

(No Model.)

5 Sheets—Sheet 1.

L. COONEY, Jr.  
CASH REGISTER.

No. 555,302.

Patented Feb. 25, 1896.

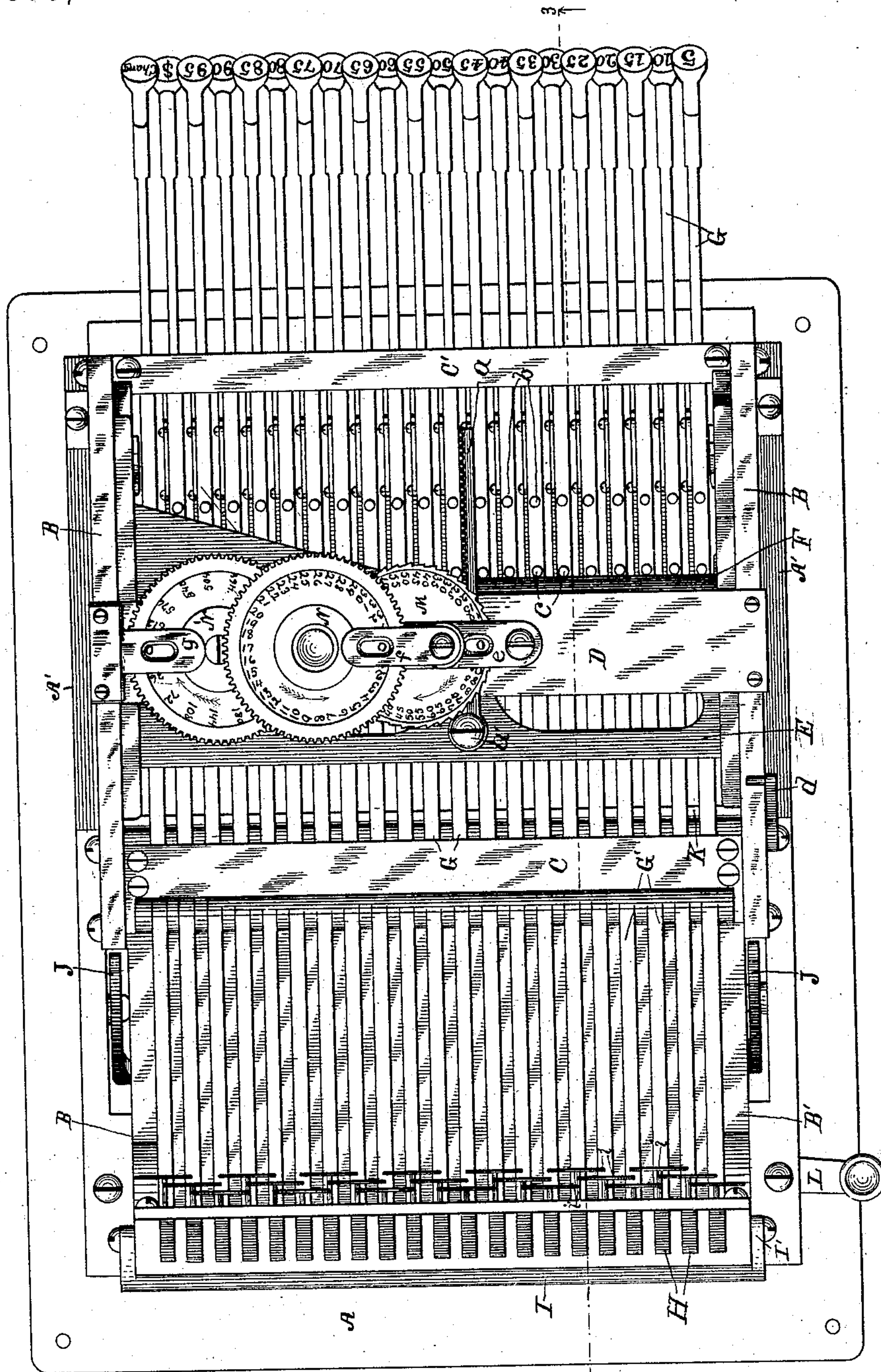


Fig. 1.

Witnesses;

Walter S. Wood

M. J. Longyear.

*Inventor.*

Luke Cooney Jr

By: Fred L. Chappell  
Atty.

(No Model.)

5 Sheets—Sheet 2.

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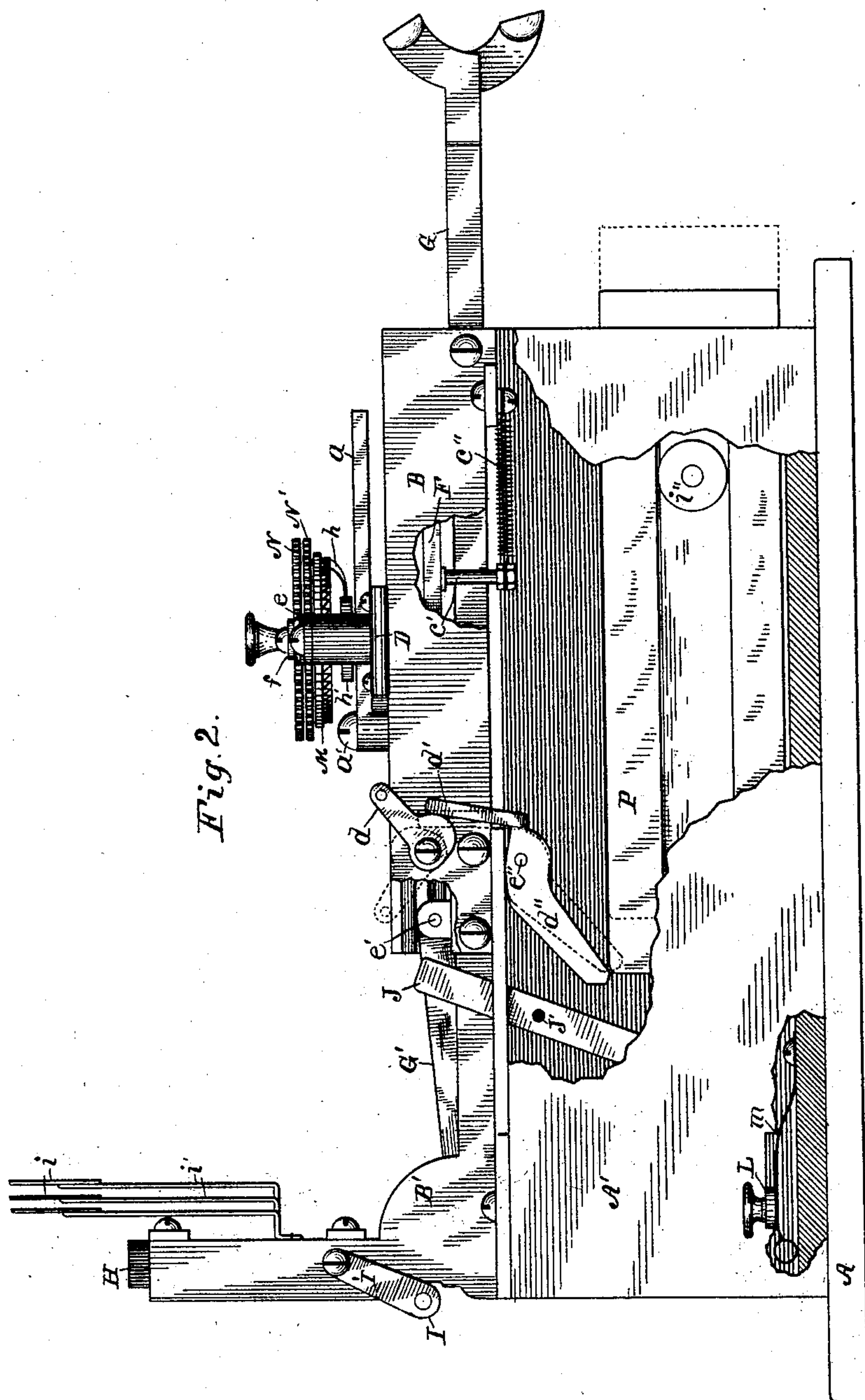


Fig. 2.

