No. 822,709. PATENTED JUNE 5, 1906.

J. ZIELINSKI.

TROLLEY STAND.

APPLICATION FILED OCT. 22, 1903.

Fig 1.

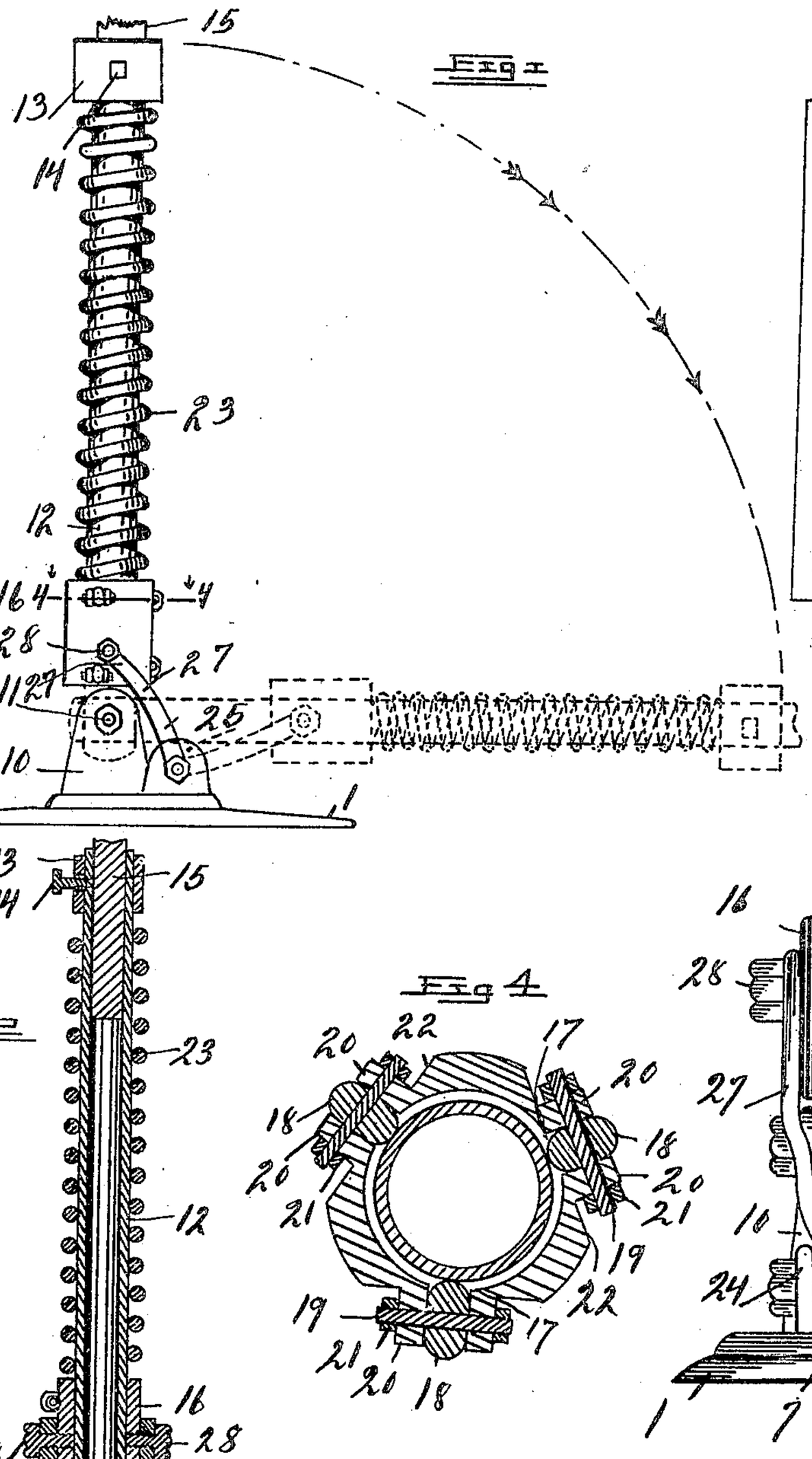


Fig 5.

