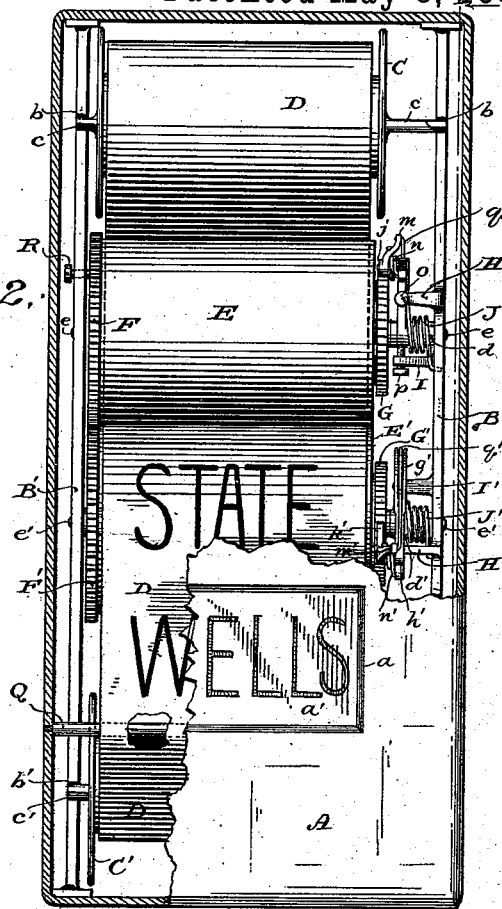


2 Sheets—Sheet 1.

Patented May 8, 1888.

*Fig. 1.*

*Fig. 1.*



*Fig. 2.*

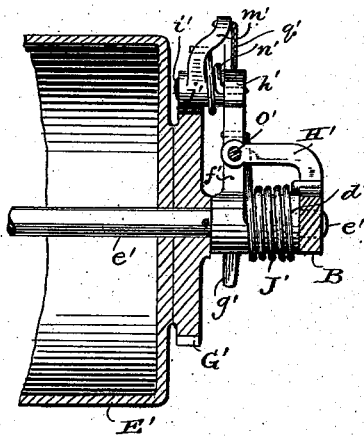


Fig. 3.

Witnesses.  
Geo W Young.  
W. E. Oliphant

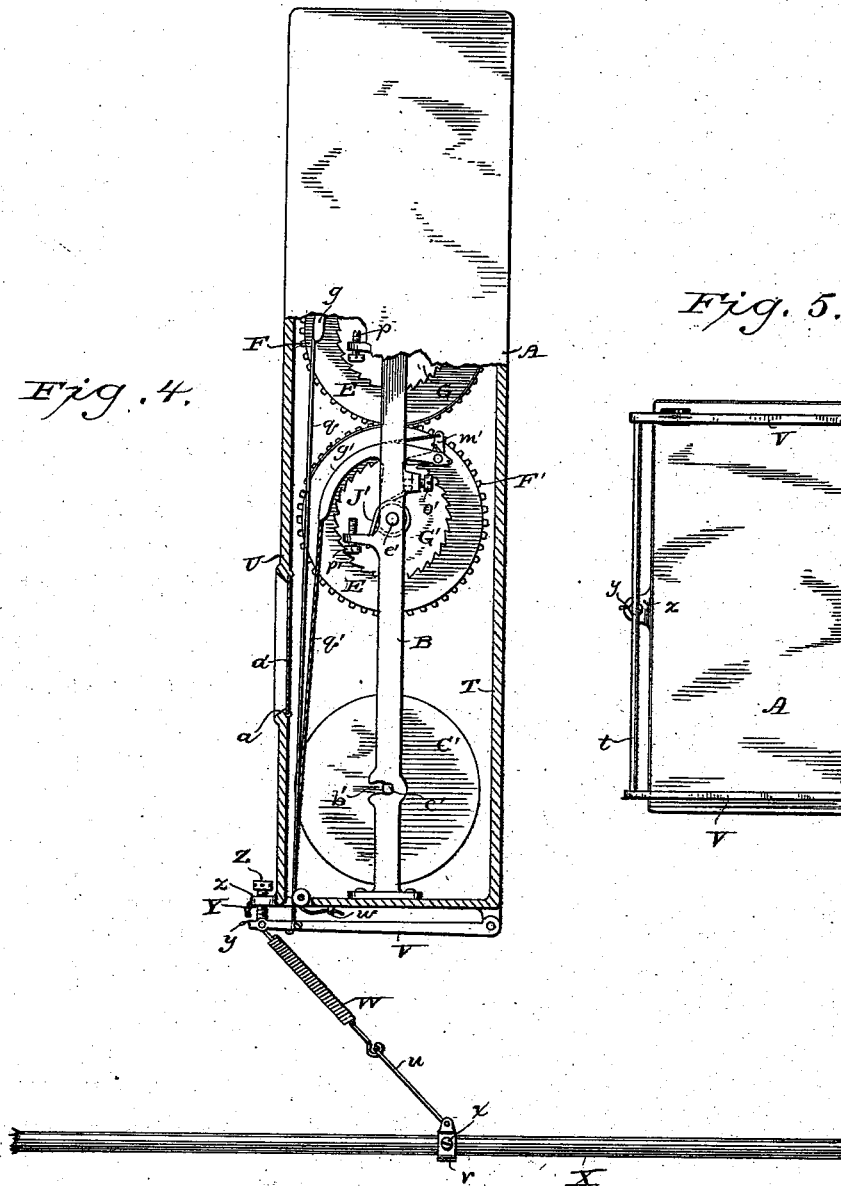
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J. L. FATE.  
STATION AND STREET INDICATOR.

