

(No Model.)

R. SKEEN.

TROLLEY ATTACHMENT FOR ELECTRIC CARS.

No. 558,429.

Patented Apr. 14, 1896.

Fig. 1.

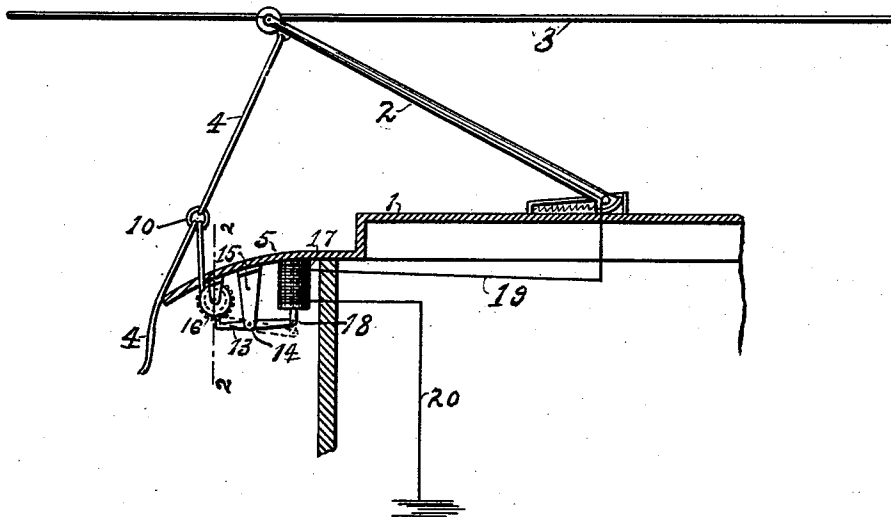


Fig. 2.

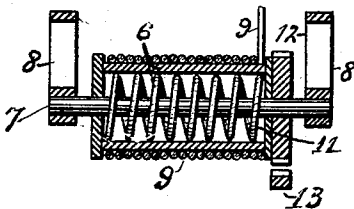
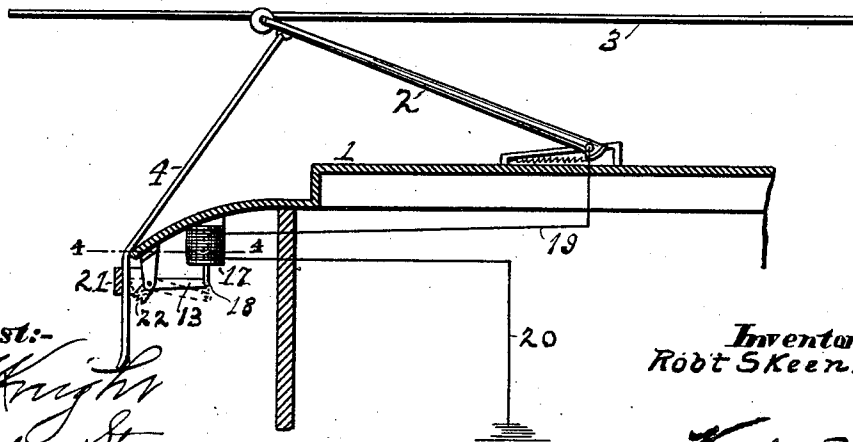


Fig. 4.



Fig. 3.



Attest:-
E. Knight
Stanley Stoner

Inventor:-
Rodt Skeen.

By *Wright Bros*
Attys.

UNITED STATES PATENT OFFICE.

ROBERT SKEEN, OF MADISON, ILLINOIS, ASSIGNOR TO ELIZABETH SKEEN
AND IDA BELL SKEEN, OF SAME PLACE.

TROLLEY ATTACHMENT FOR ELECTRIC CARS.

SPECIFICATION forming part of Letters Patent No. 558,429, dated April 14, 1896.

Application filed September 9, 1895. Serial No. 561,922. (No model.)

