

E. A. LUNDVALL & W. OLSON.
NUMBERING MACHINE.
APPLICATION FILED NOV. 24, 1908.

944,451.

Patented Dec. 28, 1909.

4 SHEETS—SHEET 1.

Fig. 1.

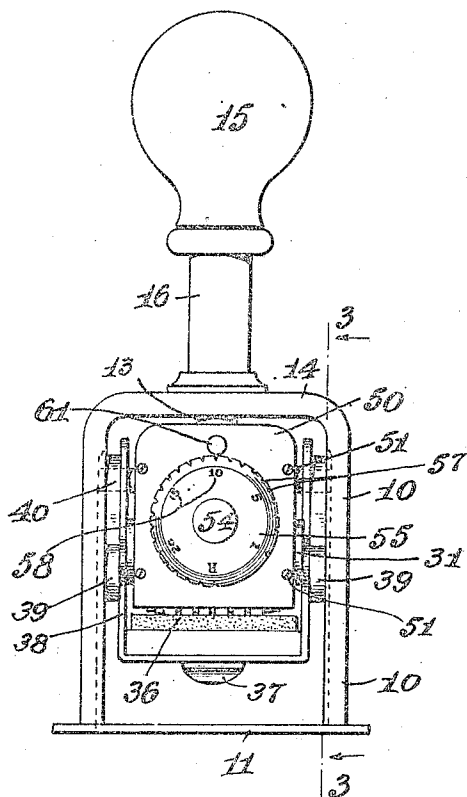
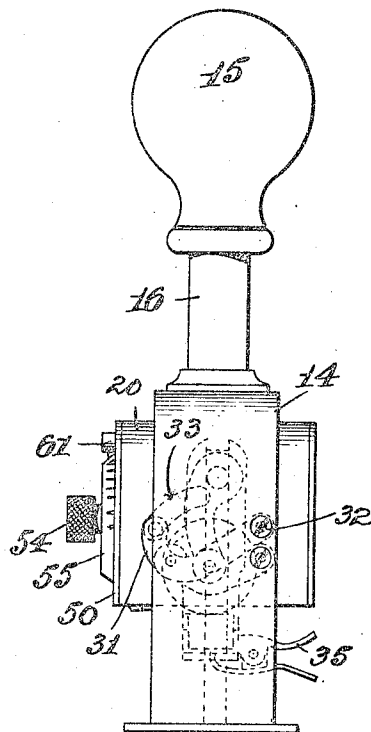


Fig. 2.



Attest:

Stephen B. Newton
May Hughes

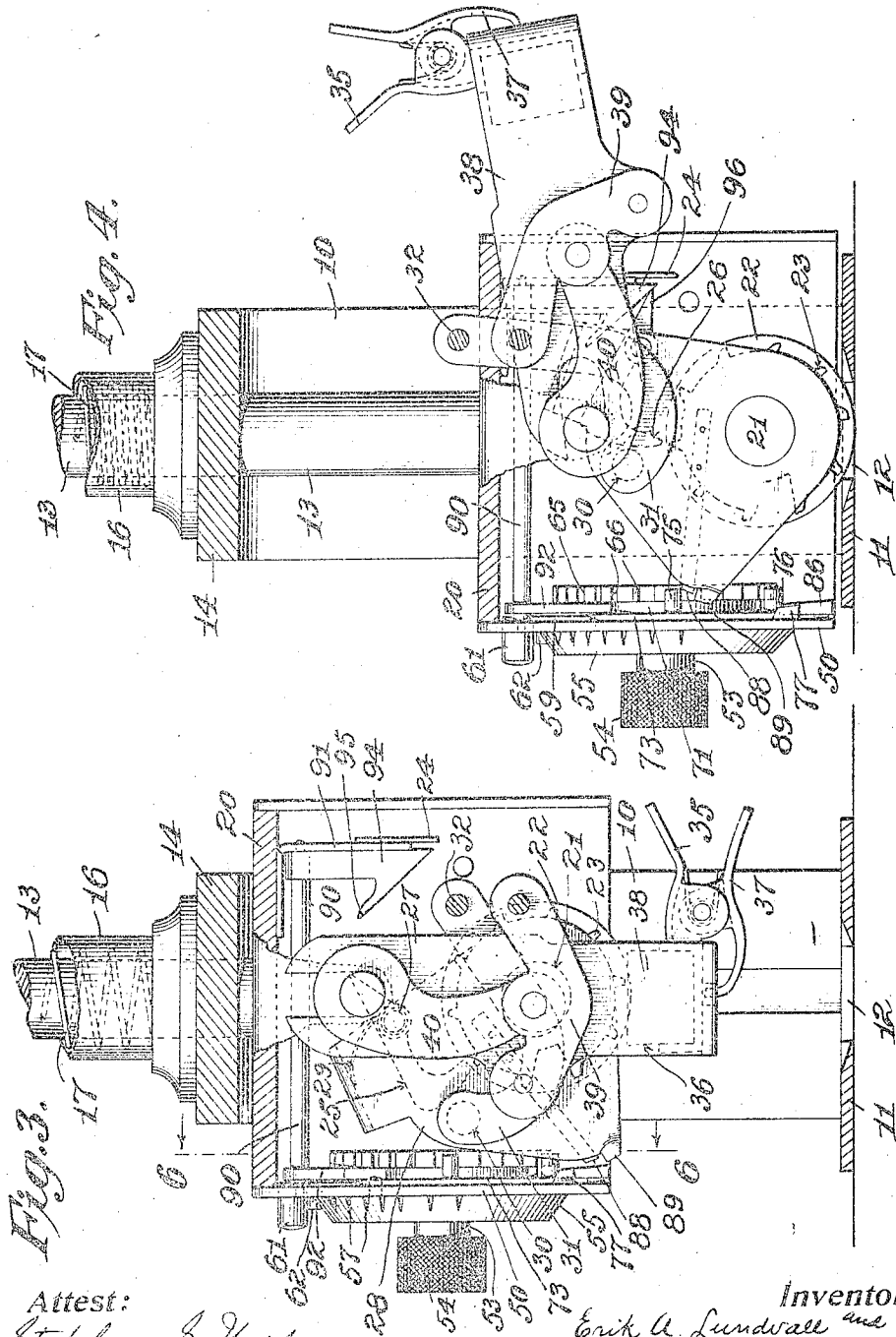
Erik A. Lundvall and Inventors.
William Olson
by *William R. Baird*
their Atty.

