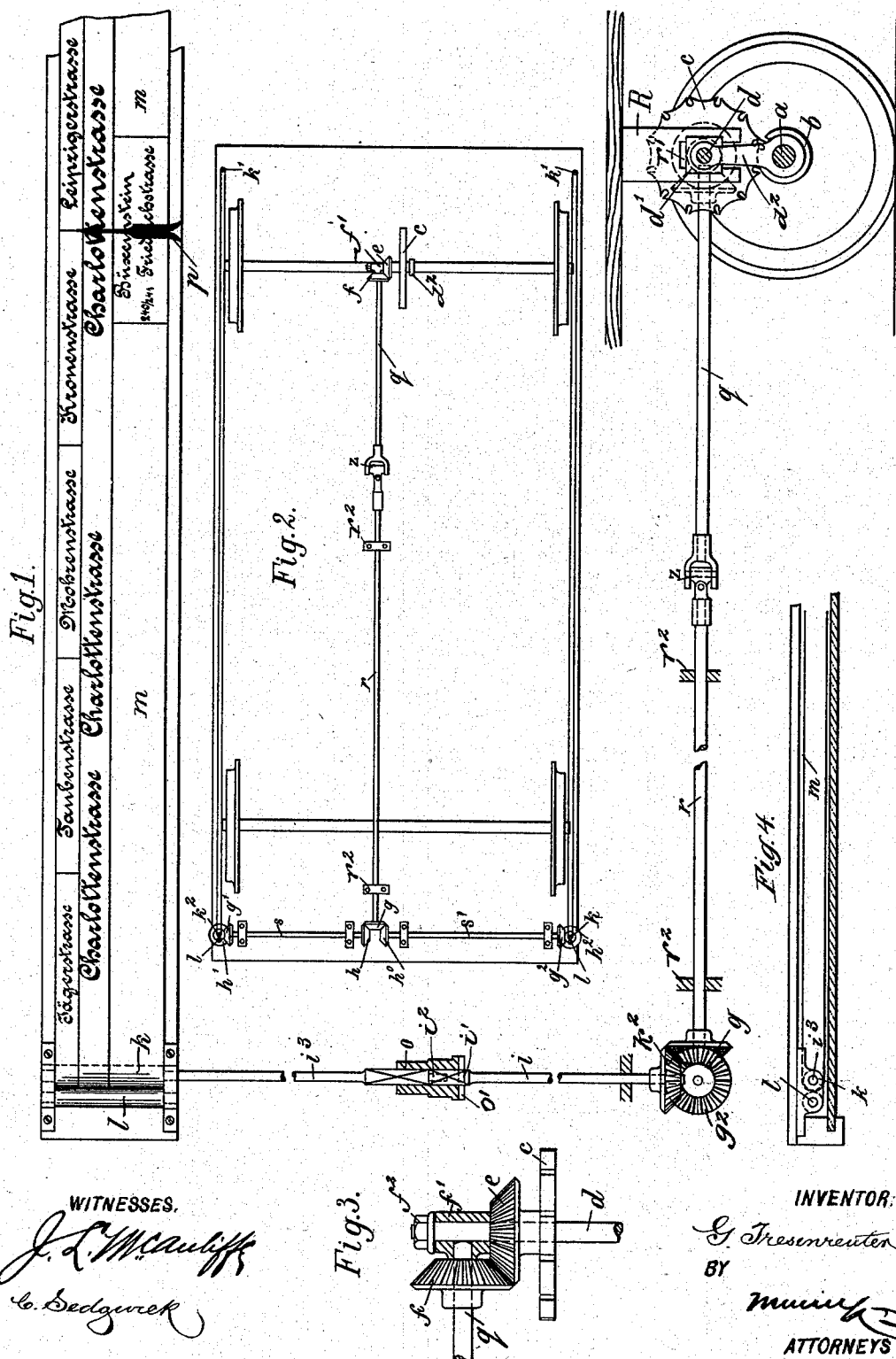


(No Model.)

G. TRESENREUTER.
STATION INDICATOR.

No. 552,797.

Patented Jan. 7, 1896



UNITED STATES PATENT OFFICE.

GUSTAV TRESENREUTER, OF BERLIN, GERMANY, ASSIGNOR TO MORITZ TREITEL, OF SAME PLACE.

STATION-INDICATOR.

SPECIFICATION forming part of Letters Patent No. 552,797, dated January 7, 1896.

Application filed October 4, 1894. Serial No. 524,919. (No model.)

To all whom it may concern:

Be it known that I, GUSTAV TRESENREUTER, a subject of the King of Prussia, Emperor of Germany, residing at Berlin, in the Kingdom of Prussia, Germany, have invented new and useful Improvements in Station-Indicators for Tramway and Railway Vehicles, of which the following is a specification.

This invention relates to certain improvements in station-indicators, such as are especially designed for use on the cars of street-railways and the like for indicating the various stations or crossings along the line; and the object of the invention is to provide a device of this character of a simple and inexpensive construction adapted to be operated positively from the movement of the car to indicate the various crossings or stations along the line without requiring any attention or manipulation by the person or persons operating the car.

The invention consists in a station-indicator arranged to be driven from the movement of the car-wheels and having means whereby should said wheels slip on the track so as to throw the indicating mechanism out of adjustment said indicating mechanism may be conveniently set so as to give the proper indications.

The invention also contemplates certain novel features of the construction, combination, and arrangement of the various parts of the improved station-indicator, whereby certain important advantages are attained and the device is rendered simpler, less expensive, and otherwise better adapted and more convenient for use than various other devices heretofore employed, all as will be hereinafter fully set forth.