To all whom it may concern:

Be it known that I, ROBERT SKEEN, of Madison, Madison county, State of Illinois, have invented a certain new and useful Improvement in Trolley Attachments for Electric Cars, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to an improved device for checking the ascent of the free end of a trolley when it is disengaged from the trolley-wire.

My invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Figure I is a side elevation illustrative of my invention, part of a car-body being shown in section. Fig. II is an enlarged vertical section taken on line II II, Fig. I. Fig. III illustrates a modification. Fig. IV is a horizontal section taken on line IV IV, Fig. III.

Referring to the drawings, 1 represents part of a car. 2 represents the trolley, which is of ordinary construction, and 3 the trolley-wire.

4 represents the usual cord or rope by which the trolley is manipulated.

My improved device for checking the upward movement of the free end of the trolley when it is disengaged from the trolley-wire is preferably located beneath the hood 5 of the car. In its preferred form it consists of a drum 6, secured to a shaft 7, mounted loosely in hangers 8, by which it is suspended from the hood of the car.

9 represents a rope or cord wound upon the drum 6 and connected to the trolley-rope 4, as shown at 10. Within the drum is a spring 11, the tendency of which is to wind the cord or rope upon the drum; but the tension of this spring is not sufficient to interfere with the oscillation of the trolley while in use. Secured to the shaft 7, or to one end of the drum 6, is a ratchet-wheel 12.

13 represents a ratchet-lever pivoted at 14 to a hanger 15, by which the lever is connected to the hood of the car. The end 16 of the lever is formed to engage the ratchet-wheel 12 when it ascends.

17 represents a magnet secured to the hood of the car, and the core or armature of which

is connected at 18 to the inner end of the lever 13.

19 is a wire leading from the trolley to the magnet, and 20 a wire leading from the magnet to a ground connection.

When the trolley is in engagement with the wire 3, a current passes through the magnet, and by attracting the core or armature, holds the lever 13 in the position shown by full lines in Fig. I, with the end 16 of the lever out of engagement with the ratchet-wheel 12.

When the trolley is disengaged from the wire 3, the circuit is broken and the weight of the core or armature moves the lever into the position shown by dotted lines, Fig. I, bringing the end 16 of the lever 13 into engagement with the wheel 12, and it will thus be understood that as long as the trolley is in engagement with the wire 3 the turning of the drum 6 will not be interfered with, so that the trolley is free to oscillate as the car moves along, and as soon as the trolley is disengaged from the wire 3 the lever 13 will be brought into engagement with the ratchet-wheel of the drum, and the drum being prevented from turning, holds the trolley from ascending to an elevation that would cause it to strike the cross-wires.

In Figs. III and IV, I have shown a modification wherein, instead of employing the drum with its ratchet-wheel, the rope 4 passes through a guide 21, and the outer end of the lever 13 is serrated, as shown at 22, the parts being so disposed that when the circuit is broken and the inner end of the lever 13 falls, the end 22 of the lever will nip the rope 4 between it and the guide 21, as shown by dotted lines in Fig. III.

I claim as my invention—

1. In combination with a trolley, a mechanism placed in an electric circuit with the trolley and adapted to check the upward movement of the trolley when the latter is disengaged from the trolley-wire, substantially as set forth.

2. The combination of a trolley, a mechanism placed in electric connection with the trolley, and a trolley-rope adapted to be held by said mechanism when the trolley is disengaged from the trolley-wire, substantially as set forth.

3. The combination of a trolley, a mechanism placed in electric circuit with the trolley, and a trolley-rope connected to said mechanism, whereby when the trolley is disengaged
5 from the trolley-wire said circuit is broken and said mechanism holds the trolley from ascending by engaging said rope, substantially as set forth.

4. The combination of a trolley, a spring-
10 actuated drum connected to the trolley, a ratchet-wheel carried by the drum, a pivoted

lever adapted to engage the ratchet-wheel, a magnet adapted to hold said lever out of engagement with said ratchet-wheel when the trolley is in engagement with the trolley-wire, 15 and an electric connection between said trolley and magnet, substantially as set forth.

ROBERT SKEEN.

In presence of—
E. S. KNIGHT,
N. FINLEY.