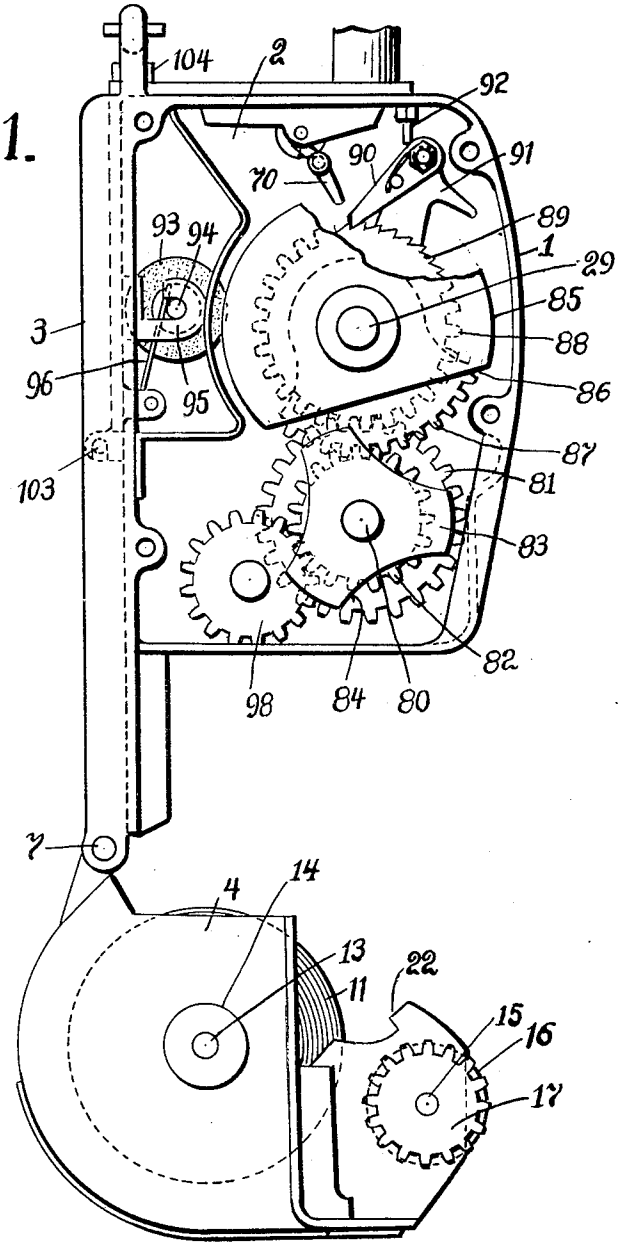
March 6, 1934. P. HORN 1,949,744

TICKET ISSUING REGISTER

Original Filed Nov. 18, 1929 4 Sheets-Sheet 1

Fig. 1.



