B. F. FOSS.

TROLLEY HEAD.

APPLICATION FILED APR. 7, 1909.

940,309.

Patented Nov. 16, 1909.

Fig. 1.

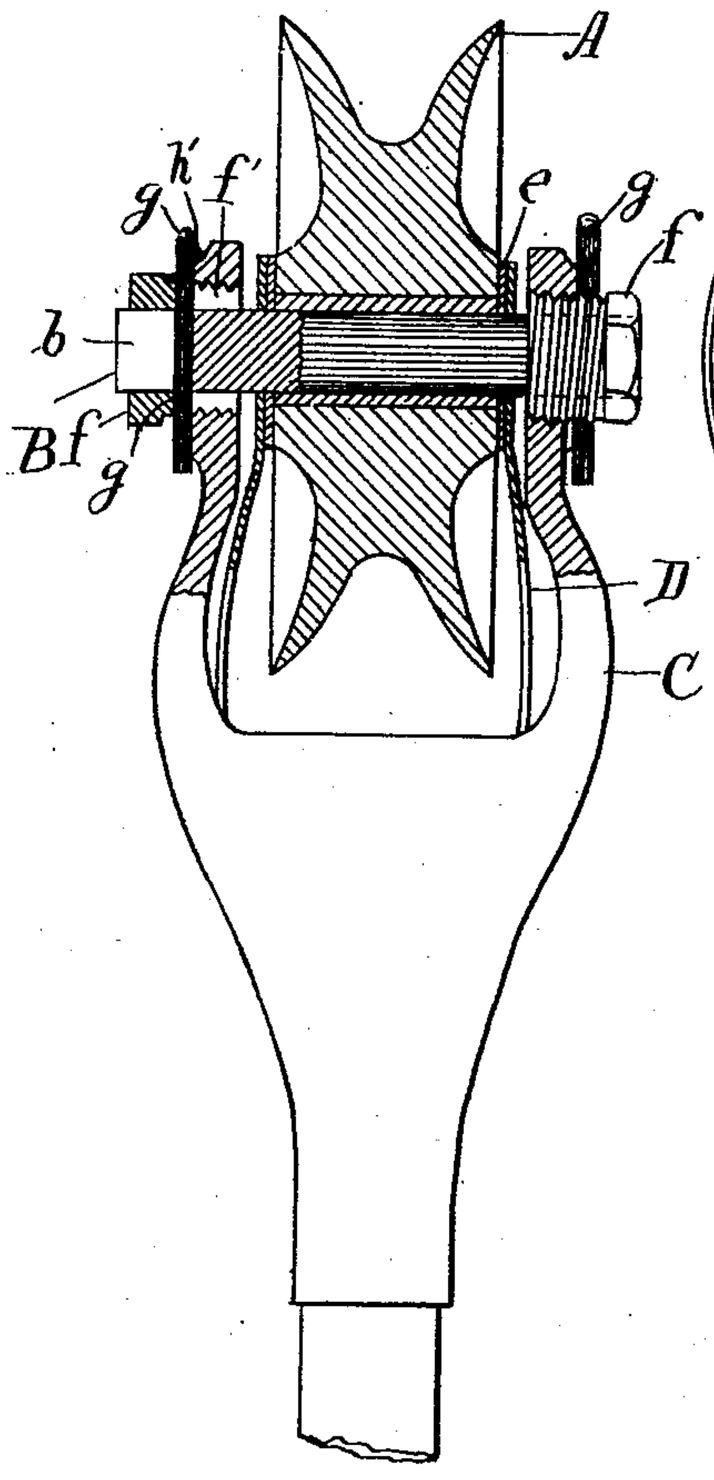


Fig. 2.

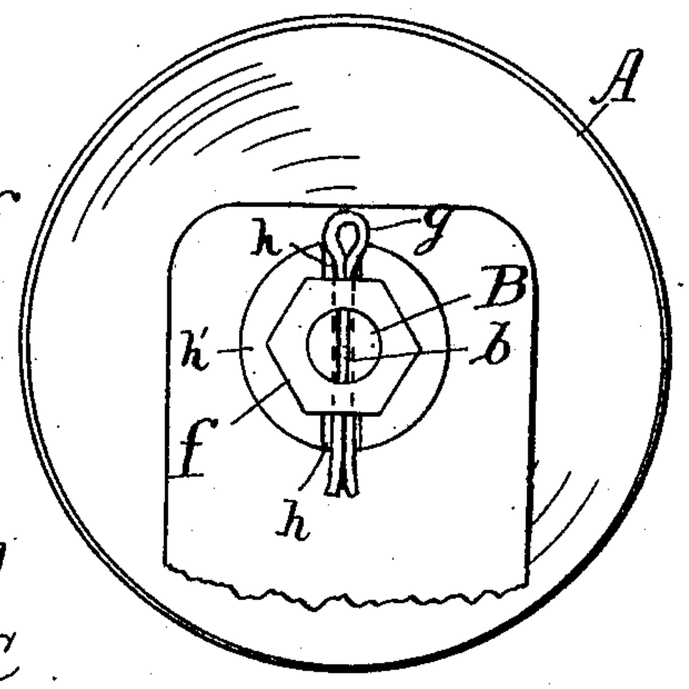


Fig. 3.

