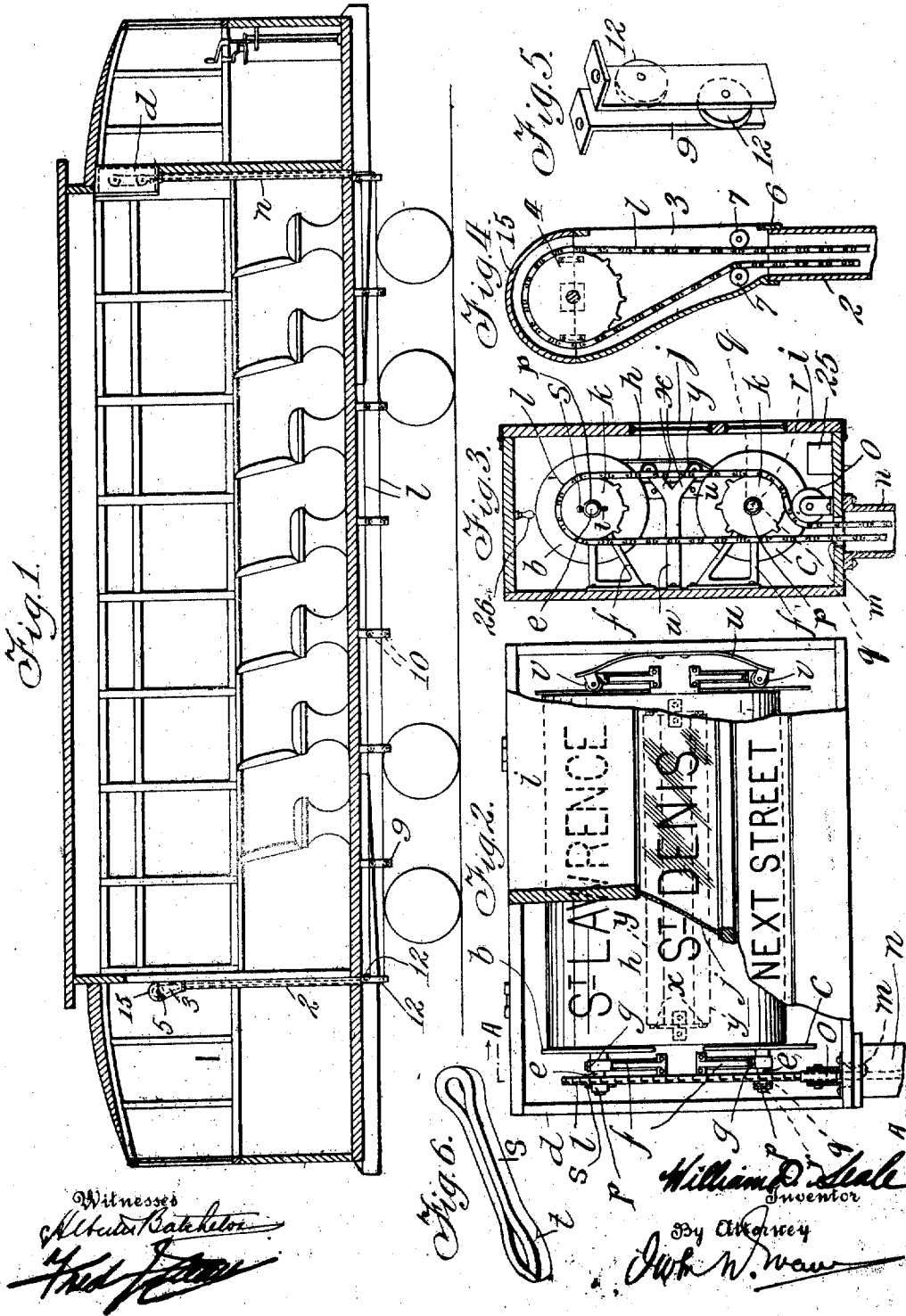


1,001,311.

Patented Aug. 22, 1911.



# UNITED STATES PATENT OFFICE.

WILLIAM DANIEL SEALE, OF MONTREAL, QUEBEC, CANADA.

STREET-INDICATOR.

1,001,311.

Specification of Letters Patent. Patented Aug. 22, 1911.

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To all whom it may concern:

Be it known that I, WILLIAM DANIEL SEALE, a citizen of the United States, now residing at Montreal, Province of Quebec, Dominion of Canada, have invented certain new and useful Improvements in Street-Indicators; and I do hereby declare that the following is a full, clear, and exact description thereof.

