



(No Model.)

5 Sheets—Sheet 2.

C. GIBBS.  
CASH REGISTER.

No. 467,092.

Patented Jan. 12, 1892.

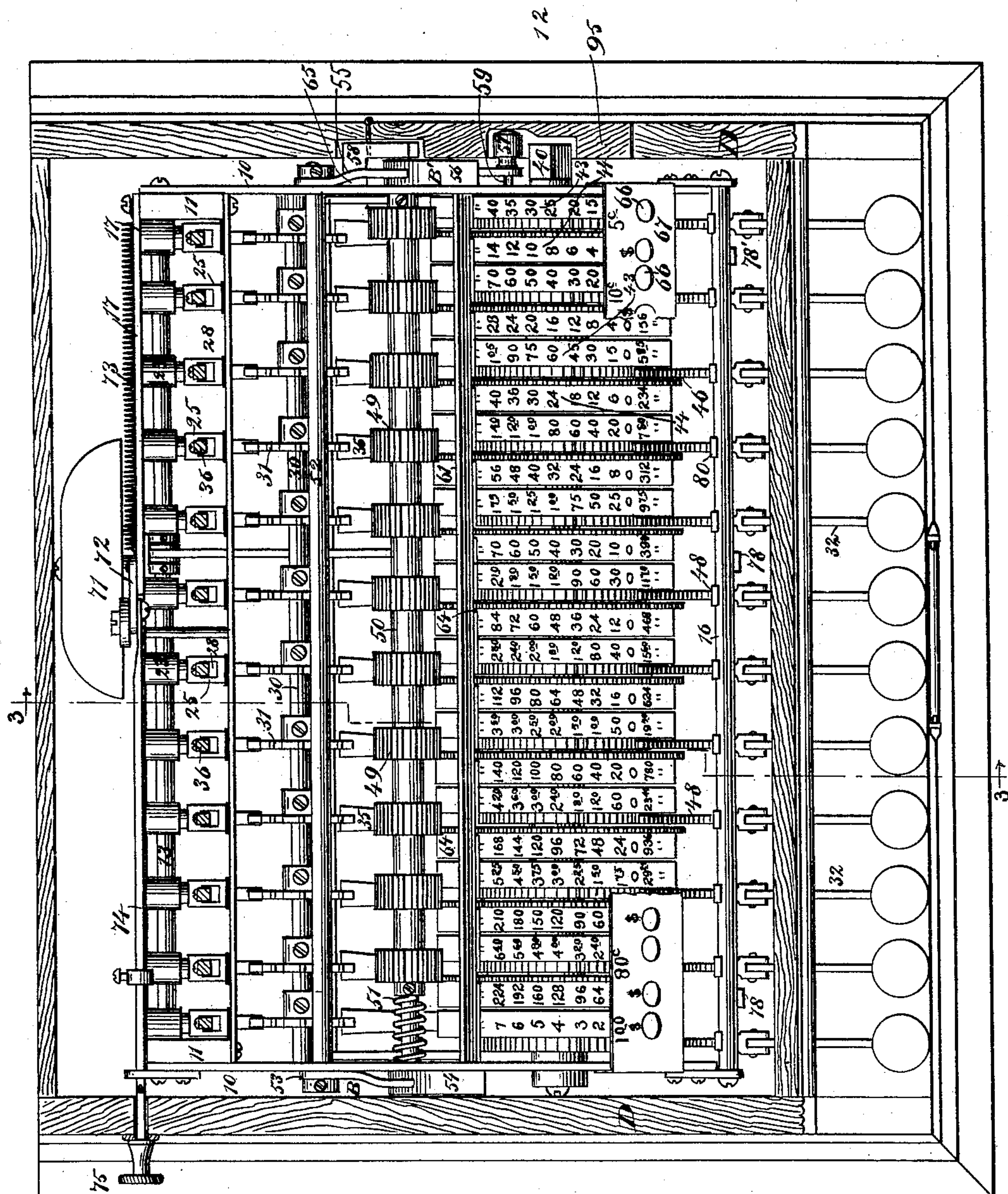


Fig. 2.

WITNESSES:

J. A. Griswell.  
C. Sedgwick

INVENTOR:

C. Gibbs  
BY Munn & Co.  
ATTORNEYS



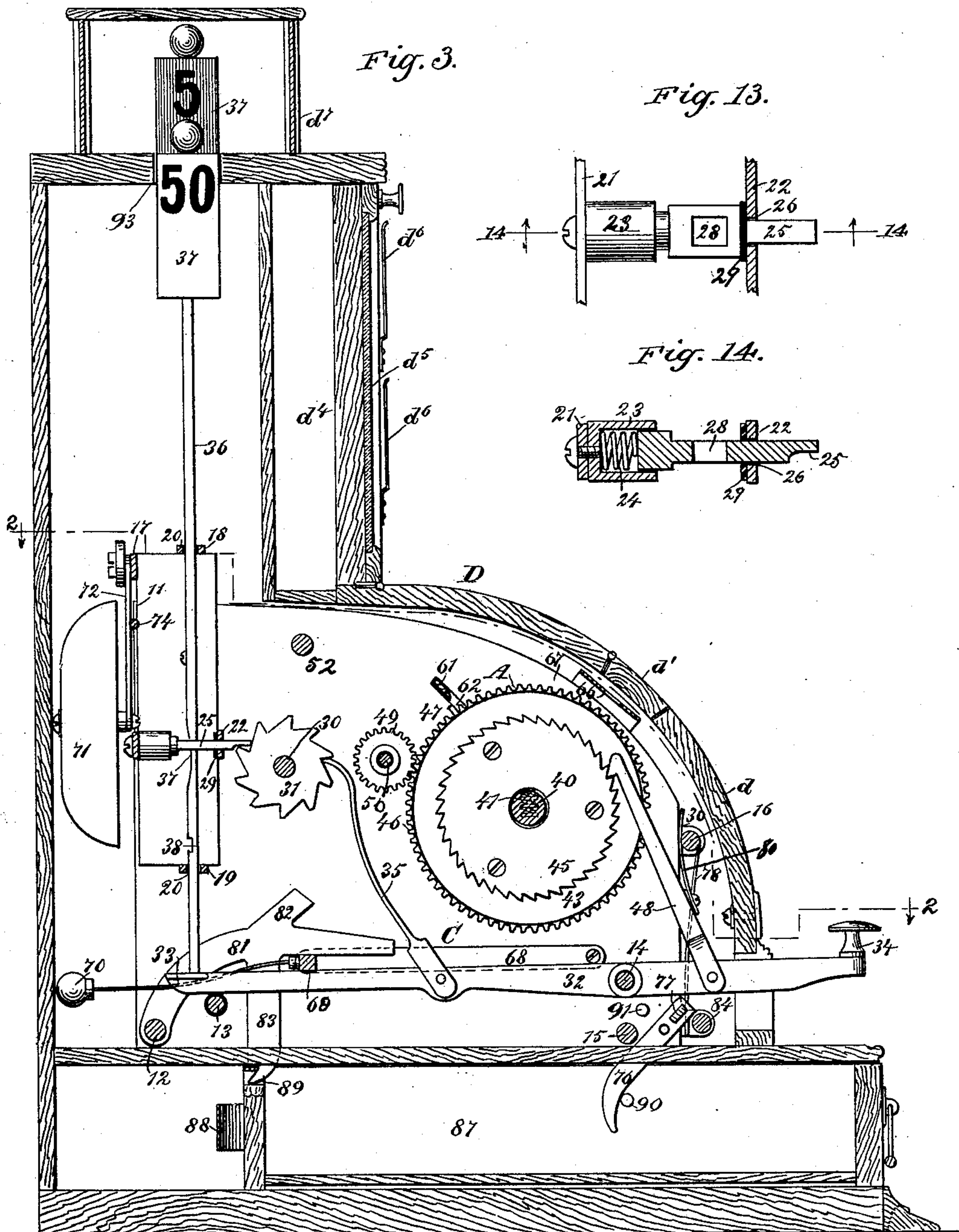
(No Model.)