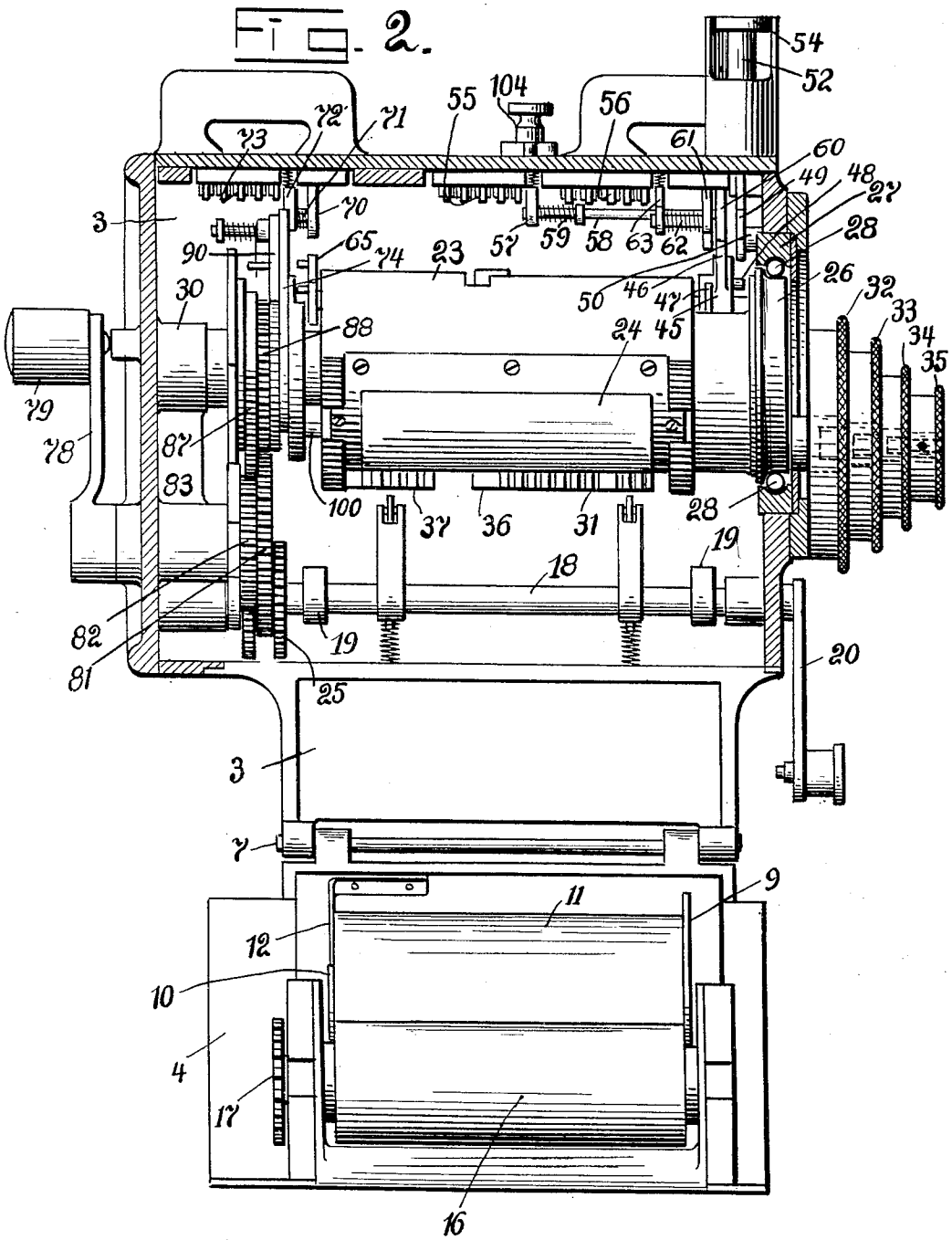
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Fig. 2.



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Fig. 3.

