No. 614,977. Patented Nov. 29, 1898.

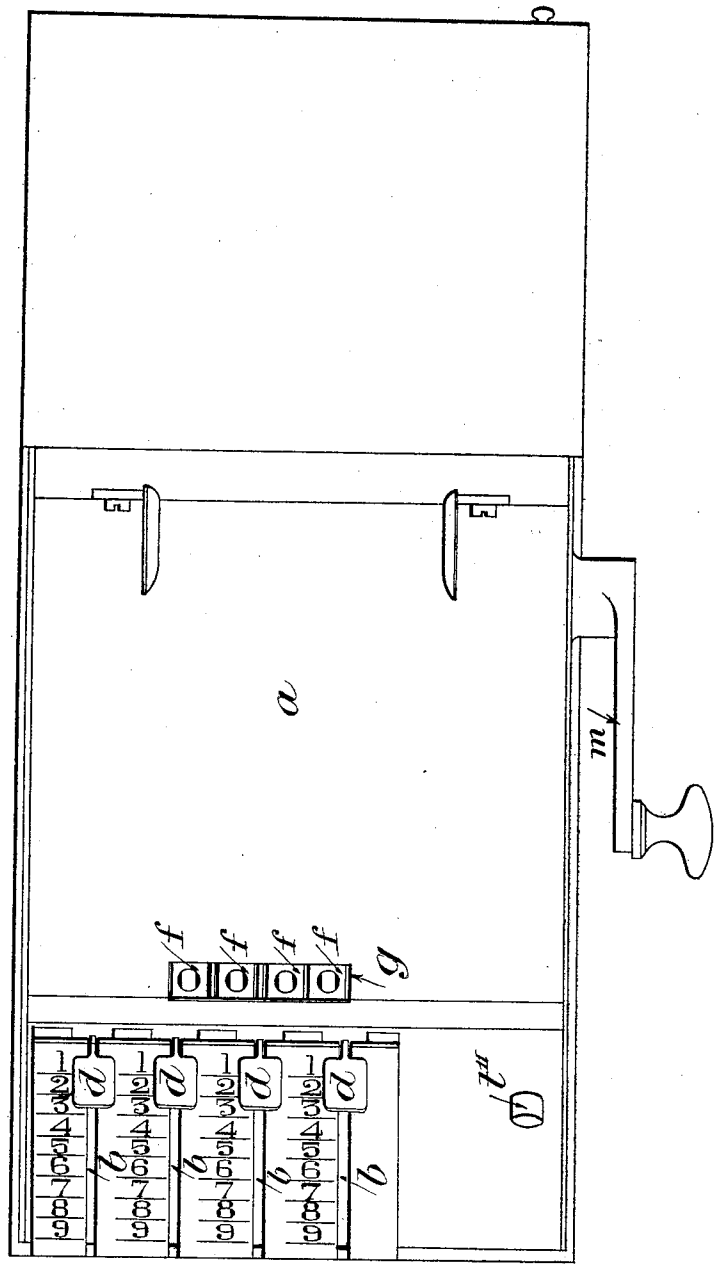
H. POTTIN.

APPARATUS FOR REGISTERING AND CONTROLLING CASH PAYMENTS.

(Application filed Nov. 1, 1897.)

(No Model.) 8 Sheets—Sheet 1.

FIG. 1.



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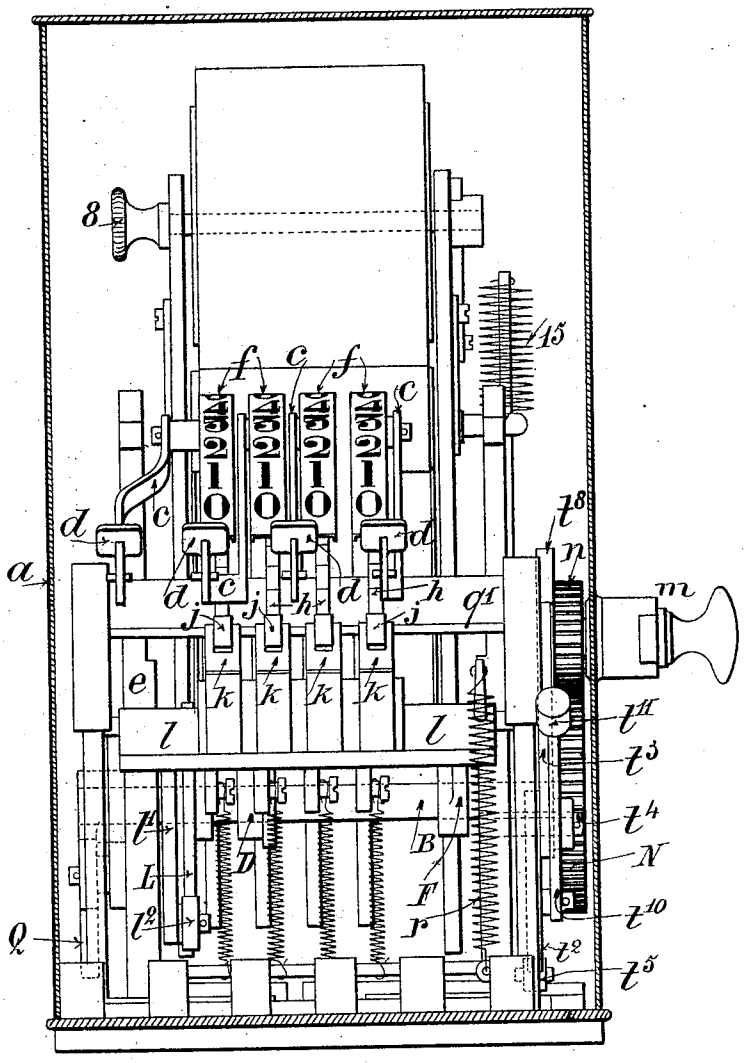
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APPARATUS FOR REGISTERING AND CONTROLLING CASH PAYMENTS.