5 Sheets—Sheet 3.

C. GIBBS.  
CASH REGISTER.

No. 467,092.

Patented Jan. 12, 1892.



WITNESSES:

J. H. Brisswell  
C. Sedgwick

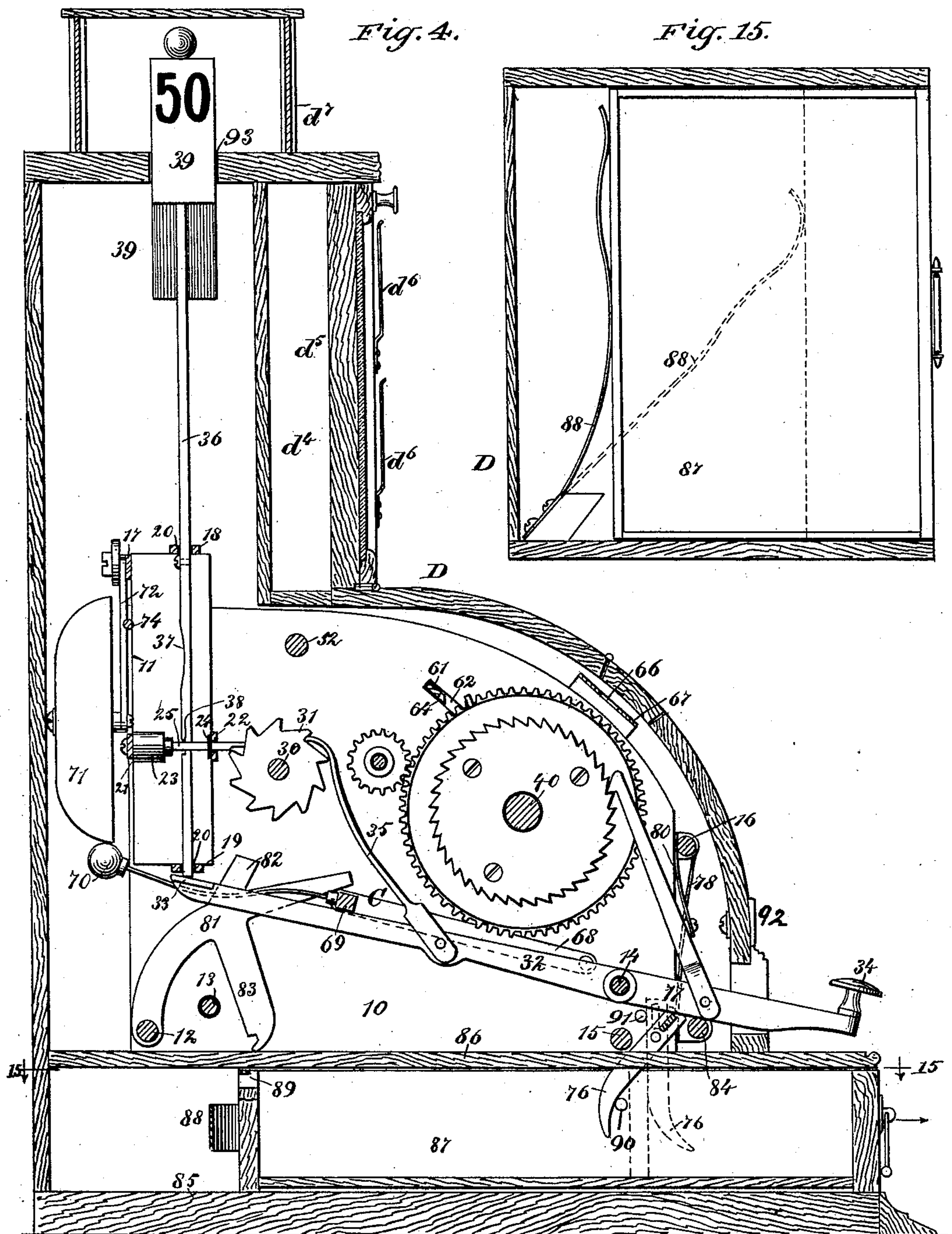
INVENTOR:

C. Gibbs  
BY Munn & Co  
ATTORNEYS

5 Sheets—Sheet 4.

No. 467,092.

Patented Jan. 12, 1892.



WITNESSES:

J. B. Griswell.  
C. Sedgwick

**INVENTOR:**

C. Gibbs  
BY Munn & Co  
ATTORNEYS



(No Model.)

5 Sheets—Sheet 5.

C. GIBBS.  
CASH REGISTER.

No. 467,092.

Patented Jan. 12, 1892.

Fig. 5.

