

No. 815,560.

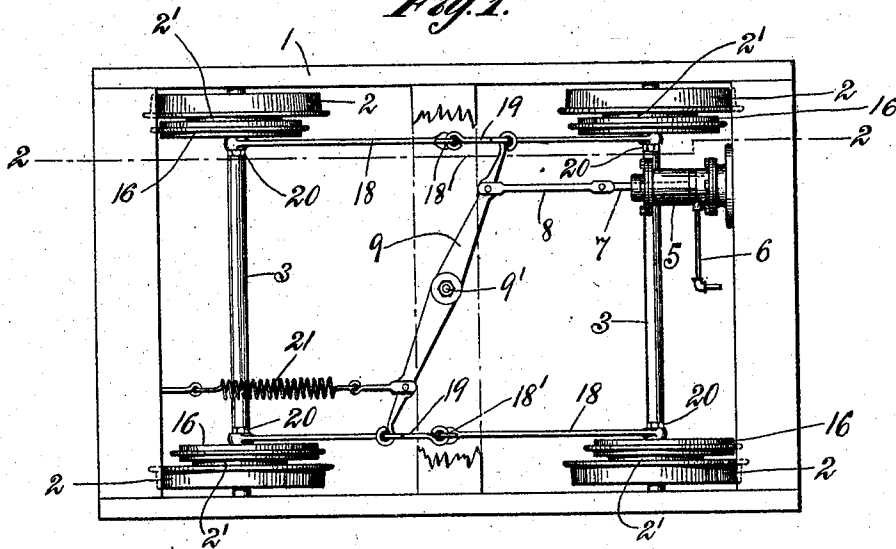
PATENTED MAR. 20, 1906.

H. E. SHARP.  
CAR SWITCHING MECHANISM.

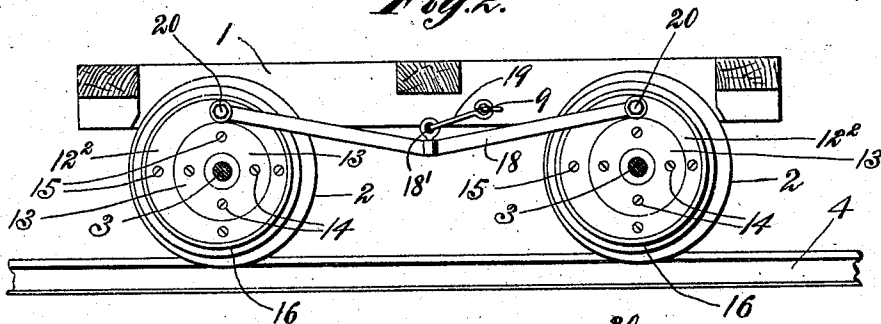
APPLICATION FILED JULY 19, 1905.

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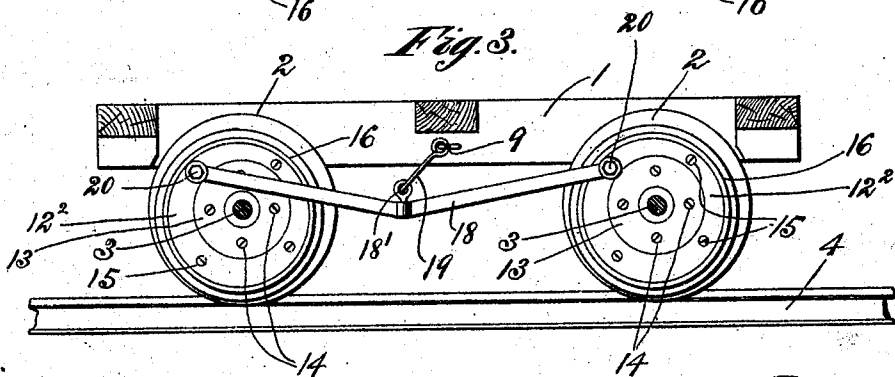
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