Witnesses:

Walter S Wood  
M. I. L. on a year.

*Inventor.*

By Fred L. Chappell  
Atty.



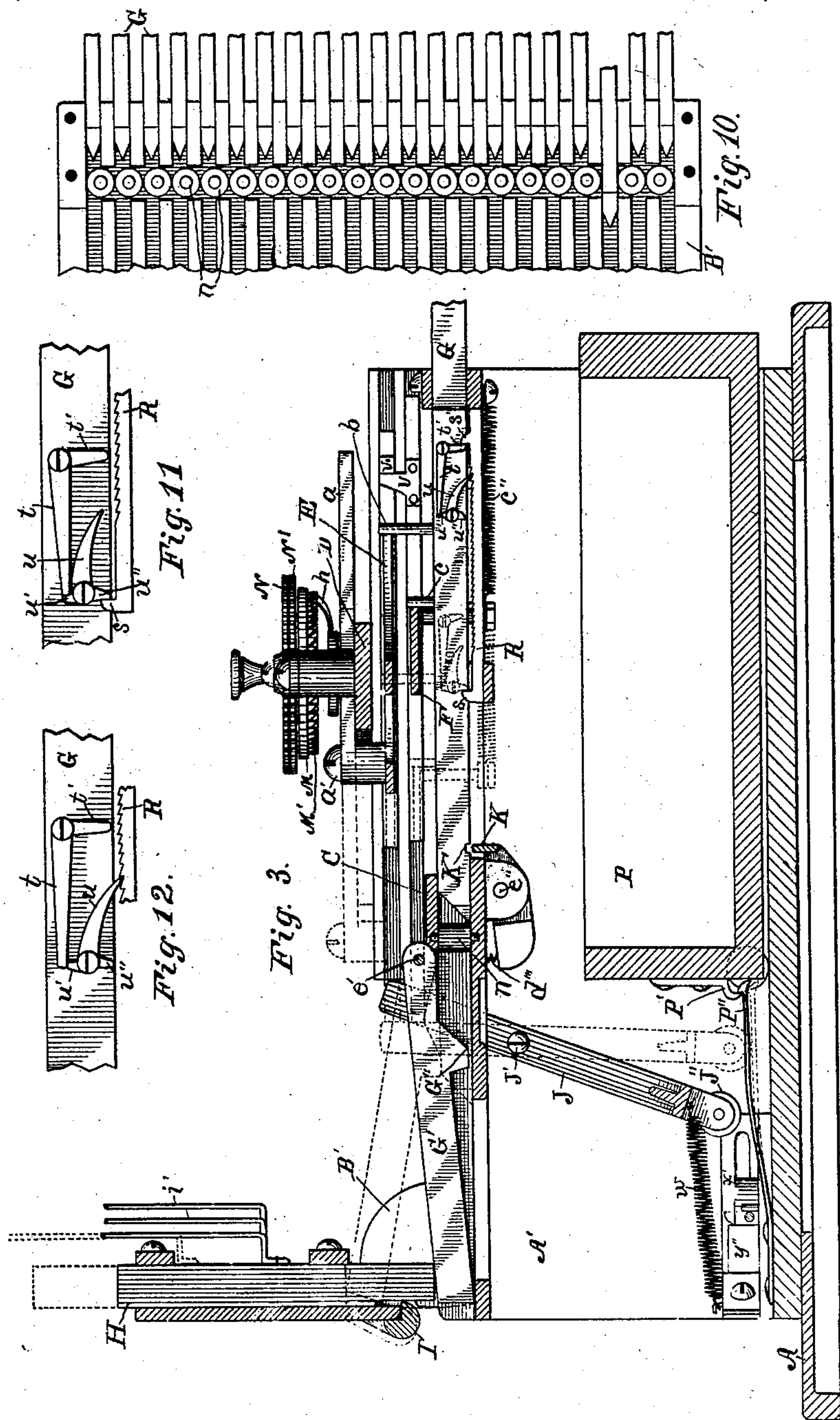
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5 Sheets—Sheet 3.

L. COONEY, Jr.  
CASH REGISTER.

No. 555,302.

Patented Feb. 25, 1896.



Witnesses:  
Walter S. Ward  
M. J. Longyear

Inventor  
Luke Cooney, Jr.  
By Fred L. Chapell  
Att'y.

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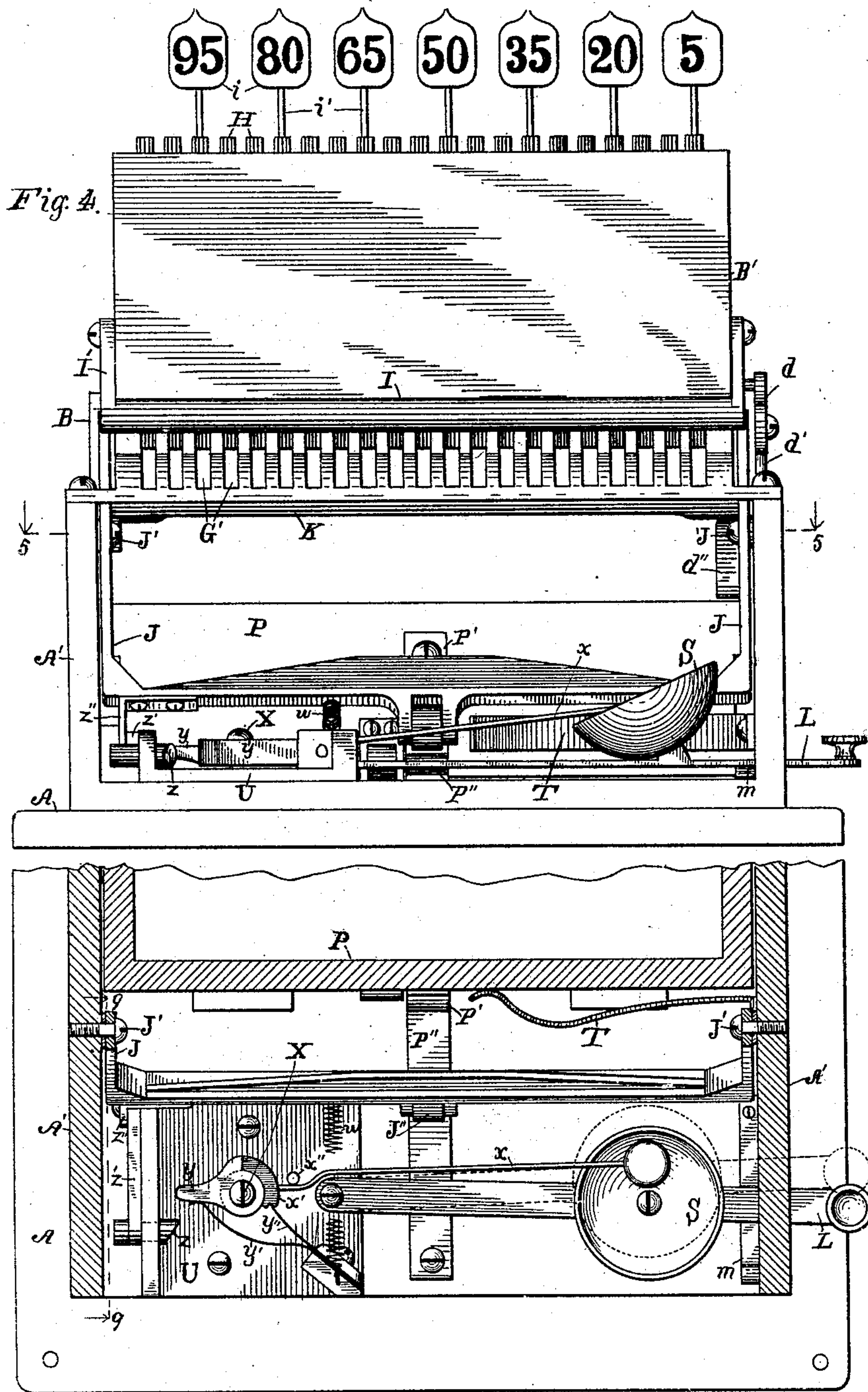