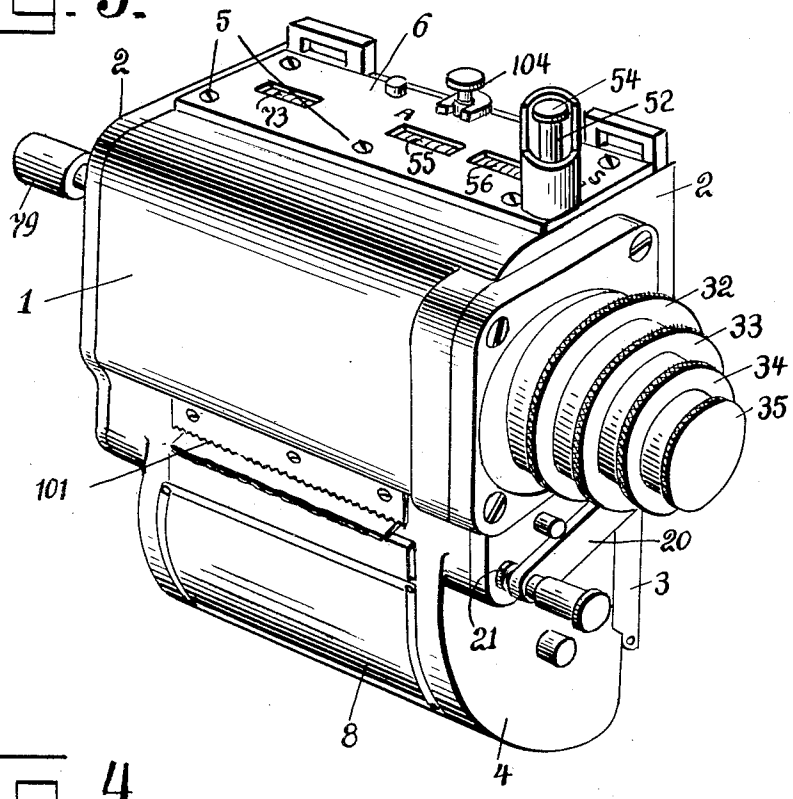
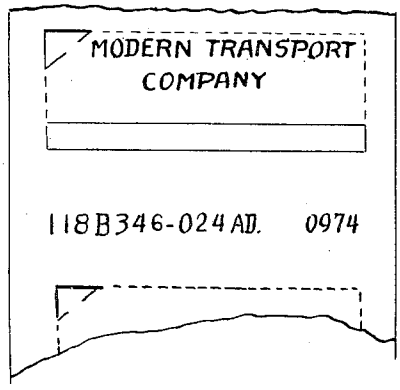


Fig. 4.



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Fig. 5.

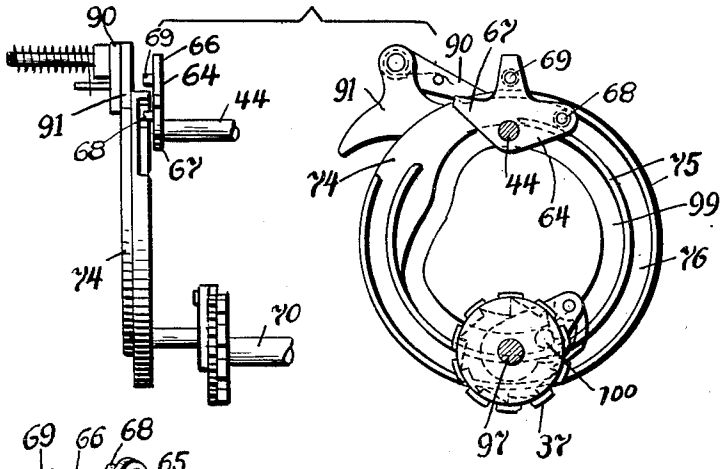


Fig. 6.

