(No Model.)

A. TRAVAGLINI & E. TETI.

CAR SIGNAL AND INDICATOR.

No. 597,490. Patented Jan. 18, 1898.

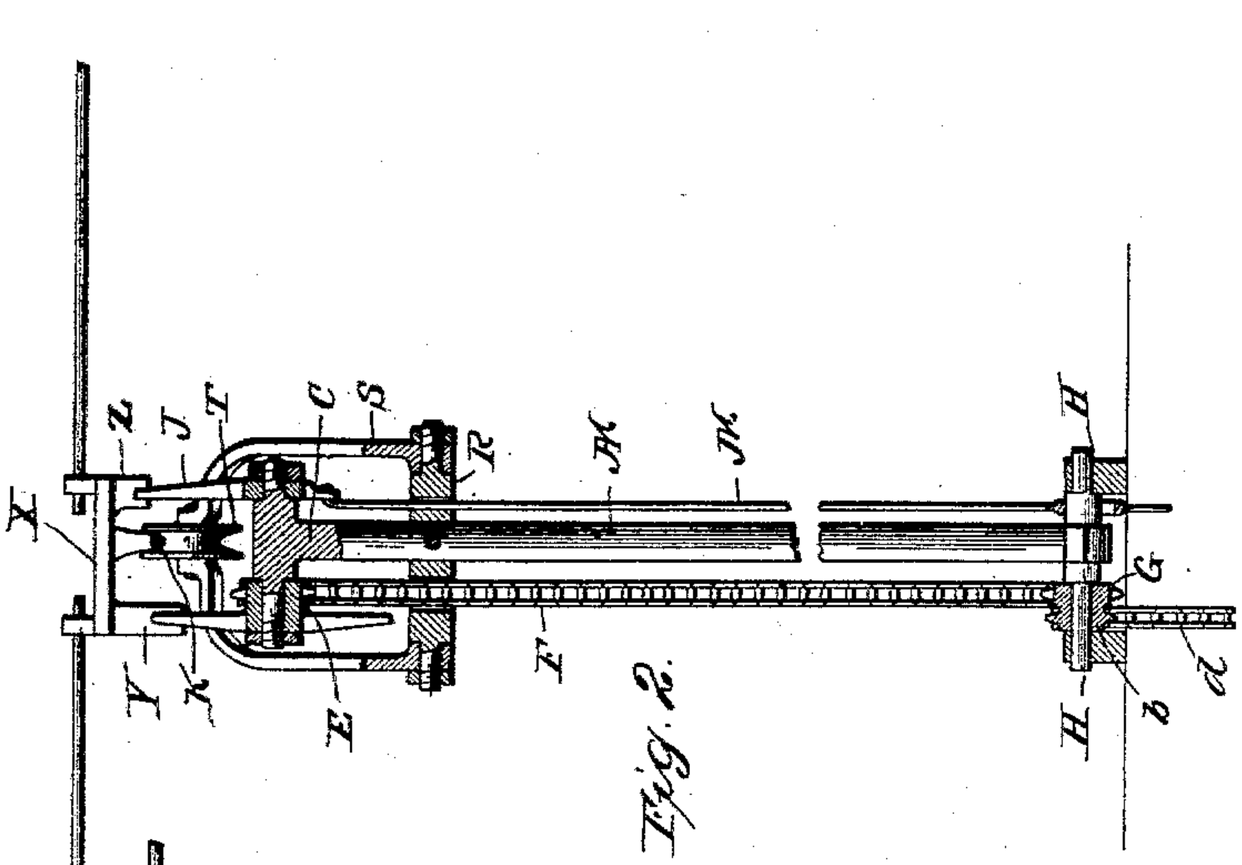

Fig. 2.

Fig. 3.

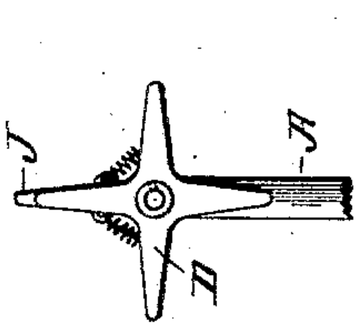

Fig. 4.

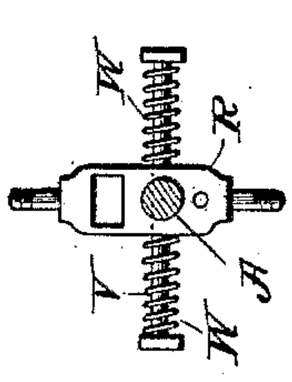

Fig. 1.