Fig. 5.

Witnesses:  
Walter S. Wood  
M. J. L. on 4 year

Inventor.  
Luke Cooney Jr.  
By Fred L. Chapin  
Att'y.



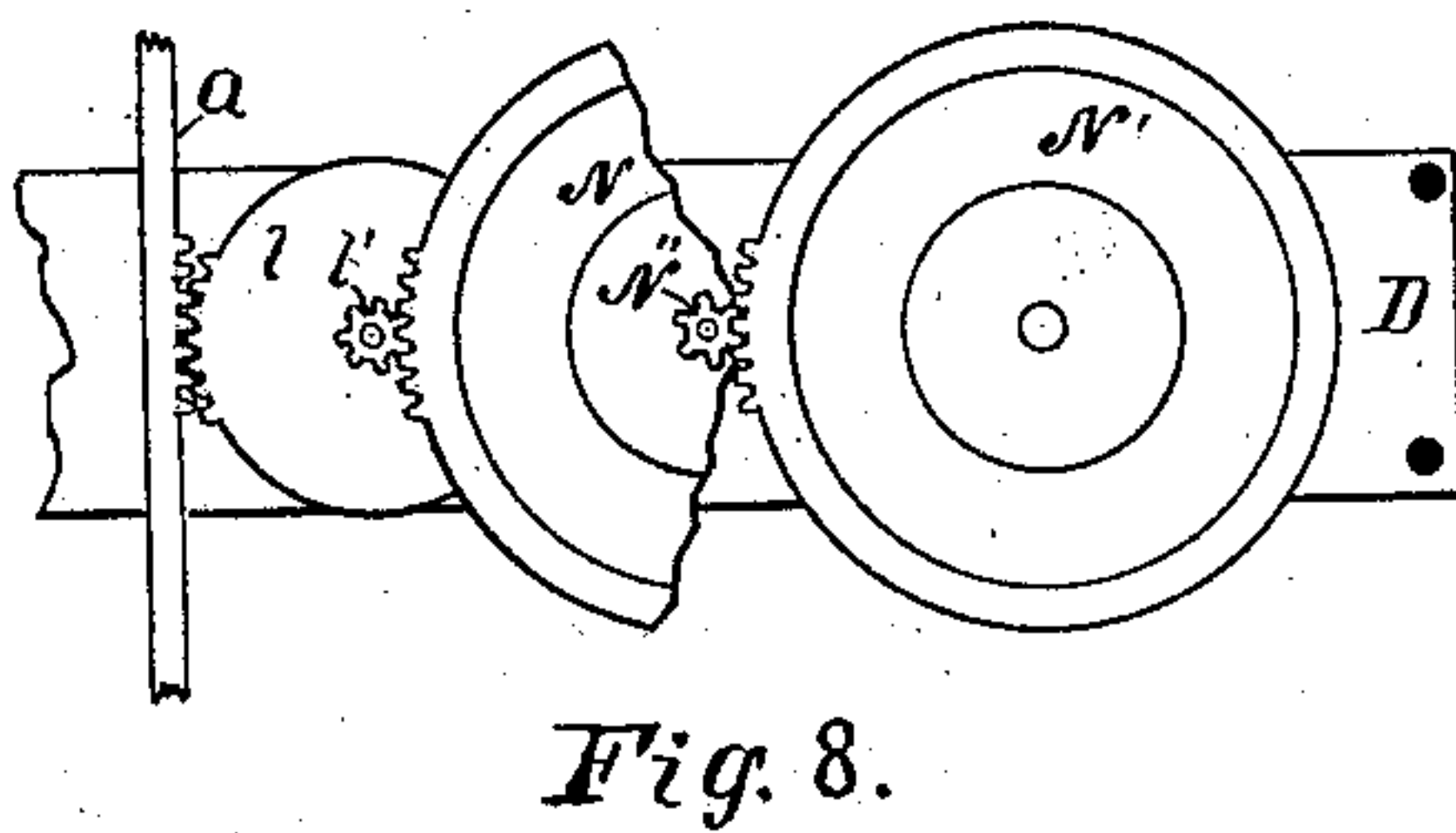