E. A. LUNDVALL & W. OLSON.
 NUMBERING MACHINE.
 APPLICATION FILED NOV. 24, 1908.

944,451.

Patented Dec. 28, 1909.

4 SHEETS—SHEET 2.



Attest:
 Stephen C. Newton
 May 11, 1910

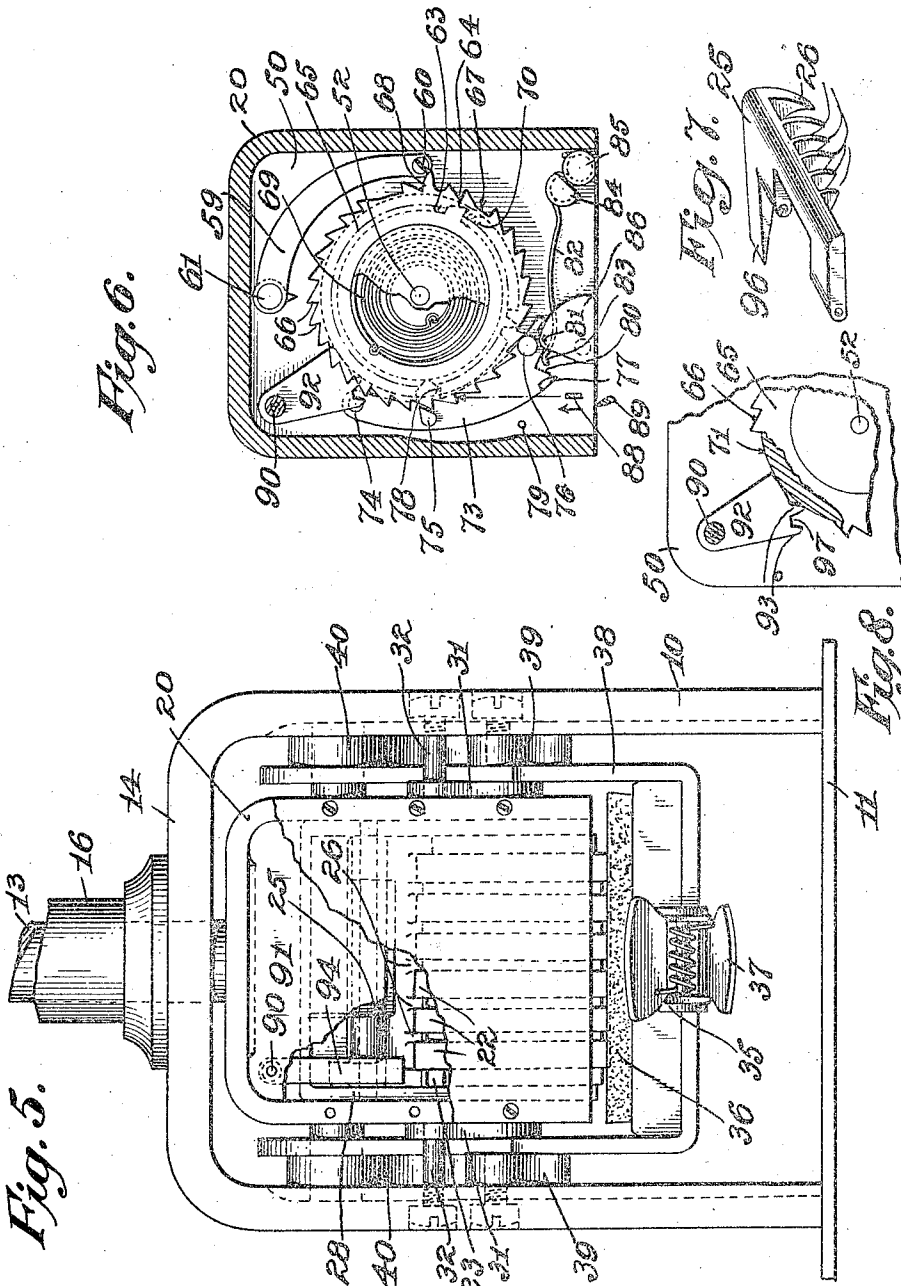
Inventors
 Erik A. Lundvall and
 William Olson
 by William R. Baird their Attys.

E. A. LUNDVALL & W. OLSON.
 NUMBERING MACHINE.
 APPLICATION FILED NOV. 24, 1908.

944,451.

Patented Dec. 28, 1909.

