

(No Model.)

D. RIOUX, N. C. BUSHEY & N. L. BYRON.
SWITCH OPERATING DEVICE FOR STREET RAILWAY CARS.

No. 572,313.

Patented Dec. 1, 1896.

Fig. 1.

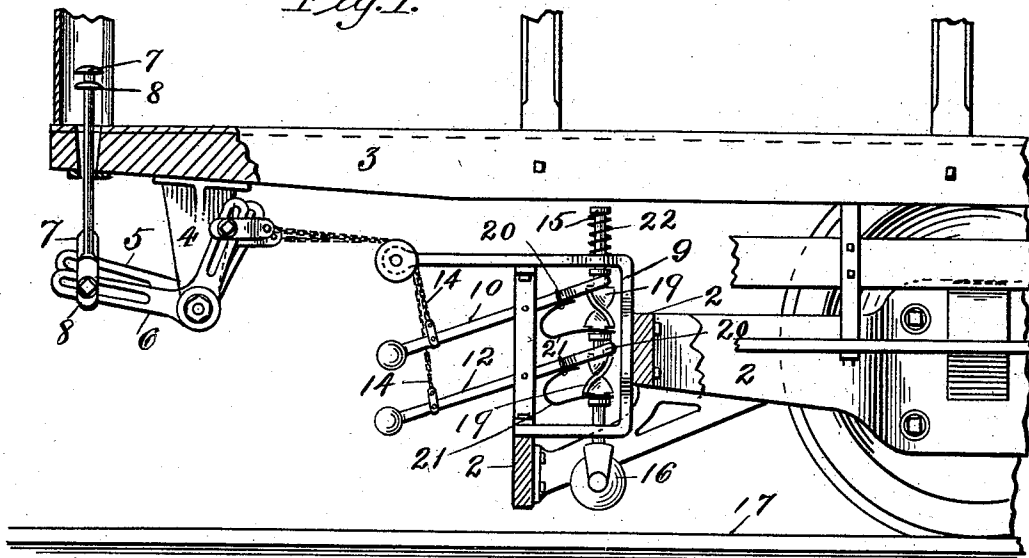
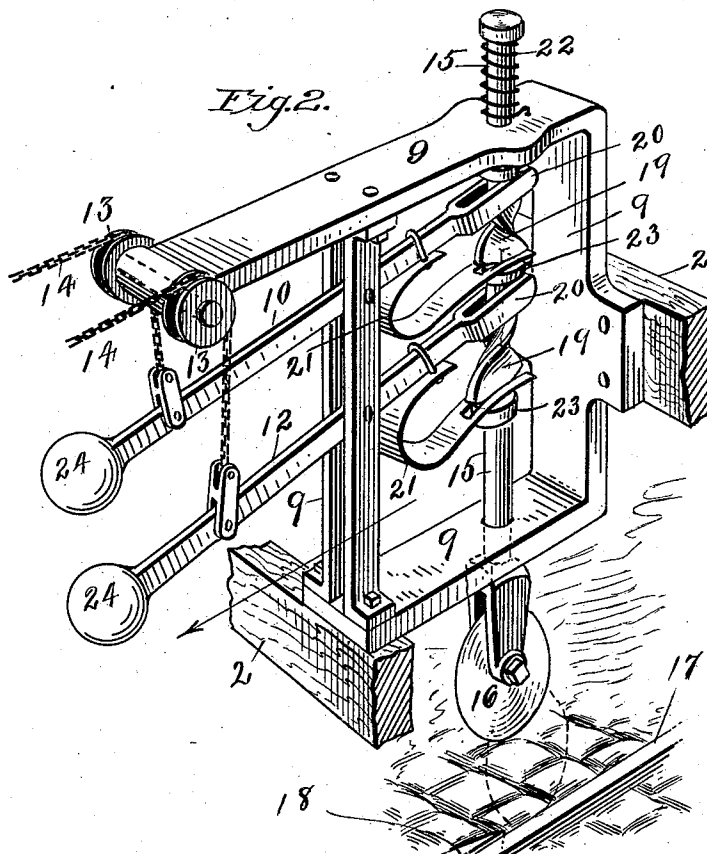


Fig. 2.



Witnesses:
J. H. Gasfield
H. J. Clemons

Inventors.
David Rioux,
Nelson C. Bushey, and
Napoleon L. Byron.
by *Chapman & Co.* Attorneys

UNITED STATES PATENT OFFICE.

DAVID RIOUX, NELSON C. BUSHEY, AND NAPOLEON L. BYRON, OF SPRINGFIELD, MASSACHUSETTS.

SWITCH-OPERATING DEVICE FOR STREET-RAILWAY CARS.

SPECIFICATION forming part of Letters Patent No. 572,313, dated December 1, 1896.

Application filed August 17, 1896. Serial No. 602,983. (No model.)

To all whom it may concern:

Be it known that we, DAVID RIOUX, a citizen of the Dominion of Canada, and NELSON C. BUSHEY and NAPOLEON L. BYRON, citizens of the United States of America, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Switch-Operating Devices for Street-Railway Cars, of which the following is a specification.

This invention relates to switch-operating devices for street-cars, the object being to provide for such cars improved devices whereby a person standing upon a platform of a car at either end thereof can conveniently operate said devices for turning a switch-point of the railroad-track for directing the car from one line onto another; and the invention consists in the peculiar construction and arrangement of the switch-operating devices, all as hereinafter fully described, and more particularly pointed out in the claims.

