

(No Model.)

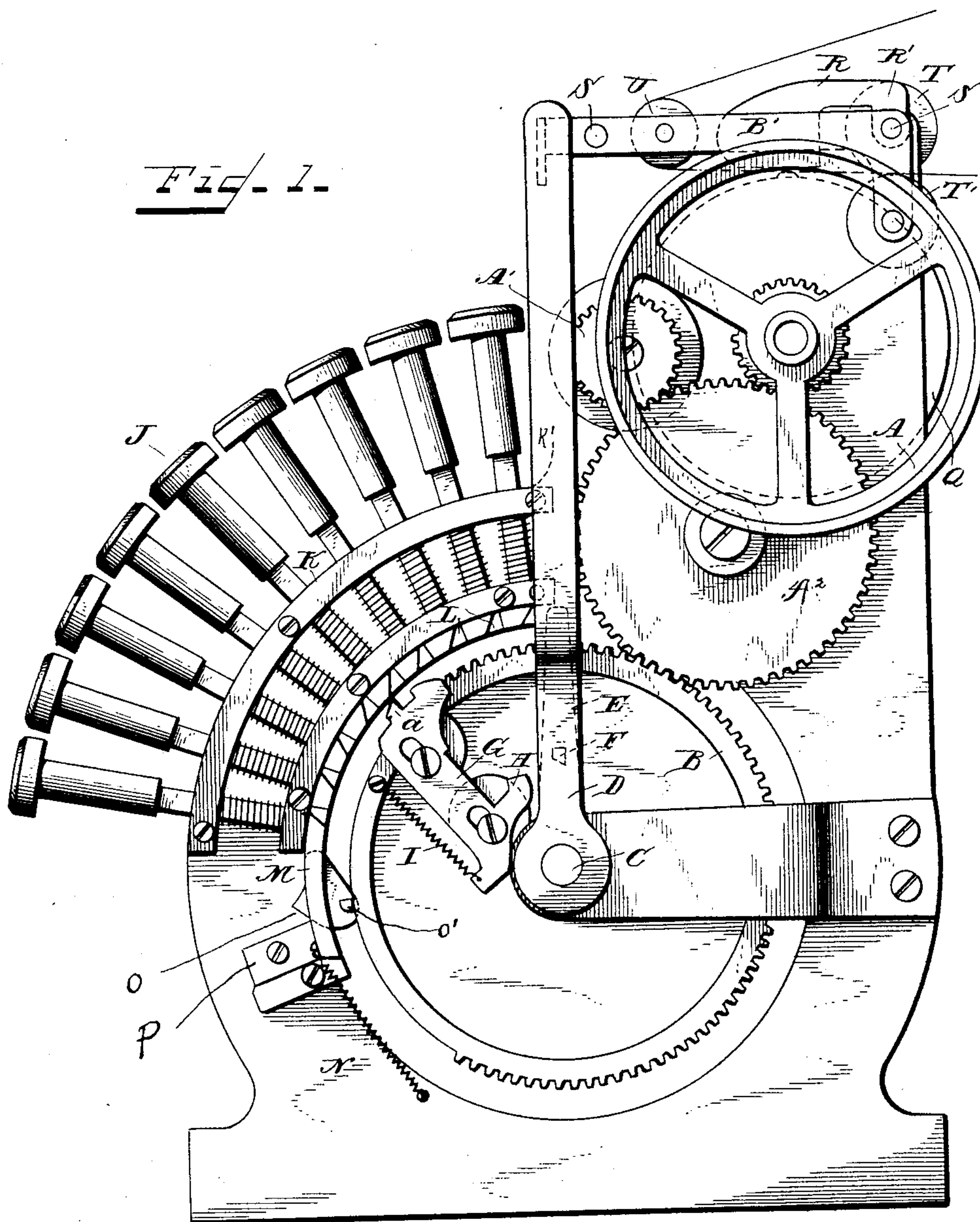
4 Sheets—Sheet 1.

H. COOK.

CASH REGISTER, INDICATOR, AND RECORDER.

No. 482,165.

Patented Sept. 6, 1892.



Witnesses.
J. Thomson Cross
G. Wentworth

Inventor.
Hugo Cook
by *Peck & Rector*
his Attorneys.

(No Model.)