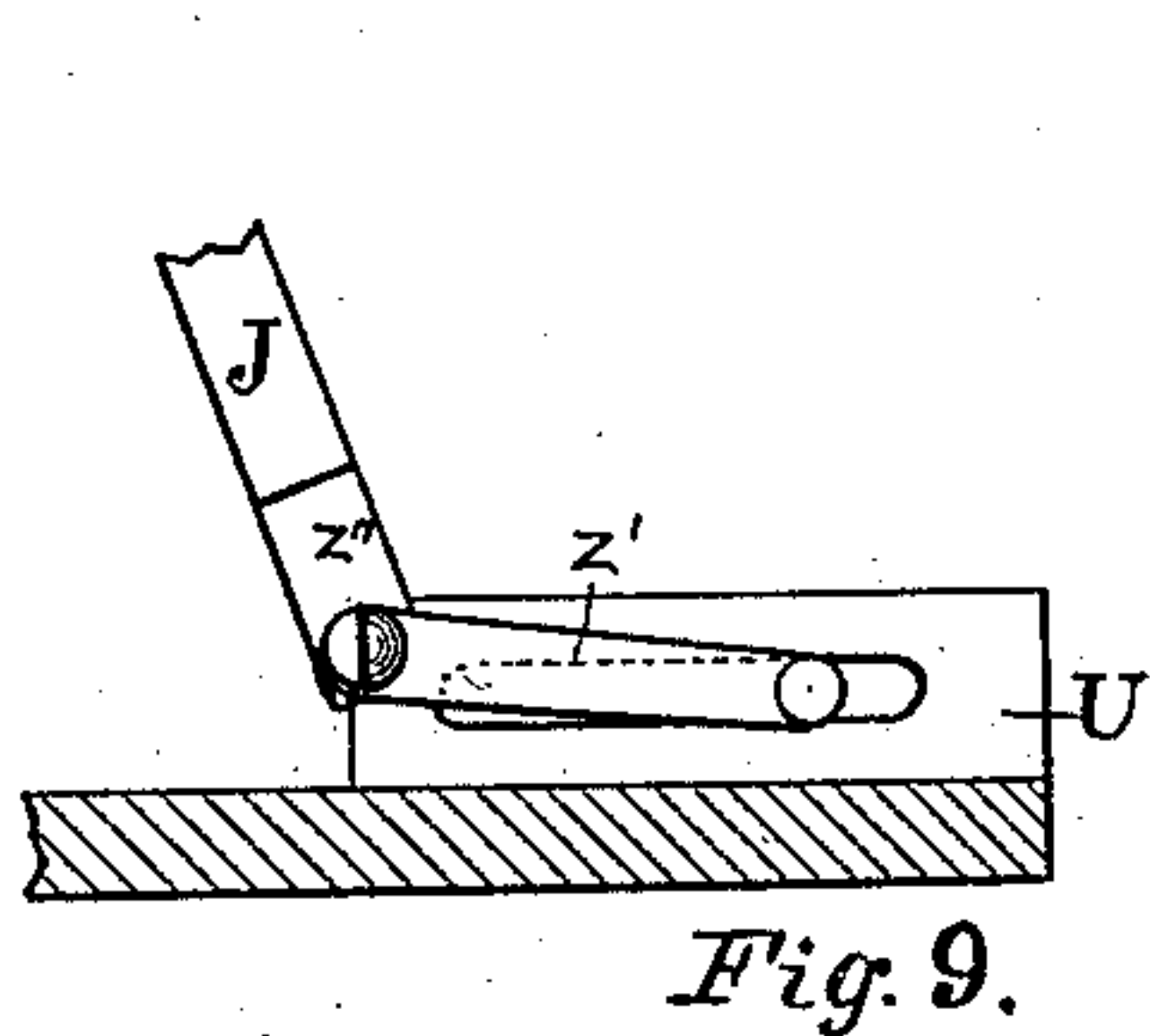
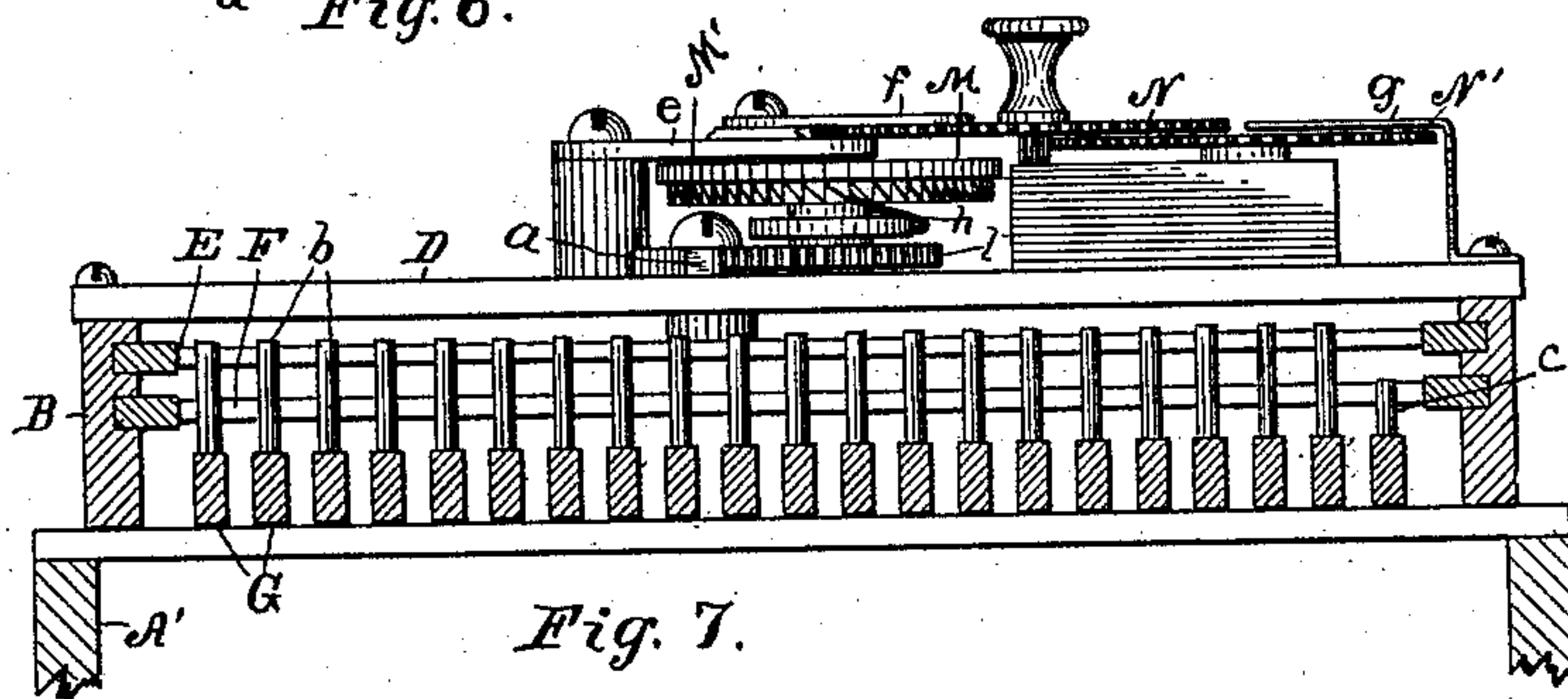
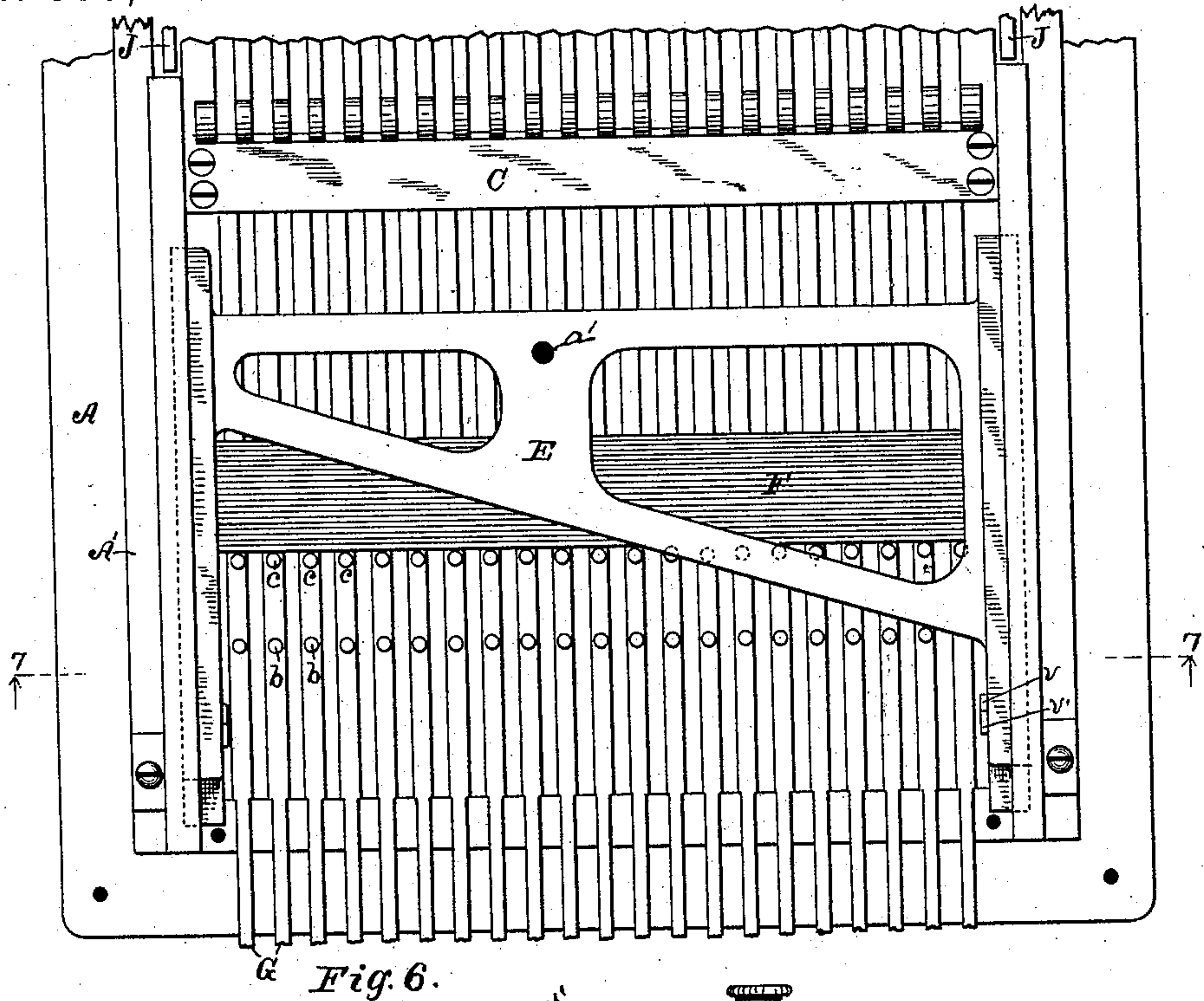
(No Model.)

