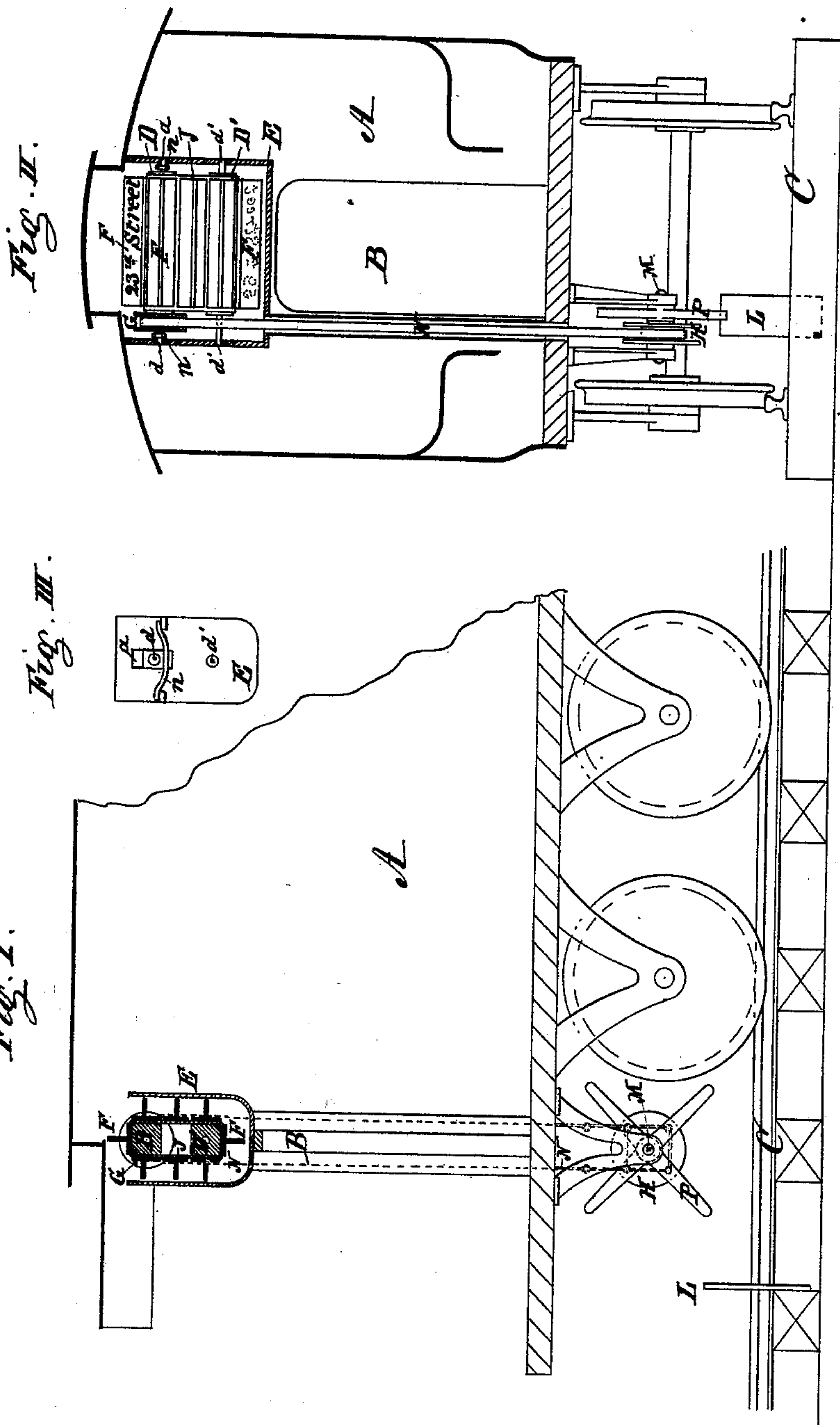


P. LICHTENSTEIN.
Station-Indicator.

No. 215,138.

