No. 734,920. PATENTED JULY 28, 1903.

G. W. MAXWELL.

TROLLEY CATCH.

APPLICATION FILED MAR. 25, 1903.

NO MODEL.

Fig. 1

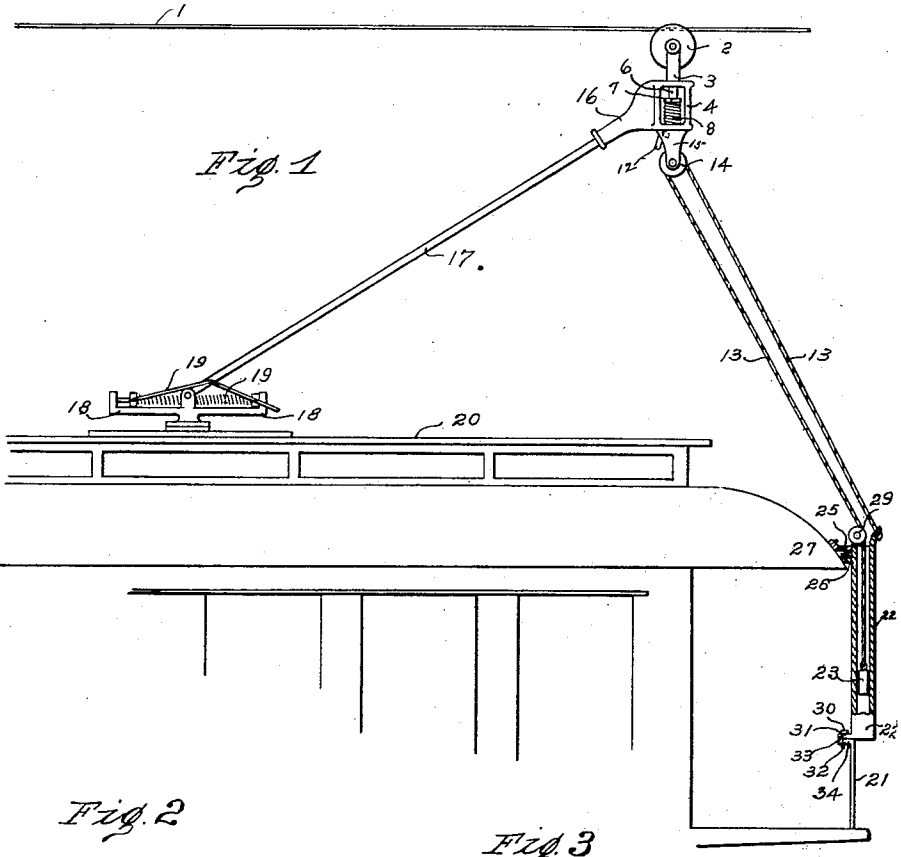


Fig. 2

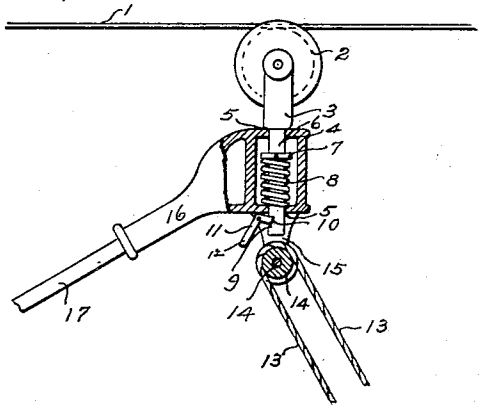
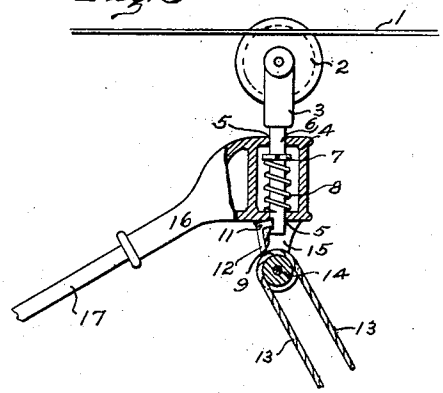


Fig. 3



Witnesses
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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 734,920. Patented July 28, 1903.

UNITED STATES PATENT OFFICE.

GEORGE W. MAXWELL, OF LOS ANGELES, CALIFORNIA.

TROLLEY-CATCH.

SPECIFICATION forming part of Letters Patent No. 734,920, dated July 28, 1903.