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UNITED STATES PATENT OFFICE.

ANTONIO TRAVAGLINI AND ETTORE TETI, OF PHILADELPHIA, PENNSYLVANIA.

CAR SIGNAL AND INDICATOR.

SPECIFICATION forming part of Letters Patent No. 597,490, dated January 18, 1898.

Application filed March 1, 1897. Serial No. 625,502. (No model.)

To all whom it may concern:

Be it known that we, ANTONIO TRAVAGLINI and ETTORE TETI, subjects of the King of Italy, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a certain new and useful Improvement in Indicators and Alarms for Trolley-Cars, of which the following is a specification.

Our invention relates to a new and useful improvement in gong-sounding mechanism and station-indicators for trolley-cars, and has for its object to so arrange mechanism relative to the trolley and other mechanism within the car as to cause the sounding of a gong at given intervals as a warning of the approach of the car, and the exposing to view of the name of the street at each crossing.

With these ends in view this invention consists in the details of construction and combination of elements hereinafter set forth, and then specifically designated by the claims.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, its construction and operation will now be described in detail, referring to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a sectional elevation of a trolley-car having a trolley made in accordance with our improvement carried thereby; Fig. 2, an elevation of the trolley-pole, a portion of the parts carried thereby being in section to more clearly show the arrangement of these parts; Fig. 3, a detail side elevation of the star-wheel, which is utilized for actuating the street-indicator; and Fig. 4 a plan view of the bracket, which is secured to the upper portion of the pole to which the trolley-arm is hinged, the pole being in section.

In carrying out our invention as here embodied we provide a trolley-pole A, which has formed therewith a foot B and is pivoted between two lugs secured to the top of the car, and this pole, as shown, stands in a vertical position by the action of the buffer-springs I and has secured to its upper end a cross-head C, and upon one side of this cross-head is journaled a star-wheel D, here shown as having four points. Formed with or secured to one side of the hub of the star-wheel is a sprocket-wheel E, over which a sprocket-chain F is adapted to run, the lower portion thereof running over a sprocket-wheel G, which is journaled upon one side of the trunnions H, by which arrangement it is obvious that when the star-wheel is revolved the sprocket-wheel G will likewise be revolved, for the purpose hereinafter set forth.

Upon the opposite side of the head C is pivoted a striker-arm J, the upper end of which projects upward above the level of the feed-wire K, while its lower end has connected therewith the link L, which in turn is connected to the rod M, the latter passing downward to the car, its lower end being pivoted at N to the right-angle lever O. The vertical member of this lever is connected, by means of the rod or wire P, to the sounding mechanism of a suitable gong Q, so that when the striker-arm J is actuated in either direction, as will be hereinafter set forth, said gong will be sounded.

A bracket R is secured to the upper portion of the trolley-pole and has hinged thereto the trolley-arm S, which latter is forked, so that it may be swung to either side of the star and striker-arm when occasion requires, as clearly shown in Fig. 2, and within the upper end of this arm is journaled the trolley-wheel T, which may be of usual construction, adapted to travel upon the feed-wire K. This arm is given an upward tendency by the springs U, which are attached to the outer ends of the rod V, carried by the bracket, and this rod is arranged to slide through the bracket while being guided thereby and has coiled thereabout the springs W in such manner that one or the other of these springs will also assist in giving the trolley-arm an upward tendency to cause the trolley-wheel to bear against the feed-wire with the proper force. By this arrangement the trolley may be swung to either side of the pole, so as to permit it to travel upon the feed-wire in either direction, thus obviating the necessity of turning the car.

In order that the star-wheel and striker-arm may be actuated during the travel of the car,

we form with or attach to the right-angle crossings X, which are located at each cross-street, downwardly-projecting lugs Y and similar lugs Z, the former being somewhat longer than the latter, as clearly shown in Fig. 2, and these lugs are so located relative to the star-wheel and striker-arm that when said wheel and arm pass the crossing the lug Y will turn the star-wheel one-fourth of a revolution, while the lug Z will swing the striker-arm upon its projecting point, and said arm will be returned to its normally upright position after passing said lug by the springs *a*, which are connected at one end thereto, their opposite ends being connected to suitable ears formed upon the head, from which it will be obvious that at a cross-street the gong will be sounded, as before described, while the sprocket-wheel G will be given a part turn. With the wheel G is formed a similar wheel *b*, over which passes a sprocket-chain *d*, the latter passing downward within the car and over a similar wheel *e*, and this last-named wheel is connected by the belt or chain *f* with the station-indicator *g*, which latter may be of any suitable construction, for exposing the name of the street which the car is crossing when the star-wheel is actuated.