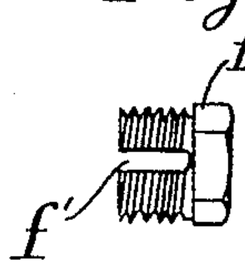
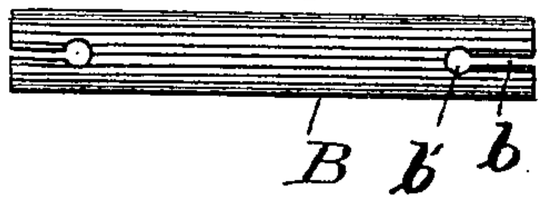


Fig. 4.



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UNITED STATES PATENT OFFICE.

BENJAMIN F. FOSS, OF FAIRFIELD, MAINE.

TROLLEY-HEAD.

940,309. Specification of Letters Patent. **Patented Nov. 16, 1909.**

Application filed April 7, 1909. Serial No. 488,510.

To all whom it may concern:

Be it known that I, BENJAMIN F. FOSS, a citizen of the United States of America, and a resident of Fairfield, in the county of Somerset, State of Maine, have invented certain new and useful Improvements in Trolley-Heads, of which the following is a specification.

My invention relates to the construction of trolley heads such as are now commonly used on electric street cars with overhead wires. As these trolley heads have been heretofore generally constructed the trolley wheel was pivoted on a pivoting pin which extended through from one side of the fork to the other and through the axis of the wheel, the openings through the sides of the fork being just the size of the pin which thus had its bearing in the metal of the fork. While the greater portion of the wear came on the bushing in the wheel there was a considerable wear of the opening in the fork where the pin passed through caused by the pin becoming loose and moving in its socket. Having once begun to wear, the hole enlarged rapidly becoming elongated vertically and after a time when it became so large as to allow the wheel to get out of position it was necessary to disconnect the fork from the end of the trolley pole and throw it away.

The object of my invention is to so construct the trolley head that the two ends of the pin will be held in a bearing of considerable area so that it has little chance to wear or increase in size and with provision for substituting a new bearing when this is necessary without discarding the entire fork.

The invention is carried out by means of the construction hereinafter shown and claimed.

I illustrate my invention by means of the accompanying drawing in which—

Figure 1 is a central vertical section taken through a trolley wheel constructed according to my invention, Fig. 2 is a side elevation, Fig. 3 is a detail of the bushing, and Fig. 4 is a detail of the pin.

In the drawing, A represents the trolley wheel, C the fork, D the spring, *e* the washer, and B the pivoting pin.

Instead of forming a bearing for the pin in the metal of the fork, I provide a screw threaded bushing *f* at each end, one bushing passing through each side of the fork and supporting one end of the pin. The outer end of each bushing is formed into a nut adapted to be engaged by a wrench and a vertical opening is formed in the bushing through which passes a cotter pin *g* which also passes through a corresponding opening in the pin B. As here shown, the opening in the bushing *f* is in the form of a longitudinal slot *f'* extending from the inner end outward so that the cotter pin can pass through freely whenever the slot registers with the hole *b'* in the pin.

Means are provided for preventing the pin B from turning and this is accomplished by providing shoulders on the fork against which the cotter pin strikes thereby preventing the pivoting pin from turning. As here shown a boss *h'* is formed around the opening which receives the bushing *f* and a vertical slot or recess *h* is formed in this boss to confine the cotter pin in place, the sides of the slot forming shoulders against which the cotter pin impinges.

Means are provided by which the ends of the pin may be slightly expanded to insure a tight fit and avoid any danger of rattling. For this purpose I cut a slot *b* in each end of the pin extending it in a considerable distance so that a chisel may be forced in and the end of the pin expanded. As here shown, the slot *b* is in the same plane as the hole *b'* and extends in from the end of the pin to the hole. If desired it may extend beyond the hole giving a greater distance for expansion.

The bushing *f* while it may be made of any suitable material is preferably made of steel.

In putting the trolley head together, the pin is first thrust through the openings in the fork and the center of the wheel, the bushings are slipped over the ends of the pin and screwed into the screw threaded openings in the fork and the cotter pins being put in place the parts are all held firmly together.

A trolley head constructed according to this invention will wear a long time without injury to the fork all the wear coming on the wheel bushing as the ends of the pin are firmly held and are not liable to become loose and cause wear. In case the bushings wear out they can be easily replaced without discarding the fork, the expense of replacing which is thereby saved.

I claim:—

The herein described trolley head comprising a trolley wheel and fork, a screw

threaded bushing in each side of the fork having a longitudinal slot therein, a pin having a transverse hole passing through it near each end with a longitudinal slot extending from said hole to the end of the pin, said pin extending through the axis of the trolley wheel and through each of said bushings and a cotter pin passing through the holes in the pin and the slots in the bushings, shoulders being formed on the fork to hold the cotter pin in place.

In witness whereof I have hereunto set my hand this 2nd day of April, 1909.

BENJAMIN F. FOSS.

Witnesses:
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