4 SHEETS—SHEET 3.



Attest:

Stephen C. Heyson
May Hughes

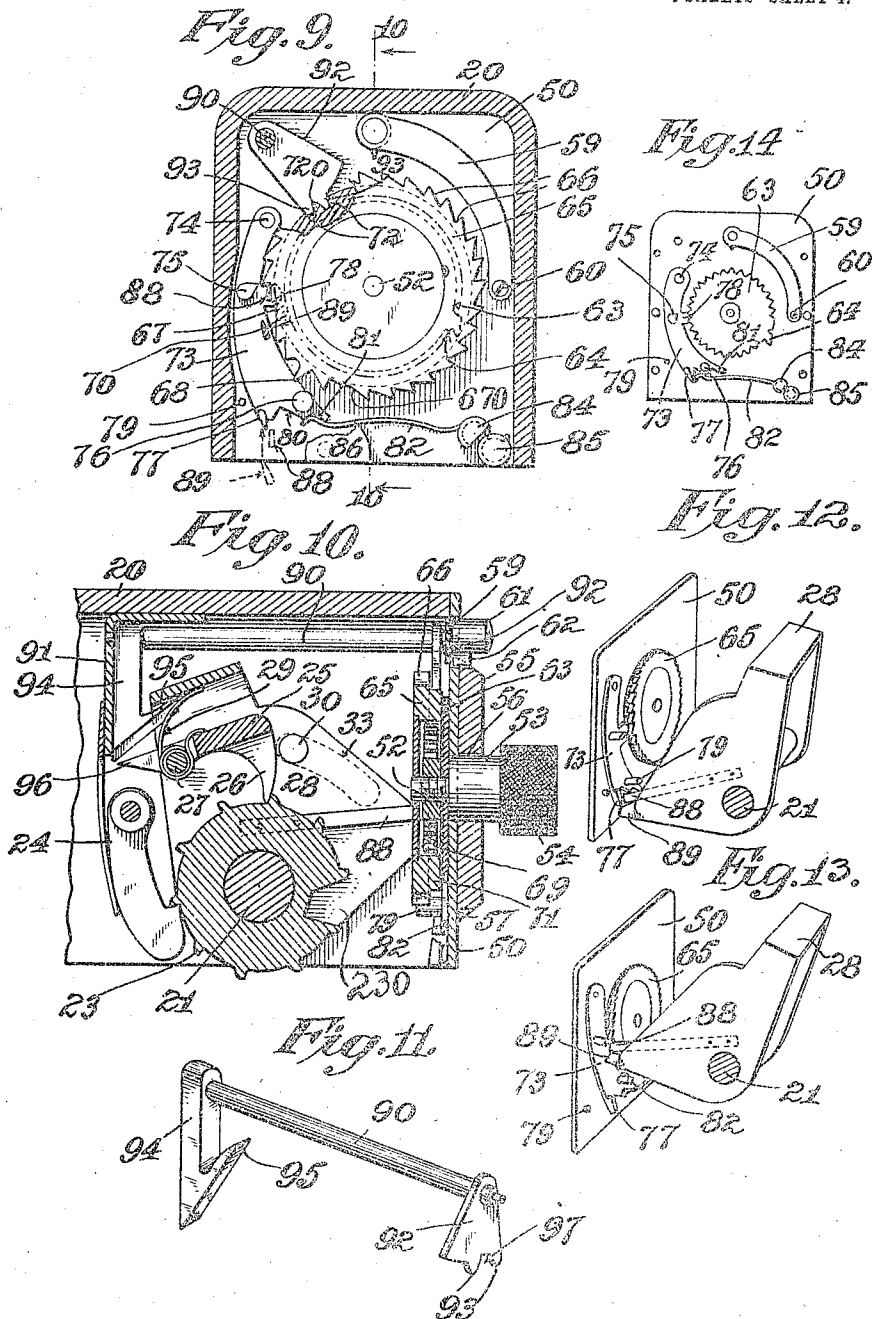
Erik A. Lundvall Inventors
and William Olson
 by *William R. Baird* their Atty.

E. A. LUNDVALL & W. OLSON.
 NUMBERING MACHINE.
 APPLICATION FILED NOV. 24, 1908.

944,451.

Patented Dec. 28, 1909.

4 SHEETS—SHEET 4.



Attest:

Stephen S. Newton
 May Hughes

Erik A. Lundvall and Inventors
 William Olson
 by William R. Baird
 their Atty.

UNITED STATES PATENT OFFICE.

ERIK A. LUNDVALL AND WILLIAM OLSON, OF BROOKLYN, NEW YORK, ASSIGNORS TO
WILLIAM C. ROBERTS, OF BROOKLYN, NEW YORK.

NUMBERING-MACHINE.

944,451.

Specification of Letters Patent.

Patented Dec. 28, 1909.

Application filed November 24, 1908. Serial No. 464,277.

To all whom it may concern:

Be it known that we, ERIK A. LUNDVALL and WILLIAM OLSON, citizens of the United States, and residents of Brooklyn, Kings county, New York, have invented certain new and useful Improvements in Numbering-Machines, of which the following is a specification.

Our invention relates to numbering machines of that class which comprise a series of numeral wheels arranged in a frame adapted to be vertically reciprocated by means of a handle and when reciprocation automatically actuates a multiple pawl whereby the numeral wheels are normally advanced automatically in unison with each actuation of the machine, and its novelty consists in the construction and adaptation of the parts whereby means are provided to retain on the numeral wheels and repeat any desired number a predetermined number of times without any further or other attention on the part of the operator.

