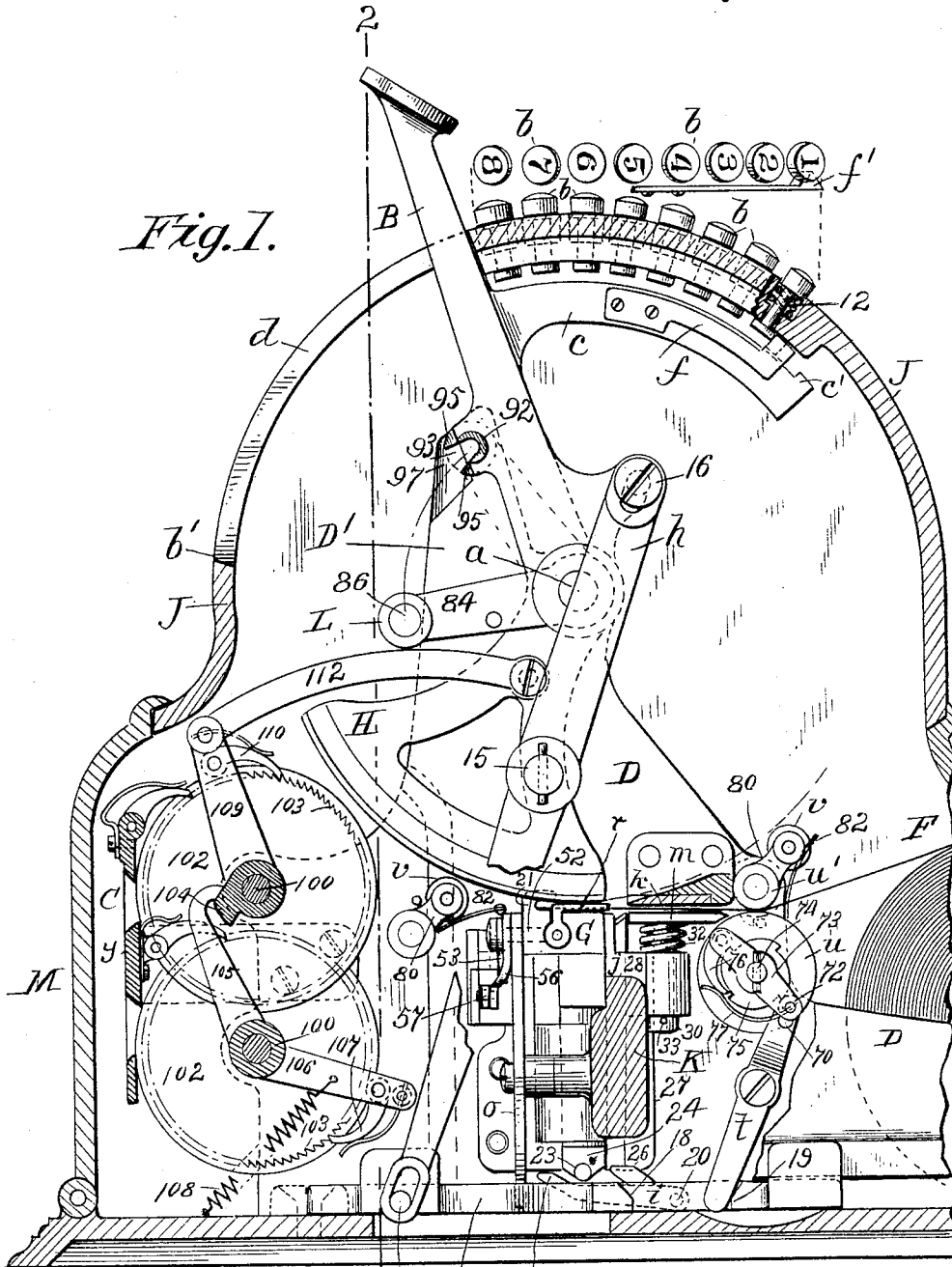


J. J. WEBSTER & W. H. SAUNDERS.  
CASH REGISTERING AND CHECK MAKING MACHINE.

No. 479,341.

Patented July 19, 1892.