Application filed March 25, 1903. Serial No. 149,562. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. MAXWELL, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles, State of California, have invented and discovered a new and useful Improvement in Trolley-Catches; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in attachments for trolleys which quickly catch and retain the trolley-wheel when the trolley-wheel becomes displaced from the wire, holding the trolley-wheel in close proximity to the wire; and the objects of my improvement are, first, to afford means whereby the free end of the trolley is prevented from injuring the overhead wire and its connections when the trolley-wheel becomes displaced from the wire; second, to provide a casing forming a part of the trolley in which the journal carrying the trolley-wheel is pivoted; third, to construct a tenon upon the journal for the trolley-wheel having bearings in the casing in which the tenon reciprocates; fourth, to make the trolley-wheel and the tenon of the journal for the trolley-wheel elastically operative within the casing; fifth, to automatically connect the casing forming a part of the trolley with the end of the car; sixth, to afford means for automatically detaining the trolley-wheel adjacent to the trolley-wire when the trolley-wheel becomes detached from the trolley-wire, and, seventh, to afford means for readily removing the trolley-wheel from contact with the wire and for replacing the trolley-wheel in grooved contact with the wire at will. I attain these objects by the construction illustrated in the accompanying drawings, in which—

Figure 1 is a view in elevation of a portion of the top of a car, a portion of a trolley-wire, the trolley, the casing attached to the trolley, the cord for connecting the casing to the end of the car, and the pipe or tube attached to the end of the car, shown partly in section and partly in elevation. Fig. 2 is a view of a portion of the trolley-wire, trolley-pole, partly broken away, tenon for the journal of the trolley-wheel, a wheel, a portion of the cord for connecting the casing to the end of the car, all in elevation, a portion of the casing shown in section and a portion thereof in elevation, and the trolley-wheel illustrated in contact with the trolley-wire; and Fig. 3 is a view like that shown upon Fig. 2 of the drawings except the trolley-wheel is shown disengaged from the trolley-wire, the tenon of the journal carrying the trolley-wheel elevated within the casing, and the pawl for clamping the cord which connects the casing with the end of the car shown in contact with the cord.

Similar reference-numerals refer to like parts throughout the several views.

The numeral 1 refers to the trolley-wire.

2 indicates the trolley-wheel.

3 represents the forked journal, in which the trolley-wheel revolves; 6, the tenon, made integral with the said journal; 4, the casing, in which the tenon 6 has bearings and is pivotally journaled, and 5 5 are two registering openings in the ends of the casing, which form bearings for the tenon 6.

Upon the tenon 6, within the casing 4, a spring 8 is coiled thereon, and near the upper end of the tenon an adjustable collar 7 is secured to the tenon and holds the coiled spring in position thereon. In the lower end of the tenon 6, which projects below the casing 4, a recess 9 is formed, in which the short end 10 of the pawl 11 loosely operates and by means of which the long arm 12 of the pawl 11 is made to rigidly clamp the cord 13 against the pulley 14, journaled in the forked end 15 of the casing, when the tenon 6 of the journal 3, carrying the trolley-wheel 2, is elevated, as shown upon Fig. 3 of the drawings. When the tenon 6 of the journal 3, carrying the trolley-wheel, is depressed, as shown upon Fig. 2 of the drawings, the short arm 10 of the pawl 11 is carried downward by the tenon of the journal and the long arm 12 of the pawl is elevated and thrown out of contact with the cord 13, passing over the pulley 14. In this position of the parts the once-displaced wheel 2 has regained its proper place upon the trolley-wire 1.

Made integral with the casing 4 is a lateral angular socket 16, in which the trolley-pole 17 is securely held. The opposite end of the trolley-pole 17 is secured to the top of the car

by means of the pivoted frame 18, and the strong springs 19 constantly force the trolley-wheel 2 against the under side of the trolley-wire 1 with more than sufficient force to compress the small spring 8, thus depressing the tenon 6, which operates the pawl 11. The small spring 8 has more than sufficient power to force the tenon, journal, and trolley-wheel upward when the trolley-wheel is displaced from the trolley-wire, but insufficient strength to overcome the pressure of the trolley-pole spring 19.

20 represents the top of the car, to which the frame 18 is securely held.

21 refers to the dashboard of the car, to which the pipe 22 is secured at its lower end by means of a loose pin 30, which passes through perforations 31 and 32 in the inturned lips 33 and 34, respectively, of the pipe 22 and the dashboard 21. Other suitable means I may, however, employ for securing the lower end of the pipe to the dashboard, in which the weight 23, secured to one end of the cord 13, slides as the free end of the trolley, the casing, and the parts attached thereto are raised and lowered by the spring-operating pole 17.