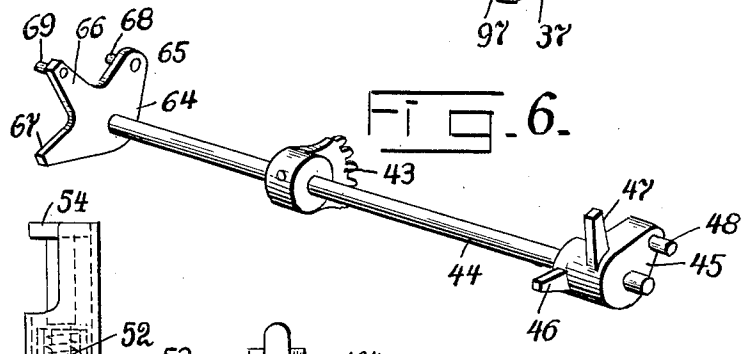
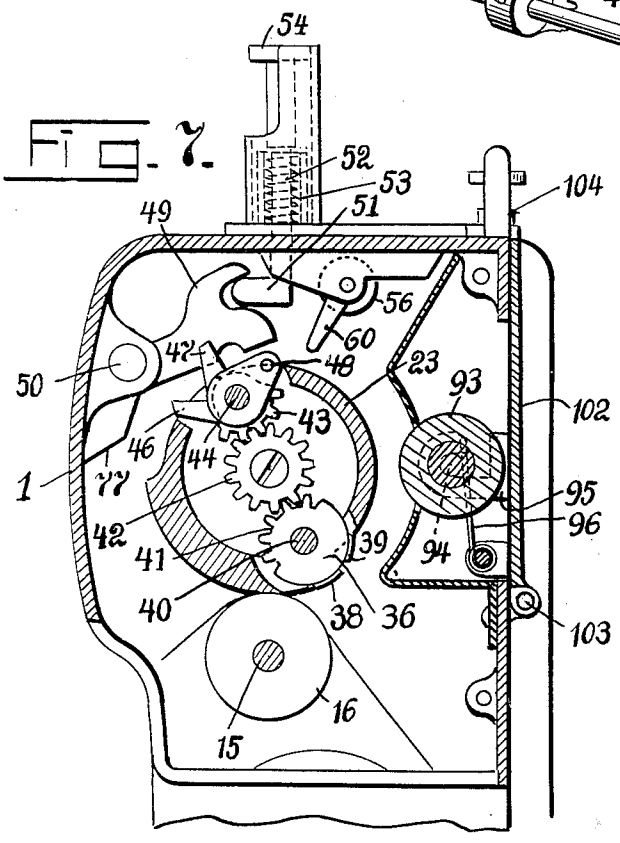


Fig. 7.



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Patented Mar. 6, 1934

1,949,744

UNITED STATES PATENT OFFICE

1,949,744

TICKET ISSUING REGISTER

Paul Horn, Berlin, Germany, assignor to Ohmer Fare Register Company, Dayton, Ohio

Application November 18, 1929, Serial No. 407,900. Renewed August 1, 1933. In Germany February 6, 1929

2 Claims. (Cl. 235—31)

This invention relates to a ticket-printing and issuing register of such a small size and weight that it can be readily carried by the operator. It is especially adapted for use in transportation vehicles such as buses and street cars.

One of the objects of the invention is to provide a paper magazine so that a fresh roll may be readily installed without the necessity of drawing the paper between numerous feed rolls with ensuing loss of time. In this invention the drawing of the paper between numerous feed rolls is entirely eliminated and the introduction of a new paper roll is accomplished with a means of handling it in a moment's time. This is made possible because the paper roll is lodged in a swinging compartment of the cabinet. Another object of the invention is to provide a machine adapted to issue a plurality of different kinds of tickets with counting mechanisms for the number of tickets of each kind isssued. A push button is provided. If the push button is not operated the machine will issue one kind of ticket and if it is operated it will issue another kind of ticket, and after issuing the same the machine will upon a subsequent operation issue the first kind of ticket. Automatic means are provided to return the push button to its inoperated position after each operation of the machine. For instance: there are more full fare tickets sold than there are half-fare tickets. The machine will therefore normally issue a full fare ticket and will issue a half-fare ticket only when the push button is operated and will automatically return the push button to its inoperated position as soon as the half-fare ticket has been issued, unless the push button has again been manipulated.

Another object of the invention is to print the tickets at the time of distribution. Another object of the invention is to permit an even feed of the paper so that the impression roll by means of a segment gear is motivated only during a portion of the printer roll revolution and during the remainder of the printer roll revolution the impression roll remains immovable. This immovable position of the impression roll is accomplished by means of a locking star and locking plate.

Other objects of the invention will appear in the detailed description and claims which follow.

In the drawings—

Fig. 1 is a side-elevational view of the machine with the sidewalls of the casing removed and parts being broken away for the sake of clearness.

Fig. 2 shows a front view of the machine with the front wall of the casing omitted.

Fig. 3 is a perspective view of the machine turned upside down.

Fig. 4 is a plan view of one of the tickets issued by the machine.

Fig. 5 is an end and side view of the mechanism to operate the consecutive counters.

