(No Model.)

O. HOLZ.

TROLLEY SUPPORT FOR TROLLEY CARS.

No. 569,756. **Patented Oct. 20, 1896.**

FIG. 1.

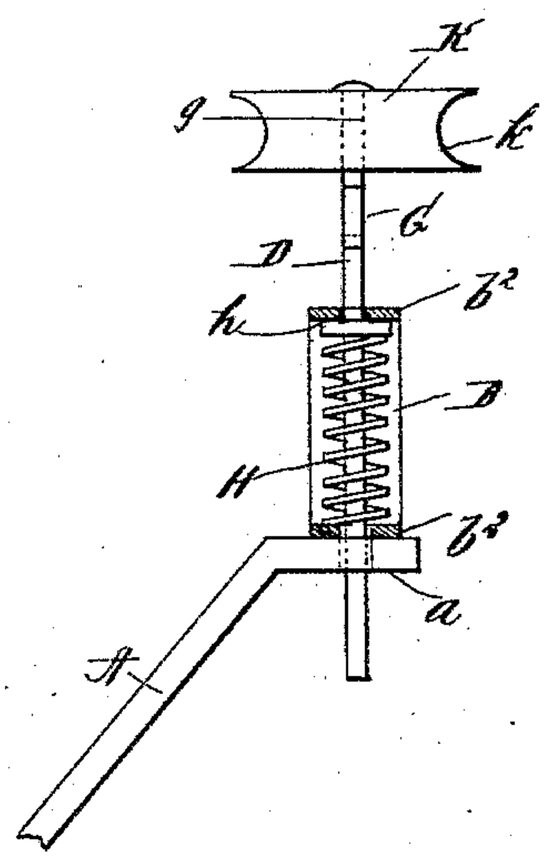


FIG. 2.

