

Nov. 8, 1927.

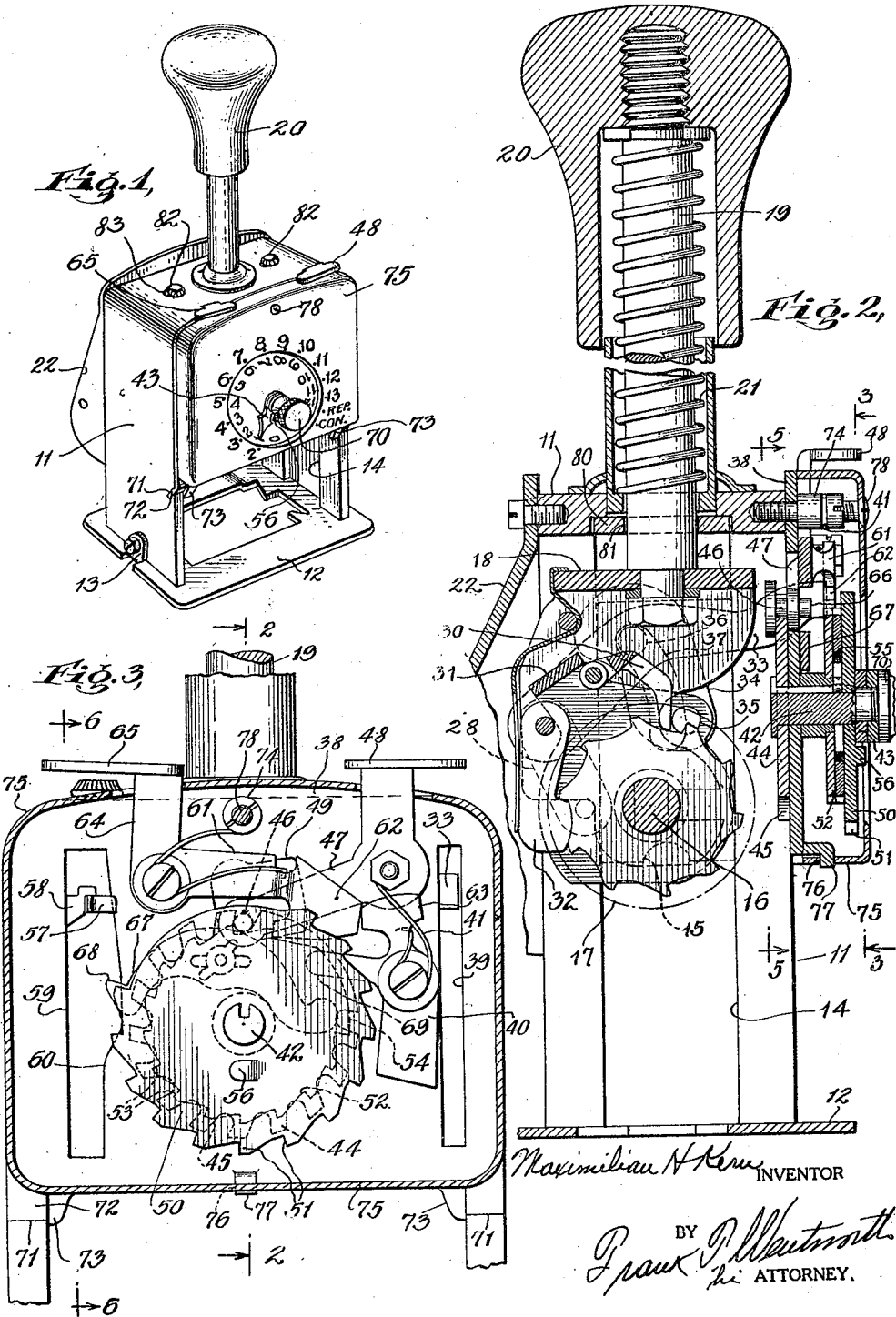
1,648,276

M. H. KERN

NUMBERING MACHINE

Filed Oct. 27. 1925

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

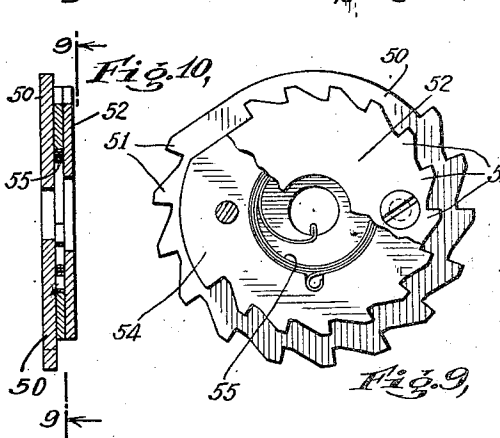
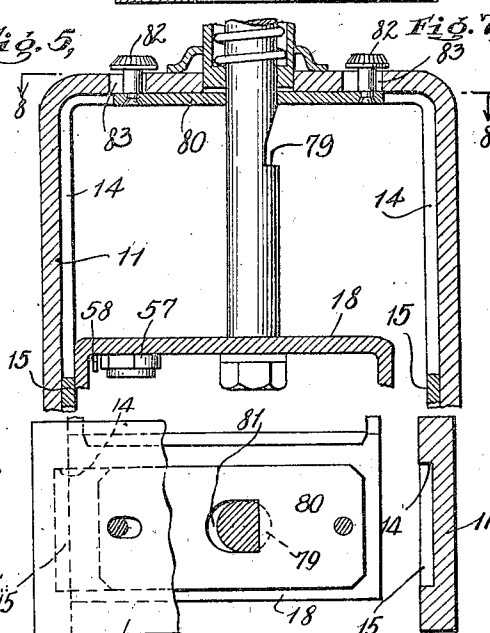
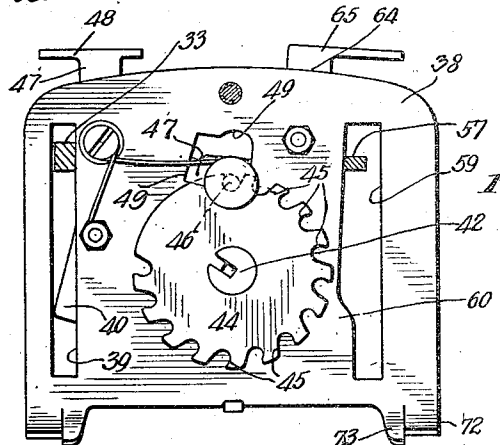
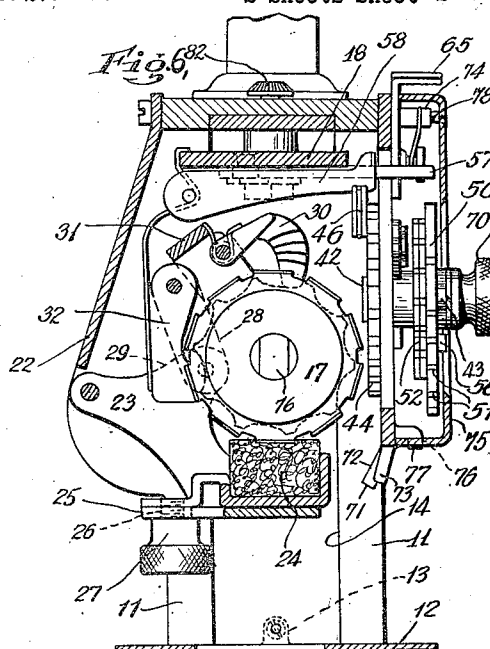
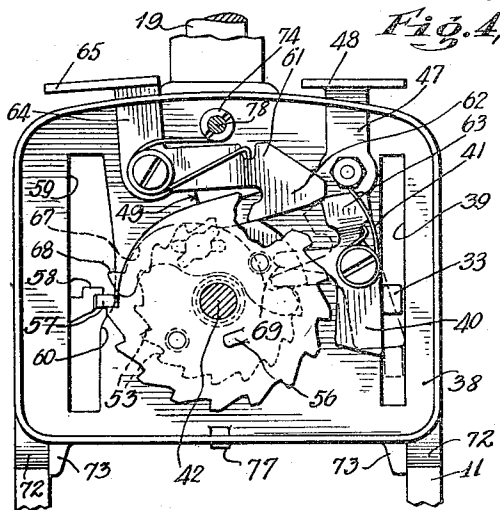


Fig. 8, INVENTOR
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Patented Nov. 8, 1927.

1,648,276

UNITED STATES PATENT OFFICE.

MAXIMILIAN H. KERN, OF RIDGEWOOD, NEW YORK, ASSIGNOR TO ROBERTS NUMBERING MACHINE COMPANY, A CORPORATION OF NEW YORK.

NUMBERING MACHINE.

Application filed October 27, 1925. Serial No. 65,084.

My invention relates to numbering machines, and more particularly to a hand operated machine of this type provided with a setting mechanism by which mechanisms operative to progressively and successively actuate the several digit wheels may be caused to function after the making of each impression by the machine, may be made totally inoperative, or may be caused to function at certain predetermined intervals so that in succeeding impressions the same number will be repeated any desired number of times before the digit wheel actuating mechanism functions to progressively actuate said wheels.

Machines of the general type to which my invention relates, are old and well known in this art, the invention relating more particularly to a numbering machine embodying a setting mechanism for controlling or determining the operative intervals of the digit wheel actuating means, the parts of which mechanism are so constructed and arranged as to not only permit the assembling of this mechanism in its entirety in a narrow space, but to permit a convenient and accurate setting of this mechanism.

The setting mechanism, and the parts of the digit wheel actuating mechanism co-operating therewith, may be made of materials, have dimensions, and be combined, so as to not only ensure absolute reliability in the operation of the machine for any cycle of operations for which it is set, but to preclude possibility of a disarrangement of parts and a variation in the operative effect of the parts due to wear.

In a numbering machine embodying the invention, the construction and arrangement of parts is such that the adjustable member by which the functioning of the machine through other parts of the setting mechanism, is controlled, remains in a fixed position, so that the user may, at any time, determine exactly what the setting of the machine is.

This construction also permits the use of a member movable with each actuation of the numbering machine in relation to the adjustable setting member, which member has indices thereon indicating the number of impressions which have been made during any particular cycle of operations for which the setting mechanism is adjusted. Said adjustable setting member is provided

with a releasable locking device preventing any possible accidental movement of said member when it is once set, but permitting a quick re-setting thereof. This locking device when released, permits the setting member to move freely in either direction in setting the machine, and is co-ordinated with a detent mechanism forming a part of the mechanism for causing the actuation of the numbering head in the exact cycles for which it is set, in a manner to cause this detent to be released simultaneously with the release of the locking device, to permit the free actuation of the setting member, and the positioning of the parts to ensure the full number of impressions in the initial cycle for which the machine is set.

A numbering machine embodying the invention is so constructed that the setting device may, at will, be returned to the initial position for any cycle, thus permitting an increase in the number of impressions which may be made of a given number, or a re-starting of a cycle anew. In this manner the machine is adapted to a wide range of working conditions.

In a numbering machine of the invention, it is essential to embody in the setting mechanism, a spring for restoring the parts of this mechanism which determine the number of impressions to be made in each cycle, to their initial positions after the completion of each cycle, my invention contemplating a construction and arrangement of parts whereby, irrespective of the adjustment of the setting mechanism the tension of this spring will be the same with the beginning of each cycle of operations.

This construction and arrangement of parts contributes toward the conditions in the machine above referred to, permitting the unlimited turning of the setting member in either direction, avoids possibility of the breaking of this spring, facilitates the assembling of the device, and permits the use of a very light spring.

I also preferably provide in a device embodying the invention, a simple locking mechanism by which the digit wheels may be brought and maintained in a position to facilitate the hand setting of the various wheels, which mechanism may also be used when readjusting the setting mechanism when it is desired to change the number of impressions in a cycle of operations of the

machine, and at the same time ensure the progressive actuation of the digit wheels through the automatic mechanisms of the machine preparatory to the succeeding cycle of operations.

The machine embodies various other details of construction for ensuring the desired compactness of the various mechanisms in the machine, and the desired accuracy in the operations of the machine as determined by the adjustment of the setting mechanism, all of which will be more particularly referred to hereinafter.

