Dec. 3, 1929. G. CORSE 1,738,422

PRINTING MACHINE PARTICULARLY FOR TICKETS, TICKETS OF ADMISSION, RECEIPTS, AND THE LIKE

Filed July 14, 1927

Fig. 2

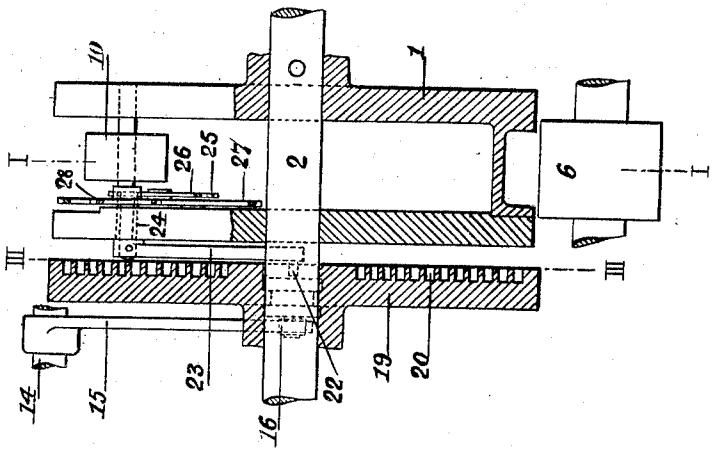


Fig. 1

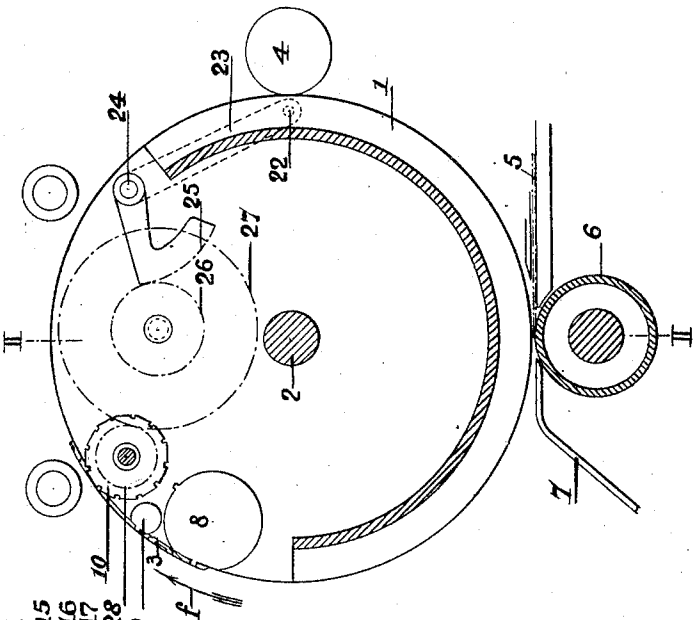
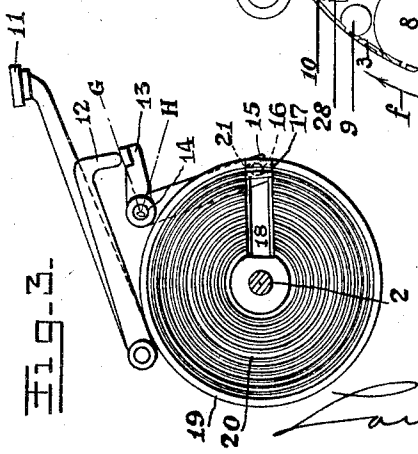


Fig. 3



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UNITED STATES PATENT OFFICE

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PRINTING MACHINE PARTICULARLY FOR TICKETS, TICKETS OF ADMISSION, RECEIPTS, AND THE LIKE

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There are numerous machines for printing tickets, etc., provided with devices for printing variable marks, inscriptions (figures, dates, numbers (in numerical order) etc.), and fixed inscriptions.

In certain of these machines the variable characters or plates are carried on a wheel at the interior of the fixed printing (inscription) drum and the characters of which are level (flush) in a shutter for this purpose.

The present invention relates to an improvement in this type of machines consisting in controlling the position of the wheel by a member such as a spur, to maintain it in contact with one of the guides of a series of circular guides having for an axis the rotational axis of the invariable printing drum.

The spur is preferably seated in a groove of a slide moving in a groove provided in the the series of circular guides under the rotary action of a rake, controlled by keys so that the groove of the slide closes the circular groove corresponding to the key depressed.

The drawings illustrate one form of construction of the invention.

Figure 1 shows a radial section on the line I—I Figure 2.

Figure 2 is an axial section on the line II—II Figure 1.

Figure 3 shows a radial section on the line III—III Figure 2.

The printing cylinder 1 consists of two parts and is driven by the shaft 2. On this cylinder is arranged, in the known manner, the printing plate 3 (Figure 1) the function of which is to present for impression, upon the surface to be printed, both the constant and the variable parts of matter to be printed by the letter press.

