

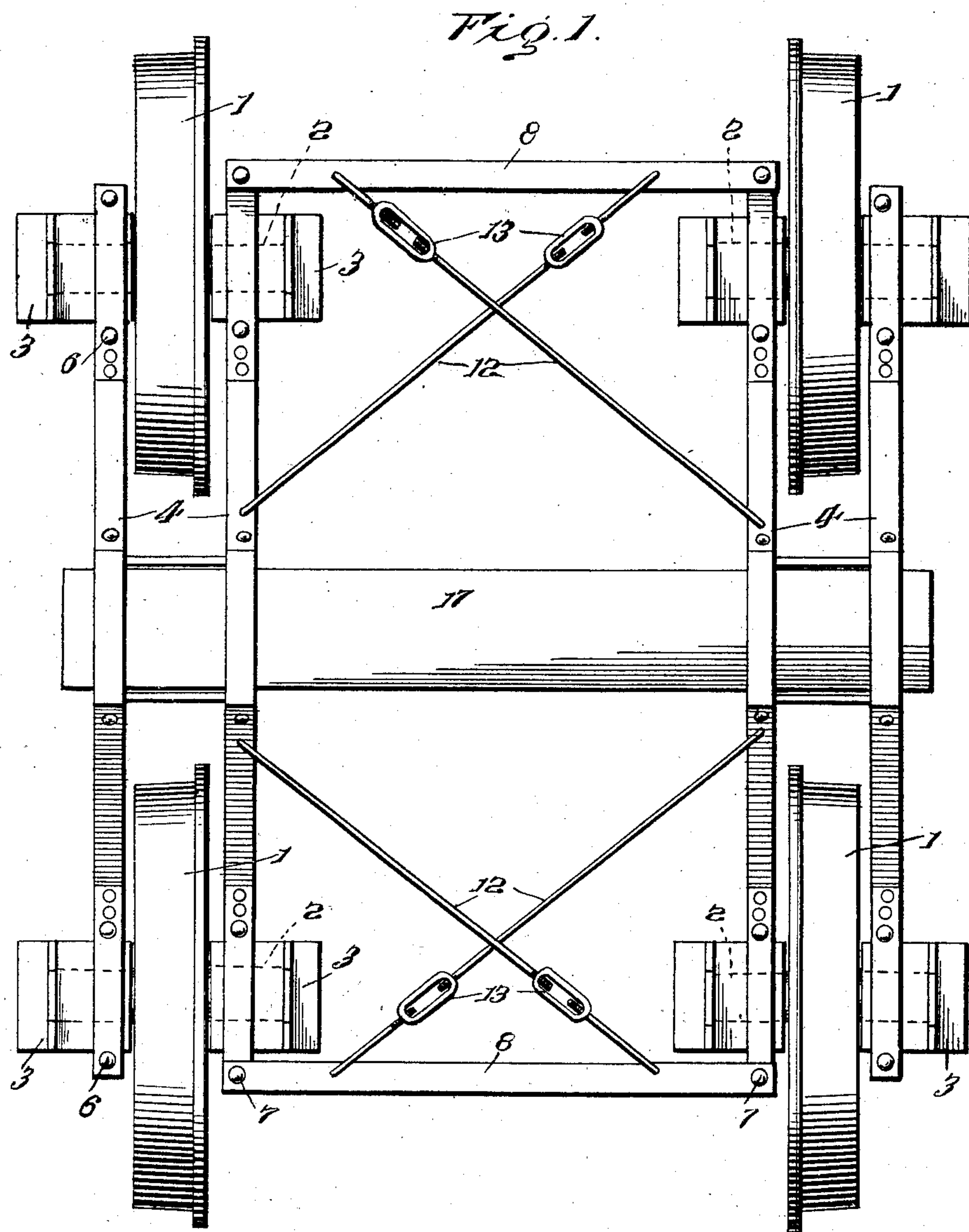
No. 859,406.

PATENTED JULY 9, 1907.

R. S. MORRISH.  
CAR TRUCK.

APPLICATION FILED NOV. 20, 1906.