The invention consists primarily in a numbering machine embodying therein in combination with reciprocatory means, a sequence of digit wheels carried thereby, digit wheel actuating means, and an inking mechanism co-operating with said digit wheels, of a member movable with and operative upon said digit wheels actuating means, actuating means adapted to be brought into or out of the operative relation to said member, and a setting mechanism whereby the operative or inoperative intervals of said actuating means upon said member may be predetermined; and in such other novel features of construction and combination of parts as are hereinafter set forth and described, and more particularly pointed out in the claims hereto appended.

Referring to the drawings,

Fig. 1 is a view in perspective of a numbering machine embodying my invention;

Fig. 2 is a vertical cross sectional view upon an enlarged scale with portions thereof broken away to illustrate the digit wheel actuating mechanism;

Fig. 3 is a front view of the setting mechanism with the cover plate removed, the parts of the digit wheel actuating mechanism being shown in one of their positions;

Fig. 4 is a similar view with said parts in another position;

Fig. 5 is a rear view of the setting mechanism showing the locking device;

Fig. 6 is a view similar to Fig. 2 illustrating the actuating means for the setting mechanism;

Fig. 7 is a vertical section through the actuating plunger and its lock;

Fig. 8 is a plan view of the mechanism shown in Fig. 7;

Fig. 9 is a view of the control plate of the setting mechanism on the line 9—9 of Fig. 10; and

Fig. 10 is a section of the plate shown in Fig. 9.

Like numerals refer to like parts throughout the several views.

In the embodiment of the invention shown, I employ a U-shaped frame 11, the bottom of which is closed by a supporting base 12 having side lugs 13 between which the side bars at the open end of the frame

11 are sprung and confined, these parts being secured together by means of screws, or otherwise, to facilitate the assembling of the machine. The opposite sides of the frame 11 are milled out to form parallel vertically extending ways 14. Mounted in said ways 14 respectively are slides 15 carried between which is a shaft 16 having a sequence of independently rotatable digit wheels 17 mounted thereon, each of which wheels is of the usual, or any desired construction, to permit the progressive actuation of the units digit wheel and the actuation of other digit wheels successively according to the progressive actuation of the digit wheels of lower denomination.

The slides 15, shaft 16 and digit wheels 17 are brought into the printing position by movement toward the base 12 through the medium of a yoke 18 provided with sockets straddling the shaft 16 and having secured thereto an actuating stem 19 slidably mounted in the top of the frame 11 and carrying a handhold 20. A spring 21 of the usual construction is provided for imparting a return movement to the yoke and the parts actuated thereby, and for furnishing the power applied to the digit wheel actuating mechanism and the inking mechanism.

Carried rearwardly of the frame 11 is a housing 22 in which is pivotally mounted an oscillatory frame 23 carrying a metallic channel containing an inking pad 24 which is removably supported by said frame by means of an extension 25 having an open slot therein adapted to receive a screw-threaded stem 26 carried by an extension upon the metallic channel of the ink pad, a jamb nut 27 being used for securing the pad in position as determined by the extension 25 upon said frame. This construction permits the convenient removal of the pad for re-inking purposes.

The frame 23 is actuated by means of a link 28 connecting an extension 29 upon said frame, with the yoke 18.

In the embodiment of the invention shown, I have illustrated an actuating mechanism for the various digit wheels, consisting of the usual comb pawl 30 pivotally mounted upon a swing frame 31 pivoted upon the shaft 16, the comb pawl being spring pressed toward the co-operating ratchet wheels upon the various digit wheels, which latter are recessed at predetermined points in the usual manner to control the engagement of the teeth of the comb pawl with wheels of a denomination above the units wheel to affect the transfer operation necessary in the operation of the machine. This mechanism is one commonly and extensively used in numbering heads because of its compactness, but it is apparent that if desired other forms of transfer mechanisms may be used.

Operative upon the various digit wheels are the usual detent pawls 32.

Heretofore in numbering machines in which a setting mechanism has been used for the purpose of changing or determining the cycle of operations of the machine, the usual practice has been to provide a mechanism by which the swing frame 31 will be actuated with each reciprocation of the digit wheels, the character of the cycle of operations being determined by mechanisms which will cause the engagement of the comb pawl 30 with, or its disengagement from, the digit wheels according to whether it is desired to actuate these digit wheels or not.

In the machine of my present invention, the comb pawl always has the same operative relation to the digit wheels, the swing frame carrying the pawl being acted upon by a member through which movement may be imparted to that frame, which member, however, is acted upon by actuating means as determined by a setting mechanism, to control the operation of the machine during any cycle. Hence there is no movement of the swing frame and the pawl carried thereby excepting following the completion of each cycle of operations and preparatory to the succeeding cycle. The swing frame and pawl at all times, excepting when it is desired to progressively actuate the digit wheels, has merely a reciprocatory movement with the shaft 16 and the digit wheels. This condition ensures great reliability in the functioning of the machine.

The actuating mechanism for the swing frame 31 consists of a lever 33 pivoted to the yoke 18 and projecting beyond the frame 11, this lever being connected by a link 34 with a crank 35 upon the swing frame 31. Said lever is provided with a guide pin 36 having movement in an arcuate guide slot 37 in an adjacent slide 15.

The upper portion of one face of the frame 11 is closed by a plate 38 having a slot 39 therethrough approximating in length the length of movement of the yoke 18. Pivoted to said plate 38 in a position where it may be projected across the slot 39 is a pawl 40 which constitutes an actuating means operative upon the member or lever 33, through which the swing frame 31 is actuated, when it is necessary to turn the digit wheel or digit wheels preparatory to the initiation of any cycle of operations of the machine.

The lever 33 projects through the slot 39 to an extent to permit the desired pivotal movement of this lever without disengaging it from the pawl 40.

The pawl 40 is acted upon by a spring 41 having a normal tendency to project it across the slot 39, under which condition the lever 33 will be actuated during each reciprocation of the yoke 18, said lever upon

the downward movement of the yoke moving said pawl against the tension of the spring, and said lever 33 being continuously engaged by said pawl so as to cause the oscillation of said lever with each full reciprocatory movement of the yoke 18, and the swing frame 31 to be actuated in a manner to cause the pawls of the comb pawl to ride over the ratchet wheels upon the digit wheels with which they respectively co-operate, during the downward stroke of the yoke, and their movement with said ratchet wheels during the following upward movement with the resultant advancement of a digit wheel or wheels.

This is the normal cycle of numbering machines resulting in consecutive numbering.

In connection with the pawl 40, I provide a setting mechanism by which said pawl 40 is permitted to remain in a position projected across the slot 39, or is continuously held so that it cannot project across said slot, thus preventing any actuation of the digit wheels upon an indefinite number of succeeding reciprocations of said yoke 18; or is held so that it cannot project across said slot during a definite number of actuations of said yoke and is then permitted to project across the slot upon the succeeding reciprocation of the yoke, so as to permit a definite number of repetitions of the same number as determined by the setting mechanism, and then be followed by an actuation of the digit wheels preparatory to a repetition of the same cycle of operations.

The construction of the setting mechanism is such that within limitations defined by the particular design of the setting mechanism, the number of impressions in each repeat or each cycle of operations when the machine is set to make a definite number of impressions of the same number and then change the setting of the digit wheels, may be quickly varied.

The setting mechanism considered broadly includes an adjustable stop member which is acted upon by a releasable locking mechanism for permitting adjustment of the stop member and maintaining it in any adjusted position, and a controlling disk, movable with said stop member in setting the machine and movable in relation thereto during that part of the cycle of operations when repeated impressions of the same number are being made, said controlling disk being actuated during the downward movement of the yoke 18, or with each impression made. Actuated by the controlling disk is a member adapted to control the positioning of the pawl 40 with relation to the slot 39, and to hold the controlling disk after each actuation thereof, excepting the last one of each cycle. When the digit wheels are actuated with each reciprocation of the yoke 18, or are not so actuated as to cause the same

number to be repeated an indefinite number of times, said controlling disk will have no movement.

I also provide in this mechanism, means
5 for imparting movement to the pawl 40 whereby with the downward movement of the yoke 18, it will receive movement so as to permit the member for controlling its operation, to move into or out of the operative
10 relation thereto.

Co-operating with the stop member of the setting mechanism is a fixed dial having indices thereon which will indicate the setting of the machine. The controlling disk is also
15 provided with indices which in conjunction with said stop member will indicate the progress of any cycle of operations for which the machine is set. I also provide manually operative means by which the controlling disk may be restored to its initial
20 position for any cycle of operations thereof, and a manually operative release mechanism for the locking mechanism which will permit the setting of the adjustable stop member and at the same time permit the return
25 of the controlling disk to the initial position above referred to, so as to ensure the full number of impressions during every cycle of operations for which the machine
30 may be set through said adjustable member.

Rotatably mounted in the plate 38 is a spindle 42 having secured thereto a stop member in the form of a dial finger 43. Carried by this spindle is a disk 44 having
35 a sequence of teeth 45 about same, engageable by a pin 46 carried by a spring pressed bell crank lever 47 having a head 48 projecting above the frame 11. The pin 46 projects through an opening 49 in the plate
40 38, the bell crank lever 47 being upon the face of said plate opposite to that adjacent which the disk 44 is positioned. The lever 47 is pivoted upon said plate 38.

Idly mounted upon the spindle 42 is a
45 controlling disk which, in a composite structure, embodies a disk 50 having a sequence of ratchet teeth 51 through which rotary movement is imparted to said disk, and carrying
50 a second disk 52 having a sequence of short ratchet teeth 53, by means of which the desired continued step by step movement of this disk is ensured, and a cam 54 operative upon other mechanisms for controlling
55 the functioning of the pawl 40 and ensuring the return movement of the controlling disk upon the completion of each cycle of the cycle of operations for which the machine is set.

The disk 52 is formed in two sections, one
60 of which has a central circular opening therein for a helical spring 55, one end of which spring is connected to said disk 52, and the other end of which is seated in a key-way in the spindle 42. The other section of this disk has an opening of reduced

diameter therein, so as to close this chamber while permitting the mounting of the disk upon the spindle 42.

The disk 50 has formed thereon an outwardly extending stop 56 adapted to engage
70 the stop member 43. I also provide on the exposed face of said disk 50 indices such as digits positioned adjacent the ratchet teeth upon said disk respectively, and so positioned in relation to said stop 56 as to indicate, at
75 any time, the quantity of movement the stop 56 has had with relation to the stop member 43.

In the form of the invention shown, these indices run from 0 to 13, the 0 being located
80 adjacent the stop 56 and thus indicating the initial position of parts for each cycle of operations.

Mounted upon a vertical pivot carried by the frame 18 is a laterally oscillatory pawl
85 57 acted upon by a spring 58, this pawl projecting through a cam slot 59 in the plate 38, across which slot the ratchet teeth 51, during the operation of the machine, successively project. The riser in this cam slot
90 is shown at 60, and is so positioned as to positively disengage said pawl from any tooth 51, and thus prevent overrunning of the disk 50 and the other parts carried thereby, with any downward movement of the
95 yoke 18.

No teeth 51 are provided throughout a portion of the periphery of the disk 50 so as to permit the setting of this disk in a position where no movement is imparted to the
100 disk, as when the machine is set for an indefinite repetition of the same number, or a consecutive actuation of the digit wheel.

Also pivoted upon the plate 38 is a spring pressed pawl 61 in engaging relation with
105 the teeth 53 and the cam 54 upon the disk 52. This pawl 61 is provided with an extension 62 permitting the pawl to pass into engaging relation with an arm 63 upon the pawl 40 when said pawl 61 is in engaging
110 relation with any tooth 53, and to pass from such engaging relation with said arm 63 when said pawl 61 is moved upwardly by the cam 54. It will be noted that the position of this cam 54 is such that it will ac-
115 tuate the pawl 61 while the portion of the disk 50 having no teeth therein is adjacent the slot 59.

The pawl 61 is provided with a crank 64 having a head 65, by means of which the
120 pawl may be manually actuated to cause the controlling disk to return to its initial position at any time during a cycle.

This pawl 61 is also engaged by an extension 66 upon the pin 46, so that with the
125 actuation of the manually operative release, or the locking mechanism, said pawl 61 will be moved out of engagement with the teeth 53 so as to permit the controlling disk to return until the stop 56 engages the stop mem-
130

ber 43, thus ensuring a full cycle of operations immediately following the resetting of the machine.

