

J. W. POPE.

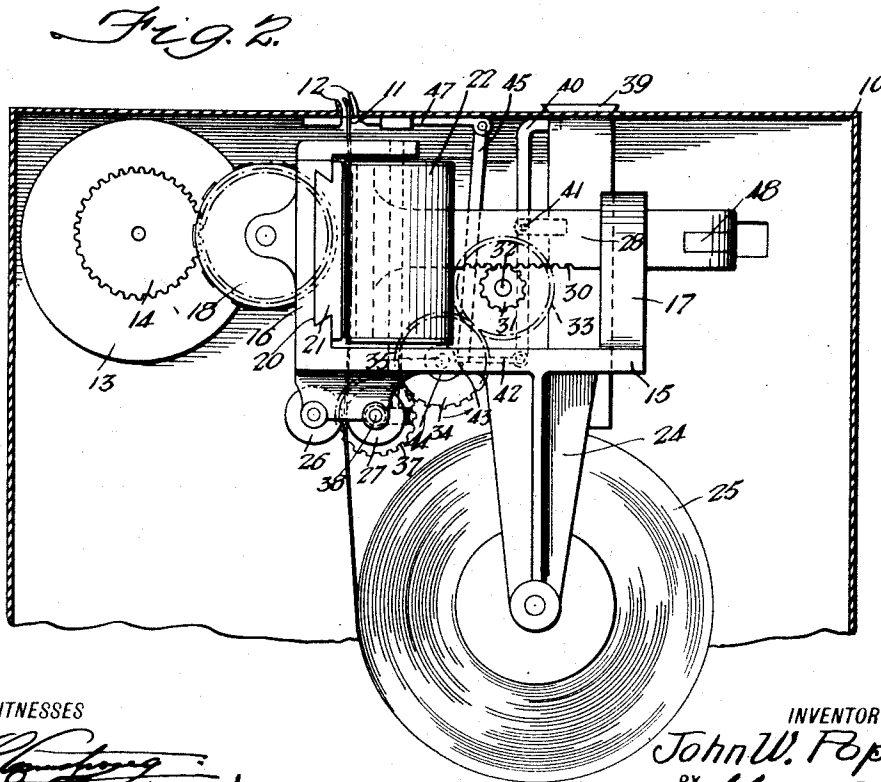
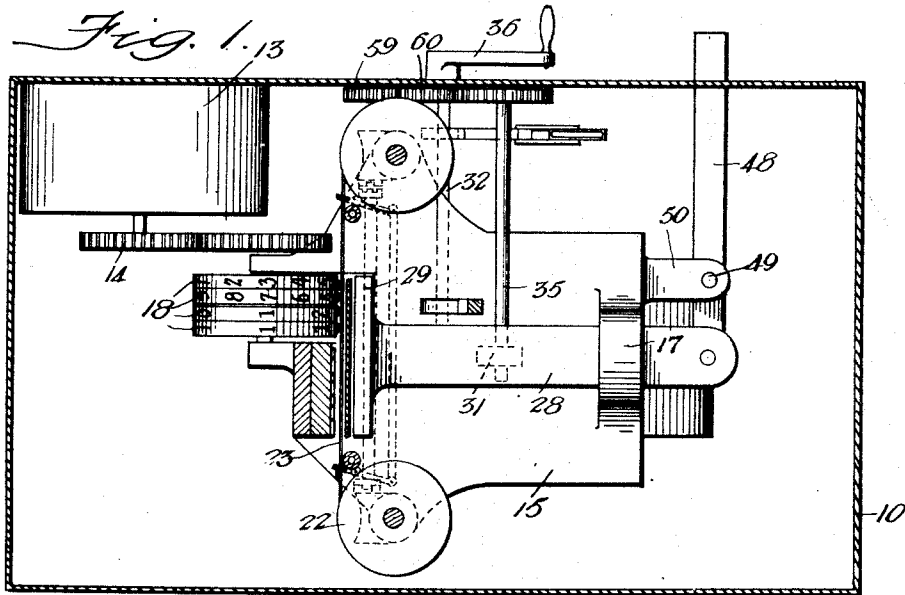
TIME MARKING DEVICE FOR TICKETS AND TRANSFERS.

APPLICATION FILED NOV. 4, 1919.

1,370,482.

Patented Mar. 1, 1921.