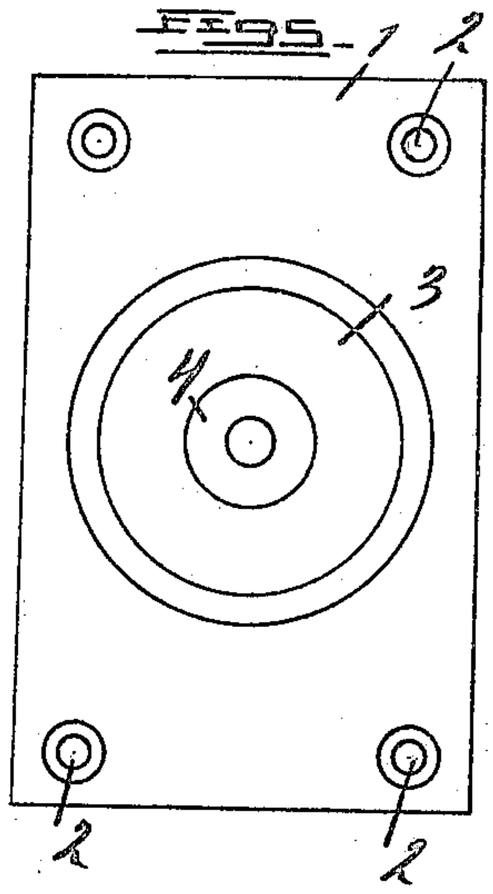
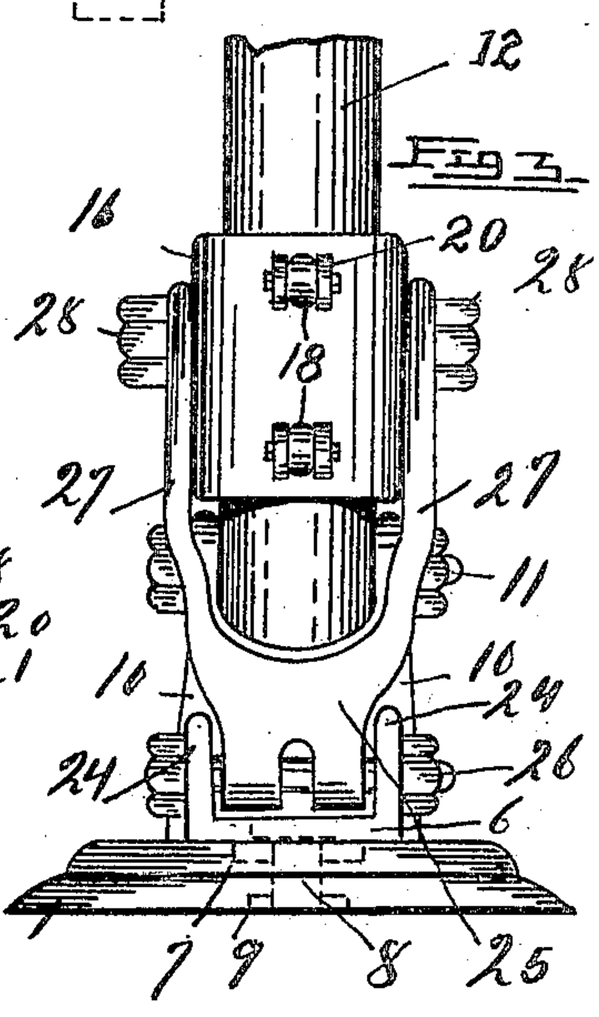


Fig 2.

Fig 4.

Fig 3.



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UNITED STATES PATENT OFFICE.

JOHN ZIELINSKI, OF DETROIT, MICHIGAN.

TROLLEY-STAND.

No. 822,709. Specification of Letters Patent. Patented June 5, 1906.

Application filed October 22, 1903. Serial No. 178,010.

To all whom it may concern:

Be it known that I, JOHN ZIELINSKI, a citizen of the United States, residing at Detroit, in the county of Wayne, State of Michigan, have invented certain new and useful Improvements in Trolley-Stands; and I do 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates to trolley-stands; and it consists in the construction and arrangement of parts hereinafter fully set forth, and pointed out particularly in the claims.

The object of the invention is to provide simple and efficient means for maintaining the trolley in yielding contact with the overhead conductor, at the same time providing for a lateral movement of the trolley when rounding a curve, the arrangement being such as to allow the trolley-pole to assume a horizontal position and to return the pole to its upright or normal position when released. The above object is attained by the structure illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a trolley-stand involving my invention. Fig. 2 is a central vertical section therethrough. Fig. 3 is an elevation of the trolley-stand. Fig. 4 is a horizontal section as on line 4 4 in Fig. 1. Fig. 5 is a plan view of the base-plate.

Referring to the characters of reference, 1 designates the base-plate, which is mounted upon the top of the car by means of bolts, which may be passed through the apertures 2 in the corners of said plate. In the center of the base-plate is a raised vertical portion 3, having at the geometrical center thereof an annular socket 4.

