(No Model.) 2 Sheets—Sheet 1.

W. I. OHMER & W. M. KELCH.

TRANSFER OR TICKET MACHINE.

No. 547,087. Patented Oct. 1, 1895.

Fig 1.

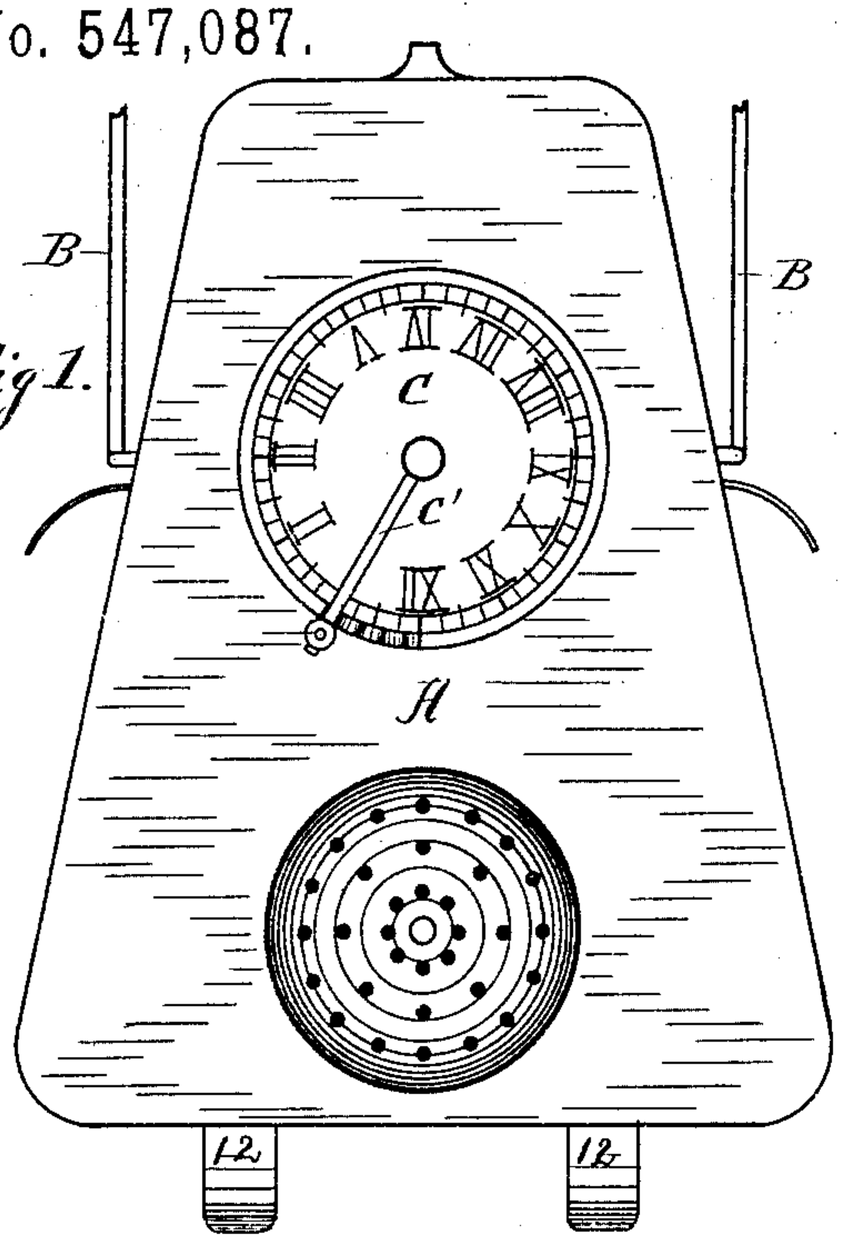


Fig 5.