2 SHEETS—SHEET 1.



WITNESSES

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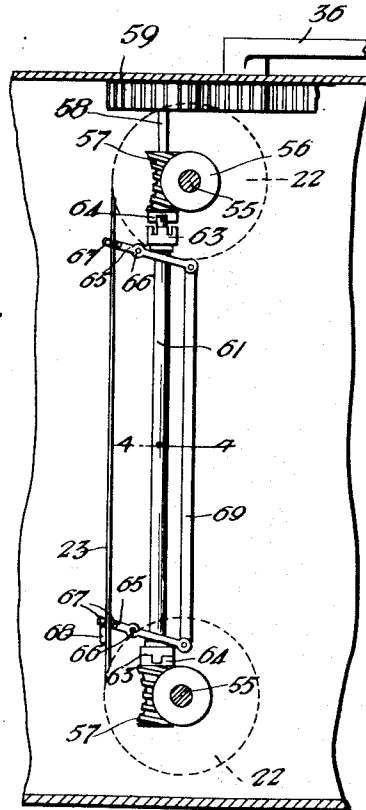


Fig. 3.

Fig. 4.

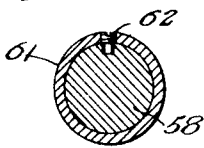
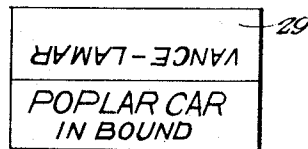


Fig. 5.



WITNESSES

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UNITED STATES PATENT OFFICE.

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TIME-MARKING DEVICE FOR TICKETS AND TRANSFERS.

1,370,482.

Specification of Letters Patent.

Patented Mar. 1, 1921.

Application filed November 4, 1919. Serial No. 335,637.

To all whom it may concern:

Be it known that I, JOHN W. POPE, a citizen of the United States, and a resident of Memphis, in the county of Shelby and State of Tennessee, have invented new and useful Improvements in Time-Marking Devices for Tickets and Transfers, of which the following is a specification.

My invention relates to time marking devices and has for its object the provision of a device operable by a conductor or other authorized person issuing transfers or tickets whereby to print upon the transfer the exact time of issuance, the device having embodied in its construction a clock mechanism for turning a plurality of number wheels.

An important object is the provision of a device of this character which is coin controlled so that a transfer cannot be issued until after the required coin has been deposited.

Another object is the provision of a device of this character which is so constructed as to permit the reprinting of the time upon a transfer previously issued without requiring the insertion of a coin.

An additional object is the provision of a device of this character which will be comparatively simple in construction and operation, highly efficient in service, durable in use and a general improvement in the art.

With the above and other objects in view, the invention consists in the details of construction to be hereinafter more fully described and claimed, and illustrated in the accompanying drawings, in which:

Figure 1 is a horizontal sectional view;

Fig. 2 is a vertical longitudinal sectional view;

Fig. 3 is a sectional view showing the ink-ribbon controlling mechanism;

Fig. 4 is a section on the line 4-4 of Fig. 3;

Fig. 5 is a face view of the printing plate.

Referring more particularly to the drawings, the numeral 10 designates a suitable casing within which is disposed the mechanism to be described. This casing is provided in its top with a slot 11 at the edges of which are provided upstanding flanges or lips 12.

Secured within the casing 10 is a casing 13 inclosing clock mechanism, not shown, which drives a gear 14. Also secured within the casing 10 is a supporting frame includ-

ing a horizontal plate portion 15 and upstanding portions 16 and 17. Journaled at one side of the portion 16 are disks or wheels 18 provided on their peripheries with raised numerals, as shown. The shaft carrying these wheels is provided with a gear 19 meshing with the gear 14. The portion 16 of the frame is provided with a dovetailed groove 20 and disposed within this groove is a plate 21, similarly shaped and having any desired printing surface. The printing surface of this plate is in alinement with the slot 11 in the top of the casing 10.

Journaled at opposite edges of the plate 15 are ribbon spools 22 which carry an inked ribbon 23 which passes in front of the wheels 18 and the printing plate 21. Extending below the plate 15 is an arm 24 which carries a reel of paper 25, it being preferable that the paper be perforated at equal distances apart. The paper passes from the reel between guide rollers 26 and 27 journaled in the frame and travels adjacent the ribbon 23, the ribbon being disposed between the paper and the printing members.

