

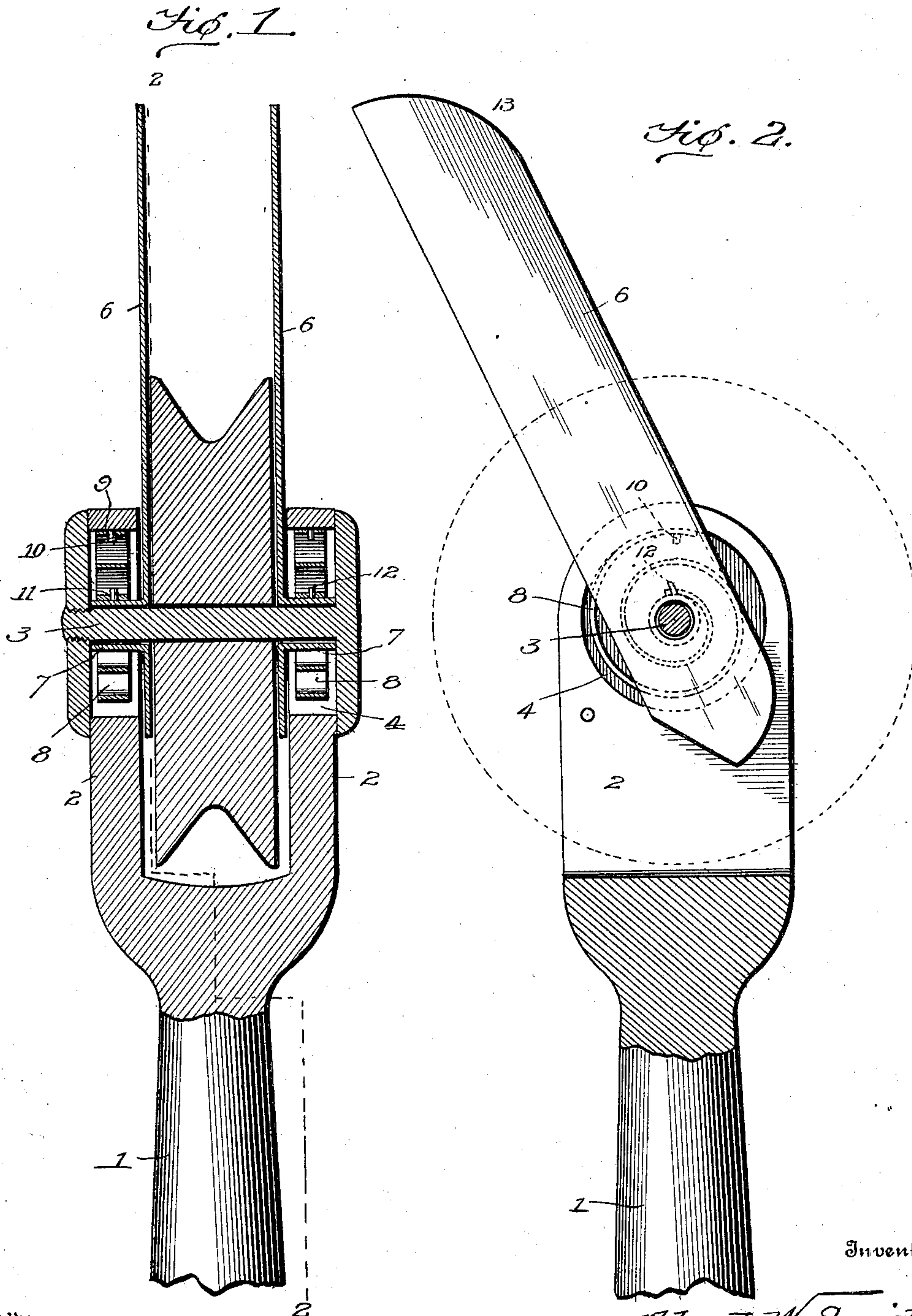
No. 687,861.

Patented Dec. 3, 1901.

A. W. SMITH.  
TROLLEY GUARD.

(Application filed Jan. 16, 1901.)

(No Model.)



Witnesses  
Harry S. Cohen.  
Hubert D. Lewis.

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# UNITED STATES PATENT OFFICE.

ALBERT W. SMITH, OF PINERIVER, NEW HAMPSHIRE, ASSIGNOR TO  
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## TROLLEY-GUARD.

SPECIFICATION forming part of Letters Patent No. 687,861, dated December 3, 1901.

Application filed January 16, 1901. Serial No. 43,532. (No model.)