To ensure the engagement and disengagement of the member 61 with the pawl 40, I provide means actuated by the pawl 57 or equivalent means carried by the yoke 18, which will with each down stroke of said yoke impart a quick oscillatory movement to the pawl 40. This actuating means is so positioned, however, that it will complete its movement well before the yoke has completed its downward movement, so that its function is not to control the position of the pawl 40 but to actuate said pawl so that the member 61 can control the positioning of the pawl 40 in the manner above referred to.

When the extension 62 of the member 61 is in engaging relation with the arm 62 of the pawl 40, there will be no appreciable movement of said pawl by said means, but when said parts are disengaged one from the other, there will be sufficient movement of the pawl 40 to so position it as to permit the engagement of these parts as determined by the position of the controlling disk.

The mechanism above described comprises a rocking lever 67, one arm of which is provided with a tooth 68, and the other arm of which is in engageable relation with a spur 69 upon the pawl 40. (See Fig. 4.) This lever is pivotally mounted upon the plate 38. The tooth 68 normally projects across the cam slot 59 in the path of movement of the pawl 57.

The spindle 42 has screw-threaded thereon a knurled operating handle 70 by means of which the stop member or dial finger 43 may be turned freely in either direction when the locking mechanism is released.

It will be observed that the construction of all parts of the setting mechanism is such that they may be readily formed of sheet metal, and all of these parts are mounted upon, or formed in, the plate 38 so that this mechanism in its completely assembled position may be secured to or removed from the frame 11. To simplify assembly of the numbering machine, I provide the sides of the frame 11 with oblique slots as 71 and form upon the plate 38, oblique tongues 72 having a close fit with said slots 71, and guide tongues 73 adapted to engage the inner face of the sides of the frame 11 for ensuring accuracy in the positioning of the plate. By this construction the plate 38 is secured in position by means of a single screw 74.

The plate 38 has secured thereto a dial housing 75 having a circular opening therein sufficient to expose the portion of the disk 50 having the digits or other indices thereon, and the stop member or dial finger 43. This opening is circular and has grouped about it indices or digits and legends by which the setting of the member 43 may be gauged,

these indices as shown more particularly in Fig. 1 running from 2 to 13, and the legends being "Rep." indicating repeat, and "Con." indicating consecutive. These indices are so located upon said housing dial that when the dial finger or stop member 43 is positioned in accordance with any of same, the stop 56 upon the disk 50 will engage said stop member at a point to so position said disk as to cause the functioning of the machine in accordance with the position in which said stop member 43 is set.

For convenience in manufacturing and assembly of the numbering machine, the dial housing 75 is cupped as shown, and in the lower rim thereof an opening 76 is formed which passes over a downwardly extending tongue 77 formed upon the plate 38. A single screw 78 is used to secure this housing 75 in position, this screw co-operating with screw threads formed in the screw 74 for securing the plate 38 in position.

To facilitate the hand setting of the digit wheels, and when desired, to ensure the actuation of the comb pawl after the re-setting of the stop member 43, I provide means operative to hold the yoke 18 and the parts carried thereby in a position adjacent the base 12. This means comprises a single ratchet tooth formed in the stem 19 at a point sufficiently remote from the top of the yoke 18, so that when a suitable lock plate engages this ratchet tooth, the digit wheels will be in the desired position with relation to said base 12. The single ratchet tooth in the stem 19 is indicated at 79, and the co-operating lock plate at 80, this plate having an opening 81 therethrough, one end of which opening is rounded, and the other end of which is squared as shown, to permit the free sliding movement of the plate in engaging it with, or disengaging it from, the ratchet tooth 79.

The plate 80 is mounted by means of studs 82 passing through elongated slots 83 in the top of the frame 11, permitting the necessary sliding movement of the plate for engagement with, or disengagement from the tooth 79.

The operation of the herein described numbering machine is substantially as follows:—

The following description will include the setting of the machine for consecutive numbering requiring the actuation of the comb pawl with each full reciprocation of the yoke 18; the setting of the machine for an indefinite repetition of the same number, or a continued inoperativeness of the comb pawl during succeeding reciprocations of the yoke, and two different settings of the machine by which the comb pawl remains inoperative for one or a predetermined greater number of full reciprocations of the yoke, and is then made operative upon the succeeding full re-

reciprocation thereof so as to progressively actuate the digit wheels at the completion of each cycle of operations for which the machine is set. In the final position, the machine as described may be set so that the comb pawl will be inoperative during one full reciprocation only of the yoke, or for twelve full reciprocations thereof, or for any number of reciprocations between one and twelve.

Numbering machines of the type to which the invention relates are actuated by positioning the base 12 in proper relation to the material to be numbered, then forcing the yoke 18 and the various parts carried thereby downwardly against the tension of the spring 21 by means of the stem 19 and the handhold 20. During the downward stroke of the yoke, the frame 23 which is pivoted in the housing 22 is moved in an arc so as to disengage the inking pad 24 from a line of printing characters on the various digit wheels, and move the frame and the pad in its entirety to one side of the path of movement of the yoke and the parts carried thereby, so as to permit the impression of a number at the conclusion of this down stroke. After the making of an impression, pressure upon the handle is relieved, permitting the spring 21 to reverse these operations and restore the parts to their normal inoperative positions with the yoke 18 in its uppermost position. This general mode of operation is old and well known in the numbering machine art, the mechanisms of my present invention embodying therein a novel mechanism for actuation, and controlling the actuation of, the digit wheels and certain details of other mechanisms in the machine.

In assembling the machine the controlling disk 50 to 56 is idly mounted upon the spindle 42, the inner end of the helical spring 55 being inserted in the keyway in said spindle. Said controlling disk is then turned sufficiently to give the desired tension to said spring before the stop member or dial finger 43 is secured to said spindle in a position to engage the stop 56 upon the disk 50. It will be noted that when the parts are thus assembled, the actuation of said stop member or dial finger and the spindle 42 carrying same will not in any way modify the tension of this spring. As, however, the said disks are actuated during the succeeding operations of any cycle, the tension of the spring will naturally be slightly increased. With this construction, however, breakage of the spring through overtensioning by the user, or such a loss in the tension as would result in a failure of the setting mechanism to properly function, is impossible.

Considering first the setting of the machine for making impressions of consecutive numbers, when this condition is desired, the

user imparts an oscillatory movement to the bell crank lever 47 by pressure applied to the head 48. This movement of the lever will disengage the stud 46 from a tooth in the disk 44, the extension 66 of this lever at the same time engaging and raising the member 61 so as to disengage it from any tooth 53. While this relation of parts is maintained, the user merely turns the spindle 42 and with it the locking disk 44, and the stop member or dial finger 43, until this finger indicates, upon the housing 75, the legend "Con." If it is required to reset the digit wheels to bring the wheels into a position to impress the desired number before thus actuating the lever 47, the user may depress the handle 20 to an extent so that by tilting the machine to the left laterally, Fig. 1, the lock plate 80 will automatically slide so as to engage the squared portion of the opening 81 therethrough with the tooth 79. When resetting the digit wheels, care should be taken to set the units wheel one number below that which it is desired to first print, since if the yoke 18 is further depressed, the pawl 40 will through the lever 33 impart one actuation to the comb pawl 30 during the up stroke of the yoke 18 necessary to an inking of the digit wheels and prior to the making of the first impression with the new setting. However, if the user exercises care, and does not so depress the yoke 18, but depresses it merely enough to permit the lock plate 80 to be restored to its normally inoperative position to the stem 19 without bringing said lever 33 below the pawl 40, then the digit wheels may be so set as to show the actual number.

As the spindle 42 is thus turned, the spring 55 will cause the controlling disk to follow the stop member or dial finger 43 with the stop 56 thereon in engagement with said dial finger. As said stop member or dial finger is brought to rest opposite the legend "Con." the last tooth 45 of the locking disk 44, lower left of Fig. 5, will be in a position to receive the stud 46 upon said bell crank lever 47 and thus lock the spindle and the stop member or dial finger 43 in this position. As the controlling disk 50 is brought to the position determined by the setting of the stop member or dial finger 43, the cutout portion of this disk will be presented toward the slot 59 so that the pawl 57 in its vertical reciprocations will engage none of the teeth 51 upon said disk. Hence the reciprocation of the yoke 18 will have no operative effect upon said disk.

When the cutaway portion of the disk 50 is in the position described, the riser 54 upon the disk 52 carried by and rotatable with the disk 50, will be in engaging relation with the member 61 so that upon the return or locking movement of the bell crank lever 47, the said extension 62 of said mem-

ber 61 will be held out of engaging relation with the arm 63 upon the pawl 40 and said pawl will be projected, by its spring 41, across the slot 39 and will have a tendency to remain in this position. Said pawl 57, however, during each downward movement, will engage the tooth 68 upon the lever 67 and through said lever give a quick oscillatory movement to the pawl 40 moving it from its position projected across the slot 39 but permitting it to immediately resume this position.

While said pawl 40 is thus receiving movement inwardly of the plate 38 and away from the slot 39, the lever 33 will be passing said pawl during the first movement only, however, after the setting of the control disk 50.

With the completion of the first downward printing stroke of the digit wheels with the yoke 18, the lever 33 will pass to below, and be retained at this point by the pawl 40 and upon the return or upward stroke of said digit wheels and yoke, this retention of the lever 33 will impart an oscillatory movement thereto and through the link 34 will impart an oscillatory movement to the swing frame 31 and to the comb pawl 30 which will impart a one-tenth revolution to the units digit wheel and also to wheels of higher denomination if the position of the various digit wheels is such as to require a transfer operation. Upon the succeeding down stroke of the yoke 18, the lever 33 will be rocked in the opposite direction, and will thus impart a return movement to the swing frame 31 and to the comb pawl. By this action, which is the same in all settings of the machine when the turning of the digit wheels is required, the digit wheels are always actuated following the making of an impression, the parts of the digit wheel actuating mechanism being restored to their former positions preparatory to the next actuation of the wheels upon some future down stroke of the yoke 18.

When the machine is set for consecutive numbering, the lever 33 will be under constant restraint by the pawl 40, the down movement of the yoke 18 causing an upward movement of said lever 33 and the up movement of said yoke 18 causing a downward pivotal movement of said lever, which result is secured by the movement of the point of pivotal support of the lever with relation to the pawl 40, and is hence a merely relative movement.

When it is desired to make an indefinite number of impressions of the same number, the lever 47 is actuated in the manner above described, and when the member 61 has been raised, and the locking disk 44 released in the manner described, the spindle 42 and stop member or dial finger 43 are turned to

indicate the legend "Rep." With the raising of said member 61, the pawl 40 will be projected across the slot 39 unless it is already so projected by a previous setting of the machine for consecutive numbering, in which case, of course, the oscillations of the lever 47 will impart no movement to the member 61, which is already held in its uppermost position, or in a position in which the extension 62 is inoperative to prevent this projection of the pawl 40.

Under the foregoing condition the next upward movement of the yoke 18 will result in a progressive advancement of the digit wheels, thus requiring the precautions as to the hand-settings of the digit wheels, above referred to.

This setting of the stop member or dial finger 43 will result in the positioning of the disk 50 with the cutout portion thereof presented towards the slot 59 with the effect, as when the machine is set for consecutive numbering, that subsequent reciprocations of said yoke will not result in the pawl 57 having any turning action upon the controlling disk 50, or the disk 52 carried thereby. The disk 52 will be so positioned, however, that when the member 61 is permitted to drop into engaging relation therewith, it will engage the ratchet tooth following the riser 54, (considered from a contra-clockwise movement of the disk), this positioning of parts, however, being merely for the purpose of permitting the member 61 to descend so that the extension 62 thereof passes in the path of movement of the arm 63 of the pawl 40 when, upon the down stroke of the yoke 18, the pawl 57 by engagement with the tooth 68 rocks the lever 67 and through the spur 69 oscillates said pawl 40 in a manner to permit the member 61 to thus drop, or be pushed by its spring.

