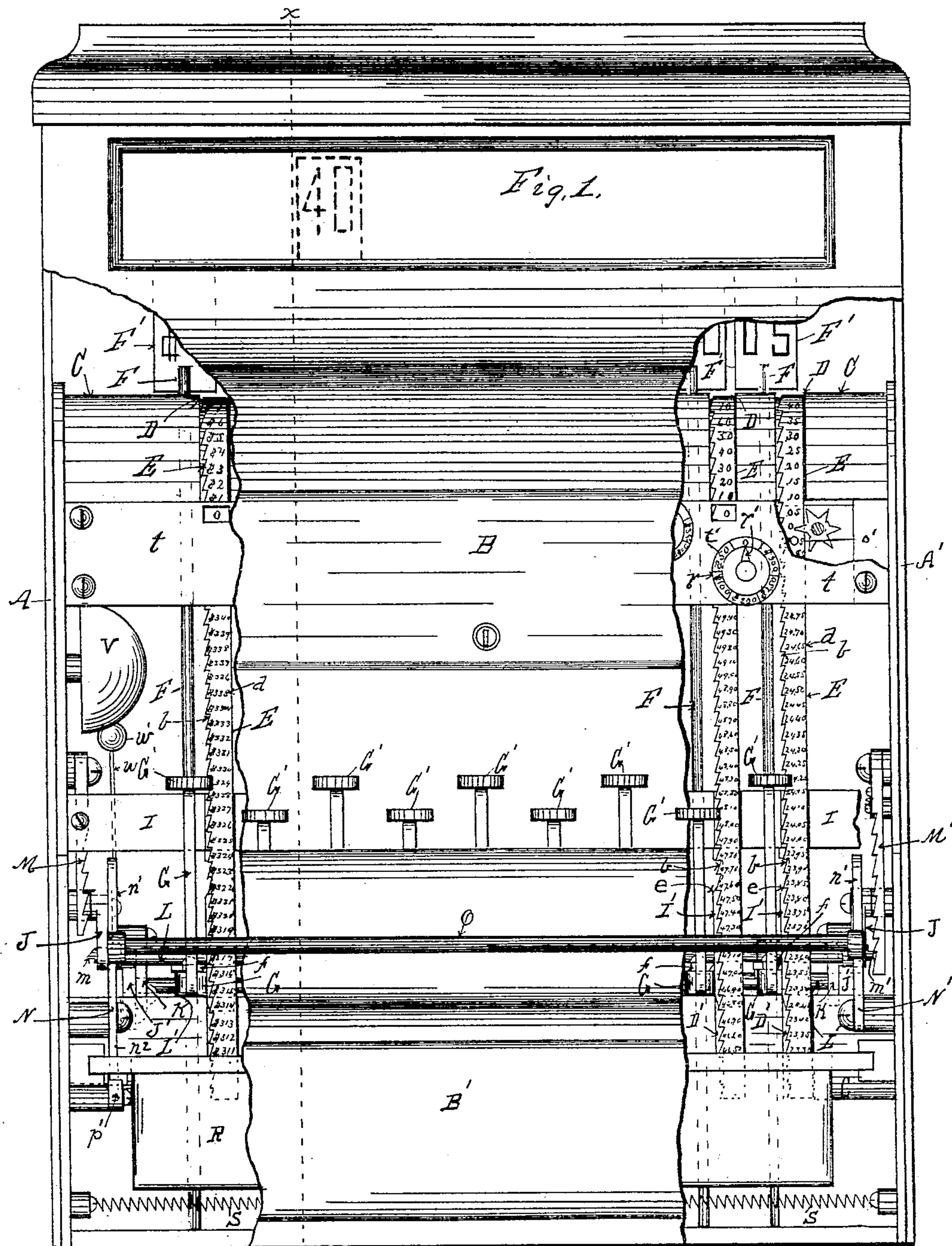
(No Model.)

3 Sheets—Sheet 1.

W. H. CLARK.  
CASH REGISTER.

No. 496,338.