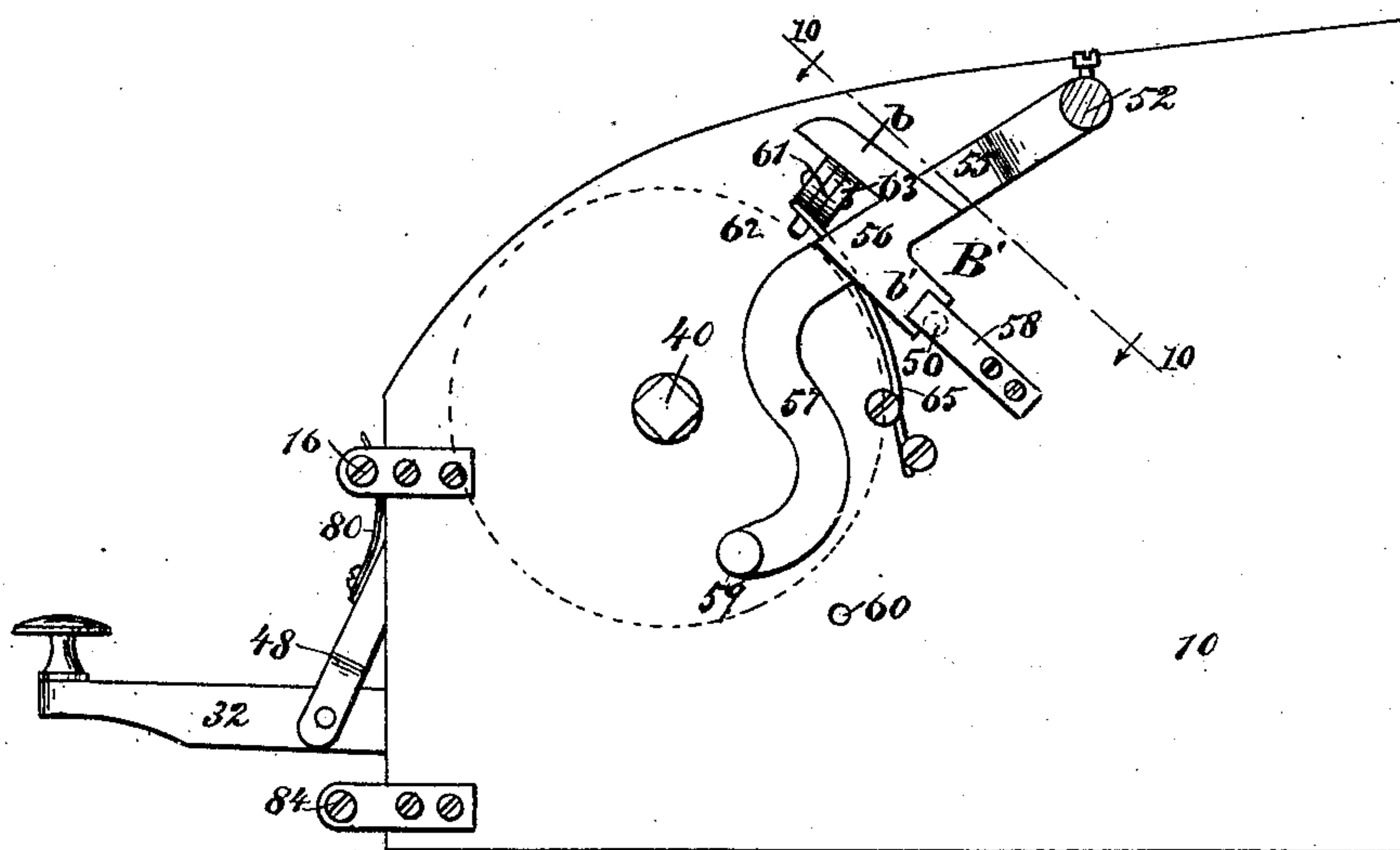


Fig. 6.

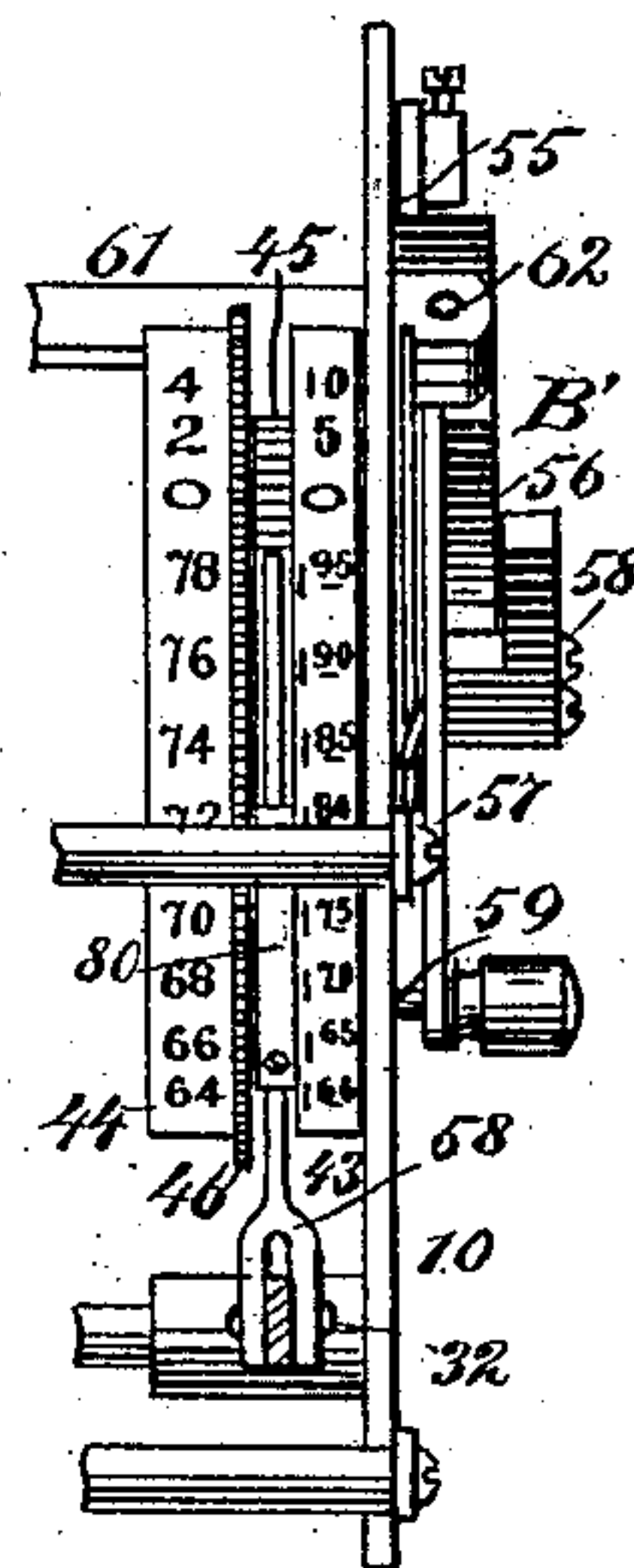


Fig. 7.