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(No Model.) 8 Sheets—Sheet 2.

FIG. 2.



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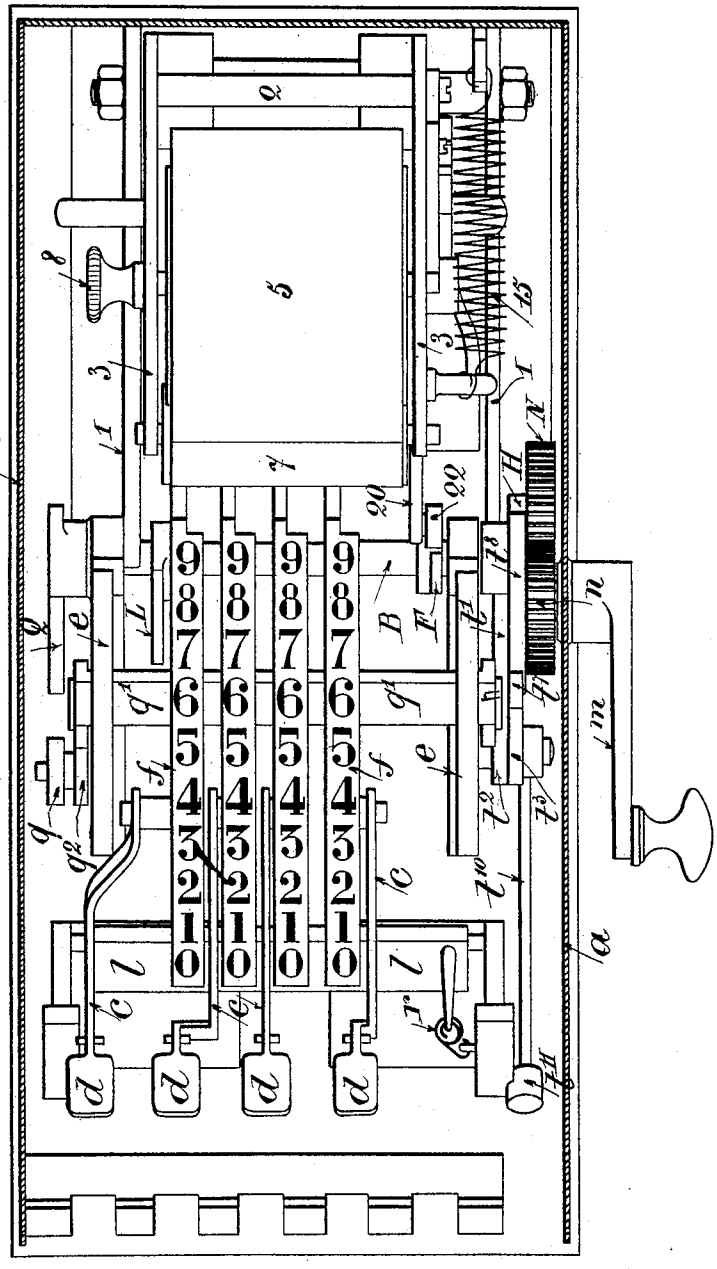
H. POTTIN.

APPARATUS FOR REGISTERING AND CONTROLLING CASH PAYMENTS.

(Application filed Nov. 1, 1897.)

(No Model.) 8 Sheets—Sheet 3.

FIG. 3.



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(No Model.) 8 Sheets—Sheet 4.