Patented Apr. 25, 1893.



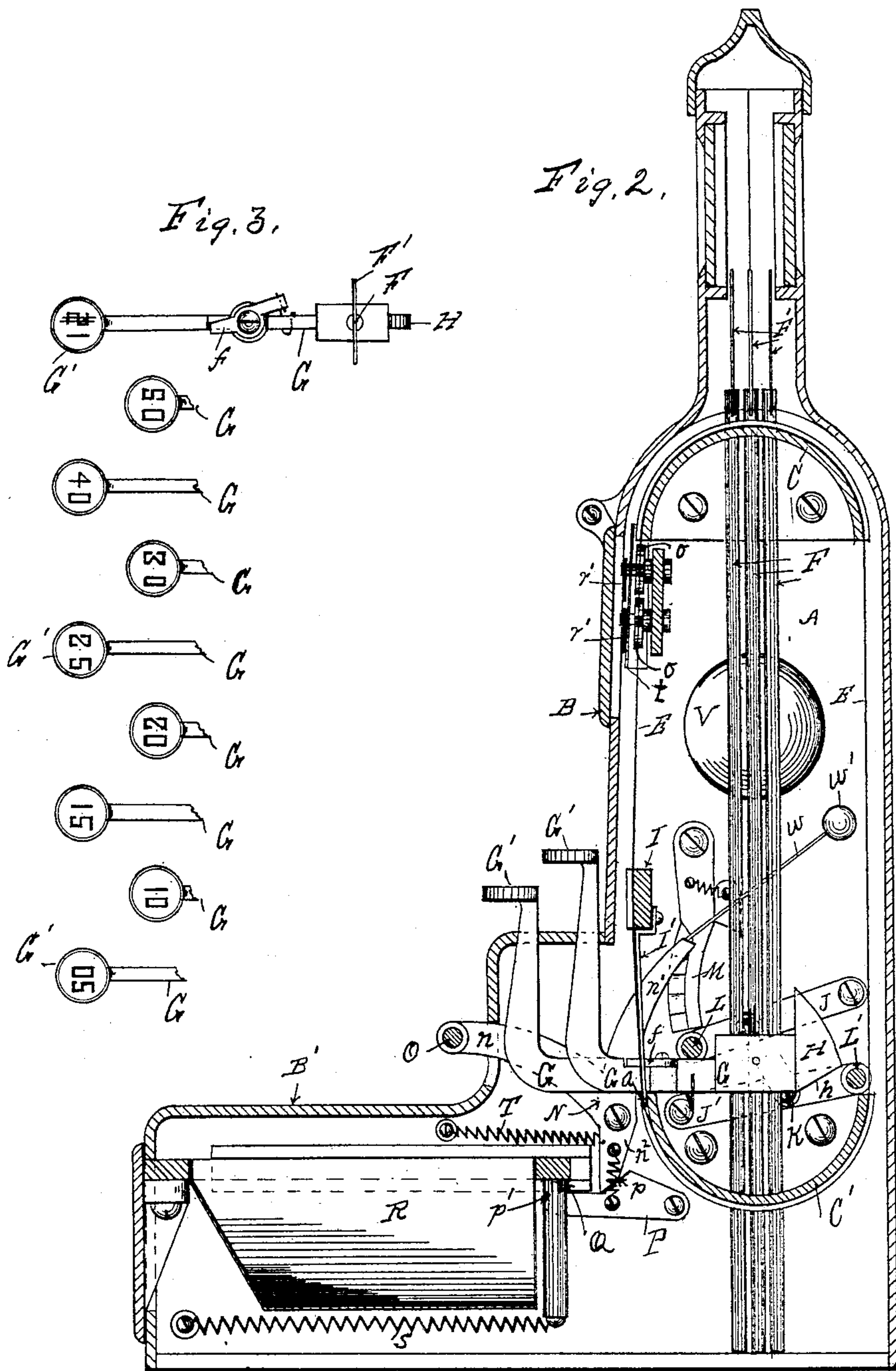
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