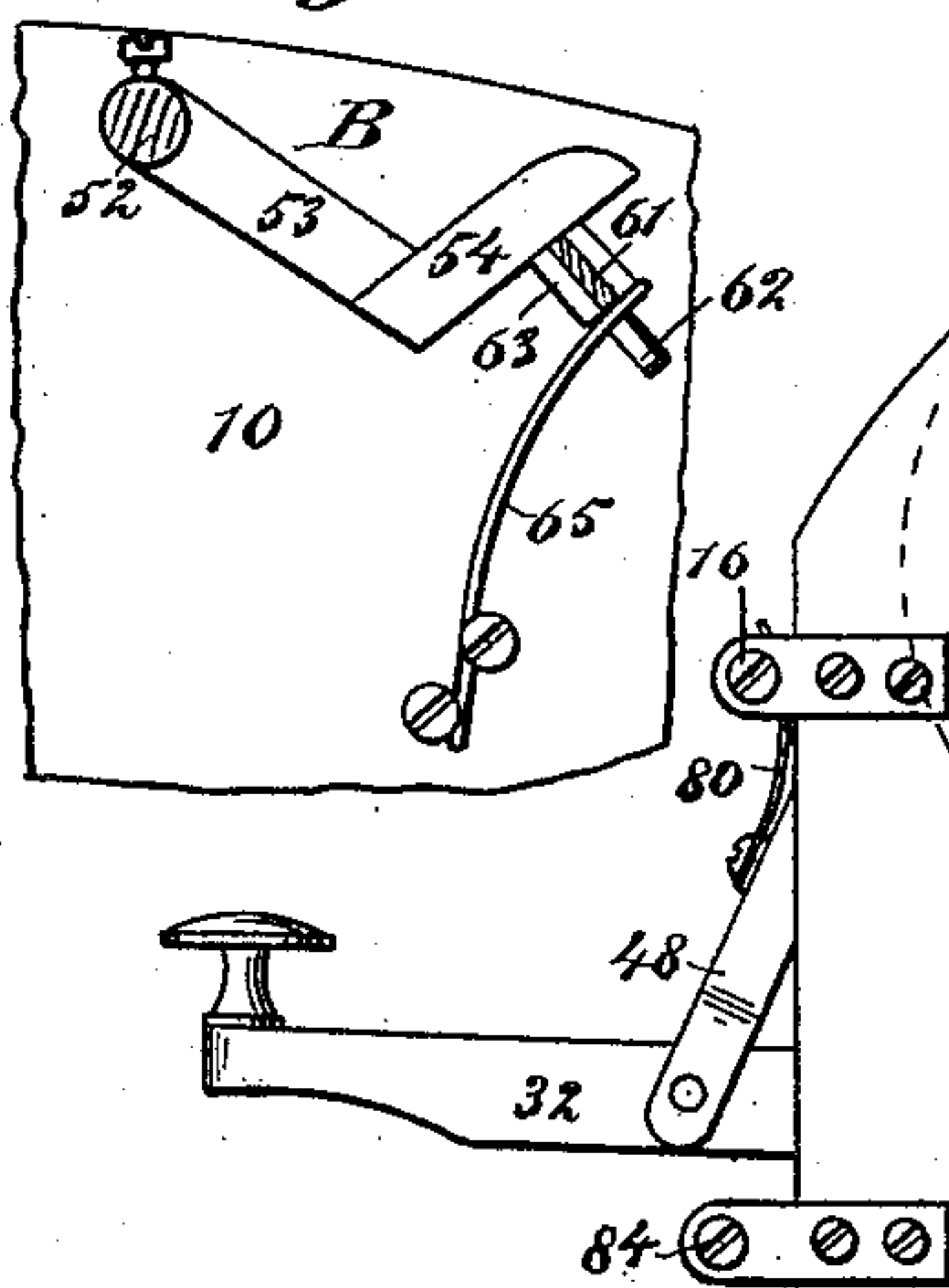


Fig. 8.

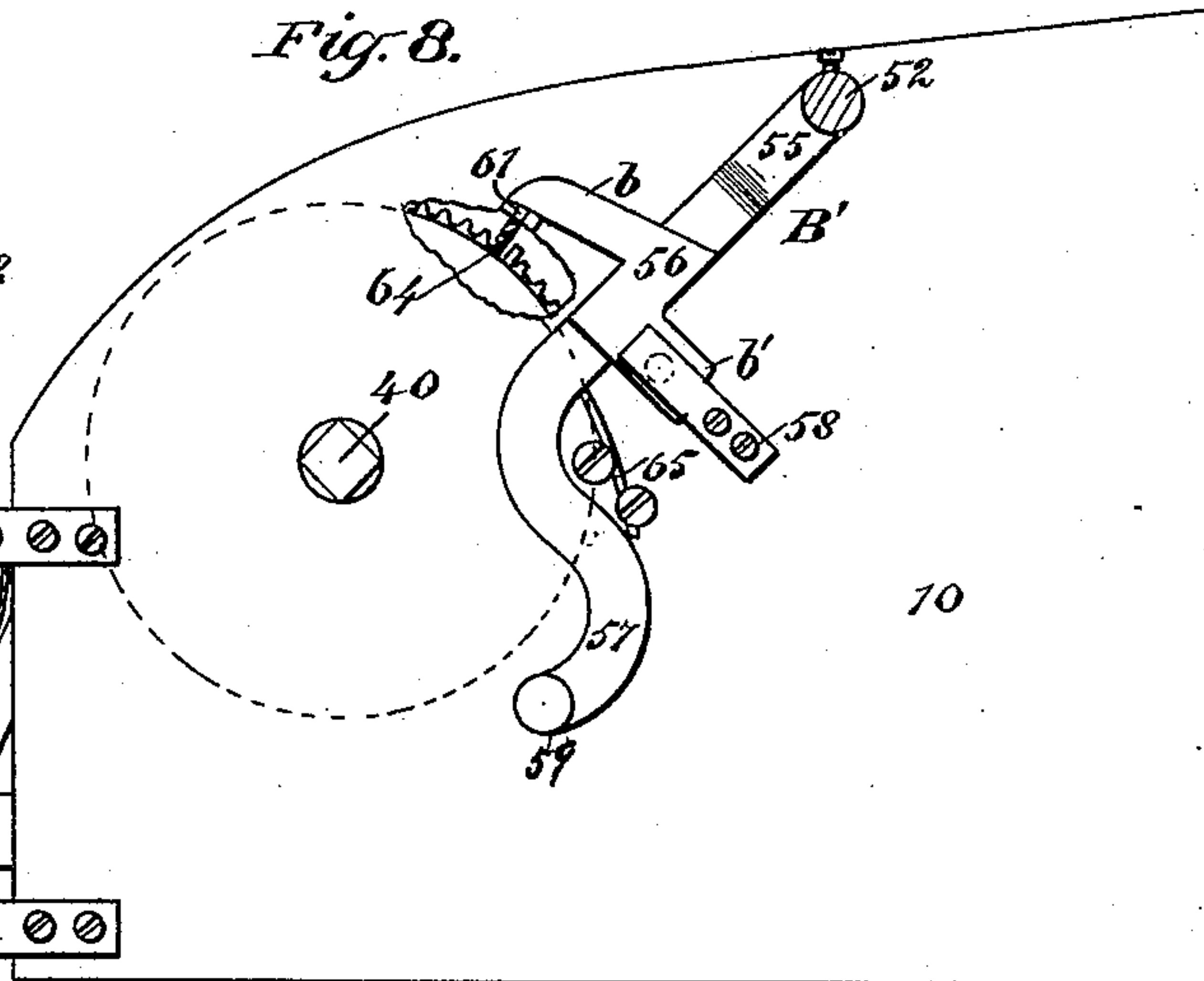
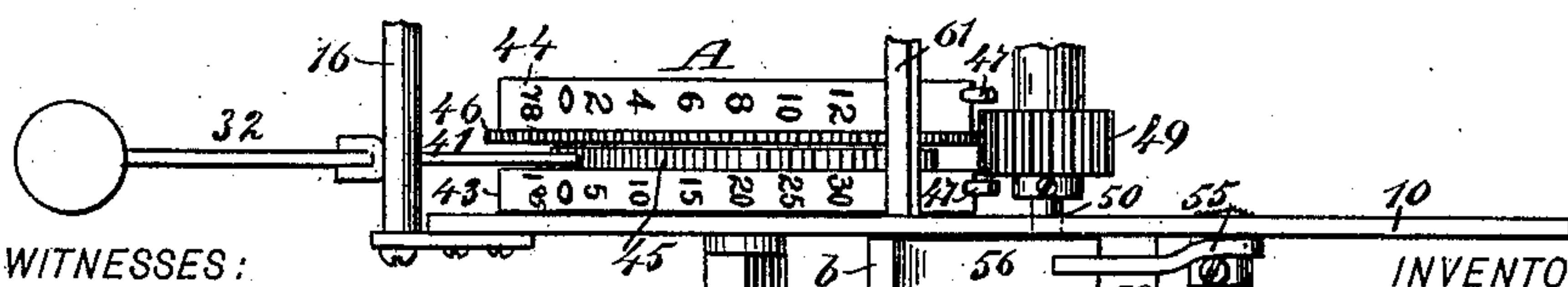