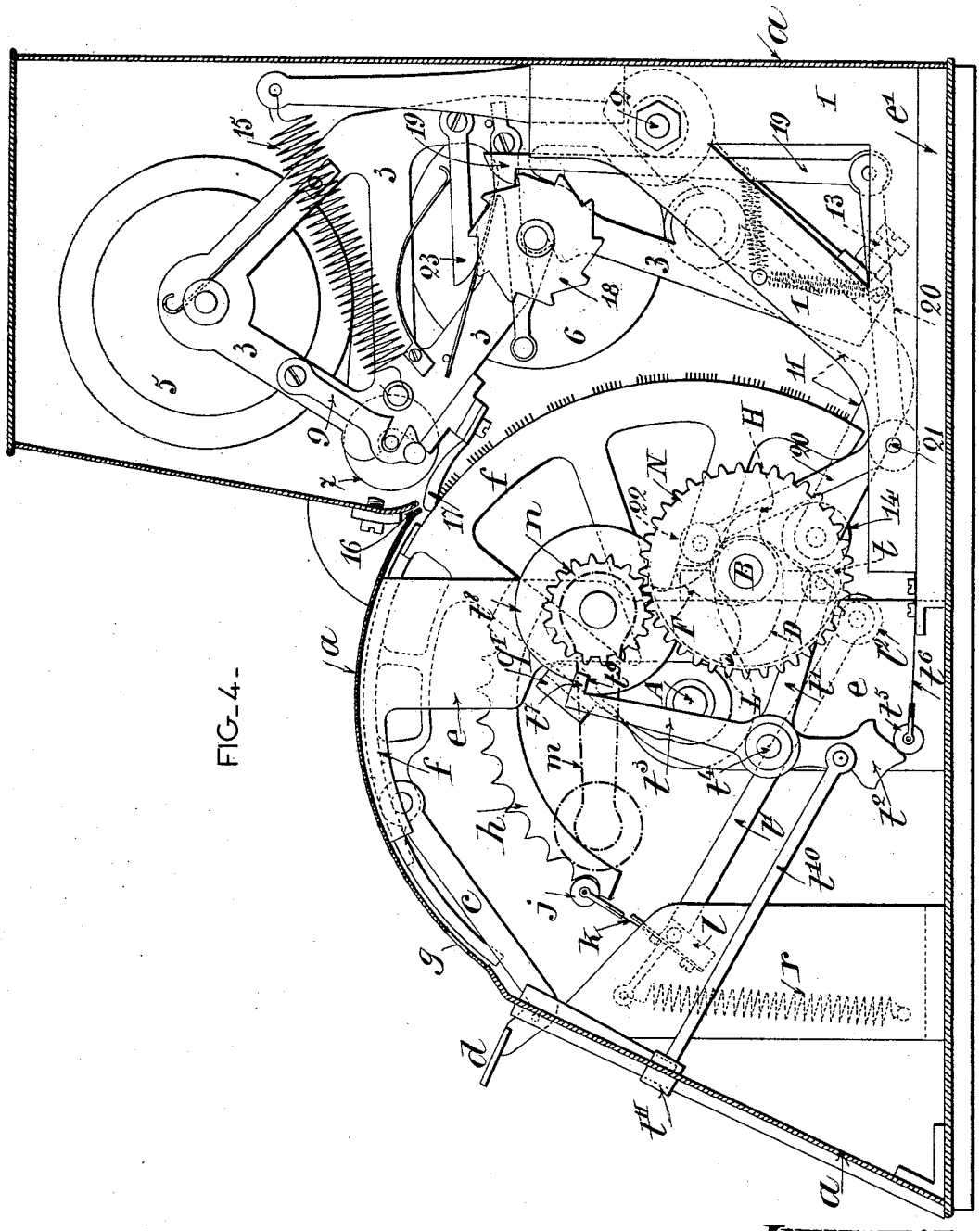


FIG. 4.

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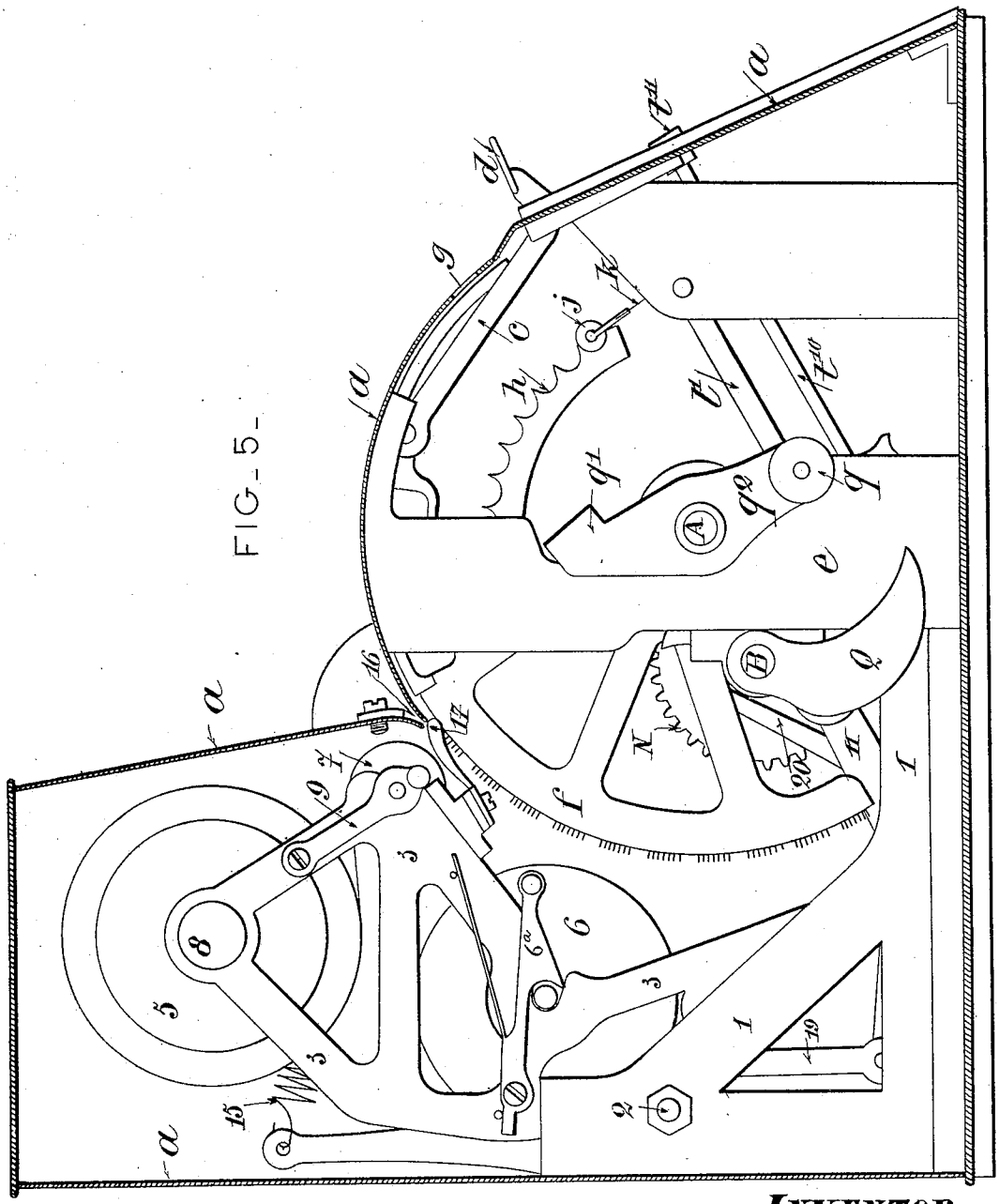
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(Application filed Nov. 1, 1897.)

