Aug. 25, 1925. 1,551,276

C. E. WYRICK

PRINTING CYLINDER FOR AUTOGRAPHIC REGISTERS

Filed Nov. 3, 1922 2 Sheets-Sheet 1

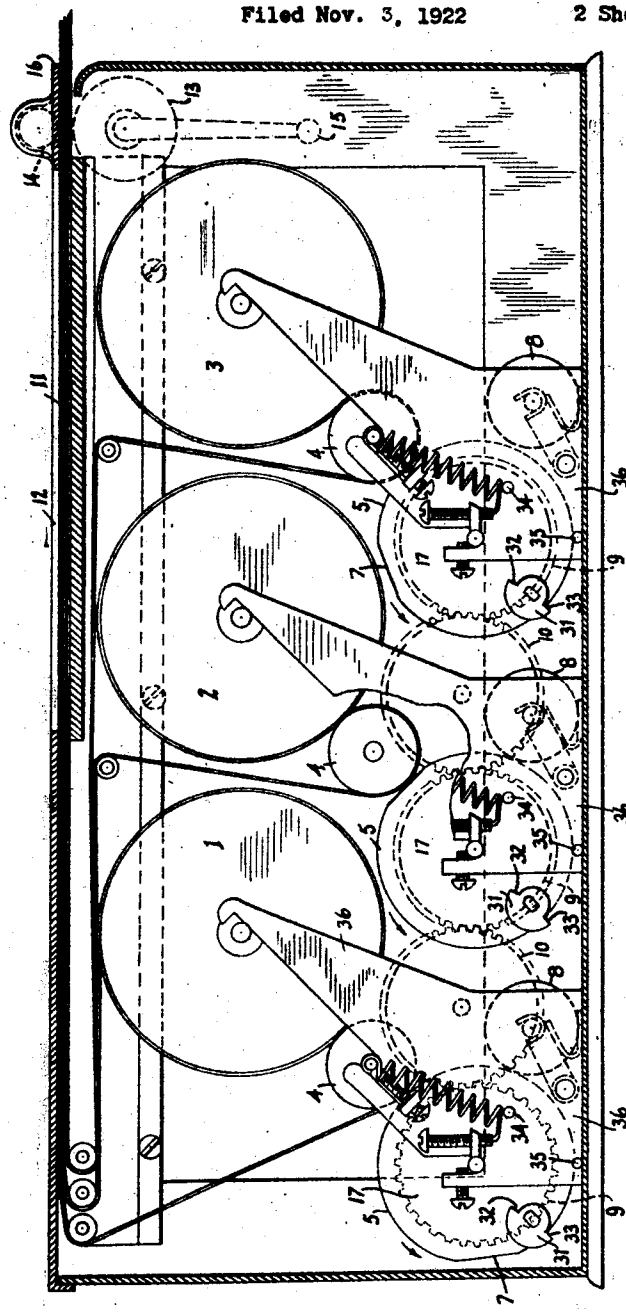


Fig. 1.

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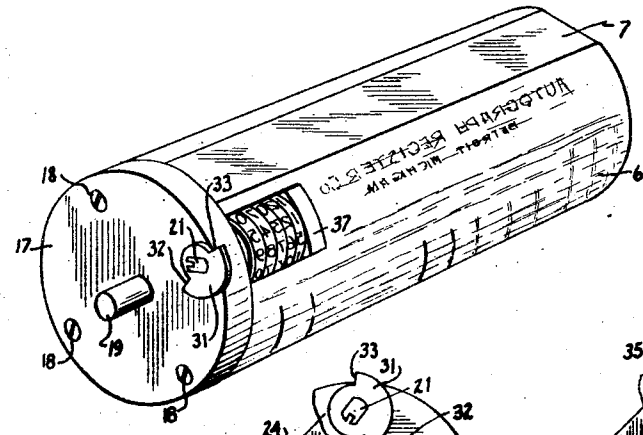


Fig. 2.

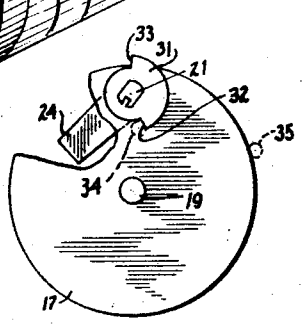


Fig. 6.

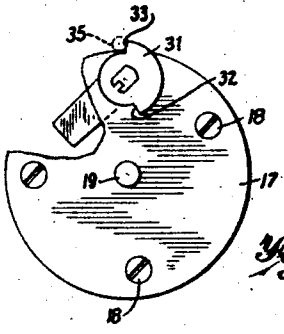


Fig. 3.

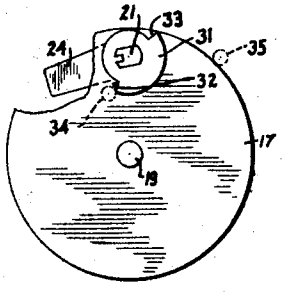


Fig. 5.