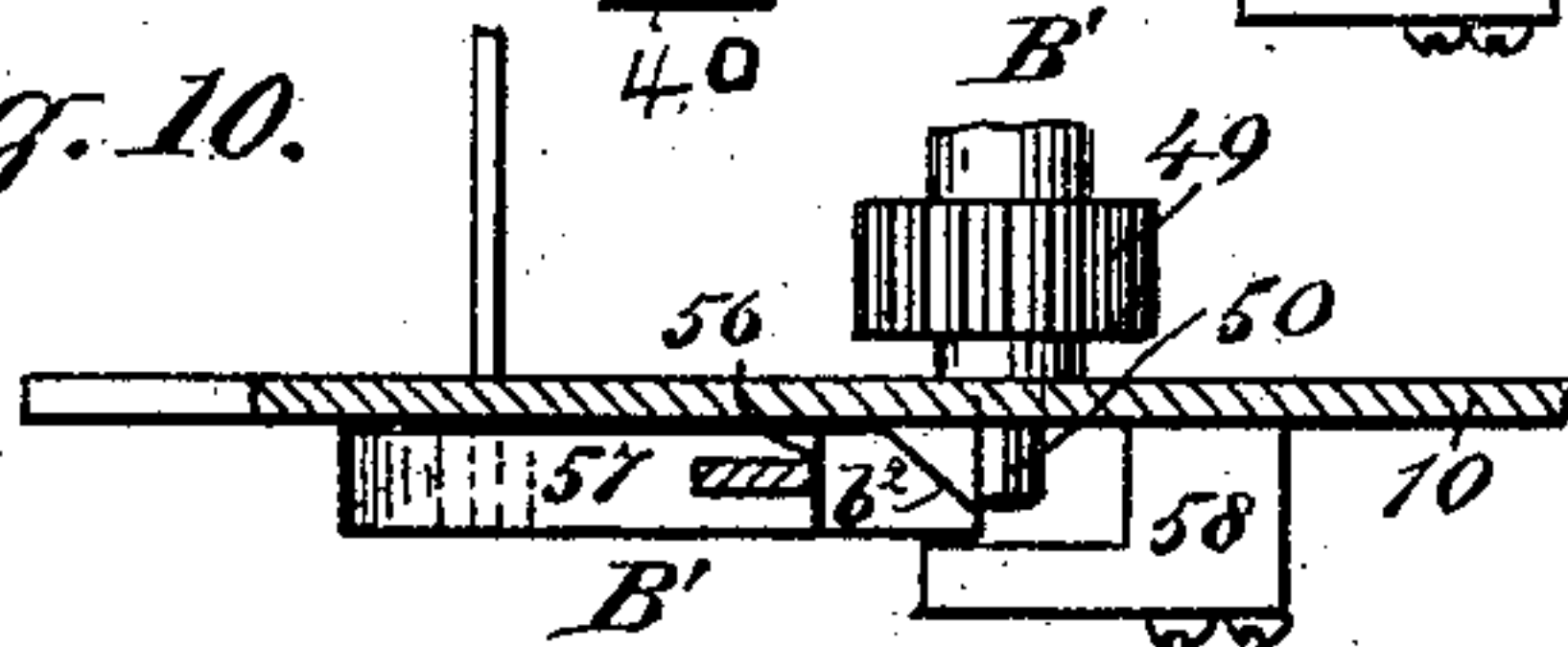
Fig. 9.



WITNESSES:

J. E. Griswell  
C. Sedgwick

Fig. 10.



INVENTOR:

C. Gibbs

BY

Munn & Co.

ATTORNEYS



# UNITED STATES PATENT OFFICE.

CHARLES GIBBS, OF NEW YORK, N. Y., ASSIGNOR TO THE PERHACS & GIBBS  
MANUFACTURING COMPANY, OF SAME PLACE.

## CASH-REGISTER.

SPECIFICATION forming part of Letters Patent No. 467,092, dated January 12, 1892.

Application filed June 16, 1891. Serial No. 396,476. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES GIBBS, of New York city, in the county and State of New York, have invented a new and useful Improvement in Cash-Registers, of which the following is a full, clear, and exact description.

My invention relates to an improvement in cash-registers, and has for its object to provide a machine of simple and durable construction devoid of springs in its actuating mechanism and wherein all the movements are positive ones.

A further object of the invention is to provide for an account of receipts in dollars and cents and to so construct the casing of the machine that cards of information or advertisement may be conveniently and quickly displayed thereon or removed therefrom without in the least injuring the casing or detracting from its appearance.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view of the cased machine. Fig. 2 is a horizontal section, the section being taken, practically, on the line 2 2 of Fig. 3. Fig. 3 is a vertical section taken, practically, on the line 3 3 of Fig. 2, illustrating one of the keys at rest and an indicating-rod resting thereon, the indicating-block thereof being concealed in the casing. Fig. 4 is a section corresponding to that illustrated in Fig. 3, the key being illustrated as having been manipulated and as raising an indicator-rod to display its block. Fig. 5 is an end view of the machine, the casing being removed, illustrating the adjusting mechanism employed in connection with the registering-dials in its normal position. Fig. 6 is a partial front elevation of the machine as shown in Fig. 5, illustrating the connection of the adjusting mechanism with the registering-dials. Fig. 7 is a partial side elevation

of the face of the machine opposite that illustrated in Fig. 5. Fig. 8 is a view similar to that illustrated in Fig. 5, the adjusting mechanism being shown in a position to regulate the adjustment of the dials. Fig. 9 is a plan view of that portion of the machine illustrated in Fig. 6. Fig. 10 is a section taken upon the line 10 10 of Fig. 5. Fig. 11 is a section taken diametrically through one of the dials and the shaft by which it is carried. Fig. 12 is a section of a series of dials and a longitudinal section of the shaft upon which they are mounted. Fig. 13 is a plan view of one of the latches employed in connection with the indicating-rods. Fig. 14 is a central section through the latch, taken upon the line 14 14 of Fig. 13. Fig. 15 is a detail section showing the rear end of the drawer and the spring.