(No Model.) 8 Sheets—Sheet 5.

FIG. 5.



Witnesses,
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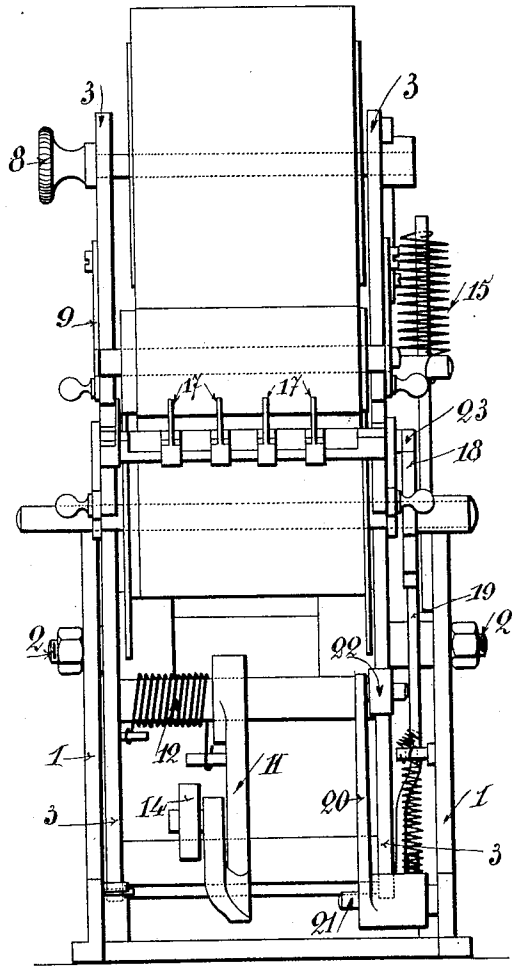
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FIG. 6.



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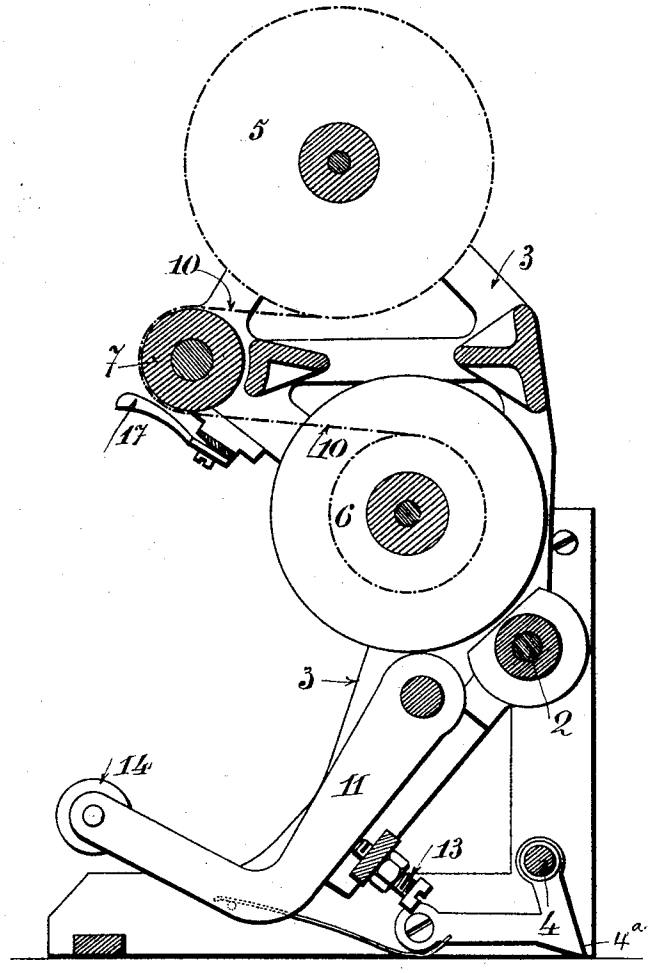
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APPARATUS FOR REGISTERING AND CONTROLLING CASH PAYMENTS.