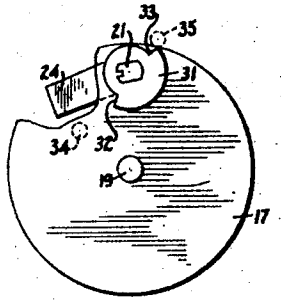


Fig. 4.

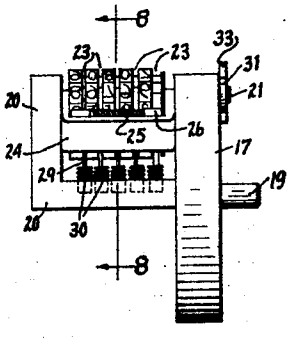


Fig. 7.

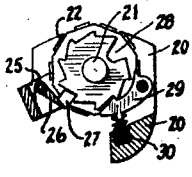


Fig. 8.

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Patented Aug. 25, 1925. 1,551,276

UNITED STATES PATENT OFFICE.

CLAYTON E. WYRICK, OF DETROIT, MICHIGAN.

PRINTING CYLINDER FOR AUTOGRAPHIC REGISTERS.

Application filed November 3, 1922. Serial No. 598,741.

To all whom it may concern:

Be it known that I, CLAYTON E. WYRICK, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Printing Cylinders for Autographic Registers, and declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to printing cylinders for autographic registers and the object of the invention is to provide a means for printing a series of paper strips and numbering the printed forms on the strips in succession. The autographic register including the means for printing the strips and bringing the printed forms on the strips to registration is described and claimed in my U. S. Letters Patent Number 1,413,647, issued April 25, 1922. This invention deals particularly with the means for numbering the printed forms on the different strips in succession, the interposed forms when brought to registration being each provided with the same number and the succeeding forms being numbered consecutively. Another object of the invention is to provide a simple and efficient numbering mechanism carried by each printing roll and adapted to be actuated upon each rotation of the roll. A further object of the invention is to provide a means for operating a series of numbering devices simultaneously during rotation of the printing rolls. These objects and the several novel features of the invention are hereinafter more fully described and claimed and the preferred form of construction by which these objects are attained is shown in the accompanying drawings in which—

Fig. 1 is an elevation of an autographic register with the side plate removed to show the construction.

Fig. 2 is a perspective view of one of the printing rolls with the numbering device therein.

Fig. 3 is an end view of the numbering device in position for resetting.

Fig. 4 is a similar view showing the device in the reset position.

Fig. 5 is an end view of the device ready for actuation.

Fig. 6 is a similar view of the device after actuation.

Fig. 7 is a side view of the numbering device.

Fig. 8 is a section taken on line 8—8 of Fig. 7.

As shown in Fig. 1 the autographic register comprises three blank paper rolls 1, 2 and 3. The paper from each roll is fed over an idler roll 4 and between the idler rolls and printing rolls 5. The printing rolls are cylindrical in form and are each provided with a type face 6 as shown in Fig. 2. These type faces are preferably in the form of copper plates provided with raised letters and the plates are then bent to cylindrical form and fastened to the printing rolls, the space 7 between the ends of the copper plate forming a space between the printed forms on the strips. This flat space 7 is also used in the autographic register to bring the forms on the different strips to registration as described in my former patent above mentioned. An inking roll 8 is provided for each printing roll and the printing rolls are each provided with a gear 9 on the end as shown in dotted lines in Fig. 1. An idler gear 10 is provided between each pair of gears 9 and meshes therewith so that rotation of one printing roll rotates the other printing rolls in unison. The printed strips are fed from the printing rolls over a series of idler rolls onto a metal bed 11 on which the different strips are interposed and the printed forms are brought to registration. The top form is exposed through an aperture 12 provided in the upper face of the register casing. A series of strips of carbon paper may be inserted between the different printed strips crosswise of the casing beneath the aperture 12 so that any writing on the upper printed form is carried through onto the lower forms as will be readily understood. The strips may be drawn from the machine together by hand or may be fed from the register by a pair of rolls 13 and 14 geared together and rotated by means of a crank 15, the sheets being torn off against a sharp edge 16 on the top of the machine.

The principal object of this invention is to provide a means for numbering the different forms in succession and this is accomplished by providing a plate 17 for the end of each printing roll 5 as shown in Fig. 2. This plate is secured to the end of the printing roll opposite the gear 9 by the screws 18