5 Sheets—Sheet 5.

L. COONEY, Jr.  
CASH REGISTER.

No. 555,302.

Patented Feb. 25, 1896.



Witnesses:

Walter S. Wood

M. L. Lomax

Inventor.

Luke Cooney, Jr.

By Fred L. Chappell

Att'y.



# UNITED STATES PATENT OFFICE.

LUKE COONEY, JR., OF KALAMAZOO, MICHIGAN, ASSIGNOR TO M. HENRY LANE, FRANK B. LAY, HALE P. KAUFFER, AND LAURENCE COONEY, OF SAME PLACE.

## CASH-REGISTER.

SPECIFICATION forming part of Letters Patent No. 555,302, dated February 25, 1896.

Application filed February 24, 1894. Serial No. 501,361. (No model.)

*To all whom it may concern:*

Be it known that I, LUKE COONEY, Jr., a citizen of the United States, residing at the city of Kalamazoo, in the county of Kalamazoo and State of Michigan, have invented certain new and useful Improvements in Cash-Registers, of which the following is a specification.

My invention relates to improvements in cash-registers, more particularly to improvements in cash-registers which are operated by movable keys, in which a key bearing a certain number is depressed and will cause a number corresponding to the number on the key to be indicated by a little card in a conspicuous place, and at the same time will register the amount on a registering apparatus, which will show the total of all amounts registered.

The objects of my invention are, first, to simplify the mechanism generally; second, to dispense with springs as often as practical, and utilize instead the force of gravity; third, to provide an improved detent which shall retain any key that is depressed until it has been pushed to the limit and causes the indicating-card to appear; fourth, to provide a machine in which it is impossible to operate more than one key at a time; fifth, to provide improved means of locking all keys when the money-drawer is open, so that it will be impossible to operate the device without first closing the money-drawer; sixth, to provide a sure means of raising a corresponding number-slip whenever a key is operated; seventh, to provide a sure means of allowing the number slip or slips in sight to fall when a new number is struck up; eighth, to provide an improved bell-operating mechanism; ninth, to provide improved means of registering the total amounts that have been struck up; tenth, to provide an improved means of releasing or unlocking the drawer when the keys are operated; eleventh, to provide in a cash-register an improved change-key by which the drawer can be unlocked and the "change" card struck up and the change made without recording any amount; twelfth, to provide a cash-register in which it shall be

impossible to operate a single key without pushing it to the limit and operating it properly in using the machine; and to provide other further minor improvements which will more definitely appear in the specification. I accomplish these various objects by the mechanism shown in the accompanying drawings, in which—

Figure 1 is a top plan view of my invention with the outer case removed. The outer casing is removed in all of the views. Fig. 2 is a side elevation of the same with parts of the inner casing broken away to show and locate details of construction. Fig. 3 is a sectional view on line 3 3 of Fig. 1. Fig. 4 is a rear end elevation of Fig. 1. Fig. 5 is a sectional view, on line 5 5 of Fig. 4, of the rear portion of the machine. Fig. 6 is a top plan view of the front portion of the machine with the registering mechanism removed, showing a common bar F and the graduated bar E, the outer ends of the keys being broken away. Fig. 7 is a sectional view on line 7 7 of Fig. 6. Fig. 8 is a detail view of a part of the locking mechanism. Fig. 9 is a detail view on line 9 9 of Fig. 5. Fig. 10 is a detail view of the locking mechanism which allows but one key to pass at a time and is located under the plate C. (Shown in Figs. 1 and 6.) Fig. 11 is a detail view of the detent. Fig. 12 is another detail of the detent, showing it in another position. All sectional views are taken looking in the direction of the little arrows at the end of the section-lines.

Similar letters of reference refer to similar parts throughout the several views.

All of the parts of my improved cash-register are supported on a suitable base A. In the drawings I have shown no outer casing at all; but any suitable outer casing can be employed to suit the fancy, and no casing at all is necessary to the effective working of the machine. However, an outer casing is preferred, as it affords protection to the parts. The inner shell or casings A', B and B' could be differently finished and accomplish all the results accomplished by the outer casing.

In my improved cash-register all of the mechanism is operated by the sliding keys G,



and I will proceed to describe the construction and action of the various parts in detail and point out, also, their relation and coaction.

A money-drawer P is located in the lower front part and is retained in position and locked by the spring-catch P'' hooking into the hook P' at the back of the drawer and is held normally in that position by the force of the spring. This spring P'' is depressed by the roller J'', situated at the lower side of the frame J, which is pivoted at J' to the sides of the case A'. The top of this frame J is pushed back by the action of the keys in moving back the bar F, which depresses the spring P'' and unlocks the drawer, when it will be thrown open by the spring T, which presses normally against the drawer to throw it open when it is released. The spring T is attached to the case at any convenient point to accomplish that purpose. The drawer is carried on anti-friction-rollers i''.