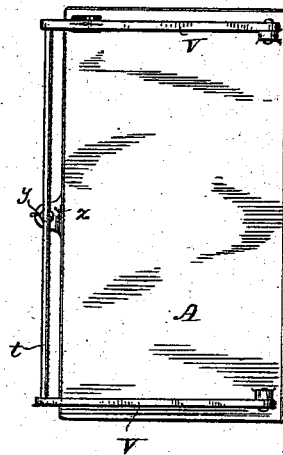
No. 382,520.

Patented May 8, 1888.

*Fig. 4.*



*Fig. 5.*



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# UNITED STATES PATENT OFFICE.

JOHN L. FATE, OF MILWAUKEE, WISCONSIN.

## STATION AND STREET INDICATOR.

SPECIFICATION forming part of Letters Patent No. 382,520, dated May 8, 1888.

Application filed November 21, 1887. Serial No. 255,730. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN L. FATE, of Milwaukee, in the county of Milwaukee, and in the State of Wisconsin, have invented certain new and useful Improvements in Station and Street Indicators; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to devices for indicating in railway or street cars or other vehicles the names of the stations or streets or stopping-places, and is in part an improvement on the device set forth in my prior application, Serial No. 243,946, filed July 11, 1887, all as will be fully set forth hereinafter, and pointed out in the claims.

In the drawings, Figure 1 is a vertical transverse section through the casing of the device on the line 1 1 of Fig. 2, and showing also in section a portion of the front end and platform of a street-car to which the device is shown attached, the operative portions of the device being represented in side elevation, partly broken away to better show the construction. Fig. 2 is a front elevation of the device with the front of the casing and the name-band partly broken away. Fig. 3 is a detail sectional view on the line 3 3 of Fig. 1, but showing the pawl in full. Fig. 4 is a view of my device, partly in section, and slightly modified to adapt it for use on a steam-railway or cable car; and Fig. 5 is an under side view of the device shown in Fig. 4.

The object of this invention, like my previous device, hereinbefore referred to, is to enable passengers at all times to ascertain by a glance the name of the next succeeding station, street, or stopping-place, the present invention being of simpler construction, with fewer numbers of parts, and easier of operation than the said first-devised device.

A is a suitable box or casing, having an opening, *a*, in front, preferably protected by a glass, *a'*, and within said casing are located a pair of supporting-brackets, B B', each provided with upper front slots or openings, *b*, to receive the squared shaft or journals *c* of the upper winding-drum, C, and with similar lower front slots or openings, *b'*, to receive the like shaft or journals *c'* of the lower winding-