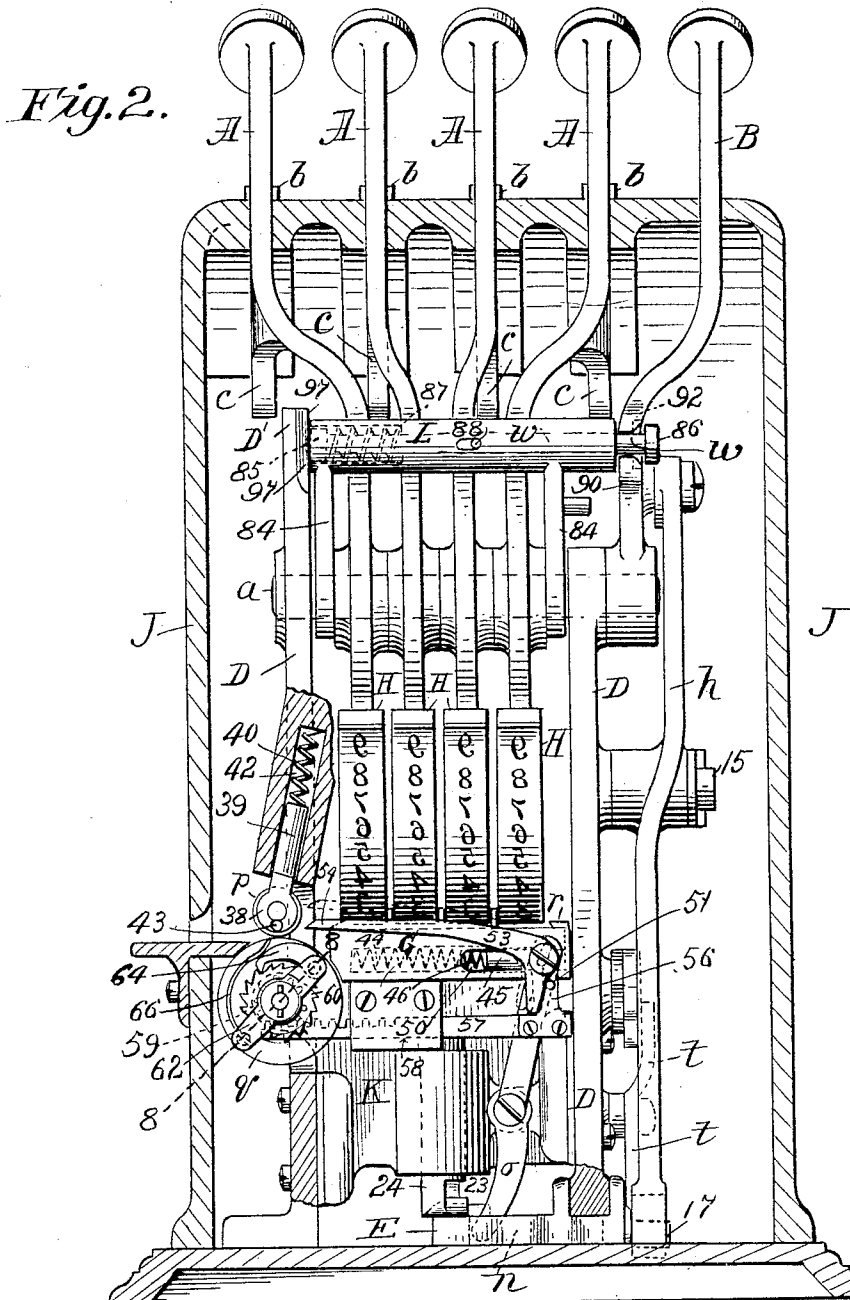
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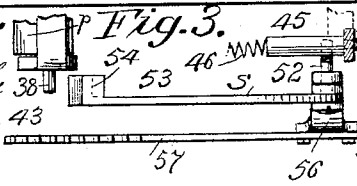
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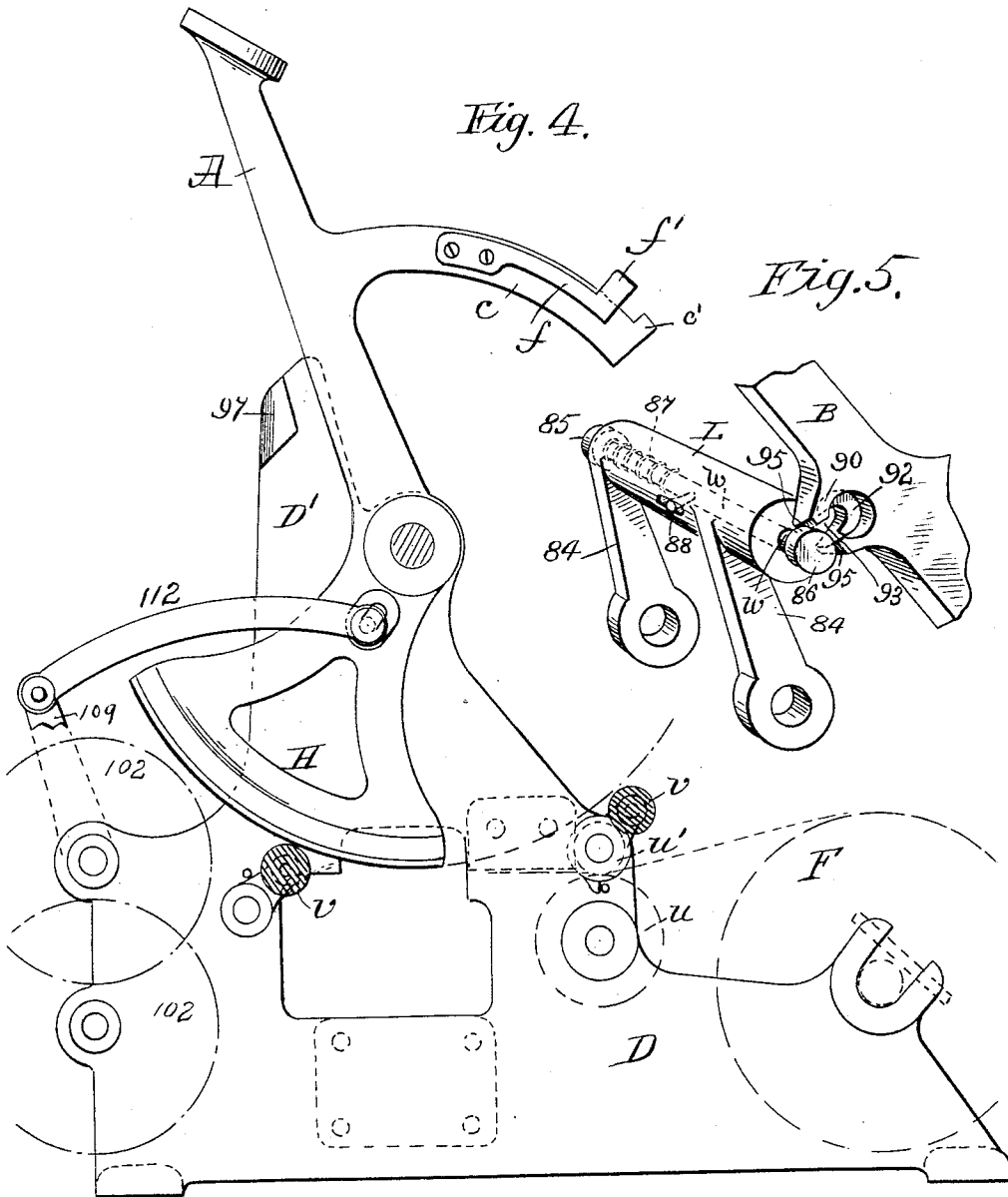


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Fig. 6.

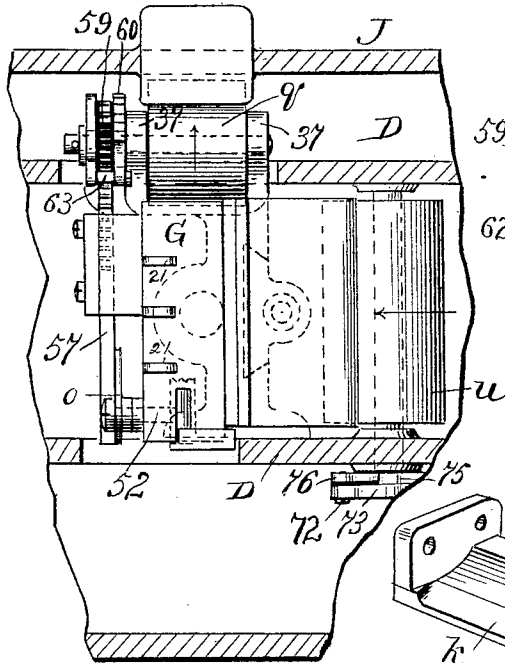


Fig. 8.

