

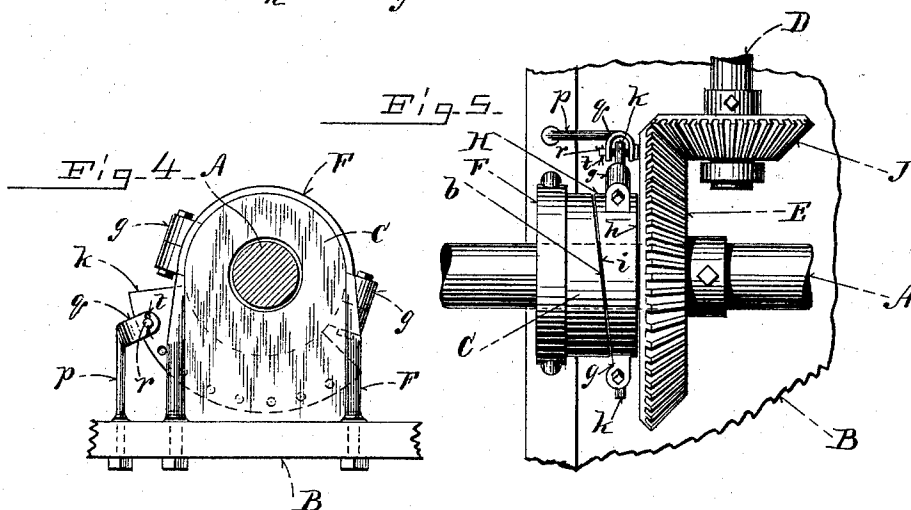
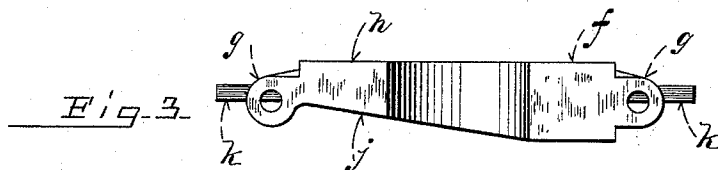
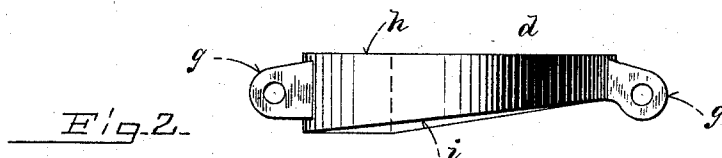
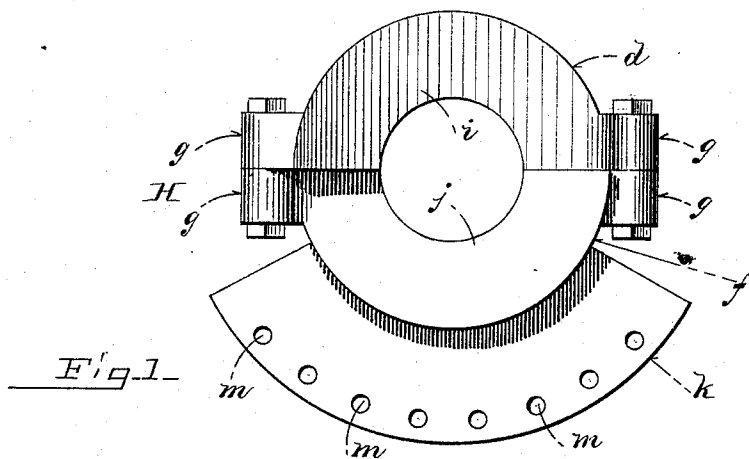
(No Model.)

R. P. OSGOOD.

THRUST COLLAR FOR AXLES OF ELECTRICALLY PROPELLED VEHICLES.

No. 477,695.

Patented June 28, 1892.



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THRUST-COLLAR FOR AXLES OF ELECTRICALLY-PROPELLED VEHICLES.

SPECIFICATION forming part of Letters Patent No. 477,695, dated June 28, 1892.

Application filed March 14, 1892. Serial No. 424,771. (No model.)

To all whom it may concern:

Be it known that I, RICHARD P. OSGOOD, of Methuen, in the county of Essex, State of Massachusetts, have invented certain new and useful Improvements in Thrust-Collars for Axles of Electrically-Propelled Vehicles, of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science to which said invention appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation of my improved thrust-collar; Fig. 2, a top plan view of the power member; Fig. 3, a like view of the lower member; Fig. 4, an end elevation showing the collar in position on the car-axle, the axle being in section; and Fig. 5, a top plan view of the same.