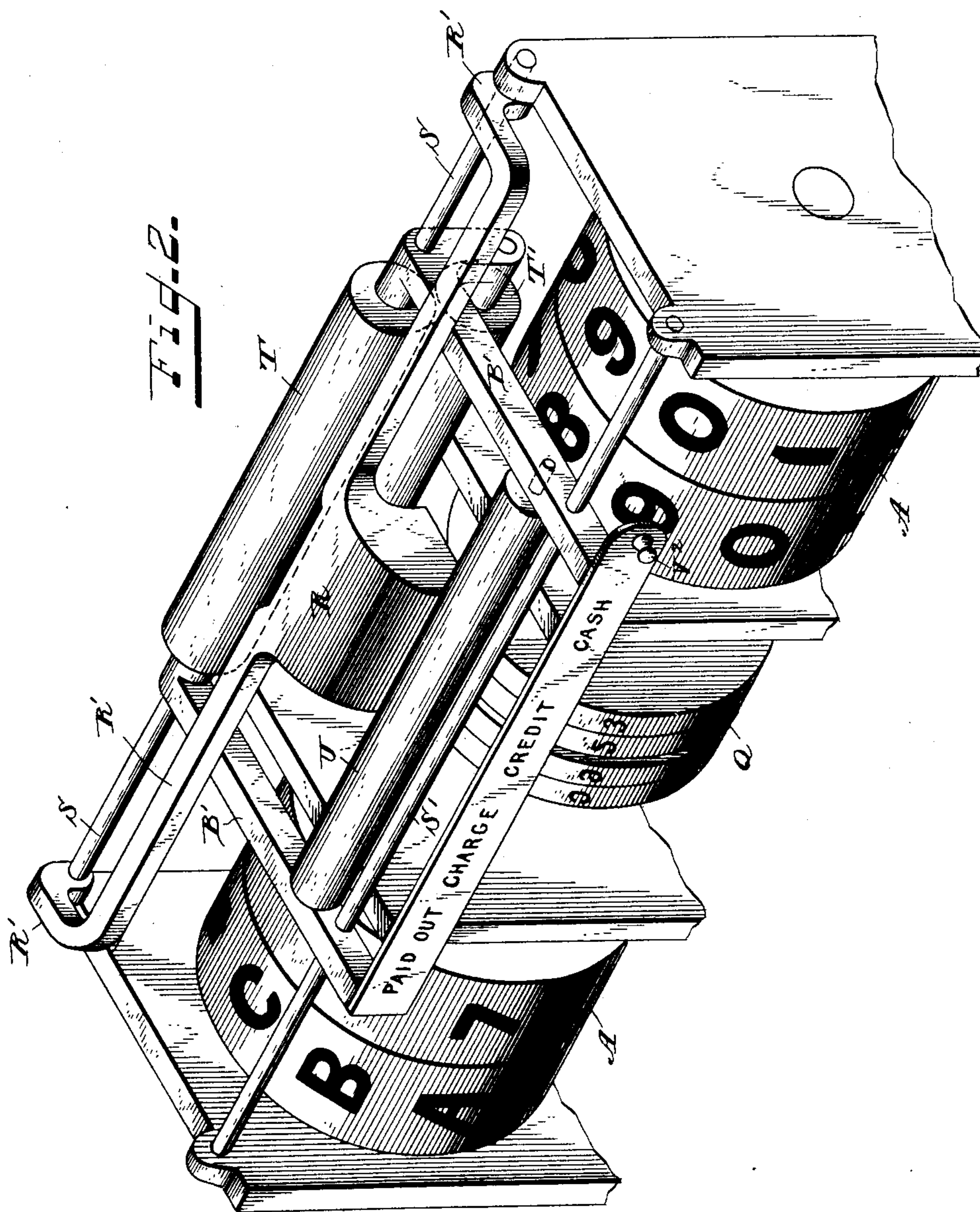
4 Sheets—Sheet 2.