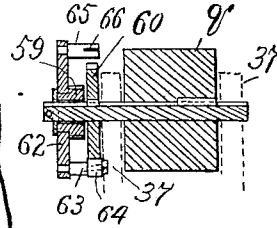
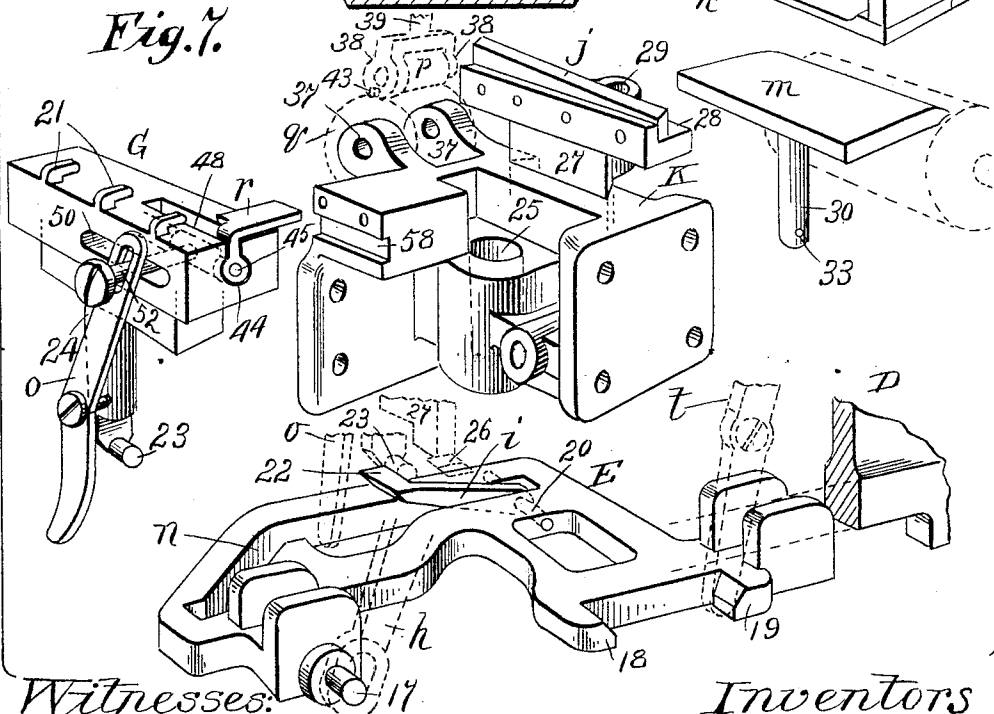


Fig. 7.



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Fig. 9.

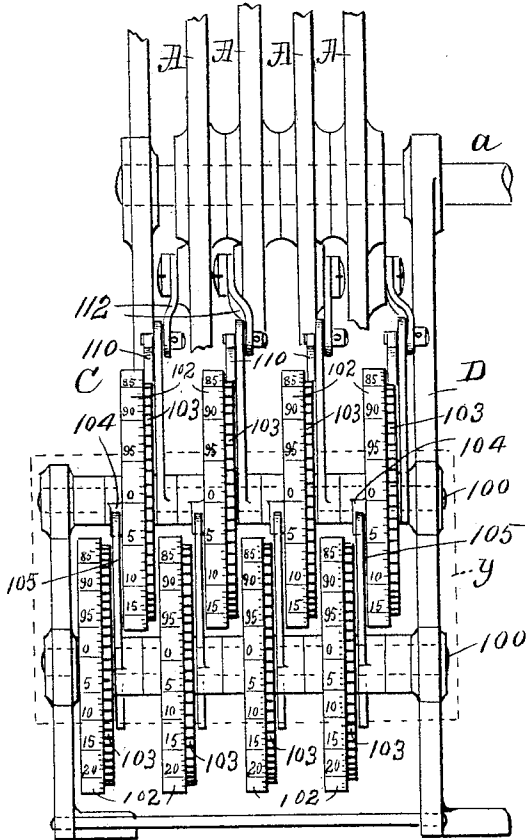


Fig. 10.

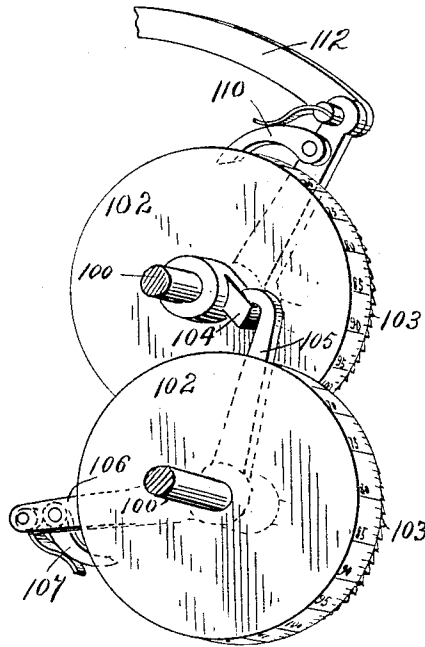
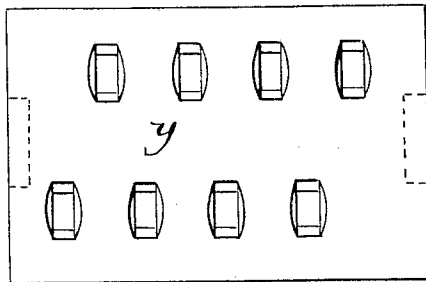


Fig. 11.



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# UNITED STATES PATENT OFFICE.

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## CASH-REGISTERING AND CHECK-MAKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 479,341, dated July 19, 1892.

Application filed October 3, 1891. Serial No. 407,634. (No model.)

*To all whom it may concern:*

Be it known that we, JEROME J. WEBSTER, a subject of the Queen of Great Britain, and WILLIAM H. SAUNDERS, a citizen of the United States, residing at Northampton, in the county of Hampshire and State of Massachusetts, have invented new and useful Improvements in Cash-Registering and Check-Making Machines, of which the following is a specification.

This invention relates to improvements in check-making and cash-registering machines. The offices of the machine are, as the operating lever is moved, to automatically bring into position portions of paper or other sheet material for a check, to print thereon numbers or characters denominative of an amount predetermined and as controlled by keys which are included in the machine and which have at this time of printing been properly operated, and also, as the key-levers are moved, to operate the register for recording the amount of the check and to deliver the check.

The invention consists in the novel combination of devices or instrumentalities for performing certain functions, as hereinafter set forth, and also in the construction of certain of the parts comprised in or constituting various of the devices, as will be specifically set forth and claimed.