Figure 1 is a front elevation of the device when assembled; Fig. 2 is a side elevation of the same, concealed parts being shown in dotted outline; Fig. 3 is a vertical section on the plane of the line 3—3 in Fig. 1 with the handle in its uppermost position; Fig. 4 is a similar view showing the position of the same parts when the handle is in its depressed position; Fig. 5 is a rear elevation with a portion of the plate removed; Fig. 6 is a vertical section on the plane of the line 6—6 in Fig. 3; Fig. 7 is a perspective of the multiple pawl; Fig. 8 is a detail of the rock arm; Fig. 9 is a vertical section similar to the view shown in Fig. 6; Fig. 10 is a section on the plane of the line 10—10 in Fig. 9 and Fig. 11 is a perspective detail of the interrupter rock arm. Figs. 12 and 13 are perspectives showing the relations of the sub-frame pawl and ratchet wheel in two positions, and Fig. 14 is a rear elevation of the positioning disk.

In the drawings, 10 is a stationary frame having a bottom piece 11 provided with an aperture 12. This bottom piece is placed upon the surface on which the number set up on the numeral wheels is to be imprinted and the printing zone is in a plane coincident with the lower surface of the bottom piece.

A rod 13 is adapted to reciprocate vertically in an aperture provided for that pur-

pose in the top member 14 of the frame 10. This rod terminates in a handle 15 and is guided in its reciprocation by a sleeve 16 secured to, or made integral with, the top member 14, and which sleeve contains a compression spring 17 encircling the rod 13 and normally tending to press the handle upwardly.

To the lower end of the rod 13 is secured a U-shaped sub-frame 20 open at the bottom. Transversely arranged across this frame is a numeral wheel shaft 21 on which is loosely mounted a series of numeral wheels 22, each displaying the digits in regular order on their peripheries. These wheels are each provided with a ratchet disk 23 secured to or made integral therewith. A series of spring pressed stops 24 (Fig. 10) serve to prevent their over rotation. A multiple pawl 25 (Figs. 7 and 10) provided with teeth 26 of varying length decreasing in size toward the wheels of higher order is adapted to actuate the ratchet disks 23. Each disk has one deep tooth 230 (Fig. 10) to effect the carrying from a wheel of lower order, to a wheel of higher order, in the usual manner. The multiple pawl is provided with a pivot 27 seated in bearings in a U-shaped pawl frame 28, and with a restoring spring 29 so that the pawl 25 may move relative to the frame 28 but normally is moved with it; it has also a rearwardly projecting tail 96.

The pawl frame 28 is loosely mounted on the numeral wheel shaft 21 and is provided with two laterally projecting pins 30 (Figs. 3 and 10), to the outer ends of which are secured curved links 31, each secured in turn to a pin 32 inwardly projecting from the main frame 10. The pins 30 travel in curved guide slots 33 (Fig. 10) in the sub-frame 20.

The arrangement of the parts above described is such that when the handle 15 is depressed and the sub-frame 20 moves down with it, the links 31 are swung on their pivots 32 and rock the pawl frame 28 and with it the multiple pawl 25 so that the units tooth of the pawl will, at each reciprocation of the handle, move the units numeral wheel one notch and when this wheel is moved beyond "9" will move the tens wheel one notch.

The inking mechanism comprises a detachable holder 35 carrying an inking pad 36. This holder is secured by means of a

spring clip 37 to a swinging U-shaped frame 38 which is provided on each side with links 39 and 40 whereby the ink pad 36 is brought to contact with the printing faces of the numeral wheels at each upward movement of the handle.

The parts so far described form no part of our invention except as they cooperate with the parts hereinafter mentioned.

At the front of the machine is secured a plate 50 by means of screws 51 or in any other suitable manner. Transversely mounted on this plate is a shaft 52 (Fig. 10) carrying a barrel 53, terminating in a knurled finger knob 54 and carrying a dial 55, appropriately secured thereto, for instance, by means of a key 56 and which disk is provided with notches 57 on its periphery and graduations 58 (Fig. 1) on its face and which rotates in close contact with the face of the plate 50.

On the rear of the plate 50 is secured a flat spring 59 (Figs. 6 and 9) by any suitable means, as a screw 60, and which spring terminates in a catch pin 61 (Figs. 3 and 4) adapted to pass through a hole in the plate 50 and is provided with a catch 62 adapted to engage the notches 57 on the edge of the dial 55.

Secured to the shaft 52, and arranged at the rear of the plate 50, is a positioning disk 63 provided with a projection 64, and at the rear of this disk, and loosely mounted on the shaft 52, is a ratchet wheel 65, the edge of which is provided with teeth 66. At two points 67 and 670, respectively, a tooth is omitted and at another point there is a trip 68 projecting outside of its periphery. A spring 69 coiled around and secured to the shaft 52 and to the ratchet wheel 65 serves to return the latter to its original position after it has been moved therefrom. The wheel 65 has also an inwardly projecting pin 70 adapted to engage the projection 64 on the wheel 63 and an annular flange 71 having two notches 72 between which is a high tooth 720.

A flat controller 73 secured to the plate 50 by a pivot 74 is provided with an inwardly projecting detent 75 adapted to engage the teeth 66 in order to prevent the backward rotation of the wheel 65; also with an inwardly projecting trip pin 76 adapted to engage the trip 68 on the wheel 65; also with an inwardly projecting lug 77, whereby it may be restored to its original position, and, finally, with a pointed stop arm 78 projecting into the notches between the teeth on the disk 63. A stop 79 on the plate 50 limits the movement of the controller in a reverse direction. At the lower edge of the controller there are two notches 80 and 81 each adapted to engage a spring 82 (provided with a bend 83 Fig. 6) and secured to the plate 50 by two pivots 84 and 85 around

which it is coiled. When the bend 83 is engaged with the notch 80 it tends to maintain the engagement of the detent 75 with the teeth 66; when it is engaged with the notch 81, it tends to prevent such engagement and to hold the controller 73 against the stop 79 and away from the wheel 65. A guard 86 serves to keep the spring 82 close to the surface of the plate 50, and in the same vertical plane as the controller 73.