The novel features of the invention will be carefully defined in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a fragmentary general view showing the application of my improved station-indicator to a street-car, and Fig. 2 is an under side plan view of the car drawn to a small scale and showing the arrangement of the various devices for operating my im-

proved indicator. Fig. 3 is an enlarged sectional detail view showing the bearing for the gearing employed for driving the station-indicator from the car-axle. Fig. 4 is a fragmentary view showing one end of the case containing the indicating-band and the means for driving the same.

In the views, *a* represents one of the car-axles from which the device is operated, and *b* represents a wheel fixed on said axle and provided with a single tooth or projecting stud arranged to mesh with the teeth of a star-wheel *c*, mounted on a shaft or rod *d* mounted on a bearing-piece *d'* secured at its lower end on the axle *a* and having its upper end squared, as shown at *d'*, and guided in a slot *r'*, formed vertically in a bracket *R*, depending beneath the car-floor.

The star-wheel *c* is connected to a bevel-gear or miter-pinion *e*, meshing with a similar gear or pinion *f* on a shaft *g*, arranged to extend longitudinally beneath the car, as clearly shown in the drawings, said shaft *g* having its extremity journaled, as shown in Fig. 3, in a bearing piece or sleeve *f'*, held on the end of the shaft or rod *d* outside the gear-pinion *e* by means of a nut *f''* or the like. In this way it will be seen that as the car passes along the road the shaft *g* is rotated, and this rotative movement is employed to drive the station-indicator, the shaft *g* being connected at its forward end, as seen in Figs. 1 and 2, to the rear end of a similarly-arranged shaft *r*, journaled in bearings *r''* on the underside of the car-floor by means of a universal joint or coupling *z*, the object of this connection being to accommodate the movement of the car-body independent of the truck, so as to prevent the breaking of the gearing.

The forward end of the shaft *r* is provided with a bevel gear or pinion *g*, meshing with similar pinions *h h'*, secured on the adjacent ends of transverse shafts *s s'*, aligned with each other and extending across the car at right angles to shaft *r*, from which they are driven, as clearly shown in Fig. 2.

At their outer ends the shafts *s s'*, which, it will be understood, are driven from the movement of the car in opposite directions, respectively, are provided with bevel-gears

$g' g^2 h^0 h$, meshing with bevel-gears $h' h^2$ on similarly-arranged upright shafts $i i$ journaled at opposite sides of one end of the car. Each shaft i is formed of two parts or sections, the lower section being provided with a socketed upper end i' to receive and fit the squared and reduced lower end i^2 of the upper section i^3 , and the joint thus formed between said sections of shaft i is surrounded by a sleeve o adapted to be slipped up and down the said shaft and normally held in place by means of a pin o' passed through the lower section beneath it, as seen in Fig. 1. In this way it will be seen the parts or sections of shafts i may be conveniently disengaged when desired, and on the upper end of each of the upper sections i^3 of said shafts, which upper sections will be mounted so as to be capable of a certain extent of longitudinal movement, is fixed a drum or roller k adapted to receive one end of an endless band m extending along one side of the car at the upper part thereof and having marked upon it the names of the stations of the road or of the streets and street-crossings along the line of the road.

The bands m may be of any length and may be provided at their lower sides with spaces for advertisements, as shown in Fig. 1, and at their opposite ends said bands are passed over loosely-mounted drums or rollers k' at the opposite end of the car. Said bands m are driven, as will be readily understood, from the rollers k on the vertical shafts i , and at their driving-points are arranged vertical pressure-rollers l adapted to hold the bands pressed up into close contact with said rollers k .

In the operation of the device, as the car moves along the line of railway the bands m will be gradually moved longitudinally along the opposite sides of the car in opposite directions, and at the central part of the opposite sides of the car are located indexes p , as shown in Fig. 1, beneath which said bands pass, so that the various stations are indicated by the passing of the band under the index.

Should the proper operation of the device become impaired by reason of the slipping of the wheels on the rails this may be conveniently corrected by disengaging the sections of the shafts i and turning the bands m sufficiently to give the required indication.

Having thus fully described my invention,

I claim as new and desire to secure by Letters Patent—

1. In a station indicator, the combination of a car, and its truck, having wheels and axles, an indicating device on the car, a bearing piece secured at its lower end on the axle, a bracket secured to the car with its lower end having sliding engagement with the upper end of said bearing piece, a rod mounted in said bearing piece a gear wheel on said rod, a mutilated gear on the axle meshing with the gear wheel on said rod, a shaft arranged to drive the indicating device on the car and gearing between said shaft and the gear wheel on the rod, substantially as set forth.

2. In a station indicator, the combination of a car, and its truck having wheels and axles, an indicating device on the car, a bearing piece secured at its lower end on the axle, and having a squared upper end, a bracket secured to the car with its lower end having a slot engaging the squared upper end of the bearing piece, a rod mounted in said bearing piece, a gear wheel on said rod, a mutilated gear on the axle meshing with the gear wheel on the rod, a shaft arranged to drive the indicating device on the car, and gearing between said shaft and the gear wheel on the car, substantially as set forth.

3. In a station indicator, the combination of a car, and its truck having wheels and axles, an indicating device on the car, a bearing piece secured at its lower end to the axle, a bracket secured to the car body and having at its lower end sliding engagement with the upper end of the bearing piece, a rod mounted in said bearing piece, gearing for driving said rod from the car axle, a bearing sleeve on said rod, a shaft having one end journaled in said bearing sleeve and geared to said rod, a second shaft, journaled on the under side of the car and arranged to drive the indicating device, and a universal joint between said shafts, substantially as set forth.

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

GUSTAV TRESENREUTER.

Witnesses:

LOUIS GRAMBOW,
GUSTAV HÜLSMANN,
CHAS. H. DAY,
W. HAUPT.