In the drawings forming part of this specification, Figure 1 is a side elevation of one end of a car-truck and of the platform thereof, partly in section, and of switch-operating devices embodying our invention. Fig. 2 is a perspective view of the principal parts of said devices detached from a car, a part of a rail and of a switch-point being shown in this figure.

In the drawings, 2 indicates the end of the car-truck, and 3 the platform thereof. A yoke 9, of suitable metallic construction, is bolted to and supported on the end of said truck. A vertical post 15 is hung in said yoke 9 for reciprocating revoluble movements, as below described. The lower end of said post is bifurcated, as shown, and in said bifurcated end is hung a switch-engaging wheel 16 for engagement with a switch-point 18, adjoining a rail 17. Said post has a head on its upper extremity, as shown, between which and the upper side of said yoke is a spring 22, which acts to retain said post normally in the position shown in Fig. 2, whereby said wheel 16 is held above and clear of the track or rail. Said post 15 has formed or carries thereon two screw-formed sections 19, whose spiralities are reversed, as shown, and at the lower ends of each of said screw-

sections is formed a laterally-extending collar 23. On said yoke 9 are hung two levers 10 and 12, each of which has a bifurcated end 20, engaging with the laterally-extending spiralities of said screw-sections 19, as shown. Said levers are each provided with a counterweight 24 on their free extremities. A spring 21 is applied between each lever 10 and 12 and said post 15, one end thereof being secured to the lever, and the opposite end, of bifurcated form, engaging with the said collars 23. Said spring 22 on the upper end of the post 15 has a lifting force superior to the weight of the bifurcated end of either lever 10 or 12 and the said spring thereon, whereby said post, when free so to do, may be automatically lifted to the position shown in Fig. 2. On an arm on said yoke 9 are hung two guide-rollers 13, over which two chains or cords 14 run, which are connected, as shown, to said levers 10 and 12. The opposite ends of said chains are connected, as shown, to the arms, adjustably, of two elbow-levers 5 and 6, which are pivotally hung on a depending bracket 4, secured under the platform 3 of the car. Two foot-posts 7 and 8 extend from above the said platform through the same and have their lower ends pivotally connected with the second or longer arms of said elbow-levers. The said adjustable features of the chain and the post connection with said elbow-levers provide for such degree of movement of the bifurcated ends of said levers 10 and 12 as may be desirable for properly operating the post 15 and the wheel 16 thereon in respect to the switch-point 18, as below set forth.

The operation of our improvements in moving said wheel 16 to engage it with said switch-point for swinging it in opposite directions, as required for giving direction to a car, is as follows: For turning the post 15 and wheel 16 thereon, for moving said switch-point in one direction, the foot-post 7 or 8 is pressed downwardly by the operator on the platform 3, thereby, through one of said elbow-levers 5 or 6 and connections between said elbow-levers and the levers 10 and 12, causing the bifurcated end of the lever 10 or 12, operated by such foot-post, to move downwardly upon one of said screw-formed parts 19 on said post,

thereby rotating said post more or less and setting said wheel in such a plane of rotation that when engaged with the switch-point 18 it will, as the car moves along, cause said point to be swung against or from said rail 17, as may be desired. The continued downward movement of said lever 10 or 12 then brings the bifurcated end 20 of the moving one of said levers into engagement, indirectly, with one of the collars 23 on post 15, thereby causing said post to be moved downward to such a degree as will bring said wheel 16 low enough for said engagement with the said switch-point. When said operator on the platform releases said foot-post, the spring 22 causes the post 15 to rise and the collars 23 thereon, engaging the ends of the springs 21, together with the counterweights 24, serve to bring both levers 10 and 12 and the post 15 again to operative positions, as in Figs. 1 and 2. The springs 21 tend to make the said upward movements of the bifurcated ends of the levers 10 and 12 more positive and bring them to proper operative positions above said screw-formed sections, as in Fig. 2. Said screw-sections 19 on the post 15 are arranged in reversely spiral directions with an independent lever for each of said sections, in order to provide for turning the said post and wheel 16 thereon in reverse directions for engagement with the switch-points, according to the movement required of said points for switching the car.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In switch-operating devices for railway-cars, a revoluble and vertically-moving post supported in a vertical position on the car-truck, containing two screw-sections of reversely-formed spiralities, a switch-engaging wheel hung to rotate on the lower end of said

post, two bifurcated levers engaging said screw-sections, whereby simultaneous downward and revoluble movements are imparted to said post, and a spring for lifting said post and wheel, combined with two vertically-moving foot-posts in the platform of the car, and connections between said foot-posts and said levers, substantially as set forth.

2. In switch-operating devices for railway-cars, a revoluble and vertically-moving post supported in a vertical position on the car-truck, containing two screw-sections of reversely-formed spiralities, a switch-engaging wheel hung to rotate on the lower end of said post, two bifurcated levers engaging said screw-sections, whereby simultaneous downward and revoluble movements are imparted to said post, and a spring for lifting said post and wheel, combined with two elbow-levers supported under the platform of the car, a foot-post for operating each of said elbow-levers, and connections between said last-named levers and said bifurcated levers, substantially as set forth.

3. The yoke 9, the bifurcated post 15, containing two reversely-formed screw-sections, supported for revoluble and vertical movements in said yoke, the switch-engaging wheel 16, hung on said post, a spring to lift said post and wheel, two bifurcated levers hung in said yoke and engaging said screw-sections, combined with means between said yoke and the platform of the car, whereby vibratory motions are imparted to said bifurcated levers, substantially as set forth.

DAVID RIOUX.
NELSON C. BUSHEY.
NAPOLEON L. BYRON.

Witnesses:

H. A. CHAPIN,
K. I. CLEMONS.