The frame proper of the machine consists, mainly, of two side pieces 10, the upper edges of which are preferably made convexed or curved, blocks 11, secured to the inner faces of the side pieces near the rear edges thereof and extending above the top edges, and a series of rods and bars connecting and spacing the side pieces. Of the connecting rods and bars employed a rod 12 is shown as located at the rear lower portion of the frame, and a second rod 13, provided with a cushioned cover, is located above and in advance of the lower rod. A fixed shaft 14 is secured in the side pieces near their forward lower portions, and a connecting-rod 15 is passed beneath the shaft. Another connecting-rod 16 is attached to the front edges of the side pieces of the frame, and a connecting-bar 17 unites the rear upper edges of the blocks 11. The blocks 11 are further connected by a bar 18, attached to their upper surfaces, and by a parallel bar 19, secured to their lower ends, and in both bars 18 and 19 a series of openings 20 is produced, the openings in the two bars being in vertical alignment. Horizontally-aligning bars 21 and 22 are fastened to the blocks 11, one at each side. A series of horizontal sockets 23 is bolted or otherwise secured to the front face of the horizontal bar 21. Each socket contains a spring 24, as shown in Fig. 14, and is adapted to receive, also, one end of a horizontal latch 25, the opposite and forward



ward ends of the latches being adapted to slide in and extend through openings 26, produced in the inner bar 22.

In the construction of the latches the portion entering the sockets is preferably cylindrical. The inner end is reduced and rectangular in cross-section and provided with a recess 27 in its under face, and the central or body portion is of greater width than either end and is provided with an opening 28, preferably of rectangular shape, as shown in Fig. 13. Each latch is ordinarily provided with an elastic washer 29 to prevent noise when the body thereof strikes against the bar 22, and the openings 28 of the latches are in vertical alignment with the openings 20 in the bars 18 and 19. The openings in the said bars correspond in number to the number of latches; but the latch-openings are larger than those in the bars.

In front of the latch guide-bars 21 and 22 a shaft 30 is loosely journaled in the side pieces of the frame, and opposite the inner end of each latch a ratchet-wheel 31 is secured upon said shaft, the teeth of the wheels being forwardly curved. By revolving the shaft in the direction of the rear of the machine a tooth of each ratchet-wheel will engage with a latch and press the same rearward against the tension of the latch-spring 24, and the moment the teeth of the ratchet-wheel disengage from the latches the latter are returned by their springs to their normal position.

A series of keys 32 is independently fulcrumed upon the fixed shaft 14, which keys extend rearward over and normally rest upon the cushioned rod 13, and their forward ends project some distance beyond the front of the frame. The upper rear face of each key is formed with a flat table 33, and their forward or outer end is provided with a knob 34 or the equivalent thereof. The ratchet-wheel shaft 30 is turned the distance of a ratchet-tooth each time the inner end of a key is elevated, and this is effected through the medium of dogs 35, attached one to each key and each dog engaging at its upper end with the ratchet-wheel, as a ratchet-wheel is provided for each key.

An indicating-rod 36 rests upon the table of each key, and the rods are loosely passed down through the openings 20 in the bars 18 and 19 and through the openings 28 in the body of the latches. Each indicating-rod is provided in its rear edge with a concaved recess 37, adapted when the key supporting a rod is in its normal position to be located within the opening of the latch, through which the rod passes, as shown in Fig. 3, and each indicating-rod is further provided with a notch 38 in its rear edge below the recess 37, into which notch the rear wall of the latch-recess 28 enters when the key supporting the rod is elevated at its rear end by pressing upon its forward end, as shown in Fig. 4. When the notch receives the wall of the re-

cess, the rod is maintained in an elevated position even when the key is restored to its normal position, to be dropped again only when another key is manipulated to elevate another rod in a manner to be hereinafter described. Each rod has secured to its upper end a block 39, having a predetermined number produced thereon, indicating the price of a certain article.

A shaft 40 is journaled in the side pieces of the mechanism near the front thereof and over the keys 32, back of the fulcrum of the latter. Upon the shaft a number of registering-disks A are mounted, which disks are made of metal or wood, and are held in frictional engagement with the shaft by means of springs 41, fitted in recesses in the shaft and engaged with metal bushings or sleeves 42, fixed in the disks, as shown in Figs. 11 and 12. The friction exerted upon the disks by the springs is not sufficient to prevent them from turning upon the shaft when moderate force is exerted thereon; but the frictional contact is sufficient to cause the disks, when not under pressure, to turn with the shaft when the latter is revolved. The disks are independent; but a pair of disks is employed to register sales of articles selling for a fractional portion of a dollar or for a dollar and a fraction over.

Two pairs of disks are illustrated in Fig. 12, one pair being adapted to register sales made of articles selling for five cents, for instance, and said pair is located over the key connecting with the indicator-block bearing such a number, in which event the next pair of disks is located over the key used to throw up the block bearing the number "10." Thus the scale of numbers designating prices is preserved, as shown in Fig. 1.

When a pair of disks is used for each key, one disk 43 is read in cents and the other disk 44 in dollars. The figures to be read are placed upon the periphery of the disks, and if the disks are worked by the five-cent key the numbers upon the cent-disk are graded by digits of five, and the scale of numbers is preferably made to include 0 and 195, and the scale upon the dollar-disks reads, first "0" and then by digits of two from and including 2 to 78 or a higher or a lower number. Thus when the cent-disk, starting from a given point and showing at that time the "0" makes a complete revolution, it will disclose at the same point "195" cents, and at the next pressure of the key the cent-disk will revolve the dollar-disk and cause the latter to disclose the figure "2."

Each disk registering cents is provided with a ratchet-wheel 45 upon one face, and the dollar-disk is provided upon the periphery at one side with teeth 46, and both disks of a pair are provided with a peripheral pin 47, and the pins of the disks are so placed that when they are in horizontal alignment the 0 of each disk will be in like position with respect to each other.



The cent-disks 43 are revolved the distance between two numbers of the scale each time the proper key is pressed, which result is accomplished by attaching to said key a dog 48, which engages with the ratchet-wheel 45 of the disk, as shown in Figs. 3 and 4. Motion is communicated to the dollar-disk of a pair when the cent-disk has made a revolution through the medium of the pin 47 of the cent-disk engaging with a pinion 49, meshing with the teeth of the dollar-disk, and one such pinion is provided for the toothed surface of each dollar-disk, the said pinions being free to turn upon a shaft 50, but have no end movement thereon. The shaft 50 is loosely journaled in the sides of the frame, and said shaft is not adapted to revolve, but to have end motion only in the frame against the tension of a spring 51, coiled around one end of the shaft, as shown in Fig. 2. The end of the shaft opposite that having the spring attached extends through the side pieces of the frame, as shown in Fig. 10, and the spring 51 normally maintains the shaft in such position that the pinions 49 engage with the teeth of the dollar-disks and extend sufficiently over the cent-disks to permit the pins of the latter disks to engage with the pinions, turn them, and so communicate motion to the dollar-disks.

