H. STRAIT.

Car-Track Clearer.

No. 54,975. Patented May 22, 1866.

Fig. 1.

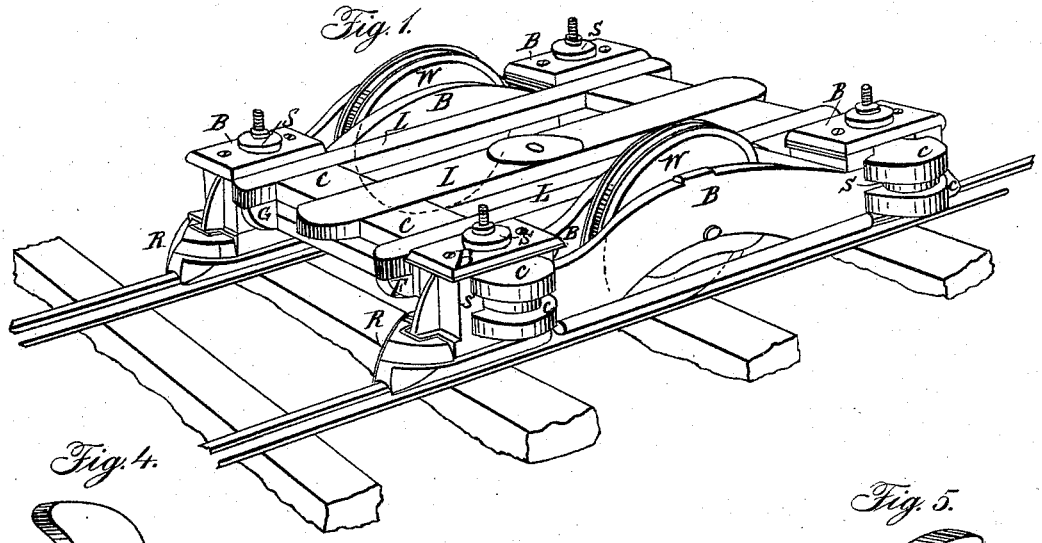


Fig. 4.

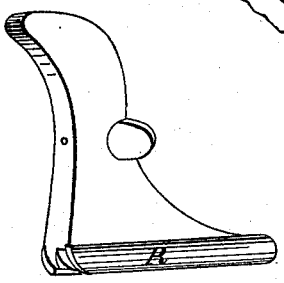


Fig. 5.

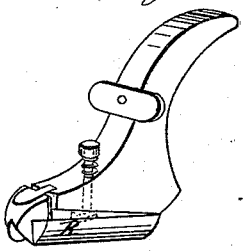


Fig. 2.

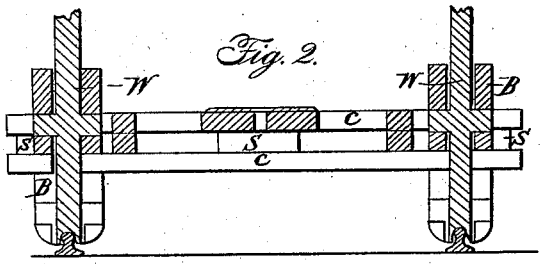
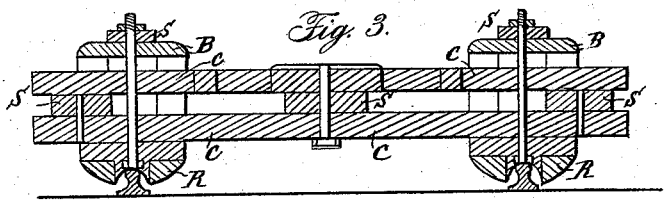


Fig. 3.



Witnesses:

A. G. Gibson

P. Killing.

Inventor:

Hiram Strait

UNITED STATES PATENT OFFICE.

HIRAM STRAIT, OF CINCINNATI, OHIO.

IMPROVED RAILWAY-TRUCK.

Specification forming part of Letters Patent No. **54,975**, dated May 22, 1866; antedated May 1, 1866.