On one leg of the pawl frame 28, there is arranged an elastic pawl 88, the end of which is adapted to engage the teeth 66 of the ratchet wheel 65 (Fig. 9). The extremity 89 of the same leg of the pawl frame 28 is adapted to engage the projecting lug 77 on the controller 73.

A transverse shaft 90 is seated to rock in bearings in the plate 50 and in a bracket 91 secured to the sub-frame 20. Immediately back of the plate 50, it has an arm 92 having two teeth 93 (Fig. 11) between which is an indentation 97, and at its other extremity, it is provided with an interrupter 94 in the form of a hook, the beak 95 of which is adapted to engage the tail 96 on the multiple pawl frame 25.

Assuming the machine to be set to consecutively number, in which position the dial will be set at 1, the operation of the device is as follows:—The pin 61 is pressed inwardly until the catch 62 is out of engagement with any of the notches 57 of the dial 55. The latter is then rotated until one of the notches 57 corresponding to the number of repetitions of the number set up on the numeral wheels, is opposite the catch 62 when the pin 61 is released and the catch is allowed to engage the dial. As the dial 55 is turned to the left to set it, the ratchet wheel 65 is permitted to turn with it by reason of the teeth of the disk 63 engaging with the stop arm 78, on the controller 73, and thus moving the detent 75 out of the path of each tooth 66 of the ratchet wheel 65. In Fig. 1 the dial is shown thus set at "10." As the dial 55, positioning disk 63, and ratchet wheel 65 are on the same shaft 52, the three turn together, the spring 69 between the wheel 65 and the shaft 52 serving as a flexible connection and causing the wheel to rotate so that if the dial is turned at "10" then the wheel 65 has been turned ten spaces or notches from its normal position, and the high tooth 720 of its annular flange 71 has similarly been turned through the same arc from its normal position while the positioning disk 63 has moved ten notches and one of its notches will engage the pointed stop arm 78 of the controller 73.

As the sub-frame 20 moves downward when actuated by the handle, the pawl 88 moves upward relative to this sub-frame and engages one of the teeth 66 and advances the wheel 65 one notch against the tension of its

spring 69. Similarly it is advanced one notch at each actuation of the device, while the detent 75 prevents any backward movement of the wheel.

5 In the normal operation of the machine, when not provided with our invention, the multiple pawl 25 is constantly in engagement with the numeral wheels and advances the units wheel one tooth at each actuation
10 of the handle. It is the purpose of our invention to interrupt the function of this pawl a number of predetermined times coinciding with the number indicated by the position of the dial 55. To that end the rock
15 shaft 90 and interrupter 94 and their connections are employed.

The parts are so arranged that when the dial is set at 1 they are in normal position in which each actuation of the machine will
20 advance the unit numeral wheel one step, and consecutive numbering will take place. In this normal position, as shown in Fig. 9, the arm 92 rests upon the tooth 720 of the wheel which is connected with the ratchet
25 wheel 65 and travels with it when the ratchet wheel is moved either by the turning of the dial to set it, or in the actuation of the machine. When, however, it is desired to interrupt the normal consecutive numbering
30 and cause the machine to repeat any number a given number of times before progressing the numeral wheels, the dial is turned any desired number of steps, say for instance ten steps, to bring the 10 notch
35 in position to be engaged with catch 61 as shown in Fig. 1.

In setting the dial to 10, it is turned to the right from the normal position and this carries the annular flange 71 around ten steps,
40 carrying with it the tooth 720, toothless space 67 and tooth 68, so that the arm 92 will remain in abnormal position during nine steps of turning of the ratchet wheel, keeping the interrupter in the way of the
45 tail of the multiple pawl and preventing the engagement of said pawl with the ratchet disks of the numeral wheels, and obviously preventing their turning so that the number exposed on the numeral wheels is
50 repeated. The tenth step also causes a tenth repetition but the tooth 720 has been brought around to the position shown in Fig. 9 in which the arm 92 has been actuated to the right by the tooth 720 and has
55 turned the interrupter out of the way of the multiple pawl so that the pawl is permitted to move the unit numeral wheel one step. The next actuation of the handle will, however, imprint a number one unit higher than
60 before, because the units wheel has moved one space. During this next actuation the pawl 89 on the extremity of the frame 28 is caused to engage with the projection 77 on the controller 73 and the latter is thus posi-
65 tively moved against the tension of the

spring 82, until the detent 75 is again brought into engagement with the teeth 66 and the bend 83 is caused to reengage with the notch 80. The parts are then in the same position as they were before the first
70 actuation took place, the dial 55 remains set at the same number and the number set up on the wheels will be repeated the same number of times until the cycle of operations above described takes place again.
75 The dial 55 can, of course, be set at a new number or remain at the old number, as may be desired.

To cause the machine to repeat continuously, the dial is turned and set at "R".
80 This turns the annular flange to a position in which the tooth 720 is to the left of the position shown in Fig. 9 and the toothless space 670 is in the position of the space 67 in Fig. 9 so that the interrupter will remain
85 indefinitely in position in the path of the tail of the multiple pawl and prevent that pawl from actuating the units numeral wheel, and the pawl 88 will move into the space 670 at each actuation of the machine
90 and have no effect on the ratchet wheel 65.