In the accompanying drawings, forming part of this specification, Figure 1 is an elevation taken through the casing of the machine and as seen at the side of the principal operating parts therein contained, certain of the parts being shown in vertical section and others as broken away for clearer illustration. Fig. 2 is a sectional elevation, as seen from the front of the machine, and showing the parts to the rear of the plane, indicated by the line 2 2, Fig. 1. Fig. 3 is a plan view of certain parts which are fully or partially shown in Fig. 2 and which will be hereinafter particularly described in connection with the statement of their use. Fig. 4 is substantially an elevation of some of the parts indicated in Fig. 1, notably one of the key-levers and type-segments therefor, and the ink-supplying devices, the key-lever here shown being understood as the one next within a correspond-

ingly-shaped lever, herein termed the "general lever," which is shown in Fig. 1. Fig. 5 is a view in perspective of parts hereinafter described. Fig. 6 is a plan view of important devices, notably the platen, and the devices for feeding in the paper to the platen and for effecting the delivery of the check therefrom. Fig. 7 comprises perspective views of parts which coact with each other, but which are separated more or less from each other for purposes of showing their constructions, the said parts being located at the lower part of the machine above the bottom, but under the type-segments. Fig. 8 is a sectional view on line 8 8, Fig. 2, showing devices for securing the periodical rotational movement of the delivery-roll. Fig. 9 is a front view of the register. Fig. 10 is a perspective view of one set of the disks comprised in the register, and Fig. 11 is a front view of the apertured shield or wall located within the casing in front of the register.

As a preface to the detailed description hereinafter given and for the purpose of inducing a most ready comprehension of the constructions and their purposes, a brief outline of the principal devices of the machine will be here given. Of the four key-levers A A, having the type-segments H H, all or less thereof are moved to present the type-bearing portions in positions relative to the platen to print any predetermined amount as desired up to ninety-nine dollars and ninety-nine cents. Of course higher orders of numbers or amounts may be checked and recorded by increasing the number of the key-levers and enlarging the capacity of the register. At the time of setting the key-levers and type-segments to print any amount the register (indicated at C) at the front and lower portions of the machine is operated in an extent to record said amount. There is in addition to the key-levers what is herein termed a "general lever," (indicated by B,) which, when moved downward, secures through a suitable medium of connection a movement of the slide E at the bottom of the machine rearward, and said slide is forwardly returned on the replacement of the general lever. Said slide serves several purposes, as follows: It

insures a feeding in of a portion of paper from the supply-strip F over the platen G and a cutting off of a sufficient portion to constitute the check. It effects the forcing of the platen with the paper thereon against the impression-face of the printing devices, thereby printing the amount on the check. It secures the carrying of the printed check to the nipping action of the delivery-rolls and then a rotational movement to said rolls for delivering the check to the outside of the machine. The return movement of the general lever insures, also, the bringing of the key-levers back to their normal positions.

We will now proceed to give more or less precisely and in detail a description of the machine as specifically constructed.

D D represent supporting castings or framing embodying separate parallel uprights supporting between upper portions thereof the shaft or axis stud *a* for the key-levers A and type-segments H. Each segment has types on its rim, which are indicated in Fig. 2 and which run from "0" to "9," and as one of the key-levers is forwardly swung more or less one or the other of the type higher than "0" is brought to printing position over the platen G. The "0" of each segment normally stands in the printing position over the platen.

A set of stops is provided for each key-lever, so that the amounts of swinging movement to be imparted to each key-lever may be insured. Nine stops, as is evident, are necessary, and under our arrangement eight buttons *b* are mounted upon the top of the casing J (which incloses the mechanism) in a vertical plane adjacent, parallel, or coincident with the plane of movement for the key-lever, with the arm *c* of which lever said buttons are to coact, and the end *b'* of the slot *d* in the casing, through which the key-lever plays, serves as the ninth stop.

The arm *c* of each key-lever is of arc form, being projected rearwardly therefrom, and has at its rear extremity the upwardly-extended abutment-lug *c'*. This lug is of such an extent that as the key-lever moving insures its movement it (the lug) will freely pass under the buttons without being impeded by the latter, and yet so that one of the buttons, on being depressed, will limit the movement of the key-lever and also secure and indicate a disposition of the type on the segment H, which corresponds to the number on the button.

In Fig. 1 a projected plan of the buttons shown in the main view is given, which plan forms a supplement to said view, and in this projected plan is also shown a spring-finger *f*, one of which fingers is provided on each of the key-lever arc arms *c*. This finger, formed of flat spring metal and screwed or riveted on the side of the said arm *c*, has its free rearward end upwardly extended and provided with the V-shaped extension *f'*, which as the key-lever is forwardly moved clicks over the flange-formed inner ends of the buttons,

which form in substance a corrugated engagement surface for said finger extension, and the function of this device is (after a button has been temporarily depressed to limit the key-lever, which has been moved to abutment therewith) to exert a spring bind or pressure to prevent the displacement of the one key and type-segment during the time other key-levers are being moved or the printing devices are being operated. The key-lever may be replaced by sufficient positive pressure to overcome the force of the spring click-finger *f*.

The buttons *b*, as indicated in Fig. 1, are formed with enlarged heads and inner end flanges, the intermediate uniting spindles playing through sockets in the casing, the upper portions of which sockets are sufficiently enlarged to receive therein the spiral spring 12 and also to permit of the depression thereinto of the outer heads as the buttons are depressed. While the key-levers are being operated or set in their positions for printing the limiting-stops therefor are to be held down by the fingers until the key-levers have been swung to their required positions, as determined by the stops, after which, under the reaction of their springs, the stops resume their normal positions, the adjusted positions of the key-levers and segments being maintained with the necessary degree of positiveness by the click-fingers *f*, which have spring-bearings against the inner end flanges of the proximate buttons *b*.

The general lever B is shown as of the same contour as the key-levers A, and in Fig. 1 the general lever is shown and prevents a view of the key-levers, which are farther within the casing. This general lever B is mounted on the common axis-stud *a* for the key-levers and is connected with the slide E, which is at the bottom of the machine, through means of the lever *h*, which is intermediately pivoted upon a fixed stud 15 and which by its upper slotted end is engaged by the screw 16, which enters the member or portion of the general lever. The lower end of this lever *h* is slotted and engages the stud 17, which is secured on the slide E. The said slide is suitably constrained for a movement rearward and forward in a horizontal plane and is provided with abutment and cam formations for action upon the various mechanisms included in the following description, and which formations of the slide will be respectively pointed out, in conjunction with said last-mentioned mechanisms, as they are successively described.