The sounding of the gong and the changing of the name of the street at the same time will call the attention of the persons within the car to the fact that a cross-street has been reached, and such persons have only to observe the indicator to learn the name of the street.

In order that the gong may be sounded at predetermined intervals the length of the line without dependence upon the motorman when it is not necessary to actuate the street-indicator, the support-clamps *h*, which are located at given intervals for the support of the feed-wire, are provided with lugs *i*, which correspond to the lugs Z, so that in passing these supports the striker-arm J will be actuated by coming in contact with these lugs, thereby sounding the gong as a warning of the approach of the car, and in crowded streets this is of great importance, since it often happens that the entire attention of the motorman is required for the operation of the controller and brake, and by any neglect of the sounding of his gong a serious accident is thereby likely to occur, while by our improvement a separate gong may be automatically sounded at given intervals without interfering with the gong under the control of the motorman, thus providing a double safety against accident.

It will be seen from the foregoing description that great convenience will accrue to the traveling public by the use of our improved station-indicator, since a passenger will at all times be made aware of the streets which are crossed, thus preventing the annoying errors which are now made in a person being carried past the point desired or any alighting from the car before said point is reached, and incidentally the conductor is relieved of the necessity of calling the streets as they are passed, and, as is well known, this calling is usually so indistinct that only a most trained ear can distinguish the name intended. A further advantage gained is that the car-door does not have to be opened in order that the conductor may call the street, and in severe weather this saves the passengers much annoyance.

Having thus fully described our invention, what we claim as new and useful is—

1. In combination, a trolley-pole supported by a car, a swinging arm pivoted thereto, a wheel journaled within said arm and adapted to travel upon the feed-wire, a star-wheel and striker-arm carried by the pole and adapted to be actuated by a lug on the feed-wire, and mechanism for causing said star-wheel to actuate a street-indicator within the car and the striker-arm to sound a gong, as specified.

2. In a device of the character described, a trolley-pole, a star-wheel journaled thereto, lugs on the feed-wire to engage the star-wheel, a sprocket-wheel carried by the star-wheel, a second sprocket-wheel journaled in the car, a sprocket-chain connecting the sprocket-wheels and a station-indicator operated by the second sprocket-wheel as and for the purpose described.

3. In a device of the character described, a trolley-pole pivoted to a car, a star-wheel journaled thereon, lugs on the feed-wire to engage the star-wheel, a sprocket-wheel carried by the star-wheel, a second sprocket-wheel journaled on the trunnion of the trolley-pole, a sprocket-chain connecting said sprocket-wheels, a third sprocket-wheel carried by the second sprocket-wheel, a fourth sprocket-wheel journaled in the car, a second sprocket-chain connecting the third and fourth sprocket-wheels and a station-indicator operated by the fourth sprocket-wheel, substantially as described.

4. In combination, a trolley-pole secured to the top of a car, a head carried upon the upper end of said pole, a star-wheel journaled upon the head, a striker-arm journaled upon the opposite side of said head, and suitable lugs carried by the feed-wire supports for the operation of said wheel and striker-arm, substantially as and for the purpose set forth.

5. The herein-described combination of a trolley-pole secured to the top of a car, a bracket secured to said pole, an arm pivoted to the bracket, said arm carrying a trolley-wheel at its upper end, springs for giving the trolley-arm an upward tendency, a head secured to the upper end of the trolley-pole, a star-wheel journaled upon said head, a sprocket-wheel carried by the star-wheel, a sprocket-chain for transmitting motion from the sprocket-wheel to the actuating mechan-

ism of a street-indicator, a striker-arm also pivoted to the head, springs for maintaining said arm in a vertical position, and lugs formed upon the feed-wire supports for actuating the star-wheel and striker-arm, substantially as and for the purpose set forth.

In testimony whereof we have hereunto affixed our signatures in the presence of two subscribing witnesses.

ANTONIO TRAVAGLINI.
ETTORE TETI.

Witnesses:
S. S. WILLIAMSON,
F. MATTNER.