This invention relates to street indicators which are adapted to be placed in the interior of a vehicle so that a name indicating a cross-street may be fully displayed to the occupants of the vehicle.

Heretofore difficulty has been experienced in preventing sagging between the carrying spools of the ribbon bearing the street names and also in bringing the street name to its proper indicating position when a greater

amount of ribbon is wound upon one spool and while elaborate mechanism has been devised which overcomes this defect to some extent the difficulty is still present when the indicator is used with a car making a

long run, the name bearing ribbon being necessarily extended in length to accommodate the names of the numerous cross-streets and one of the objects of my invention is to provide a simple mechanism

whereby the desired street name may be readily brought into its proper indicating position irrespective of the length of the ribbon and also to prevent sagging of the latter between the carrying spools.

A further object is to provide means whereby the indicator when placed at the front of the interior of the car, may be operated from the rear vestibule during the complete run of the latter one adjustment only being necessary when the car starts on its return run.

A further object is to simplify the general construction of indicators and to provide readily removable parts therefor.

For full comprehension however of my invention reference must be had to the accompanying drawings forming a part of this specification in which similar reference characters indicate the same parts and wherein:

Figure 1 is a longitudinal sectional view of a car with my improved indicator applied thereto and shown in side elevation: Fig. 2 is a face view of the indicator proper partly broken away to expose the interior thereof: Fig. 3 is a transverse section there-

of taken on line A A Fig. 2: Fig. 4 is a longitudinal section of a sprocket-wheel casing included in my invention: Fig. 5 is a perspective view of a chain guiding bracket; and Fig. 6 is a perspective view of a cotter included in my improved mechanism.

To illustrate the adaption of my improved street indicator I have shown it applied to a street railway car as in Fig. 1.

The indicator proper, which will be presently described, is preferably situated at the front of the interior of the car near the top and in such position that its indicating face is in full view of the occupants of the car.

The indicator proper consists of a pair of spools *b* and *c* rotatably supported within a casing *d* by trunnions *e* resting upon brackets *f* and secured in place by straps *g* so that when it is desired the spools may be readily removed by displacing the straps, the said spools being so disposed with relation to each other that a ribbon *h* bearing the names of streets thereon and suitably attached to the spools may be wound from one spool to the other and vice versa according to the direction in which the car is traveling. The front side *i* of the casing is hinged to the main body and has a glass covered opening *j* therein exposing the portion of the ribbon *h* which bears the name of the street then being indicated the hinged side *i* of the casing allowing a ready access to the interior of the latter for a purpose which will be apparent from the following: The means I prefer to employ to operate the spools comprise a pair of sprocket-wheels *k* one of which is loosely mounted upon each trunnion at one end of the spools, the trunnions being extended for this purpose. An endless sprocket-chain *l* is passed over the sprocket wheels and extends through an aperture *m* in the bottom of the casing *d* from which it passes through a pipe *n* to the underside of the floor of the car and thence to the rear vestibule from where the indicator is operated as will be presently described. An idler *o* supported adjacent to the aperture *m* guides the chain there-through and tends to hold the latter firmly in position upon the sprocket-wheels.

In the operation of the indicator one of the sprocket-wheels only is rigidly secured to its trunnion, the other remaining loose so that when the chain *l* is operated, only one of the spools receives direct movement therefrom the other having movement im-

directed thereto by the action of the ribbon as it winds upon the spool directly connected to the chain.

To alternately attach the sprocket-wheels 5 to their trunnions a collar  $p$  is formed integrally with each of the sprocket-wheels and has diametrically opposite holes  $q$  therein adapted to register with a hole  $r$  bored through its trunnion while a cotter  $s$  is adapted to be inserted through the registering holes of the sprocket-wheel it is desired to rigidly connect to its trunnion. The legs of the cotter  $I$  employ are outwardly bent at a point  $t$  adjacent to their ends which latter are turned inwardly into contact with each other thus forming a point which facilitates the insertion of the cotter, the outwardly bent portion yieldingly resisting withdrawal thereof. By so forming 20 the cotter  $I$  obtain the advantage of the yielding resistance without the disadvantage of flared ends which have heretofore made it difficult to insert the cotter.

By the means just described the ribbon is 25 prevented from sagging between the spools and a smooth surface, clearly displaying the desired street name is exposed beneath the opening  $j$  in the front of the casing. This feature overcomes the defect experienced when both spools are operatively 30 connected to the chain at the same time when, before the transverse center of the ribbon passes from one spool to the other the latter spool takes up the ribbon more slowly than the former delivers the same due to the 35 greater diameter of such spool while, as will be apparent, when one spool only is connected directly to the operating means the loose spool will deliver the ribbon at the 40 same speed as it is taken up by the first spool.

