No. 765,516. PATENTED JULY 19, 1904.

W. SELAKOSKY.

TROLLEY.

APPLICATION FILED JAN. 27, 1904.

NO MODEL.

Fig. 1.

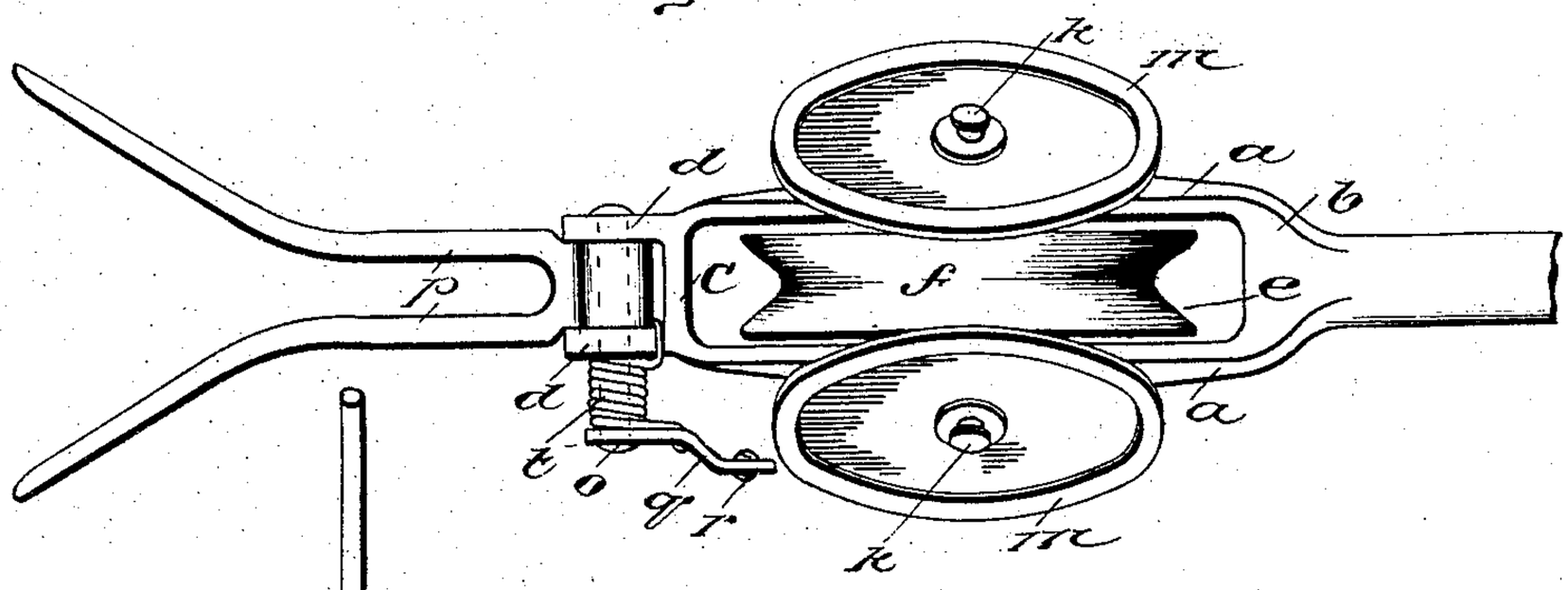


Fig. 2.