2 SHEETS—SHEET 1.



Witnesses

*W. A. Morrison*  
*W. A. Morrison*

Inventor  
*Ray S. Morrish*

By

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Attorneys

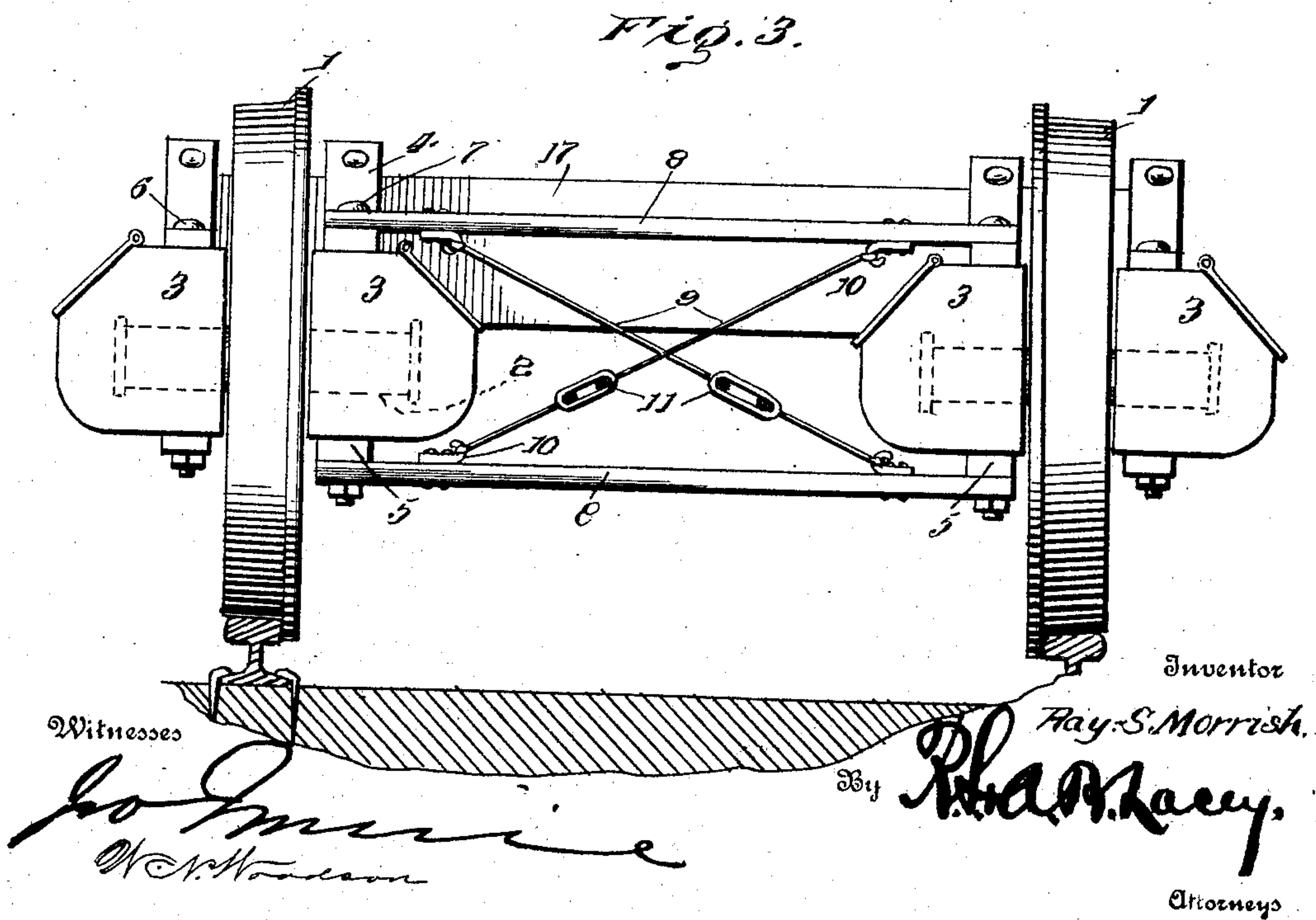
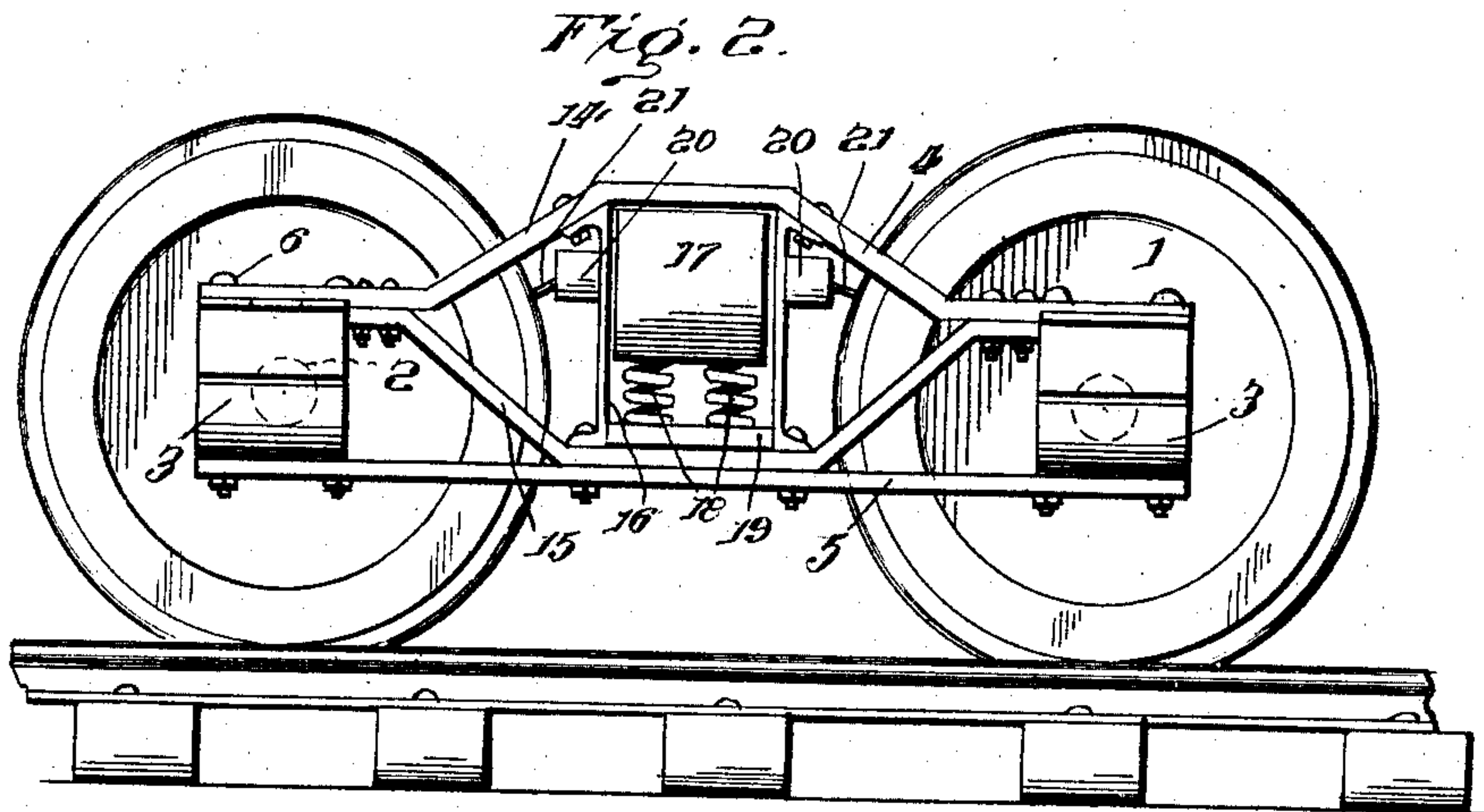
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Inventor