When it is necessary to set the dial-faces of the disks at "0," which should be done each time a full accounting of the sales is made, the pinions 49 should be carried out of the path of the pins 47 upon the cent-disks, and all of the pinions are simultaneously thus manipulated by moving the shaft 50 endwise against the tension of its spring 51. This is accomplished by the following mechanism:

A shaft 52 is journaled in the upper rear portion of the frame, the ends whereof extend beyond the side pieces 10, and angular arms B and B' are respectively secured to the extremities of the shaft. The angular arm B comprises a body member 53, extending diagonally downward and forward, and a foot member 54, which extends diagonally upward, as shown in Fig. 7. The shaft 52 is manipulated by the opposite arm B', and its construction differs somewhat from that of the arm B. The arm B' consists of three members 55, 56, and 57. The upper member 55 connects directly with the shaft and is bent outward a slight distance from the outer side face of the frame, as shown in Fig. 9, and its lower end is integral with or secured to the intermediate member 56. The intermediate member is somewhat Z-shaped and is much thicker than the upper member 55. The upper section b of the Z member corresponds in position to the foot member 54 of the arm B, and the lower section b' of the central member is provided with a beveled inner face b<sup>2</sup> at its extremity, as is best shown in Fig. 10. The section B' is adapted to have movement in a bracket 58, secured to the side of the frame, and its beveled surface is adapted for engagement with

the projecting end of the shaft 50, and by pressing the arm B' downward the engagement between what might be called the "bolt-section" of the arm with the shaft 50 is such as to force the shaft in the direction of the opposite side of the frame against the tension of its spring a sufficient distance to carry each pinion 49 out of the track of each pin 47 upon the cent-indicating disks. The bracket guides and limits the downward movement of the bolt-section. The lower section 57 of the arm B' is a handle-section, and is preferably made in the shape of a crank and of spring metal, as it is provided upon its inner face with a pin 59, which, when the arm is forced downward, is to be sprung into an aperture 60 in the side of the frame for the purpose of locking the arm at the limit of its downward throw. The arms B and B' have another function—namely, that of placing in position a gage-bar 61—to utilize the pins 47 of the disks and cause the dials thereon to show each a "0" at the point where said dials are read, and the action upon the bar takes place while the shaft 50 is being shifted. The gage-bar 61 is held to slide in diagonal slots 62, produced in the sides of the frame, and the bar when in the slots extends back of all the disks near their upper surfaces, as shown in Figs. 2, 3, and 4. The extremity of the gage-bar extends beyond the sides of the frame and are made thicker than the body, preferably by the addition of plates 63, as shown in Figs. 5 and 6, and the bar is further provided with a series of slots 64 in its under edge corresponding in number to the number of dollar-disks and in location to the location of the teeth upon said disks. The gage-bar is normally held by a spring 65 some distance away from the disks and in engagement at its extremities with the foot member of the arm B and the upper section of the Z member of the arm B', as shown in Figs. 5 and 7. When the arm B' is carried downward to shift the pinions 49, the gage-bar is forced downward against the tension of its springs, and the solid portion of the bar will at this time be in the path of all the pinions upon the cent-indicating disks, while a slot in the bar will be opposite the toothed portion of each dollar-indicating disk. An accounting having been taken from the machine, it is set to commence another register of sales after the arm B' has been carried downward by turning the disk-shaft 40, which is squared at one end for the reception of a key, and as the disks are held in frictional contact only with the shaft and meet with no resistance in turning they turn with the shaft and the shaft is revolved until the pins 47 of all the disks strike against the rear side of the gage-bar. As soon as a pin engages with a gage-bar the disk to which it is attached will remain stationary. When the pins so engage, they are in alignment and the dial-face of each disk will show a "0" at openings 66 in a face-plate 67, through which openings the dials are read. The plate



is located at the front upper portion of the frame and extends from one side piece 10 to the other.

An arm 68 is pivoted to the inner face of each side piece 10 of the frame, near the front edge thereof and beneath the disks, and the free ends of the arms are connected by a rod 69, which rests upon the keys 32. Thus a frame C is constructed which is elevated each time the inner end of a key is raised.

The frame C has attached thereto a hammer 70, adapted to strike a bell 71, attached to the lower end of a bar 72, the upper end of the bar being pivoted upon the rear upper brace-bar 17, preferably at or near the center thereof. The bell is normally held in position to be struck by the hammer through the medium of a spring 73, attached to the pivoted bar 72 and to one of the side blocks 11. The bell may be carried out of the path of the hammer by drawing outward a rod 74, attached to the swinging bar carrying the bell or gong, and the said rod is adapted to extend outward through a casing to be hereinafter described and terminates in a suitable knob 75. A curved finger 76 is pivoted to the inner face of each side piece near the lower edge, which fingers extend some distance downward below the bottom of the frame and are connected by a bar 77. Springs 78 are secured to the upper brace-bars 16 and press against the front face of the finger-connecting bar 77, and springs 80, secured to the dogs 48, also have a bearing against the frame-bar, the latter springs being adapted to maintain the dogs in engagement with the disk-ratchets 45. Upon the center of the lower brace-bar 12 a latch-lever 81 is pivoted, the body of the lever being curved from its pivot upward over the cross-bar of the frame C. The body of the lever has projected therefrom a forwardly-inclined lug 82, adapted to engage with the lower frame-bar 19 and limit the upward movement of the lever, and a latch-arm 83 is projected downward from the body of the lever, being adapted for engagement with a cash-drawer to be hereinafter described. The frame is braced at its lower forward portion by a rod 84 or its equivalent, which also serves as a stop for the downward movement of the outer ends of the keys 32.

The frame is placed within a suitably-shaped casing D, the preferred form of which is shown in Fig. 1. The casing is provided with a main bottom 85 and an upper spaced auxiliary bottom 86, and upon the latter bottom the frame of the machine is secured. In the space intervening the two bottoms the cash-drawer 87 is located, and a spring 88, secured diagonally at the back of the casing, as shown in Fig. 15, normally exerts tension upon the back of the drawer, and when the drawer is free to move the spring forces it out at the front of the casing. When the drawer is within the casing, the latch-arm 83 of the latch-lever 81 is in engagement with a keeper 89 at the back of the drawer, as shown

in Fig. 3, and the fingers 76 are held in a rearwardly-inclined position when the drawer is closed by engaging with studs 90, secured to the sides of the drawer, and when the fingers are in this position the connecting-bar 77 is depressed sufficiently to permit the keys to be manipulated. When the drawer is open, the fingers are forced by their springs to assume a vertical position, as shown in dotted lines, Fig. 4, and when in this latter position the connecting-bar 77 will not permit the keys to be manipulated. Stops 91 limit the rearward throw of the upper ends of the fingers. The central portion  $d$  of the casing is cylindrical, and is provided with a door  $d'$ , having a suitable lock, and when the door is opened the plate 67 over the dial-face of the disk is exposed to view. The base-section  $d^2$  of the casing extends outward at the front beyond the central portion, and the latter portion of the casing is provided with a series of slots through which the keys extend. Above each key a plate 92 (see Figs. 1 and 3) is placed, bearing thereon the number of dollars or the fraction of a dollar which the manipulation of that key is adapted to register, or the numbers may be produced directly upon the casing or upon the knobs of the keys. The upper portion  $d^3$  of the casing is preferably made rectangular in cross-section, and is provided with a covered compartment  $d^4$ , normally closed by a door  $d^5$ , which is preferably of an ornamental character and is made to drop downward.