When the parts are in this position, the slot 39 is unobstructed, so that after the first down stroke of the yoke following the above change in the setting of the setting mechanism, during which down stroke the lever 33 will be so actuated as to restore the swing frame 31 and its pawl 30 to a position preparatory to an actuation of the digit wheels, any number of reciprocations may be imparted to said yoke without having any operative effect upon the controlling disk 50—52, upon the lever 33, or upon the swing frame 31. Hence any desired number of impressions with the digit wheels in the same position, may be made.

When setting the machine for a limited or definite repetition of the same number upon succeeding actuations of the machine, followed by an actuation of the digit wheels, the bell crank lever 47 is actuated as heretofore described for disengaging the stud 46 from the locking disk 44, and if the position

of parts is such as to require the disengagement of the pawl 61 from some ratchet tooth 53 of the disk 52, to raise said pawl. The automatically acting locking plate 80 may be used as heretofore described, although in making any setting of the machine, the depression of the yoke 18 is not necessary.

It is to be observed that the raising of the member or pawl 61 is always accompanied by a movement of the pawl 40 in a manner to project it across the slot 39, and by a release of the controlling disks 50 and 52 from all restraint from this pawl, so as to permit the spring 55 to rotate said disks in a manner to engage the stop 56 with the stop member or dial finger 43. This movement of said disk will always bring the zero index upon the disk 50 adjacent the stop member or dial finger 43.

Assuming that it is desired to set the machine for an impression of the same numbers in duplicate, when the lever 47 has been actuated to release the locking mechanism, the spindle 42 is turned, in either direction, until the stop member or index finger 43 is opposite the index numeral 2 upon the housing 75.

In the construction shown, if the movement of the spindle 42 is contra-clockwise, said finger will, through the stop 56, impart a corresponding movement to the controlling disks 50 and 52, while if the movement of the spindle is clockwise, said disks will be moved through the spring 55 to the same extent as the spindle 42 is moved. It will be noted that while the disks 50 and 52 are idly mounted upon said spindle, the spring 55 affords means whereby said disk is caused to have movement simultaneously with said spindle in setting the machine, but is capable of movement independently thereof when determining the number of impressions, in each following cycle of operations.

The above movement of the stop member or dial finger 43 will bring the controlling disks 50 and 52 in a position where the second tooth 51 in advance of the cutout portion of the disk 50 will be projected across the cam slot 59 in the path of movement of the pawl 57, slightly above the rise 60 in said cam slot, and in substantial alinement with the tooth 68 of the lever 67. At the same time the second tooth 53 in advance of the cam or elongated tooth 54 will be brought below the pawl or member 61, so that said pawl or member is permitted to drop into engagement with the tooth following this second tooth when with a contra-clockwise movement of the disk upon the first following downward movement of the yoke 18 for imparting to said disk its first step of movement during its cycle of operations, the lever 67 actuates the pawl 40 to permit the pawl 61 to thus drop. Prior to the initial actuation of the cycle for which the machine is

set as described, the position of parts will therefore be as follows:—

The second tooth 51 in advance of the cutout portion of the disk 50, with a contra-clockwise movement of said disk, will be in substantial alinement with the tooth 68 and in a position to be engaged by the pawl 57, and the member or pawl 61 will be held out of engagement with the disk 52 by the pawl 40 above the second tooth 53 upon the disk 52 preparatory to engaging the first tooth of said disk during the first part of the downward movement of the yoke 18. If the lever 33 be in its lowermost position below the pawl 40, this downward movement will cause the restoration of the comb pawl 30 to a position where, upon the next engagement of said lever with said pawl 40, a digit wheel or wheels will be actuated as required by the progressive actuation of said wheels.

With the first down stroke of the yoke 18 with the setting of the machine as described, the pawl 57 will substantially simultaneously engage the tooth 68 and the second tooth 51 in advance of the cutout portion of the disk 50, and impart a downward oscillation to the lever 67 and at the same time impart a contra-clockwise movement to the disks 50 and 52 to the extent of one tooth only. As the lever 67 is oscillated, the pawl 40 through the spur 69 will be oscillated to bring it, in its entirety, at one side of the slot 39, and to move its arm 63 out of engaging relation with the extension 62 upon the pawl 61 and permit said pawl to drop into engaging relation with the tooth upon the disk 52 so that upon the completion of the movement of said disk by the pawl 57, it will engage the first tooth in advance of the cam or elongated tooth 54, and hold the disks 50 and 52 in the position to which they have been advanced by the pawl 57. This position of the pawl 61 will hold the pawl 40 in its retracted position so that upon the succeeding up stroke following the making of an impression, the lever 33 will merely ascend in the slot 39, and receive no movement which will result in the actuation of the swing frame 31. Upon the second down stroke, the pawl 57 will engage the succeeding tooth 51 or the tooth between the tooth first engaged and the cutout portion of the disk 50, and impart the same quantity of rotative movement to the disks 50 and 52 as during the preceding down stroke, and will at the same time actuate the lever 67 without, however, having any operative effect upon the pawl 40 when the machine is set as described. The movement of the disk 52, however, with the disk 50 will cause the cam or elongated tooth 54 to raise the member or pawl 61, thus permitting a free clockwise return movement of the disks under the control of the spring 55 until the stop 56 engages the stop member or dial

finger 43, thus restoring all of the parts to their initial position during the cycle of operations which in the instance given includes two printing strokes of the yoke 18 and of the parts carried thereby.

As the member or pawl 61 is thus raised by the cam or tooth 54, the pawl 40 will be moved by its spring across the slot 39, the arm 62 of this pawl being interposed in the path of the member or pawl 61 and holding it so as to permit the free return movement of the disks 50 and 52 and re-establishing the relation of parts above described and permit a repetition of the operations above referred to during the two succeeding down strokes of the yoke 18. When the pawl 40 is thus projected across the slot 39, the final up stroke of the yoke 18 in any cycle will result in an oscillation of the swing frame 31 due to the turning of the lever 33 upon its pivot as a result of the upward movement of the pivot of the lever, and the restraint by the pawl 40 towards the end of the lever, thus actuating the digit wheel or wheels.

The rise 60 in the cam slot 59 is so positioned as to move the pawl tooth 57 out of engaging relation with the tooth 68 upon the lever 67, and the tooth 51 with which it may at the moment be engaged, thus preventing overrunning of the disk and permitting the rapid return movement of the pawl 40 across the slot 39 with its arm 62 positioned to restrain the member or pawl 61, or to cause the pawl 40 to be restrained by said pawl or member 61, as required by the succeeding actuation of the machine.

It will be observed from the foregoing that the pawl 57 constitutes means for imparting a step by step movement to the controlling disk as well as means by which the means acting upon the member operative upon the digit wheel actuating mechanism is moved into or out of the operative relation to said member, the operative intervals of said restraining pawl with relation to said member being determined by the position of the controlling disks.

It will be noted, by reference to Fig. 9 of the drawings, that the disk 50 has thirteen ratchet teeth 53, and that this disk may be so positioned as to cause any of these teeth excepting the first tooth to the left of the cutout portion of the disk, to be brought into engaging relation with the pawl 57 upon the first down stroke of any cycle of operations. Hence the number of impressions during any cycle will be determined by the particular tooth which is first engaged by the pawl 57 during that cycle.

Assuming that it is desired to make thirteen impressions of the same number during a cycle, the lever 47 is actuated to establish the relation of parts heretofore referred to, to permit the turning of the spindle 42 and

the stop member or dial finger 43 with the resultant corresponding movement of the composite disk 50—52. With this relation of parts established, the contact member or dial finger 43 is moved to indicate the index number 13 upon the housing 75, and the lever 47 is released, the stud 46 thereon dropping into engagement with the third tooth to the left at the bottom of Fig. 5 of the locking disk 44.

When the machine is set for merely making duplicate numbers, said pin 46 will engage the first tooth of the sequence shown at the upper left of said Fig. 5, and for impressions numbering between 2 and 13, it will engage the appropriate tooth between the two teeth just stated.

During the first down stroke of the following cycle, the operations will be as heretofore described in connection with the setting for a mere duplication of a number. The second stroke of the cycle, however, will cause the pawl 57 to impart a second step of movement to the disk 50—52, the member or pawl 61 riding over the succeeding ratchet tooth 53 upon the disk 52. The oscillation of the lever 67 by said pawl 57 prevents a return oscillation of the pawl 40 until after the pawl 61 has engaged the succeeding tooth 53 or is again interposed in the path of movement of the arm 63 for retaining the pawl 40 at one side of the slot 39. The succeeding reciprocations of the yoke 18 will have the same operative effect on the various mechanisms as is described in connection with the second reciprocation immediately above referred to.

Upon the final or thirteenth down stroke of said yoke, the pawl 57 engages the tooth 53 immediately preceding the cutout portion of the disk 50, and with a contra-clockwise movement of said disk, causes the cam or elongated tooth 54 to raise the pawl 61 in a manner to permit the free oscillation of the pawl 40 so as to interpose it in the path of movement of the lever 33, and thus cause the actuation of the digit wheels in the manner above described, in connection with the setting of the machine for duplicate numbering. The arm 63 of the pawl 40 is by this movement engaged with the under side of the extension 62 of the member or pawl 61 to hold said member or pawl in its raised position.

As the pawl 61 is raised by the cam or elongated tooth 54, whatever the setting of the machine, the disk 50—52 is freed from all restraint so as to permit its return movement by the spring 55 to an extent determined by the engagement of the stop 56 with the stop member or dial finger 43.

If the stop member or dial finger 43 is set at any index number between 2 and 13, the result is the positioning of the disk 50—52 so that the corresponding teeth 51 and 53 will be so positioned as to require a number of

reciprocations of the yoke 18 corresponding with the index number at which the stop member or dial finger 43 is set before the cam or elongated tooth 54 operatively engages the member or pawl 61 for the purpose of permitting the movement of said disks under the spring 55, and the projection of the pawl 40 across the slot 39 in the manner specified.

The index numbers and legends upon the housing 75 are so positioned that the location of the stop member or dial finger in relation thereto will ensure the bringing of the proper tooth 51 in its operative relation to the pawl 57, and their location is not to indicate in any way the registering position of the teeth therewith. The index numbers upon the disk 50 have no relation whatever as to the position of the teeth but are merely for the purpose of indicating the stage of progression of the machine during any cycle of operations.

When the bell crank lever 47 is actuated to release the locking dial 44, its movement will also disengage the member or pawl 61 from its operative relation to the disk 52, so that with any change in the setting of the machine, the various teeth 51 and 53 will be brought into a position, as a result of the engagement of the stop 56 with the stop member or dial finger 43, to ensure the full number of impressions in the following cycle of operations as determined by the setting of the said stop member or dial finger.

If, however, after making a certain number of impressions, it is desirable for any reason to increase the number of impressions during any cycle without resetting the stop member or dial finger 43, the head 65 carried by the crank 64 of the member or pawl 61 is actuated to manually release the pawl from the controlling disks and permit the spring 55 to return these disks to their initial positions for any full cycle of operations determined by the setting of the machine. The manual actuation of said pawl in restoring the parts to their initial positions for a given cycle will have no operative effect whatever, excepting to establish the relative position of parts characteristic of the initial position thereof, as established by the actuation of the spindle 42 and the stop member or dial finger 43.

It will be noted that the yoke 18, the digit wheels carried thereby, the swing frame 31, the pawl 30 and the member operative upon said swing frame, have a direct vertical reciprocatory movement only, at all times excepting when the operation of the machine requires the progressive advancement of the digit wheels. Hence when the machine is set for consecutive numbering, and the digit wheels require to be actuated after each impression, the frame 31 will receive reciprocatory motion for setting them with relation

to the stop member carried by the wheels, during each down stroke of the yoke 18, and will receive oscillatory movement, imparting movement to the wheel, or wheels upon each up stroke of the yoke. When the same number is to be repeated an indefinite number of times, if the pawl 33 is positioned at the top of the slot 39, there will be no actuation of this lever or of the swing frame 31 with the reciprocation of the yoke 18. If on the other hand the lever 33 is at the bottom of the slot and the pawl 40 is projected across said slot, there will be one movement of said lever 33 and of the swing frame 31, which movement will be a resetting movement of the comb pawl without any operative effect upon the digit wheels.