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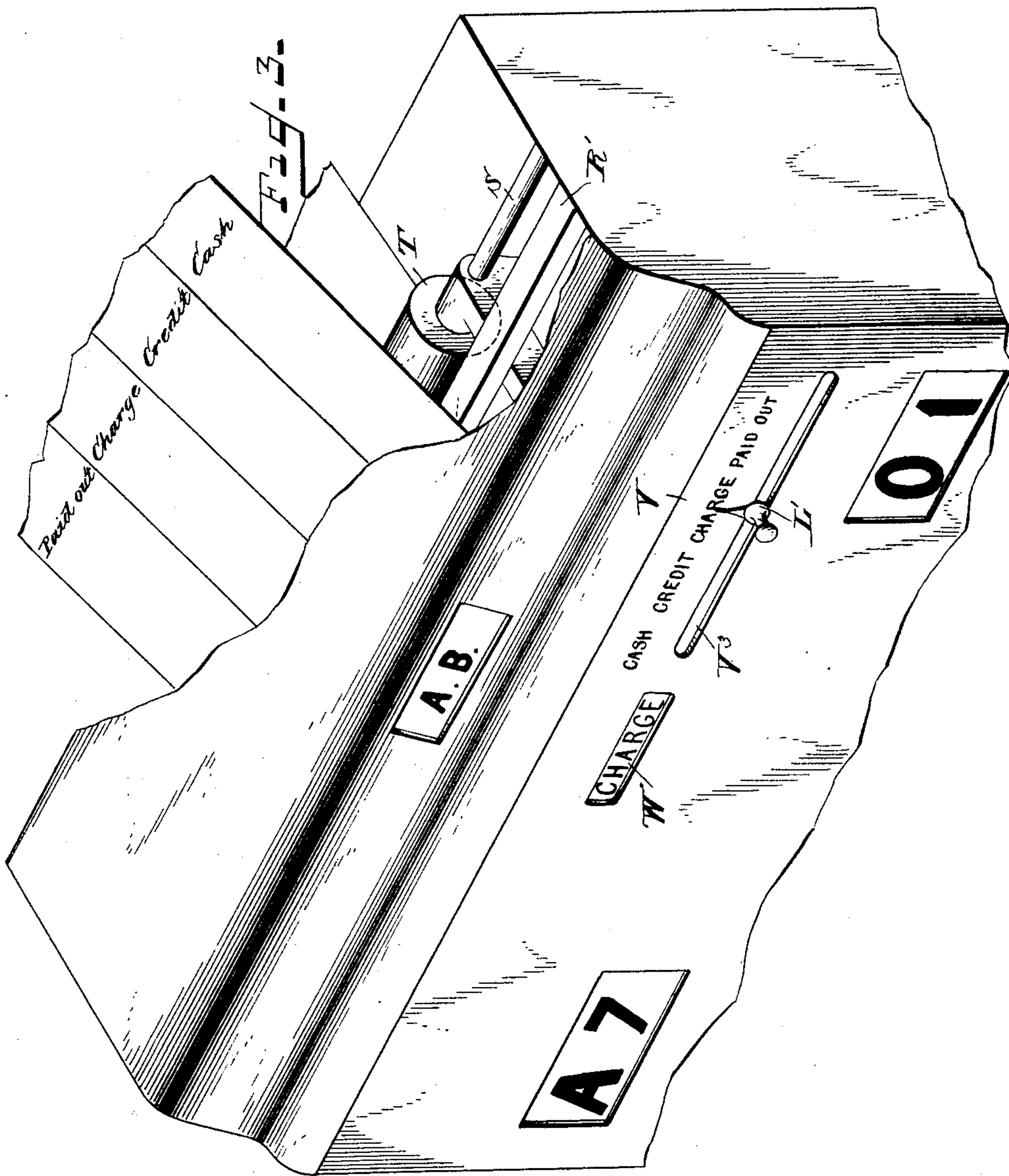
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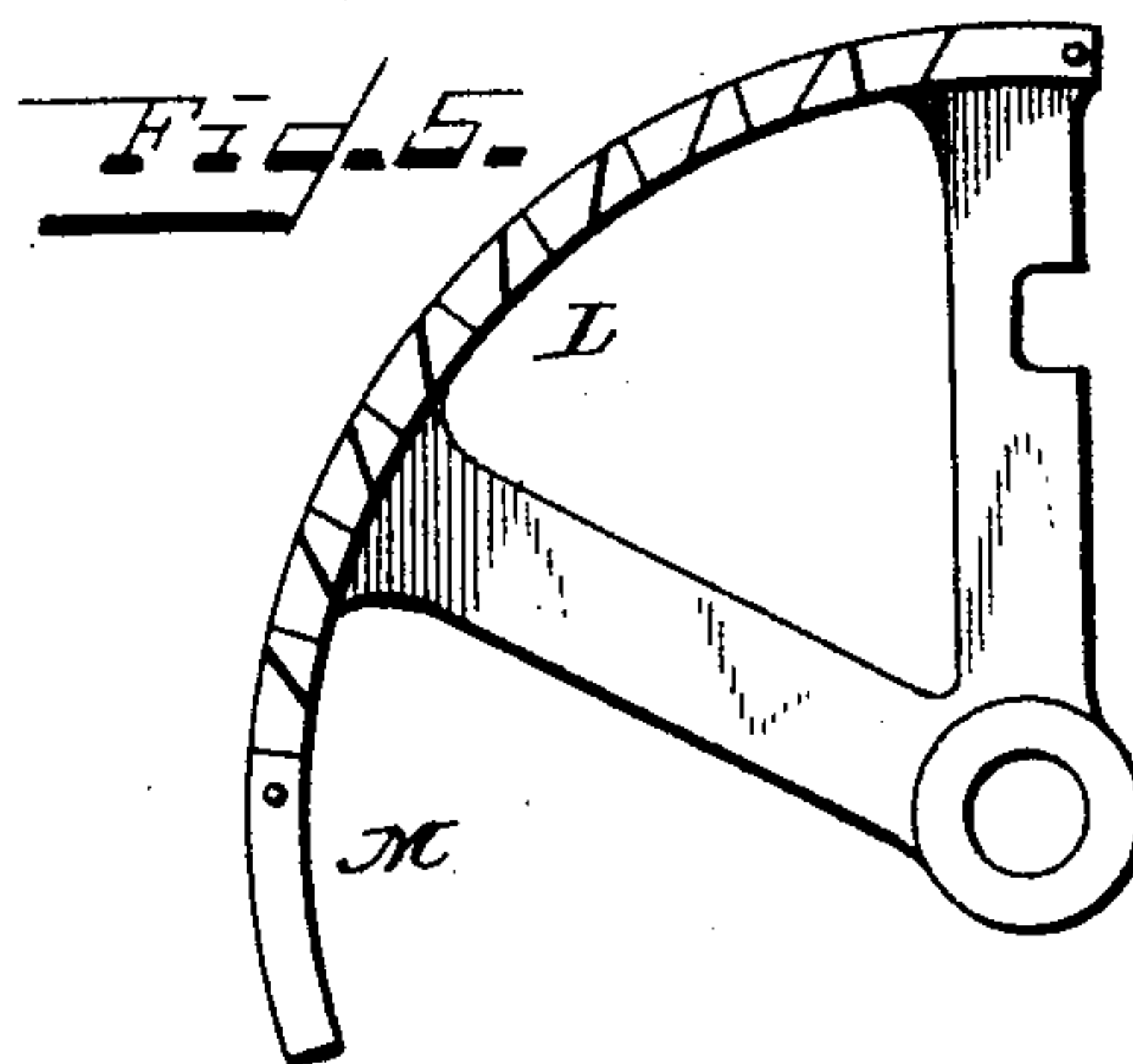
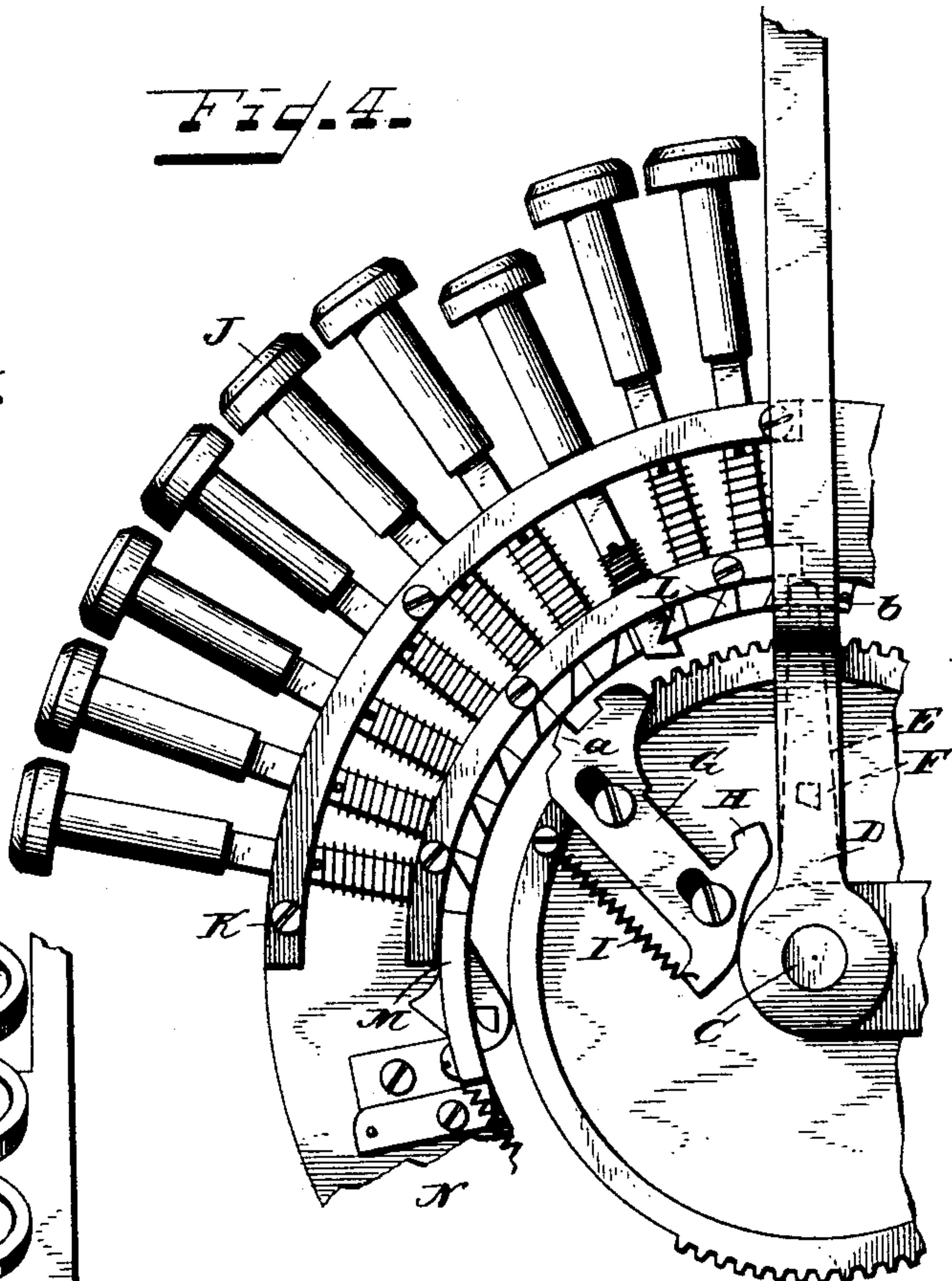
Inventor.

