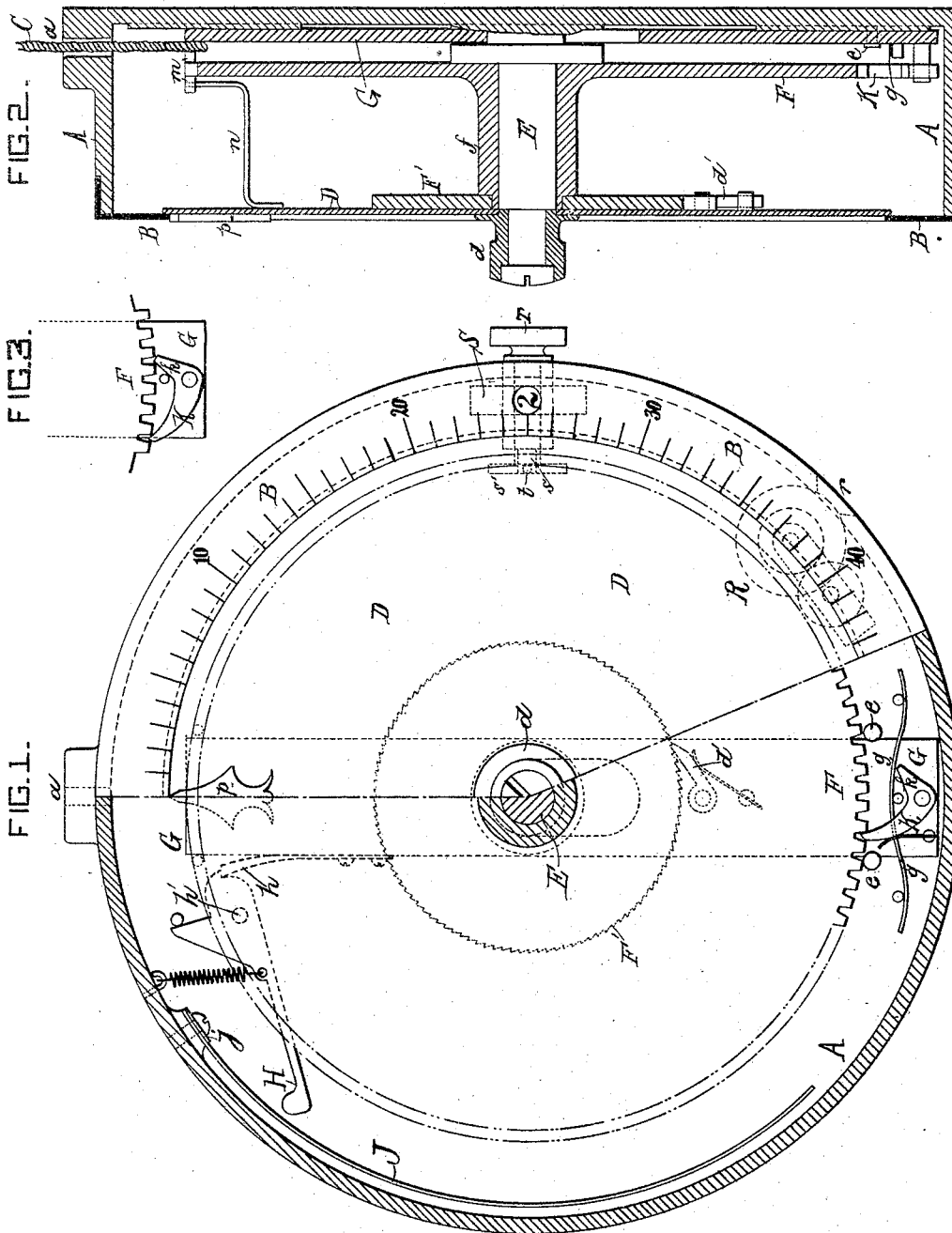


(No Model.)

W. D. FORBES.  
REGISTER FOR STREET CARS.

No. 526,567.

Patented Sept. 25, 1894.



WITNESSES:  
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# UNITED STATES PATENT OFFICE.

WILLIAM D. FORBES, OF HOBOKEN, ASSIGNOR, BY MESNE ASSIGNMENTS, TO  
HORACE B. MILLER, TRUSTEE, OF MONTCLAIR, NEW JERSEY.

## REGISTER FOR STREET-CARS.

SPECIFICATION forming part of Letters Patent No. 526,567, dated September 25, 1894.

Application filed November 4, 1893. Serial No. 490,012. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM D. FORBES, a citizen of the United States, and a resident of Hoboken, Hudson county, New Jersey, have invented an Improved Register, of which the following is a specification.

The object of my invention is to construct a simple and economically manufactured register which is reliable and cannot be tampered with, and is more particularly adapted for use on street cars, at entrance gates and other such places.

In the accompanying drawings I have shown my invention as applied to a construction of register adapted to be used more particularly in street railway cars, but it should be understood at the outset that my invention is applicable to the construction of indicators and registers for many different uses.

In the drawings, Figure 1 is a front elevation of the register, partly in section. Fig. 2 is a vertical section of the same. Fig. 3 is a view of a detail.