(Application filed Nov. 1, 1897.)

(No Model.) 8 Sheets—Sheet 7.

FIG. 7.



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No. 614,977. Patented Nov. 29, 1898.

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APPARATUS FOR REGISTERING AND CONTROLLING CASH PAYMENTS.

(Application filed Nov. 1, 1897.)

(No Model.)

8 Sheets—Sheet 8.

FIG. 8.

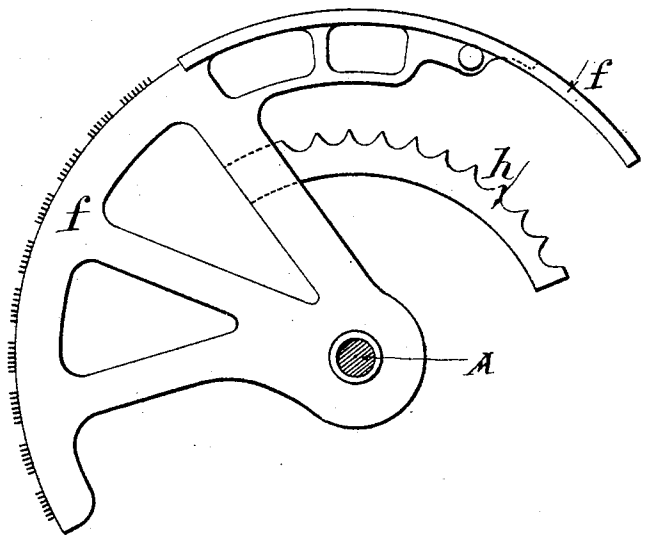


FIG. 10.

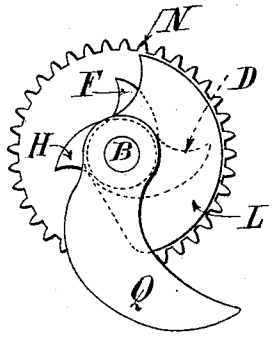
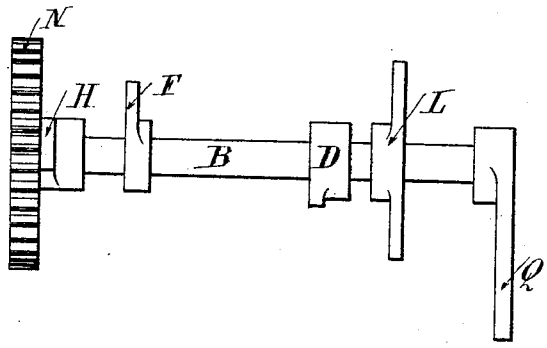


FIG. 9.



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UNITED STATES PATENT OFFICE.

HENRY POTTIN, OF PARIS, FRANCE.

APPARATUS FOR REGISTERING AND CONTROLLING CASH PAYMENTS.

SPECIFICATION forming part of Letters Patent No. 614,977, dated November 29, 1898.

Application filed November 1, 1897. Serial No. 657,089. (No model.)

To all whom it may concern:

Be it known that I, HENRY POTTIN, engineer, of 62 Rue St. Lazare, Paris, in the Republic of France, have invented new Improvements in Apparatus for Registering, Stamping, Perforating, and Controlling Cash Payments; and I do hereby declare that the following is a full and exact description thereof, reference being made to the accompanying drawings.

My invention relates to improved apparatus for allowing salesmen or saleswomen in a store or shop to control operations at the pay-office. The said apparatus is placed in the hands, not of the gentleman or lady cashier, but of the said salesmen, so that several machines are located in different and suitable parts of the store. After each sale the salesman operates the apparatus and hands over to the purchaser a perforated ticket showing the amount he has to pay at the cash-office. The cashier receives from the customer both the ticket and the sum of money specified by the latter. In the evening the cashier is therefore in possession of all the tickets perforated during the day by the different cash-controlling machines located in the store. Each apparatus has a registering device with continuous band, on which are successively shown the figures of the amount of each sale at the same time that the tickets are being perforated, so that by adding up, on the one hand, all the sums marked on the continuous bands of the different machines and, on the other hand, the sums marked on the different tickets in the hands of the cashier absolute and perfect control is obtained of the operations of the cash-office.

A push-knob actuating a locking device prevents the apparatus from being operated by any other person than the salesman, it being thus impossible to perforate the continuous band without perforating at the same time a ticket.