Hugo Cook
by Peck & Reed
his Attorneys.

4 Sheets—Sheet 4.

CASH REGISTER, INDICATOR, AND RECORDER.

Patented Sept. 6, 1892.



Witnesses.
J. Thomson Cross
G. Wentworth

Inventor
Hugo Cook
by Pack & Hunter
Attorneys.

UNITED STATES PATENT OFFICE.

HUGO COOK, OF DAYTON, OHIO.

CASH REGISTER, INDICATOR, AND RECORDER.

SPECIFICATION forming part of Letters Patent No. 482,165, dated September 6, 1892.

Application filed June 8, 1891. Serial No. 395,589. (No model.)

To all whom it may concern:

Be it known that I, HUGO COOK, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have
5 invented certain new and useful Improvements in Cash Registers and Indicators, of which the following is a description, reference being had to the accompanying drawings, forming part of this specification.

10 My invention relates more particularly to that class of cash-registers which are provided with a printing attachment by which the several amounts indicated and registered are printed upon a paper strip carried within the
15 machine or upon separate checks or tickets or both.

Its novelty will be herein set forth, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1
20 represents a side elevation of the machine with the casing removed. Fig. 2 is a perspective view of the upper rear part of the machine, showing the indicator-wheels and the printing devices. Fig. 3 is a similar view of
25 the same portion of the machine inclosed within the casing, a small portion of the latter being broken away. Fig. 4 is a detail side elevation of a portion of the machine, showing one of the operating-keys pressed in and
30 caught by its detent. Fig. 5 is a side view of the detent-plate. Fig. 6 is a front view of one of the series of the operating-keys; Fig. 7, a front view of another of such series of keys.

The same letters of reference are used to
35 indicate identical parts in all the figures.

In the machine illustrated in the drawings there are four indicator-wheels A, mounted to turn freely in the upper part of the machine. Three of these wheels bear upon their pe-
40 ripheries a series of figures representing multiples from "0" to "9," while the fourth bears nine letters from "A" to "I," inclusive, with a zero between the "A" and the "I."