The slide has mounted pivotally thereon, at 20, the cam-ended arm *z*, which normally lies in a forwardly and upwardly inclined position, the laterally-projected cam portion 22 being supported upon the top of the slide. This cam-formed member of the slide operates, in conjunction with the stud 23 on the pendent rod or member 24 of the platen, to raise the platen, forcing the paper thereon against the type as the slide moves rearwardly. The

means by which the forward portion of the roll of paper is brought to position will be described later. The platen is supported on the casting or block K, which is between and

5 bolted to the side uprights D D, said casting having a vertical socket 25, as shown in the detail perspective view, Fig. 7, through which the pending rod 24 of the platen is guided. The continued movement of the slide carries

10 the cam-ended part 22 out from under the pending rod of the platen, which latter is then permitted to fall by reason of its gravity, said part 22 then impinging upon the inclined extremity 26 of the slide member 27, which is a

15 pendent leg of a block, having formed thereon or attached thereto a shear blade or knife *j*. The pendent slide 27 has a dovetail engagement with the said casting K, the movement of the knife carried thereby being across

20 the feeding of the paper strip just behind the platen, and said knife acts in conjunction with a block or bar *k*, suitably mounted on and between the uprights D D, which bar in substance constitutes a stationary member of a shear, of

25 which the knife *j* is the movable member. The knife-carrying slide is rearwardly extended, as at 28, through which is a vertically-bored way 29, Fig. 7, through and below which is passed the pendent rod 30, which

30 rod at its upper end supports a presser-plate *m*. A spring 32 encircles the rod 30 between the lower surface of the presser-plate and the top of the slide-block extension, and the said rod 30 has the limiting-pin 33, all so that

35 normally the presser-plate lies just below the shear-bar *k* to permit of the passage of the paper thereover to and upon the platen. As the knife-carrying slide 27 rises the presser-plate *m* moves therewith in unison until it

40 contacts with the shear-bar *k*, or, strictly speaking, with the paper next thereunder, thereby firmly clamping the paper, so that it may be cleanly cut by the knife, and during the continued movement of the slide and the

45 knife to effect the severing of the paper which is forward thereof and on the platen the supporting-spring for the presser-plate is compressed. The cam 22 is formed as a part of a pivoted arm *i* in order that the same,

50 as the slide finally returns forwardly, may ride over and without effect upon the laterally-extended extremities 23 and 26 on the pending members of the platen and the knife-carrying slide.

55 Next will be noted the internally and obliquely formed cam-slot *n* for imparting a motion to the lever *o* in a plane at right angles to the movement of the slide E. The lower end of this lever enters said slot. The

60 swinging of this lever in one direction effects the separation of the upper roll *p* from the lower roll *q* and the feeding of the printed and cut-off check lengthwise of the platen, so that the forward edge of the check comes

65 just between said rolls, and the reversed swinging of the lever occasioned as the slide E returns to place insures a nipping action

of the rolls on the the check and a rotational movement thereof to deliver same. The delivery-rolls *p* and *q* have their axes horizontally in lines at right angles to the length of the platen and parallel to the direction of the feeding in of the paper onto the platen, as shown in Figs. 2 and 6, and the lower roll *q* has journals which are mounted in ear-

70 pieces 37 37 of the casting K. The upper and smaller roll *p* is mounted in bearings which are formed in separated ear pieces 38 of a bar that is formed on the lower end of a spindle 39, which plays against a spring 40 in a

75 more or less nearly-vertical socket 42, formed in an enlarged part of one of the upright frame-castings D. One of the ear-pieces 38 for the upper roll *p* has thereon an abutment or stud 43.

85 The platen D has formed longitudinally therein from its end farthest from the delivery-rolls a socket or guideway 44, within which plays a bar or shaft 45, the same being rearwardly pressed by the spring 46, which

90 lies between the innermost end of said socket and the inner end of said shaft 45, and *r* represents the pusher. This pusher is in the form of an angular piece, one member of which is extended vertically through the longitudinal

95 slot 48, which extends from the top of the platen to the guideway 44, and said vertically-extended member of the pusher is connected to the outer end of the shaft 45. The horizontal portion of the pusher lies upon the

100 upper face of the platen. There is another longitudinal slot 50, formed in the platen, extending from the front face thereof to the said way 44, and a stud 52, which is secured to the shaft 45, plays through the said slot

105 as the movement is imparted to said stud by the swinging of said lever *o*. There is also mounted at its elbow on the said stud the angular roll-separating device *s*. The forwardly-extended arm 53 of this separator has at its

110 extremity the laterally-extended incline 54 to impinge upon the stud 43 to lift the roll *p*. As the forward movement of the lever *o* continues after lifting the roll *p* to cause the

115 entrance of the forward end of the check between said roll and its fellow the inclined part 54 passes forwardly of the abutment-pin 43, and the roll is spring-pressed to place. There is fixed on the said stud 52 a hanger

120 56, horizontally supported on and extended from which is a rack-bar 57, which plays through a slideway 58 therefor in the said casting K. Said rack-bar meshes with a pinion 59, which is peculiarly mounted on the

125 arbor of the lower delivery-roll *q*. The rack-bar and parts with which it coacts are so arranged that as the lever *o* effects the forward movement of the parts actuated thereby the rack, while effecting a rotational movement of the pinion, will not turn the roll *q*, and yet

130 on the reverse movement of the lever *o* the contrary rotational movement imparted by the rack to the pinion will insure the rotation for delivery of the roll, and particu-

lar reference is now to be had to Figs. 2, 6, and 8. The ratchet-wheel 60 is keyed or otherwise fixed on the arbor for the roll *g*. Next to the ratchet-wheel the pinion is loosely mounted on the arbor, and on the extended hub of the pinion a bar 62 is intermediately attached. This bar has at its one end a laterally-extended stud 63, on which is pivoted the pawl 64, the point of which takes into the teeth of the ratchet-wheel. The pawl-carrying bar 62 at its other end has the laterally-extended stud 65, to which is attached one end of the curved spring 66, said spring extending to a bearing upon the pawl to maintain it properly in engagement with the ratchet-wheel. The pawl of course acts as the medium of connection between the rack-operated pinion and the ratchet-provided roll-arbor to secure the rotation of the latter when the rack-bar is moved in the proper direction. As the parts operated by the lever *o* are returning and the delivery-rolls are feeding the check the lateral cam extension 54 on the separator device *s* impinges upon the abutment-stud 43, and the said device is swung so that the said cam or inclined portion may ride over the said abutment, the device then falling to its normal position as limited by the stop-stud 51 on the pending support 56.