To further maintain the tension of the ribbon  $I$  provide a device consisting preferably of a bow spring  $u$  secured at its center 45 to the casing and adjacent to one end of the spools, the ends of the springs extending toward the spools and carrying rollers  $v$  which bear upon and yieldingly resist the rotation of the spools toward one another.

50 In the present invention the portion of the ribbon directly beneath the opening  $j$  and bearing the name of the street then being indicated is always maintained parallel with the sides of the casing so that the name 55 can be plainly seen and this is accomplished by means of a pair of brackets  $w$  secured to the rear of the casing near the opposite ends of the spool at a point opposite the opening  $j$  and extend toward the front of the casing 60 where they are formed with branching arms  $x$  adapted to rotatively support a pair of rollers  $y$  over which the ribbon passes and is held thereby in its proper position parallel with the sides of the casing, whereas without 65 this support the ribbon would slant from

one spool to the other as one became larger and the other correspondingly smaller due to the displacement of the ribbon from one to the other.

As before mentioned the indicator is 70 operated from the rear vestibule of the car by means of the chain  $l$  which extends along the bottom of the car from the front to the rear and passes upwardly therefrom through a pipe 2 to a casing 3 secured to 75 the frame of the car and within which is rotatively supported a sprocket-wheel 4 over which the chain passes such sprocket-wheel being connected with a crank arm 5 outside 80 the casing by means of which the desired movement is imparted to the spools. The top 15 of the casing 3 is removable in the axial line of the sprocket-wheel whereby the latter may be readily removed.

The casing 3 is gradually reduced in size 85 from the top to the bottom where it is formed with an inverted cup-like flange 6 fitting over the top of the pipe 2, the chain being guided into the latter by a pair of idlers 7 carried by the casing adjacent to 90 the top of the pipe.

Situated at intervals along the bottom of the car is a series of brackets 9 each carrying a pair of idlers over which the chain 95 passes, the idlers 10 of the intermediate brackets being vertically arranged with relation to one another, while the idlers 12 of the brackets adjacent to the lower ends of the pipes  $n$  and 2 are disposed diagonally 100 to one another (see Figs. 1 and 5) so that the two portions of the chain are held apart as they enter the said pipes and do not interfere with one another.

Operation: When the car starts on its run 105 the indicator is in readiness, that is to say one of the sprocket wheels is fixed to its trunnion, the other loose and the ribbon set to indicate the first street. As the car proceeds the ribbon is moved by the crank arm 5 to successively bring the names of the streets 110 into view beneath the opening  $j$  until the end of the run is reached. To bring the street names into view in reverse order when the car is returning the cotter which has secured one sprocket-wheel upon its 115 trunnion on the outward run is removed from this sprocket-wheel and applied to the other so that when the crank arm is operated in an opposite direction the movement of the ribbon is reversed.

If it is desired a container 25 may be placed within the casing  $d$  and have a number of cotters therein to be handy in case it is necessary to replace the cotter then in use while a suitably connected light 26 may also 120 be applied to the casing.

What I claim is as follows:

1. In a car the combination with a street indicator comprising a casing, a pair of spools within the casing and having 1

trunnions, a ribbon wound upon the spools, sprocket-wheels normally loosely mounted upon the said trunnions and means for alternately connecting each sprocket-wheel to its trunnion, of an operating device for the indicator comprising a casing, a hand operated sprocket-wheel supported within the casing and an endless chain connecting the hand operated sprocket-wheel with the first-mentioned sprocket-wheels.

2. In a car the combination with a street indicator at the front of the car and comprising a casing, a pair of spools within the casing, and having trunnions, a ribbon wound upon the spools, sprocket-wheels normally loosely mounted upon the said trunnions, a cotter adapted to alternately connect each sprocket-wheel to its trunnion and a hollow upright communicating with the interior of the casing and extending therefrom to the underside of the car,—of an

operating device for the indicator comprising a casing situated at the rear of the car, a hand operated sprocket-wheel supported within the casing, a hollow upright communicating with the interior of the second mentioned casing and extending therefrom to the underside of the car, a series of brackets between the lower ends of the hollow uprights and an endless chain connecting the hand operated sprocket-wheel with the first mentioned sprocket-wheels, such chain passing through the hollow uprights and being supported by the said brackets.

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

WILLIAM DANIEL SEALE.

Witnesses:

ALEX. CURRIE,  
STANLEY C. KING.