The keys G of my improved cash-register are adapted to slide forward when in use in suitable guideways. When one of the keys is depressed or pushed into the machine, it passes under the lever G' against a cam G'', which causes the lever G' to raise up, as shown by the dotted lines in Fig. 3. There is a lever G' corresponding to each key. This actuates one of the vertical indicator-slides H, raises it up and causes the same number to appear on the indicator-card that is stamped on the key which is depressed. When this indicator-slide H is raised up, a detent-bar I engages the lever G' under it and holds it in position. The detent I is a horizontal bar extending across the back of the machine and is suspended by upwardly-projecting arms I', something like a little bail, only the corners are square. The longitudinal groove on the bar I presents a square corner and a horizontal surface on the top and a rounded portion on the under side. The lever G' is cut on a slight bevel at the end, so that when it strikes up it comes against the rounded under side of the bar I, swings it back, as indicated by the dotted lines, until the lever G' passes it, when it drops under the end of the lever and retains it in position, thus showing the indicator-cards i, which are attached by any suitable means, as little wires i', to the indicator-slides H. All of the levers G' are exactly the same. When another key G is depressed or forced in, it of course strikes up another of the levers G', the same as I have indicated, when the detaining-bar I will be swung out again and allow all of the indicator-slides H to drop with the exception of the one that is being struck up by the key. Thus it will be seen in this connection that so often as a key is depressed or pushed into the machine it will strike up a number by means of its lever G', which in so doing will swing out the detaining-bar I and cause all other numbers to fall with the exception of the one that is just struck up.

On the side of each key G is pivoted a pawl u, which is provided near its pivot with a downwardly-projecting lug u'' and an upwardly-projecting lug u'. (See Figs. 3, 11, and 12.) Pivoted to the sides of each key, also, in close proximity to the pawl u, is the lever or latch t, which is adapted to drop down against the lug u' and engage it when the pawl u is raised and retain it in the raised position. A short arm t' projects down from this same lever. Under each key is situated a ratchet R, with which the pawl u engages. At the rear end of this ratchet is a stop s, and at the forward end is a small stop s'. The keys G are all returned to their normal position by springs c'', or there is a tendency to return them to the normal position by the said springs c''. When a key G is returned to the normal position, the arm t' engages with the stop s' and raises the lever t, which disengages it from the lug u' and allows the pawl u to engage with the rack R. It will thus be seen that whenever the key G is depressed or pushed in the pawl u engages with the rack R and retains it until it is pushed in to the farthest limit, when the lug u' strikes the stop s, which causes the pawl u to raise free from the rack R, when the latch or lever t will engage the lug u' at the top and hold the pawl u up until the key returns to the starting-point, when the arm U will again strike the stop s' and allow the pawl to engage the rack R, as before.

The inner ends of the key G, I prefer to make wedge-shaped, the sides of the wedge being vertical. In a suitable casing or guideway extending across the paths of the sliding keys I place a series of rollers or partitions n n. These rollers are vertical and are held in place by little grooves engaging short axles projecting out from the top and bottom of the rollers. The sides of the upper case B retain the rollers and prevent their escaping at the side. The rollers are placed in the guideway loosely, so that they can slip from side to side, and the entire space between all of the rollers is only equal to the thickness of one of the keys G, and the keys are adapted to slide between the rollers. It will thus be seen that when one key is pushed in it will pass between two of these rollers n and crowd them to each side and take up all the intervening space between the rollers, so that when one key is depressed it will be impossible to crowd another one past the rollers, and as a consequence all of the remaining keys are locked whenever one of the keys is depressed or pushed in. These little rollers, in combination with the detent u and its neighboring mechanism on the sides of the keys G, make it impossible to depress or push in a single key without pushing it to the full extent, and it will thus be seen that it is impossible to tamper with the keys without operating the machine properly. When a single key is depressed, it is retained and



no other key can be depressed until that one has been pushed to the full limit and strikes up an indicating-number.

On the upper side of each of the keys G is situated two pins *b c*, occupying the same relative position to each other. Extending across all of the keys is a straight transverse horizontal bar F, suitably guided at the ends and having posts *c'* to project down below the paths of the keys. The posts *c'* are connected by the coiled spring *c''* to the front part of the machine. The spring *c''*, of course, draws the bar F forward toward the front of the machine against suitable stops *v'*, and it carries the keys all back to the normal position by striking against the pins or lugs *c*. It will thus be seen that when one of the keys G is pushed in it pushes against the bar F and pushes it forward, and as soon as the key is released the springs *c'* return the key to the original normal position, so that the machine is ready for another operation.

Above the bar F is the graduating plate or bar E, under which the pins *c c* pass and do not engage it. Back of the pins *c* are located the pins *b*, which project up high enough to engage the graduating-plate E when they are pushed in. The front side of the plate E is oblique to the line of pins *b* across the machine, and it will thus be seen that when the keys G are depressed each one of them will move the plate E forward certain different definite predetermined amounts. The plate E is guided so that any of the pins *b* pressing against it will reciprocate it back and forth in the direction of the key.

On the bar D, across the upper part of the machine, is supported the registering mechanism. This preferably consists of a train of wheels bearing numbers and revolving in fixed ratios to each other. This may be done by cog-gears or in any other way that will accomplish the purpose. To the fastest wheel M of the train is rigidly attached a ratchet-wheel M'.

Above the wheel M and rigidly connected to it is a pinion *l*. (Shown in Fig. 8, in which the wheel M has been cut away and the pawl and its wheel removed.) The pinion *l* and the wheel *l'* revolve independently. The pinion *l* meshes with the cogs on the outer periphery of the wheel N and causes it to revolve more slowly than the first wheel. At the center of the wheel N and on the same axis is a pinion N'', which in its turn meshes with cogs on the outer periphery of the wheel N'. Just inside of the outer borders of each wheel are situated numbers, which appear in openings in plates *e, f*, and *g*, which are suitably held in position. The numbers and plates clearly appear in Fig. 1. I have omitted the numbers on the wheels in the other views. The diameters of the wheels *l* and N are so proportioned that the numbers on the wheel N indicate dollars and the numbers on the wheel M indicate cents, and each revolution

of the wheel N records a certain number of dollars over on the wheel N'.

When the register has been in use for the day, the amount of cash contained in the drawer should be indicated by the sums of the numbers appearing on the registering device indicated in the opening in the plates *e, f*, and *g*. This registering device is actuated by the keys when they are pushed in. The keys G bear the pins or lugs *b b*, which project up high enough to engage the graduated plate E and push it in on its guideways certain definite varying amounts varying according to the numbers appearing on each key. To this plate E is pivoted at *a'* a rack *a*, which extends toward the front of the machine and is suitably guided and engages with the gear-wheel *l*, as will be seen in Figs. 7 and 8. An examination of the mechanism will show that whenever the graduated plate or bar E is moved in it will rotate the wheel *l*, which actuates the pawl *h* on the wheel *h'*, which turns the ratchet-wheel M, which bears the numbers corresponding to cents, and when the plate returns, of course, the pawl passes over the ratchet M' without actuating it. This, it will be seen, causes the registering mechanism to record the amounts indicated by the numbers on each key because they actuate the graduated bar E in those several proportions.