We have described the complete operation of the delivery devices for the check; but after the rolls have been separated and the printed check pushed from the platen into the position to be nipped and fed out by the delivery-rolls and while the slide *E* is just about completing its first or rearward movement, and just before the time that the feeding-out rotation is imparted to the rolls, as ensues from the returning movement of the slide *E*, the mechanism operates for feeding the foremost portion of the paper strip from the supply-roll *F* onto the platen for constituting the next check.

It will be remembered that in the description of the parts and their operations thus far given it had been assumed that the check-section of paper had been already brought to place upon the platen, and the devices for effecting this function at the period, as stated, will be now described.

Again, referring to the views of the slide *E*, it will be noted that the same has at its outer edge portion the separated abutments 18 and 19. Into the recess or space between said abutments there projects a lever *t*, which is intermediately pivoted on the frame *D*, and said lever at its upper end has the slot 70, which engages the pin 72 on the pawl-carrier 73, which is loosely mounted on the arbor 74 of one of the feed-in rolls *u* for the paper.

75 represents a ratcheted wheel which is fixed upon the arbor of the roll *u*, and on the pawl-carrier 73 the pawl 76 is pivoted to be held in engagement by the spring 77. As the slide is about completing its rearward movement as the general lever is brought to its lowermost position of swing, the lower end of

the lever *t* is forced by the abutment 18 rearwardly, the upper end of the lever moving forwardly and swinging the pawl-carrier to move the pawl 76 forward and also partly rotate the ratchet-wheel 75. The forward movement of the slide insures the placing of the pawl 76 in position to again force the roll *u* partly around on the next operation of the machine. The feed-in rolls for the paper cause the forward edge of the paper to be moved into proximity to or contact against the abutment lugs or gages 21, which are formed on or provided at the edge of the platen, which lugs serve as guides for the check after it has been printed and cut off and while it is being delivered from the platen. Above the roll *u* there is mounted its fellow *u'* to exert the proper tension thereon.

*v v* represent the inking-rolls for the type-segments *H*, and the rolls are carried on arms 80, which are suitably pivot-supported, and by the springs 82 forced to maintain the ink-rolls in positions for yielding, bearing on, or with a transverse stress relative to the transit of the type-segments.

The upward or return movement of the general lever insures a replacement into their normal or "0" position of the key-levers and the segments with the co-operation of the transverse bar *L*, which is carried on the arms 84 84, that are pivoted on the axis-stud *a* for the key-levers. As any of the key-levers are depressed, the bar *L* is downwardly swung from the upper position indicated in dotted lines in Fig. 1 and full lines in Fig. 2 down to the position shown in the full lines in Fig. 1. This bar *L* is axially bored, having therein the rod *w*, which has heads 85 86 at its ends. The spiral spring 87 encircles the said rod bearing by its one end upon the head at the left of the rod and by its other upon the internal shoulder within the said bored bar and has a tendency to maintain the rod with its left-hand head extended beyond that end of the bar and the right-hand head 86 near the corresponding end of the bar. The stop-pin 88 secures a proper limitation of the spring-pressed part.

The general lever is provided with an edge extension 90, having on its outward side and back from the nose the circular depression 92, leading to which and extending through the thickness of the said portion of the general lever is the recess 93, the width of which is less than the diameter of the depression 92, so as to freely pass over the end of the rod *w*, next inside of its head 86. The outer face of the nose at either side of the said recess 93 is beveled or cam-inclined, as indicated at 95. The upwardly-extended part *D'* of the frame, opposite which the head 85 is located when the bar *L* is swung up, is provided with the cam-surface 97, which, when said bar is swung up, forces the rod *w* endwise. At the time of the depression of one of the key-levers *A* the bar *L* is downwardly swung into the position indicated in Fig. 1. This bar may be positively forced to the lower position by the first

key A as it is operated, or it may be swung by its gravity after the general lever has been returned to its normal position after the preceding operation and before a key-lever is again operated. The said bar L, while lying in the lower position, has the rod *w*, so that the heads 85 86 project outwardly beyond both of its ends. The general lever, being brought to its lowermost position, acts by its cam-surfaces 95 95 to force the head 86 of the rod *w* farther outwardly, permitting the complete downward swing of the lever B until the said rod-head 86 is concentric with relation to the depression 92, when the spring 87 reacts and the rod *w* moves inwardly, being by its head interlocked with the general lever, and of course as the general lever is returned upwardly to place the bar L moves therewith and forces back all of the key-levers which may have been downwardly swung. The bar having moved, effecting the complete replacement of the key-levers, the engagement between the bar and the general lever, whereby the bar may be again swung downwardly independently of the general lever, is broken by reason of the impingement of the cam-surface 97 against the end 85 of the rod *w*, which forces the latter so that its head 86 is forced out of said depression 92 in the general lever, leaving the necked part of the rod next to the head free to pass through the aperture 93.

I do not claim any novelty in the register indicated at C further than its combination with the key-levers A A, substantially as illustrated. The register, so far as this invention is concerned, is a common one, embodying two axis-shafts 100 100, each of which has thereon four register-disks 102 102 with properly-spaced ratchet-teeth 103 at the side of each. A complete rotation of an upper register-disk will impart a slight rotational movement to an adjacent lower disk for the reason that the upper disk has on its hub a dog 104, and the adjacent lower disk has on its bearing the elbow-hub of an angular lever, the arm 105 being extended to be tripped by the dog 104 at each revolution of the latter, and the arm 106 constitutes a carrier for the spring-pressed pawl 107. The spring 108 forces the angular lever 105 106 on which the working pawl 107 is mounted forwardly to effect the slightly-rotational movement of the lower disk after the said pawl-carrying parts have been set back by the tripping-dog 104 to permit the pawl to take a new tooth of the said lower disk.

109 is a pawl-carrying arm hung on the axle-shaft for the upper disk, the pawl 110 being by the spring applied thereupon held in an engagement with the upper disk 102 of the pair. There is a link 112 connected to the pawl-carrying arm and to the part comprising the key-lever and type-segment, all so that whatever extent of movement is imparted to the key-lever to print a larger or smaller figure will be given to the pawl-car-

rier 109, and consequently to the upper disk of the register corresponding to the operated key-lever. The disks have regularly-spaced figures on their peripheries successively rising as the disk is rotated, as plain, and after an upper disk has been completely rotated, so that the extent of its registering capacity is reached, the lower disk operates to indicate multiplications of that capacity.