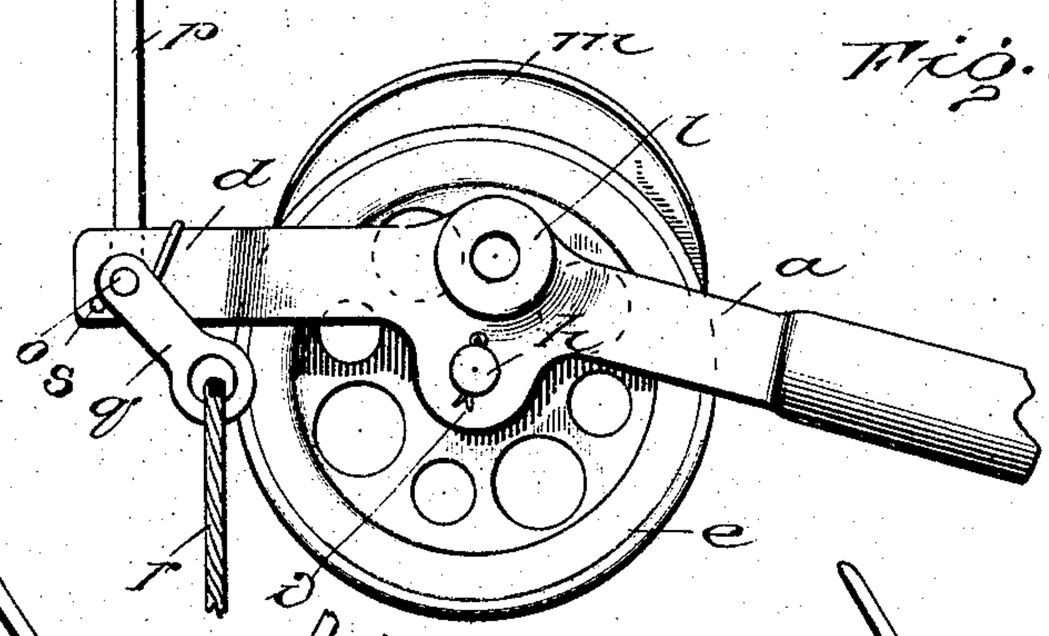
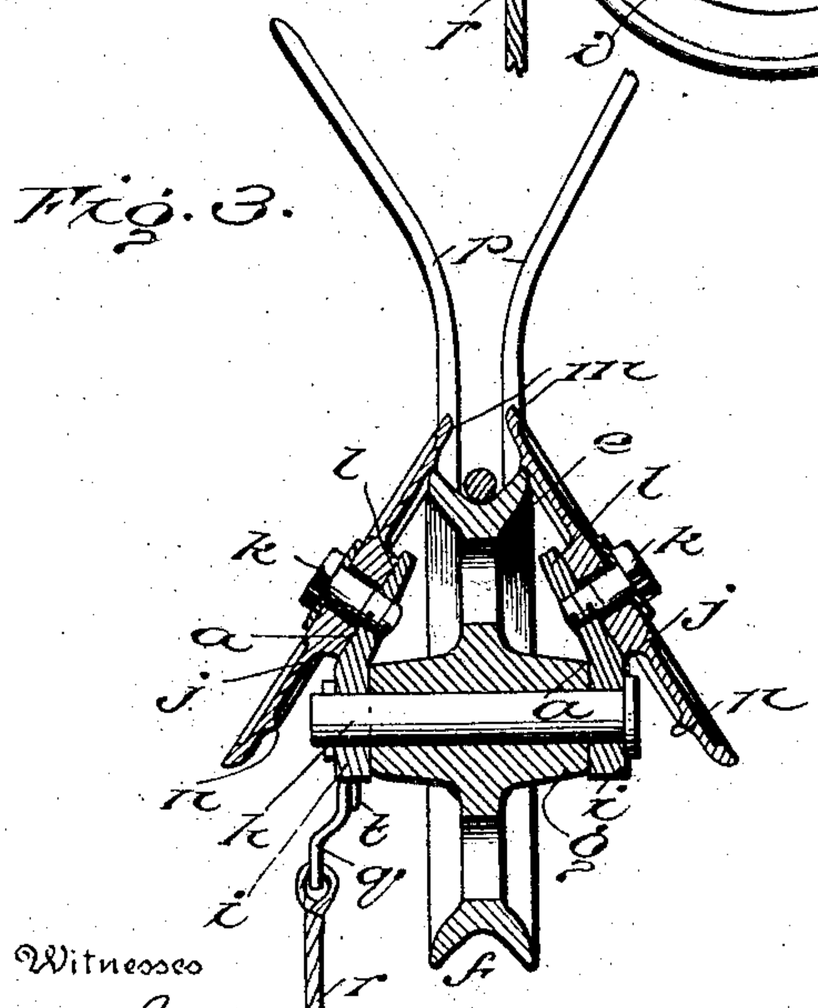