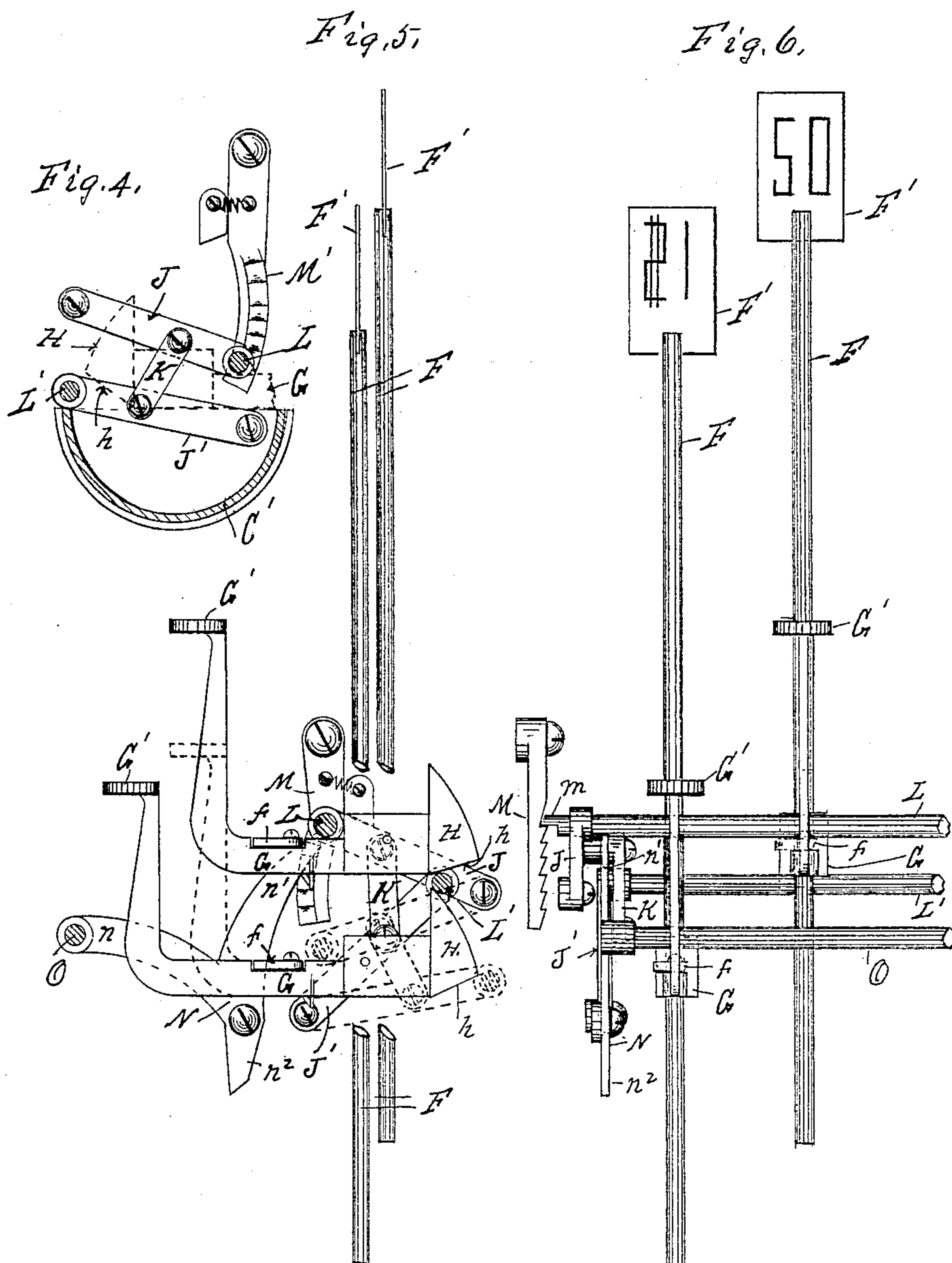
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# UNITED STATES PATENT OFFICE.

