

H. A. KRAUSE.
TROLLEY.

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1,022,144.

Patented Apr. 2, 1912.

FIG. 1.

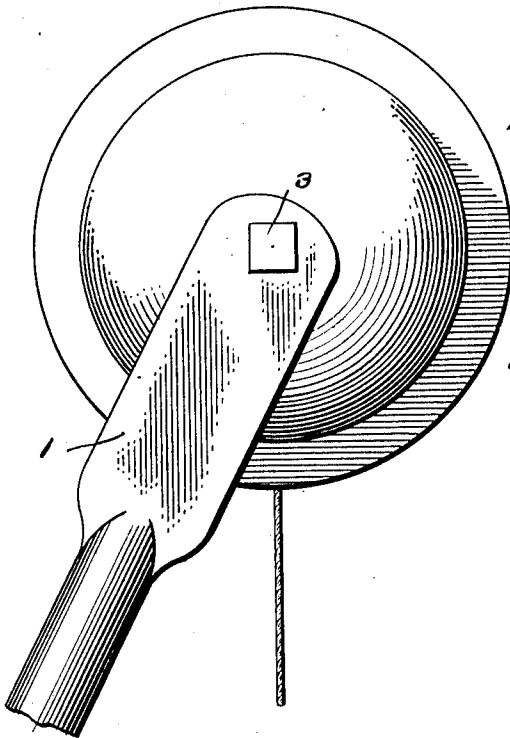


FIG. 2.

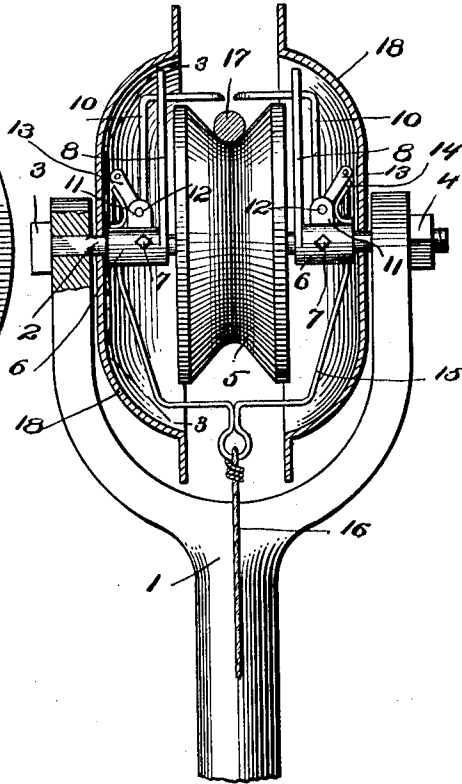


FIG. 3.

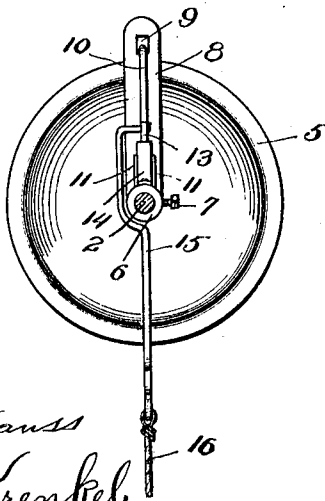
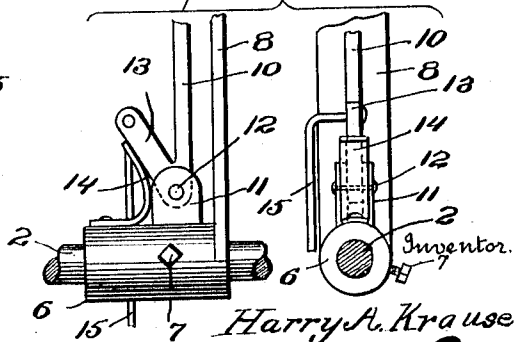


FIG. 4.



Witnesses

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TROLLEY.

1,022,144.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HARRY A. KRAUSE, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Trolleys, of which the following is a specification.

My invention relates to improvements in trolleys, and more particularly to improved means for insuring the retention of the trolley wheel in engagement with the electric conductor, which means are released when the pole is pulled down.

A further object is to provide an improved construction of guard located between contact wheels adapted to carry the current when the trolley is on a switch.

With these and other objects in view, the invention consists in certain novel features of construction and combinations and arrangements of parts, as will be more fully hereinafter described and pointed out in the claims.

In the accompanying drawings: Figure 1, is a view in side elevation illustrating my improvements. Fig. 2, is a view in transverse section. Fig. 3, is a view in section on the line 3—3 of Fig. 2, and Fig. 4, illustrates in broken views the detail mounting of the guard fingers.