and is provided with an aperture in the center through which the shaft 19 of the printing roll extends. The plate 17 is provided with an L shaped bracket 20 formed integrally therewith and extending into a recess provided therefor in the end of the printing roll. A small shaft 21 is rotatably mounted in the end of the L shaped bracket and in the plate 17 and a series of discs consecutively numbered on the periphery are rotatably mounted on the shaft 21. Each disc is provided with a series of notches 22 on one side which provides spaces 23 between the numbered discs. A U-shaped member 24 is also rotatably mounted on the shaft 21 and carries a pin 25 shown in Fig. 8 on which a member 26 is rotatably mounted. This number 26 is provided with five extending portions 27 which extend into the five spaces and are adapted to engage in the notches 22. These extending portions 27 are of different lengths so that when the first one is in engagement with a notch 22 of the respective disc the rest of the portions 27 are held out of engagement with the respective notches, a coiled spring being provided to force the member 26 toward the notches. When the first member 27 drops into the deep notch 28 the second member 27 engages in one of the notches 22 of its respective disc so that should the U-shaped member 24 be turned at this time the first two numbered discs would be turned simultaneously. To prevent the numbered discs from turning freely on the shaft 21 a catch member 29 is provided for each disc adapted to engage in the respective notches 22. A coiled spring 30 is provided in the L shaped bracket 20 for each catch 29 which is adapted to hold the respective catch in engagement in the notches. The movement of the U-shaped member 24 to cause movement of the numbered discs is caused by means of a cam 31 secured to the shaft 21 on the outside of the plate 17. This cam 31 is provided with two shoulders 32 and 33 and a pair of pins 34 and 35 extend from the roll supporting brackets 36 into the path of movement of the cam 31 as shown in Fig. 1. During rotation of the printing rolls by withdrawal of the printed strips from the machine the shoulder 32 of the cam strikes the pin 34 which turns the cam 31 and U-shaped member 24 from the position shown in Fig. 5 to that shown in Fig. 6. This movement advances the numbered discs one number by means of the catch point 27. An aperture 37 is provided in the type plate 6 and when the end plate 17 is secured in place the edges of the numbered discs are exposed through the said aperture. One of the series of numbers across the discs extends flush with the type plate and as the printing roll is rotated a number is printed on each form. The rotation of the printing rolls shown in Fig. 1 is in a counter clockwise direction and after the number has been printed the cam 31 is carried around by the rolls in the position shown in Fig. 3 until the shoulder 33 strikes the pin 35, which moves the cam 31 and U-shaped member 24 from the position shown in Fig. 3 to that shown in Fig. 4 which moves the catch 27 back one notch in the notches 22 of the respective numbered discs, the discs being held from rotation by the catches 29. As the rotation of the roll is continued the shoulder 32 of the cam strikes the pin 34 thus moving the next succeeding number to position for printing. All three printing rolls operate in the same manner so that the forms on the different strips are numbered consecutively and the forms on the different strips bearing the same number are brought to registration on the writing bed 11. At this time by writing on the upper form carbon copies will be produced on the two lower forms and the strips may be then drawn out and torn off against the edge 16, the forms thus torn off all bearing the same numbers. While I have shown a machine for printing and numbering three strips it will be readily understood that a greater or less number of strips may be printed and numbered by changing the number of paper strips and printing rolls. When the paper strips from the paper rolls are first threaded through the machine the numbering devices are set so that the forms in registration on the bed 12 are all provided with the same number, the operation of the device being automatic from then until the paper rolls are used up.

From the foregoing description it becomes evident that the numbering device is very simple and efficient in operation, will not easily get out of order, is composed of few parts and is of consequent low manufacturing cost, is easily assembled and provides a device which accomplishes the objects described.

Having thus fully described my invention, its utility and mode of operation what I claim and desire to secure by Letters Patent of the United States is—

1. A printing cylinder for an autographic register or the like, a frame member rotatably supporting the printing cylinder, a series of disks rotatably mounted within the cylinder, each provided with a series of numbers on the periphery, there being an aperture provided in the cylinder through which one number of each disk extends flush with the printing face of the cylinder, a rotatably mounted member adapted to be turned in one direction to turn the disks and movable in an opposite direction to reset the device for subsequent operation of the disks, a dog at the end of the cylinder for producing movement of

the member in either direction, and a pair of spaced pins engaged in sequence by the dog at that period of rotation of the cylinder when the numbering device is out of printing position, the engagement of the first pin by the dog causing operation of the disks to increase the number exposed by one and engagement with the next pin resetting the dog for subsequent operation by the first pin.

2. A printing cylinder for use in an autographic register or the like, the cylinder having an aperture in the face thereof, a series of disks rotatably mounted in the said aperture each provided with a series of numbers upon the periphery, one number of each disk extending flush with the printing face of the cylinder, a dog adapted to be turned first in one direction to increase the number exposed by one and then to be turned in a reverse direction for a succeeding operation, and spaced stationary pins engaged in succession by the dog during revolution of the cylinder.

3. A printing cylinder for use in an autographic register having a printing surface substantially cylindrical in form, the end of the cylinder having a recess open through the printing face and through the end of the cylinder, a circular plate carrying a numbering device adapted to be mounted on the end of the cylinder, the said plate having a projecting central shaft for supporting the said end in a bearing, said numbering device being positioned in the said recess and consisting of a series of disks carrying numbers, one of the series of numbers on each disk being flush with the printing surface, a dog on the outer end of the circular plate adapted to be turned in one direction or the other, a frame in which the central projecting member of the plate is rotatably mounted, and spaced pins on the frame engaged by the dog successively and causing the dog to be first turned to increase the number to be printed by the disks by one and engagement of the disk with the succeeding pin resetting the same for a succeeding operation.

In testimony whereof, I sign this specification.

CLAYTON E. WYRICK.