*To all whom it may concern:*

Be it known that I, ALBERT W. SMITH, a citizen of the United States, residing at Pineriver, in the county of Carroll and State of New Hampshire, have invented new and useful Improvements in Trolley-Guards, of which the following is a specification.

This invention relates to new and useful improvements in trolley-guards; and its primary object is to provide a device of this character which is adapted to adjust itself automatically, so as to permit the trolley to pass beneath an intersecting wire without leaving the wire upon which it is traveling.

A further object is to provide a guard which is formed of detachable fingers which are held normally in an upright position by means of removable springs.

With these and other objects in view the invention consists in mounting a trolley-wheel upon a shaft which is secured within the fork of a trolley. A sleeve is mounted upon this shaft at each side of the trolley-wheel, and these sleeves extend into recesses formed within the inner faces of the members of the fork. Coil-springs are mounted upon the sleeves and are detachably secured at opposite ends to said sleeves and the walls of the recesses respectively, and these springs serve to support guards which are secured to the sleeves in a normally upright position.

The invention also consists in certain novel features of construction and combination of parts, which will be hereinafter more fully described and claimed, and illustrated in the accompanying drawings, showing the preferred form of my invention, and in which—

Figure 1 is a transverse section through the trolley-fork, showing the wheel in position therein. Fig. 2 is a section on line 2 2 of Fig. 1, the wheel being shown in dotted lines.

In the drawings the same reference characters indicate the same parts of the invention.

1 is a trolley, having a fork 2 at the upper end thereof, within which is secured a transversely-extending shaft 3. This shaft projects into and is concentric with circular recesses 4, formed within the inner faces of the members of the fork. A trolley-wheel is loosely mounted upon the shaft 3, and to each side thereof is arranged a guard-finger 6, hav-

ing an outwardly-extending sleeve 7 secured adjacent to the lower end thereof. These sleeves are loosely mounted upon the shaft 3 and are adapted to extend into the recesses 4, before referred to. A coil-spring 8 is mounted upon each sleeve, one end thereof being provided with an aperture 9 for the reception of a stud 10, extending from said sleeve, while the opposite end is provided with an aperture 11 for the reception of a stud 12, extending from the wall of the recess 4, within which the spring is mounted.

The guard-fingers 6 are preferably formed of flat castings or heavy sheet metal, and the forward edges thereof are rounded at their upper ends, as at 13. By providing guard-fingers of this character the trolley-wheel will be held in position upon the trolley-wire at all times, and the fingers will be automatically depressed when coming into contact with any obstruction, such as an intersecting wire.

Should one or both of the springs 8 within the recesses 4 be broken, it is merely necessary to remove the shaft 3, and the trolley-wheel can then be readily withdrawn from the fork 2, the sleeves 7 can be taken from the recesses, and the springs readily detached therefrom and from the studs within the recesses. New springs may then be substituted therefor and the parts replaced.

In the foregoing description I have embodied the preferred form of my invention; but I do not wish to be understood as limiting myself thereto, as I am aware that modifications may be made therein without departing from the principle or sacrificing any of the advantages of this invention; and I therefore reserve to myself the right to make such changes as fairly fall within the scope of my invention.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

1. The combination with the fork of a trolley; of a shaft therein, a trolley-wheel mounted upon the shaft, a guard-finger loosely mounted upon said shaft, a sleeve thereto, and a coil-spring detachably secured at opposite ends to the sleeve and the fork respectively.

2. The combination with the fork of a trol-



ley; of a shaft within said fork, a trolley-wheel journaled upon the shaft, a guard-finger loosely mounted upon the shaft at each side of the wheel, a sleeve to each finger, and  
5 coil-springs detachably secured at opposite ends to the fork and sleeves respectively.

3. The combination with the fork of a trolley having recesses in the inner faces of the members thereof; of a shaft mounted within  
10 the fork and extending into the recesses, a trolley-wheel journaled upon the shaft, guard-fingers at opposite sides of the wheel, sleeves thereto extending into the recesses, studs upon the sleeves, studs within the recesses,  
15 and coil-springs having apertures adjacent to their ends and adapted to receive said studs,

said springs serving to hold the studs normally in an upright position.

4. The combination with the fork of a trolley having a recess therein; of a trolley-wheel, 20 a guard-finger, a sleeve to said finger fitted within the recess, a stud upon the sleeve, a stud within the recess, and a spring inclosing the sleeve and detachably secured at opposite ends to said studs.

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

ALBERT W. SMITH.

Witnesses:

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