(No Model.)

J. L. FATE.

STATION AND STREET INDICATOR.

No. 382,519. Patented May 8, 1888.

Fig. 1.

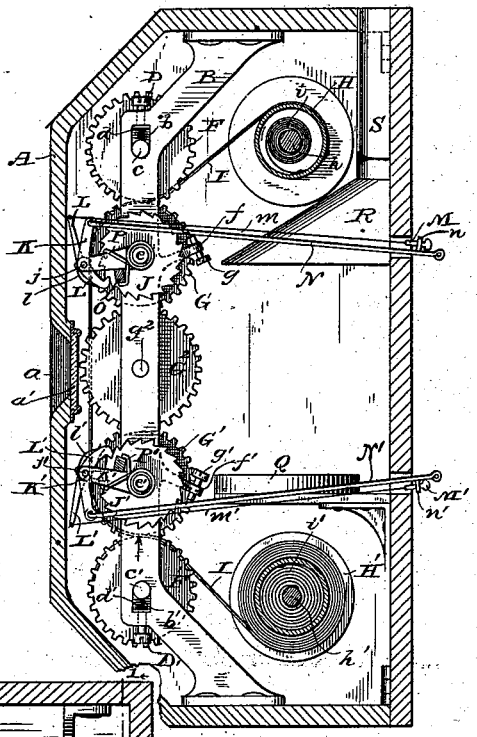


Fig. 2.

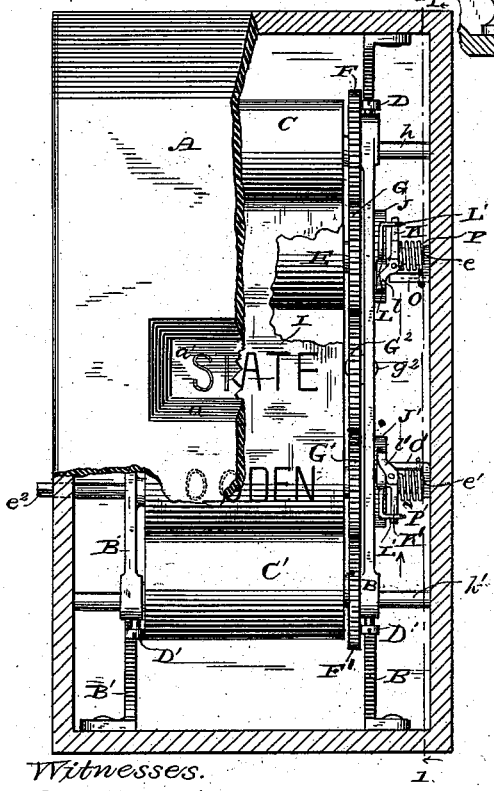
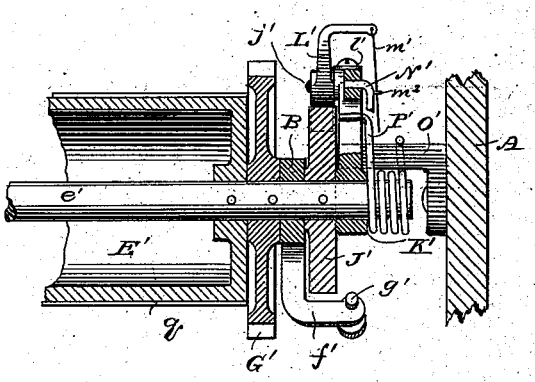


Fig. 3.



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UNITED STATES PATENT OFFICE.

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STATION AND STREET INDICATOR.

SPECIFICATION forming part of Letters Patent No. 382,519, dated May 8, 1888.

Application filed July 11, 1887. Serial No. 243,946. (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 will be fully set forth hereinafter, and pointed out in the claims.

In the drawings, Figure 1 is a side elevation of my device with one side of the casing removed on the section line 1 1 of Fig. 2. Fig. 2 is a front elevation of said device, partly broken or cut away to better illustrate the construction. Fig. 3 is a sectional detail view looking from below upward in the direction of the arrows in Figs. 1 and 2.

