G. H. JONES.

Car Truck.

No. 92,314. Patented July 6, 1869.

Fig: 1.

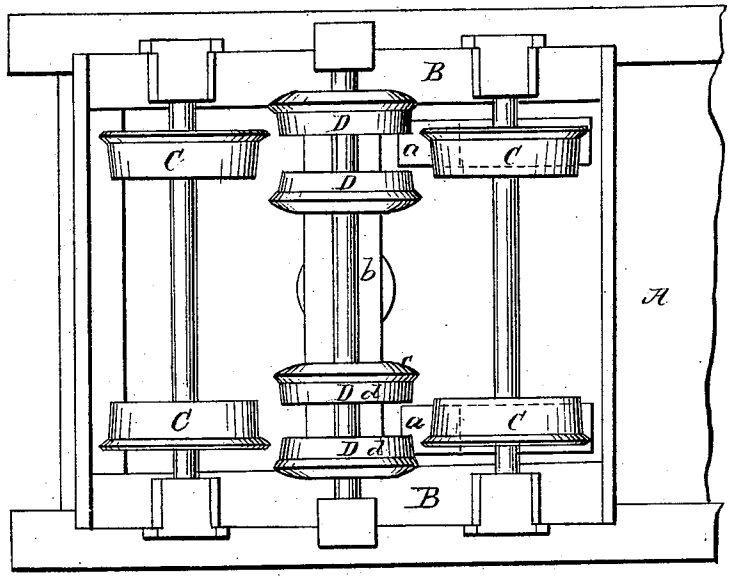


Fig: 2.

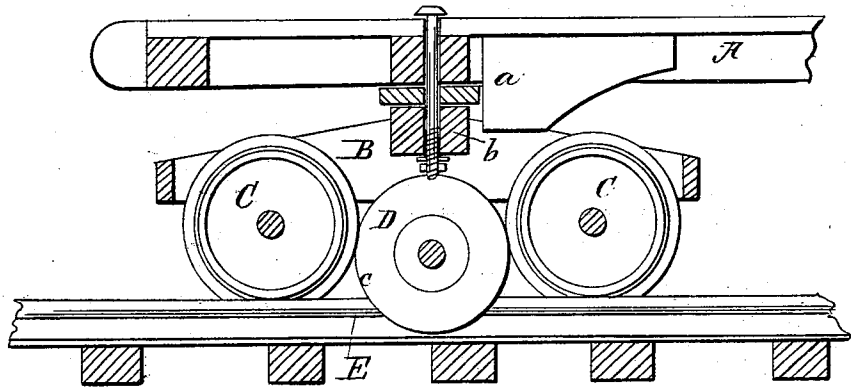
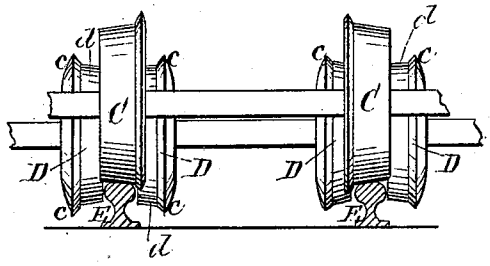


Fig: 3



Witnesses

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G. H. JONES, OF GRAND RAPIDS, MICHIGAN, ASSIGNOR TO HIMSELF AND HENRY L. WISE, OF SAME PLACE.

Letters Patent No. 92,314, *dated July* 6, 1869.

IMPROVED RAILWAY-CAR TRUCK.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, G. H. JONES, of Grand Rapids, in the county of Kent, and State of Michigan, have invented a certain new and useful Improvement in Car-Trucks and Wheels; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a bottom view of one truck of a railroad-car and a portion of the car-frame.

Figure 2, a longitudinal vertical section of the same.

Figure 3, a diagram showing the arrangement of the car-wheels on the track.

Like letters of reference indicate corresponding parts in all the figures.

My invention consists in the employment, in connection with the ordinary wheels of a car-truck, of intermediate double wheels, so arranged as to embrace the rail in the space between said double wheels, and thereby not only serve the purpose of retaining the car on the track, but specially to restore it to the track if thrown off, as will be hereafter fully explained.

