

No. 702,938.

Patented June 24, 1902.

F. W. GARRETT.
TROLLEY FOR ELECTRIC RAILWAYS.

(Application filed Sept. 10, 1901.)

(No Model.)

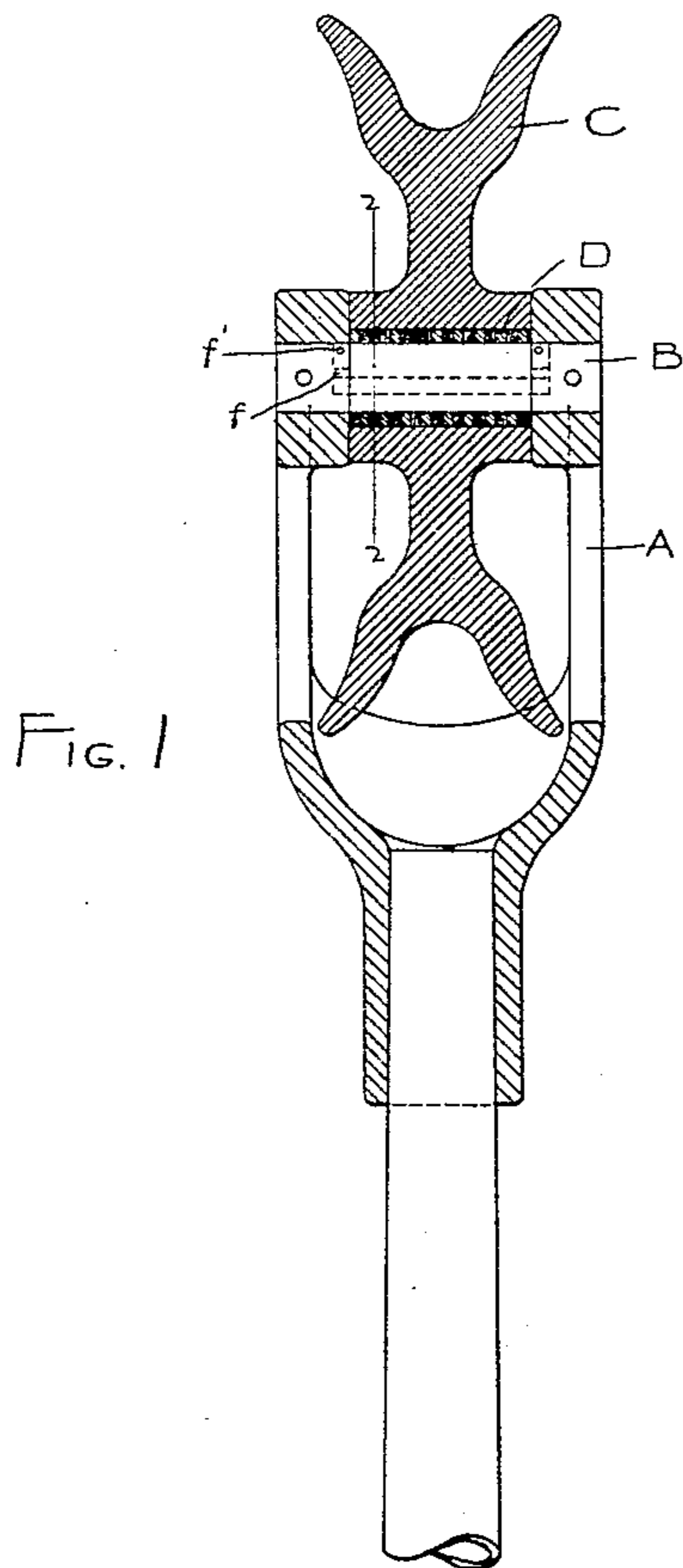


FIG. 1

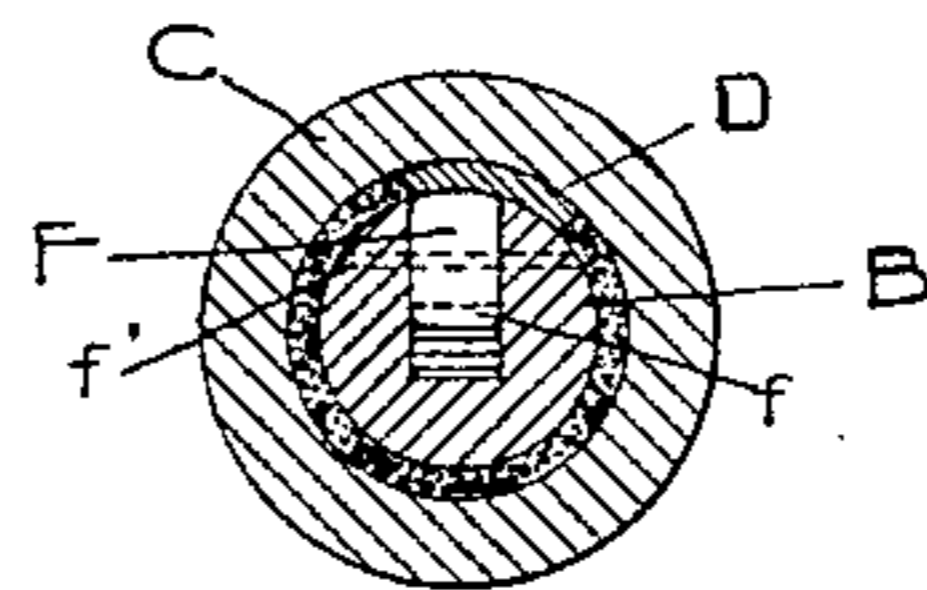


FIG. 2

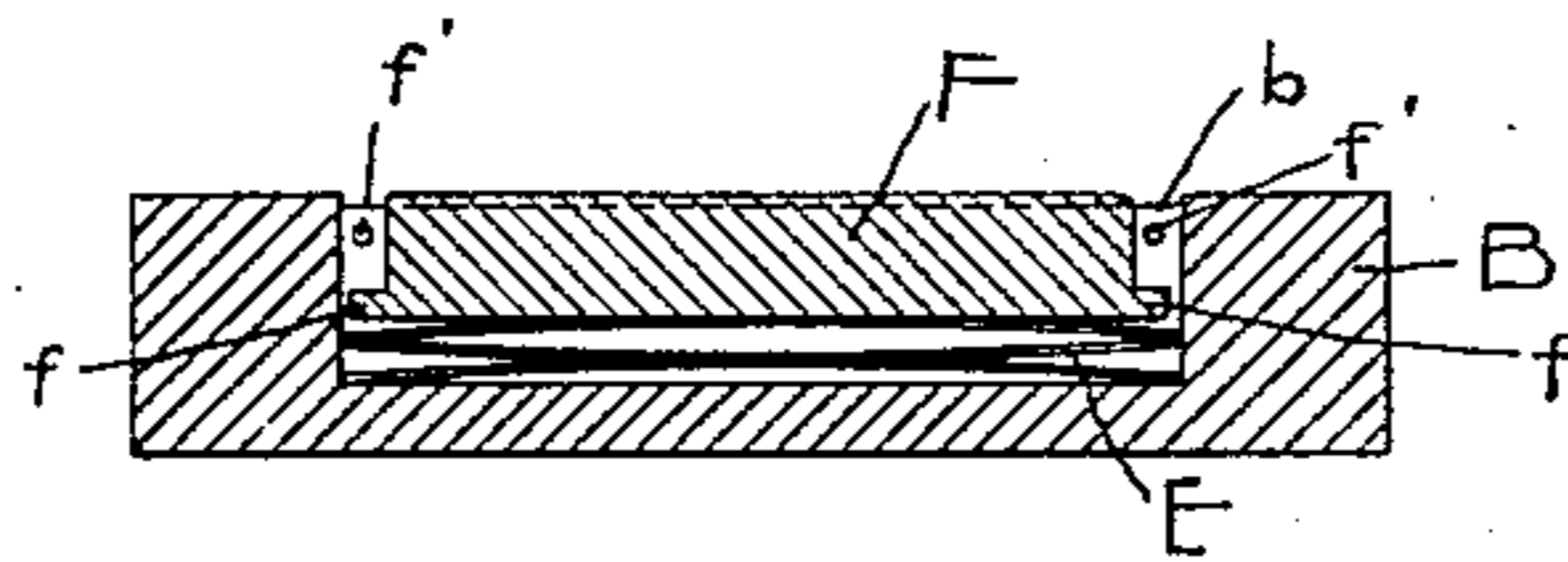


FIG. 3

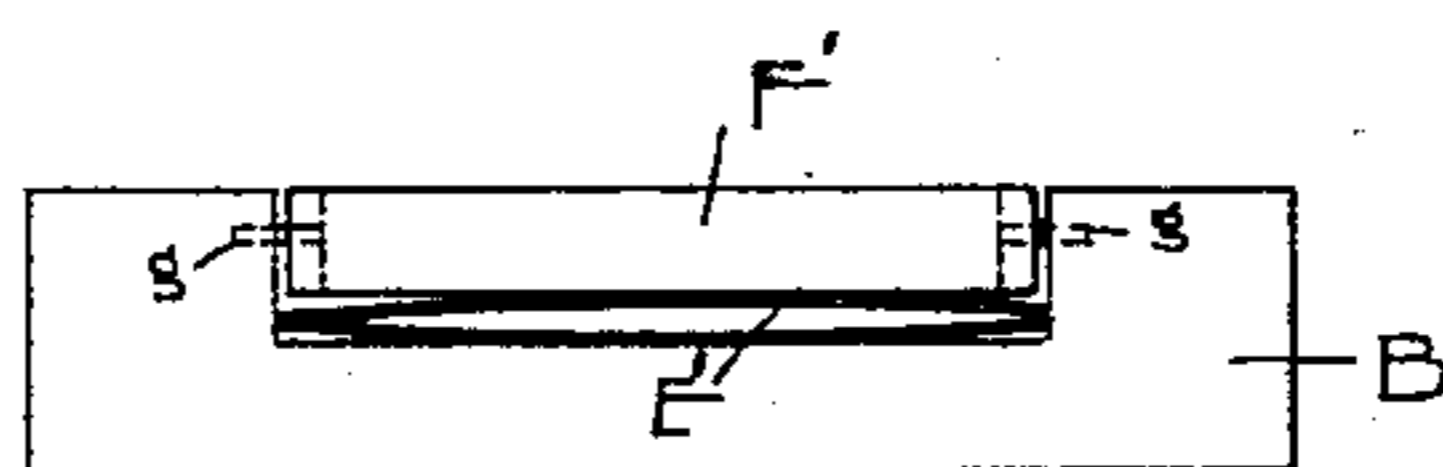


FIG. 4

WITNESSES:
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UNITED STATES PATENT OFFICE.

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TROLLEY FOR ELECTRIC RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 702,938, dated June 24, 1902.

Application filed September 10, 1901. Serial No. 74,967. (No model.)

To all whom it may concern:

Be it known that I, FRANK W. GARRETT, of Johnstown, in the county of Cambria and State of Pennsylvania, have invented a new and useful Improvement in Trolleys for Electric Railways, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form a part of this specification.

My invention has relation to overhead trolleys for electric railways, and is designed to provide means for taking up wear between the trolley-wheel and its shaft or spindle, whereby all looseness and play between the said parts are obviated and efficient electrical contact is maintained.