By rotating the cylinder according to the arrow *f* the plate 3 comes into contact with the inking roller 4 and is inked. The ticket 5 to be printed is moved by the cylinder 1 and printed under pressure against the impression rollers 6 and discharged onto the table 7.

The printing cylinder 1 is stopped in the position according to Figure 1 after each rotation or after several rotations according as one or more impressions of one and the same matter or design is desired. If the machine is stopped for any reason, in order, for example to alter the changeable matter, the cylinder 1 is stopped in the predetermined position shown in Figure 1, quite apart from the means which are used therefor and which does not appertain to the invention.

The printing plate is formed from the following parts.

1. A numbering device of the usual construction which changes the ordinal number of the ticket at each revolution.

2. A dating arrangement 9, the printing rollers of which may be altered in a known manner for the month, the day and the hour.

3. A movable printing roller or printing cylinder 10 which prints definte marks, numbers, patterns which may be printed one after another from ticket to ticket or also successively on a definte number of tickets.

The printing cylinder 10 has, for example, twelve independent printing surfaces, which correspond to the different printing types, designs and so on. This number can, of course, be smaller or greater. In order to bring a definite printing surface of the printing cylinder 10 to the working position, the apparatus is provided with a number of keys 11 (Figure 3) which number for example, twelve and the number of the printing surfaces of the cylinder 10 correspond. If a definite printing surface is to be brought into the operating position it is only necessary to operate the corresponding key.

Each key 11 is connected to a small hammer 12 and the series thereof has different lengths of arm so that, if the key is depressed, the corresponding arm 12 brings a spring loaded arm 13, which is connected to the shaft 14, into one of the twelve positions which are enclosed within the angle G. O. H. The shaft 14 is partly rotated in this manner and operates a lever 15 through a corresponding angle, which lever moves a roller 16, which is arranged on the slides 17. The slide 17 has on the opposite side, an arcuate groove 21 and is movable in a slide-way 18 of a stationary disc 19, which is secured to the machine frame. The disc 19 has, on the same side as the slide 17, a series of circu-

lar grooves 20. It is obvious that according to the key operated, the groove 21 is set in the continuation of one of the twelve grooves of the disc 19.

On stopping the device, in the position according to Figure 1, the groove 21 receives the pin 22 (Figures 1 and 2) which is carried by the arm 23, which is keyed on the shaft 24, which itself carries within the cylinder, a toothed sector 25, which displaces the printing cylinder through the medium of the toothed wheels 26; 27. On operating the keys and displacing the slide 17 as the pin 22 is in the groove 21, the arm 23 is caused to oscillate, so that the sector 25 and consequently also the printing cylinder 10 is moved in such a manner that those of the printing surfaces of the cylinder come into the printing position, which correspond to the operated keys. The pin 22 is in this position opposite the corresponding one of the series of grooves 20 and at the commencement of the rotation of the cylinder 1, enters into this groove and remains at the proper distance from the centre, whereby the arm 23 is held fast in relation to the cylinder, the cylinder 10 also, being held in the same position during the rotation. On stopping the pin 22 will again engage in the groove 21 of the slide and the arm 15, as well as the slide 17 are then brought into the position according to Figure 3 which allows, when necessary, of a change of printing surface by the simple operation of the keys and starting of the machine.

It is to be noted that the printing by means of a single printing cylinder, makes misuse impossible, such as is possible, when the unchangeable and the changeable surfaces are printed by separate and independent printing groups.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed I declare that what I claim is—

1. A device for controlling printing wheels, having characters of interchangeable composition and carried by a rotating drum, comprising concentric circular grooves coaxial with the rotational axis of said drum, a selectively positioned member controlling the position of said wheel, and means to maintain said member in contact with one of the circular grooves throughout one rotation of said drum.

2. A device as claimed in claim 1 in which the member controlling the position of the wheel is a spur.

3. A device as claimed in claim 1 comprising a lever between the member controlling the wheel, and said wheel.

4. A device as claimed in claim 1 comprising a guideway, a slide block moving in said guideway, said slide block having a groove in which the wheel controlling member is normally seated when the drum is in inoperative position.

5. A device as claimed in claim 1 comprising a guideway, a slide block movable in said guideway, said slide block having a groove in which the wheel controlling member is normally seated when the drum is in inoperative position, the slide block being movable to selectively connect the groove in said slide block with the circular grooves in said drum, thus completely closing that groove with which it is at the time connected.

6. A device as claimed in claim 1 comprising a guideway, a slide block moving in said guideway, said slide block having a groove in which the wheel controlling member is normally wide when the drum is in inoperative position, said device including keys and means selectively actuated by said keys for determining the position of said slide block.

7. A device as claimed in claim 1 comprising a guideway, a slide block moving in said guideway, said slide block having a groove in which the wheel controlling member is normally seated when the drum is in inoperative position, said device including keys and means actuated thereby for determining the position of said block, the position determining means consisting of an oscillating rack, and transmission means for converting the rotary motion of said rack into a rectilinear movement of the slide block.

Signed at Paris this 5th day of July, 1927.

GASTON CORSE.