

S. L. BARRINGER.
TROLLEY WHEEL AND SWITCH.
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1,035,767.

Patented Aug. 13, 1912.

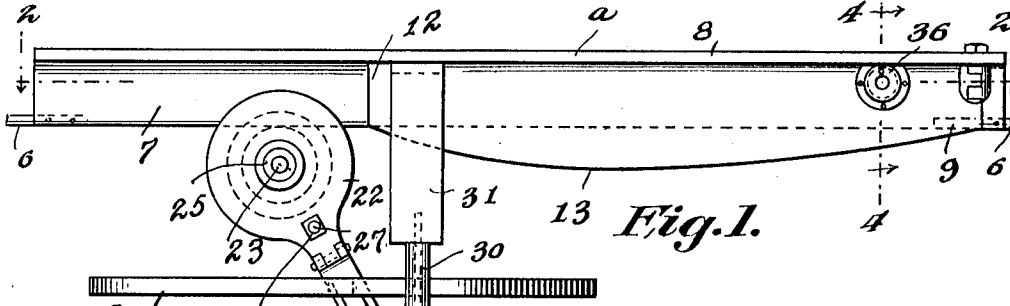


Fig. 1.

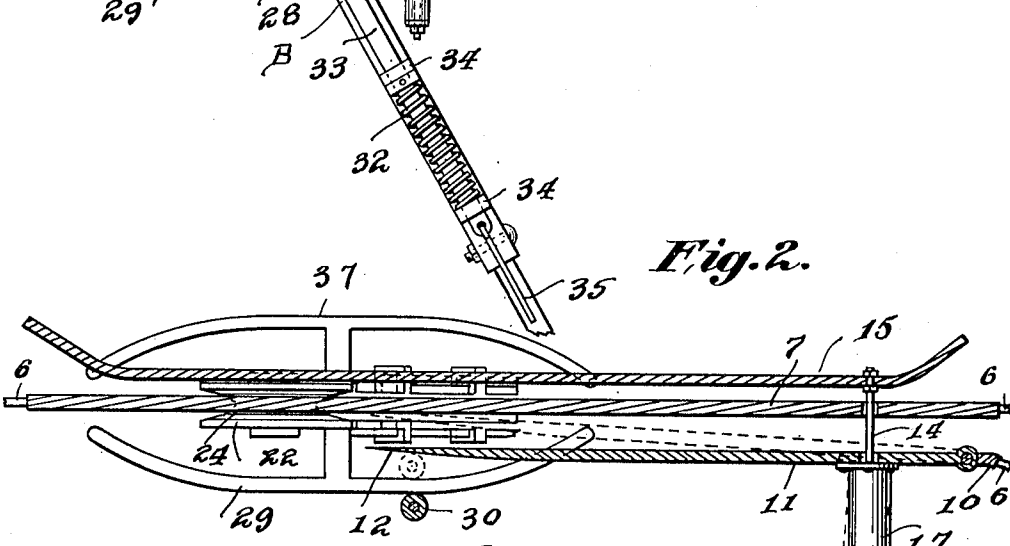


Fig. 2.

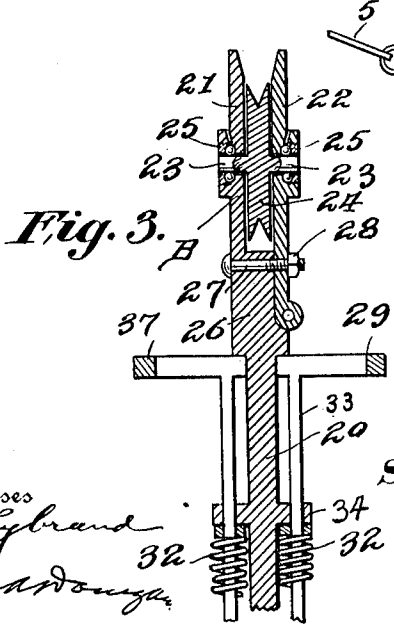


Fig. 3.

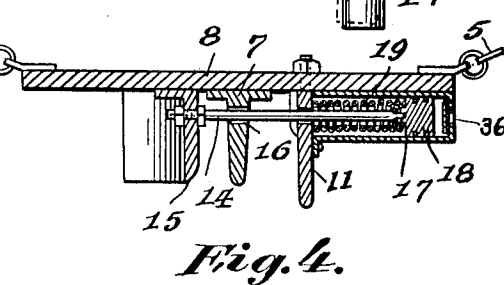


Fig. 4.

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TROLLEY WHEEL AND SWITCH.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, STEPHEN L. BARRINGER, a citizen of the United States, residing at Winston Salem, in the county of Forsyth and State of North Carolina, have invented new and useful Improvements in Trolley Wheels and Switches, of which the following is a specification.

The general object of the invention is to prevent the sheave of a trolley harp from leaving the overhead wire when the car is rounding corners, entering switches and the like, and to this end the invention consists in a switch plate provided with means to cause the sheave to gradually follow the direction of progressive movement had by the car.