The machine is provided with four sets or
45 series of keys, each set containing nine keys and corresponding to and co-operating with one of the indicator-wheels. Each series of keys excepting the left-hand one represents multiples of one from "0" to "9," as shown
50 in Fig. 6. The keys of the right-hand series represent units of cents, and the right-hand indicator-wheel, with which they co-operate,

likewise represents units of cents. The second set of keys represents tens of cents, and the second indicator-wheel, with which they
55 co-operate, represents tens of cents. The third set of keys represents units of dollars, and the third indicator-wheel likewise represents units of dollars. The fourth set of keys, as shown in Fig. 7, represents letters of the
60 alphabet from "A" to "I," inclusive, and the fourth indicator-wheel, with which they co-operate, likewise represents the first nine letters of the alphabet.

There is a main actuator for each indicator-
65 wheel and its corresponding series of keys, and there is an operating-handle or driving mechanism common to all of the actuators. The different keys of each series determine the different degrees of movement which a
70 uniform movement of the operating-handle or driving mechanism shall give to their corresponding actuator or indicator when one or another key of the series is operated. Thus
75 if the 9 key in the series is operated and the handle is then given one full movement the actuator corresponding to that series of keys will turn the indicator-wheel corresponding to it far enough to bring its figure "9" to
80 the reading-opening in the casing of the machine and thereby indicate "9." Likewise the operation of the 7 key will cause "7" to be indicated, and so on with all the keys. The particular construction of the machine
85 by which this result is accomplished forms no part of my present invention. Any suitable construction by which the operation of any key of a series will either directly or indirectly cause its corresponding indicator-wheel
90 to turn or be turned the proper distance to indicate the number represented by that key will answer the purpose and come within the scope of my invention.

In the drawings I have illustrated as a suitable construction one which is described and
95 claimed in Letters Patent heretofore granted me, No. 448,937, dated March 24, 1891, which may be briefly described as follows:

Each of the indicator-wheels A, Fig. 1, is geared to a segment B, loosely mounted and
100 free to oscillate upon a central shaft C. These segments B are what I have termed the "main actuators." The central shaft C is also oscillatory and may be rocked back and forth by

any suitable mechanism or by a handle, as D, fastened directly to it.

Fast upon the shaft C, one by the side of each segment B, is an arm E, (shown in dotted lines behind the handle D in Figs. 1 and 4.) Upon its side next to the segment B this arm E is provided with a lug F, which co-operates with a latch carried upon the side of the segment B. This latch consists of a radially-sliding plate G, provided near its inner edge with a beveled hook H and yieldingly held in this outward position by a spiral spring I. When the handle D is pulled forward and downward, oscillating the shaft C and arm E with it, the lug F on the arm E rides over the beveled end of the hook H and presses the latch-plate G inward against the tension of the spring I until the lug F passes the point of the hook, whereupon the latch-plate is pulled outward again by the spring I and the engagement of the lug with the hook connects the handle and shaft with the segment B, so that the latter turns with them in their further movement until it is disconnected from them in the manner hereinafter described. The turning of the segment B turns the indicator-wheel A, and their relative arrangement is such that when the segment is turned forward to the limit of stroke of the operating-handle the "0" on the indicator is brought to the reading opening or window in the casing of the machine.

The operating-keys J are mounted radially in segmental guides K K' and are surrounded by spiral springs interposed between the inner guide K' and pins passed through the keys, which springs yieldingly hold the keys in and return them to normal position. Each key upon one side, near its inner end, is provided with a notch, as shown in the depressed key in Fig. 4. These notches co-operate with beveled detents L upon the side of a segmental plate M, Fig. 5, supported by radial arms upon the central shaft C. This detent-plate is capable of slight rocking motion upon its pivotal axis and fits against the inner side of the guide K'. A spiral spring N, secured to the lower end of the plate and to the framework, draws the plate downward and yieldingly holds it in the position shown in Fig. 1, with the beveled sides of its detents L immediately beneath the inner ends of the keys J. When any key is pushed inward, it pushes the detent-plate aside until the notch in the key becomes engaged with the detent, as shown in Fig. 4, and when pressure on the key is removed the key is held in this inner position by the detent.

Pivoted in the upper end of a slot or recess in the lower end of the plate M is a cam-plate O, provided with a laterally-projecting pin O', extending into the path of the outer end of the latch-plate G. When the keys are all in their normal position and the detent-plate M is held in its lowest position by the spring N, the engagement of the lower edge of the cam-plate O with a plate P, secured to the frame-

work, presses the plate O inward and holds the pin O' in the position shown in Fig. 1. In such position of the parts when the segment B and latch G are carried forward and downward by the lug F on the arm E, as before explained, the lower beveled corner of the latch-plate G will strike the pin O' just before the operating-handle D reaches its limit of stroke, and as the pin P holds the plate O and pin O' from outward movement the latch-plate G will be forced inward against the tension of the spring I, and the lug F will be thereby freed from the hook H. The engagement of the pin O' with the outer end of the latch-plate G above the beveled corner will yieldingly hold the latch and segment B in the position to which they have just been moved, and the lug F being free from the hook H the operating handle and shaft C and arm E will move back to initial position alone and the indicator-wheel geared to the segment B will remain at zero. If, however, before the operating-handle is given its forward movement one of the keys J is pressed in and caught by its detent, the detent-plate M will be slightly lifted, carrying with it the cam-plate O, so that the plate P will thereupon permit the plate O to swing slightly outward to the position shown in Fig. 4. In such position the pin O' will not engage the outer end of the latch-plate G when the latter is brought opposite to it, so that the lug F will remain in engagement with the hook H. As the operating-handle moves backward the segment B will be carried with it until the beveled or rounded upper corner of the outer end of the latch-plate G strikes the inner end of the operated key, which forces the latch-plate inward as it rides under the end of the key and disengages the hook H from the lug F, the latch-plate and segment being positively arrested by a tooth *a* upon the outer end of the latch-plate, which tooth strikes the side of the end of the operated key. The handle and shaft and arm E move on to initial position alone.