Patented May 6, 1879.



Witnesses.
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UNITED STATES PATENT OFFICE.

PAUL LICHTENSTEIN, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN STATION-INDICATORS.

Specification forming part of Letters Patent No. **215,138**, dated May 6, 1879; application filed February 18, 1879.

To all whom it may concern:

Be it known that I, PAUL LICHTENSTEIN, of Brooklyn, in the State of New York, have invented a new and useful Improvement in Station-Indicators for Railroad-Cars, of which the following is a specification.

The nature of my invention consists in a series of plates having the different stations marked thereon in regular rotation attached to an endless band placed over suitable polygon rollers, and arranged at the ends of the car, so that either the upper or lower sign-plate can easily be seen. One of these polygon rollers is connected through a suitable band or chain with a corresponding polygon wheel placed on a shaft arranged at the under side of the car, and a spoke-wheel is arranged on this lower shaft, which, coming in contact with a suitable projection firmly secured to the rail-sleeper or roadway, will turn the same a certain distance, which motion being communicated through the band or chain to one of the rollers carrying the sign-plates will communicate the desired motion to said sign-plate band to bring the following plate in a position to be easily seen.

In the accompanying drawings, Figure I represents a longitudinal section of part of a railroad-car with my improved station-indicator attached. Fig. II is a cross-section of the same. Fig. III is an end view of the casing, showing the bearings for the rollers.

A represents the railroad-car, B the door in the end of the car, and C the rails and roadway. D D' are square rollers, arranged in a suitable case or box, E. Around these rollers D D' a suitable band, J, is stretched, to which sign-plates F are attached.

In the drawings the upper part of the box or case E is cut away to bring the sign-plate, which is at the top, in view; but a suitable opening may be made in the lower part of said box or case E to bring the lower sign-plate in view, if desired. This box or case E, I prefer to place directly over the car-door B.

At the side of the roller D a square drum, G, is placed.

Below the car A a shaft, M, is arranged in suitable bearings, upon which said shaft a square drum, H, corresponding with the drum G, and a spoke-wheel, P, are firmly secured.

Around the drums G and H a suitable band or chain, N, is placed to communicate the motion from the drum H to the drum G and to the roller D.

To the sleeper or roadway C, at every station where it is desired to change the sign-plate, projections L are securely attached in such a position as to come in contact with the spokes of the spoke-wheel P when the car passes the same.

The shaft *d'* of the drum D' runs in fixed bearings in the end of the box or case E, and the shaft *d* of the drum D runs in bearings moving in a perpendicular slot or recess, *a*, in the ends of said box or case E, and are supported and acted upon by suitable springs *n* to keep the drums D and D' at the proper distance from each other, and at the same time to give the required tension to the band J and to the band or chain N.

The projections L are placed some distance in advance of the stations. After the car has left the station the spoke of the spoke-wheel P will come in contact with this projection L, being retained while the car moves forward, and causing thus about one-quarter of a revolution to be communicated to the shaft M and its drum H. This motion is communicated to the drum G and square roller D through the connecting band or chain N, and a corresponding movement given to the band J, bringing thereby the next sign-plate F, indicating the following station, in view.

When this station-indicator is applied to cars running regularly forward and backward without being turned, as on elevated railroads, the indicator, after the sign-plates are once regulated, will always indicate the right station independent if the car is run the whole length of the road or only some distance of its length and back again.

Instead of making the rollers D and D' square any other polygonal shape may be arranged; but the drums G and H must in that

case be made to correspond, and the spokes of the spoke-wheel P must be arranged in relation with the projections L to communicate the required amount of motion to these drums.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination of the endless band J, its sign-plates E F, polygonal rollers D D', held

separated by a spring or springs to keep the band taut, band or chain N, spoke-wheel P, and road-stop L, substantially as herein specified.

PAUL LICHTENSTEIN.

Witnesses:

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