2 Sheets—Sheet 1.

J. G. TAIT.
Car-Truck.

No. 210,644. Patented Dec. 10, 1878.

Fig. 1.

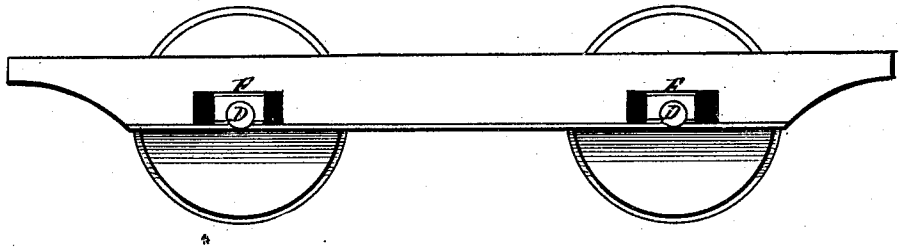
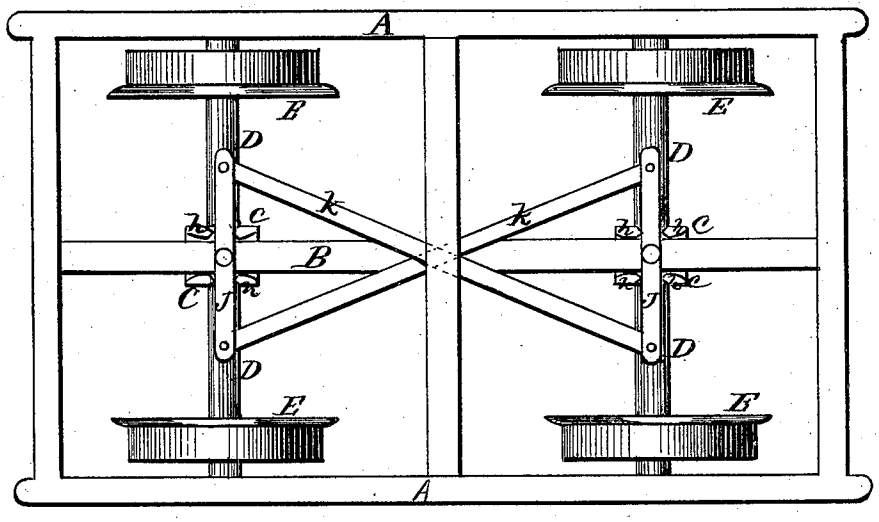


Fig. 2.



Witnesses
Wm. B. Schwartz
W. F. Clark

Inventor
James G. Tait
by Jno. L. Boone
Atty

2 Sheets—Sheet 2.

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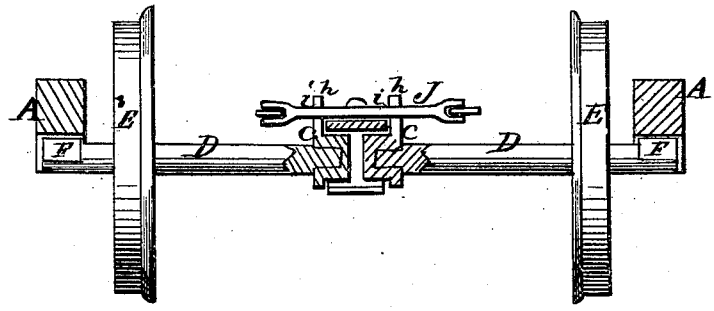
Fig. 3.



Witnesses

Will B. Schwartz

Willie F. Clark

Inventor

James G. Tait

by Jno L. Boone

Atty

UNITED STATES PATENT OFFICE.

JAMES G. TAIT, OF STOCKTON, CALIFORNIA.

IMPROVEMENT IN CAR-TRUCKS.

Specification forming part of Letters Patent No. **210,644**, dated December 10, 1878; application filed March 20, 1878.

To all whom it may concern:

Be it known that I, JAMES G. TAIT, of Stockton, county of San Joaquin, in the State of California, have invented an Improved Railway-Car Truck; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to certain drawings accompanying this specification, and forming a part thereof.

My invention has reference to car-trucks, and relates more particularly to a novel arrangement of axles, whereby each wheel of the truck has an independent short axle, the inner end of which is supported in a sliding box at or near the middle of the truck-frame, while the outer end is supported in a box which is capable of oscillation underneath the outer side timbers of the truck-frame.

The short axles on one side are placed in line with the short axles on the opposite side, so that each pair forms a single axle, the two parts of which have a motion independent of each other.

I also provide an arrangement for connecting the inside sliding boxes, so that they will all be shifted simultaneously and correspondingly in passing around a curve in the track, and thus adapt the wheels to the curve so that they will move without friction, all as hereinafter more fully described.

Referring to the accompanying drawings, Figure 1 is a side elevation. Fig. 2 is a plan. Fig. 3, Sheet 2, is a section, showing a portion of the axle and inner box.

Let A A represent the outside timbers of a truck-frame, such as is used underneath railway-carriages. B is a stout beam or timber, which extends longitudinally across the frame midway between the beams A A. This beam serves to support the boxes C, in which the inner ends of the short axles bear. These boxes C are placed in suitable recesses or frames in or underneath the beam B, so that they can move a short distance forward and back in them. One box is secured on each side of the beam B near each end of the truck, so that it will be in line with the box under the outside timber, in which the outer end of the axle is supported.

D D are the short axles, on each of which a wheel, E, is secured. Each short axle is supported at one end in an oscillating box, F, underneath the outside timber, A, of the truck-frame, while its opposite end is supported in the sliding box C near the middle of the truck.

The short axle on one side of the beam B, I place in line with the short axle on the opposite side, so that, in fact, the two short axles form a single axle, the two parts of which move independent of each other.

Each of the inner boxes, C, has a projecting portion, *h*, extending above the beam B, and this projecting portion is slotted or perforated transversely to the length of the truck, as shown at *i*. I then place a bar, J, across the beam B, and pivot it at its middle, while its opposite ends rest in the slots or perforations on each side of the beam. I then connect each end of one of the bars J with the opposite ends of another bar J by cross-bars *k k*. These bars cross each other midway between the two bars J, and serve to move them at opposite angles to each other when the wheels strike a curve, thus moving the boxes C on each side of the beam B in opposite directions, so that the boxes will be set forward on one side and backward on the other, thus throwing the entire set of wheels in each truck into the proper position to move around a curve in the track.

Of course the journal-bearings of the axles are arranged to admit of the necessary variation; but the motion necessary to be given to either end of the short axle is so slight that no trouble is experienced.

The outside boxes, as before stated, are arranged to rotate slightly to accommodate this change in the line of the axle.

Various arrangements could be devised for connecting and operating the sliding boxes so as to obtain the necessary movement to set the axles to accommodate the curve. The above-described device, however, is sufficient to illustrate the operation.

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

The truck-frame A, supported upon wheels

E, each of which is mounted upon a short axle, D, the inner end of which axle is mounted in a sliding box, C, so that the two boxes are opposite each other, each box having a slotted projecting portion, *h*, in combination with the parallel bars J J, which are pivoted to the beam B, so that their ends rest in the slots of the sliding boxes, and connected by the cross-bars *k*, substantially as and for the purpose above described.

In witness whereof I have hereunto set my hand and seal.

JAMES G. TAIT. [L. S.]

Witnesses:

JOHN W. EMERTON,
WM. C. STILES.