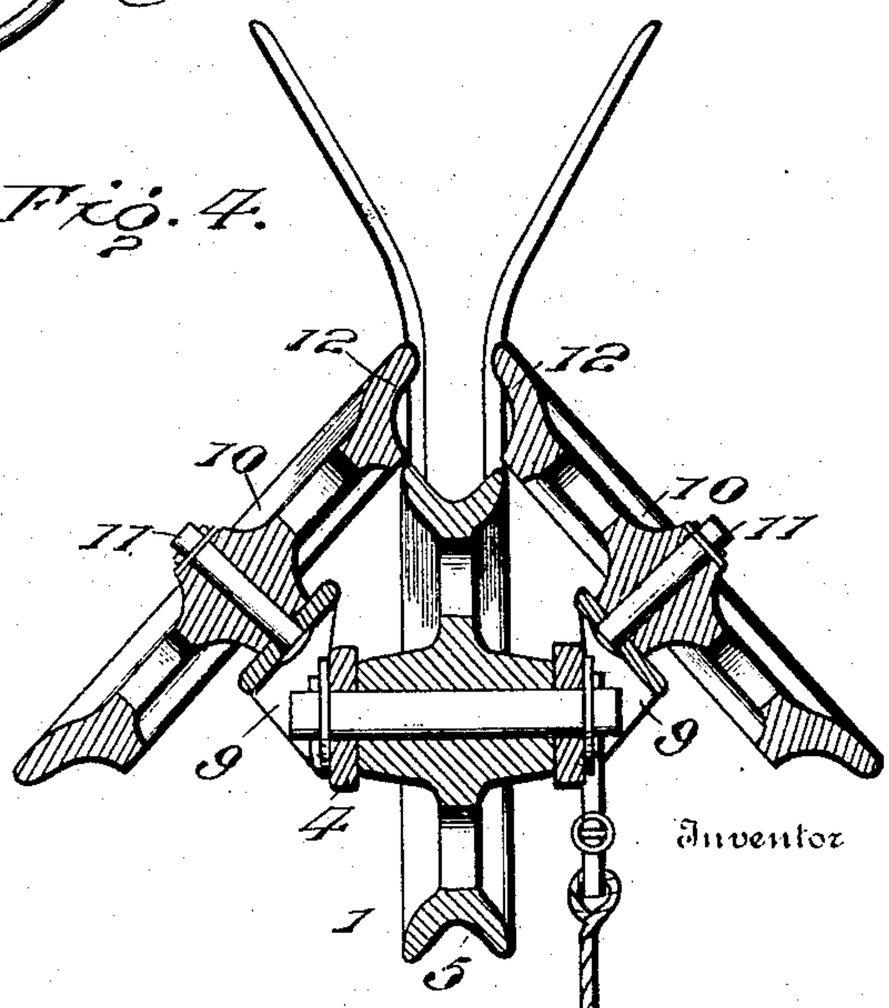