The portion 17 of the frame is formed as a guide and slidably receives a plunger 28 which carries a head 29 adapted to force the paper into engagement with the ribbon and both together against the printing wheels and plate. Upon its underside the plunger is provided with rack teeth 30 with which meshes a pinion 31 secured upon a shaft 32 journaled transversely in the casing 10 and carrying a gear 33. The gear 33 meshes with a gear 34 secured upon an operating shaft 35 which carries a crank handle 36 at one side of the casing. The gear 34, in turn, meshes with a gear 37 secured upon the shaft 38 of the roller 27. The gear 34 must be an intermittent gear for a purpose to be described.

I also provide a coin chute 39 which opens at the top of the casing and which discharges into any suitable receptacle, not shown. Projecting into the chute is the laterally bent end of a lever 40 which is pivoted intermediate its ends, as shown at 41, and the lower end of this lever carries an arm 42 which engages a shoulder 43 on a cam 44 secured upon the shaft 35. From this construction it will be seen that the mechanism cannot be operated while the arm 42 engages the cam 44.

Also secured upon the shaft 35 is a second

cam 45 which is engaged by a lever 46 pivoted intermediate its ends and pivotally connected at its upper end with a plunger 47 slidably mounted beneath the top of the casing 10 adjacent the slot 11 therein.

The rear end of the plunger 28 projects beyond the frame member 17 and has pivotally connected therewith a lever 48 pivoted at 49 upon an ear 50 on the frame member and projecting through an opening in the casing 10.

The operation of the device is as follows: The parts being assembled as above described, and in the positions shown in the drawings, when it is desired to issue a transfer, or other ticket, the required coin is inserted in the chute 39, whereupon the lever 40 will be swung upon its pivot 41 and the arm 42 retracted from engagement with the shoulder 43 on the cam 44. The cam being thus released, the operator turns the crank handle 36 whereupon rotary movement will be imparted to the pinion 31 through the instrumentality of the gears 34 and 33 and this will result in movement of the plunger 28 so that its head 29 will engage the paper 25 and force it and the ribbon 23 into engagement with the number wheels and the printing plate 21. The transfer or ticket will thus be printed and as the wheels 18 are moved by the clock mechanism, the exact time will be indicated upon the ticket. As stated above, the gear 34 is intermittent, so that after operating the plunger 28 the teeth of the gear will mesh with the gear 37 and turn the roller 27, resulting in drawing the paper 25 from the reel and projecting the printed ticket through the slot 11 in the casing. As the shaft 35 completes its revolution, the engagement of the cam 45 with the lever 46 results in forcing the free end of the plate 47 into engagement with the paper, holding it so that only one length of paper may be torn off by the purchaser at the flanges or lips 12. After the shaft 35 has made a complete revolution, the arm 42 will reengage the shoulder 43 on the cam 44 and prevent printing of another ticket until another coin has been inserted.

If for any reason it should be desired to restamp the time upon a ticket, the operator or conductor may insert the previously issued ticket into the slot 11 and between the paper and the ribbon and press the projecting end of the lever 48 to move the plunger 28.

In Figs. 3 and 4 is shown the inking ribbon controlling mechanism. The shafts 55 of the ribbon spools 22 carry worm wheels 56 which mesh with worms 57 on a shaft 58 extending transversely of the casing. This shaft carries at one end a gear wheel 59 which meshes with a gear 60 on the crank shaft 32, suitable idlers being arranged, if necessary, between the shaft 35 and the shaft

58. A sleeve 61 is feathered on the shaft 58 by means of a set screw 62 threaded through the sleeve 61 and engaging a slot extending longitudinally of the shaft, and this sleeve carries at each end a clutch section 63. The worms 57 are journaled loosely on the shaft 58, and each worm carries at its inner end a clutch section 64 with which the section 63 is adapted to mesh. Near each spool there is arranged a lever 65, each lever being pivoted at 66 intermediate its ends and having that end adjacent to the ribbon provided with a pair of laterally extending pins 67 between which the ribbon moves. These pins are spaced far enough to permit the ribbon to pass freely, but near each end each ribbon is provided with a cleat 68 which will not pass between the pins, and it will be obvious that when the ribbon is nearly all off one spool the cleat will engage the pins 66 of the adjacent lever and will swing the said lever.