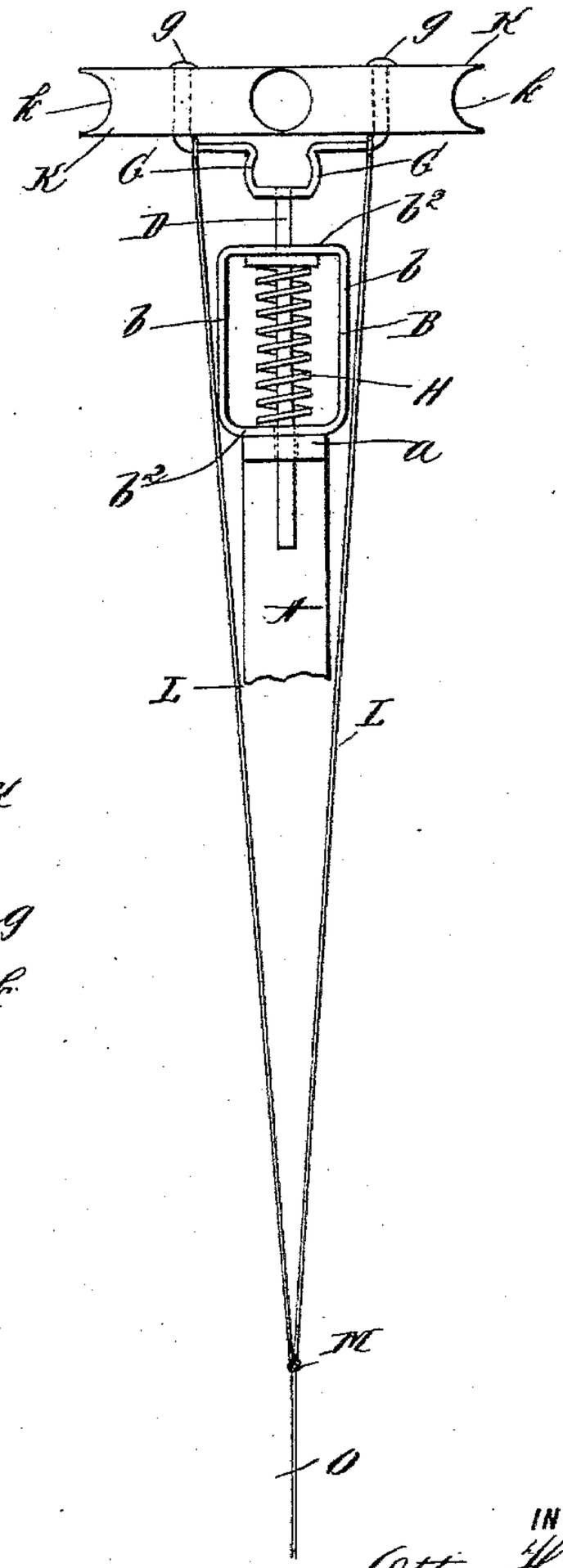
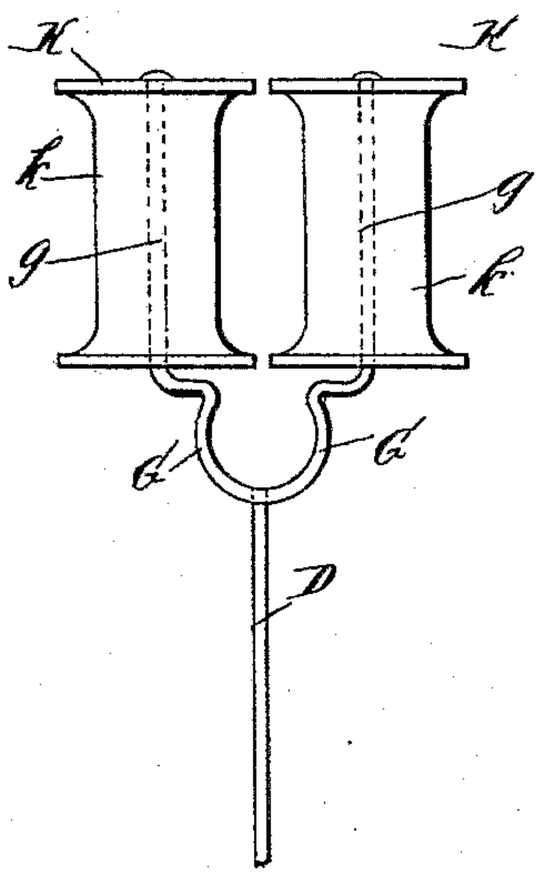


FIG. 3.



WITNESS:

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TROLLEY-SUPPORT FOR TROLLEY-CARS.

SPECIFICATION forming part of Letters Patent No. 569,756, dated October 20, 1896.

Application filed May 2, 1896. Serial No. 590,008. (No model.)

To all whom it may concern:

Be it known that I, OTTO HOLZ, a citizen of the United States, and a resident of Schenectady, in the county of Schenectady and State of New York, have invented certain new and useful Improvements in Trolley-Supports for Trolley-Cars, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof, in which similar letters of reference indicate corresponding parts.

This invention relates to trolley-arms and trolley-wheels for trolley-cars; and the object thereof is to provide a trolley-arm with a spring-supported trolley wheel or wheels, a further object being to provide a combination of two trolley-wheels, which are provided with peripheral grooves and which are adapted to be supported side by side, and between which the main trolley wire or conductor passes.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which—

Figure 1 is a side view of a section of a trolley-arm, showing my improvement connected therewith, part of the construction being shown in section; Fig. 2, an end view thereof; and Fig. 3, a view similar to Fig. 1, showing a modified form of construction, the trolley-wheels and their immediate supports being only shown.

In the drawings forming part of this specification, A represents a trolley-arm, which in practice is rigidly secured to a car and which projects backwardly and upwardly at an inclination to the top of the car and which is provided at its upper end with a horizontal backwardly-directed extension *a*, and mounted thereon is a vertical oblong frame B, which is composed of side pieces *b* and end pieces b^2, and through which passes a vertical rod D, which is provided at its upper end with two spring-arms G, which are curved outwardly and upwardly, so as to form extensions or shafts *g*, on each of which is mounted a wheel K, each of which is provided with a peripheral groove *k*.