When the machine is set for a definite number of impressions of the same number during each cycle, irrespective of the number of impressions in that cycle, if the lever 33 is at the top of the slot 39 upon the initial impression of the cycle, this lever will not be actuated during any of the impressions excepting the last impression of the cycle when it will be actuated so as to oscillate the swing frame 31 to impart movement to the digit wheels and during the final up stroke of the yoke 18, and actuated to restore said swing frame and pawl to reset the latter during the first down stroke of the following cycle. The lever 33 will always be below the pawl 40 prior to the first down stroke during any cycle, and hence during this stroke, it will be actuated in a manner to reset the pawl 30 without actuating the digit wheels.

The foregoing description is merely for the purpose of emphasizing that the swing frame 31 when the machine is actuated for indefinitely repeating a given number, receives no oscillatory movement except possibly during the first impression, and that when the machine is set for consecutive numbering or a definite repetition of the same number, said swing frame and its comb pawl are actuated merely when the functioning of the machine requires the actuation of the digit wheels, and during the following down stroke, said frame remaining stationary at all other times.

In the foregoing, I have described the setting of the stop member or dial finger 43 under three conditions, to wit: when the digit wheel actuating means or lever 33 is positioned at the top of the slot 39 with the yoke in its uppermost position; when the lever 33 is in its lowermost position and below the pawl 40, and the yoke is in its uppermost position; and when the locking plate 80 is set with the yoke in a position intermediate its upper and lower position, under which condition the said means or lever 33 may be either adjacent said lever 33 or be at the bottom of the slot, and so position it

as to have partially restored the frame 31 and comb pawl 30 into engaging relation with the succeeding tooth or teeth upon the ratchet wheel or wheels.

5 The last position named, is that present when hand setting the digit wheels.

Under the first condition there will be no actuation of said lever upon the following down stroke of the yoke, or upon the suc-
10 ceeding up stroke thereof unless the setting of the machine requires such actuation. With the second condition with the down stroke of the yoke, the lever will be actuated to impart an inoperative return movement
15 to the swing frame 31 and pawl 30, but will impart no operative movement to said swing frame. With the last condition, when said lever 33 is opposite and engaging the pawl 40, if the plate 80 be released without forcing
20 the yoke downwardly to the printing position, the lever 33 will have no operative effect upon the swing frame 31 with its upward movement. On the other hand, if the yoke is forced downwardly, the said lever
25 will be positioned below the pawl 40 so as to impart an actuating oscillation to said swing frame 31 upon said upward movement, if the setting requires an actuation of the wheels 17.

30 If the lever 33 is below the pawl 40, when the yoke 18 is in its lowermost position, no manner of actuating the machine will permit the restoration of the yoke to its uppermost position without actuation of the digit
35 wheels.

When the machine is set for a definite number of repetitions of the same number during each cycle of operations thereof, the down
40 stroke of the yoke in making the first impression of each cycle will cause the turning of the lever 33 upon its pivot in a manner to impart a return inoperative oscillation to the swing frame 31 and pawl 30, while upon
45 the upstroke following the final impression of the cycle, the pawl 40 will cause an oscillation of said lever 33 to impart an operative oscillation to said swing frame and said pawl. This actuation of the digit
50 wheels upon the up stroke of the yoke is necessary to secure the proper inking of the characters prior to an impression, and is commonly found in hand operated numbering machines.

55 The housing or face plate 75 protects all of the operative parts of the setting mechanism permitting access to only the heads 48 and 65 and the knurled nut 70 used in setting the stop member or dial finger 43.

60 While I have described a swing frame 31 carrying a spring pressed comb pawl 30 for actuating the units digit wheel and also wheels of higher denomination, it is apparent that while a swing frame carrying a
65 pawl operative upon the units wheel is essential to the operation of the machine,

means other than a comb pawl may be used for imparting actuation to the digit wheels of higher denomination, when required.

I use a yoke 18 connected with the slides 15 through the medium of the shaft 16 merely to simplify the manufacture of the device and afford the proper clearance for the lever 33 and link 34 connecting said lever with the swing frame 31, this yoke being recessed
75 as shown in Fig. 2, for permitting the necessary oscillatory movement of the swing frame 31.

For convenience of expression in the claims, the composite disk 50-52 will be referred to broadly as a "controlling disk";
80 the pawl 61 will be referred to as "means co-operating with the controlling disk," or in the alternative as the "controlling pawl"; the pawl 40 will be referred to as the "actu-
85 ating means operative upon the member or lever 33," or the "actuating pawl"; and the pawl 57 will be referred to as the "disk actu-
90 ating pawl," or "means carried by the reciprocatory member and operative upon the controlling disk to impart a step by step movement thereto".

There may be various changes in the construction and arrangement of parts while still preserving all of the operative functions
95 above referred to, without departing from the spirit and scope of the invention.

Having described the invention, what I claim as new and desire to have protected by Letters Patent, is:—

1. A numbering machine embodying there-
100 in in combination with reciprocatory means, a sequence of digit wheels carried thereby, digit wheel actuating means, and an inking mechanism co-operating with said digit
105 wheels, of a member movable with and operative upon said digit wheels actuating means, actuating means adapted to be brought into or out of the operative rela-
110 tion to said member, and a setting mechanism whereby the operative or inoperative intervals of said actuating means upon said member may be predetermined.

2. A numbering machine embodying there-
115 in in combination with reciprocatory means, a sequence of digit wheels carried thereby, digit wheel actuating means, and an inking mechanism co-operating with said digit wheels, of a member movable with and operative upon
120 said digit wheels actuating means, actuating means adapted to be brought into or out of the operative relation to said member, a setting mechanism whereby the operative or inoperative intervals of said actuating means
125 upon said member may be predetermined, and manually operative means whereby during any cycle of operations, said setting mechanism may be restored to its initial position without varying the setting of said
130 mechanism.

3. A numbering machine embodying there-
130

in in combination with reciprocatory means, a sequence to digit wheels carried thereby, digit wheel actuating means, and an inking mechanism cooperating with said digit wheels, of a member operative upon said digit wheels actuating means, actuating means for said member, a controlling disk having a stop thereon, a stop member co-operating with said stop and rotatable about an axis concentric with said disk, a spring having a normal tendency to engage said stop with said stop member whereby said disk may turn simultaneously with, or independently of, said stop member, a locking mechanism operative upon said stop member, co-operating means upon said disk and carried by said reciprocatory means whereby a step by step movement is imparted to said disk with printing actuations of the machine, means co-operating with said disk and with the actuating means for the member operative upon the digit wheel actuating means, to control the functioning of the machine as predetermined by the setting of said stop member, means actuated by said means imparting a step by step movement to said disk and operative upon said actuating means to cause it to be brought into or out of the operative relation to said member, and means carried by, and operative upon the means co-operating with, said disk, whereby at the end of a number of impressions, said means co-operating with said disk positions said actuating means in operative relation to the member operative upon the digit wheel actuating means.

4. A numbering machine embodying therein in combination with reciprocatory means, a sequence of digit wheels carried thereby, digit wheel actuating means, and an inking mechanism co-operating with said digit wheels, of a member operative upon said digit wheels actuating means, actuating means for said member, a controlling disk having a stop thereon, a stop member co-operating with said stop and rotatable about an axis concentric with said disk, a spring having a normal tendency to engage said stop with said stop member whereby said disk may be turned simultaneously with, or independently of, said stop member, a locking mechanism operative upon said stop member, co-operating means upon said disk and carried by said reciprocatory means whereby a step by step movement is imparted to said disk with printing actuations of the machine, means co-operating with said disk and with the actuating means for the member operative upon the digit wheel actuating means, to control the functioning of the machine as predetermined by the setting of said stop member, manually operative means whereby said locking mechanism may be made inoperative, means actuated thereby and op-

erative upon the means co-operating with said disk, whereby simultaneously with the making of said locking mechanism inoperative, said means co-operating with said disk will be made inoperative with relation thereto to permit said stop to engage said stop member, means actuated by said means imparting a step by step movement to said disk and operative upon said actuating means to cause it to be brought into or out of the operative relation to said member, and means carried by, and operative upon the means co-operating with, said disk, whereby at the end of a number of impressions, said means co-operating with said disk positions said actuating means in operative relation to the member operative upon the digit wheel actuating means.

5. A numbering machine embodying therein in combination with reciprocatory means, a sequence of digit wheels carried thereby, digit wheel actuating means, and an inking mechanism co-operating with said digit wheels, of a member operative upon said digit wheel's actuating means, actuating means for said member, a controlling disk having a stop thereon, a stop member co-operating with said stop and rotatable about an axis concentric with said disk, a spring having a normal tendency to engage said stop with said stop member whereby said disk may be turned simultaneously with, or independently of, said stop member, a locking mechanism operative upon said stop member, co-operating means upon said disk and carried by said reciprocatory means whereby a step by step movement is imparted to said disk with printing actuations of the machine, means co-operating with said disk and with the actuating means for the member operative upon the digit wheel actuating means, to control the functioning of the machine as predetermined by the setting of said stop member, manually operative means whereby said locking mechanism may be made inoperative, means actuated thereby and operative upon the means co-operating with said disk, whereby simultaneously with the making of said locking mechanism inoperative, said means co-operating with said disk will be made inoperative with relation thereto to permit said stop to engage said stop member, manually operative means operative upon said means co-operating with said disk whereby said means may be made inoperative with relation to said disk independently of said last named means, means actuated by said means for imparting movement to said disk and operative upon said actuating means to cause it to be brought into or out of the operative relation to said member, and means carried by, and operative upon the means co-operating with, said disk, whereby at the end of a number of impressions, said means co-

operating with said disk positions said actuating means in operative relation to the member operative upon the digit wheel actuating means.

5 6. A numbering machine embodying therein in combination with reciprocatory means, a sequence of digit wheels carried thereby, digit wheel actuating means, and an inking mechanism co-operating with said digit
10 wheels, of a member operative upon said digit wheels actuating means, actuating means for said member, a controlling disk having a stop thereon and two sets of ratchet teeth, a stop member co-operating with said
15 stop and rotatable about an axis concentric with said disk, a spring having a normal tendency to engage said stop with said stop member whereby said disk may be turned simultaneously with, or independently of,
20 said stop member, a locking mechanism operative upon said stop member, a disk actuating pawl carried by said reciprocatory means in operative relation to one set of ratchet teeth upon said disk, whereby
25 a step by step movement is imparted to said disk with printing actuations of the machine, a controlling pawl co-operating with said other set of ratchet teeth and with the actuating means operative upon the digit wheel
30 actuating means, and means carried by said disk and operative upon said controlling pawl whereby said pawl is automatically disengaged from said disk and said actuating means at predetermined intervals to permit
35 a return movement of said disk under the control of said spring and to make said actuating means operative at intervals determined by the setting of said stop member.

7. A numbering machine embodying therein in combination with reciprocatory means, a sequence of digit wheels carried thereby, digit wheel actuating means, and an inking mechanism cooperating with said digit
40 wheels, of a member operative upon said digit wheels actuating means, actuating means for said member, a controlling disk having a stop thereon and two sets of ratchet teeth, a stop member co-operating with said
45 stop and rotatable about an axis concentric with said disk, a spring having a normal tendency to engage said stop with said stop member whereby said disk may be turned simultaneously with, or independently of, said
50 stop member, a locking mechanism operative upon said stop member, a disk actuating pawl carried by said reciprocatory means in operative relation to one set of ratchet teeth upon said disk, whereby a step by step movement is imparted to said disk with printing
55 actuations of the machine, a controlling pawl co-operating with said other set of ratchet teeth and with the actuating means operative upon said member, means carried by said disk and operative upon said controlling

pawl whereby said pawl is automatically
65 disengaged from said disk and said actuating means at predetermined intervals to permit a return movement of said disk under the control of said spring and to make said actuating means operative at intervals deter-
70 mined by the setting of said stop member, means co-operating with said disk actuating pawl for actuating said actuating means, and manually operative means whereby said controlling pawl may be moved out of operative
75 relation to the teeth upon said disk, and to said actuating means, to permit a return movement of said disk under the control of said spring independently of the position of said means carried by said disk, and without
80 making said actuating means operative.