WILLIAM H. CLARK, OF ERIE, PENNSYLVANIA, ASSIGNOR TO THE ERIE CASH REGISTER COMPANY, OF SAME PLACE.

## CASH-REGISTER.

SPECIFICATION forming part of Letters Patent No. 496,338, dated April 25, 1893.

Application filed June 25, 1892. Serial No. 438,061. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM H. CLARK, a citizen of the United States, residing in the city of Erie, in the county of Erie and State of Pennsylvania, 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 invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, forming part of this specification.

My invention consists in the improvements in cash registers hereinafter set forth and explained, and illustrated in the accompanying drawings in which—

Figure 1, is a front elevation of my improved cash register, portions of the case being broken away so as to show parts of the internal mechanism thereof. Fig. 2, is a transverse vertical section of the same on the line  $x, x$ , in Fig. 1, looking in the direction of the arrow. Fig. 3, is a top or plan view, showing the relative arrangement of the key arms, one of which is shown in full. Figs. 4, 5, and 6, are detail views of different parts of my improved cash register.

Like letters refer to like parts in all of the figures.

This invention is designed as an improvement on the construction shown and described in my application for patent, filed in the United States Patent Office, April 9, 1892, Serial No. 428,493, and its objects are hereinafter fully set forth in the following specification and claims.

In the construction of my improved cash register shown in the drawings,  $A, A'$  are the ends of the upright portion of the frame,  $B$  is the front of the case, and  $B'$  is the base thereof.

Secured between the ends  $A, A'$  of the frame, near the upper and lower portions thereof, are longitudinal semicircular bars  $C$  and  $C'$ . These bars  $C$  and  $C'$  are provided with grooves  $D, D'$ , to receive register bands  $E$ , and in which grooves these register bands are moved as hereinafter set forth.

In the bars  $C$  and  $C'$  between the grooves

$D$  and  $D'$ , are holes in which vertical rods  $F$  carrying indicator tablets  $F'$  move freely up and down. To these rods  $F$ , are secured key arms  $G$  which project out through the front  $B$  of the case, when they are provided with operating knobs or buttons  $G'$ . The rear ends of the arms  $G$  have also thereon cam shaped projections  $H$ , as and for the purpose herein-after set forth.

A short distance above the front edge  $a$  of the longitudinal bar  $C'$ , a longitudinal bar  $I$  is secured between the ends  $A, A'$  of the frame, and between the edge  $a$  of the bar  $C'$  and the bar  $I$ , in line with each of the grooves  $D'$  in the bar  $C'$  is secured a vertical strip or guide of metal  $I'$ , over which the register bands  $E$  pass. These register bands  $E$  are provided in one edge thereof with serrations or notches  $b$ , and on their face or outside surface with figures  $d$  opposite each of said serrations or notches, as and for the purpose hereinafter set forth.

In the edges of each of the vertical guides  $I'$ , near the upper end thereof there is a notch or recess  $e$  directly under the serrations in the edges of the bands  $E$ .

On each of the arms  $G$  is pivoted a horizontally moving spring actuated dog  $f$ , the outer end of which rests against the edge of the vertical stop or guide  $I'$ , and, as the arm  $G$  is raised, enters the notch  $e$  therein and engages with one of the teeth formed by the serrations  $b$  in the register bands  $E$ , and carries the band  $E$  around the grooves  $D, D'$  in which it rests a distance equal to one of the serrations or notches in the register band  $E$ , this operation only taking place during the last portion of the upward traverse of the arms  $G$ .

Pivoted to the ends  $A, A'$  of the frame are levers  $J$  and  $J'$  connected together by means of a link  $K$  pivoted between them. Extending longitudinally between the free ends of the levers  $J$  is a rod  $L$  which rests upon all the arms  $G$  when they are in their normal positions as shown in Figs. 1 and 2, and between the free ends of the levers  $J'$  is also a rod  $L'$  which in its normal position rests on the rear edge  $a'$  of the bar  $C'$ , and which when raised is adapted to pass up around the cams  $H$ , on the rear ends of the arms  $G$ , so that when any one of the arms  $G$  is raised it



carries up the rod L with it, which operates through the levers J and J' and the link K connecting them together, to also move the rod L' up so as to pass over the cam H of the remainder of the arms G, and under the inclined portion *h* of the lower portion of the cam H on the arm G being raised, until it assumes the position illustrated in Fig. 5, it so operating as a lock for all of the arms G excepting the one being then raised.

