

(No Model.)

J. A. MAHOOD.
RAILWAY CAR AXLE.

No. 548,567.

Patented Oct. 22, 1895.

Fig. I.

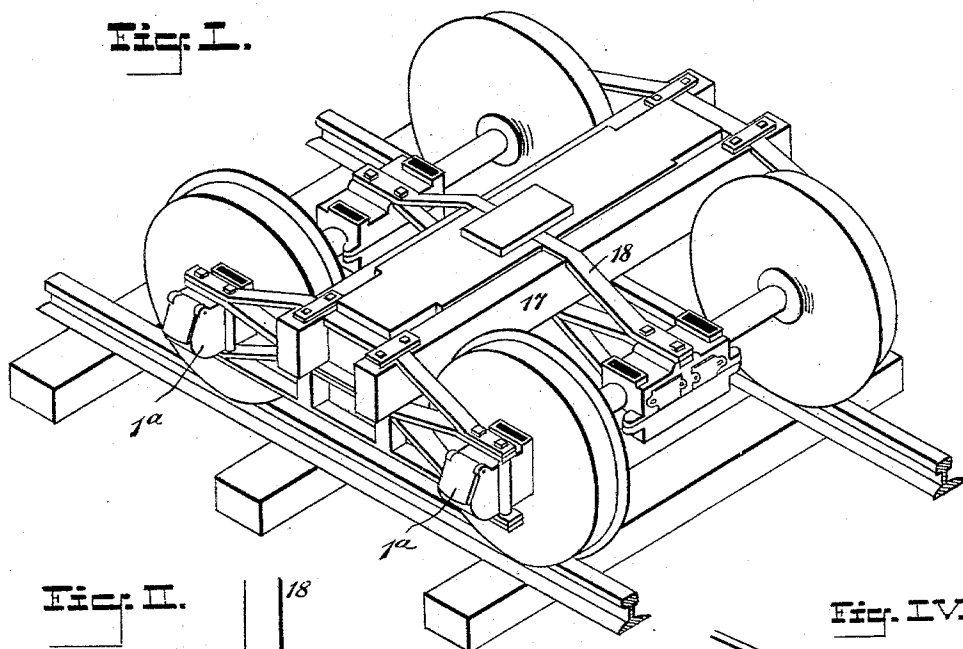


Fig. II.

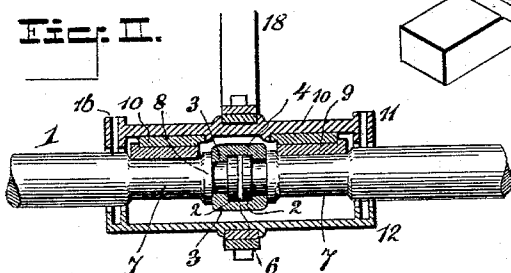


Fig. IV.

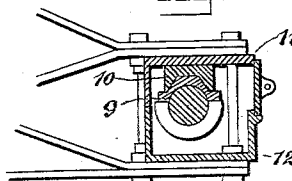


Fig. III.

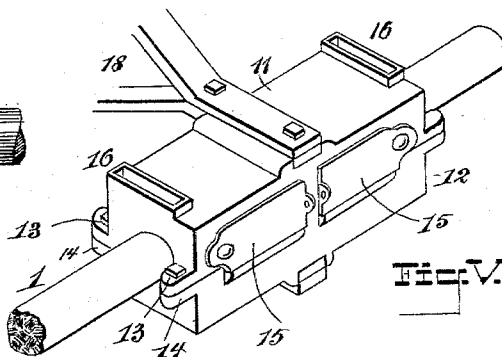
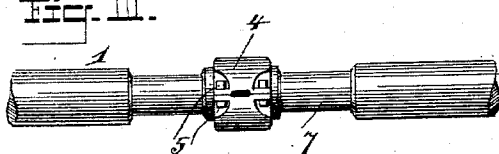


Fig. V.

WITNESSES:

D. D. Mott
M. V. Bidgood

INVENTOR
James A. Mahood
BY
Sam. J. 4503
ATTORNEYS

UNITED STATES PATENT OFFICE.

JAMES A. MAHOOD, OF VICTORIA, CANADA.

RAILWAY-CAR AXLE.

SPECIFICATION forming part of Letters Patent No. 548,567, dated October 22, 1895.

Application filed March 1, 1895. Serial No. 540,206. (No model.)

To all whom it may concern:

Be it known that I, JAMES A. MAHOOD, a subject of the Queen of Great Britain, residing in Victoria, Province of British Columbia, Dominion of Canada, have invented a new and useful Improvement in Railway-Car Axles, of which the following is a specification.