Fig. 3.



Witnesses
[illegible]
E. R. Peck

Fig. 4.



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UNITED STATES PATENT OFFICE.

WILSON SELAKOSKY, OF LEHIGHTON, PENNSYLVANIA.

TROLLEY.

SPECIFICATION forming part of Letters Patent No. 765,516, dated July 19, 1904.

Application filed January 27, 1904. Serial No. 190,880. (No model.)

To all whom it may concern:

Be it known that I, WILSON SELAKOSKY, a citizen of the United States, residing at Lehighton, Carbon county, State of Pennsylvania, have invented certain new and useful Improvements in Trolleys; 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 certain improvements in trolleys, and more particularly to improvements in trolley-heads.

An object of the invention is to provide certain improvements in trolleys whereby danger of the trolley-wheel jumping or accidentally leaving the wire at curves or elsewhere will be reduced to a minimum, yet without to a disadvantageous extent increasing the weight of the trolley-head or rendering the same liable to injuriously engage crossings, hangers, or guy-wires.

A further object of the invention is to provide a trolley-head wherein the wire-retaining groove permanently open at the top is formed by a trolley-wheel and two opposite angularly-arranged disks, said disks being arranged with the highest portions thereof at the upper portion of said groove, so that the trolley-head can pass the guy-wires, hangers, and crossings of the trolley-wire without injury thereto and without throwing the trolley from the wire and yet so that said disks will hold the trolley to the wire at curves and at other points where the trolley-wheel without the disks might leave the wire.

A further object of the invention is to provide a simple, economical, and effective trolley-head for accomplishing the purposes intended and wherein two inclined disks are arranged on opposite sides of the trolley-wheel to form therewith the open-top wire-retaining groove and to provide the trolley-head with a finder normally withdrawn from operative position.

The invention consists in certain novel features of construction and in combinations of parts, as more fully and particularly described and set forth hereinafter.

Referring to the accompanying drawings, Figure 1 is a top plan view of the trolley-head, the finder being shown in its normal inoperative position. Fig. 2 is a side elevation, one of the inclined disks being removed and the finder shown in operative elevated position. Fig. 3 is a vertical cross-sectional view, the line-wire being shown in the wire-retaining groove and the finder being shown in elevated position. Fig. 4 is a cross-sectional view of a modified construction.

In the drawings I show a trolley-head or frame provided with two longitudinal separated side walls, plates, or bars *a*, merging together at their front ends in the upper end of the trolley-pole or in and rigid with the rear end of the socket or sleeve *b* or other means of attachment to the trolley-pole. The rear ends of the frame sides *a* are rigidly connected by the cross-piece *c*, and the parallel separated rigid ears *d* project rearwardly from the rear end of said frame.

The vertically-rotating trolley-wheel *e* is arranged within said longitudinal opening or slot of the trolley-head frame. This wheel can be of any suitable or ordinary trolley-wheel construction, preferably having the deeply-grooved flaring rim or periphery *f*, although, if desired, the rim need not be so deeply grooved or flanged as usually employed in the ordinary single-wheel trolley. This trolley-wheel can be revolubly mounted by any suitable means and in any suitable manner, although I have shown the same formed with the elongated hub *g* at its ends abutting the inner faces of the frame sides and rotating on a transverse horizontal shaft *h*, passing through the hub and through ears *i*, rigid with and depending from the frame sides. This shaft *i* is usually endwise removable and provided with means to lock the same in the frame. *j* represents two similar disks arranged at opposite sides of the trolley-wheel and frame and freely revoluble on fixed axes. These disks are angularly arranged, so that their upper portions overlap the top portion of the trolley-wheel and so that the highest portions of the disks are located immediately or approximately over the top of the trolley-wheel.

The axes of the disks are preferably arranged in the same vertical plane which includes the axis of the trolley-wheel, and the said disks are suitably mounted on or to the said frame. For instance, I show the disks turning on studs or shafts *k*, projecting outwardly and upwardly from the opposite side frames. The opposite frame sides above the trolley-wheel shafts are shown deflected or inclined inwardly and upwardly at *l* at about an angle of forty-five degrees to each other to form bearing or supporting faces for said disks, and the studs *k* are shown removably screwed into the frame sides at said faces and extending outwardly about at an angle of forty-five degrees. However, I do not wish to limit my invention to this arrangement for mounting the disks, although I prefer to removably mount the disks to permit removal of either or both, if desired, for repairs or other purposes or to permit removal of the trolley-wheel for any purpose.