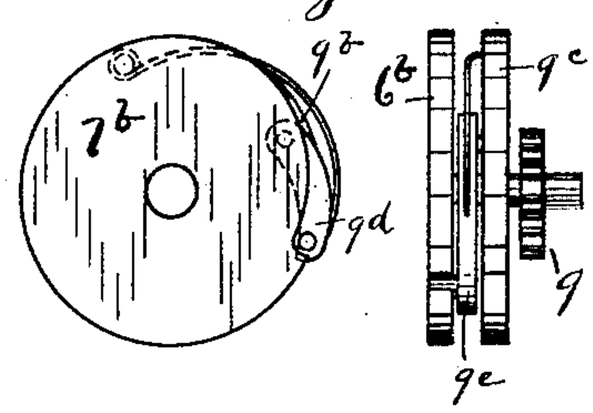


Fig 10

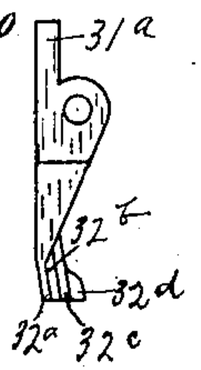


Fig 2.

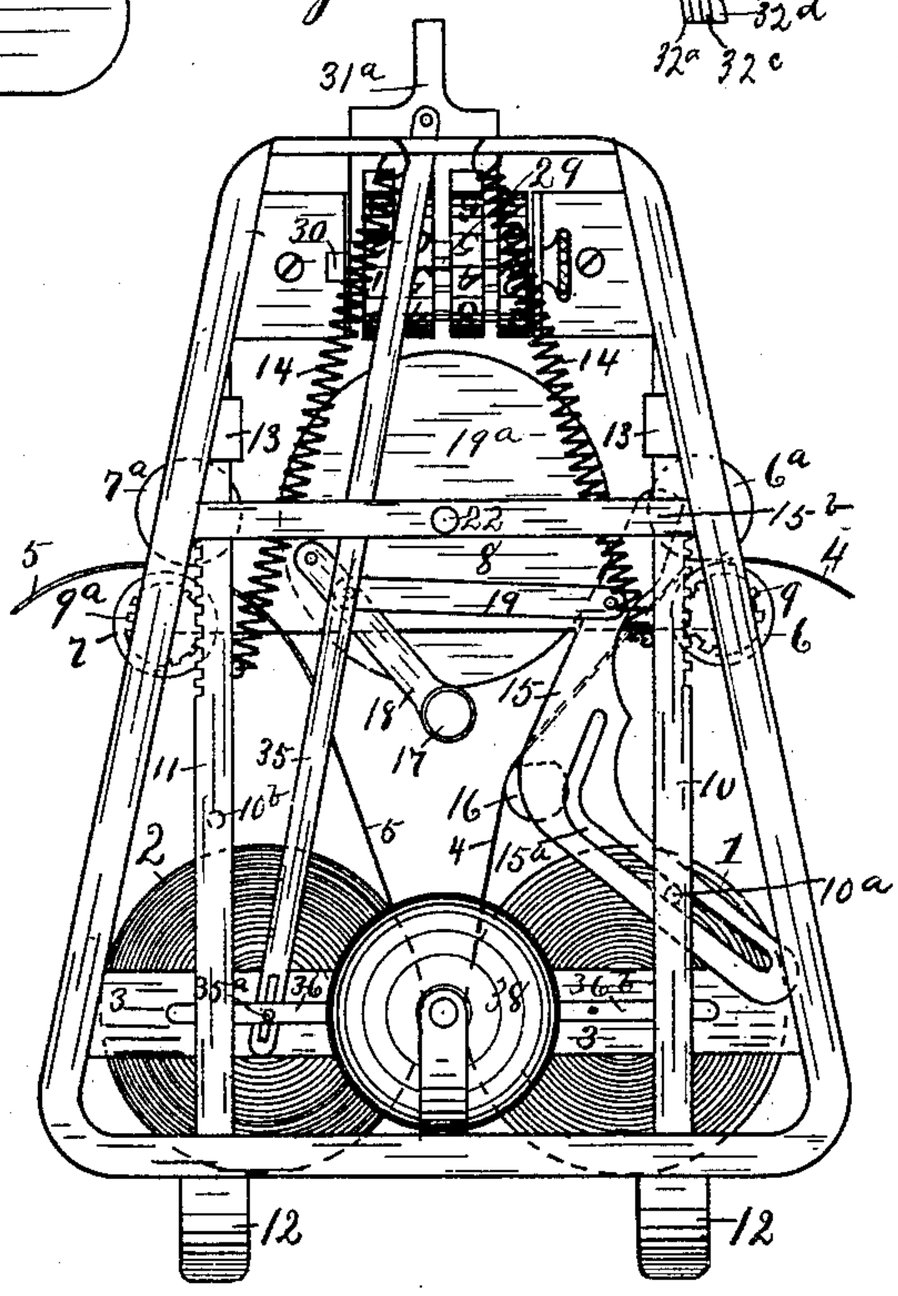
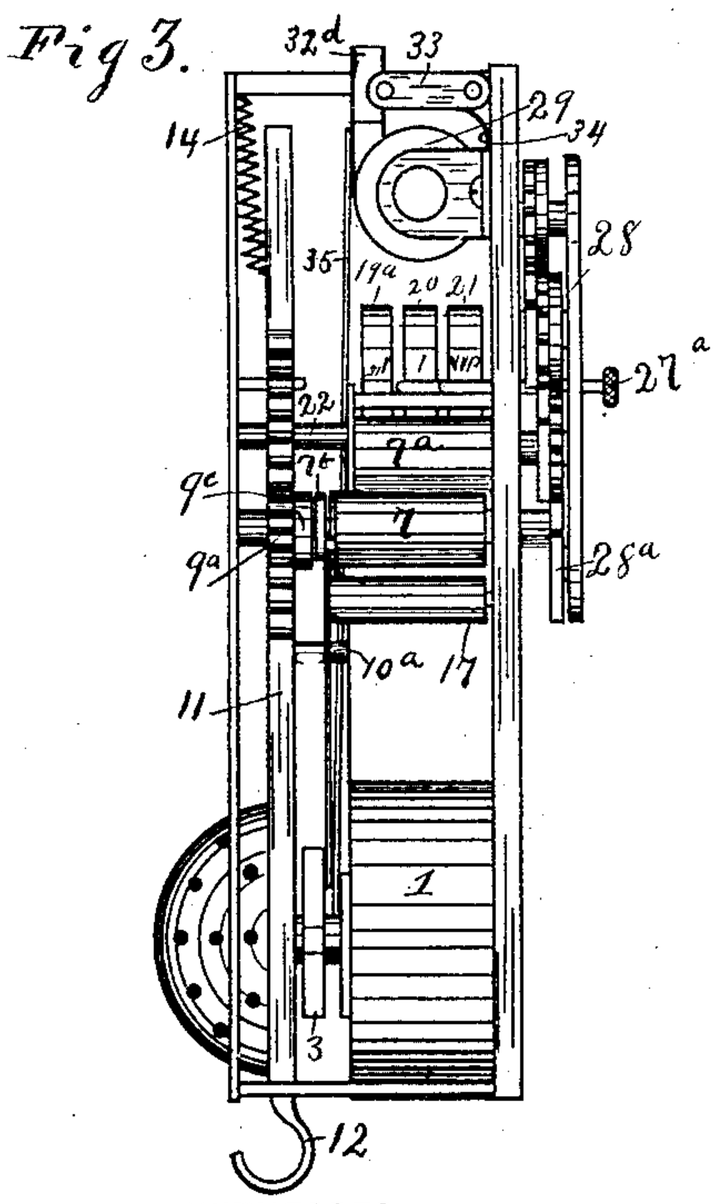


Fig 3.



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(No Model.) 2 Sheets—Sheet 2.

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Fig 4.