Whenever one of the keys G is depressed and pushed in so that one of the indicator-cards appears, a small bell S contained in the rear part of the machine is rung. This is accomplished by the following mechanism: To one of the lower rear sides of the frame J is attached a little arm or lug *z''*, which is connected by a link *z'* to a small catch *z*, which reciprocates in a suitable guide in the plate U. To the plate U is attached the bell-ringing mechanism. The bell is located on an arm L, which is pivoted to the plate U, the end of the arm projecting through the sides of the frame, so that the bell S can be moved sufficiently to one side so that it will not ring, when so desired. On the pivotal screw X, near the center of the plate U, is pivoted a trip *y*, adapted to be moved by the catch *z* when it is reciprocated past it. A spring *y'* holds the trip *y* in its normal position against the bell-actuating mechanism. A lever *x* is pivoted to the same point and at the outer end bears the ball or button, which serves as the tongue of the bell. A semicircular piece *x'* passes around the pivotal screw X and comes in contact with the projecting part of the trip *y*. A pin *x''* serves to stop the lever *x*, and a spring *y''* holds it against the stop. It will thus be seen that as the arm *z''* is attached to the frame J it will be operated whenever the frame J is operated by pushing in a key, when it causes the drawer to open. This will pull the catch *z* against the trip *y*, and will move it by, which will allow it to snap, which will give the tongue a vibration and cause the bell to ring. The springs *y'*



and  $y''$  will return the mechanism to its normal position as soon as the operation is completed.

To the under side of the keys G is situated  
5 a transverse bar K, which is adapted to engage in notches K' on the under side of all of the keys G. This bar is hung by lateral projections at each end on pivots  $e''$  in ears depending from the case B. A lever  $d''$  projects  
10 down and back on the inside of the case, so that it can be operated by pushing the drawer P. The lever  $d''$  is made heavy, so that it will tend to drop down to the vertical position. This weight may be reinforced by  
15 a small spring  $d'''$  when thought necessary.

An arm  $d'$  projects up to the side of the upper part of the case B, and a cam and lever  $d$  is pivoted to the side of the case B to operate the lever  $d$ . When the lever  $d$ , with its  
20 cam, is thrown into the position indicated by the full lines in Fig. 2, the lever  $d''$  is not actuated by the pushing in of the drawer, and the lateral bar K does not engage in the notches K' at all—that is to say, when the lever  
25  $d$  is thrown into the position shown the bar K does not engage with the keys at all. When the lever  $d$  is thrown over into the position indicated by the dotted lines in Fig. 2, it allows the end of the lever  $d'$  to fall, and  
30 when the drawer is moved back the lever  $d''$  drops into the position also indicated by dotted lines, when the bar K will be raised into the notches K' on the under sides of all of the keys G and engage them and lock  
35 them securely, so that it will be impossible to operate any of the keys when the drawer is thrown out or open. When the drawer is closed, it strikes against the lever  $d''$ , moves it forward, which lowers the bar K from the  
40 notches K' and makes it again possible to operate the machine; but as soon as a key is depressed and the drawer is thrown open all of the keys are locked again.

At times it is desirable to open the drawer  
45 without registering any amount—for instance, when it is desirable to make change. Under these circumstances there will be no variation in the amount of money in the drawer and none should be registered. I accomplish  
50 this opening of the drawer by depressing the key in Fig. 1, which is the farthest to the right hand and is marked "change." This change-key bears only one pin or lug  $c$ , which passes under the graduated bar E and  
55 does not operate the registering mechanism, but merely throws up a card which is marked "change." When the change is made and the drawer is closed, the register is ready to work the same as before.

60 Having thus described all parts of my machine, I will briefly call attention to its operation and some of its merits, which will be readily seen from an examination of the drawings and a following of the description already  
65 given.

When any one of the keys G is depressed, it first strikes between the little rollers  $n$ ,

which shuts the spaces and prevents any other key being pushed in. As soon as the particular key is started, the pawl  $u$  engages  
70 with the rack R and makes it impossible to return that particular key until it has been pushed to the limit, when the pawl U is raised and allows it to return. Thus it will be seen that one key and only one key can be operated  
75 at a time, and that that key must be fully operated before another key can be moved, and that it is impossible to operate the machine in any other way. When the key G is pushed along in, it strikes against the cam-projections  
80  $G''$  on the under side of the lever  $G'$  and raises it up, when it will be held in position by the detent-bar I and in its motion will lift the indicating-slide II with the indicating-card attached, as shown. While the key  
85 is moving in, its pin  $c$  engages with the transverse bar F, which puts tension on the springs  $c''$ , which returns the key to the starting-point as soon as it is released. The guides at the  
90 end of the bar F, moving in the guideways, strike against the frame J and move it back, which throws the wheel J'' down against the spring P'' and releases the drawer and allows it to be opened by the spring T. When the  
95 drawer opens, the lever  $d''$  drops when it is not engaged by the lever  $d$  and allows the transverse bar K to engage in the notches K' on the under side of the keys G and lock them all securely until the drawer is again  
100 closed. The frame J also in depressing the springs P'' pulls the catch  $z$  along against the trip  $y$  and rings the bell. When the key G is moving in, another pin,  $b$ , also engages the graduated bar E and moves it a definite  
105 predetermined amount, when it, through the rack  $a$  and the ratchet M', records the amount indicated. When the next key is depressed, whichever it may be, the action is the same as above described, but when the lever  $G'$  is  
110 raising, it throws the detent-bar I out and releases the indicator-slide H last thrown up and allows it to fall along with the first lever,  $G'$ , and the last indicator-slide struck up is consequently the only one retained and  
115 shown.

When it is desired to set the bell so that it will not ring, the lever L is merely moved to one side, as indicated by the dotted lines in Fig. 5. When it is desired not to lock the  
120 keys, when the drawer is open, the lever  $d$  is tipped into the position indicated in Fig. 2. When it is desired to lock the keys, the lever  $d$  is tipped into the position indicated by dotted lines.

I desire to say that the details of my improved cash-register can be greatly varied  
125 without departing from my invention. The keys G could have other movements than a sliding motion, and by connections could be made to actuate the remaining mechanism  
130 substantially the same. As there is a great variety of variations that could be readily devised by any mechanic, it is not thought necessary to illustrate these variations in the



drawings, for it would probably not be possible to illustrate the various connections that could be used for accomplishing the purpose, as they are so numerous. It will also clearly appear to any mechanic that little balls (or even other partitions) could be used in place of the rollers *n*. Other counting and registering mechanism could be readily substituted in place of the gear-wheels which I have shown that could be operated in substantially the same way. The graduating-bar E could be made straight across and the distance of the pins *b* varied from it in definite amounts and accomplish the same result which is here accomplished, and another bell-ringing device may be employed. I prefer, however, the construction here shown in all its details and only mention some of the variations which might be substituted.

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

1. In a cash-register, the combination of a series of sliding keys, a series of rollers, *n*, placed in a suitable guideway across the path of the keys; a space between the rollers to allow but one key to pass at a time; a pawl on each key to prevent its returning when started; a stop to raise the pawl when the key is pushed to the end of the stroke; a common bar, F, projecting transversely across the keys and engaging pins, *c*, on the keys; and springs to return the bar, F, to the starting-point and carry the key with it, when the key is released; a lever, G', with cam, G'', on its under side to be actuated by the end of the key, G, a vertical indicator slide, H, actuated by the raising of the lever, G'; a detaining-bar, I, to engage the said lever, G', and hold up the indicator-slide, H, with its number attached and allow the remaining slides H, to fall when a slide is struck up; a money-drawer held in position by spring-catch, P''; a frame, J, with roller, J'', adapted to depress the spring, P'', and release the drawer when the common bar, F, and its guide are moved to the upper part of the frame, J; a bell-ringing mechanism operated by the motion of the frame, J, when it releases the drawer; a registering mechanism consisting of the train of numbered wheels, M, N, and N'; the graduated bar, E, actuated by the pins, *b*, on each key and a reciprocating rack, *a*, attached to the graduating-bar, E, to operate the registering mechanism, all substantially as described for the purpose specified.