8. A numbering machine embodying therein in combination with reciprocatory means, a sequence of digit wheels carried thereby, digit wheel actuating means, and an inking
85 mechanism co-operating with said digit wheels, of a member operative upon said digit wheels actuating means, actuating means for said member, a controlling disk having a stop thereon and two sets of
90 ratchet teeth, a stop member co-operating with said stop and rotatable about an axis concentric with said disk, a spring having a normal tendency to engage said stop with said stop member whereby said disk may be
95 turned simultaneously with, or independently of, said stop member, a locking mechanism operative upon said stop member, a disk actuating pawl carried by said reciprocatory means in operative relation to one set
100 of ratchet teeth upon said disk, whereby a step by step movement is imparted to said disk with printing actuations of the machine, a controlling pawl co-operating with said other set of ratchet teeth and with the
105 actuating means operative upon said member, means carried by said disk and operative upon said controlling pawl whereby said pawl is automatically disengaged from said disk and said actuating means at prede-
110 termined intervals to permit a return movement of said disk under the control of said spring and to make said actuating means operative at intervals determined by the setting of said stop member, means co-operating
115 with said disk actuating pawl for actuating said actuating means, manually operative means whereby said locking mechanism may be made inoperative, and means actuated thereby and operative upon said controlling
120 pawl whereby simultaneously with the making of said locking mechanism inoperative, said controlling pawl will be moved out of the operative relation to the teeth upon said
125 disk, and to said actuating means, to permit a return movement of said disk under the control of said spring, independently of the position of said means carried by said disk

and without making said actuating means operative.

9. A numbering machine embodying therein in combination with reciprocatory means, a sequence of digit wheels carried thereby, digit wheel actuating means, and an inking mechanism co-operating with said digit wheels, of a member operative upon said digit wheels actuating means, actuating means for said member, a controlling disk having a stop thereon and two sets of ratchet teeth, a stop member co-operating with said stop and rotatable about an axis concentric with said disk, a spring having a normal tendency to engage said stop with said stop member whereby said disk may be turned simultaneously with, or independently of, said stop member, a locking mechanism operative upon said stop member, a disk actuating pawl carried by said reciprocatory means in operative relation to one set of ratchet teeth upon said disk, whereby a step by step movement is imparted to said disk with printing actuations of the machine, a controlling pawl co-operating with said other set of ratchet teeth and with the actuating means operative upon said member, means carried by said disk and operative upon said controlling pawl whereby said pawl is automatically disengaged from said disk and said actuating means at predetermined intervals to permit a return movement of said disk under the control of said spring and to make said actuating means operative at intervals determined by the setting of said stop member, means co-operating with said disk actuating pawl for actuating said actuating means, manually operative means whereby said locking mechanism may be made inoperative, means actuated thereby and operative upon said controlling pawl whereby simultaneously with the making of said locking mechanism inoperative, said controlling pawl will be moved out of the operative relation to the teeth upon said disk, and to said actuating means, to permit a return movement of said disk under the control of said spring, independently of the position of said means carried by said disk and without making said actuating means operative, and manually operative means whereby said controlling pawl may be moved out of the operative relation to the teeth upon said disk and said actuating means, independently of said manually operative means for making said locking mechanism inoperative.

10. A numbering machine embodying therein in combination with reciprocatory means, a sequence of digit wheels carried thereby, digit wheel actuating means, and an inking mechanism co-operating with said digit wheels, of a plate having a vertically extending slot, a lever pivoted upon said reciprocatory means and movable in said

slot, an actuating pawl pivoted upon said plate in a position to be projected across, or positioned upon one side of said slot, a controlling disk having a stop thereon, a stop member co-operating with said stop and rotatable about an axis concentric with said disk, a spring having a normal tendency to engage said stop with said stop member whereby said disk may be turned simultaneously with, or independently of, said stop member, a locking mechanism operative upon said stop member, co-operating means upon said disk and carried by said reciprocatory means whereby a step by step movement is imparted to said disk with printing actuations of the machine, means co-operating with said disk and with said pawl to control the movement of said pawl as predetermined by the setting of said stop member, manually operative means whereby said locking mechanism may be made inoperative, means actuated thereby and operative upon the means co-operating with said disk whereby simultaneously with the making of said locking mechanism inoperative to permit the setting of said stop member, said means co-operating with said disk will be made inoperative with relation to said disk to permit said disk to be actuated by said spring, means actuated by said means for imparting movement to said disk and operative upon said pawl to cause it to be projected across or withdrawn from said slot, and means carried by, and operative upon the means co-operating with, said disk, whereby at the end of a number of impressions, said means co-operating with said disk and with said pawl, will be made inoperative in relation to said pawl.

11. A numbering machine embodying therein in combination with reciprocatory means, a sequence of digit wheels carried thereby, digit wheel actuating means, and an inking mechanism co-operating with said digit wheels, of a plate having a vertically extending slot, a lever pivoted upon said reciprocatory means and movable in said slot, an actuating pawl pivoted upon said plate in a position to be projected across, or positioned upon one side of said slot, a controlling disk having a stop thereon, a stop member co-operating with said stop and rotatable about an axis concentric with said disk, a spring having a normal tendency to engage said stop with said stop member whereby said disk may be turned simultaneously with, or independently of, said stop member, a locking mechanism operative upon said stop member, co-operating means upon said disk and carried by said reciprocatory means whereby a step by step movement is imparted to said disk with printing actuations of the machine, means co-operating with said disk and with said pawl to control the movement of said pawl as predetermined by the

setting of said stop member, manually operative means whereby said locking mechanism may be made inoperative, means actuated thereby and operative upon the means co-operating with said disk whereby simultaneously with the making of said locking mechanism inoperative to permit the setting of said stop member, said means co-operating with said disk will be made inoperative with relation to said disk to permit said disk to be actuated by said spring, means actuated by said means for imparting movement to said disk and operative upon said pawl to cause it to be projected across or withdrawn from said slot, and manually operative means whereby said means co-operating with said disk may be moved out of the operative relation thereto, independently of said manually operative means for making said locking mechanism inoperative.

12. A numbering machine embodying therein in combination with reciprocatory means, a sequence of digit wheels carried thereby, digit wheel actuating means, and an inking mechanism co-operating with said digit wheels, of a plate having a vertically extending slot, a lever pivoted upon said reciprocatory means and movable in said slot, an actuating pawl pivoted upon said plate in a position to be projected across, or positioned upon one side of said slot, a controlling disk having a stop thereon and two sets of ratchet teeth, a stop member co-operating with said stop and rotatable about an axis concentric with said disk, a spring having a normal tendency to engage said stop with said stop member, whereby said disk may be turned simultaneously with, or independently of, said stop member, a locking mechanism operative upon said stop member, a disk actuating pawl carried by said reciprocatory means in operative relation to one set of ratchet teeth upon said disk whereby a step by step movement is imparted thereto with succeeding printing actuations of the machine, a controlling pawl co-operating with said other set of ratchet teeth, means carried by said disk and operative upon said controlling pawl whereby said pawl is automatically disengaged from said disk and said actuating pawl at intervals determined by the setting of said stop member, to permit a return movement of said disk under the control of said spring and to make said actuating pawl operative, and means co-operating with said disk actuating pawl for imparting oscillatory movement to said actuating pawl.

13. A numbering machine embodying therein in combination with reciprocatory means, a sequence of digit wheels carried thereby, digit wheel actuating means, and an inking mechanism co-operating with said digit wheels, of a plate having a vertically extending slot, a lever pivoted upon said re-

ciprocatory means and movable in said slot, an actuating pawl pivoted upon said plate in a position to be projected across, or positioned upon one side of said slot, a controlling disk having a stop thereon and two sets of ratchet teeth, a stop member co-operating with said stop and rotatable about an axis concentric with said disk, a spring having a normal tendency to engage said stop with said stop member, whereby said disk may be turned simultaneously with, or independently of, said stop member, a locking mechanism operative upon said stop member, a disk actuating pawl carried by said reciprocatory means in operative relation to one set of ratchet teeth upon said disk whereby a step by step movement is imparted thereto with succeeding printing actuations of the machine, a controlling pawl co-operating with said other set of ratchet teeth, a cam upon said disk and operative upon said controlling pawl whereby said pawl is automatically disengaged from said disk and said actuating pawl at intervals determined by the setting of said stop member, to permit a return movement of said disk under the control of said spring and to make said actuating pawl operative, and means co-operating with said disk actuating pawl for imparting oscillatory movement to said actuating pawl.

14. A numbering machine embodying therein in combination with reciprocatory means, a sequence of digit wheels carried thereby, digit wheel actuating means, and an inking mechanism co-operating with said digit wheels, of a plate having a vertically extending slot, a lever pivoted upon said reciprocatory means and movable in said slot, an actuating pawl pivoted upon said plate in a position to be projected across, or positioned upon one side of said slot, a controlling disk having a stop thereon and two sets of ratchet teeth, a stop member co-operating with said stop and rotatable about an axis concentric with said disk, a spring having a normal tendency to engage said stop with said stop member, whereby said disk may be turned simultaneously with, or independently of, said stop member, a locking mechanism operative upon said stop member, a disk actuating pawl carried by said reciprocatory means in operative relation to one set of ratchet teeth upon said disk whereby a step by step movement is imparted thereto with succeeding printing actuations of the machine, a controlling pawl co-operating with said other set of ratchet teeth, a cam upon said disk and operative upon said controlling pawl whereby said pawl is automatically disengaged from said disk and said actuating pawl at intervals determined by the setting of said stop member, to permit a return movement of said disk under the control of said spring and to make said actu-

ating pawl operative, means co-operating with said disk actuating pawl for imparting oscillatory movement to said actuating pawl, manually operative means whereby said locking mechanism may be made inoperative, and means actuated thereby and operative upon said controlling pawl whereby simultaneously with the making of said locking mechanism inoperative to permit the setting of said stop member, said controlling pawl will be disengaged from its co-operating teeth to permit said disk to be actuated by said spring.

15. A numbering machine embodying therein in combination with reciprocatory means, a sequence of digit wheels carried thereby, digit wheel actuating means, and an inking mechanism co-operating with said digit wheels, of a plate having a vertically extending slot, a lever pivoted upon said reciprocatory means and movable in said slot, an actuating pawl pivoted upon said plate in a position to be projected across, or positioned upon one side of said slot, a controlling disk having a stop thereon and two sets of ratchet teeth, a stop member co-operating with said stop and rotatable about an axis concentric with said disk, a spring having a normal tendency to engage said stop with said stop member, whereby said disk may be turned simultaneously with, or independently of, said stop member, a locking mechanism operative upon said stop member, a disk actuating pawl carried by said reciprocatory means in operative relation to one set of ratchet teeth upon said disk whereby a step by step movement is imparted thereto with succeeding printing actuations of the machine, a controlling pawl co-operating with said other set of ratchet teeth, a cam upon said disk and operative upon said controlling pawl whereby said pawl is automatically disengaged from said disk and said actuating pawl at intervals determined by the setting of said stop member, to permit a return movement of said disk under the control of said spring and to make said actuating pawl operative, means co-operating with said disk actuating pawl, manually operative means whereby said locking mechanism may be made inoperative, means actuated thereby and operative upon said controlling pawl whereby simultaneously with the making of said locking mechanism inoperative to permit the setting of said stop member, said controlling pawl will be disengaged from its co-operating teeth to permit said disk to be actuated by said spring, and manually operative means whereby said controlling pawl may be disengaged from said disk independently of said cam.

16. A numbering machine embodying therein in combination with reciprocatory means, a sequence of digit wheels carried thereby, digit wheel actuating means, and

an inking mechanism co-operating with said digit wheels, of a plate having a vertically extending slot, a lever pivoted upon said reciprocatory means and movable in said slot, an actuating pawl pivoted upon said plate in a position to be projected across, or positioned upon one side of said slot, a controlling disk having a stop thereon and two sets of ratchet teeth, a stop member co-operating with said stop and rotatable about an axis concentric with said disk, a spring having a normal tendency to engage said stop with said stop member, whereby said disk may be turned simultaneously with, or independently of, said stop member, a locking mechanism operative upon said stop member, a disk actuating pawl carried by said reciprocatory means in operative relation to one set of ratchet teeth upon said disk whereby a step by step movement is imparted thereto with succeeding printing actuations of the machine, a controlling pawl co-operating with said other set of ratchet teeth, means carried by said disk and operative upon said controlling pawl whereby said pawl is automatically disengaged from said disk and said actuating pawl at intervals determined by the setting of said stop member, to permit a return movement of said disk under the control of said spring and to make said actuating pawl operative, an oscillatory lever having a tooth upon one arm thereof in engageable relation with said disk actuating pawl, and a spur upon said actuating pawl in engageable relation with the other arm of said lever, whereby said pawl will be oscillated with each downward movement of said disk actuating pawl.