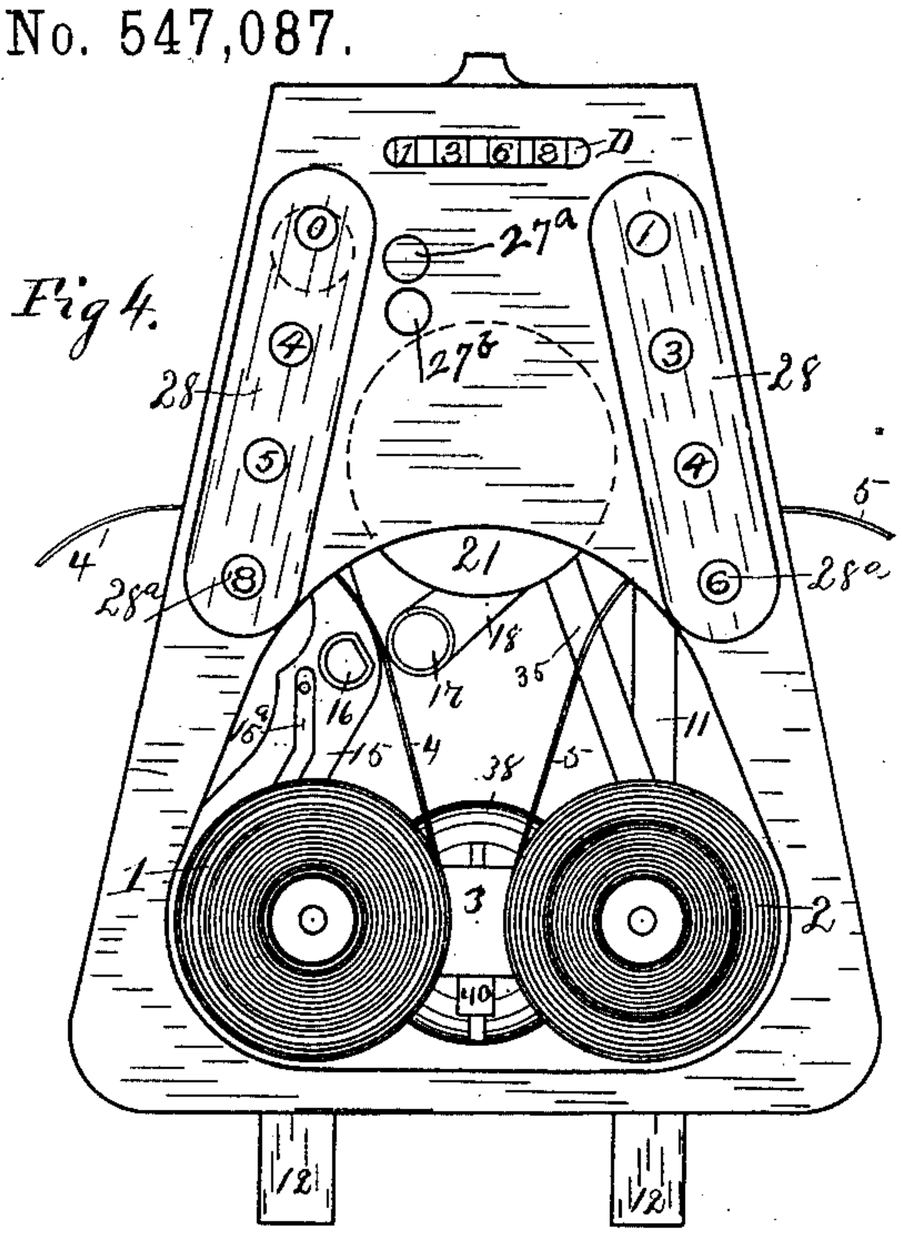


Fig 6.

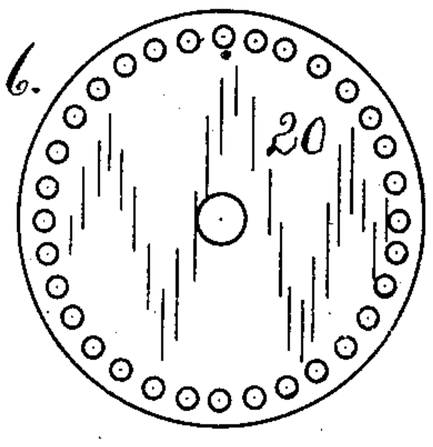


Fig 7.