*Witnesses:*

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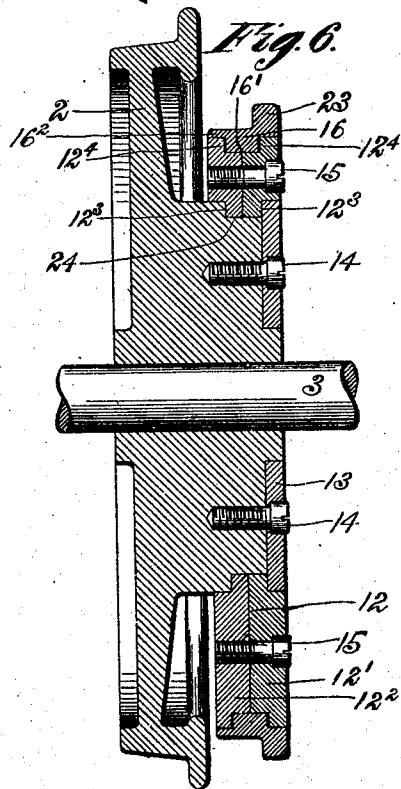
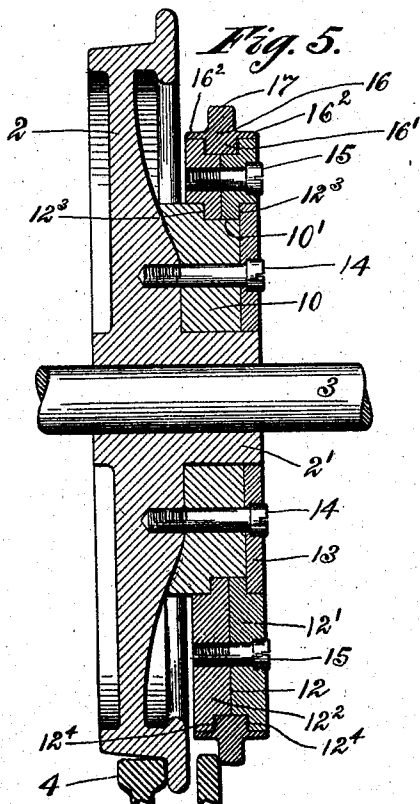
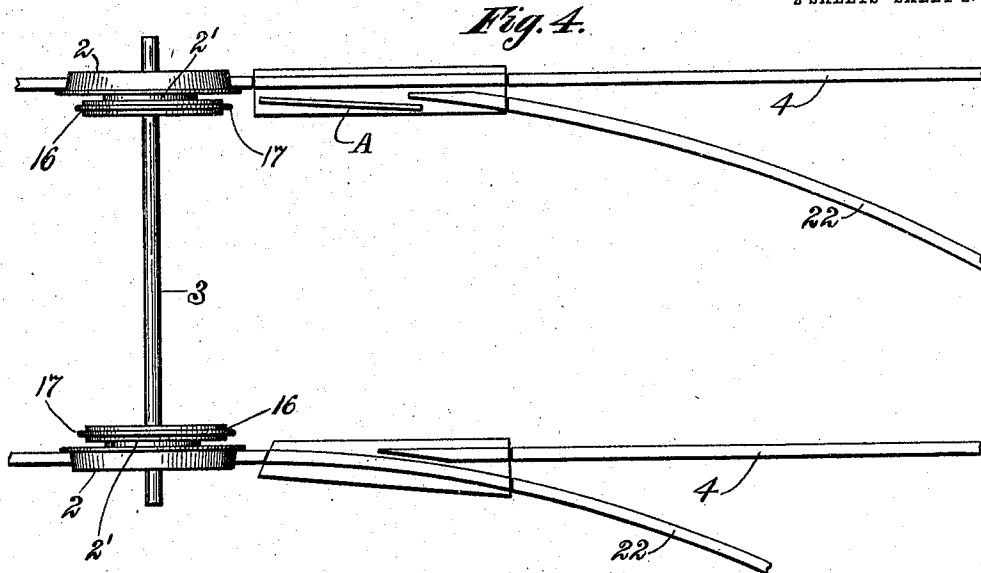
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2 SHEETS—SHEET 2.



Witnesses:  
J. C. Anderson.  
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# UNITED STATES PATENT OFFICE.

HARRY E. SHARP, OF ROCKVILLE, CONNECTICUT, ASSIGNOR OF ONE-  
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## CAR-SWITCHING MECHANISM.

No. 815,560.

Specification of Letters Patent.

Patented March 20, 1906.

Application filed July 19, 1905. Serial No. 270,356.

*To all whom it may concern:*

Be it known that I, HARRY E. SHARP, a citizen of the United States, residing at Rockville, in the county of Tolland and State of Connecticut, have invented certain new and useful Improvements in Car-Switching Mechanism, of which the following is a specification.