The rod D extends vertically through the frame B and through the extension *a* of the arm A and is free to move vertically therein, and mounted thereon within said frame is a spiral spring H, one end of which bears upon the lower portion of the frame B and the upper end of which bears upon a disk or plate *h*, secured to the rod D, and it will thus be seen that said rod and the wheels K, which are supported thereon, may be depressed against the operation of said spring by pulling thereon or whenever pressure is applied either to the supports of the wheels K or through the arm A. In ordinary forms of construction this result is accomplished by means of a spring connected with the lower end of the arm A, whereby said arm is given a spring-actuated movement, and this manner of connecting the arm A with the car is expensive and not so convenient and effective as that herein described. I also connect with the outwardly-directed portions of the spring G, by which the wheels K are supported, cords, chains, or other devices L, which extend downwardly and are connected at M, from which point a single cord, chain, or other device O extends, and said cord or chain O is under the control of the conductor or motorman and may be operated to depress the wheels K whenever desired, and also for separating said wheels in order to permit of the introduction of the trolley wire or conductor between the same.

The spring-arms G are so constructed that by simply pulling on the cord O the wheels will be separated, and when thus separated the trolley wire or conductor may be passed between said wheels, after which the arms and the wheels assume the position shown in Fig. 2, and the trolley wire or conductor passes through a circular groove formed by the annular grooves *k* in said wheels, and said trolley wire or conductor and said wheels K cannot be separated under ordinary circumstances and are not liable to become detached or disconnected in the operation of the car.

In Fig. 3 the spring G is of slightly-different form, and the extensions or shafts *g*, connected therewith, are extended or lengthened and the wheels K assume the form of spools, and by this arrangement the space between said wheels is much elongated and the trolley-wire is free to move between the spools, and is also capable of vertical movement with-

out being detached or disconnected from the spools or wheels.

This device is simple in construction and operation and is also comparatively inexpensive, while being perfectly adapted to accomplish the result for which it is intended, and it is evident that changes in and modifications of the construction herein described may be made without departing from the spirit of my invention or sacrificing its advantages; and I reserve the right to make all such alterations therein and modifications thereof as fairly come within the scope of the invention.

Having fully described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination with a trolley-arm, which is adapted to be secured to a car, of a frame supported thereby, and a spring-operated rod which passes therethrough, said rod being provided at its upper end with spring-arms, and two wheels or pulleys which are mounted thereon, and which are arranged horizontally, and provided with peripheral grooves, and between which the trolley wire or conductor is adapted to pass, said spring-arms by which the wheels or pulleys are supported being each provided with a cord or other device which extends therefrom, substantially as shown and described.

2. The combination with a trolley-arm, which is adapted to be rigidly secured to a car, of a frame supported on the upper end thereof, a vertically-movable spring-operated rod supported in said frame, and spring-arms connected with the upper end of said rod, and a grooved wheel or spool mounted on each of said arms, and between which the trolley wire or conductor, is adapted to pass, and means connected with said spring-arms for separating the same, substantially as shown and described.

3. The combination with a trolley-arm, which is adapted to be secured to a car, of a frame supported thereby, a spring-supported rod which passes vertically therethrough, and spring-arms connected with the upper end of said rod, each of which supports a pulley provided with a peripheral groove, said pulleys being arranged side by side, and the grooves therein, being adapted to receive the trolley wire or conductor, and means for separating said spring-arms, substantially as shown and described.

4. The combination with a trolley-arm, which is adapted to be rigidly secured to a car, of a vertical frame mounted thereon, a spring-supported device connected therewith, and provided with spring-arms, each of which supports a peripherally-grooved pulley, said pulleys being arranged horizontally, and means for separating said pulleys, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 28th day of April, 1896.

OTTO HOLZ.

Witnesses:
E. NOTT SCHERMERHORN,
J. WARD SCHERMERHORN.