The opposite ends of the levers from the pins are connected by a link 69 so that they move together, and the throw of either lever will swing the other. The levers are pivoted to the sleeve 61 in such manner that the sleeve will be thrown in the opposite direction to the movement of the ribbon. When the ribbon nears the end of its movement in either direction the cleat 68 will engage the adjacent lever 65 and will move the sleeve 61, reversing the movement of the spools 22.

In Fig. 5 is shown the face of the printing plate. The width of the plate should be double the space for one ticket, for the purpose of showing both the name of the particular car line and the direction, as, for instance, "Poplar car, in bound" for one half the plate and "Lamar Vance" for the other half. At the end of the run the motorman takes out the plate and inserts it in reverse manner.

The stock tickets or transfers may have any wording that may be desired and the plate may have any wording desired. By this system transfers are issued at the transfer point and taken up and the time stamped when the passenger reaches his destination. Then if irregularity appears the motorman will require cash fare before issuing transfer disk with which to unlock the turnstile shown in my co-pending application Serial No. 327,896, filed Oct. 2, 1919.

From the foregoing description and a study of the drawing, it will be apparent that I have thus provided a ticket or transfer printing device which will be highly efficient in use and incapable of fraudulent manipulation.

While I have shown and described the preferred embodiment of my invention, it will of course be understood that I reserve the right to make such changes in the form,

construction and arrangement of parts as will not depart from the spirit of the invention or the scope of the claims.

Having thus described my invention, what I claim is:

1. A device of the character described comprising a casing provided with a slot, a clock mechanism within said casing, a gear driven by said clock mechanism, a frame disposed within said casing, a plurality of number wheels journaled on said frame and driven by said gear, a pair of spools journaled on opposite sides of said frame and carrying an inked ribbon passing adjacent the peripheries of said wheels, a printing plate carried by said frame at one side of said wheels, a paper carrying reel supported beneath said frame, the paper from said reel passing adjacent and at right angles to said ribbon and discharging through said slot, a plunger slidable in said frame and having a head engageable with said paper whereby to force the paper and ribbon against said wheels and plate, a pair of guide rollers journaled on said frame and engaging said paper, means normally holding said plunger and rollers against movement, coin operated means for releasing said holding means, and means for moving said plunger and subsequently one of said rollers.

2. A device of the character described comprising a casing provided with a slot, a plurality of clockwork driven number wheels within said casing, a printing plate adjacent said wheels, spools journaled within said casing and carrying an inked ribbon passing across said plate and wheels, a plunger slidably mounted within said casing and having a head portion adapted for cooperation with said plate and wheels, a paper holding reel having the paper therefrom passing between said head and said ribbon, means normally holding said paper and plunger against movement, coin operated means for releasing said holding means, and gear operated means for moving said plunger and subsequently projecting the paper through said slot.

3. A device of the character described comprising a casing provided with a slot, a plurality of printing members within said

casing, means for inking said printing members, a paper holding reel having the paper therefrom passing adjacent said printing members, guide rollers engaging said paper, a slidable plunger movable to press the paper against the printing members, a coin chute, means normally locking said plunger against movement, said means projecting into said chute and being released by the insertion of a coin thereto, and means for moving said plunger and subsequently one of said rollers whereby to project the paper through said slot.

4. A device of the character described comprising a casing provided with a slot, printing members within said casing, means for inking said members, a paper holding reel within said casing having the paper therefrom passing adjacent said members, a pair of guide rollers engaging the paper, a plunger movable into engagement with the paper and provided with rack teeth, a shaft, a pinion on said shaft engaging said teeth, an operating shaft provided with a handle, a gear on said first named shaft, an intermittent gear on said operating shaft meshing with said gear, a gear on the shaft of one of said rollers meshing with said intermittent gear, movement of said operating shaft resulting in movement of said plunger and subsequent rotation of one of said guide rollers whereby to project the paper through said slot.

5. A device of the character described comprising a casing provided with a slot, printing members within said casing, means for inking said members, a paper holding reel having the paper therefrom passing adjacent said members, a pair of guide rollers engaging the paper, a slidable plunger cooperating with said printing members, an operating shaft provided with a handle, means connected with said operating shaft whereby to move said plunger and subsequently rotate one of said guide rollers whereby to project the paper through said slot, a cam on said operating shaft provided with a shoulder, a lever engaging said shoulder whereby to prevent movement of said shaft, and coin operated means for moving said lever.

JOHN WESLEY POPE.