In steam-cars it is always difficult to understand the station as called out by the brakemen, and on street cars rain, or darkness, or moisture, or frost on the windows will frequently prevent the passengers from observing the street-names on street-lamps, corners, &c., even when they are there, and often these name-signs are missing, and hence the principal use of my device is in vehicles of the description named to enable the passengers at all times to know the name of the next succeeding station, street, or stopping-place; and to that end it consists, primarily, of a suitable box or casing, A, having an opening, *a*, in front, (preferably protected by a glass, *a'*,) and within said casing a pair of supporing-brackets, B B', each having slots *b b'* in their upper and lower portions, respectively, in which slots are journaled the ends of the shafts or journals *c c'* of the friction-rollers C C', while springs *d d'* within said slots and set-screws D D' regulate the degree of pressure of said rollers against the adjacent friction-rollers E E', whose shafts *e e'* are journaled in the upright brackets B B'.

F F' represent gear-wheels on the shafts *c c'*, and G G' other gear-wheels on the shafts *e e'*, located between the rollers carried by said shafts and the inner wall of the adjacent bracket B, which bracket has lugs *f f'* projecting therefrom for carrying set-screws *g g'*, which form adjustable stops, as hereinafter explained.

G^2 is a gear-wheel, which is simply an idler connecting the wheels G G' in the described train of gearing, and whose stud g^2 is journaled in the bracket B.

H H' are drums whose shafts *h h'* extend from one side of the casing to the other back of the friction-wheels C C', the interior of said drums being provided with the coiled springs *i* and *i'*, which have the same action as similar springs used in the ordinary spring-curtain fixtures, their function being to take up the slack in the band or apron I, as hereinafter set forth.

J J' are ratchet-wheels mounted on the shafts *e e'*, which shafts also carry the bell-crank levers K K', to the elbows of which are pivoted at *j j'* the pawls L L', normally held in contact with the teeth of the ratchet-wheels J J' by the springs *l l'*, the other ends of said pawls being bent and perforated for the reception of the forward ends of the cords or wires *m m'*, whose rear ends are secured to set-screws M M', passing through nuts *n n'* at the rear of the casing, and which cords or wires, if flexible, may pass through eyes m^2 on the operating-levers N N', which levers are secured to the free ends of the bell-cranks K K', and pass out at the back of the casing, to be there attached to any suitable cords, wires, chains, levers, or other device for drawing upon them at the required times.

O O' are lugs secured to the rear wall of the casing and having projecting arms to form stops to limit the movement of the bell-cranks K K', and P P' are springs coiled around the shafts *e e'*, one end of each of said springs bearing against one of said stops O O' and the other end against the bell-cranks K K', so as to normally hold the latter against the stops O O' and return the said cranks to their position after they have been moved therefrom.

Q is a stand to receive a lamp by night, and R the shade, and S the chimney or smoke-flue for the light.

The operation of my device will be readily understood from the foregoing description of its construction. The band or apron I is provided at regular intervals with the name of