To the ends A, A' of the frame are also pivoted spring actuated ratchet levers M and M', the ratchet lever M pivoted to the end A of the frame, being adapted to engage with a projection *m* on the end of the rod L, so that as the rod L is being moved upward it must make its full traverse before it is disengaged from the teeth on the lever M, while the teeth on the ratchet lever M' pivoted to the end A' of the frame are adapted to engage with a projection *m'* on the other end of the rod L, so that as the rod L is being moved downward it must make its full traverse downward before it is disengaged from the teeth on the lever M' so as to be again raised. Thus when one of the arms G is started on its upward traverse it cannot be returned to its normal position until its upward traverse is fully completed. Meanwhile every other arm G is locked in its normal position by the rod L', until the one being operated has completed its traverse and been returned to its normal position.

There are also pivoted to the ends A A' of the frame bell-crank levers N and N', the arms *n* thereof projecting outwardly through the front B of the case where they are coupled together by means of a longitudinal rod O. The upwardly extending arms *n'* of said bell-crank levers N and N' extend upward a sufficient distance so that when the rod L is raised to the full extent of its upward traverse the upper ends of said arms *n'* pass under it, and retain it in such raised position until the operator presses upon the rod O which operates to move the arms *n'* back from under the rod L, so as to allow it to move downward to its normal position.

On the axis of the bell-crank N is an arm *n*<sup>2</sup>, which extends downward into the base B', where it engages with inclined surface *p* on spring actuated lever P pivoted to the side of the base, which lever P is provided with a hook *p'* on the outer end thereof adapted to engage with a catch Q on a cash drawer R operating in the base B' of the machine, and retain it in a closed position against the tension of springs S, S, which are adapted to force the drawer open when the hook *p'* is released from the catch Q thereon, which operation is performed by pressing downward on the rod O by which means the arm *n*<sup>2</sup> of the bell-crank lever N is moved upward on the incline *p* of the lever P so as to force it downward, and disengage the hook thereon from the catch Q on the drawer R. For retaining the bell-crank levers N and N' in their

normal positions springs T extend therefrom to stud pins in the base B' of the frame, at each side thereof.

To the end A of the frame an alarm bell V is secured, and to the arm *n'* of the bell-crank lever N is secured a bell hammer lever *w* which bears a bell-hammer *w'*, which strikes an alarm on the bell V each time the rod O across the front of the case is depressed.

Across the front of the machine a little in front of, and below the lower edge of the semi-circular section C around which the register bands E pass, I secure a bar *t*, in which I mount dials *t'* the axes of the hands *r'* passing through said dials when they have secured thereto star wheels *o* adapted to engage pins *o'* in the register bands E so that each time a register band E travels completely around, the pin *o'* therein, engages with one of the teeth of the star wheel *o* and moves it forward carrying the hand *r'* forward one space on the dial *r*, so that at any time an inspection of the dials *r* will show the number of times each register band has traveled completely around from the starting point, zero.

In operating this machine the operator raises the arm G indicating the amount to be registered which operates to raise the indicator rod and the number thereon, and at the same time move the corresponding register band E forward one notch, so as to register the like amount. When it is desired to return the arm G to its normal position the operator presses the rod O which operates to release the arm G and it then returns by gravity to its normal position.

Having thus fully described my invention, so as to enable others to construct and operate the same, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination in a cash register, of a stationary frame, with register bands passing around said frame, and adapted to be moved thereon, and arms and dogs for engaging and moving the bands, substantially as and for the purpose set forth.

