

No. 815,666.

PATENTED MAR. 20, 1906.

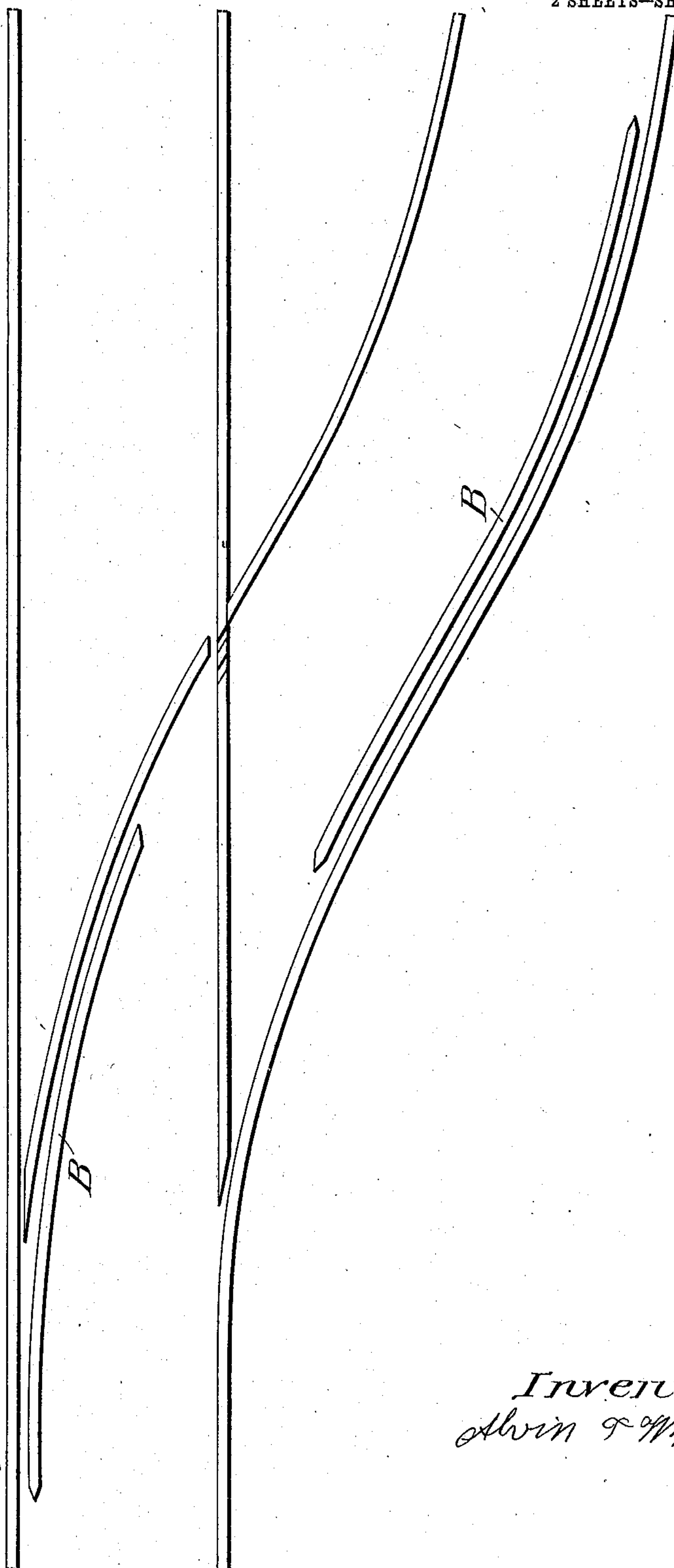
A. T. WINCHELL.

STATIONARY SWITCH AND ADJUSTABLE CAR WHEEL FOR USE THEREON.

APPLICATION FILED NOV. 9, 1904.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses:

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Inventor:

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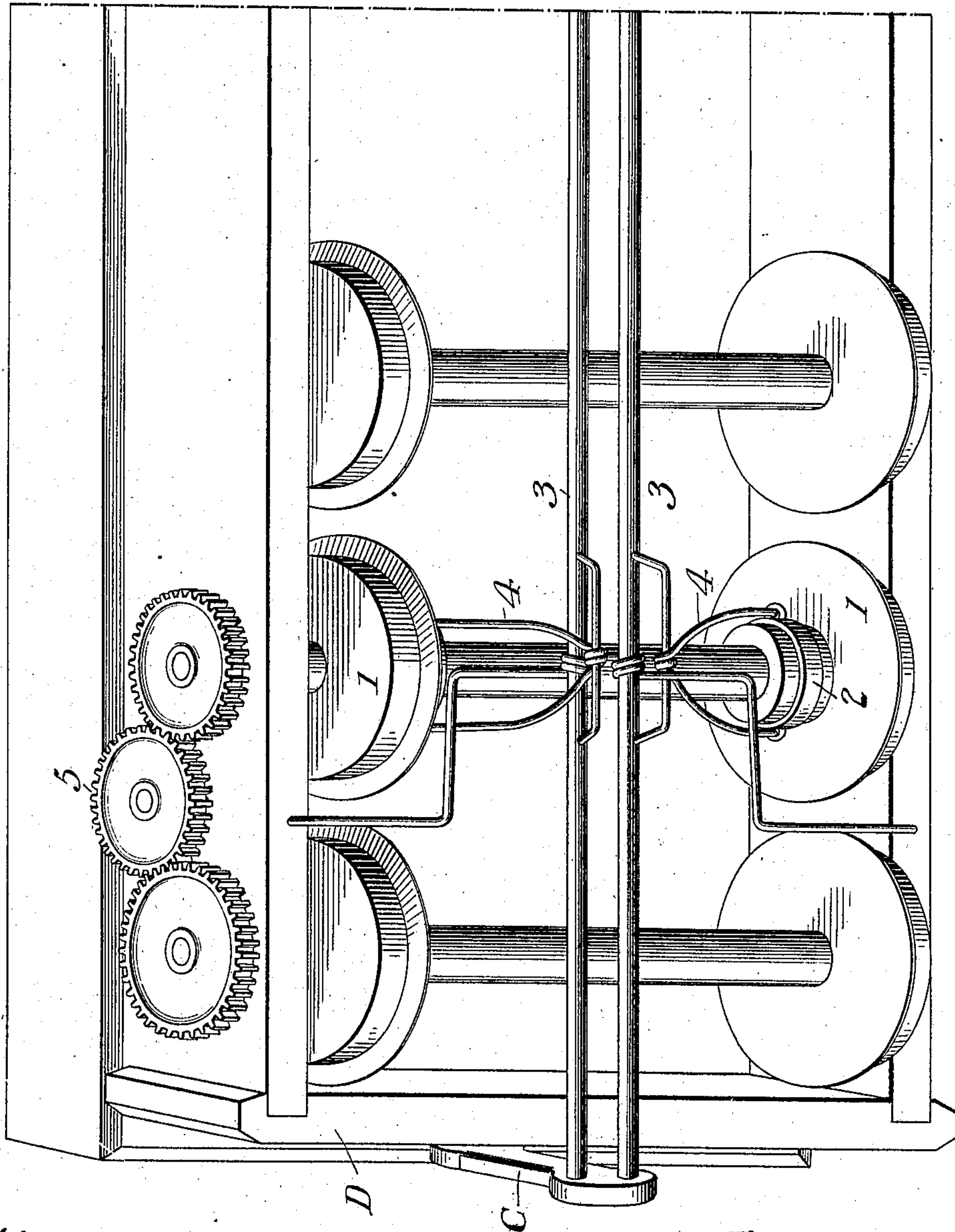
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2 SHEETS—SHEET 2.

Fig. 2.



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UNITED STATES PATENT OFFICE.

ALVIN T. WINCHELL, OF ALBION, MICHIGAN.

STATIONARY SWITCH AND ADJUSTABLE CAR-WHEEL FOR USE THEREON.

No. 815,666.

Specification of Letters Patent.

Patented March 20, 1906.

Application filed November 9, 1904. Serial No. 232,058.

To all whom it may concern:

Be it known that I, ALVIN T. WINCHELL, a citizen of the United States, residing at the city of Albion, in the county of Calhoun and State of Michigan, have invented a new and useful Stationary Switch and Adjustable Car-Wheels for Use Thereon, of which the following is a specification.

My invention relates to certain improvements in electric-railway car switching or transferring from one track to another or from one point to another on the same track without any weight resting on the tread-surface of the main track-rail while the car is being transferred from one track to another or from one point to another point on the same track-rail, around and over the concave curve by a third or auxiliary curve tread-rail, which is securely fastened alongside and parallel to said main track-rails along said concave curve, the tread-surface of said auxiliary tread-rails being raised slightly above the said named tread-surface of the main track-rail, and the car itself is provided with a set of movable car-wheels centrally located between the main car-wheels, which may be made to engage the third or auxiliary tread-rail to switch or transfer the car, as above stated.

My invention consists of a third or auxiliary curve tread rail or rails and also inserting mechanism attached to the car and coöperating therewith, all of which will be herewith described, and particularly pointed out 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 both the views.