After each sale the salesman goes to the apparatus and operates the push-knobs of the same, which correspond to the tens of dollars, dollars, tens of cents, and cents, so as to mark on the apparatus the amount of the sum to be paid. He then introduces a paper ticket, with or without counterpart, into the slit provided for that purpose in the apparatus, and after having pushed the stop-catch button to release the mechanism he gives two turns to the operating-handle of the machine. The apparatus has come back to its position of rest, the continuous band having been perforated at the same time as the ticket, and the sum marked is that which was shown on the apparatus before the two turns given to the handle. The salesman then withdraws the perforated ticket and hands it over to the purchaser, who goes to the cash-office, hands over the ticket to the cashier, and pays in the sum of money specified on the said ticket.

In the accompanying drawings, Figure 1 is an outside plan view of my controlling apparatus. Fig. 2 is an elevation of the apparatus as seen from the front, the case of the apparatus being partly removed. Fig. 3 is a general plan, the case being partly removed. Fig. 4 is a side elevation of the apparatus as seen from the operating-handle side, the case being shown in vertical section. Fig. 5 is a corresponding elevation of the apparatus as seen from the side opposite to the operating-handle. Fig. 6 is a front elevation of the "registering device," properly so called. Fig. 7 is a vertical section through the middle of the said device and on the axial lines of the rollers. Fig. 8 is a detail view of a segment. Figs. 9 and 10 are respectively an elevation and an end view of the cam driving shaft.

The casing *a* of the general frame is in the form of a desk toward the salesman and carries four scales graduated from "1" to "9." Between the said scales and through the wall of the said case are provided slits or slideways *b b*, Fig. 1, for the push-knobs *d d* of levers *c c*, arranged within and connected, respectively, with numbered sectors *f f*. The said sectors *f* are independent of each other and all are mounted loosely on the same horizontal shaft A, fixedly attached to the uprights *e* of the apparatus. Each of the sectors *f* has its periphery divided into two segments, the forward segment carrying printed or painted figures and the backward segment carrying points or spurs, arranged so as to form in relief the same figures as those printed or painted on the forward segment.

When the push-knobs *d* are moved in their slideways, the sectors *f* are moved in their turn, and each of them presents in the aperture *g* in the casing *a* the same figure as that on the outer graduated scale, in front of which

is placed the corresponding push-knob. At the same time that one of the printed figures on a sector *f* comes into the aperture *g* the corresponding figure in points or relief comes opposite the registering and stamping roll, to be hereinafter described.

The first scale on the outside of the desk in starting from the left is numbered "1" to "9" and corresponds to tens of dollars. The second scale is numbered "1" to "9" and corresponds to units of dollars. The third scale is numbered from "1" to "9" and corresponds to tens of cents, and the fourth scale is numbered from "1" to "9" and corresponds to units of cents. The sectors *f* are numbered in the same way, together with a naught or zero. The same numeration is repeated twice on each sector—that is to say, it is numbered from "0" to "9" on the forward segment in starting from the forward end of its length or periphery and in printed or painted figures and from "0" to "9" on the rearward segment from the forward end of the latter and in figures in points or relief.

When the push-knobs *d* are at the upper end of their stroke in the slideways *b*, or above figure "1" of the graduated scales, as shown in Fig. 1, the sectors *f* present all their zeros in the apertures *g* and in front of the registering and stamping roll.

On the arms of each numbered sector *f* is fixed a toothed sector *h*, of small radius and having only the same angle as that of the forward segment of the said sector, the number of teeth or of the semicircular spaces between the teeth being the same as that of the figures on the sector. Into the said semicircular spaces between the teeth come and house themselves rolls or abutments *j*, carried by rods or flat springs *k*, fixed on the same transversal and pivoting plate *l*. A spiral spring *r*, fixed at one end to an arm of the flat bar *l* and at the other to the main frame, constantly tends to draw the abutments *j* out of the spaces between the teeth of the sectors *h*; but a second arm *l'* on the flat bar has its roll constantly rubbing against one of the cams of the driving-shaft and holds the said abutments *j* partly engaged in the said spaces when the apparatus is at rest. This arrangement has been made in order that when the salesman puts up a number on the apparatus by acting on the push-knobs *d* the said abutments or rolls *j* shall successively release the teeth of the sectors or disks *f*, mark the successive units, and hold the sectors in whatever position they may have been left at the end of an indication. As will be hereinafter shown, during the return to zero of the sectors *f* the rolls *j* are completely out of the spaces between the teeth of the sectors *h* in order to render the movement smoother and to prevent useless friction.

An operating-handle is used for actuating all the mechanisms. For that purpose a pinion *n*, fixedly attached to the spindle of the said handle at the inside of the casing *a*, gears with a toothed wheel N, fixedly attached to the driving or cam shaft B. The wheel N has twice the number of teeth of the pinion *n*, so that in order to give a complete turn to the cam-shaft B—that is to say, in order to bring the apparatus back to rest—two revolutions must be given to the operating-handle.

The driving-shaft B carries, besides the wheel N, five cams fixedly attached to the same and which operate the several mechanisms of the apparatus.