This invention relates to car-switching mechanism; and its object is to provide improved means controlled from the car for causing it to pass upon the desired track when it is necessary to switch the car. As a movable part in the track is objectionable, the device is constructed to operate with a fixed frog at the switching-point.

Primarily the object of my invention is the provision of an auxiliary flanged ring, under control of the motorman, which at the desired time may be caused to act upon a fixed frog, by means of which the main car-wheels are temporarily controlled and caused to follow the selected track.

Attention in the construction of this device has been given to the avoidance as much as possible of alterations in the present car axle and wheel construction. Especially is the axle left intact, and but little or no change is necessary in the present form of the wheel.

In the accompanying drawings, Figure 1 is a plan view of the general construction. Fig. 2 is a vertical section on line 2-2 of Fig. 1, showing the normal position of the device. Fig. 3 is a like view showing the position when the eccentric disks or rings are thrown for action. Fig. 4 shows in plan the leading axle with flanged track-wheels and controlling-rings and the fixed frog upon which the controlling-rings act in forcing the main wheels to leave the track on which they have been running for the branch track. Fig. 5 is a sectional view of the wheel construction, showing how the controlling flanged ring may be attached to the wheel; and Fig. 6 is a sectional view of a modified form of wheel.

Like characters designate similar parts throughout the several views.

Referring to the drawings, the numeral 1 designates a truck-frame of usual construction; 2, the car-wheels; 3, the axles; 4, the track, and 5 a compressed-air cylinder secured to the truck and containing a piston for actuating devices hereinafter described. A pipe 6 conducts motive fluid to the cylinder

5. Designated by 7 is the piston-rod and by 8 a link articulated to said piston-rod at one end and at its opposite extremity to one arm of a lever 9, pivoted at 9' to the frame of the truck.

Fitted upon the hub 2' of each car-wheel 2 is a disk 10, rabbeted on its periphery at 10', and in said rabbeted periphery is mounted an eccentric 12, composed of two sections 12' 12'', each section being also rabbeted at 12<sup>3</sup> to fit the rabbeted portion of the disk 10 and to receive the edge of a securing-disk 13, as illustrated in Fig. 5. Bolts 14 are threaded into seats in the web of the car-wheel, pass through the disk 10, and serve to clamp the disk 13 against said disk 10. Bolts 15 secure the two sections of the eccentric together, and each section is further rabbeted on its periphery at 12<sup>4</sup> for a purpose hereinafter stated. Secured between the sections of the eccentric is a ring 16, having a depending rib 16', which fits in the groove formed by the rabbeted portions 12<sup>4</sup> of the sectional eccentric. This ring is flanged on each side at 16<sup>2</sup> to fit upon the peripheries of the eccentric-sections and has a circumferential rib or frog engaging portion 17. To effect the throw of these eccentrics, mechanisms of various kinds may be employed different from that shown; but I have illustrated for this purpose a pair of connecting-rods 18, and to said rods are articulated at 18' short links 19, which are connected to the ends of the lever 9. Each of said links is articulated to a wrist-pin 20, projecting from the side of the inner eccentric-disk 12<sup>2</sup>, as illustrated more particularly in Figs. 2 and 3. A spring 21, connected to the end bar of the truck-frame at one end and at its opposite end to an arm of the lever 9, serves to shift said lever and the various eccentrics to their normal positions when the valve (not shown) is shifted to cut off the supply of motive fluid to the pipe 6.

From what has been stated it will be seen that when fluid is admitted to the cylinder 5 the piston thereof will be driven forward and through its connection with the lever 9 will rock said lever on its pivot 9', thereby causing through the connections described a simultaneous shift of all of the eccentrics from their normal position (shown in Fig. 2) to the position illustrated in Fig. 3, thereby throwing the rib portions 17 of the rings 16, actu-

ated by said eccentrics, downward in readiness to engage a fixed frog A of the track and causing the wheels 3 to leave the main track 4 and to engage the branch track 22.

5 In Fig. 6 a modification is illustrated; and in this modification the perforated disk 10 is dispensed with and the car-wheel is formed without an extending hub. Otherwise the construction is the same and the parts are designated by the same reference-numerals, with the exception of the rib 23, which in  
10 said modification is shown located at one side of the ring 16. In this modification and by the omission of the disk 10, as aforesaid, the inner rabbeted portions of the sectional  
15 eccentrics are received in rabbets 24 in the bodies of the car-wheels, and the disk 13 engages the parts in the same manner as in the other construction.