To the projecting roof 27 of the cover or top 20 of the car, at each end thereof, a downwardly-extending hook-bracket 25 is secured, and to the tube or pipe 22, near the top thereof, an upwardly-extended hook 26 is fastened or preferably made an integral part thereof, whereby the said tube or pipe at its upper end is detachably secured to the roof of the car at the ends thereof.

One end of the cord 13 is securely held to the upper and outwardly-flaring end of the pipe 22, while the other end of the cord has a weight 23 fastened thereto, which rises and falls in the said pipe or tube as the free end of the trolley is raised and lowered. To the opposite edge of the pipe 22 from that to which the cord 13 is attached is journaled a pulley 29, over which the weighted end of the cord 13 passes as the free end of the trolley is raised and lowered.

It will readily appear from the foregoing description, when read in connection with the drawings hereto appended and made a part of the specification and claims, what is the operation of my invention, and further description of the manner of operating my improvement is deemed unnecessary.

It is obvious that many variations and changes in the details of construction and arrangement of my invention that would readily suggest themselves to persons skilled in the art may be employed and still be within the spirit and scope of my invention.

I do not desire to confine this invention to the specific construction, combination, and arrangement of parts herein shown and described, and the right is reserved to make all changes in and modifications of the same as come within the spirit of this invention; but I do desire to secure as my invention all features of construction and equivalents thereof that come within the scope of my improvement as herein shown and described, and illustrated upon the drawings appended hereto.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A trolley comprising a casing having a socket made a part thereof for the trolley-pole, bearings formed in said casing, a journal provided with a tenon thereon located in said bearings, the said journal carrying a trolley-wheel, said casing having a pulley journaled in the lower end thereof, a cord passing over the pulley one end of the cord fixed and the opposite end thereof having a weight fastened thereto, an elastic device located within the casing for elevating the journal, tenon and trolley-wheel carried thereby and a pawl for clamping and retaining the cord upon the pulley.

2. A trolley comprising a casing having a socket for the trolley-pole and bearings formed therein, a tenon elastically located in the casing, a journal forming a part of said tenon carrying a trolley-wheel, the said casing having a fork, a pulley journaled in said fork, a cord weighted and fixed at one end passing over the pulley, a pawl pivoted to the lower end of the casing for holding the cord upon the pulley thereby retaining the casing and parts carried thereby in close proximity to the trolley-wire.

3. An attachment for trolleys, a casing having bearings in each end thereof, a journal for the trolley-wheel having a tenon made a part thereof, movably secured in said bearings, a pulley journaled in the lower end of the casing, a cord having a weight secured upon one end and the opposite end fastened to a pipe attached to the car, a pipe in which the said weight reciprocates and a pawl for holding the cord against the pulley.

4. A casing for trolleys having in the ends thereof bearings, a tenon carrying a trolley-wheel seated in said bearings, an elastic device secured upon the tenon, a pulley journaled in the lower end of the casing, a cord weighted at one end adapted to pass over the pulley and the opposite end thereof fixed, a device pivoted to the casing for clamping the cord upon the pulley thereby retaining the casing and parts connected thereto in close proximity to the trolley-wire when the trolley-wheel is displaced therefrom.

5. A casing for trolleys provided with bearings, a journal having a tenon upon one end thereof adapted to reciprocate in said bearings, a spring secured upon the tenon of the journal, a pulley journaled in the lower end of the casing, a cord having a weight upon one end passing over the pulley the opposite end thereof fixed and means for retaining the casing and trolley-wheel in close proximity to the trolley-wire when the trolley-wheel is displaced from the wire.

6. An attachment for trolleys comprising a

casing having registering bearings in each end thereof, a journal forked at one end and having a tenon upon the opposite end, a trolley-wheel journaled in said fork, a spring adjustably secured upon the tenon, the lower end of the casing provided with a fork, a pulley journaled in the fork of the casing, a cord passing over said pulley, a weight secured upon one end of the cord and the opposite end thereof fixed, a pipe attached to the end of the car, a flared mouth-pipe detachably secured to the end of a car, a pulley journaled to the mouth of said pipe and means for automatically clamping and releasing the cord.

7. An attachment for trolleys comprising a casing provided with bearings in each end thereof, a device carrying a trolley-wheel seated in said bearings, a tenon having a spring thereon and provided with a recess in the lower end thereof, a two-armed pawl pivoted to the casing, one end of which is adapted to operate within said recess of the tenon, a pulley journaled to the lower end of the casing carrying a cord weighted at one end, the opposite end thereof secured to a pipe or tube removably attached to a car.

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

GEORGE W. MAXWELL.

Witnesses:
ALBERT M. NORTON,
C. BARTLETT.