Between the tooth *a* and upper corner of the outer end of the latch-plate is a recess, which, when the latch-plate is arrested by the operated key, permits the spring I to throw the plate slightly outward again, the end of the key entering the recess in the plate, and thereby positively locking the segment to the key. It remains so locked until the operating-handle reaches the limit of its backward stroke, at which point the upper end of the arm E strikes a pin *b*, projecting from the side of the detent-plate M and rocks said plate slightly upward and rearward and releases the operated key, whose spring thereupon throws it outward to normal position. It will thus be seen that when any key of a series is pressed in and caught by its detent and the operating-handle is given a full forward and backward movement the lug F engages the hook H of the latch-plate, and thereby connects the segment with the handle and

shaft C, and in the backward movement of the handle and shaft the segment is carried with them until it is disconnected from them by the operated key. The extent of movement given to the segment and consequently to the indicator-wheel geared to the segment is thus determined by the key which is operated, and the adjustment of the parts is such that the segment will always be given just the proper movement to turn the indicator-wheel to the number represented by the operated key. It will also be seen that when no key of a series is operated the lug F and hook H of the latch-plate become disconnected at the completion of the forward stroke of the operating-handle and the segment and indicator-wheel remain stationary during the backward stroke of the handle. This is important in view of the fact that there are several series of keys and several corresponding segments and indicator-wheels, and all of the indicator-wheels, excepting those corresponding to the series of keys containing the operated key, must be returned to and remain at zero. Under the construction above described it will be seen that upon forward stroke of the operating-handle all of the indicator-wheels, no matter where they may have been left by the previous operation of the machine, are returned to zero, and all of them remain there excepting those which correspond to the series containing the operated keys. Of course if a key in each one of the series is operated all of the indicator-wheels will be returned to zero and all of them will move backward with the operating-handle and be disconnected therefrom at points determined by the operated keys. So if two keys in different series are operated their indicator-wheels will be moved to indicate their values, while the other wheels will be returned to and remain at zero.

As shown in Fig. 2, the two indicator-wheels representing units and tens of cents are arranged at the right-hand side of the machine, and the dollar indicator-wheel and the wheel bearing the letters of the alphabet are arranged at the left-hand side of the machine, leaving a space between the two sets of wheels at the middle. In this space are located four type-wheels Q, one corresponding to each of the indicator-wheels and bearing upon its periphery a series of types, those upon three of the wheels being figures corresponding to those on the first three indicator-wheels and those on the fourth being the letters of the alphabet corresponding to those on the fourth indicator-wheel. Each of these type-wheels is so connected with its corresponding indicator-wheel as to move in unison with it in both directions. The particular form of this connection has not been illustrated, since it forms no part of my present invention. A convenient way of connecting them is to mount the tens indicator-wheel and tens type-wheel tightly upon the same shaft and the dollar type-wheel and the dollar indicator-wheel tightly upon another

shaft, and to connect the units indicator-wheel and units type-wheel by an intermediate train of gearing and the fourth type and the fourth indicator wheel by a similar train of gearing. This being a matter of mere mechanical construction, it is not thought necessary to illustrate and describe it in detail.

A printer or platen R co-operates with the type-wheels Q to print their type numbers and letters upon a paper strip or ticket interposed between it and the wheels. This platen is shown as mounted by rearwardly-extending side arms R' upon a rod S, connecting the upper rear corners of the framework. It is actuated in any suitable manner from the operating-handle or driving mechanism of the machine. Inasmuch as it is common in this class of machines to actuate such printers by the operating-handle or driving mechanism it is thought unnecessary to illustrate any particular means or method of doing it. It is only necessary that upon each operation of the machine the platen R shall be given a slight vibratory movement up and down to effect the printing. It will be understood that an ordinary inking-ribbon (not shown) is passed across the type-wheels beneath the printer.

The first feature of my invention consists in the employment of the fourth series of keys representing the letters of the alphabet and their corresponding type-wheel and indicator-wheel in connection with the other series of keys and their type-wheels. The purpose of this combination is to identify the clerk who made the sale and operated the machine and to preserve with the printed record of each sale a record of the clerk who made the sale, so that upon subsequently referring to the record-slip it can be ascertained which clerk made each sale.

The operation is as follows: Each clerk who has access to the machine is identified by one of the letters upon the fourth indicator-wheel, one clerk being known as "A," another as "B," another as "C," and so on up to "I," if there should be that many clerks. When the clerk makes a sale and operates one or more keys in the first three series to indicate and register the amount of that sale, he also operates the key in the fourth series which bears the letter by which he is identified. Upon then giving the operating-handle a forward and backward movement the indicator-wheels will be turned to indicate the amount of the sale and also the letter identifying the clerk who made it, and the type-wheels will be set to print said amount and said letter upon the record strip or ticket. Thus, if a sale amounting to seven dollars and one cent should be made by clerk "A," he will push in the 1 key in the units series, the 7 key in the dollar series, and the A key in the fourth series, and upon operating the handle the indicator-wheels will be turned to expose "A 7.01" at the reading-opening and the type-wheels will print "A 7.01" upon the record strip or ticket.