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Attorneys



# UNITED STATES PATENT OFFICE.

RAY S. MORRISH, OF FLINT, MICHIGAN.

## CAR-TRUCK.

No. 859,406.

Specification of Letters Patent.

Patented July 9, 1907.

Application filed November 20, 1906. Serial No. 344,327.

*To all whom it may concern:*

Be it known that I, RAY S. MORRISH, a citizen of the United States, residing at Flint, in the county of Genesee and State of Michigan, have invented certain new and useful Improvements in Car-Trucks, of which the following is a specification.

In railroad car trucks as now generally constructed, the oppositely alined wheels are both rigidly connected to the same revoluble axle. A difficulty with this construction is that in going around curves, one of the wheels must necessarily slip, owing to the different lengths of the two arcs of the respective rails of the curve. This results in an increased draft or dragging action which must be compensated for to be overcome by extra or additional work imposed upon the locomotive. While this dragging or slipping action of one wheel with its opposite complemental wheel might be slight, as regards one pair of wheels only, it is obvious that it amounts to a considerable amount when an entire car of eight wheels is considered, or, for instance, four-hundred wheels to a train of fifty cars.

It is the object of my invention to provide an improved construction of railroad car truck which will obviate this difficulty, by mounting the wheels of each pair upon independent axles, and the invention consists in certain constructions arrangements and combinations of the parts of my improved car truck construction to accomplish this result, as will be hereinafter fully set forth and claimed.

For a full understanding of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a top plan view of my improved railroad car truck; Fig. 2 is a side elevation thereof; and, Fig. 3 is an end view.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

In carrying out my invention, I provide each of the car wheels 1 with two preferably integral oppositely extending stub axles 2, each of which is mounted in a separate or distinct journal box 3. The journal boxes 3 for the front and rear wheels, respectively, are rigidly connected together by two pairs of upper and lower longitudinal beams 4 and 5 that are connected together at opposite sides of the respective journal boxes by vertical tie bolts 6 and 7.