The register shown has a set of disks for recording the amounts controlled by the key-lever for cents, another for the key-lever for dimes, another for the key-lever for dollars, and the fourth one for the key-lever for tens of dollars. The case at its front has the hinged portion M, which may be let down, and readings from the register may be taken at the opening in the plate *y*, which is properly supported in front of the disks.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In a cash-registering machine, in combination, a register-disk and a pivoted part comprising a type-segment and a key-lever and a medium of connection between the register and the key-lever part, whereby the movement in any extent of the latter will positively impart a corresponding degree of movement to the register-disk, a platen located adjacent and movable against and away from the type-segment, and means for effecting the printing impact between the platen and type-segment, substantially as described.

2. In a cash-register, the combination, with one or more key-levers and corresponding type-segments movable therewith, of a slide having a cam which is movable therewith and a platen having a member thereof which is extended across the course of the cam and means for moving the slide, substantially as described.

3. The combination, with the side uprights D D, having the block K supported between them above their bases, which is provided with the vertical socket or way 25, of the platen supported upon said block and having the pending rod or member 24 passed through said socket with the stud 23, extended laterally from its lower extremity, and the slide E, constrained for a horizontal movement below said block and having the cam-ended arm *i* pivoted thereon, and means for imparting forward and backward movements to the slide, substantially as described.

4. In a cash-register, the combination of one or more key-levers and type-bearing portions movable therewith, of a platen, a feed device for supplying strip material between the platen and the type-bearing portions, a cutter for severing portions of the strip, means for effecting the printing impact of the platen and type-bearing portions, a pusher mounted on the platen and means for moving it to push the printed check along the platen, and a register movable through suitable connections in

unison and in extent corresponding to the movement of the key-lever, substantially as described.

5 In a cash-register, the combination, with one or more key-levers and corresponding type-bearing portions movable therewith and a slide having a cam and means for imparting a reciprocatory movement to the slide, of a platen supported adjacent the said type-bearing portion and having a member which is extended across the course of the cam, and a shear adjacent the platen, a movable member thereof being provided with a rod which is extended across the course of the slide, and paper-supply devices and an operating member therefor, which is extended into engagement with said slide, substantially as described.

6. The combination, with key-levers having type-bearing portions movable in conjunction therewith, of a platen having at one side one or more abutments 21, means for feeding sheet material to constitute the check onto said platen up to the abutment, means for securing the printing impact, and a pusher for forcing the check along the platen in a direction at right angles to its direction of infeed, substantially as described.

7. The combination, with key-levers having type-bearing portions movable in conjunction therewith, of a platen and means for securing the printing impact, delivery-rolls mounted adjacent the platen, a pusher and means for moving it to force the check along the platen to the nipping action of the delivery-rolls, and devices for rotating said rolls, substantially as described.

8. The combination, with key-levers having type-bearing portions movable in conjunction therewith, of a platen and means for securing the printing impact, delivery-rolls mounted adjacent the platen and the one spring-pressed with relation to the other and separable therefrom, a part movable to secure the separation of the rolls for a slight period, a pusher for forcing the check along the platen and between the rolls, and means for then rotating said rolls, substantially as described.

9. In a cash-registering machine, the combination, with the part having the type and a platen movably supported and guided and means for moving the type with relation to the platen for the presentation for printing of the desired character, and a slide having thereon a pivoted member which is provided with a cam-forcing portion which on the forward movement of the slide impinges upon an extension of the platen, forcing same to printing impact, and all so that on the return movement of the slide the pivoted forcing member will pass without action by the part of the platen previously forced thereby, substantially as described.

10. In a cash-registering machine, the combination with the movable type-bearing portions and a platen movably supported and

guided and means for moving the type-bearing portions with relation to the platen for the presentation for printing of the desired character, means for feeding to the platen portions of a continuous supply-strip of sheet material, a stationary cutter-bar and a reciprocating knife coacting therewith at the rear of the platen and normally located lower than the platen-surface, a slide having thereon a pivoted member which is provided with a cam-forcing portion which on the forward movement of the slide successively impinges upon an extension of the platen, forcing same to printing impact, and on an extension of the movable cutter forcing the latter to sever the check portion which is upon the platen, and all so that on the return movement of the slide the pivoted forcing member will pass without action by the parts of the platen and cutter previously forced thereby, substantially as described.

11. In a cash-registering machine, the combination, with frame parts, as D D, and the key-levers and type-segments pivotally supported thereon and the block K, supported on the frame above the bottom of the machine, but under the segments, and having a vertical guideway therein, the platen G, having the pending member 24, movable in said vertical way and provided with a stud 23, the stationary cutter-bar *k*, the slide 27, playing in a vertical way in said support K and having at its bottom the lateral extension 26 and at its upper part the cutter *j*, a slide horizontally movable under said block K and having the pivoted member *i*, with the lateral cam-formed portion 22, and means for securing a reciprocatory movement of the slide, all substantially as described, for the purposes set forth.

12. In a cash-registering machine, the combination, with the key-lever and printing-segment having types "0" to "9," successively, and the casing having the slot *d*, through which the key-lever plays, the arm rearwardly extended from the key-lever and having an abutment portion *c'*, and said key-lever and type-segment being pivotally mounted and standing normally to present a type at its one end in the printing position, a series of eight movable stop-buttons for limiting the movement of the segment for the eight intermediate segment characters, and the end *b'* of said casing-slot being located to constitute the stop for the proper presentation of the last character, substantially as described.

13. In a cash-register, in combination, the key-lever with the type-segment thereon pivotally mounted, a series of movable stops for limiting the key-lever having an extension which is adapted as the lever is positively moved to click over substantially a corrugated surface which is provided near the course of movement of said spring-finger and the finger exercising, while the lever is to remain in its set position, and a spring-retaining bind for the lever, substantially as described.

14. The combination, with a pivotally-

mounted device comprising a key lever or arm and a pivotally-mounted segment with type successively arranged in the course of its swinging movement and a platen adjacent and movable against and away from said type-segment, of a register-disk having a 5 ratcheted portion, a pawl which engages said register-disk ratchet, a pivotally-mounted carrier for said pawl, and a link between the key-lever segment and pawl-carrier, substantially as and for the purposes described. 10

15. In a cash-register, in combination, the support or casing having a series of socket-holes and the key-lever and type-segment 15 pivotally mounted and said lever provided with the spring-finger with a lateral projection, as *f'*, the series of stop-buttons comprising the spindle portions playing through said socket-holes and having enlargements above 20 and below said holes, and the springs 12, all arranged for the operations set forth.