During the first revolution of the operating-handle the cam-shaft makes half a turn, and its cam D operates the registering device and marks the amount of the sale on the continuous band of the said device and on the ticket which has been inserted by the salesman into the slit made in the apparatus for that purpose. At the same time and at the end of the first half-revolution the cam L suddenly presents its smaller radius to the roll carried by the arm *l'* of the flat bar *l*, so that the latter pivots under the influence of the spring *r* and moves the rolls or abutments *j* out of the spaces between the teeth of the sectors *h*. During the second revolution of the handle the cam-shaft makes its second half-turn and comes back to its position of rest. During this second half-turn the cam F acts on a particular mechanism of the registering device and causes the continuous band of the latter to move forward a certain distance. At the same time the cam Q actuates the device for bringing the sectors *f* back to zero, and at the end of the half-revolution the cam L presents its greater radius to the roll l^2 and causes the rolls or abutments *j* to come again into engagement with the notches of the toothed sectors *h*. Toward the end of the revolution of the shaft B the fifth cam H acts on the locking mechanism and automatically locks the apparatus, as hereinafter described.

To register the amount of the sale and stamp the ticket, the shaft B operates, as hereinbefore described, the registering device by means of the two cams D and F.

The registering and stamping device, Figs. 6 and 7, comprises two supports 1, suitably braced, and which carry the principal joint-pin 2, on which oscillates the frame 3, carrying the spindles of the rollers on which the paper is wound and from which it is unwound.

The registering mechanism is placed in the rear part of the casing and may be removable therefrom to replenish the roll, substantially as illustrated and described in my prior patent, No. 575,372, dated January 19, 1897. To this end a hinged door (not shown) may be provided in the rear of the casing. A pivoted handle 4 is attached to the lower rear corner of the frame of the registering mechanism and used for drawing it out of the case at will. This lever also serves as a pawl to prevent the accidental withdrawal of the said

mechanism, being provided on the under side with a pointed foot 4^a, adapted to engage the upper face of the bottom of the casing, which may be roughened or notched to receive it. The forward movement of the registering mechanism is checked by a bar *e* or other fixed part of the main frame or casing of the machine. This registering mechanism moves backward and forward on guide-bars *e'* when inserted and withdrawn from the casing, the said lever being raised to allow such motion.

The paper band, which is at first entirely wound around the feed-roller 5, is unwound from this roller, passes the guide-roller 7, and is wound upon the receiving-roller 6.

The roller 5, which feeds the blank paper, turns freely upon the spindle which passes through it, and this spindle is terminated at one end by a knob 8, serving as a handle to withdraw the spindle when requiring to place a fresh roll of paper in the apparatus. The receiving-roller 6 can be also removed by lifting the handles of the spring-levers 6^a, Fig. 5, which when at rest secure the spindle of the roller in recesses made in the frame and serving as bearings for the spindle of the said roller. Lastly, the guide-roller 7 is movable, and its spindle is held in the corresponding recesses in the frame by the hooks 9.

To register the amount of the sale, all that need be done is to move the roller 7, over which the band of paper 10 passes, toward the sectors *f*, carrying on that side the figures in relief formed by the points or pins, and then to apply the said roller to the said sectors. This result is obtained by means of a lever 11, pivoted to the oscillating frame 3 and kept constantly held by means of a torsional spiral spring 12 against the end of a screw 13 in a fixed cross-piece of the said frame 3. This arrangement is for the purpose of rendering the lever adjustable in position, so as to place the roller which it carries at its ends in the required position for receiving the action of one of the cams on the driving-shaft B. When this shaft B makes its first half-turn, the cam D comes and acts on the roller 14 and causes the whole of the frame 3 to pivot on the spindle 2. The roller 7, over which passes the paper band 10, is pressed against the pins of the sectors *f*, which impress upon the paper the amount indicated in the apertures *g* of the apparatus. The cam D releases the roller 14 at the end of the first revolution of the operating-handle, and a spring 15 brings each time the frame 3 back to its first position. At the same time that the amount is registered on the paper band 10 the ticket is stamped. For that purpose, before the operating-handle is moved, the salesman inserts the said ticket into the slit 16 made in the side toward him in the casing of the apparatus. The ticket is guided by strips 17, between which pass the segments *f*, carrying the figures in relief. When the frame 3 rocks, the roller 7 simultaneously presses the ticket and the paper band 10 against the pins of the segments *f*, so that the said pins pass through a double thickness of paper. When the cam D is free of the roller 14 and the frame 3 retakes its position of rest, the guides or strips 17 disengage the ticket from the pins which have served to perforate or to stamp it. One of the faces of the roller 6 carries a ratchet-wheel 18, actuated by a pawl 19, pivoted to the bell-crank lever 20, pivoted to a fixed spindle 21, and which carries at the end of its free arm a roller 22, on which comes and acts during the second half-revolution of the shaft B the cam F, fixedly attached to the said shaft B. The roller 6 then rotates to a certain extent, so as to wind up a certain length of the paper band 10 and to present on the roller 7, on which the registration is effected, a fresh portion of the said paper band. A pawl 23 serves to prevent the ratchet-wheel 18, and consequently the roller, from traveling backward.

There only remains to describe the mechanisms for bringing the sectors *f* back to zero and for locking the driving mechanism at the end of each operation.

