H. S. ZINK.
Car-Truck.

No. 215,499. Patented May 20, 1879.

FIG. 1.

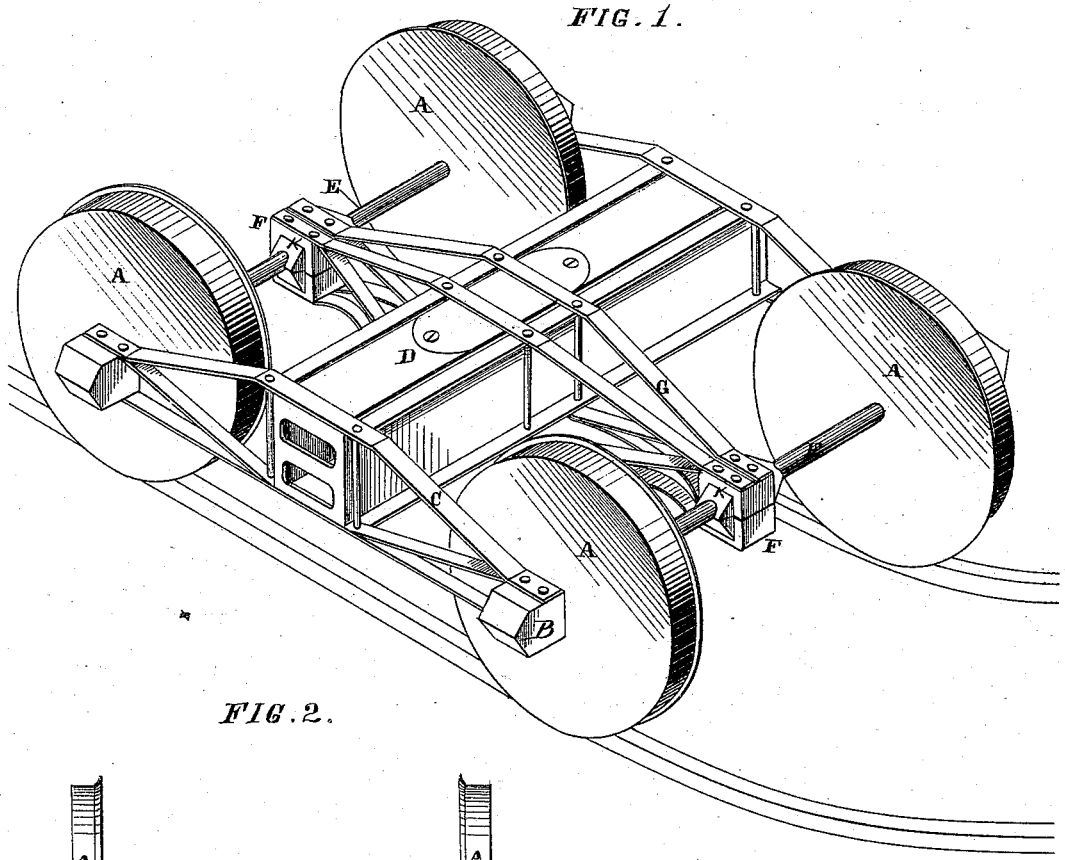


FIG. 2.

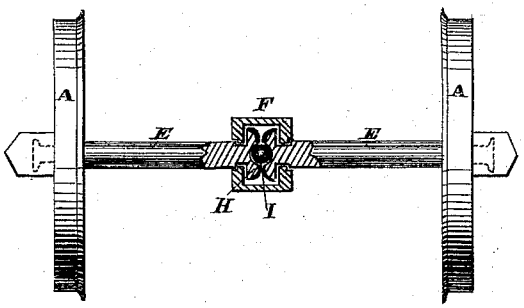


FIG. 3

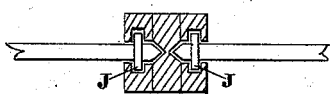
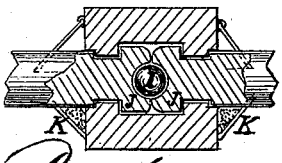
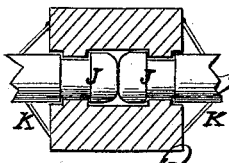


FIG. 4.