the streets, stations, or stopping-places in their proper order, and when the train or car is ready to start, the name of the first stopping-place or crossing is displayed opposite the opening *a*. For illustration I will suppose that the name-band I is wound up on the lower drum, H′, as shown in the drawings, and the first stopping-place ("State") displayed at the opening *a*. The operator tightens the lower screw-bolt, M′, which draws on the cord or wire *m*′, and this not only frees the pawl L′ from contact with the teeth of the lower ratchet-wheel, J′, but keeps these parts out of engagement with each other. Then, as soon as the station "State" is passed, the operator pulls on the upper lever, N, which draws on the bell-crank K and its pivoted pawl L and turns the ratchet-wheel J and its shaft *e* and the friction-roller E, while the same action sets in movement the whole train of gears F G G^2 G′ F′, and through this moves also the other friction-rollers, C, E′, and C′. These rollers are faced with some substance, (such as felt or other fabric, as shown at *q* in Fig. 3, to increase their frictional resistance,) and the name-band I passes between each pair of rollers, as shown in Fig. 1, and hence when motion is imparted to said rollers, as described, the upper pair of rollers will begin to draw the name-band I off from the lower drum, H′, the spring action of the drums always taking up any slack in the said band between the rollers and the drums. This movement of the ratchet-wheel J continues until the bell-crank K strikes against the stop *g*, which serves to bring the name of the next stopping-place (as "Ogden") opposite the opening *a* in the casing, and then, as the operator releases the lever N, the force of the spring P draws the bell-crank K back against the stop O, thus restoring all the parts to their original position ready for a repetition of this movement when the station "Ogden" has been passed. On a return trip of course exactly the same operation would take place, except that the operator would turn the upper screw, M, and free the upper pawl, L, from the ratchet-wheel J, and to move the belt would draw in the lower lever, N′. A great advantage of my device consists in this feature of reversibility, as thereby the indicator is always ready for use on the return trip as soon as it has finished a trip, no matter from which end of the line the car originally started.

As a matter of convenience, one of the friction-roller shafts may be extended as shown at e^2, in Fig. 2, where the shaft of friction-roller E′ is thus extended, and have its end squared for the reception of a crank or key, so that the shaft and roller may be revolved either way to wind the name-band onto one drum from the other at any time. The distance apart of the names of the streets or stations may be proportionally either less or greater than shown in the drawings, it only being necessary to preserve the proportions between such distance and the distance the ratchet-wheel travels before the bell crank reaches its stop.

When my device is used on a street-car, a convenient method of operating it from the front platform would be to have a chain or cord running over a pulley to the lever N, (or N′,) with a pedal at the other end of the chain, on which the driver could step each time the name-sign was to be changed. When used on a railway-train, the indicator can be operated either by a brakeman on the front car or the engineer in the cab by pulling on the bell-cord connected at rear end of train with a spiral spring to draw back the cord to place, each indicator to be connected with the bell-cord by short cord—say three feet long—joined by an adjustable clamp, and then the bell-cord could be used from the rear to signal the engineer, as usual, without interfering with the indicator. There should also be a small spiral spring between the lever N (or N′) and the short cord for protection against the slack of the train.

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

1. In a station and street indicator, the combination of a name-band, the opposite ends of which are secured to spring-controlled drums, a pair of friction-rollers between which the name-band passes arranged at an intermediate point between the said drums, and operating-levers and actuating mechanism, substantially as and for the purpose set forth.

2. In a station and street indicator, the combination of a name-band, the opposite ends of which are secured to spring-controlled drums, a pair of friction-rollers at each end of the device between which the name-band passes, and operating-levers and actuating mechanism, whereby the device may be operated for a return trip without adjustment as soon as the initial trip is finished, substantially as set forth.

3. In a station and street indicator, the combination of a suitable casing, interior supporting-brackets, two pairs of friction-rollers, each pair supported by said bracket at opposite ends thereof, gear-wheels on the shafts of said rollers with an intermediate idler communicating therewith, ratchet-wheels and spring-controlled bell-cranks on the shafts of the rollers which are adjacent to the idler, pawls pivotally connected to the bell-cranks, operating-levers connected to said bell-cranks, stops projecting from the casing and from the bracket adjacent thereto, spring-controlled drums located back of each pair of friction-rollers, and a name-band extending from one drum to the other and passing between the adjacent surfaces of each pair of friction-rollers, substantially as set forth.

4. In a station and street indicator, the combination of the name-band, two pairs of friction-rollers between which it passes, a train of gears and a bell-crank, and pawl-and-ratchet

mechanism connected to each pair of friction-rollers, an operating-lever connected to each bell-crank, and a wire or cord attached to the free end of each pawl, whereby when one of the levers is pulled to operate the pawl connected therewith the wire or cord attached to the other pawl may be pulled to disengage that pawl and prevent its operation, substantially as set forth.

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

JOHN L. FATE.

Witnesses:
VICTOR A. ALDERSON,
FRED. A. REMICK.