Connected to the inner pairs of upper and lower longitudinal beams 4 and 5 to produce the framework of the truck, are front and rear transverse beams 8,

the ends of which are secured to the longitudinal beams by means of the said tie bolts 7. These transverse beams are arranged in pairs of upper and lower members, as best seen in Fig. 3, and the respective upper and lower members are rigidly connected together and braced by means of oppositely extending diagonal rods 9, both ends of each rod being securely held in shackle plates 10 bolted or riveted to the respective transverse beam members. Each of the rods is preferably constructed in sections that are connected together by means of turn-buckles 11 so that the tension of these rods may be adjusted as required. In addition to the brace rods 9, I may also provide brace rods 12 arranged in two pairs for both the upper and lower portions of the framework, said rods 12 being secured at their ends to the beams 8 and the innermost beams 4, and being provided with turn-buckles 13, as shown, so that their tension may be adjusted. The upper outside beam 4 on both sides of the truck, is bent upwardly at an intermediate portion, as indicated at 14 and is braced by means of the brace beam 15, as shown, and the inner upper and lower longitudinal beams 4 and 5 on the inner side of the wheels are similarly constructed and arranged.

16 designates vertical plates that are securely bolted by means of flanges and bolts in spaced apart relation between the intermediate parts 14 of the beams 4 and the intermediate main portion of the brace beams 15, and the boxes thus formed are intended to receive the ends of the main transverse timber beam 17 adapted to support the body of the car on the truck. The plates 16 embrace this timber at its ends, but are sufficiently spaced therefrom to permit a relative up and down movement of the timber, and the said timber is supported directly upon helical springs 18 that are in turn supported by blocks 19 secured or held in the bottom of the box constituted by the plates 16 and the parts 14 and 15.

In order that the trainman may oil the innermost journal boxes 3, without the necessity of reaching around the wheel, I provide oil reservoirs 20 secured in the truck as illustrated best in Fig. 2 and connected to the innermost journal boxes by oppositely extending tubes 21. When the waste is to be removed, it may easily be done by a hooked stick.

From the foregoing description in connection with the accompanying drawings, it is obvious that with this improved construction of car truck, a rigid structure is produced, while at the same time, the wheels of each pair are journaled independently of the other wheels of the same pair and consequently those wheels which are outermost in going around a curve may run



at a faster rate of speed than the innermost wheels, and all slipping or dragging and its consequent increase of draft is avoided.

Having thus described the invention, what is claimed  
5 as new is:

1. In a car truck, the combination of wheels provided with inner and outer stub axles, inner and outer journal boxes supporting said axles, and an inner and an outer pair of longitudinal beams, each pair consisting of an upper beam and a lower beam connected to and supported by  
10 said journal boxes, transverse beams connected to upper and lower longitudinal beams, diagonal tension brace rods connecting said upper and lower transverse beams together, and other tension brace rods connecting the transverse beams to the innermost longitudinal beams.

2. In a car truck, the combination of wheels provided with inner and outer stub axles, inner and outer journal boxes supporting the said axles, an inner and an outer pair of longitudinal beams on opposite sides of each wheel,  
20 each pair consisting of an upper beam and a lower beam connected to and supported by said journal box, transverse upper and lower beams connected at their ends to the innermost upper and lower longitudinal beams, respectively, diagonal brace rods connecting said upper and lower transverse beams together and two pairs of tension  
25 brace rods for each end of the framework composed of the said innermost longitudinal beams and the transverse beams connected to them, said last named brace rods be-

ing connected to the transverse beams at one end and at their other ends to the longitudinal beams on opposite  
30 sides of the middle thereof.

3. In a car truck, the combination of wheels provided with oppositely extending stub axles and journal boxes for each of said axles, upper and lower longitudinal beams secured to the said boxes on both sides of the wheels, respectively, upper and lower transverse beams connected at  
35 their ends to the respective upper and lower innermost longitudinal beams, the outermost upper longitudinal beams being provided with upwardly extending intermediate portions, brace members 15 secured to said last named beams at the upwardly extending intermediate portions thereof and said brace rods also connected to and supported upon the outermost lower longitudinal beams, vertical plates secured between these brace members and the respective uppermost beam and constituting therewith  
45 boxes, a main beam mounted at its ends in said boxes and adapted for yieldable support therein, transverse brace rods connecting together upper and lower transverse beams, and other brace rods connecting said transverse beams with the innermost longitudinal beams.

In testimony whereof I affix my signature in presence of two witnesses.

RAY S. MORRISH. [L. S.]

Witnesses:

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