1, represents a trolley harp, and 2 a journal bolt secured therein, said journal bolt having a head 3 at one end and made angular near its headed end, fitting an angular opening in the harp to prevent turning of the journal bolt. The other end of the bolt is screw-threaded for the reception of a nut 4 to secure the bolt in the harp. A trolley wheel 5 is mounted to turn on the journal bolt 2, and at each side of this wheel, sleeves 6 are secured against rotary movement by means of set screws 7. On the sleeves 6, integral upwardly projecting plates 8 are located and are provided with openings 9 through which the inwardly projecting upper ends of guard fingers 10 project. The lower ends of these guard fingers 10 are pivotally supported between perforated ears 11 on the sleeves 6 by means of pins 12. The fingers 10 are each provided with lugs 13 projecting at an angle thereto and against which bow springs 14 bear to normally press the guard fingers inwardly toward each other, as shown in Fig. 2.

The lugs 13 are connected to the free ends

of a wire bail 15, and to the latter a rope 16 is secured for drawing downwardly the trolley pole and at the same time pulling the guard fingers from over the electric wire illustrated at 17.

On the journal bolt 2, and partially inclosing the mechanism above described, two disk wheels 18 are mounted to turn. The intermediate portions of these disk wheels 18 are concavo-convex or in other words bulged outwardly, the edge portion being straight and adapted, when the trolley is turning on a switch, to carry the electric current.

The adjacent ends of the fingers 10 are beveled or rounded in all directions except at the bottom where they are straight. This permits the guard fingers to be separated by a cam action when pressed against the wire 17 to admit the wire to the wheel 5. It also compels the guard fingers to separate when passing a cross wire or other obstruction, and automatically spring into position.

Various slight changes might be made in the general form and arrangement of parts described without departing from my invention, and hence I do not limit myself to the precise details set forth, but consider myself at liberty to make such changes and alterations as fairly fall within the spirit and scope of the appended claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. The combination with a trolley harp, and a journal bolt fixed therein, of a trolley wheel mounted to turn on the bolt, sleeves on said bolt at opposite sides of the wheel, set screws securing said sleeves to the bolt, upwardly projecting plates integral with said sleeves at their inner ends, and extending beyond the periphery of the wheel at opposite sides of the wheel, and having openings therethrough, angular guard fingers pivotally supported at their lower ends on said sleeves and at their upper ends projected through the openings in the guard plates over the periphery of the wheel, springs normally pressing said guard fingers toward each other, and means for pulling said guard fingers apart, substantially as described.

2. The combination with a trolley harp, and a journal bolt fixed therein, of a trolley wheel mounted to turn on the bolt, sleeves on said bolt at opposite sides of the wheel,

set screws securing said sleeves to the bolt, upwardly projecting plates integral with said sleeves at their inner ends, and extending beyond the periphery of the wheel at opposite sides of the wheel, and having openings therethrough, angular guard fingers pivotally supported at their lower ends on said sleeves and at their upper ends projected through the openings in the guard plates over the periphery of the wheel, lugs secured to said guard fingers and projecting at an angle therefrom, bow springs exerting pressure on said lugs, and secured to the sleeves, a depending bail connected at its ends to said lugs, and a flexible connecting device secured to said bail, whereby a downward pull on said flexible connecting device serves to pull the guard fingers apart, substantially as described.

3. The combination with a trolley harp, and a journal bolt fixed therein, of a trolley wheel mounted to turn on the bolt, sleeves on said bolt at opposite sides of the wheel, set screws securing said sleeves to the bolt, upwardly projecting plates integral with said sleeves at their inner ends, and extending beyond the periphery of the wheel at opposite sides of the wheel, and having openings therethrough, angular guard fingers pivotally supported at their lower ends on said sleeves and at their upper ends projected through the openings in the guard plates over the periphery of the wheel, springs normally pressing said guard fingers toward each other, means for pulling said guard fingers apart, disk wheels mounted to turn on said journals at opposite sides of the trolley wheel and projecting at their edges beyond the periphery of said wheel, said disk wheels located between the harp and the trolley wheel, and bulged out centrally inclosing said guard fingers and the supports therefor, substantially as described.

the trolley wheel, and bulged out centrally inclosing said guard fingers and the supports therefor, substantially as described.

4. The combination with a trolley harp, and a journal bolt fixed therein, of a trolley wheel mounted to turn on the bolt, sleeves on said bolt at opposite sides of the wheel, set screws securing said sleeves to the bolt, upwardly projecting plates integral with said sleeves at their inner ends, and extending beyond the periphery of the wheel at opposite sides of the wheel, and having openings therethrough, angular guard fingers pivotally supported at their lower ends on said sleeves and at their upper ends projected through the openings in the guard plates over the periphery of the wheel, lugs secured to said guard fingers and projecting at an angle therefrom, bow springs exerting pressure on said lugs, and secured to the sleeves, a depending bail connected at its ends to said lugs, a flexible connecting device secured to said bail, whereby a downward pull on said flexible connecting device serves to pull the guard fingers apart, disk wheels mounted to turn on said journals at opposite sides of the trolley wheel and projecting at their edges beyond the periphery of said wheel, said disk wheels located between the harp and the trolley wheel, and bulged out centrally inclosing said guard fingers and the supports therefor, substantially as described.

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

HARRY A. KRAUSE.

Witnesses:

CHARLES E. POTTS,
ROSE H. KRENKEL.