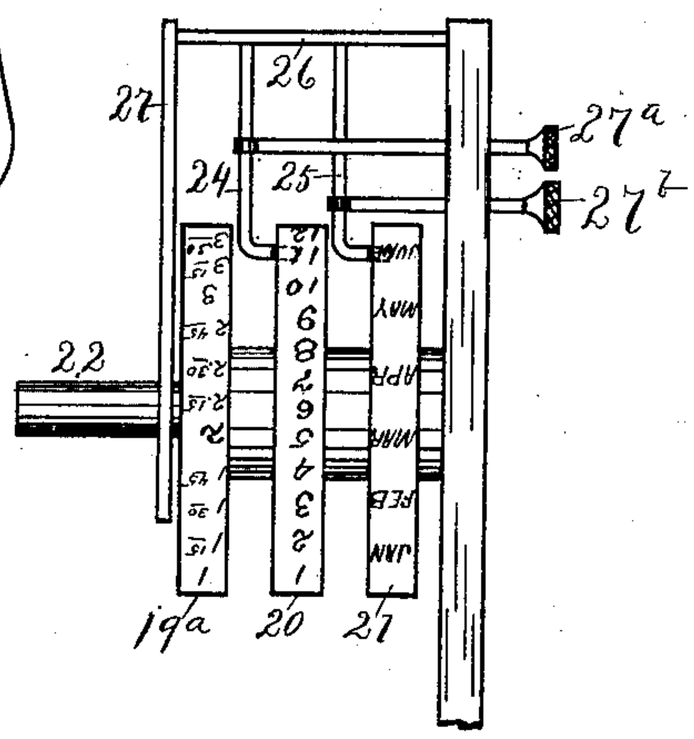


Fig 8.

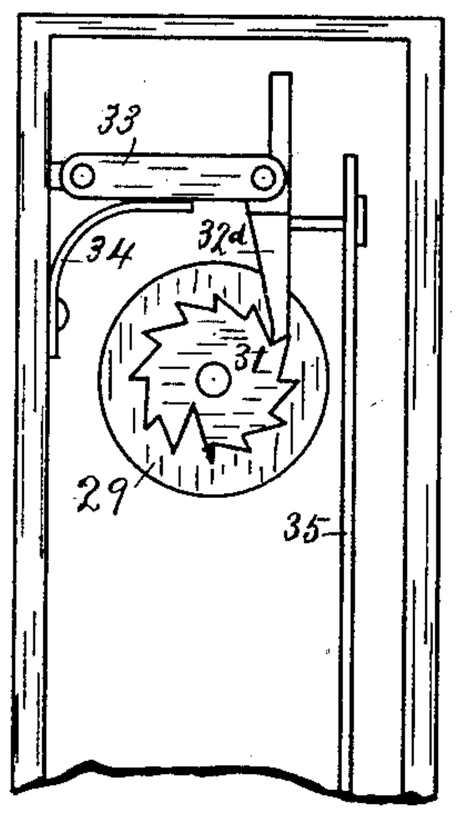
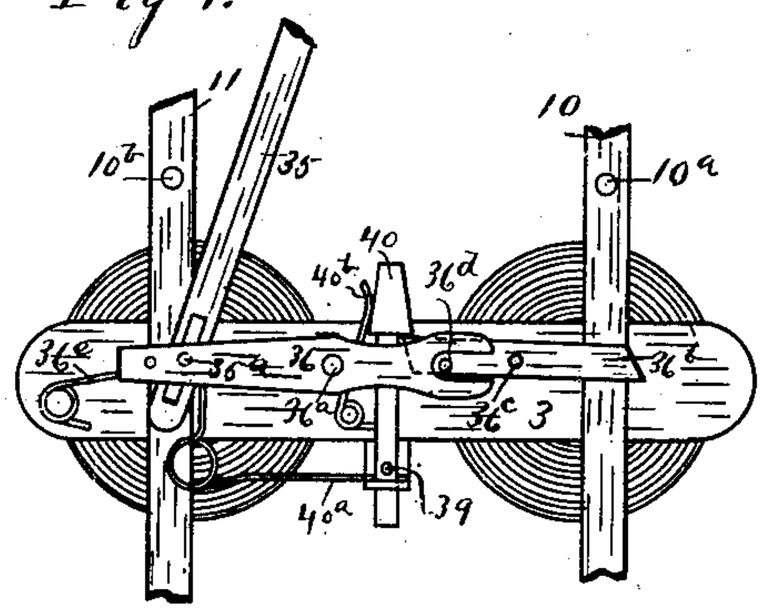