Figure 1 is a plan view of the track or tracks. Fig. 2 is a detailed and plan view of the under side and one edge of a railway-car truck standing vertically, showing the device for operating the centrally-located movable car-wheels without any special reference to the ordinary parts or members, also the gear-wheels attached to one edge.

The object sought to be obtained by my device is the doing away with all movable or unmovable parts of the switch-points and deflecting rail or rails and placing a mechanism upon the car and under the control of the motorman by which the car may be switched or transferred from one track to another or from one point to another point on the main track-rail, around and over the concave

curve or curves that may occur on the line of the railway, whether transferring from one main track to another main track or from one point to another point on the same track-rail, whether turning a curve or curves, or whether from one street to another street at right angles without the slipping or sliding of the main car-wheels on the tread-surface of the main track-rail and the excessive horizontal pressure of the flange of the car-wheels against the vertical edge or side of the track or tracks while traveling around the curves, by which the resistance practically becomes no greater while turning the curves than while moving in a straight line and also does away with the excessive wear of the flange on the car-wheels.

Fig. 1 represents the ordinary railway-track with the ordinary diverging or side track with the ordinary notches through the surface of the rails to accommodate the flanges of the car-wheels to pass through, which is too well understood to require any special reference by letter or character in this connection, also the third or auxiliary curve tread rail or rails B B. These rails are secured to a foundation in such a way that they will be held firmly in a fixed position a suitable distance from and parallel to the ordinary main-track rail along the inside of and parallel to the concave curve of the ordinary main track rail or rails, commencing at or near the commencement of said concave curves and extending to or near the terminal thereof.

In Fig. 2 the form of the operating mechanism for the switching or transferring of the car is shown. In this figure the sliding car-wheels journaled or loosely fitted upon their axle are represented. The tread-surface of these sliding car-wheels is slightly raised above the tread-surface of the main track-rail when in their normal position, so as to be moved or slide inwardly to engage the third or auxiliary tread-rail B B, Fig. 1, and returned to its normal position when it has transferred the car around the curve. Also said sliding car-wheels are prevented from turning on their axles by a sliding or feather key and a loosely-fitted band or collar 2, fitting a groove around the hub of said sliding wheels, to which is attached a rod or rods 4 4, which rods are also connected with rock-shafts 3 3, said rock-shafts being attached to car D by a movable hanger or hangers C and also loosely supported at or near the center of each car-truck in such a manner as to al-

low the car to pass around the curves without cramping or binding said rock-shafts 3 3 while moving around the curves. Said rock-shafts may be extended the entire length of the car or only sufficient to connect with the operating mechanism hereinafter described, which is attached to each truck, the function of said rock-shafts 3 3 being to slide or move the said sliding wheels 1 1 a sufficient distance inwardly to engage the third or auxiliary tread-rails B B, Fig. 1, which object may be accomplished by compressed air, electricity, or by levers (not shown in the drawings) attached to said rock-shafts 3 3 in such a manner as will cause them to move or rock the shaft in such a manner as to move or slide said sliding wheels in a position to engage said third or auxiliary tread-rail and raise the main car-wheels slightly above the tread-surface of the main track-rail and switch or transfer the car from one rail to another or main one point to another point on the same main-track rail around the curve or curves without slipping or sliding the car-wheels on the tread-surface of the tracks or excessive horizontal pressure of the flange of the car-wheels against the vertical side or edge of the track or tracks.

The mechanism or device for operating the rock-shafts for the purpose above stated is so well known that I have thought it unnecessary to describe any of them, as any particular one might or might not be adapted to the different electrical appliances mounted on the car-trucks or the construction thereof. Said gear-wheels 5, Fig. 2, one being firmly mounted upon the axle of the main car-wheels and one upon the axle of the

sliding car-wheels and one centrally mounted between the two extreme gear-wheels and engaging each other and being of suitable size to speed up the said sliding wheels 1 1 sufficient so as to cause them to travel the distance of the concave circle in practically the same period of time that the main car-wheels travel the distance of the convex circle, which does away with the extraordinary friction and resistance caused by the slipping and sliding of the wheels and horizontal pressure as above referred to while passing around the curves.

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

1. Centrally-located sliding car-wheels mounted on their axle and adapted, when slid inward, to engage the third or auxiliary tread rail or rails, substantially as indicated and described.

2. Car switching or transferring mechanism comprising the third or auxiliary tread rail or rails, the centrally-located sliding car-wheels mounted on said axle and a set of three gear-wheels, one mounted on the main car-wheels axle, one on the axle of the sliding car-wheels and one centrally located on the axle between these two extreme gear-wheels which engage each other, substantially as described.

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

ALVIN T. WINCHELL.

Witnesses:

O. L. DAVIS,
A. M. BARRY.