Fig. 6 is a perspective view of the shaft and the parts mounted thereon to operate the various counters, and

Fig. 7 is a cross-sectional view showing the means whereby the shaft shown in Fig. 6 is operated.

The casing consists of a front plate 1 which is secured to side plates 2 and a back plate 3. The front plate 1 is bent rearwardly at its lower portion and continues forming a top plate to which is secured by means of screws 5, a top plate 6 which plate 6 carries a number of counters. Pivoted to the back plate 3 by means of hinges 7 is a bottom 4 which consists of an arcuate wall 8 extending from the back plate above the machine and downwardly to the front plate 1, which bottom is provided with sidewalls integral with the wall 8. The casing, therefore, consists of the main front, back and side walls which are integral with each other and which walls are integral with the top plate except for the part covered by the plate 6 whereas the bottom of the machine is covered by an integral structure consisting of an arcuate plate and sidewalls which structure is pivoted to the main frame of the machine. The bottom 4 is provided with friction plates 9 and 10 between which is positioned the paper roll 11 which paper roll is pressed toward the friction plate 9 by means of a flat spring 12. The friction plate 10 is mounted on a shaft 13 which has at its outer end a knob 14 which can be grasped by the operator and pulled outwardly so as to move the friction plate 10 towards the left so that the paper can easily be inserted. When the knob is then released it resumes its normal position by means of a spring or other means which forms no part of this invention and is not shown.

A shaft 15 extends between the sidewalls of the bottom which shaft carries a platen 16 and a gear 17.

A shaft 18 extends between the sidewalls of the side plates 2 of the machine and this shaft carries locking cams 19 and a crank 20. When the crank 20 is rotated into the position shown in Fig. 3 it is stopped by means of a stop pin 21 and in this position the cams 19 engage behind a lug 22 carried by the sidewalls of the bottom thereby locking the top to the main casing so that it can-

not be opened unless the crank 20 is rotated. When the bottom is locked to the main casing the platen 16 is in engagement with the printing cylinder 23 to which is secured the electroplate 24 and the gear 17 is in engagement with the gear 25 which is loosely mounted on the shaft 18.

The printing cylinder 23 is provided with a journal 26 and the sidewall of the sideplate 2 is provided with a journal bearing 27 between which journal bearing and journal are interposed ball bearings 28. The open end of the printing cylinder is provided with a shaft 29 which fits within a bearing 30 carried by the sideplate 2. Such printing cylinders are well known in the art and are provided with type wheels 31 which print the variable matter on the ticket. Certain of these printing wheels are set up by the setting disks 32, 33, 34 and 35. These disks are provided with indicia to represent the direction of travel, amount of the fare, the zone in which the ticket is issued and are connected to their respective type wheels by means of sleeves not shown and which are conventional. The three right-hand type wheels shown in Fig. 2 represent the identifying number of the machine and these are the wheels that print the 118 shown in Fig. 4. The fourth printing wheel from the right shown in Fig. 2 is connected with the setting disk 32. The 5th, 6th and 7th of the type wheels represent the date. These are the printing wheels that printed the 346 on the ticket shown in Fig. 4 representing that the day was the 346th day of the year. These type wheels are set by inserting a suitable instrument, and are not connected with any of the setting disks. The 8th printing wheel from the right, shown in Fig. 2, is connected with the setting disk 34 and represents the class of fare such as transfer, ticket, etc. The next two printing wheels are connected to the same disk 34 and represent the amount of the fare paid. The next printing wheel is connected with the setting disk 35 and represents the zone in which the ticket was issued. In line with the printing wheel 31 is a printing wheel 36 which prints half-fare, or a child's ticket, or full fare, or an adult's ticket. Printing wheels 37 are also provided which print the consecutive number such as the number 0974 shown on the ticket in Fig. 4.