Fig 9.



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UNITED STATES PATENT OFFICE.

WILFRED I. OHMER AND WALLACE M. KELCH, OF DAYTON, OHIO.

TRANSFER OR TICKET MACHINE.

SPECIFICATION forming part of Letters Patent No. 547,087, dated October 1, 1895.

Application filed October 23, 1894. Serial No. 526,774. (No model.)

To all whom it may concern:

Be it known that we, WILFRED I. OHMER and WALLACE M. KELCH, of Dayton, county of Montgomery, State of Ohio, have invented a new and useful Improvement in Transfer or Ticket Machines; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

Our invention relates to certain improvements in ticket and transfer machines or machines from which tickets, transfer-slips, and the like are issued.

The object of the invention is to provide, in a small and compact form, mechanism for simultaneously or separately issuing tickets, transfers, and the like from one or more rolls, printing upon and registering the number of said tickets or transfers issued.

To these ends we provide mechanism that will be fully described in the specification and pointed out in the claims.

In the annexed specification the accompanying drawings will be referred to by reference characters, the same character indicating the same part in the several views, of which—

Figure 1 is a front elevation of the machine; Fig. 2, a similar elevation of the mechanism removed from the case shown in Fig. 1; Fig. 3, a side elevation; Fig. 4, a rear elevation; Fig. 5, front and side elevations of the ratchet-wheel and pinion of one of the feed-rollers; Fig. 6, a detail enlarged view of one of the type-wheels; Fig. 7, a detail top view of the type-wheels, the supporting-frame broken away; Fig. 8, a detail view, in side elevation, of the fare-registering wheels; Fig. 9, a detail view of the mechanism for sounding the bell; Fig. 10, a detail view of the pawl of the fare-registering wheels.

A designates a metallic inclosing-case; B, a strap attached thereto by which the machine is attached to the conductor or other person having charge thereof.

C designates a time-dial in the upper face of the case, and C′ a pointer to indicate the time.

Within the case A there is suitable frame-work, upon which is mounted the mechanism to be hereinafter described.

1 and 2 designate, respectively, rolls consisting of transfers and tickets. These rolls have their arbors journaled in a transverse bearing-plate 3, suitably mounted in the frame. Roll 1 contains the paper from which the transfers are issued and which is subjected to the impression of the type on the type-wheels to imprint the time, date, &c., thereon before the paper is fed through the slot in the side of the case to be torn off to constitute a transfer. Roll 2 contains a continuous roll of tickets which have been previously printed with the usual matter. The web is fed from both rolls in substantially the same manner. 4 and 5 indicate the respective webs from said rolls, which are carried upward and passed through their respective feed-rollers 6 6^a and 7 7^a, the arbors of which are journaled in the frame and in a transverse plate 8. The feed-rollers 6 and 7, together with ratchet-disks 6^b and 7^b, are fixed to their respective arbors.

9 and 9^a designate pinions.

9^b and 9^c are disks carrying spring-pressed pawls 9^d and 9^e, that engage with the ratchet-disks 6^b and 7^b. The pinions 9 and 9^a and pawl-bearing disks 9^b and 9^c are fixed to each other and both turn loosely upon the arbors of feed-rollers 6 and 7 and turn-rollers 6^a and 7^a, by friction. Pinions 9 and 9^a are moved by rack-bars 10 and 11. These bars are provided at their lower ends with finger-pieces 12 12, by which they are drawn downward in guideways 13 against the tension of coil-springs 14 14.