The utility of my invention is twofold: In

the first place it preserves a record of the sales made by each clerk, so that upon looking over the record-strip the proprietor can ascertain the number and character of sales which each clerk has made, and in the second place it affords an additional check against dishonesty. If a fifty-cent sale is made and the clerk operates the thirty-cent key to record only thirty cents, and thereby enable him to keep the other twenty cents himself, the second indicator-wheel is turned to indicate thirty cents, and the fourth indicator-wheel is turned to indicate the letter by which the clerk is identified. The customer, noticing that only thirty cents has been indicated, when he paid fifty, also notices that clerk "A" has made the sale, and if he is disposed to call the attention of the proprietor to the matter he can readily identify the clerk, whereas with the machines as heretofore constructed the customer who sees the improper manipulation of the machine and desires to call attention to the fact can only identify the clerk, if several are employed, by his personal appearance or other acquaintance with him. A clerk in attempting to make a dishonest record of a sale cannot operate the lettered key appropriated to some other clerk without risk of detection by his fellow clerks, since the letter is exposed on the fourth indicator-wheel. If no key in the fourth series be operated, the fourth indicator-wheel will indicate "0," and the fourth type will print a "0" on the record-strip at the left of the record of the sale. The proprietor will therefore know upon examining the record-strip that some clerk has made a sale and indicated and registered it without operating the key in the fourth series to identify himself. As a positive means to compel the clerk to operate a key of the fourth series whenever he makes a sale, any suitable lock for the operating-handle or driving mechanism may be provided and arranged to be released only by the operation of a key of the fourth series, so that until such key has been operated the machine remains locked and the sale made cannot be indicated and registered.

When it is remembered that the main purpose of the indicators in all machines of this class is to compel the clerks to operate the proper keys and register the exact amount of each sale, the utility of this feature of my invention will be understood.

Instead of providing the fourth indicator-wheel and the fourth set of keys with letters of the alphabet to identify the different clerks, they may bear instead any suitable characters other than the letters of the alphabet for the same purpose.

In addition to the record-strip upon which the amounts of the sales are printed, I prefer to provide the machine with a totalizing-registering mechanism, consisting of a series of registering-wheels driven from the actuators or segments and provided with suitable transfer devices by which the revolutions upon one

wheel are registered upon the next higher wheel. In Fig. 1 the end of such train of registering-wheels is shown at A', driven by the gear A² between the indicator-wheel A and the segment B. A ratchet-and-pawl connection is interposed between the gear A' and the registering-wheel driven by it, so that said wheel will turn in one direction with the indicator-wheel, but remain stationary when the latter turns in the opposite direction. Such registering-wheels, driven by the actuator B in a similar machine, being illustrated and described in detail in my prior patent before referred to, further description of them is unnecessary here.

The next feature of my invention consists in combining with the type-wheels a laterally-movable paper-carriage for the paper strip, by which said strip may move laterally across the type-wheels to cause the latter to print upon said strip in different columns for a purpose to be explained. This paper-carriage is shown as a rectangular frame B', mounted at its front and rear to slide upon the cross-rods S S', connecting the opposite corners of the framework. In suitable bearings on the rear portion of this sliding frame are journaled the two feed-rollers T T', while extending across the forward part of the frame is a roller U. The paper strip (shown in Fig. 3) is led over the roller U and beneath the platen R and between the feed-rollers T T'. The paper strip is preferably ruled longitudinally to separate it into the different columns in which the type-wheels are to print. As illustrated in the drawings, there are four columns—one for cash sales, one for the record of money paid in on account and to be credited to the party paying, one for sales to be charged to the purchaser, and one for a record of money paid out and to be charged to the party to whom it is paid. Upon the front side of the casing, as shown at V in Fig. 3, is an index corresponding to the several columns of the paper strip, over which index a pointer V', fastened upon a stud V², carried by the front cross-bar of the sliding paper-carriage B', Fig. 2, and projecting out through a horizontal slot V³ in the front of the casing, is arranged to move. When the pointer V' is moved opposite any one of the names upon the index, it carries with it the sliding paper-carriage and brings over the type-wheels that column on the paper strip which corresponds to the name on the index to which the pointer is moved. Thus if the sale made is to be charged to the customer, the clerk will move the pointer to the position shown in Fig. 3, and thereby bring the third column of the paper strip over the type-wheels, so that when the machine is operated to indicate the sale the amount of it will be printed in the "Charge" column on the paper strip. If the sale is for cash, the pointer will be moved to the left to the word "Cash" on the index, and thereby bring the cash column of the paper strip over the type-wheels. In addition to the

index V, over which the pointer moves, I prefer to place words corresponding to the index upon the front cross-bar of the paper-carriage, as shown in Fig. 2, to act as indicators, these words being exposed separately at an opening W in the front side of the casing to the left of the index V. When the pointer is moved opposite either of the words upon the index, it will bring the corresponding word upon the paper-carriage opposite the opening. The words upon the paper-carriage may be printed in large letters and those upon the index in smaller ones.

While I prefer to employ both the index V and to place corresponding words upon the front side of the paper-carriage to act as indicators, yet either one or the other may be dispensed with and the remaining one used both as an index and indicator.