20 It will be obvious that by use of the mechanism described the car is always under the perfect control of the motorman, and when approaching a branch track on which it is desired to switch said car said motorman by  
25 means in common use and not shown will admit air to the cylinder, which through the connections described will actuate the eccentrics and cause the car to leave the track upon which it is running and to take the side  
30 or branch track.

Modifications may be made in the various details of the mechanism employed without departure from the invention, and while compressed air is preferably employed as the motive fluid the invention is not limited in this  
35 respect.

Various devices different from those shown may also be employed for shifting the eccentrics, the invention not being limited to the precise construction illustrated and described.  
40

Having thus described my invention, what I claim is—

1. In car-switching mechanism, the combination, with a truck, and with axles and  
45 their wheels carried by said truck, of eccentrics mounted on the wheels; means for simultaneously actuating the eccentrics; a track; a branch track; a frog; and means actuated by the eccentrics for engaging the frog and switching the truck from one track  
50 to another.

2. In car-switching mechanism, the combination, with a truck and its wheels, of eccentrics, one carried by each wheel; rings, each  
55 having a ribbed portion, actuated by the eccentrics; and means for simultaneously shifting said eccentrics.

3. The combination, with a truck, and with its axles and wheels, of eccentrics mounted for  
60 movement on the wheels; rings, each having a flange for engaging a frog, actuated by said eccentrics; and means for simultaneously shifting the eccentrics.

4. The combination, with a truck, its axles  
65 and wheels, of eccentrics; rings actuated by

said eccentrics; a pivoted lever; connections between said lever and the eccentrics; rings actuated by the eccentrics, and having circumferentially-disposed ribs; and means for actuating the pivoted lever. 70

5. The combination, with a truck, its axles, and wheels; of an eccentric mounted for movement on each wheel; a ring having a rib on its periphery surrounding each eccentric; means for holding the eccentrics in place on the  
75 wheels; devices for actuating the eccentrics; a cylinder; and means for connecting the piston-rod of said cylinder to an element of the eccentric-actuating devices.

6. In car-switching mechanism, the combination, with a car-wheel, of an eccentric  
80 mounted for rotation thereon; and a ring having a circumferential rib actuated by said eccentric.

7. In car-switching mechanism, the combination, with a car-wheel, of eccentric-rings  
85 mounted for movement on said wheel; and a ring having a peripheral rib, and surrounding said eccentric-rings.

8. In car-switching mechanism, the combination, with a car-wheel having a rabbeted  
90 portion, of a sectional eccentric mounted for movement around said rabbeted portion; means for securing said sectional eccentric in position; and a ring fitted over said sectional  
95 eccentric, and having a peripheral rib.

9. In car-switching mechanism, the combination, with a car-wheel having a rabbeted  
portion, of a sectional eccentric mounted for movement around said rabbeted portion; means  
100 for securing said sectional eccentric in position; a ring fitted over said sectional eccentric, and having a peripheral rib; and means for actuating said sectional eccentric.

10. A car-wheel combined with an eccentric  
105 mounted for movement thereon, and having a peripheral groove; a ring surrounding said eccentric, and having a tongue fitting said peripheral groove on its inner side, and a circumferential rib on its periphery. 110

11. A car-wheel having a rabbeted portion combined with an eccentric fitted over said  
rabbeted portion; a disk for securing said eccentric in place; and a ring having a peripheral  
115 rib, said ring being fitted over the eccentric.

12. The combination, with main and branch tracks, of a stationary frog located at the  
junction of said tracks; a truck; axles and wheels carried by the truck; and movable  
120 devices carried by the wheels for engaging the frog and switching the truck.

13. The combination, with a truck, and its axles and wheels, of eccentrics movably  
125 mounted on the wheels; rings surrounding the eccentrics, and each having a circumferential rib; means for simultaneously shifting the eccentrics in one direction; and means for returning said eccentrics to normal positions.

14. The combination, with a truck, and its  
130

axles and wheels, of eccentrics, one movable  
adjacent to each wheel; rings operated by the  
eccentrics, and each having a peripheral rib;  
a pivoted lever; means connecting said lever  
5 with the eccentrics; and a pneumatic cylinder,  
the rod of which is connected to said  
lever.

In testimony whereof I affix my signature  
in presence of two witnesses.

HARRY E. SHARP.

Witnesses:

F. E. ANDERSON,  
FRANCES E. BLODGETT.