For the return to zero the cam Q, keyed to the end of the main shaft B, opposite to the toothed wheel N, acts from the very beginning of the second half-revolution of the shaft B on a roller *q*, carried by one of the arms q^2 of a yoke *q'*, which oscillates on the spindle A of the sectors *f*, Fig. 5, with the result that the said yoke is raised and comes and abuts successively against the arms of the sectors *f* and causes the latter to turn until their return to the position of rest, which is determined by the abutting of the push-knobs *d* against the upper end of their slides. At the same time the abutments *j* become engaged in the recesses between the teeth of the sectors *h* and the whole of the system is locked. The yoke *q'* is weighted, so as to return automatically to its lower position when the cam Q releases the roller *q*.

In order to lock the driving mechanism in position at the end of each operation, I make use of the following arrangement, Fig. 4: The cam H comes and acts toward the end of the second half-revolution of the shaft B on the roller *t*, carried by one of the arms *t'* of a three-armed lever $t'\ t^2\ t^3$, pivoted to a fixed horizontal spindle t^4. The arm t^2 has a head in the form of a cam having two recesses, against which constantly presses a roller t^5, carried by a flat spring t^6. According as the said roller is housed in one or the other of the said recesses of the cam the three-armed lever is locked in one or the other of its extreme positions, one of which corresponds to the locking of the driving mechanism and the other to the unlocking of the said mechanism. For that purpose the third arm t^3 of the said lever terminates in a nose or lip t^7, which comes and presses, when the cam H acts upon the arm *t'*, against the periphery of a disk t^8, fixedly attached to the spindle of the operating-handle *m* at the side of the pinion N. The disk t^8 has a cam-shaped periph-

ery provided with a slot t^9, into which comes and falls the nose or lip t^7. It has now become impossible to turn the operating-handle, and thus the driving mechanism has become locked. To allow of its being put in motion, a rod t^{10} is jointed to the arm t^2 of the lever, passes through the inclined desk of the casing a, and terminates toward the front in a knob t^{11}, which protrudes somewhat when the apparatus is locked. The salesmen, who alone are aware of this arrangement, press the knob t^{11} before turning the operating-handle m. The arm t^2 turns on its pivot and causes the flat spring t^6 to give way and the lip t^7 to move out of its slot in releasing the disk t^8, and consequently the whole of the mechanism. When at the end of each operation the cam H acts on the roller t, the rod t^{10} is pushed by the lever-arm t^2 and the knob t^{11} protrudes somewhat through the casing a of the apparatus, as clearly shown in Figs. 1 and 4. Therefore no other person than the salesman can turn the operating-handle m, and there is no fear of the band of the registering device being perforated without a sale having been effected.

I claim—

1. A registering, stamping, and controlling apparatus, having an indicating mechanism formed by rotatory sectors f connected to levers c, the ends of which slide in slides in the main frame, and a driving mechanism comprising an operating-handle of which the spindle carries a pinion n, gearing with a wheel N having twice the number of teeth and fixedly attached to the shaft B, which carries five cams operating the several mechanisms of the apparatus, substantially as described, and for the purpose specified.

2. A registering, stamping, and controlling apparatus, having an indicating mechanism formed by rotatory sectors f, connected to levers c, the ends of which slide in slides in the main frame, and a driving mechanism formed by an operating-handle the spindle of which carries a pinion in gear with a toothed wheel fixedly attached to the driving or cam shaft, and a locking device for the driving mechanism and which is formed by a disk t^8 provided with a slot t^9 on its periphery and fixedly attached to the spindle of the operating-handle, and by a three-armed lever t', t^2, t^3, pivoted to a fixed part of the main frame, one of the arms t^3 having a cam-shaped head on which presses a roller carried by a flat spring, the other arm t' being subjected, at the end of each revolution of the driving-shaft B, to the action of a cam T, which causes the lever to oscillate and the nose or lip of the third arm t^2 to come in contact with the periphery of the disk t^8 and to fall into the slot t^9 of the said disk, and in combination with a rod t^{10} jointed to the arm t^3, and which terminates in a knob or button which protrudes at the outside of the apparatus when the cam T acts on the arm t^2, and which allows of unlocking the apparatus before the beginning of each operation, substantially as described, and for the purpose specified.

3. In a registering, stamping, and controlling apparatus, a device for fixing or locking the indicating-sectors in their several positions during the indication and for releasing the said sectors during the return to zero, comprising a pivoted plate l, on which are fixed flat springs k carrying rollers j, the said plate being subjected to the action of a cam L keyed to the driving-shaft and of a returning spring, in combination, with toothed sectors h carried by the sectors f and with the recesses between the teeth of which engage rollers or abutments j when the cam L acts on the said plate and then leave the said recesses when the plate is free of the said cam L, substantially as described, and for the purpose specified.

4. In a registering, stamping, and controlling apparatus, a device for bringing the indicating mechanism back to zero comprising a yoke q' pivoted to the spindle A of the sectors f and on one of the arms of which acts a cam Q, keyed to the driving-shaft B so as to cause the said yoke to rise and abut successively against the arms of the sectors f in causing the latter to turn until they arrive at their position of rest, substantially as described, and for the purpose specified.

In witness whereof I have hereunto set my hand in presence of two witnesses.

HENRY POTTIN.

Witnesses:
GEO. LAURENT,
EUG. WATTIER.