Upon the outer face of the door, at convenient points, clips or cleats  $d^6$  are placed, preferably made of spring metal, and the clips are adapted to hold conspicuously-exposed cards of information or advertisement. The top board of the upper section is provided with a longitudinal opening 93, through which the indicating-blocks 39 are carried upward and brought into full view of the purchaser when the keys are manipulated. Normally the blocks are concealed within the casing. The opening 93 is usually covered by a glass or other transparent case  $d^7$ , as shown in Fig. 1, and at one side of the case a trip-plate 94 is located, through which the rod 74 passes, controlling the position of the bell or gong, and the plate may be rocked to permit the rod to be drawn outward or pushed inward or to lock the rod in its outer or inner position, as may be required. In one side of the casing a door 95 is made, which when opened permits the operator to gain access to the squared end of the disk-shaft 40 and the setting-arm B'.

In operation, when a sale is made of, for instance, the value of fifty cents, the key over which the number "50" is produced is pressed downward at its outer end, the inner end of the key being thereby elevated and the rod 36, carrying the indicating-block bearing the number "50," being also elevated. The upward movement of the key causes a register of "50" to be made upon the cent-disk located over the key, and the ratchet-



wheel 30, corresponding to the key, is turned sufficiently by the dog 35 to force the latch 25 rearward against its spring, and the moment the key is released from pressure the ratchet-wheel so presents itself to the latch that the latch is released and the wall of the opening 28 enters the recess 38 in the indicating-rod, thus holding the said rod upward. As heretofore stated, when one ratchet-wheel is turned all of them are likewise moved. Consequently any indicating-rod that had been previously elevated is tripped, as all of the latches 25 are pressed inward. The moment the key is pressed downward at its outer end the frame C is elevated and the hammer 70 strikes the gong 71, if the latter is in the path of the hammer. The elevation of the frame C also raises the latch-lever 81 and disengages its latch-arm 83 from the keeper 89 of the cash-drawer. The cash-drawer being released is forced outward by the spring 88, and when the drawer is at its full open position the arms 76 are brought to a vertical position (illustrated in dotted lines in Fig. 4) and the connecting-rod 77 of the arms is brought up to an engagement with all the keys, so that none of them can be manipulated while the drawer is open. When the drawer is closed, the curved arms 76 are again carried back to their normal position, and the key dropping permits the latch-arm 83 of the latch-lever to drop by gravity to engage with the keeper 89 of the drawer, locking it in its closed position, and when so locked any one of the keys may be manipulated. It is utterly impossible, however, as heretofore stated, to move any one of the keys while the drawer is open.

The operation of setting the dial-faces of the disks has been heretofore described in detail, and therefore need not be repeated.

The casing may be of any suitable material desired, and any preferred material may be utilized in the construction of the various operative parts of the machine.

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

1. The combination, with a key, a shaft above the key, two disks loosely mounted upon the shaft, one containing a scale in cents and the other a scale in dollars, teeth produced upon the periphery of the dollar-disk, and pins located upon the peripheries of both disks, of a laterally-shifting pinion meshing with the teeth of the dollar-disk and adapted for engagement with the pin of the cent-disk, a gage-bar capable of movement to and from the disk, and an actuating mechanism connecting one disk with the key, substantially as specified.

2. The combination, with a key, a shaft located above the key, and disks mounted to turn upon the shaft, each provided with a peripheral pin and one disk with peripheral teeth, of a shaft capable of end movement, a pinion held to revolve upon the shaft, meshing with the disk-teeth and adapted for engagement

with the pin of the toothless disk, a gage-bar capable of movement to and from the disks, an arm provided with a foot member and a bolt, the said members being adapted for engagement with the gage-bar and pinion-shaft, and an actuating mechanism connecting the key with one of the disks, as and for the purpose set forth.

3. The combination, with a key, a shaft located above the key provided with a series of recesses and springs within the recesses, and disks held in frictional engagement with the shaft by said springs, one disk being provided with peripheral teeth, the other with a ratchet-wheel, and both with pins projecting from their peripheries, of a pinion meshing with the toothed disk and adapted for engagement with the pin of the toothless disk, a gage-bar adapted for engagement with all of said pins, and a dog pivoted to the key and engaging with the ratchet-wheel, as and for the purpose specified.

4. The combination, with a key-lever provided with a table at its inner end, a spring-actuated latch horizontally located above the key-table, and a rod resting upon the table, which rod passes through an aperture in the latch and is provided at its upper end with an indicating or signal block and at its rear edge with a recess, of a ratchet-wheel the teeth of which engage with the latch, an operating mechanism connecting the ratchet-wheel and the key-lever, and registering-dials actuated by the key-lever, as and for the purpose specified.

5. The combination, with a series of key-levers provided with tables at their inner ends, and a series of rods resting one upon the table of each key-lever, and a series of separate and independent spring-actuated latches, through one of which each rod passes, the rods being provided with keepers in their inner faces and engaging blocks or signals secured to their upper ends, of a shaft, a series of ratchet-wheels secured upon said shaft, one of the ratchet-wheels engaging directly the adjacent end of each of the latches, and propelling mechanism connected with the keys and with the ratchets, substantially as described.

6. The combination, with a key-lever, a rod supported upon the inner end of the lever, a spring-actuated latch engaging with the rod, a ratchet-wheel engaging with the latch, and a dog carried by the lever and connecting with the ratchet, of an alarm mechanism, a pivoted frame extending over the key-lever, and a striking-arm carried by the frame and adapted for engagement with the alarm mechanism, as and for the purpose set forth.

7. In a cash-register, the combination, with the frame thereof, a spring-bar pivoted to the frame, and a gong secured to the bar, of a rod attached to the bar, and a latch adapted for engagement with the rod, whereby the position of the gong may be shifted as desired, as specified.



8. The combination, with the registering-  
disks having peripherally-projecting pins, and  
a rotary and sliding shaft having a pinion  
geared to one disk and in the path of the pin of  
5 the other disk, of a gage-bar normally held out  
of the path of the pins, and a rock-shaft pro-  
vided with arms having feet *bb* to engage the  
gage-bar and one arm having a section *b'* to  
engage the end of the pinion-shaft and slide  
it inward to throw the pinion out of the path 10  
of its operating-pin, substantially as shown  
and described.

CHARLES GIBBS.

Witnesses:

J. FRED. ACKER,  
C. SEDGWICK.