To obviate the necessity of writing out a ticket or slip and placing it in the cash-drawer of the machine or otherwise preserving it each time money is received or paid out on account or a sale made on credit, I provide an opening X in the casing adjacent to the roller U, through which opening the name of the person to whom the sale or money paid out is to be charged or to whom the money received is to be credited on account may be written on the paper strip as it is led beneath said opening and over the roller U. Thus if clerk "A" sells "A B" seven dollars and one cent's worth of goods on credit he will first move the pointer V' to the word "Charge" on the index V and then write "A B's" name upon the paper strip through the opening X. He will then press in the 1 key in the right-hand series, the 7 key in the dollar series, and the A key in the fourth series, and then give the operating-handle a full forward-and-backward movement. The result will be the indication of a sale of "\$7.01" by clerk "A," as shown in Fig. 3, and the record of "\$7.01" in the "Charge" column on the paper strip immediately beneath "A B's" name therein, so that from the record thus made the proprietor or book-keeper will charge "A B" with goods to the amount of seven dollars and one cent. So if instead of purchasing that amount of goods "A B" had paid seven dollars and one cent on account the clerk would have operated the machine in the same manner, excepting that he would have moved the pointer V' to the word "Credit" on the index and the result would have been that "\$7.01" would have been printed immediately beneath "A B's" name in the credit column on the paper strip, and from such record "A B" would be credited on the books with that payment. So if he had paid out to "A B" seven dollars and one cent upon a bill presented or for any other purpose, he would operate the machine in the same manner, excepting to move the pointer to the words "Paid out," and the result would be that "\$7.01" would be printed beneath "A B's" name in the "Paid out" column on the record-strip. In the case of cash sales the

pointer will first be moved to the word "Cash" upon the index, so that the record will be made in the cash column; but the customer's name may or may not be written upon the record-strip, as described.

Having thus fully described my invention, I claim—

1. In a cash register and indicator, the combination of a type wheel or carrier bearing upon its periphery a series of numbers representing different values, a second type wheel or carrier arranged beside the first type-wheel and bearing upon its periphery a series of type letters or characters, a driving mechanism for said wheels, capable of connection therewith and disconnection therefrom, and two series of keys co-operating with the driving mechanism to determine the extent of movement imparted by it to the type-wheels, one of said series of keys bearing numbers corresponding to those upon the first type-wheel and the other bearing letters or characters corresponding to those upon the second type-wheel, and a platen co-operating with the type-wheels, whereby at each operation of the machine both the amount of the sale and the letter or character designating the clerk who made it may be printed upon a paper strip or ticket interposed between the platen or type-wheels.

2. In a cash register and indicator, the combination of an indicator bearing a series of numbers representing different values, a type wheel or carrier bearing upon its periphery a corresponding series of type-numbers and moving in unison with the indicator to simultaneously bring to the indicating-point a given number on the indicator and to the printing-point a corresponding number upon the type-wheel, a second indicator bearing a series of letters or characters, a second type-wheel bearing upon its periphery corresponding type letters or characters and moving in unison with the indicator, a driving mechanism for said indicators and type-wheels, capable of connection therewith and disconnection therefrom, two series of keys co-operating with the driving mechanism to determine the extent of movement imparted by it to the indicator and type wheels, one series bearing numbers corresponding to those upon the first indicator and type wheel and the other series bearing letters or characters corresponding to those upon the second indicator and type wheel, and a platen co-operating with the type-wheels, substantially as and for the purpose described.

3. In a cash register and indicator, the combination of the indicator-wheels, the type-wheels moving in unison therewith and bearing corresponding type-numbers, the platen co-operating with the type-wheels, a paper-carriage laterally movable across the type-wheels, a record-strip carried thereby and divided into different longitudinal spaces, and an index indicating the different spaces or columns on the record-strip and co-operating

with the laterally-movable paper-carriage to determine the position of the record-strip relative to the type-wheels, substantially as and for the purpose described.

- 5 4. In a cash register and indicator, the combination of the indicator-wheels, the type-wheels bearing corresponding type-numbers and movable in unison with the indicator-wheels, a platen co-operating with the type-
10 wheels, a paper-carriage laterally movable across the type-wheels, a record-strip carried thereby and divided into different longitudinal spaces, an index corresponding to the
15 different spaces or columns on the record-strip, and a handle or pointer movable with the paper-carriage over the index to determine the position of the record-strip relative to the type-wheels, substantially as and for the purpose described.
20 5. In a cash register and indicator, the combination of the type-wheels, the printer co-operating therewith, the paper-carriage laterally movable across the type-wheels, the record-strip carried thereby and divided into
25 different longitudinal columns or spaces, the paper-carriage bearing the series of words re-

ferring to the different columns of the record-strip, and the casing being provided with an opening through which said words are separately visible when the paper-carriage is
30 moved to different positions to bring the columns of the record-strip opposite the type-wheels.

6. In a cash register and indicator, the combination of the type-wheels, the printer co-
35 operating therewith, the laterally-movable paper-carriage, the record-strip carried thereby and divided into different longitudinal columns or spaces, the paper-carriage bearing a series of words designating the different col-
40 umns on the record-strip and separately visible through an opening in the casing when the paper-carriage is movable laterally to different positions to bring different columns of the record-strip opposite the type-wheels, and
45 a pointer movable with the paper-carriage over an index designating the different columns on the record-strip.

HUGO COOK.

Witnesses:

THOMAS CORWIN,
CHARLES R. GILLIES.