2. The combination in a cash register, of a stationary frame consisting of upper and lower semi circular sections, register bands passing around and moving in grooves in said frame, and tablet carrier rods mounted in holes in said frame and adapted to be moved vertically therein, and arms secured to said tablet rods, having dogs thereon adapted to engage and move said bands, substantially as and for the purpose set forth.

3. The combination in a cash register, of a stationary frame having tablet carrier rods movably mounted therein, and serrated register bands movably mounted on said frame, with operating arms secured to said tablet carrier rods, and spring actuated dogs on said arms adapted to engage with the serrations in the register bands when said operating arms are raised, substantially as and for the purpose set forth.



4. The combination in a cash register, of serrated register bands mounted on and adapted to be moved around a fixed frame, and tablet carrier rods mounted and moving in holes in said frame between the register bands mounted thereon, with operating arms secured to said tablet carrier rods, having spring actuated dogs thereon adapted to engage the serrations in the register bands when the tablet carrier rods are raised, and also having cam surfaces on the rear ends thereof adapted to engage a horizontal movable locking rod, substantially as and for the purpose set forth.

5. The combination in a cash-register, of a tablet locking mechanism consisting of an arm having a cam thereon connected with or moving in unison with each tablet carrier rod, levers pivoted at the ends of the machine and connected by means of a horizontal rod adapted to travel (when raised) over the faces of said cams, and levers pivoted at the ends of the machine and coupled to the first named levers by means of links, and a horizontal rod connecting said last named levers, and adapted to be engaged and moved in unison with each tablet rod, substantially as and for the purpose set forth.

6. The combination in a cash-register, of an arm having a cam thereon secured to each tablet carrier, and levers as J and J' pivoted to the ends of the machine frame and coupled together by links as K, so as to move in unison with each other, with a longitudinal rod as L' connecting the free ends of the levers J', and adapted to travel up under any one of the cams being raised, and over those remaining stationary, and a rod as L connecting the free ends of the levers J, and adapted to be engaged and moved in unison with each of the tablet carriers, substantially as and for the purpose set forth.

7. The combination in a cash-register, of levers as J and J' pivoted to the ends of the machine frame, links as K connecting said levers J and J' together, so that said levers will move in unison, and horizontal rods as L and L' connecting the free ends of said levers, and arms and cams on each of the tablet carriers of the machine adapted to engage said rods, with bell-crank levers as N N' at each end of the machine, the arms n' of which are

adapted to engage the rod L when its upward traverse is completed, substantially as and for the purpose set forth.

8. The combination in a cash-register, of levers pivoted to the ends of the machine frame, and connected together so as to move in unison, and horizontal rods connecting the free ends of said levers and adapted to be engaged by an arm and a cam moving in unison with each of the tablet carrier rods of such machine, with swinging spring actuated ratchet levers pivoted to the ends of the machine frame, and adapted to be engaged by catches or dogs on the ends of one of said horizontal rods, substantially as and for the purpose set forth.

9. The combination in a cash-register, of swinging spring actuated ratchet levers as M and M' pivoted to the ends of the machine frame, with levers as J pivoted to each end of the machine frame, and a rod as L connecting the free ends of said levers and adapted to be engaged by an arm connected with and moving in unison with each tablet carrier of said machine, and catches or dogs on the ends of said rod adapted to engage the teeth on said ratchet levers, substantially as and for the purpose set forth.

10. The combination in a cash-register, of arms and cams connected and moving in unison with the tablet carriers of the machine, and spring actuated ratchet levers M and M', pivoted to the ends A and A' of the machine frame, with the levers J, J, and J', J', also pivoted to the ends of the machine frame, the link K connecting said levers J and J', the rod L connecting the free ends of the levers J, J, adapted to be engaged by the arms connected with the tablet carriers and having catches at the ends thereof adapted to engage the ratchet levers M and M', and the rod L' mounted in the free ends of the levers J', J', and adapted to engage the cams H on the tablet carrier rods substantially as and for the purpose set forth.

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

WILLIAM H. CLARK.

Witnesses:

E. H. GOETZ,

WM. P. HAYES.