Other objects will appear and be better understood from the following description taken in connection with the accompanying drawings, in which,

Figure 1 is a detail side elevation of the invention. Fig. 2 is a horizontal section on the line 2—2 of Fig. 1. Fig. 3 is a detail longitudinal section taken through the harp and the upper end portion of the pole. Fig. 4 is a vertical cross section on the line 4—4 of Fig. 1.

a indicates a switch plate which is held suspended by means of guy wires portions of which are shown in Fig. 4 and designated by 5—5, and by the feed wires portions of which are designated in Fig. 1 and indicated by 6—6.

7 indicates a straight-way track or guide rigidly secured to the lower face of the body 8 of the switch plate *a* and coextensive with the section of the feed wire on the left in Fig. 1 to which it is connected, and with another section shown by dotted lines and indicated by 9 on the right in Fig. 1, and to which the said guide or track is also connected.

10 indicates the switch track or guide arranged in angular relation to the straight-way track or guide 7.

11 indicates the switch frog which is pivoted at one end to the guide or track 10 and has its opposite end tapered as at 12.

13 indicates the curved lower edge of the frog 11 the major portion of which extends below the lower edge of the track or guide 7.

14 indicates a draw bar fixed at one end to a guard 15 secured to the lower face of

the body 8 of the switch plate *a* and extending parallel with the track or guide 7.

16 indicates an opening in the track or guide 7 to admit of the free passage of the draw bar 14, and 17 indicates a cylinder secured to the switch frog 11.

18 indicates a piston in the cylinder 17 which connects to the draw bar 14, and 19 a spring which holds the piston at the outer end of the cylinder 17.

20 indicates the trolley pole, and *B* the harp, the sides 21 and 22 of which are pierced to receive the trunnions 23—23 of the sheave 24.

25—25 indicate pole bearings for the trunnions 23—23 as shown in Fig. 3.

The side 22 of the harp is removably secured to the head 26, such as by a bolt 27 and a nut 28.

29 indicates a bow-shaped arm which is arranged so as to normally engage with the roller 30 depending from a spindle 31 on the free end of the switch frog, before the sheave engages with the said frog. The arm is held in position to attain this result by means of a spring 32 which surrounds a pin 33 depending from the arm and passing through guides 34—34 on one side of the pole 20.

35 indicates a link which connects at one end to the pin 33 and is operated in any preferred manner from the platform of the car by a rope (not shown) which connects to the link.

Normally, the tapered end portion 12 of the frog 11 bears on one side of the guide 7 as shown by dotted lines in Fig. 2 and the frog is held in this position by the action of the spring on the head 18 and the bar connected thereto. When the parts are so positioned and a car whose pole is provided with the mechanism before described approaches the switch plate, the arm 29 on the pole will engage with the roller 30 prior to the sheave 24 passing over that portion of the guide or track 7 upon which the frog 11 bears. The progressive movement of the arm 29 will cam the frog laterally to the position shown by solid lines in Fig. 2 and before the sheave approaches near enough to contact with the frog. This action of the frog will afford a space between it and the adjacent side of the guide or track 7 sufficiently wide to admit of one side of the harp to pass therethrough, and the said action

will also cause the compression of the spring 19, so that when the arm 29 clears the roller 30 the spring will restore the frog to its original position as shown by dotted lines in Fig. 2. In this connection it will be observed that the head 18 snugly fits within the cylinder 17 so that when the arm clears the roller and the head moves to its original position under the action of the spring, the air between the head and one end of the cylinder will be compressed and thereby provide a cushion for retarding the movement of the head 18 and, thus prevent the slamming of the tapered end 12 onto the track or guide 7 and the consequent distortion or breakage of the said tapered end.

36 indicates a choked passage in the closed end of the cylinder 17 to permit the escape of the air compressed by the head 18.

When the car is rounding a corner and it is desired to have the sheave follow the direction of progressive movement had by the car, the arm 29 is pulled downwardly to a position below the lower end of the roller 30 so that when the sheave contacts with the tapered end of the frog it will pass over the curved edge 13 thereof and be thereby directed onto the track or guide 10.

Referring to Fig. 2, 37 indicates generally an arm arranged on the side of the pole opposite to that shown in Fig. 1. This arm is for the purpose of operating a switch frog

similar to that just described, but arranged so as to direct the sheave in a direction different from that shown in Figs. 1 and 2.

Although I have shown and described one embodiment of my invention it is to be understood that I am not to be limited to the specific arrangement and construction of parts since various changes may be made, within the scope of the appended claim without departing from the spirit or sacrificing any of the advantages of the invention.

What I claim as new is:

In a trolley system, the combination with the trolley pole and its sheave and a switch plate having angularly disposed guides for the sheave; of a movable switch frog connected to the switch plate and having a depending projection, said switch frog being adapted when in one position to direct the sheave from one onto the other of said guides, and a movable cam carried by the pole and yieldingly held in position to contact with the depending projection and move the switch frog into an inoperative position.

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

STEPHEN L. BARRINGER.

Witnesses:

H. M. ^{his} ~~X~~ BARRINGER,
^{mark}
 JOHN H. SCOTT.