I prefer to make the disks as flat and light in weight as the requirements of wear and durability will permit. The disks shown, excepting Fig. 4, are arranged at about an angle of forty-five degrees with respect to each other, and the upper or highest portions thereof project above the plane of the top of the trolley-wheel and at opposite sides thereof; but the top edges of the disks do not meet. The deep trolley-wire retaining-groove is formed by the periphery of the trolley-wheel and the adjacent faces *m* of the two disks above the trolley-wheel. The top edges of the two opposite disks are sufficiently separated to form or leave the necessary top opening of the wire-retaining groove to permit the necessary entrance of the wire into the groove and removal of the trolley from the wire, yet the freely and independently revoluble disks are so arranged with respect to the trolley-wheel that it is next to impossible for the trolley to accidentally jump or leave the wire at curves or elsewhere even when the car is running at a high rate of speed.

It is essential that the trolley be so formed as to freely pass the trolley-wire hangers, guys, and crossings or other obstructions, sometimes located quite close to the wire because of the general use of the small single-wheel trolley. I have hence so arranged my disks that they converge upwardly with their upper portions arranged close to the trolley-wheel, with only such parts projecting above the trolley-wheel as are absolutely necessary to form the side walls of the wire-retaining groove. In other words, the highest portions of the disks form the side walls of the wire-retaining groove and are located at the top edges of the side walls of such groove and but a comparatively slight distance apart, so as to pass all obstructions as freely for all practical purposes as the ordinary single-wheel trolley.

The outer annular or peripheral portion or side face *m* of each disk is usually curved or concaved to form the annular usually-concaved wall of the wire-retaining groove in virtual upward and inward continuation of the groove-walls of the trolley-wheel, and where the flat comparatively thin disk is employed it can be formed at its inner face with the annular rib *n*, arranged beside the outer side edge of the trolley-wheel.

The wire guide or finder is carried by the rear ears *d* and comprises a transverse rock-shaft *o*, extending between and turning in said ears and rigid with the radially-extending fork formed by the elongated rods or arms *p*, flaring or diverging at their outer ends. The fork joins the shaft between said ears, and one end of the shaft is extended through an ear and at its outer end provided with a crank-arm *q*, to which a rope or pull connection *r* is attached and which depends to a point where it can be conveniently reached by the operator on the car. A suitable spring is provided which yieldingly and normally holds the finder swung down and rearwardly away from the trolley-wire and against the stop-rod *s*, fixed in the ears. This spring can be arranged in any suitable manner, although I have shown the spring *t* coiled on the extended end of the finder-shaft and suitably secured to yieldingly hold the shaft with the fork swung rearwardly. When it is desired to replace or set the trolley-head on or against the wire, the operator pulls down on the connection *r*, and thereby swings the fork to vertical position against the tension of spring *t*, and the fork can thus readily straddle the trolley-wire and guide the same into the wire-retaining groove formed by the trolley-wheel and two disks. When the connection *r* is released, the spring *t* swings the fork down away from the wire and to inoperative position.

In Fig. 4 I show a modified arrangement, wherein the trolley-head or frame is provided with rigid side straps or brackets 9, forming inclined bearing-faces for the inclined retaining disks or wheels 10, arranged on opposite sides of the trolley-wheel 5, located between the sides of the trolley head or frame and turning on a suitable shaft or spindle. The disks 10 in this construction are arranged about at an angle of ninety degrees to each other and turn on studs 11, and the retaining-groove walls or faces 12 of said disks are formed by the single flange rim or periphery of each disk. However, this last-named arrangement forms about the same approximately U-shaped top contracted wire-retaining groove as formed by the arrangement shown in Figs. 1 to 3.

It is evident that various changes and modifications might be resorted to in the forms, constructions, and arrangements of the parts described without departing from the spirit

and scope of my invention. Hence I do not wish to limit myself to the exact constructions shown.

