(No Model.)

# E. PECKHAM.

## ELECTRIC CAR AXLE.

No. 420,545. Patented Feb. 4, 1890.

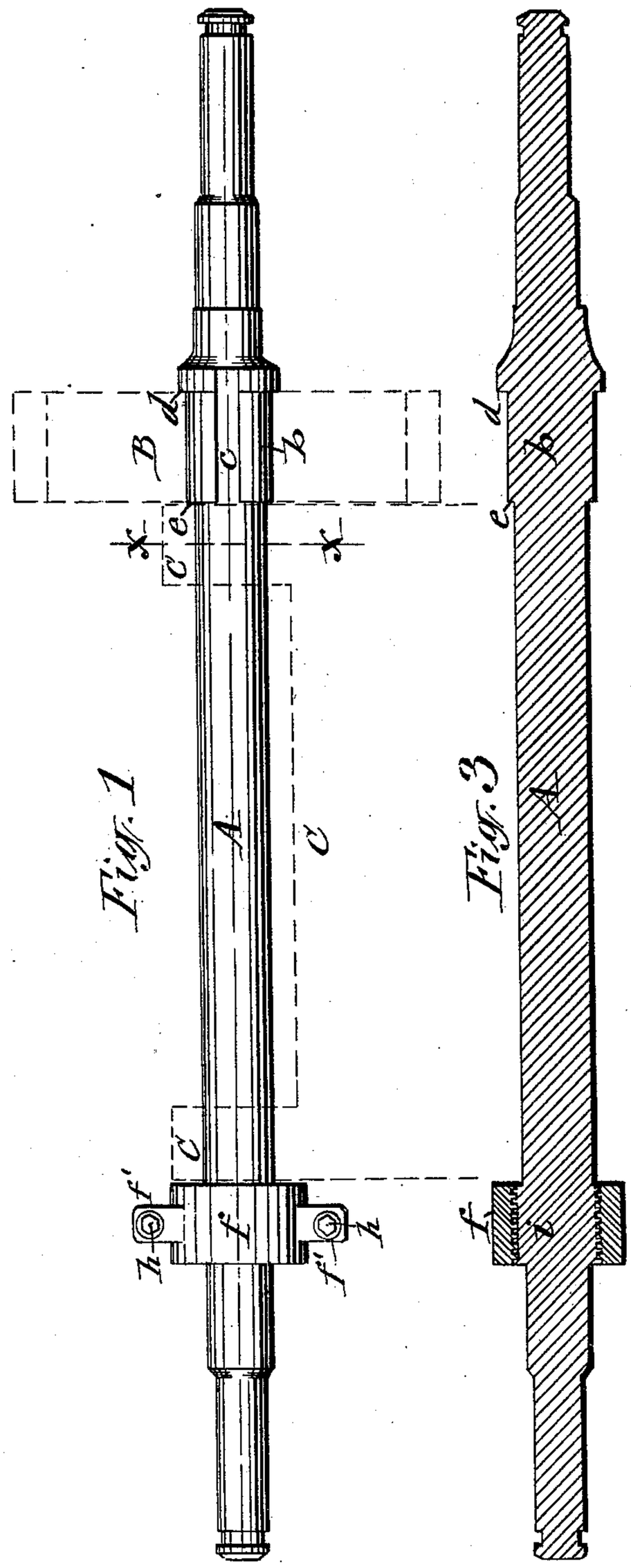


Fig. 1.




Fig. 3.

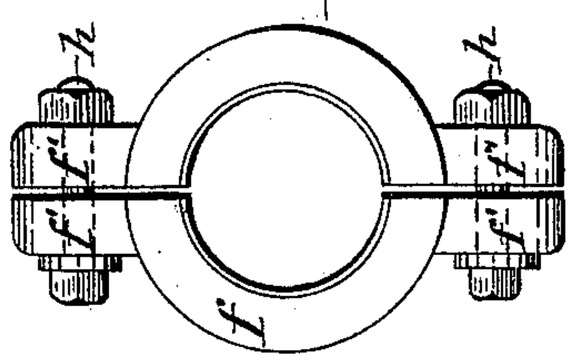


Fig. 5.

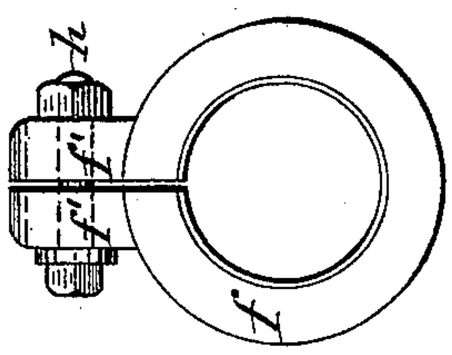


Fig. 4.