The positioning disk 63 with its projection 64 in the path of the inwardly projecting pin 70 on the ratchet wheel 65 provides means whereby the device may be reset
95 before the predetermined number of repetitions has been completed. In order to do this, before the ratchet wheel 65 has reached the end of its travel, the pin 61 is pressed inwardly to release the catch 62 from the
100 notches 57 of the dial 55, and the dial is rotated and set to the new number. Such rotation rotates the positioning disk 63 and moves its projection 64 to a new position.
105 At the same time, as soon as it is rotated, the sloping sides of the notch with which the pointed stop arm 78 on the controller 73 are engaged, causes the controller to become disengaged from the disk. But, as soon as
110 the disk has arrived at its new position, one of its notches is reengaged by the stop arm 78 at the next actuation of the handle, and when the projecting pin 70 on the ratchet
115 wheel 65 reaches the projection 64 on the disk 63 the ratchet wheel 65 will again be automatically returned to a zero position.

What we claim as new is:

1. The combination with the numeral printing wheels, the actuating handle, and the numeral printing wheel advancing mechanism including an actuating pawl, of a dial,
120 a ratchet wheel yieldably rotatable therewith, means for holding the dial, means for moving the ratchet wheel once at each actuation of the handle, an interrupter adapted
125 to disable the actuating pawl and means for moving the interrupter from the ratchet wheel.

2. The combination with the numeral printing wheels, the actuating handle, and
130

the numeral printing wheel advancing mechanism including an actuating pawl, of a dial, a ratchet wheel yieldably rotatable therewith, means for holding the dial, means for moving the ratchet wheel once at each actuation of the handle, an interrupter adapted to disable the actuating pawl and means for moving the interrupter from the ratchet wheel, comprising a rocking arm adapted to engage with the wheel and a shaft between the rocking arm and the interrupter.

3. The combination with the numeral printing wheels, the actuating handle, and the numeral printing wheel advancing mechanism including an actuating pawl, of a dial, a ratchet wheel yieldably rotatable therewith, means for holding the dial, means for moving the ratchet wheel once at each actuation of the handle, an interrupter adapted to disable the actuating pawl and means for moving the interrupter from the ratchet wheel when the latter arrives at a predetermined point in its travel.

4. The combination with the numeral printing wheels, the actuating handle, and the numeral printing wheel advancing mechanism including an actuating pawl, of a dial, a ratchet wheel yieldably rotatable therewith, means for holding the dial, means for moving the ratchet wheel once at each actuation of the handle, an interrupter adapted to disable the actuating pawl and means for moving the interrupter from the ratchet wheel when the latter arrives at a predetermined point in its travel determined by the extent of rotation of the dial.

5. The combination with the numeral printing wheels, the actuating handle, and the numeral printing wheel advancing mechanism including an actuating pawl, of a dial, a ratchet wheel yieldably rotatable therewith, means for holding the dial, means for moving the ratchet wheel once at each actuation of the handle, an interrupter adapted to disable the actuating pawl and means for automatically moving the interrupter from the ratchet wheel to restore the function of the actuating pawl.

6. The combination with the numeral printing wheels, the actuating handle, and the numeral printing wheel advancing mechanism including an actuating pawl, of a dial, a ratchet wheel yieldably rotatable therewith, means for holding the dial, means for moving the ratchet wheel once at each actuation of the handle, an interrupter adapted to disable the actuating pawl and means for automatically moving the interrupter from the ratchet wheel to restore the function of the actuating pawl and automatically moving it to its former position again to disable the actuating pawl.

7. The combination with the numeral printing wheels, the actuating handle, and the numeral printing wheel advancing mechanism,

including an actuating pawl of a dial, a ratchet wheel yieldably rotatable therewith, means for holding the dial, means for moving the ratchet wheel once at each actuation of the handle, an interrupter adapted to disable the actuating pawl, a device on the ratchet wheel for moving the interrupter, the position of which device and the time of its actuation is determined by the extent of the rotation of the ratchet wheel in unison with that of the dial.

8. The combination with the numeral printing wheels, the actuating handle, and the numeral printing wheel advancing mechanism, including an actuating pawl, of a dial, a ratchet wheel yieldably rotatable therewith, means for holding the dial, means for moving the ratchet wheel once at each actuation of the handle comprising a pawl adapted to engage the teeth thereof and a detent adapted to maintain the engagement of said pawl with the ratchet wheel.

9. The combination with the numeral printing wheels, the actuating handle, and the numeral printing wheel advancing mechanism, including an actuating pawl, of a dial, a ratchet wheel yieldably rotatable therewith, means for holding the dial, means for moving the ratchet wheel once at each actuation of the handle comprising a pawl adapted to engage the teeth thereof and a controller automatically adapted to maintain the engagement of said pawl with the ratchet wheel.

10. The combination with the numeral printing wheels, the actuating handle, and the numeral printing wheel advancing mechanism, including an actuating pawl, of a dial, a ratchet wheel yieldably rotatable therewith, means for holding the dial, means for moving the ratchet wheel once at each actuation of the handle comprising a pawl adapted to engage the teeth thereof and a controller consisting of an oscillating member provided with a detent adapted to engage the ratchet wheel, and with a pin adapted to engage with a part of the ratchet wheel to move the detent from such engaging position.

11. The combination with the numeral printing wheels, the actuating handle, and the numeral printing wheel advancing mechanism, of an interrupter adapted to be interposed in the path of the latter to prevent it from acting, and means adapted to move the interrupter including a ratchet wheel and a connection between it and the actuating handle, and further means adapted automatically to restore the interrupter to its former position after such movement, including a connection between it and the actuating handle.

12. The combination with the numeral printing wheels, the actuating handle, and the numeral printing wheel advancing mechanism,

anism, of an interrupter adapted to be interposed in the path of the latter to prevent it from acting and means adapted to move the interrupter including a ratchet wheel and a connection between it and the actuating handle, comprising a shaft, a rocking arm, a wheel adapted to be moved from the actuating handle through intermediate mechanism and means for causing the rocking arm and wheel to become engaged at one point in the rotation of the latter.