Like letters of reference indicate corresponding parts in the different figures of the drawings.

My invention relates especially to a collar for holding the axle-gear and motor-shaft pinion of electrically-propelled street-cars in mesh; and it consists in certain novel features hereinafter fully set forth and claimed, the object being to produce a simpler, cheaper, and more effective device of this character than is now in ordinary use.

The nature and operation of the improvement will be readily understood by all conversant with such matters from the following explanation:

In the drawings, A represents the car-axle; B, the motor platform or frame; C, the axle-box supporting said frame; D, the intermediate shaft (represented as broken off) of the motor, and E the drive-gear on the axle.

As the parts are all of the ordinary construction and arrangement, it is not deemed essential for the purposes of describing my present invention to fully illustrate the same.

The frame or motor-stand B is suspended from the axle by means of the box C, around which a U-bolt F passes. The inner face of the box is beveled or arranged at an angle to the shaft, as shown at *b* in Fig. 5, forming a wedge-face, as hereinafter described.

The thrust-collar H comprises two members *d f*. Each of said members is provided with

ears or lugs *g*, whereby they may be bolted together, as shown, and have their outer faces *h* flat in the same plane when thus connected. The opposite face *i* of the member *d* is beveled laterally in a vertical plane at an angle to the plane of the outer face *h*, and the corresponding face *j* of the member *f* is beveled laterally in the opposite direction, as best shown in Figs. 2 and 3, respectively. A segmental flange *k* projects radially from the lower edge of the member *f* and is provided near its periphery with a series of pin-holes *m*. The face *b* of the box C is beveled to register with the faces *i j* of the collar members.

In use the collar H is bolted around the axle A, with its wedge-faces against the beveled faces of the box C and its opposite faces *h* in engagement with the smooth face of the beveled gear E. Said gear is meshed with the drive-pinion J on the shaft D. A standard or arm *p* is rigidly secured in a side bar of the frame B, its upper end being forked at *q* and astriding the flange *k*. A pin *r* passes through said arms and through one of the pin-openings *m* in said flange, and a split pin *t* locks it in position therein. The movements of the car in this construction of motor so sways or moves the motor-stand on the axle that the gears E J work either entirely out of mesh or so that the edges of their teeth alone contact, which rapidly wears out the drive-pinion and frequently breaks the teeth from the drive-gear.

My improved thrust-collar is designed to overcome this. When the gears thus work apart, the collar H may be rotated from left to right on the axle A, as viewed in Fig. 4, acting as a wedge to force the box C, and with it the motor-stand, to the left, as viewed in Fig. 5, away from the axle-gears. This drives the pinion J on said stand tightly into mesh with the gear. The collar may be secured in this assumed position by means of the pin passing through its flange and through the rigid standard on the motor-stand. The play of the parts can be readily taken up, as desired, in this manner.

Having thus explained my invention, what I claim is—

1. The combination, with the axle and motor-stand supported thereon, of a drive-gear on said axle, a thumb-collar loose on said axle

between the stand-support and gear, said collar having a wedge-face for engaging the gear or support, whereby the relative position of the stand to said gear may be regulated as the collar is rotated, and mechanism for securing said collar to the stand, substantially as described.

2. The collar H, comprising the members *d f*, having the wedge-faces *i j*, and mechanism for securing said members on a car-axle, the segmental flange *k* on the member *f*, and mechanism for securing said flange to a motor-stand supported by said axle, substantially as described.

3. The thrust-collar H, comprising the members *d f*, having the wedge-faces *i j* and lugs *g*, and the flange *k* on the member *f*, provided with the pin-holes *m*, substantially as and for the purpose set forth.

4. The combination of the axle, motor-stand, and supporting-box having a beveled inner face, as *b*, with the gear on said axle, the thrust-collar H, loose on said axle between said box and gear, and mechanism for securing said collar to the motor-stand, substantially as described.

5. The combination of the axle, motor-stand, and supporting-box C for said stand, provided with the beveled face *b*, the gear on said axle, the thrust-collar H, loose on said axle between said gear and box and provided with a flange *k*, and mechanism for securing said flange to a projection on the motor-stand, substantially as described.

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