With this object in view the invention consists in the combination, with a trolley-wheel, of a fixed shaft or spindle upon which the wheel is revolubly mounted and a longitudinally-extending radially-acting member or section seated in a recess or cut-away portion of the shaft or spindle and spring-pressed into engagement with the interior surface of the wheel-bushing. The spring or springs which act upon said members or sections are of sufficient strength to maintain their engagement with the wheel-bushing, but are not strong enough to unduly increase the friction of the parts.

The invention is applicable to trolleys of the existing type by a simple change in the shaft or spindle without change of any kind in the wheel or harp.

My invention also consists in the novel construction and combination of parts, all as hereinafter described, and pointed out in the appended claims, reference being had to the accompanying drawings, in which—

Figure 1 is a vertical section of a trolley-wheel embodying my invention, the section being taken longitudinally of the hub. Fig. 2 is a section on the line 2 2 of Fig. 1. Fig. 3 is a detail sectional view, and Fig. 4 is a detail view illustrating a modification.

In the figures the letter A designates the trolley frame or harp, B the fixed shaft or spindle, and C the grooved trolley-wheel revolubly mounted on said shaft or spindle. The harp and wheel are of the usual type of construction, the latter being provided with a com-

pound lubricating-bushing D, composed of metal and graphite or similar material.

The shaft or spindle B has cut therein (in the preferred form of this invention illustrated in Figs. 1, 2, and 3) a deep longitudinal groove *b*, and seated in this groove upon a spring or springs E is a metallic member F, which is pressed by said springs into engagement with the interior surface of the bushing D. This member F is preferably of the same length as the bushing, and its several edges and corners are rounded to prevent it from catching and binding in its seat. All possibility of its becoming unseated may be prevented by shouldering its ends, as indicated at *f*, and driving pins *f'* across the slot *b* above said ends.

It will be readily seen that notwithstanding a considerable amount of wear the spring E will maintain the engagement of the member F with the bushing and will thus prevent play between the parts and the consequent arcing. I am therefore able to dispense with the employment of conducting devices connecting the wheel and harp for the purpose of conveying the current to the latter.

In Fig. 4 I have shown a modification wherein instead of the member F seated in a longitudinal groove in the shaft or spindle a member or section F' is seated upon a spring E' in a cut-away portion of the shaft or spindle and secured against displacement by means of pins *g*.

While I have shown the springs E and E' as consisting of superimposed spring-strips, it is obvious that other forms of springs may be employed. It is also obvious that the movable member or section may be constructed and seated in various ways without departing from my invention. Hence I do not wish to be limited to the particular construction and arrangement shown.

I am aware that heretofore it has been proposed to provide a trolley-wheel shaft or spindle with a number of plugs of lubricating material held by springs in contact with the inner surface of the wheel-hub for the purpose of lubrication. This, however, is not the purpose of my invention, as will be apparent from the foregoing specification.

Having thus described my invention, what

I claim as new, and desire to secure by Letters Patent, is—

1. The combination with a trolley-wheel, of a fixed shaft or spindle on which the wheel is revolubly mounted, and a longitudinally-extending metallic member seated in said shaft or spindle and spring-pressed into engagement with the inner bearing-surface of the wheel.
- 10 2. The combination with a trolley-wheel, and a fixed shaft or spindle upon which the wheel is revolubly mounted, of means for preventing looseness and play between the wheel and the shaft or spindle, consisting of
- 15 a longitudinally-extending piece seated in a recess of the shaft or spindle and spring-pressed into engagement with the inner bearing-surface of the wheel, and pins or the like

engaging said piece to prevent displacement thereof.

3. The combination with a trolley-wheel, of a fixed shaft or spindle upon which the wheel is revolubly mounted and which is provided with a longitudinally-extending groove or recess, a metallic piece movably seated in said groove or recess, and a spring or springs acting against said piece to force it outward into engagement with the inner bearing-surface of the wheel.

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

FRANK W. GARRETT.

Witnesses:

CORA G. COX,
H. W. SMITH.