The inclosing frame or casing A may conveniently be formed of a casting of cylindrical form closed at the back but open in the front, and having at a suitable point (the top in the case illustrated) an opening *a* for the passage of the operating cord, chain, or rod C by which motion is imparted to the interior mechanism to make a registry. Over the front of the casing is fitted and secured a removable but stationary flanged rim B, which may be conveniently made of sheet metal, and which has marked upon its face the desired graduations to constitute the dial. The example illustrated is marked off into one hundred divisions. Within this annular dial is mounted a disk D carried by a hub *d* which can turn upon a central fixed spindle E secured to or forming a part of the frame or casing A. This disk closes the front opening left within the annular dial. Upon this fixed spindle E there is also mounted within the casing a toothed or gear wheel F whose extended hub *f* has fixed upon it a ratchet wheel F', so that the latter moves with each motion of the toothed wheel F. Upon the inner face of the disk D is pivoted a pawl *d'* which engages with the ratchet teeth of the ratchet wheel F', as indicated in Fig. 1, so that the

disk D must move with each forward movement of the toothed wheel F. Adjacent to the toothed wheel F there is mounted within the casing, in suitable guides, a transverse bar or strip G to which the operating chain, cord, or rod C is connected. In the present instance I have shown this bar as guided partly by the fixed central spindle E, and partly by pins *e* in the back of the casing. This bar G can have a limited longitudinal sliding movement imparted to it within the guides by means of the operating rod or chain in one direction, while a suitable spring *g* or a weight may be provided to give the return movement, the normal position of the bar being that indicated in the drawings. This bar carries a pawl K which engages with the teeth on the periphery of the toothed wheel F as shown in Fig. 1. At each longitudinal movement of the operating bar G the pawl K will turn the toothed wheel F around to the extent of one tooth. In order that it may not be moved more than one tooth at a time, I provide a locking tail *k* on the pawl K, which locking tail comes into contact with another of the teeth of the wheel F, as indicated in Fig. 3, when the sliding bar has been moved to the full extent.

There are of course as many teeth on the wheel F as there are graduations upon the dial. Upon the face of the disk D there is mounted a suitable pointer *p*, and as the disk is locked by its pawl *d'* to the wheels F' and F, every movement of the latter imparts a corresponding movement to the indicating disk with its pointer.

The operating bar G carries a spring pawl *h* acting upon a spring-controlled hammer H which is pivoted to the casing at *h'* and is adapted when the operating bar G has been pulled to its full extent, to be then released and caused by its spring to strike upon a gong J. This gong consists of a spring secured to the inner side of the casing at one end *j* and curved to correspond with the curve of the casing. In order to lock the disk D between each registration I provide upon the operating bar G a pin *m* which, when the said operating bar is in its normal position, as indicated in the drawings, will enter between two adjacent teeth of the toothed

wheel F and lock the latter, as shown in Fig. 2. The indicating pointer cannot be turned back, but whenever it is desired it may be brought to zero to start a new succession of registrations, simply by turning the disk D forward by hand by means of its hub *d* until the pointer is brought down to zero point, for the toothed wheels F and F' being held by the stop pin *m*, the pawl *d'* of the disk, during this movement, simply slips over the teeth of the ratchet wheel F'. In order that this registering disk may, however, be stopped with certainty at the zero point, I secure to the inner face of the disk a finger *n* which will come into contact with a stop on the bar G when the disk has been brought around to indicate zero. For convenience I utilize the pin *m* as the stop. When the operating bar G is moved to turn the toothed wheel F and the disk D, the pin *m* on the bar releases both the toothed wheel F and the finger *n*.

In registers of the class to which this invention particularly belongs, it is usual to combine with the part which may be termed the trip register (which part in this case has been thus far described) a permanent registry showing upon the face of the device.

The better to avoid confusion between the two registries, I prefer to arrange my permanent registry wheels to show through the side of the casing instead of through the face. These permanent registry wheels may be of any convenient or well-known construction. In the street car register which I have shown in the drawings, I arrange these registry wheels as indicated by dotted lines at R to show through an opening indicated at *r* in the lower side of the case, where the man who enters the car may take note of the registry and may conveniently see them just as he steps inside. The series of registry wheels R are geared to the toothed wheel F, as will be readily understood.

To provide for temporarily registering upon the face of the device more passengers or fares than there are graduations on the dial, I provide a numbered wheel S mounted on a transverse spindle *s* which has at its inner end a toothed wheel *s'* adapted to be struck by a pin *t* on the face of the wheel F at the completion of each rotation to bring a suitable number on the wheel S (in this case to indicate hundred multiples) to show through an opening in the dial B. A thumb piece T on the outside of the casing is secured to the

spindle *s* to turn the wheel S back to show zero when starting a new succession of registrations.

As the pointer disk D may be made to fit closely under the flanged rim or annular dial, dust cannot enter the casing to any harmful extent, so that the inclosing glass front usually used is dispensed with, and even if a considerable amount of dust should get in, the internal mechanism is of such a simple and substantial character that no derangement of the mechanism would result.

I claim as my invention—

1. A register having a case, and a stationary but removable flanged rim graduated to form an annular dial in combination with a rotary disk inclosing the front of the case and carrying a pointer to co-operate with the annular dial, substantially as set forth.

2. In a register, the combination of a dial and a pointer disk carrying a locking device with a wheel with which the said locking device engages to transmit motion to the pointer disk through said locking device, substantially as and for the purpose set forth.

3. The combination of the dial and pointer or other registering device of a register with a transverse sliding bar carrying a pawl, a toothed wheel to be operated thereby and a ratchet wheel and pawl connection between the toothed wheel and the said registering device, all substantially as set forth.

4. The combination of the pointer and dial or other registering device of a register with a toothed wheel to transmit motion to said registering device and a transverse sliding bar having a pawl to act upon said toothed wheel, said bar having also a locking pin to lock the toothed wheel when the bar is in its normal position of rest, substantially as set forth.

5. The combination of the dial of a register and a pointer disk having a finger on the inside with a toothed wheel, a transverse sliding bar having a pawl to operate said toothed wheel and having also a stop pin to co-operate with the finger on the disk to arrest the disk at zero, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM D. FORBES.

Witnesses:

EDITH J. GRISWOLD,  
HUBERT HOWSON.