16. In a cash-registering and check-printing machine, the combination, with a register, a series of key-levers and conjoint type-segments 25 pivotally mounted, and a medium of connection secured to each key-lever and also having an engagement with the register for imparting on a movement of a key-lever a corresponding recording action of the register, and a platen movable toward and away 30 from the type-segments, of a slide having a cam thereon which is adapted for an operating impingement upon a member of the platen which is suitably extended relative to the course of said cam and a lever connected to 35 and for operating the slide, substantially as described.

17. In a cash-registering machine, the combination, with the support for a supply roll 40 or strip of paper, a movable type-bearing portion and platen, and means for securing the printing adjustment of the type-bearing portion over the platen, of a pair of feed-in rolls *u u'*, located near the platen, one thereof 45 having therein a ratchet-wheel, a pawl-carrier mounted to oscillate adjacent said ratchet and having the pawl, the slide, and a lever intermediately pivotally mounted and having its one arm connected to said pawl-carrier 50 and its other projected to be rocked in opposite directions on the forward and backward movements of the slide, for the purposes set forth.

18. In a cash-register, the combination, with 55 the type-segment, the platen, the supply-roll support, and the feed-in rolls and operating device for one thereof, which comprises the intermediately-pivoted lever *t*, of the slide having the separated abutments 18 and 19, 60 adapted to alternately engage said lever at separate intervals, in the manner and for the purpose set forth.

19. In a cash-registering and printing machine, the combination, with one or more key-levers, each having a type-segment and a 65 platen adjacent thereto and means for feeding strip material onto the platen and for ef-

fecting the contact of the platen against the type-segment, of a stationary cutter-bar *k*, supported adjacent the rear edge of the platen 70 relative to the direction of infeed of the paper, the movable knife or cutter *j* for coaction with the said cutter-bar *k*, and means for effecting the movement of the movable cutter-bar, all whereby the printed portion of the 75 check while remaining on the platen will be severed from the main strip, substantially as described.

20. In a cash-registering and check-printing machine, the combination, with a movable 80 type-bearing part and an adjacent platen and means for effecting the printing contact between the type and platen, of a pusher supported and guided for movement on the platen, the slide *E*, having a cam-surface, a lever 85 suitably mounted and having one end subject to impingement by said cam-surface and having its other end connected to said pusher, and a lever for operating the said slide *E*, substantially as described. 90

21. In a cash-register, the combination, with a movable type-bearing part and adjacent 95 platen having therein the socket 44, with the shaft 45, and a pusher carried thereon and movable as the shaft is moved over the top of the platen, the slot through the side of the 100 platen leading to said passage and the stud 52, extended through the slot and connected to said shaft 45, the slide *E*, having a cam-surface *n*, the lever *o*, intermediately pivoted 105 and having its one end in connection with the said shaft and its other end extended to be engaged by said slide-cam, and a lever for imparting the movements to the cam-provided slide, substantially as described. 110

22. The combination, with the platen and a pusher supported and guided for movement 115 relative to the platen, the delivery-rolls *p q*, the one thereof mounted upon a spring-pressed and yielding bearing-support which is provided therefor, a slide having the cam or forcing 120 portion and the lever adapted to be engaged thereby and connected to the pusher for securing its movement, and a separator device movable in conjunction with the pusher 125 and adapted to engage and pass out of engagement from said movable roll-support, substantially as described.

23. The combination, with the platen and a 130 reciprocatory pusher, of a pair of delivery-rolls adjacent the platen having on its axis a ratchet-wheel, an oscillating pawl-carrier and pinion loosely mounted on said axis, and a pawl on the carrier in engagement with the teeth of the ratchet, a rack-bar meshing with 135 said pinion and means for imparting thereto forward and backward movements, all whereby the pinion may be thereby turned in one direction without effect to rotate the delivery-roll, but to secure on the reverse rotation of 140 the pinion a delivery rotation of said roll.

24. In a cash-register, the combination, with a movable type-bearing portion and adjacent 145 platen having therein the socket 44 and the

spring 46 and provided with the upper longitudinal slot 48 and the lateral slot 50, of the shaft 45, having thereon the angular pusher *r* and the stud 52, the delivery-rolls at the end 5 of the platen, a socketed guide and a spindle 39, movable therein, and the spring 40, against which said spindle moves, and the spindle having the members 38 38, in which the upper one of said delivery-rolls is supported, the 10 lower roll having fixed on its arbor the ratchet 60 and the loose pinion and pawl-carrier 59 and 62, which latter carries the pawl 64, the separator device mounted on said stud 52 and adapted to operate upon the portion of one 15 of said ear-pieces 38, the rack-bar 57, also supported on said stud and meshing with the pinion, the slide E, having the cam *n*, and the intermediately-pivoted lever *o*, having one end subject to the action of said cam and having 20 its other end connected to the said stud 52, substantially as described.

25 In a cash-register, the combination, with the key-levers and segments pivotally mounted, of the block K, supported below said segments, but above the bottom of the machine and having the vertical way 25, and another vertical way and a horizontal way 58, and the ear-pieces 37, the platen having a pending number movably guided in said way 25, and 30 the cutter-slide with the knife *j*, which slide is movably guided in said second-named vertical way, one of the pair of delivery-rolls supported in said ear-pieces 37, and located at the end of the platen and a rack-bar guided 35 for movement in the said horizontal way in said block, and adapted to have a co-operative action with appliances on one of the said delivery-rolls, and the cam-slide for imparting vertical movements to the platen and cutter 40 and through suitable medium of connection which is provided to secure the move-

ment of the said rack-bar, substantially as described.

26. In a cash-register, the combination, with the series of key-levers, of a bar and supporting-arms therefor which are pivotally mounted 45 and said bar being normally free to be swung in a direction corresponding to and in advance of the key-levers, and a general lever pivotally mounted and adapted to be 50 swung down to the lower position of said bar and said bar and general lever being constructed for an interlocking engagement the one with the other, and means for effecting 55 the disengagement of the general lever and bar on the replacement of the parts, substantially as described.

27. In a cash-register, the combination, with the series of key-levers, of the bar L and one or more supporting-arms pivotally mounted 60 and said bar having a longitudinal opening or passage with the rod *w*, axially movable therein, and having at one end the head 86, and the spring for normally maintaining the rod with said head toward its end and for se- 65 curing normally the projection of the other end of the rod beyond the proximate end of the bar, the general lever pivotally mounted and having the depression 92 within its side 70 and the contracted recess through the thickness of the lever and leading from its edge to said depression and having the members of the lever at either side of said recess cam-inclined, and the cam 97 for forcing the rod 75 endwise against the spring through the bar as the latter is swung into its uppermost position, substantially as described.

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