Witnesses
Geo. H. Strong.
Frank A. Brooks

Inventor
Harry S. Zink
By Dewey & Co Attys

UNITED STATES PATENT OFFICE.

HARRY S. ZINK, OF MARTINEZ, CALIFORNIA, ASSIGNOR OF ONE-HALF HIS RIGHT TO EARL F. HOUGH, OF SAME PLACE.

IMPROVEMENT IN CAR-TRUCKS.

Specification forming part of Letters Patent No. **215,499**, dated May 20, 1879; application filed January 7, 1879.

To all whom it may concern:

Be it known that I, HARRY S. ZINK, of Martinez, county of Contra Costa, and State of California, have invented an Improvement in Railway-Car Axles and Bearings; and I hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to certain improvements in that class of railway-car trucks in which each pair of wheels is secured to a centrally-divided axle, these ends being supported in a central box.

My invention consists in the combination, in a truck of two or more centrally-divided axles, the interior or meeting ends of which turn in journal-boxes which are connected with the central beam or bolster and with each other by means of a truss-frame, while the exterior journal-boxes are also connected by similar truss-frames, thus forming a compound or double truck in one.

Figure 1 is a view of my improved truck. Fig. 2 is a transverse section, showing the divided axles and the journal-boxes. Fig. 3 is a modification of the meeting ends of these axles in the central box. Fig. 4 is an enlarged view of the box.

A A are the wheels upon which a car-truck is supported. The axles of these wheels are solidly fastened into the wheels in the usual manner, and their outer ends run in the journal-boxes B. A truss or frame, C, properly made and strengthened, extends from these boxes B to the central frame or bolster, D, which extends transversely across, and upon which the weight of the car or engine is supported. This is the usual form of car-trucks, somewhat modified in the case of six or eight wheeled trucks.

My invention consists in dividing the axles E at or about the center, as shown, and supporting these divided ends by supplemental journal-boxes F, which are centrally placed, and are provided with the trusses or beams G, similar to those upon the outside. These trusses connect with the central transverse bolster, as shown, and support its center in the same manner that the outside trusses support the ends.

The central boxes, F, are made in two parts, and the independent axles E meet within these double boxes, as shown. The friction and thrust of the ends of these axles may be resisted in various ways. One method is shown at H, where the ends are hollowed out, and a ball, I, is fitted between them, so that when the truck is moving on a curve, and the wheels upon one side are moving faster than those upon the opposite side, the meeting ends of the axles will move upon each other without too much friction.

Fig. 3 shows a modification of this device, in which the ends of the axles are beveled off and are received in corresponding sockets. The collars J receive the thrust and hold the axles in place, preventing end play.

This construction may be applied to any of the trucks now in use with but slight changes, as it is only necessary to cut the axle in two, and form the journals and the collars J by turning them on the meeting ends of the axles. The central boxes, F, are then formed to fit these ends and collars, being made in two parts, as shown, and are very strong and solid. The lubricating-boxes K, at the sides of the journal-boxes F, receive the oil, and the collars J or equivalent flanges will carry the lubricant to the journal, so as to keep it in good running order. These boxes, being well protected from the dust, will keep the journals lubricated without attention for two or three months.

A truck constructed in this manner will be stronger than when the axle extends from side to side unsupported, and the support which the central journal-boxes and trusses or frames give to the truck-frame greatly increases its capacity. The axles, being only one-half the usual length, are very much stronger than when made in the usual manner.

It will be seen that various mechanical modifications of my construction may be made without materially altering its character or effect, the dividing of the axles and supporting the meeting ends in a central box, with suitable thrust-bearings, and connecting this box with the central transverse bolster, making a truck which will move with great freedom around curves, and without griping, while the central boxes and truss give great addi-

tional strength to the truck, being the features of the invention.

I am aware that axles have been divided, and provided with loose couplings, to allow one wheel to move independently of the other, and I do not therefore claim, broadly, such a division-axle; but,

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The improvement in railway-trucks consisting of the centrally-divided wheel-axles E, having their ends and center supported by the journal-boxes B F, with the bearing I, as shown, in combination with the exterior and central truss-frames, C G, and the bolster D, substantially as and for the purpose herein described.

In witness whereof I have hereunto set my hand.

HARRY S. ZINK.

Witnesses:

GEO. H. STRONG,

FRANK A. BROOKS.