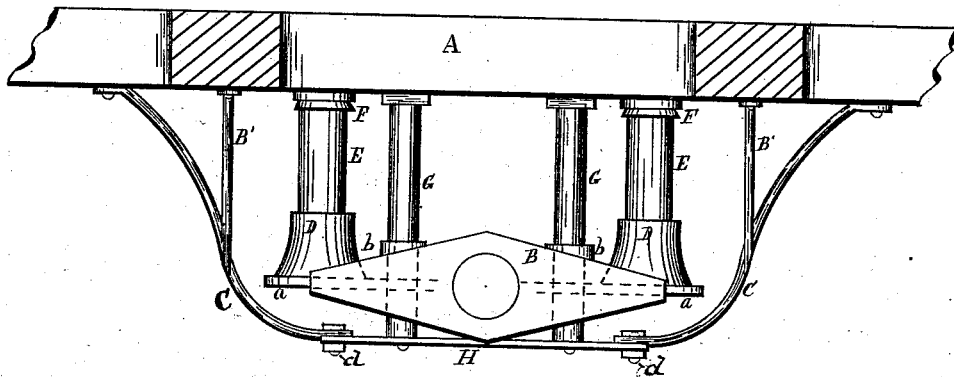


W. W. WORSWICK.  
Car-Truck.

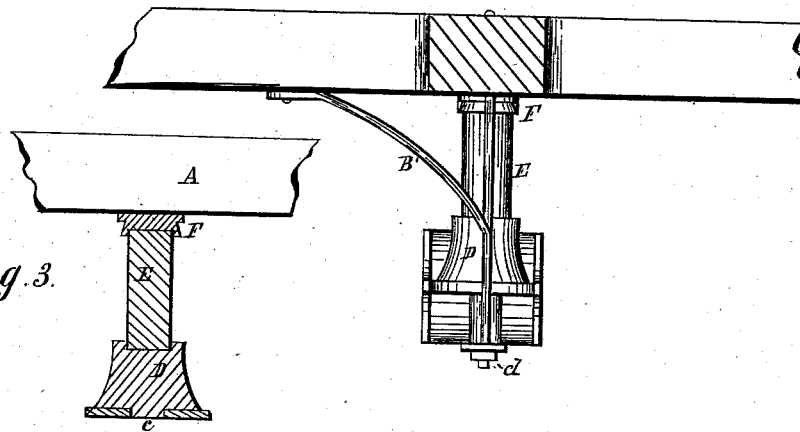
No. 219,664.

Patented Sept. 16, 1879.

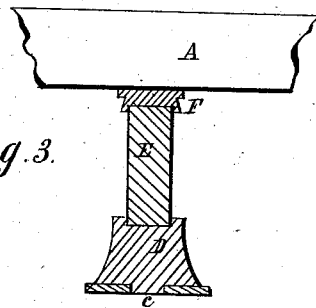
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



WITNESSES  
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# UNITED STATES PATENT OFFICE.

WILLIAM W. WORSWICK, OF CLEVELAND, OHIO.

## IMPROVEMENT IN CAR-TRUCKS.

Specification forming part of Letters Patent No. **219,664**, dated September 16, 1879; application filed May 29, 1879.

*To all whom it may concern:*

Be it known that I, WILLIAM W. WORSWICK, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and Improved Street-Railway Car-Truck; and I do hereby declare that the following is a full, clear, and complete description of the same.

This invention relates to an improvement in the housings of street-car axle-boxes, producing as a result a more simple and less expensive attachment of the box to the car or truck than the devices ordinarily employed for that purpose.

A full detailed description of the invention is as follows, reference being had to the accompanying drawings for illustrating the same, and making a part of this specification, in which—

Figure 1 is a side view of the axle-box and housing. Fig. 2 is an end view of the same. Fig. 3 is a detached section.

Like letters of reference refer to like parts in the several views.

As shown in the drawings, A represents a sill of a car. B is the axle-box, attached thereto by hangers C C, which also serve as braces, being re-enforced by the transverse braces B'.

On each of the extensions *a a* of the box is placed a step, D, in the hollow of the top of which are set, respectively, the lower ends of the springs E. The upper ends are secured in the hollow of the caps F, attached to the under side of the sill, substantially as shown in Fig. 3.

G G are a pair of standards passing loosely through the box in sleeves *b*. Said standards are firmly secured to the sill and to the bar H of the hanger, so that they are rigid in their relation thereto, but move freely through the box as the springs are compressed and extended by the weight and motion of the car. The said standards prevent the box from becoming displaced in its relation to the sill to which they are attached, but at the same time permit of a free and ready vertical movement of the standards through the box.

The weight of the car is borne upon the springs, which, in consequence of their length, yield easily and readily to the variable movements of the car while in motion, rendering the same easy to ride in, and without severe strain upon the wheels and their housings.

The steps are retained in place upon the ends or extension of the box by means of a

boss, *c*, projecting from the base of the steps into an opening in the extension, as seen in Fig. 3.

I am aware that springs have been used in the housings of car-axle boxes, and that they have been held in place by hollow steps, caps, and posts. Therefore I do not claim such, broadly.

That which distinguishes my invention from others is the construction and arrangement herein shown.

The springs E, with the caps and steps may be placed in the position of the posts G, and the posts G in the position of the said springs, without departing from the principle of construction. The springs E and posts G being connected at the upper ends to the under side of the sill A, so as to cover over the springs and posts, the sill at these points is protected from wet or moisture gathering between the sill and the posts and springs, which prevents decay of the said sill.

The plate or bar H is movable, and attached to the braces C C by bolts and nuts at *d*.

By means of this arrangement the axle and wheel can be easily and readily connected and disconnected from the housing and car, by first raising the car so as not to rest upon the journal-box or axle, and removing the bolts and nuts *d* to withdraw the bar H; then the box, posts, and springs may be taken out, and then the wheels.

This arrangement avoids much of the time and labor required to remove the car-wheel, axle, and housing as usually constructed.

What I claim as my invention, and desire to secure by Letters Patent, is—

As an improvement in housings for street-car axle-boxes, the springs E, consisting of one piece of material without perforations or holes therein for the passage of through-bolts, said springs being arranged on either side of the said axle-box, and secured to the extension-plates thereof by steps D, and to the sill of the car by caps F and standards G, passing loosely through the said extension-plates in sleeves *b*, and rigidly attached to the bar H and to the sill of the car, all combined and arranged substantially as and for the purpose set forth.

WILLIAM W. WORSWICK.

Witnesses:

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