2. In a cash-register, the combination of a series of sliding keys; a series of rollers in a suitable case transverse to the sliding keys and in the paths of the same, with space between the rollers for the passage of but a single key; a pawl, *u*, on the sides of each of said keys with an upwardly-projecting lug, *u'*, and a downwardly-projecting lug, *u''*, from near its pivot; a pivot lever, or latch, *t*, adapted to engage the upwardly-projecting lug, *u'*;

and a downwardly-projecting arm, *t'*, from near the pivot of lever, *t*; a rack, R, under each key to engage the pawl, *u*; and stops, *s* and *s'*, at the ends of the ratchet, R, to engage respectively the lug, *u''*, and the arm, *t'*, to operate the pawl, *u*, to permit a return of the key, G, only when it has reached the end of its stroke so that only a single key can be operated at a time and so that a key when once started must complete the stroke, for the purpose specified.

3. In a cash-register, sliding keys, G', in combination with a pawl, *u*, pivoted to the side of said key with the upwardly-projecting lug, *u'*, and a downwardly-projecting lug, *u''*, from near its pivot; a pivoted lever or latch, *t*, adapted to engage the upwardly-projecting lug, *u'*; and a downwardly-projecting arm, *t'*, from near the pivot of lever, *t*; a rack, R, under each key to engage the pawl, *u*; and stops, *s* and *s'*, at the ends of the ratchet, R, to engage respectively the lug, *u''*, and the arm, *t'*, to operate the pawl, *u*, to permit a return of the key, G, so that each key must be operated its full stroke before it can be returned, for the purpose specified.

4. In a cash-register, the combination of a set of sliding keys, G; stops for each of said keys; pins, *c*, *c*, projecting up from each of said keys; a transverse bar, F, adapted to engage each of said pins when the keys are in their normal position; suitable guides for said bar, F; and springs, *c''*, attached to posts, *c'*, projecting down from said bar, F, and to the front part of the case, A, to return all the keys to the normal position whenever one has been depressed or pushed in, for the purpose specified.

5. In a cash-register, the combination with sliding keys, of stops on said keys; a transverse bar across said keys to be engaged by the stop of any key when it is operated, a frame, J, pivoted at J', adapted to be operated by the motion of the transverse bar whenever a key is operated; a spring, *w*, to return said frame, J, to its normal position; a roller, J'', at the bottom of frame, J; a drawer, P, with hook, P'; a spring-catch, P'', to engage said drawer-hook, P', and adapted to be depressed by the roller, J'', when frame, J, is operated; and a spring, T, to throw said drawer, P, open when the hook, P', is released, all operated by sliding in any one of the keys, for the purpose specified.

6. In a cash-register, the combination with sliding keys, of stops on said keys; a transverse bar across said keys to be engaged by the stop on any key when it is operated; a frame, J, pivoted at J', adapted to be operated by the motion of the transverse bar whenever a key is operated; a spring, *w*, to return said frame, J, to its normal position; a roller, J'', at the bottom of the frame, J; a drawer, P, with hook, P'; a spring-catch, P'', to engage said drawer-hook, P', and adapted to be depressed by the roller, J'', when frame, J, is operated, by sliding one of the keys; an arm, *z''*, at



tached to frame, J; a link,  $z'$ , connected to catch,  $z$ , to strike trip,  $y$ , to ring the bell, S, whenever the machine is operated, for the purpose specified.

5 7. In a cash-register, the combination of movable keys; a catch,  $z$ , connected to some part of the machine, moved by the keys, by link,  $z'$ ; a trip,  $y$ , pivoted at X, to be operated by said catch,  $z$ ; a lever,  $x$  pivoted at X, and fitted through a semicircular piece,  $x'$ , against trip,  $y$ ; springs,  $y'$  and  $y''$ , to hold parts,  $y$  and  $x'$ , together; a stop,  $x''$ ; and a bell, S, all operated substantially as described and for the purpose specified.

15 8. In a cash-register, the combination of sliding keys; a money-drawer adapted to be opened by said sliding keys; a bar, K, transverse to said keys; notches, K', in all of said keys adapted to be engaged by the bar, K; a heavy lever,  $d''$ , attached to said transverse bar; pivots,  $e''$ , on which said bar is supported; and the drawer, P, adapted to strike lever,  $d''$ , when closed and cause the bar, K, to disengage the notches, K', in keys, G, so that the keys can only be operated when the drawer is closed, for the purpose specified.

9. In a cash-register, the combination of sliding keys; a money-drawer opened by the action of said sliding keys; a bar, K, transverse to said keys; notches, K', in all of said keys adapted to be engaged by said transverse bar; pivots,  $e''$ , on which said bar is supported; the drawer, P, adapted to strike said lever and release the keys when the drawer is closed; and suitable means of depressing said lever to cause bar, K, to engage and lock the keys when the drawer is open, for the purpose specified.

10. In a cash-register, the combination of sliding keys; a money-drawer adapted to be opened by said sliding keys; a transverse bar, K; notches, K', in all of said keys adapted to be engaged by the bar, K; a heavy lever,  $d''$ , attached to said transverse bar; pivots,  $e''$ , on which said bar is supported, and a lever and cam,  $d$ , adapted to actuate upwardly-projecting lever,  $d'$ , from said bar, K, so that

it can be depressed and disengage the keys, when it is desired to unlock them without reference to the drawer, for the purpose specified. 50

11. In a cash-register, the combination of sliding keys with notches therein; a transverse bar to engage the notches in said keys; and means whereby the closed drawer disengages the bar from the notches in said keys so that the keys can be operated only when the drawer is closed, for the purpose specified. 55

12. In a cash-register, the combination of sliding keys, G; a lever, G', for each of said keys; and a cam, G'', on the under side of lever, G', to be operated by a key, G, sliding against said cam; and an indicator-slide, H, bearing a number-card adapted to be raised by lever, G'; and a detaining-bar, I, adapted to engage lever, G', and sustain slide, H, when it is struck up and swing from under the remaining levers and allow their indicator-slides, H, (should any of them be up) to fall by the same motion, for the purpose specified. 60

13. In a cash-register, the combination of sliding keys, G; a lever, G', with a cam on the under side for each of said keys adapted to be raised by said sliding keys; an indicator-slide to each of said levers, G', adapted to be raised by each of them; and a detaining-bar, I, suspended from above, operated by said levers, G', whenever one is struck up to release all levers up and retain the last one struck up, for the purpose specified. 65

14. In a cash-register the combination of sliding keys; levers, G', with cams on the under side adapted to be struck up by said sliding keys; indicator-slides adapted to be raised by said lever and the detaining-bar, I, pivotally suspended from above, adapted to release all levers up and let them fall and retain only the last one struck up, for the purpose specified. 70

In witness whereof I have hereunto set my hand and seal in the presence of two witnesses. 75

LUKE COONEY, JR. [L. S.] 80

Witnesses:

WALTER S. WOOD,

A. D. HARRIS. 85