Seated upon the central portion of the base-plate is a rotary plate 6, having a concentrically-depending boss 7, adapted to fit within the socket 4, and in which it is secured by the bolt 8, which passes through said rotary plate and through the base-plate, being secured by the nut 9. Projecting from the rotary plate 6 are the upwardly-extending brackets 10, between which is pivoted upon the bolt 11 the lower end of the tube 12, forming the base portion of the trolley and carrying at its upper end a collar 13, which is secured in place by the set-screw 14, that passes through the collar and screws into a tapped aperture in the tube 12. Fitted into the upper end of the tube 12 is the trolley-pole proper, 15, which carries the trolley-wheel adapted to travel in contact with the overhead conductor, said trolley-wheel and conductor not being shown for the reason that they are commonly and well understood in the art. By means of the set-screw 14, which bears against the trolley-pole 15, said pole may be adjusted longitudinally within the tube 12.

Embracing the tube 12 at its lower end is a sleeve 16, having apertures 17 through the wall thereof, in which are rotatably seated antifriction-rollers 18, each roller being mounted upon a shaft or axle bolt 19, which passes through the projecting ears 20 on the sleeve and through said roller, each bolt receiving a nut 21 upon its projecting end, whereby it is secured in place. To accommodate the heads of the axle-bolts and the nuts thereof, the sleeve is recessed, as at 22, whereby bearing is afforded for the head and nut at right angles to the axes of the bolt. It will be observed that the antifriction-rollers, which are journaled in the sleeve 16, will bear upon the periphery of the tube 12, whereby the friction incident to the vertical movement of the sleeve upon said tube is largely overcome. Embracing the tube 12 and confined between the collar 13 and the sleeve 16 is a strong coiled spring 23.

Mounted upon the rotary plate 6 are the opposed ears 24, between which is pivoted the lower end of the bifurcated arm or fork 25 upon the bolt 26, which passes through said parts. The sides 27 of the fork extend upwardly on each side of the sleeve 16 and are secured thereto by the set-screws 28, which pass through said fork sides and are threaded in the wall of said sleeve, thereby accomplishing a pivotal union between the sleeve and fork.

It will now be apparent that by drawing the trolley-pole to a horizontal position, as shown by dotted lines in Fig. 1, the fork 25 will act as a lever to force the sleeve outwardly or upwardly upon the tube 12 and compress the spring 23, thereby placing such stress upon the spring as to cause it to exert a backward pressure upon the sleeve, calculated through the action of the sleeve upon the fork to return the pole to a vertical position. This tendency of the pole to spring

upwardly is utilized to hold the trolley-wheel in contact with the overhead conductor, thereby causing the wheel to follow the undulations of said conductor and to at all times maintain a contact therewith. Because of the employment of the antifriction-rollers in the sleeve 16 said sleeve is prevented from binding upon the tube 12 and the full force of the spring is exerted to maintain the trolley in contact with the overhead wire. By pivoting the rotary plate upon the bolt 8 provision is made for allowing the trolley-pole to move from side to side, so that any deflections in the trolley-wire may be readily followed, also allowing the trolley-pole to be swung so as to reverse its position, a matter of convenience when it is desired to change the direction of movement of the car without turning it around.

Having thus fully set forth my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a trolley-stand, the combination with the supporting-plate adapted to be mounted upon a car, of the base-tube pivoted to said plate, a sleeve mounted to slide upon said tube, roller-bearings interposed between the tube and sleeve a collar fixed to the tube, a coiled spring upon the tube between the sleeve and collar, and an arm pivoted to the plate and to said sleeve.

2. In a trolley-stand, the combination of the base-tube pivoted at its lower end, a collar fixed upon said tube, a sleeve at the lower end of said tube mounted to slide thereon, said sleeve carrying antifriction-rollers which bear upon the periphery of the tube, a spring interposed between the sleeve and collar upon said tube, and a pivoted arm standing at an incline to the axes of said tube and pivoted to said sleeve.

3. In a trolley-stand, the combination of a base-plate, a rotary plate mounted to rotate thereon, a base-tube pivotally mounted upon said rotary plate, a slidable sleeve upon said tube above the point of pivot, a collar upon the tube above said sleeve, a compressible spring surrounding the tube between the sleeve and collar, a bifurcated arm pivoted to the rotary plate at its lower end and to said sleeve at its upper end, the pivot-point of the lower end of said arm being eccentric to and below the plane of the pivotal point of said tube.

4. In a trolley-stand, the combination of a rotary plate adapted to be mounted upon a car, the base-tube of the trolley-pole pivoted to said plate, a sliding sleeve upon said tube, antifriction-rollers between the tube and sleeve a fixed collar upon the tube above said sleeve, a spring upon the tube between the sleeve and collar, a bifurcated arm pivoted to opposite sides of the sleeve at its upper ends the lower end of said arm being pivoted out of alinement with the axes of the tube and below the plane of the pivotal point thereof.

In testimony whereof I sign this specification in the presence of two witnesses.

JOHN ZIELINSKI.

Witnesses:

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