The printing wheel 37 is provided with two printing segments 38 which prints the adult's indication and 39 which prints the child's indication. This printing wheel is mounted on a shaft 40 carried by the printing cylinder 23, which shaft carries a segmental gear 41 which meshes with an idler gear 42 which meshes with a gear 43 secured to a shaft 44. (Figs. 6 and 7.) The shaft 44 has secured thereto a member 45 on which three lugs 46, 47 and 48 are mounted. The lug 48 is a laterally extending pin which is in the path of movement of a lever 49 pivoted to a pin 50 carried by the front plate 1. This lever 49 is bifurcated and receives a lug 51 on a push rod 52 which is normally pressed outwardly by means of a spring 53. At the lower end of the push rod 52 is a finger piece 54. When the operator presses on the finger piece 54 he rocks the lever 49 moving it against the lug 48 thereby rocking the gears 43, 42 and 41 and moving the child's printing segment 39 into printing position. As soon as he removes his finger from the finger piece 54 the spring 53 returns it to its normal position and moves the lever 49 out of engagement with the lug 48. This return movement, however, will in nowise affect the setting of the segment 39.

Counters 55 and 56 are carried by the top plate 6. The counter 55 is actuated by a pawl 57 mounted on a shaft 58. The pawl 57 is pressed towards the units wheel of the counter 55 by means of a spring 59. The other end of the shaft 58 is provided with a finger 60 which lies in the path of movement of the lug 47 so that when an adult's fare is being registered the lug 47 will engage the finger 60 and thereby actuate the counter 55. When, however, the operator has pressed in on the finger piece 54 and has thereby rotated the shaft 44 he has rotated the lug 47 into such a position that it will not engage the finger 60 and has elevated the lug 46 into such a position that it will engage a finger 61 carried by a shaft 62 which actuates a pawl 63 which actuates the units wheel of the child's counter 56.

The opposite end of the shaft 44 is provided with a plate 64 provided with arms 65, 66 and 67. The arm 65 is provided with a pin 68 and the arm 66 is provided with a pin 69. Regardless of how the shaft 44 has been moved, by the operator pressing on the finger piece 54 either the arm 65 or the arm 66 will be in a position to engage and rock a pivoted arm 70 which carries a pin 71 on which is mounted a pawl 72 which operates the units wheel of a total counter 73.

Loosely mounted on the shaft 29 is a plate 74 to which is secured concentric rings 75 forming a channel 76 in which one or the other of the pins 68 or 69 extend. These rings are not closed as is shown in Fig. 5. As the printing cylinder 23 rotates it is stopped in home position which home position is such that the pins 68 and 69 will be adjacent the open part of the rings 75 so that the shaft 44 could be partially rotated to bring either the pin 68 or 69 in line with the channel 76. It is obvious that by this means when the printing cylinder is being rotated it would be impossible for the shaft 44 to be rotated on its axis and it would therefore be impossible for the type 38 or 39 to be displaced. If a child's ticket is being printed, however, the arm 67 will strike the cam surface 77 (Fig. 7) just as the machine completes its rotation and will rock the shaft 44 so as to move the adult printing segment 38 into printing position. If, therefore, the machine be now operated a second time an adult's ticket will be issued. It is therefore necessary to press inwardly on the finger piece 54 before a child's ticket can be issued and if it is necessary to issue a second child's ticket the finger piece will be pressed in again.

A crank 78 is provided with a handle 79 which crank is mounted on a shaft 80 which shaft has rigidly secured thereto a gear 81. Loosely mounted on the shaft 80 is a gear 82 and secured to this gear is a plate 83 provided with three arcuate cut-away portions 84, which cut-away portions are of the same radius as the circular part of the disk 85 secured to the shaft 29. The disk 85 does not form a complete circle since a sector bounded by part of the circumference of the disk and a minor chord is cut away leaving a straight surface 86.