15 designates an angle-lever provided with a cam-slot 15^a; 16, a pressure-bar, mounted in the inner side of the lever 15 and lying in a plane at right angles to the peripheries of the type-wheels. The web or free end 4 from the transfer-roll passes between this pressure-bar 16 and the type-wheels. Therefore, when the lever 15 is moved by the downward movement of the rack-bar 10, which has a pin 10^a projecting from the inner side thereof that moves in the slot 15^a of said angle-lever, the end 4 of said transfer-slip is pressed against the type-wheels and thereby receives an impression. The lever 15 has a pivotal connection at 15^b with a transverse plate 8.

17 is an ink-containing roller carried on an

arm 18, pivoted to the plate 8; and 19 designates a bar the ends of which are pivoted to the lever 15 and to the arm 18, whereby when the rack-bar 10 returns to its normal position under the tension of spring 14, said ink-roller 17 is brought in contact with the peripheries of the type-wheels. These type-wheels are designated by 19^a, 20, and 21, the former of which is the time-wheel and is fixed to an arbor 22, while the latter two are the date and month wheels, that turn loosely on said arbor. In the present instance the characters upon the peripheries of these wheels are in the form of raised type to receive ink from the aforesaid inking-roller; but it is apparent that instead of printing the characters on the paper they may be perforated or embossed thereon by making some changes in the construction of the type-wheels and the pressure-bar 16 that would not involve a departure from our invention.

C′ designates a pointer fixed to the arbor 22 in the front of the time-dial and by which the time-wheel 19^a is turned to place the characters thereon in a proper position to meet the impingement of the pressure-bar 16 as it presses the web 4 against the peripheries of the type-wheels. The type-wheels 20 and 21 each have a concentric row of openings. (See Fig. 6.) Preferably the wheel bearing the dates of the month has an opening for each date, while the wheel bearing the months has an opening for each month. Into these openings resilient pins 24 and 25 project. These pins are mounted in a bar 26, which in turn is mounted in the supporting-frame, and in a bar 27, which loosely incloses the arbor 22. (See Fig. 7.)

27^a and 27^b designate push-rods slidingly mounted in the supporting-frame and having a suitable connection with the pins 24 and 25. By means of these push-rods the pins are removed from the openings in the date and month type-wheels to admit of said wheels being turned to present the proper characters to the inking-roller and pressure-bar. By releasing said push-rods the pins will fly back into the openings and thereby lock the wheels against any movement. These wheels are shifted by the hand. In the present instance we have shown the pointer C′ adapted to be turned by the fingers; but we wish to be understood as not desiring to confine ourselves specifically to this mode of operation, as it is apparent that clock mechanism may be employed to turn said pointer and therewith the time-wheel 19^a.