13. The combination with the numeral printing wheels, the actuating handle, and the numeral printing wheel advancing mechanism, of an interrupter adapted to be interposed in the path of the latter to prevent it from acting and means adapted to move the interrupter including a ratchet wheel and a connection between it and the actuating handle, comprising a shaft, a rocking arm, a wheel adapted to be moved from the actuating handle through intermediate mechanism and means for causing the rocking arm and wheel to become engaged at one point in the rotation of the latter, including a tooth on the wheel adapted to engage an indentation on the arm.

14. The combination with the numeral printing wheels, the actuating handle, and the numeral printing wheel advancing mechanism, of an interrupter adapted to be interposed in the path of the latter to prevent it from acting and means adapted to move the interrupter comprising a shaft, a rocking arm, a wheel adapted to be moved from the actuating handle through intermediate mechanism and means for causing the rocking arm and wheel to become engaged at a predetermined point in the rotation of the latter, including a tooth on the wheel adapted to engage an indentation on the arm.

15. In a device of the character described, a dial, means for holding it at any point on its periphery, a shaft on which it is mounted, a ratchet wheel loosely mounted on the same shaft, a yieldable connection between the ratchet wheel and the shaft, an actuating handle, means actuated by the handle for rotating the ratchet wheel step by step against the tension of the yieldable connection, a detent for preventing the backward rotation of the ratchet wheel; and means carried by the wheel for interrupting the function of the detent whereby the wheel is automatically returned to its original position.

16. In a device of the character described, a dial, means for holding it at any point on its periphery, a shaft on which it is mounted, a ratchet wheel loosely mounted on the same shaft, a yieldable connection between the ratchet wheel and the shaft, an actuating handle, means actuated by the handle for rotating the ratchet wheel step by step against the tension of the yieldable connection,

a detent for preventing the backward rotation of the ratchet wheel and means carried by the wheel for interrupting the function of the detent whereby the wheel is automatically returned to its original position and means for restoring the function of the detent.

17. In a device of the character described, a dial, means for holding it at any point on its periphery, a shaft on which it is mounted, a ratchet wheel loosely mounted on the same shaft, a yieldable connection between the ratchet wheel and the shaft, an actuating handle, means actuated by the handle for rotating the ratchet wheel step by step against the tension of the yieldable connection, a detent for preventing the backward rotation of the ratchet wheel and means carried by the wheel for interrupting the function of the detent whereby the wheel is automatically returned to its original position and means for restoring the function of the detent at the next movement of the actuating handle.

18. In a device of the character described, a dial, means for holding it at any point on its periphery, a shaft on which it is mounted, a ratchet wheel loosely mounted on the same shaft, a yieldable connection between the ratchet wheel and the shaft, an actuating handle, means actuated by the handle for rotating the ratchet wheel step by step against the tension of the yieldable connection, a detent for preventing the backward rotation of the ratchet wheel and means carried by the wheel for interrupting the function of the detent whereby the wheel is automatically returned to its original position and means for restoring automatically the function of the detent.

19. In a device of the character described, a dial, means for holding it at any point on its periphery, a shaft on which it is mounted, a ratchet wheel loosely mounted on the same shaft, a yieldable connection between the ratchet wheel and the shaft, an actuating handle, means actuated by the handle for rotating the ratchet wheel step by step against the tension of the yieldable connection, a detent for preventing the backward rotation of the ratchet wheel and means carried by the wheel for interrupting the function of the detent whereby the wheel is automatically returned to its original position and means for restoring automatically the function of the detent at the next movement of the actuating handle.

20. In a device of the character described, a dial, means for holding it at any point on its periphery, a shaft on which it is mounted, a ratchet wheel loosely mounted on the same shaft, a yieldable connection between the ratchet wheel and the shaft, an actuating handle, means actuated by the handle for rotating the ratchet wheel

step by step against the tension of the yieldable connection, a detent for preventing the backward rotation of the ratchet wheel, and means carried by the wheel for interrupting the function of the detent whereby the wheel is automatically returned to its original position, including a stop pin on the wheel.

21. In a device of the character described, a dial, means for holding it at any point on its periphery, a shaft on which it is mounted, a ratchet wheel loosely mounted on the same shaft, a spring intermediate the ratchet wheel and the shaft, an actuating handle, a frame moved thereby, a pawl on the frame adapted to engage the ratchet wheel at each actuation of the handle and a controller adapted to prevent the backward rotation influence of its spring.

22. In a device of the character described, a dial, means for holding it at any point on its periphery, a shaft on which it is mounted, a ratchet wheel loosely mounted on the same shaft, a spring intermediate the ratchet wheel and the shaft, an actuating handle, a frame moved thereby, a pawl on the frame adapted to engage the ratchet wheel at each actuation of the handle, a controller adapted to prevent the backward rotation influence of its spring and means carried by the wheel adapted to contact with the controller to move it out of an engaging position with the ratchet wheel.

23. In a device of the character described, a dial, means for holding it at any point on its periphery, a shaft on which it is mounted, a ratchet wheel loosely mounted on the same shaft, a spring intermediate the ratchet wheel and the shaft, an actuating handle, a frame moved thereby, a pawl on the frame adapted to engage the ratchet wheel at each actuation of the handle, a controller adapted to prevent the backward rotation influence of its spring and yielding means for maintaining such engagement.