Secured to the disk 85 and rigid on the shaft 29 is a segmental gear 87 which segmental gear has teeth extending for a distance approximately corresponding to the cut-away portions of the disk 85 which segmental gear meshes with the gear 82, which it will be remembered is loosely mounted on the shaft 80. Secured to the segmental gear 87 is a gear 88 which meshes with the gear 81 on the shaft 80, which latter gear is fixed on the shaft 80. Secured to the gear 88

is a one-way ratchet 89, the teeth of which are engaged by a spring-pressed pawl 90 carried by a projection 91 on the plate 74. It will be remembered that the plate 74 is loosely mounted on the shaft 29 and rotation thereof is prevented by the projection 91 engaging a pin 92 carried by the frame of the machine.

When the crank 78 is rotated the gear 81 rotates with the same, which gear is always in mesh with the gear 88 secured to the shaft 29 to which shaft is also secured the printing cylinder 23. Since the segmental gear 87 is secured to the gear 88 it rotates therewith and thereby rotates intermittently the gear 82. When the segmental gear 87 comes in contact with the teeth of the gear 82 the latter gear is rotated which latter gear meshes with a gear 98 which is connected by means of a sleeve not shown to a gear 25 which meshes with the gear 17 which rotates the platen 16 which platen is pressing against the printing cylinder 23. As the teeth of the segmental gear 87 pass beyond the gear 82 the circumference of the disk 85 engages the cut-away portions 84 of the disk 83 locking this disk against further rotation. Since this disk is integral with the gear 82 the platen 16 is thus locked against further rotation.

An ink roller 93 is mounted on a shaft 94 which is placed in a J shaped bearing 95, the open end of which is closed by means of a spring 96. This ink roller is utilized to ink the type carried by the printing cylinder 23.

The consecutive number printing wheels 37 are mounted on a shaft 97 journaled in the printing cylinder.

The disk 74 is provided with a cam track 99 which receives a pin 100 (Figs. 2 and 5) which pin serves as the actuating means for the units wheel of the consecutive counter, connection between the pin 100 and the units wheel being the conventional pawl and ratchet arrangement which forms no part of this invention and hence is not shown.

When it is desired to insert the paper the bottom is opened as is shown in Fig. 1 and the paper inserted by pulling on the end of it to a slight extent. The bottom may be closed which movement presses the paper between the platen 16 and the printing cylinder 23 as is shown in Fig. 7 and the paper projects out of the machine through an opening between the hinged part of the bottom and the main part of the frame as is shown in Fig. 3. The front plate is provided immediately above this opening with a serrated knife 101 so that the operator can neatly tear the paper. During this tearing operation the paper strip is held against movement as heretofore described.

In order to facilitate the inking of the ink roll the same is mounted on a plate 102 hinged at 103. The upper end of this plate 102 is secured to the machine by convenient locking means 104. In order to ink the roll it will only be necessary to unlock the locking means 104 and move the plate 102 downwardly on its hinge 103 thereby exposing the ink roll 93 so that it can be inked by the operator.

It is fully realized that many changes may be made in the specific form of the invention shown by way of illustration in this application. I therefore desire to claim the information broadly and reserve the right to make such changes as may fairly fall within the scope of the appended claims.

Having now described my invention, I claim:

1. In a machine of the type described, a main frame, a hinged frame, an impression roller in said hinged frame, a printing cylinder in said main frame, said impression roller and said printing cylinder being so positioned that they are brought into contact with each other when said hinged frame is shut, operating means for said impression roller and said printing cylinder whereby only a part of the printing cylinder movement is imparted to the impression roller, and means whereby said impression roller is locked during the last part of the printing cylinder movement.

2. In a machine of the type described, a main frame, a hinged frame, an impression roller in said hinged frame, a printing cylinder in said main frame, said impression roller and said printing cylinder being so positioned that they are brought into contact with each other when said hinged frame is shut, operating means for said impression roller and said printing cylinder whereby only a part of the printing cylinder movement is imparted to the impression roller, means whereby said impression roller is locked during the last part of the printing cylinder movement, said locking means including a locking disk and plate.

PAUL HORN.