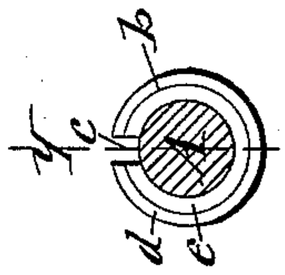


Fig. 2.

WITNESSES:

A. F. Walz

J. J. Saass.

INVENTOR

Edgar Peckham

BY

Dull, Lass & Dull

his ATTORNEYS

# UNITED STATES PATENT OFFICE.

EDGAR PECKHAM, OF NEW YORK, N. Y.

## ELECTRIC-CAR AXLE.

SPECIFICATION forming part of Letters Patent No. 420,545, dated February 4, 1890.

Application filed June 7, 1889. Serial No. 313,441. (No model.)

*To all whom it may concern:*

Be it known that I, EDGAR PECKHAM, of New York, in the county of New York, in the State of New York, have invented new and useful Improvements in Electric-Car Axles, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention has reference to the truck-axles of electrically-propelled cars; and the object of the invention is to impart greater stability and durability to said axles, and to provide more effective and reliable means for sustaining the driving gear-wheel and motor-frame in their respective positions on the axle; and to that end the invention consists in the novel construction of the axle, as hereinafter fully described, and specifically set forth in the claims.

In the annexed drawings, Figure 1 is a plan view of an electric-motor-car axle embodying my improvement. Fig. 2 is a transverse section on line *x x*, Fig. 1. Fig. 3 is a longitudinal section on line *y y*, Fig. 2, and Figs. 4 and 5 are detached end views of the expansible and contractible collar.

A represents the axle, on which are mounted the usual gear-wheel B and one end of the motor-frame C, as indicated by dotted lines in Fig. 1 of the drawings. In order to obviate weakening the axle by cutting therein the requisite seat *c* for the key by which the gear-wheel B is fastened to the axle, and to also impart additional strength to said portion of the axle, I provide the same with a wheel-seat *b*, of a greater diameter than the main portion of the axle, and preferably form it integral therewith, and in this enlarged wheel-seat I cut the key-seat *c*. To positively prevent the wheel from shifting longitudinally on its aforesaid seat I form the axle with a collar *d* on the outer end of the wheel-seat *b*, and of a greater diameter than the latter, so as to present an abutment to the exterior of the wheel-hub.

The inner end of the wheel-seat *b*, I terminate abruptly to form an abutment *e* for the adjacent side of the motor-frame C. Against the opposite side of said frame abuts a collar *f*, which is attached to the axle adjustably longitudinally, so as to allow it to be set up closely to the side of the frame C and take up the wear between the sides of the motor-frame and its aforesaid abutments. The said adjustable collar is made expansible and contractible, either by cutting through it at one point and providing it thereat with perforated ears *f' f'*, through which the clamping-bolt *h* passes, as shown in Fig. 4 of the drawings, or said collar may be divided transversely into two parts provided with perforated ears having clamping-bolts passing through them, as represented in Fig. 5 of the drawings. In either case the said collar is screw-threaded internally and is clamped onto a correspondingly screw-threaded portion *i* of the axle, and this portion I prefer to form of a larger circumference than the main portion of the axle, for the purpose of facilitating the operation of cutting the screw-threads therein and also for strengthening the axle. The collar *f* is readily adjusted in its position by loosening the clamping-bolt *h* and then turning the collar on its screw-threaded seat on the axle until it is brought to the desired position, in which it is retained in tightening the clamping-bolt *h*.

What I claim as my invention is—

1. An electric-motor-car axle formed with a gear-wheel seat of a greater diameter than the main portion of the axle, and with a key-seat in said wheel-seat, and an abutment on the outer end of the wheel-seat, as and for the purpose set forth.

2. An electric-motor-car axle formed with a gear-wheel seat of a greater diameter than the main portion of the axle, and with abutments at opposite ends of the said seat, respectively, for the hub of the gear-wheel and for the motor-frame, substantially as described and shown.

3. An electric-motor-car axle provided with the screw-threaded portion *i* adjacent to the motor-frame bearing on said axle, and an expansible and contractible collar screw-threaded internally and clamped adjustably onto the aforesaid screw-threaded axle portion, substantially as described and shown, for the purpose set forth.

4. An electric-motor-car axle formed with the screw-threaded portion *i* adjacent to the motor-frame bearing and of a greater diameter than the main portion of the axle, and an expansible and contractible collar screw-

threaded internally and clamped adjustably onto the aforesaid screw-threaded axle portion, substantially as set forth.

5. An electric-motor-car axle formed with a rigid abutment at one side of the motor-frame bearing, and with a screw-threaded portion at the opposite side of said bearing, and an expansible and contractible collar clamped adjustably on said screw-threaded axle portion, substantially as described and shown.

In testimony whereof I have hereunto signed my name this 1st day of June, 1889.

EDGAR PECKHAM. [L. S.]

Witnesses:
C. H. DUELL,
H. M. SEAMANS.