17. A numbering machine embodying therein in combination with reciprocatory means, a sequence of digit wheels carried thereby, digit wheel actuating means, and an inking mechanism co-operating with said digit wheels, of a plate having a vertically extending slot, a lever pivoted upon said reciprocatory means and movable in said slot, an actuating pawl pivoted upon said plate in a position to be projected across, or positioned upon one side of said slot, a controlling disk having a stop thereon and two sets of ratchet teeth, a stop member co-operating with said stop and rotatable about an axis concentric with said disk, a spring having a normal tendency to engage said stop with said stop member, whereby said disk may be turned simultaneously with, or independently of, said stop member, a locking mechanism operative upon said stop member, a disk actuating pawl carried by said reciprocatory means in operative relation to one set of ratchet teeth upon said disk whereby a step by step movement is imparted thereto with succeeding printing actuations of the machine, a controlling pawl co-operating with said other set of ratchet

teeth, a cam carried by said disk and operative upon said controlling pawl whereby said pawl is automatically disengaged from said disk and said actuating pawl at intervals determined by the setting of said stop member, to permit a return movement of said disk under the control of said spring and to make said actuating pawl operative, an oscillatory lever having a tooth upon one arm thereof in engageable relation with said disk actuating pawl, a spur upon said actuating pawl in engageable relation with the other arm of said lever, whereby said pawl will be oscillated with each downward movement of said disk actuating pawl, manually operative means whereby said locking mechanism may be made inoperative, means actuated thereby and operative upon said controlling pawl whereby simultaneously with the making of said locking mechanism inoperative to permit the setting of said stop member, said controlling pawl will be disengaged from its co-operating teeth to permit said disk to be actuated by said spring, and manually operative means whereby said controlling pawl may be disengaged from said disk independently of said cam.

18. A numbering machine embodying therein in combination with reciprocatory means, a sequence of digit wheels carried thereby, digit wheel actuating means, and an inking mechanism co-operating with said digit wheels, of a plate having a vertically extending slot, a lever pivoted upon said reciprocatory means and movable in said slot, an actuating pawl pivoted upon said plate in a position to be projected across, or positioned upon one side of said slot, a controlling disk having thereon a stop member, two sets of ratchet teeth, and a cam at the end of one of said sets of ratchet teeth, a stop member co-operating with said stop and rotatable about an axis concentric with said disk, a spring having a normal tendency to engage said stop with said stop member whereby said disk may be turned simultaneously with, or independently of, said stop member, a locking mechanism operative upon said stop member, a disk actuating pawl carried by said reciprocatory means in operative relation to one set of ratchet teeth, whereby a step by step movement is imparted to said disk with succeeding printing actuations of the machine, a controlling pawl co-operating with the other set of ratchet teeth and said cam, whereby said pawl is automatically disengaged from said disk and said actuating pawl at intervals determined by the setting of said stop member, to permit a return movement of said disk under the control of said spring, and to make said actuating pawl operative, an oscillatory lever having a tooth upon one arm thereof in engageable relation with said disk actu-

ating pawl, and a spur upon said actuating pawl in engageable relation with the other arm of said lever, whereby said pawl will be oscillated with each downward movement of said disk actuating pawl.

19. A numbering machine embodying therein in combination with reciprocatory means, a sequence of digit wheels carried thereby, digit wheel actuating means, and an inking mechanism co-operating with said digit wheels, of a plate having a vertically extending slot, a lever pivoted upon said reciprocatory means and movable in said slot, an actuating pawl pivoted upon said plate in a position to be projected across, or positioned upon one side of said slot, a controlling disk having thereon a stop, one set of ratchet teeth having a cutout portion adjacent the end of same, a second set of ratchet teeth and a cam at the end of same, a stop member co-operating with said stops and rotatable about an axis concentric with said disk, a spring having a normal tendency to engage said stop with said stop member, whereby said disk may be turned simultaneously with, or independently of, said stop member, a locking mechanism operative upon said stop member, a disk actuating pawl carried by said reciprocatory means in operative relation to one set of ratchet teeth and said cutout portion, whereby a step by step movement may be imparted to said disk, or said disk actuating pawl may be made inoperative in relation to said disk, a controlling pawl co-operating with the other set of ratchet teeth, said cam being so positioned and so proportioned in length with relation to said cutout portion that said disk may be so set that said cam will automatically disengage said controlling pawl from said set of ratchet teeth and said actuating pawl at intervals determined by the setting of said stop member to permit a return movement of said disk under the control of said spring and to make said actuating pawl operative following a succession of step by step movements imparted to said disk by said disk actuating pawl, or be continuously engaged with a tooth of said set and with said actuating pawl while said disk actuating pawl is inoperative with relation to said disk, or may be continuously disengaged from said ratchet teeth and from said pawl while said disk actuating pawl is operative, an oscillatory lever having a tooth upon one arm thereof in engageable relation with said disk actuating pawl, and a spur upon said actuating pawl in engageable relation with the other arm of said lever, whereby said pawl will be oscillated with each downward movement of said disk actuating pawl.

20. A numbering machine embodying therein in combination with reciprocatory means, a sequence of digit wheels carried

thereby, digit wheel actuating means, and an inking mechanism co-operating with said digit wheels, of a plate having a vertically extending slot, a lever pivoted upon said reciprocatory means and movable in said slot, an actuating pawl pivoted upon said plate in a position to be projected across, or positioned upon one side of said slot, a controlling disk having thereon a stop member, two sets of ratchet teeth, and a cam at the end of one of said sets of ratchet teeth, a stop member co-operating with said stop and rotatable about an axis concentric with said disk, a spring having a normal tendency to engage said stop with said stop member whereby said disk may be turned simultaneously with, or independently of, said stop member, a locking mechanism operative upon said stop member, a disk actuating pawl carried by said reciprocatory means in operative relation to one set of ratchet teeth, whereby a step by step movement is imparted to said disk with succeeding printing actuations of the machine, a controlling pawl co-operating with the other set of ratchet teeth and said cam, whereby said pawl is automatically disengaged from said disk and said actuating pawl at intervals determined by the setting of said stop member, to permit a return movement of said disk under the control of said spring, and to make said actuating pawl operative, an oscillatory lever having a tooth upon one arm thereof in engageable relation with said disk actuating pawl, a spur upon said actuating pawl in engageable relation with the other arm of said lever, whereby said pawl will be oscillated with each downward movement of said disk actuating pawl, manually operative means whereby said locking mechanism may be made inoperative, means actuated thereby and operative upon said controlling pawl whereby simultaneously with the making of said locking mechanism inoperative to permit the setting of said stop member, said controlling pawl will be disengaged from its co-operating teeth to permit said disk to be actuated by said spring, and manually operative means whereby said controlling pawl may be disengaged from said disk independently of said cam.

21. A numbering machine embodying therein in combination with reciprocatory means, a sequence of digit wheels carried thereby, digit wheel actuating means, and an inking mechanism co-operating with said digit wheels, of a plate having a vertically extending slot, a lever pivoted upon said reciprocatory means and movable in said slot, an actuating pawl pivoted upon said plate in a position to be projected across, or positioned upon one side of said slot, a controlling disk having thereon a stop, one set of ratchet teeth having a cutout portion adjacent the end of same, a second set of ratchet

teeth and a cam at the end of same, a stop member co-operating with said stop and rotatable about an axis concentric with said disk, a spring having a normal tendency to engage said stop with said stop member, whereby said disk may be turned simultaneously with, or independently of, said stop member, a locking mechanism operative upon said stop member, a disk actuating pawl carried by said reciprocatory means in operative relation to one set of ratchet teeth and said cut out portion, whereby a step by step movement may be imparted to said disk, or said disk actuating pawl may be made inoperative in relation to said disk, a controlling pawl co-operating with the other set of ratchet teeth, said cam being so positioned and so proportioned in length with relation to said cutout portion that said disk may be so set that said cam will automatically disengage said controlling pawl from said set of ratchet teeth and said actuating pawl at intervals determined by the setting of said stop member to permit a return movement of said disk under the control of said spring and to make said actuating pawl operative following a succession of step by step movements imparted to said disk by said disk actuating pawl, or be continuously engaged with a tooth of said set and with said actuating pawl while said disk actuating pawl is inoperative with relation to said disk, or may be continuously disengaged from said ratchet teeth and from said pawl while said disk actuating pawl is operative, an oscillatory lever having a tooth upon one arm thereof in engageable relation with said disk actuating pawl, a spur upon said actuating pawl in engageable relation with the other arm of said lever, whereby said pawl will be oscillated with each downward movement of said disk actuating pawl, manually operative means whereby said locking mechanism may be made inoperative, means actuated thereby and operative upon said controlling pawl whereby simultaneously with the making of said locking mechanism inoperative to permit the setting of said stop member, said controlling pawl will be disengaged from its co-operating teeth to permit said disk to be actuated by said spring, and manually operative means whereby said controlling pawl may be disengaged from said disk independently of said cam.

22. A numbering machine embodying therein in combination with reciprocatory means, a sequence of digit wheels carried thereby, digit wheel actuating means, and an inking mechanism co-operating with said digit wheels, of a member operative upon said digit wheels actuating means, actuating means for said member, a controlling disk having a stop thereon, a stop member co-operating with said stop and rotatable about an axis concentric with said disk, a spring

having a normal tendency to engage said stop with said stop member whereby said disk may turn simultaneously with, or independently of, said stop member, a toothed disk carried by said stop member, a bell crank lever, a stud carried thereby in engageable relation with said toothed disk, co-operating means upon said controlling disk and carried by said reciprocatory means whereby a step by step movement is imparted to said disk with printing actuations of the machine, means co-operating with said disk and with the actuating means for the member operative upon the digit wheel actuating means, to control the functioning of the machine as predetermined by the setting of said stop member, means actuated by said means imparting a step by step movement to said disk and operative upon said actuating means to cause it to be brought into or out of the operative relation to said member, and means carried by, and operative upon the means co-operating with, said disk, whereby at the end of a number of impressions, said means co-operating with said disk positions said actuating means in operative relation to the member operative upon the digit wheel actuating means.

23. A numbering machine embodying therein in combination with reciprocatory means, a sequence of digit wheels carried thereby, digit wheel actuating means, and an inking mechanism co-operating with said digit wheels, of a plate having a vertically extending slot, a lever pivoted upon said reciprocatory means and movable in said slot, an actuating pawl pivoted upon said plate in a position to be projected across, or positioned upon one side of said slot, a controlling disk having a stop thereon and two sets of ratchet teeth, a stop member co-operating with said stop and rotatable about an axis concentric with said disk, a spring having a normal tendency to engage said stop with said stop member, whereby said disk may be turned simultaneously with, or independently of, said stop member, a toothed disk carried by said stop member, a bell crank lever, a stud carried thereby in engageable relation with said toothed disk, a disk actuating pawl carried by said reciprocatory means in operative relation to one set of ratchet teeth upon said disk whereby a step by step movement is imparted thereto with succeeding printing actuations of the machine, a controlling pawl co-operating with said other set of ratchet teeth, means carried by said disk and operative upon said controlling pawl whereby said pawl is automatically disengaged from said disk and said actuating pawl at intervals determined by the setting of said stop member, to permit a return movement of said disk under the control of said spring and to make said actuating pawl operative, means

co-operating with said disk actuating pawl for imparting oscillatory movement to said actuating pawl, a pin carried by said bell crank lever and engageable with said controlling pawl, whereby said pawl will be disengaged from said disk simultaneously with the disengagement of said stud from said toothed disk, and means whereby said controlling pawl may be disengaged from said controlling disk independently of the movement of said bell crank lever.