My present invention relates to improvements in sectional car-axles—such as shown in my Patent No. 441,014, granted November 18, 1890—in which each wheel of a pair is attached to an independently-movable section of a divided axle, so as to enable the wheels running on the outside rail of a curve to travel faster than those on the inner rail and accomplish the greater circumference in the same time, and thus prevent the sliding and jumping of the outside wheels and remove the risk of breaking axles from torsional strain.

In my patent above referred to the inner ends of the axle-sections are held in position by a stationary coupling-yoke engaging grooves in the axle-sections, while the friction is taken up by a single bearing which overlaps and supports the inner bearing ends. After carefully testing sectional axles I find that this structure is objectionable, in that there is constantly more or less friction between the axle-sections and the stationary coupling-yoke while the cars are in motion, and it is the main object of my present invention to obviate this objection.

To this end my present invention consists of a transversely-divided car-axle having grooves in the inner ends of the sections, a coupling engaging the grooved ends and adapted to hold them together to form a continuous axle and to revolve with the axle and allow the sections to revolve independently, and a journal-box spanning the coupling and provided with bearings for the axle-sections on each side of the coupling. The bearing-faces of the axle-sections are formed with flanges for engaging the bearing-brasses and keeping them in position. Two doors are provided for the journal-box to afford ready access to each bearing.

In order that my invention may be fully understood, I will now describe the same with reference to the accompanying drawings,

and afterward point out the novel features in the annexed claims.

In said drawings, Figure I is a perspective view of a car-truck embodying my improvements. Fig. II is a detail longitudinal sectional view of my improved axle-coupling. Fig. III is a detail side elevation of the sectional axle. Fig. IV is a transverse sectional view. Fig. V is an enlarged detail sectional view of my improved sectional axle.

Each car-wheel is rigidly attached to an independently-rotatable axle-section 1, which is journaled at its outer end in the ordinary axle-box 1^a and is supported at its inner end in a manner peculiar to my invention. The axle-sections 1 are each turned down to form the collars 2 at their inner ends to receive the jaws 3 of the two-part coupling-yokes 4, by means of which the axle-sections are fastened together in pairs to form complete axles.

The coupling-yokes 4 are clamped together by means of bolts 5, provided with proper heads and nuts, the nuts being prevented from slipping off by split keys. The axle-sections are held from longitudinal separation and getting out of alignment, and should there be a slight space between the sections it is preferably taken up by a steel washer, such as 6. It is preferable to have the coupling rigidly clamped to one axle-section and loosely inclose the other section to allow free independent rotation of both sections. Sufficient space for the passage of oil from the surrounding journal-box into the coupling should also be provided. The axle-sections are also turned down to form the bearing-surfaces 7, having flanges 8. These bearing-surfaces 7 work in contact with the bearing-brasses 9, supported against the wedges 10 in the upper sections 11 of the sectional journal and grease boxes. The customary stops or lugs for holding the wedges and brasses are provided in the upper section 11 of the journal-box.

The sectional journal-box spans the coupling 4 and bearings 7, the upper and lower sections 11 and 12 being secured together by the bolts 13, which pass through integral lugs 14. The hinged covers 15 afford access to the bearings 7, so that the brasses can be readily changed and grease can be applied to the bearings.

16 are dust-guards for the ends of the journal-box.

The complete journal-boxes are rigidly attached to the tie-frame 18, which is secured to the transoms 17.

My improved structure enables a car to run smoothly around sharp curves, reduces the power necessary to pull, prevents breaking from torsional strain, and reduces the friction in every way.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. The combination of a transversely divided car axle, a two-part coupling yoke engaging grooves in the adjacent ends of the axle sections and adapted to revolve with the axle and allow each section to revolve independently, and a bearing box spanning the coupling yoke and having bearings for both sections of the axle, substantially as and for the purposes set forth.

2. The combination of a transversely divided car axle, flanged bearing faces on said axle sections, a sectional journal box inclosing the divided ends of the axle and provided with a pair of bearings against which the bearing faces of the axles work, the flanges

of the bearing faces keeping the bearings in place, and a coupling holding the axle sections together and adapted to revolve with the axle and allow each section of the axle to revolve separately, substantially as and for the purposes set forth.

3. The combination of a transversely divided car axle, a two-part coupling yoke engaging grooves in the adjacent ends of the axle sections, flanged bearing faces adjacent to the inner ends of said axle sections, a sectional journal box spanning the coupling yoke and provided with a pair of bearings against which the bearing faces of the axle sections work, substantially as and for the purposes set forth.

4. The combination of a transversely divided car axle, a two part coupling yoke engaging the ends of the axle sections, the flanged axle bearings, a two-part axle box having two bearings to receive the bearings of the axle sections, the arch and tie bars, and the transom to which they are secured, substantially as set forth.

JAS. A. MAHOOD.

Witnesses:

W. R. GRAHAMS,
GEO. A. SARGISON.