24. In a device of the character described, a dial, means for holding it at any point on its periphery, a shaft on which it is mounted, a ratchet wheel loosely mounted on the same shaft, a spring intermediate the ratchet wheel and the shaft, an actuating handle, a frame moved thereby, a pawl on the frame adapted to engage the ratchet wheel at each actuation of the handle, a controller adapted to prevent the backward rotation influence of its spring and yielding means for maintaining such engagement, consisting of a notch on the controller and a spring adapted to engage therewith.

25. In a device of the character described, a dial, means for holding it at any point on its periphery, a shaft on which it is mounted, a ratchet wheel loosely mounted on the same shaft, a spring intermediate the ratchet wheel and the shaft, an actuating handle, a

frame moved thereby, a pawl on the frame adapted to engage the ratchet wheel at each actuation of the handle, a controller adapted to prevent the backward rotation influence of its spring and means carried by the wheel adapted to contact with the controller to move it out of an engaging position with the ratchet wheel and yielding means adapted to keep the controller in its new position.

26. In a device of the character described, a dial, means for holding it at any point on its periphery, a shaft on which it is mounted, a ratchet wheel loosely mounted on the same shaft, a spring intermediate the ratchet wheel and the shaft, an actuating handle, a frame moved thereby, a pawl on the frame adapted to engage the ratchet wheel at each actuation of the handle, a controller adapted to prevent the backward rotation influence of its spring and means carried by the wheel adapted to contact with the controller to move it out of an engaging position with the ratchet wheel and yielding means adapted to keep the controller in its new position, consisting of a notch on the controller and a spring adapted to engage therewith.

27. In a device of the character described, a dial, means for holding it at any point on its periphery, a shaft on which it is mounted, a ratchet wheel loosely mounted on the same shaft, a spring intermediate the ratchet wheel and the shaft, an actuating handle, a frame moved thereby, a pawl on the frame adapted to engage the ratchet wheel at each actuation of the handle, a controller adapted to prevent the backward rotation influence of its spring and means carried by the wheel adapted to contact with the controller to move it out of an engaging position with the ratchet wheel and yielding means for keeping the controller in position when either in or out of engagement with the ratchet wheel.

28. In a device of the character described, a dial, means for holding it at any point on its periphery, a shaft on which it is mounted, a ratchet wheel loosely mounted on the same shaft, a spring intermediate the ratchet wheel and the shaft, an actuating handle, a frame moved thereby, a pawl on the frame adapted to engage the ratchet wheel at each actuation of the handle, a controller adapted to prevent the backward rotation influence of its spring and means carried by the wheel adapted to contact with the controller to move it out of an engaging position with the ratchet wheel and yielding means for keeping the controller in position when either in or out of engagement with the ratchet wheel, consisting of two notches on the controller and a spring adapted to engage either notch.

29. In a device of the character described, a dial, means for holding it at any point on its periphery, a shaft on which it is mount-

ed, a ratchet wheel loosely mounted on the same shaft, a spring intermediate the ratchet wheel and the shaft, an actuating handle, a frame moved thereby, a pawl on the frame adapted to engage the ratchet wheel at each actuation of the handle, a controlled adapted to prevent the backward rotation influence of its spring and means carried by the wheel adapted to contact with the controller to move it out of an engaging position with the ratchet wheel and positive means carried by the frame to restore it automatically to such engaging position.

30. In a device of the character described, a dial, means for holding it at any point on its periphery, a shaft on which it is mounted, a ratchet wheel loosely mounted on the same shaft, a spring intermediate the ratchet wheel and the shaft, an actuating handle, a frame moved thereby, a pawl on the frame adapted to engage the ratchet wheel at each actuation of the handle, a controller adapted to prevent the backward rotation influence of its spring and means carried by the wheel adapted to contact with the controller to move it out of an engaging position with the ratchet wheel and positive means carried by the frame to restore it automatically to such engaging position and yielding means for thereafter maintaining such engagement.

31. In a machine of the character described, including an actuating handle, inking mechanism, rotatable printing numeral wheels and means for normally advancing them one unit at each actuation of the handle; means whereby a number set up on the numeral wheels is automatically repeated a predetermined number of times and for varying the extent of such predetermination and repeating it after such variation, including a counting dial, a positioning disk adapted to be set to position simultaneously therewith, a wheel adapted to be moved one step at each actuation of the machine and a stop on the disk preventing the rotation of the wheel beyond a point corresponding to the number at which the counting disk is set.

32. In a machine of the character described, including an actuating handle, inking mechanism, rotatable printing numeral wheels and means for normally advancing them one unit at each actuation of the handle; means whereby a number set up on the numeral wheel is automatically repeated any number of times at the will of the operator, and for varying the number of such predeterminations before the original number has been completed, including a counting dial, a positioning disk adapted to be set to position simultaneously therewith, a wheel adapted to be moved one step at each actuation of the machine and a stop on the disk preventing the rotation of the wheel beyond a point corresponding to the number at which the counting disk is set.

33. In a machine of the character described, including an actuating handle, inking mechanism, rotatable printing numeral wheels and means for normally advancing them one unit at each actuation of the handle; means whereby a number set up on the numeral wheels is automatically repeated a predetermined number of times, automatically advanced one unit and automatically repeated the same predetermined number of times, and for varying the number of either such predeterminations before they have been completed, including a counting dial, a positioning disk adapted to be set to position simultaneously therewith, a wheel adapted to be moved one step at each actuation of the machine and a stop on the disk preventing the rotation of the wheel beyond a point corresponding to the number at which the counting disk is set.

Witness our hands this 20th day of November, 1908, at Brooklyn, N. Y.

ERIK A. LUNDVALL.
WILLIAM OLSON.

Witnesses:

G. S. HICE,
I. FLEMING.