In the drawings—

A indicates the car-frame;

B, the truck; and

C C, the ordinary car-wheels.

These parts do not differ essentially from those in common use, except that the under side of the car-frame has two rigid stops, *a a*, which strike the cross-piece *b* of the truck when turned to the extreme angle of a curve, the object of which will be presently described.

Between the ordinary wheels C C, and on a separate axle, are situated double wheels D D, at such a distance apart as to embrace the rail E between, and allow sufficient play, without binding, in turning curves. These wheels are made to project lower than the tread-wheels, either by locating the axle lower, or by increasing their diameter. They are provided with flanges *c c* and treads *d d*, but the latter are made a little more angular than usual, and the square sides of the wheels rest inward, or next to the rail.

These intermediate wheels serve the ordinary purpose of assisting to keep the car on the track, by projecting down each side of the rail. They serve a more special and important purpose, however, in restoring the car to the track whenever, from any cause, it has been thrown off.

If the rail breaks on one side, the projecting wheels on the opposite side will hold to the track, and thus serve as a guide to the wheels on the broken side, which must necessarily strike the end of the rail again, and by their greater projection than wheels C C, raise the latter up bodily above the track, and replace them thereon. This result is unfailing, unless the track is broken on both sides, which is a rare occurrence; and even then, unless the break were of great extent, the great width of the tread-surface of the intermediate wheels would cause them to catch the track again.

This effect can be produced only by the peculiar location of the auxiliary wheels; that is, between the others, and by their projection down below the level of the tread; also, by the formation of the tread-surfaces *d d*, and the abrupt shoulders next to the rail itself.

The location between the other wheels produces an equilibrium, so that in restoring on the track again, either the front or the hind wheel may first strike on the rail. The projection of the intermediate wheels allows the tread-wheels to be raised above the track in restoring, which could not be the case, (owing to the flange,) were they of the same projection. And the double treads upon the intermediate wheels insure the proper striking of the rail, and the centring of the same.

These special features I believe to be new.

I am aware that it has been proposed to use double wheels, of similar form to D D, but alone and not in connection with the ordinary tread-wheels. In such case, however, no space was left between to embrace the track, and hence for these reasons such arrangement could not be the equivalent of mine.

I am also aware that it has been proposed to employ a set of double wheels midway transversely between the rails. Such a device, to be practical, would require a third rail, which would be expensive, and beside, such arrangement would in nowise assist in replacing the car if off the track, but would be rather an impediment to replacing. Such cannot, therefore, be the equivalent of my invention.

I am also aware that it has been proposed to employ a grooved wheel between the tread-wheels, which bears upon the rail and receives motion like the other wheels. Such has been used, however, simply as an additional safeguard to keep a car from running from the track, and not as an assistant in replacing it when once removed. Indeed, its construction is such that it cannot answer this purpose, since it has no projection below that of the ordinary tread-wheels, and it has no tread-surfaces *d d*; hence it cannot elevate the running wheels. From its very construction, its use is impracticable.

The stops *a a* have a special relation to my arrangement of wheels, as above described, since, to make the projecting wheels strike the track when the car is off, it is necessary to prevent the truck swerving to such a degree as to turn the said wheels beyond the line of the rail. A sufficient play is given the truck to accommodate it to the shortest curve on railroads. Beyond this the stops strike the cross-piece, and pre-

vent further turning, and this angle comes within the scope of the said wheels on the rail, unless the break is of great extent and both sides of the track are broken away.

I am aware, as before stated, that double wheels on a car-truck are old; therefore I do not claim such only as combined and arranged in respect to the ordinary tread-wheels, as hereinbefore described.

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

The combination, with the tread-wheels C C, of the intermediate set of double wheels D D, projecting lower than the tread-wheels, to embrace the rails, and having tread-surfaces *d d*, to strike upon the rails and elevate the ordinary wheels above the track in replacing, as herein set forth.

In witness whereof, I have hereunto signed my name, in the presence of two subscribing witnesses.

G. H. JONES.

Witnesses:

R. F. OSGOOD,

H. L. WISE.