24. A numbering machine embodying therein in combination with reciprocatory means, a sequence of digit wheels carried thereby, digit wheel actuating means, and an inking mechanism co-operating with said digit wheels, of a plate having a vertically extending slot, a lever pivoted upon said reciprocatory means and movable in said slot, an actuating pawl pivoted upon said plate in a position to be projected across, or positioned upon one side of said slot, a controlling disk having thereon a stop member, two sets of ratchet teeth, and a cam at the end of one of said sets of ratchet teeth, a stop member co-operating with said stop and rotatable about an axis concentric with said disk, a spring having a normal tendency to engage said stop with said stop member whereby said disk may be turned simultaneously with, or independently of, said stop member, a toothed disk carried by said stop member, a bell crank lever, a stud carried thereby in engageable relation with said toothed disk, a disk actuating pawl carried by said reciprocatory means in operative relation to one set of ratchet teeth, whereby a step by step movement is imparted to said disk with succeeding printing actuations of the machine, a controlling pawl co-operating with the other set of ratchet teeth and said cam, whereby said pawl is automatically disengaged from said disk and said actuating pawl at intervals determined by the setting of said stop member, to permit a return movement of said disk under the control of said spring, and to make said actuating pawl operative, an oscillatory lever having a tooth upon one arm thereof in engageable relation with said disk actuating pawl, a spur upon said actuating pawl in engageable relation with the other arm of said lever, whereby said pawl will be oscillated with each downward movement of said disk actuating pawl, a pin carried by said bell crank lever and engageable with said controlling pawl whereby said pawl will be disengaged from said disk simultaneously with the disengagement of said stud from said toothed disk, and means whereby said controlling pawl may be disengaged from said controlling disk independently of said pin.

25. A numbering machine embodying therein in combination with reciprocatory

means, a sequence of digit wheels carried thereby, digit wheel actuating means, and an inking mechanism co-operating with said digit wheels, of a plate having a vertically extending slot, a lever pivoted upon said reciprocatory means and movable in said slot, an actuating pawl pivoted upon said plate in a position to be projected across, or positioned upon one side of said slot, a controlling disk having thereon a stop, one set of ratchet teeth having a cutout portion adjacent the end of same, a second set of ratchet teeth and a cam at the end of same, a stop member co-operating with said stop and rotatable about an axis concentric with said disk, a spring having a normal tendency to engage said stop with said stop member, whereby said disk may be turned simultaneously with, or independently of, said stop member, a toothed disk carried by said stop member, a bell crank lever, a stud carried thereby in engageable relation with said toothed disk, a disk actuating pawl carried by said reciprocatory means in operative relation to one set of ratchet teeth and said cutout portion, whereby a step by step movement may be imparted to said disk, or said disk actuating pawl may be made inoperative in relation to said disk, a controlling pawl co-operating with the other set of ratchet teeth, said cam being so positioned and so proportioned in length with relation to said cutout portion that said disk may be so set that said cam will automatically disengage said controlling pawl from said set of ratchet teeth and said actuating pawl at intervals determined by the setting of said stop member to permit a return movement of said disk under the control of said spring and to make said actuating pawl operative following a succession of step by step movements imparted to said disk by said disk actuating pawl, or be continuously engaged with a tooth of said set and with said actuating pawl while said disk actuating pawl is inoperative with relation to said disk, or may be continuously disengaged from said ratchet teeth and from said pawl while said disk actuating pawl is operative, an oscillatory lever having a tooth upon one arm thereof in engageable relation with said disk actuating pawl, a spur upon said actuating pawl in engageable relation with the other arm of said lever, whereby said pawl will be oscillated with each downward movement of said disk actuating pawl, a pin carried by said bell crank lever and engageable with said controlling pawl whereby said pawl will be disengaged from said disk simultaneously with the disengagement of said stud from said toothed disk, and means whereby said controlling pawl may be disengaged from said controlling disk independently of said pin.

26. A numbering machine embodying

therein in combination with reciprocatory means, a sequence of digit wheels carried thereby, digit wheel actuating means, and an inking mechanism co-operating with said digit wheels, of a plate having a vertically extending slot, a lever pivoted upon said reciprocatory means and movable in said slot, an actuating pawl pivoted upon said plate in a position to be projected across, or positioned upon one side of said slot, a controlling disk having thereon a stop, one set of ratchet teeth having a cutout portion adjacent the end of same, a second set of ratchet teeth and a cam at the end of same, a stop member co-operating with said stop and rotatable about an axis concentric with said disk, a spring having a normal tendency to engage said stop with said stop member, whereby said disk may be turned simultaneously with, or independently of, said stop member, a locking mechanism operative upon said stop member, a disk actuating pawl carried by said reciprocatory means in operative relation to one set of ratchet teeth and said cutout portion, whereby a step by step movement may be imparted to said disk, or said disk actuating pawl may be made inoperative in relation to said disk, a controlling pawl co-operating with the other set of ratchet teeth, said cam being so positioned and so proportioned in length with relation to said cutout portion that said disk may be so set that said cam will automatically disengage said controlling pawl from said set of ratchet teeth and said actuating pawl at intervals determined by the setting of said stop member to permit a return movement of said disk under the control of said spring and to make said actuating pawl operative following a succession of step by step movements imparted to said disk by said disk actuating pawl, or be continuously engaged with a tooth of said set with said actuating pawl while said disk actuating pawl is inoperative with relation to said disk, or may be continuously disengaged from said ratchet teeth and from said pawl while said disk actuating pawl is operative, an oscillatory lever having a tooth upon one arm thereof in engageable relation with said disk actuating pawl, and a spur upon said actuating pawl in engageable relation with the other arm of said lever, whereby said pawl will be oscillated with each downward movement of said disk actuating pawl, said plate having a cam slot therein guiding the movement of said disk actuating pawl in its engagement with, or disengagement from, the set of teeth upon said cam with which it co-operates, and said oscillatory lever.

27. A numbering machine embodying therein in combination with reciprocatory means, a sequence of digit wheels carried thereby, digit wheel actuating means, and an inking mechanism co-operating with said

digit wheels, of a member operative upon said digit wheels actuating means, actuating means for said member, and a setting mechanism whereby the operative effect of said actuating means upon said member may be predetermined, said setting mechanism including therein a fixed housing having indices thereon, a stop member adjustable with relation to said indices, and a member movable in relation to said stop member also having indices thereon, whereby at all times the setting of the machine, and the progress of the machine during any cycle of operations for which it is set, will be visibly indicated.

28. A numbering machine embodying therein in combination with reciprocatory means, a sequence of digit wheels carried thereby, digit wheel actuating means, and an inking mechanism co-operating with said digit wheels, of a fixed housing having indices thereon, a member operative upon said digit wheels actuating means, actuating means for said member, a controlling disk having indices and a stop thereon, a stop member co-operating with said stop and rotatable about an axis concentric with said disk and in relation to the indices upon said housing, whereby at all times the setting of said stop member and the movement of said controlling disk with relation to said stop member will be visibly indicated, a spring having a normal tendency to engage said stop with said stop member whereby said disk may turn simultaneously with, or independently of, said stop member, a locking mechanism operative upon said stop member, co-operating means upon said disk and carried by said reciprocatory means whereby a step by step movement is imparted to said disk with printing actuations of the machine, means co-operating with said disk and with the actuating means for the member operative upon the digit wheel actuating means, to control the functioning of the machine as predetermined by the setting of said stop member, means actuated by said means imparting a step by step movement to said disk and operative upon said actuating means to cause it to be brought into or out of the operative relation to said member, and means carried by, and operative upon the means co-operating with, said disk, whereby at the end of a number of impressions, said means co-operating with said disk positions said actuating means in operative relation to the member operative upon the digit wheel actuating means.

29. A numbering machine embodying therein in combination with reciprocatory means, a sequence of digit wheels carried thereby, digit wheel actuating means, and an inking mechanism co-operating with said digit wheels, of a fixed housing having indices thereon, a plate having a vertically ex-

tending slot, a lever pivoted upon said reciprocatory means and movable in said slot, an actuating pawl pivoted upon said plate in a position to be projected across, or positioned upon one side of said slot, a controlling disk having thereon indices and a stop, one set of ratchet teeth having a cutout portion adjacent the end of same, a second set of ratchet teeth and a cam at the end of same, a stop member co-operating with said stop and rotatable about an axis concentric with said disk and in relation to the indices upon said housing, whereby at all times the setting of said stop member and the movement of said controlling disk with relation to said stop member will be visibly indicated, a spring having a normal tendency to engage said stop with said stop member, whereby said disk may be turned simultaneously with, or independently of, said stop member, a locking mechanism operative upon said stop member, a disk actuating pawl carried by said reciprocatory means in operative relation to one set of ratchet teeth and said cutout portion, whereby a step by step movement may be imparted to said disk, or said disk actuating pawl may be made inoperative in relation to said disk, a controlling pawl co-operating with the other set of ratchet teeth, said cam being so positioned and so proportioned in length with relation to said cutout portion that said disk may be so set that said cam will automatically disengage said controlling pawl from said set of ratchet teeth and said actuating pawl at intervals determined by the setting of said stop member to permit a return movement of said disk under the control of said spring and to make said actuating pawl operative following a succession of step by step movements imparted to said disk by said disk actuating pawl, or be continuously engaged with a tooth of said set and with said actuating pawl while said disk actuating pawl is inoperative with relation to said disk, or may be continuously disengaged from said ratchet teeth and from said pawl while said disk actuating pawl is operative, an oscillatory lever having a tooth upon one arm thereof in engageable relation with said disk actuating pawl, and a spur upon said actuating pawl in engageable relation with the other arm of said lever, whereby said pawl will be oscillated with each downward movement of said disk actuating pawl, said plate having a cam slot therein guiding the movement of said disk actuating pawl in its engagement with, or disengagement from, the set of teeth upon said cam with which it co-operates, and said oscillatory lever.

30. A numbering machine embodying therein in combination with a frame, reciprocatory means mounted therein, a stem having a single ratchet tooth formed therein and connected with said means, a handhold

carried by said stem, and a spring tending to normally raise said reciprocatory means, a sequence of digit wheels carried by said means, digit wheel actuating means, and an inking mechanism co-operating with said digit wheels, of a member operative upon said digit wheels actuating means, actuating means for said member, a setting mechanism whereby the operative effect of said actuating means upon said member may be predetermined, and a plate slidably mounted in said frame, having an opening therethrough squared at one end whereby upon the tilting of said frame said plate will slide into, or out of, engaging relation with the ratchet tooth upon said stem.

31. A numbering machine embodying therein in combination with reciprocatory means, a sequence of digit wheels carried thereby, digit wheel actuating means, and an inking mechanism co-operating with said digit wheels, of a member operative upon said digit wheels actuating means, actuating means for said member, a composite controlling disk including therein a disk having a stop thereon, a second disk secured thereto and having two sections, one of which has a recessed portion about its axis, and the other of which partially closes said opening, a stop member co-operating with said stop and rotatable about an axis concentric with said disk a spring seated in said opening with one end thereof engaging said disk, and the other end thereof engaging said stop member, whereby said spring has a normal tendency to engage said stop with said stop member, and said disk is permitted to turn simultaneously with, or independently of, said stop member, a locking mechanism operative upon said stop member, co-operating

means upon said disk and carried by said reciprocatory means whereby a step by step movement is imparted to said disk with printing actuations of the machine, means co-operating with said disk and with the actuating means for the member operative upon the digit wheel actuating means, to control the functioning of the machine as predetermined by the setting of said stop member, means actuated by said means imparting a step by step movement to said disk and operative upon said actuating means to cause it to be brought into or out of the operative relation to said member, and means carried by, and operative upon the means co-operating with, said disk, whereby at the end of a number of impressions, said means co-operating with said disk positions said actuating means in operative relation to the member operative upon the digit wheel actuating means.

32. A numbering machine embodying therein in combination with reciprocatory means, a sequence of digit wheels carried thereby, digit wheel actuating means, and an inking mechanism co-operating with said digit wheels, of a member operative upon said digit wheels actuating means, pivoted upon and movable with said reciprocatory means, actuating means movable into and out of engaging relation with said member, and a setting mechanism whereby said actuating means may be caused to impart pivotal movement to said member at predetermined intervals.

In witness whereof I have hereunto affixed my signature this 14th day of October, 1925.

MAXIMILIAN H. KERN.