drum, C'. These drums, like those in my former device, are provided in their interiors with coiled springs, as shown at *c'' c''*, which have the same action as the similar springs used on the ends of ordinary spring curtain-rollers, their function being to take up the slack in the name-band or apron D, one end of which is attached to each drum, and which passes between the friction-rollers E E', whose shafts *e* and *e'*, respectively, are journaled in the brackets B and B', as shown, there being in my present device but one pair of these rollers (instead of two pairs, as before) geared together by the gear-wheels F F' on the shafts *e* *e'* on the side adjacent to the left-hand bracket, B'. The right-hand heads of the friction-rollers carry ratchet-wheels G G', formed with or secured thereto. The shafts *e* and *e'* carry loose sleeves *d* and *d'*, respectively, between the ratchet-wheels G and G' and the bracket B, and said sleeves have projecting therefrom (and rigid therewith) the stop-arms *f f'*, each terminating in the curved arms *g h* and *g' h'*, respectively. The curved arms *h* and *h'* are short and project toward the front of the casing, and which carry (rigid therewith) the pivot bolts or studs *i* and *i'*, which project toward the adjacent heads of the friction-rollers E and E', and carry sleeves *j* and *j'*, from which in turn there project the pawls *k* (shown in dotted lines in Fig. 1) and *k'* and the pawl-arms *m* and *m'*. Springs *n* and *n'* are coiled around these sleeves *j* and *j'*, one end of each spring being secured to the end of the arm *h*, (or *h'*), and the other end of said spring bearing against the pawl-arm *m*, (or *m'*).

H is a curved arm projecting from the bracket B and carrying an adjustable screw, *o*, which serves as a stop to the backward or return movement of the stop-arm *f*, as hereinafter described, and I is another curved arm projecting from said bracket B and carrying a similar adjustable screw-stop, *p*, for limiting the forward motion of said stop-arm *f*, adjacent to the upper ratchet-wheel, G. H' is a like curved arm projecting from said bracket B and carrying an adjustable screw-stop, *o'*, and I' another curved arm projecting from said bracket B and carrying a like stop, *p'*, the said stops *o'* and *p'* being to limit the

backward and forward movements of the stop-arm  $f'$  adjacent to the lower ratchet-wheel,  $G'$ . Around the sleeve  $d$  (which is on the shaft  $e$  of the upper friction-roller,  $E$ ) there is coiled a spring,  $J$ , one end of which is secured to the bracket  $B$ , while the other end bears against the stop-arm  $f$ , and a like spring,  $J'$ , is coiled around the sleeve  $d'$ , (which is on the shaft  $e'$  of the lower friction-roller,  $E'$ ), one end of this spring  $J'$  bearing against the curved arm  $H'$  and the other end bearing against the stop-arm  $f'$ . Secured to the end of the pawl-arm  $m$  is a cord or chain,  $q$ , and to the end of pawl-arm  $m'$  is a like cord or chain,  $q'$ , and near their other ends these cords or chains (which pass through a suitable opening,  $K'$ , to the outside) have knots or nuts  $r$  and  $r'$ .

On the outside of the front end,  $K$ , of the street-car is a lug,  $L$ , to which is pivoted a bell-crank lever,  $L'$ , the upper end of whose long arm is provided with a notch,  $l'$ , to receive the cord or chain  $q'$ , (or  $q$ ), the knot or nut  $r'$  (or  $r$ ) keeping the parts in place together, as shown. In the drawings, Fig. 1, the cord  $q'$  is shown thus connected, and the free end of the other cord,  $q$ , (which passes under a pulley,  $K^2$ , in said opening  $K'$ ), is hung up out of the way, as on a convenient catch or hook,  $K^3$ , on the front end of the car.  $K^4$  is a pulley mounted on a lug secured to the lower part of the car-front, and a cord or chain,  $M$ , extends from the short arm of the lever  $L'$  down alongside the said car-front, and back of this pulley  $K^4$  and through a hole in the front platform,  $K^5$ , and there it is secured to about the center of a foot-lever,  $N$ , hinged at  $s$  to the under side of the platform, and having a vertical arm,  $N'$ , extending up through an adjustable screw-threaded bushing,  $s'$ , in said platform, said arm having a suitable head,  $N^2$ , within easy reach of the driver's foot, the said lever  $N$  being held normally in position by the spring  $P$  beneath the car.

$Q$  is a roller extending from one side of the casing  $A$  to the other, just back of the name-band  $D$  and in line with the lower part of the opening  $a$ , the function of said roller being to keep the name-board in proper position back of said opening.

$R$  is an adjustable screw, which may pass through the bracket  $B$  and bear against the gear-wheel  $F$  with sufficient force to act as a brake and prevent the parts from being accidentally moved by the jolting of the car. The location of this brake may be varied, if found desirable in any instance.