What I claim is—

1. A trolley comprising a supporting member, a grooved trolley-wheel, and a pair of upwardly and inwardly inclined revoluble retaining-disks arranged on opposite sides of said wheel and extending above the plane thereof and with said wheel forming the wire-retaining groove open at the top, the highest portions of the disks located at the top edges of the walls of said groove.

2. The frame having the elongated opening and longitudinal sides, opposite intermediate portions of said sides being inclined upwardly and inwardly, in combination with a trolley-wheel arranged in said opening and mounted on said sides, and inclined retaining-disks mounted on said inclined portions with their upper edges approaching above the plane of the top of the trolley-wheel and in conjunction with said wheel forming the wire-retaining groove, the axes of said disks and the wheel being in the same vertical plane.

3. A trolley-head frame having sides, in combination with a trolley-wheel mounted intermediately thereof, a transverse rock-shaft mounted in the rear extremity of said frame and formed with a radial wire-finder fork, a spring normally holding the fork swung down rearwardly, said shaft having a lateral operating-arm, whereby the fork can be swung to vertical position in rear of the trolley-wheel.

4. The combination with a trolley-head, of three independent rotary elements, the adjacent surfaces of which form a wire-retaining groove, in combination with a finder mounted in the head and normally out of coöperative relation thereto.

5. The combination with a trolley-head, of a trolley-wheel therefor, two retaining-disks mounted on the head at an angle to each other with their adjacent surfaces in proximity to the trolley-wheel peripheral surface, and forming therewith the wire-retaining groove, the highest portions of the retaining-disks being located at the upper edges of the walls of said groove.

6. A trolley-head comprising sides, a trolley-wheel mounted intermediate the sides, and retaining-disks supported on the sides, said disks being mounted at an angle to each other and in proximity to and at opposite sides of the trolley-wheel said retaining-disks in conjunction with said trolley-wheel forming the wire-retaining groove open at the top.

7. A trolley-head having sides, a trolley-wheel carried by said sides, retaining-disks fixed at an angle to each other with their adjacent surfaces in proximity to the surface of the trolley-wheel, a finder supported by the sides, and means to normally hold the finder out of coöperative relation to the trolley-wheel.

8. A trolley-head having rearwardly-extending rigid sides, a trolley-wheel carried by the sides and in advance of their rear ends, retaining-disks fixed at an angle to each other with their upper inner surfaces in proximity to the surface of the trolley-wheel, a finder carried by the rear portion of the head, a spring normally holding the finder out of cooperative relation to the trolley-wheel, and a lever-arm to move the finder into operative position.

9. A trolley-head having means for connection with the trolley-pole, sides extending from said means, a trolley-wheel carried by the sides, retaining-disks fixed at an angle to each other with their inner upper surfaces in proximity to the surface of the trolley-wheel, a finder supported by the sides, a spring normally holding the finder out of coöperative relation to the trolley-wheel, and a lever-arm to move the finder into operative position, and adapted to receive an operating connection.

10. A trolley comprising a central vertically-disposed trolley-wheel and two angularly-arranged oppositely-inclined retaining-disks arranged on opposite sides of the trolley-wheel and carried by fixed bearings, the adjacent surfaces of said wheel and disks forming the wire-retaining groove open at the top, the highest portions of the retaining-disks being located at the upper edges thereof forming the top walls of said groove.

11. A trolley comprising a frame, a revoluble vertical grooved trolley-wheel and angularly-arranged revoluble disks on opposite sides of said wheel and turning on axes fixed with respect to said wheel with their top edges approaching above the top surface of the trolley-wheel to form the open-top wire-retaining groove, the outer portions of the inner faces of said disks being curved to form continuations of the wall of the wheel-groove.

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

WILSON SELAKOSKY.

Witnesses:
ROBERT S. HEINEY,
J. A. STEIGERWALT.