28 designates two sets of registering-wheels through the agencies of which the transfers and tickets are registered as they are issued from the machine. These wheels are of well-known construction, and the said sets of wheels each consist of four wheels constituting four numerical orders—to wit, units, tens, hundreds, and thousands—or, if desired, a greater number of wheels may be used, or a less number for that matter. The unit-wheel 28^a in each set is rigid on the arbor of the feed-rollers 6 and 7, therefore is rotated through the pinions 9 or 9^a and rack-bar 10 or 11. The periphery of each wheel is provided with a tooth that is of sufficient length to gear with the next adjacent wheel, so that a revolution of each wheel will effect a movement of the adjacent wheel to the extent of one tooth. One revolution of said unit-wheel transfers to the tens-wheel, and so on to the wheel of the highest order. These register-wheels bear upon their faces numerals that are visible through sight-openings, as shown in Fig. 4, and said figures or numerals indicate the total number of transfers or tickets issued during the time the machine has been used. As a means for registering the cash fares, we provide a series of fare-registering wheels 29 of progressive orders. These wheels are visible through a sight-opening D, (see Fig. 4,) and bear the numerals indicating the fares upon their rims. They are loose upon an arbor 30. Upon one side of each of said wheels there is fixed a ratchet-wheel 31. Two of these ratchets—that is to say, those that are fixed to the units and tens registering-wheels—are provided each with one tooth that is deeper than the remaining teeth in said wheels. Engaging with these ratchet-wheels is a pawl 31^a, having a plurality of graduated teeth 32^a 32^b 32^c 32^d, the latter one of which, being the thickest, engages with the deepest tooth. (See Figs. 8 and 10.) This pawl has a pivotal connection with a bar 33, maintained in an operative position by a spring 34. 35 is a pitman pivoted to the face of said pawl and provided with a slot at its lower end inclosing a pin 35^a, projecting from the lower side of the bar 36, pivotally mounted on the transverse bar 3. The bar 36 is mounted below the bell 38 and actuates the hammer 39 to strike said bell either upon the downward movement of the pitman 35 or the rack-bars 10 and 11, the two latter being provided also with pins 10^a and 10^b, (the former pin hereinbefore referred to.) These pins come in contact with the bar 36, which is pivoted at 36^a, and in contact with bar 36^b, which is pivoted at 36^c and has its inner end coupled with an end of the bar 36, as at 36^d, and vibrate said bar 36 against the tension of spring 36^e. This movement of bar 36 moves the bar 40, carrying the bell-hammer, against the tension of springs 40^a and 40^b.

While we have referred to the parts shown in Fig. 5 by different reference-characters, it will be understood they are the same on each of the rollers 6 and 7.

Having fully described our invention, we desire to claim—

1. In a machine of the character described, in which are mounted rolls of tickets and transfers, the combination of feed rollers; pinions and ratchets loosely mounted on one of each pair of said feed rollers; rack bars to actuate said pinions; a lever actuated by one of said rack bars; type wheels; an inking roller actuated by said lever, and a pressure

bar mounted on said lever, whereby means are provided for printing said transfers as they are advanced to the feed rollers, as is herein described.

2. In a machine of the character described, the combination with the casing; of feed rollers, gear pinions on the shafts of said rollers; a pressure bar; a slotted lever upon which said pressure bar is mounted; an inking roller actuated by said lever; type wheels, against which said inking roller and pressure bar are alternately pressed; and a rack bar for moving said slotted lever and with which the said pinions mesh, whereby means are provided for unwinding tickets or transfers from a roll; and printing upon them as they are advanced to the feed rollers, as is herein described.

3. In a machine of the character described, the combination with the casing having space for a roll of transfers, and a roll of tickets; of feed rollers; registering devices operated by said feed rollers; racks and pinions for rotating said feed rollers; type wheels; an inking roller and a pressure bar; a lever to which said inking roller, and pressure bar are attached; said lever operated by one of the rack bars, whereby means are provided for printing said transfers, and issuing them, as is herein described.

4. In a machine of the character described, the combination with the case having space for a roll of transfers; of feed rollers to unwind said transfers; type wheels adjacent to said roll of transfers; a slotted lever; an inking roller, and pressure bar operated by said lever; racks and pinions to actuate said feed rollers, and lever, whereby means are provided for unwinding the transfers, inking the type wheels, and pressing said transfers against said wheels to receive an impression, as is described.

5. In a machine of the character described, the combination with the case provided with space for a roll of transfers and a roll of tickets; of feed rollers for unwinding said rolls; rack bars and pinions for actuating said rollers; a lever operated by one of said rack bars; type wheels; an inking roller to apply ink to said wheels; a pressure bar to press the transfers to said type wheels after said wheels have received the ink, substantially as is herein described.

6. In a machine of the character described, the combination with the case having space for rolls of transfers and tickets; of feed rollers; a rack and pinion to rotate said feed rollers; type wheels; an angular lever actuated by said rack; an inking roller and a pressure bar actuated by said angular lever; and bell sounding mechanism actuated by said rack, as is herein described.

In testimony whereof we have hereunto set our hands this 11th day of October, 1894.

WILFRED I. OHMER.
WALLACE M. KELCH.

Witnesses:
GEORGE H. WOOD,
C. M. WOOD.