The operation of my present device is very similar to that of my prior device hereinbefore named. The name-band bears the names of the streets or stopping-places in regular order, and in the illustration given in Fig. 1 the name-band is unrolling from the lower drum,  $C'$ , and winding onto the upper drum,  $C$ , and the stops  $o'$   $p'$  are adjusted so that at each pressure of the foot-lever  $N$  the cord  $M$ , lever  $L'$ , and cord  $q'$ , attached to the pawl-arm  $m'$ , will move the ratchet-wheel  $G'$  and fric-

tion-rollers a sufficient distance to expose the next name of street or station in front of the opening  $a$ , the stops  $p'$  limiting this action by coming in contact with the stop-arm  $f'$ , and then the spring  $J'$  acting to return the said stop-arm  $f'$  to place against the stop  $o'$ , ready for the next movement. The springs  $J$   $J'$  are stronger than the pawl-springs  $n$   $n'$ ; but the moment the stop-arm  $f$  or  $f'$  is against the stop  $o$  or  $o'$  the spring  $n$  or  $n'$  acts to throw the pawl  $k$  or  $k'$  out of gear with the ratchet-wheel  $G$  or  $G'$ , as shown in the upper part of Fig. 1, (ratchet-wheel  $G$  and attachments,) while the moment the lever  $N$  is pressed the force of the spring  $n$  or  $n'$  is overcome and the pawl brought to place against the teeth of the ratchet-wheel, as shown in the lower part of Fig. 1, (ratchet-wheel  $G'$  and attachments,) where pressure is supposed to be just commenced on the said lever  $N$ . It will be understood that when the car is to make a return trip and the name-band is to be consequently operated in a reverse direction from that indicated in Fig. 1, the cord or chain  $q'$  will be removed from the lever  $L'$  and hooked up or hung out of the way, and the cord or chain  $q$  will be placed within the notch  $l'$  of said lever-arm, and then the device will be all ready for operation.

If desired, a lamp may be arranged within the casing at the point  $T$ , and any suitable inscription (such as "The next street or station will be") may be placed on the front of the casing at the point  $U$ , just above the opening  $a$ .

In Figs. 4 and 5 I have shown slight modifications of my device, to enable it to be employed on steam-railway or cable cars, where an indicator will have to be employed in each car. In this arrangement, for greater convenience, (so as to work from the front of the box or casing,) the ratchet-wheels and adjacent attachments are reversed in their relative front or rear positions, but otherwise unchanged. Below the casing  $A$  (in this form of my invention) are hinged the arms  $V$   $V$ , connected at their front ends by cross-rod  $t$ , forming a frame, and at any convenient point on said cross-rod there is secured one end of a stiff spiral spring,  $W$ , whose other end is fastened to a short rope,  $u$ , the other end of which is secured (as by a suitable split clamp,  $v$ , having tightening-screw  $x$ ) to the bell-rope  $X$ . One of the operating cords or chains  $q$  or  $q'$  is attached to one arm  $V$  of the frame and the other cord or chain hooked out of the way, as shown at  $w$ . At the base of the casing  $A$  there is a lug,  $z$ , from which is suspended a hook,  $Y$ , for engagement with an eye,  $y$ , on the cross-rod  $t$  of the frame, so as to keep the frame in place when not in use, and through this lug  $z$  there extends downward an adjustable screw-stop,  $Z$ , bearing against said cross-rod.

This device is intended to be operated either by a brakeman on the front car or the engineer in the cab by pulling on the bell-cord, (or on a lever or windlass attached thereto for very long trains,) the end of the bell-cord at

the rear of the train having a spiral spring to draw it back to place after each operation of the indicator.

5 Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

10 In a station and street indicator, the combination of a suitable casing, interior supporting-brackets, spring-controlled winding-drums supported by said brackets at opposite ends thereof, a pair of friction-rollers, also supported by said brackets between said drums, gear-wheels on the shafts of said friction-rollers in mesh with each other, ratchet-wheels 15 fast with the heads of the friction-rollers, loose sleeves on the shafts of the friction-rollers having stop-arms rigid therewith, said stop-arms terminating in curved arms projecting in opposite directions, one of each of said curved

arms carrying a pawl with an arm rising 20 therefrom and the other curved arms serving as cord-guides, cords attached to the said pawl-arms and connected to the actuating mechanism, springs controlling the stop-arms and pawls, adjustable stops on each side of the 25 stop-arms, and a name-band extending from one winding-drum to the other and passing between the adjacent surfaces of the intermediate friction-rollers, substantially as and for the purpose set forth. 30

In testimony that I claim the foregoing I have hereunto set my hand, at Milwaukee, in the county of Milwaukee and State of Wisconsin, in the presence of two witnesses.

JOHN L. FATE.

Witnesses:

H. G. UNDERWOOD,  
N. E. OLIPHANT.