To all whom it may concern:

Be it known that I, HIRAM STRAIT, of Cincinnati, Hamilton county, Ohio, have invented a new and useful Suspension-Truck for Railroads, for the purpose of lowering the weight of trains as nearly as possible to the rails, insuring their easier loading and unloading, and preventing their capsizing from top-heaviness; and the following is a full description of the same, reference being had to the accompanying drawings and the letters of reference thereon.

Figure 1 is a general view of the truck, showing the construction and disposition of its several parts; Fig. 2, a cross-section through its wheels; Fig. 3, a cross section through one pair of its cross-ties, showing the position of the springs and rubbers; Fig. 4, a brake with fixed rubbers; Fig. 5, a brake with an adjustable rubber.

In the specification and drawings, W represents a car-wheel; C, a cross-tie; L, a longitudinal tie; B, a bracket; S, a spring; R, a rubber, and G a guide.

The car-wheels may be made, as usual, with a full flange inside the rails, and, to further increase their hold, have a partial flange on the butt side. Long axles in this truck are entirely dispensed with, and axles long enough for sufficient bearings and support, on each side of the wheels, are substituted in their place and for their use. These short axles support the brackets in their centers and work in them, one on each side of each wheel. A pair of brackets may entirely incase a wheel, except a small space, when it rests on a rail or when the brakes are inserted to act on it, or they may form a curved frame-work of sufficient size and strength for the weight they have to support. The brackets are to project sufficiently forward and backward of the wheels to attach the cross-ties and rubbers to hold them in position. The under cross-ties, on each side of the wheels, are firmly fastened to the ends of the brackets, and on these all the car-springs are secured by pins passing through them and one or both ties to allow their free vertical motion. The number of springs is optional.

The cross-ties in pairs are connected together by the longitudinal ties, with their projecting guides in pairs long enough to embrace them and allow the free action of the springs. Bolts working loosely through the intersections of the ties act also as guides. The center of the track, where the car rests, fastens, and turns, is to be sufficiently elevated to act as its pivot or turn-table.

The rubbers are to remove all obstructions from before the wheels and to run just over the rails, but not on them. They are to be made or attached to the under side of the ends of the brackets or brakes. The fixed rubber is simply a groove on the under side of the end of a bracket or brake, while an adjustable one is made to lower or rise in front, as desired. The adjustable rubber is an oblong piece with a groove on the under side and a projection on the top, which recesses in the under side of the end of a bracket or brake and projects a short distance in front. It is more or less beveled in front, and is secured in its place by a vertical bolt passing through it near its center and a spring on the end of a bracket or brake to support and adjust it. A spring is also placed between it and the bracket or brake to counteract the spring on the bolt. Turning the nut on the bolt one way raises and the other way lowers the front of the rubber. These rubbers are intended to run so near to the rails as to catch on them in case of any breakage, and thus keep the cars on the track.

This truck, like others, may be made with two or four wheels. A double truck will require an additional pair of cross-ties between its wheels and its brackets, and longitudinal ties will have to be proportionally lengthened.

In this way the car-wheels are kept in place and position by the brackets, the brackets by the cross-ties, and the cross-ties by the longitudinal ones. In case of breakage or collision the cars cannot fall but a short distance or run much risk of capsizing. Larger car-wheels may also be used with greater speed and safety, as the whole weight is suspended so near to the rails under all contingencies.

This truck may be attached to cars in the usual way, or it may be attached so that its wheels may work in wheel-houses on the inside, and of sufficient size to admit all necessary curves and motions. These wheel-houses may be either enveloping-brackets or attachments to the car inside. They may also work in wheel-recesses on the outside. The cars may not only be broader, but a story higher, from their nearness to the rails.

The double truck may be greatly simplified

by using only one pair of cross-ties between the wheels and using brackets only long enough to connect the wheels sufficiently apart for the attachment of this pair of ties. This pair of ties may be connected by guides on one to embrace the other, or by bolts through them and their springs. Rubbers may be attached to the brackets just under this pair of ties and brakes, with rubbers in front and rear of the wheels, in place of the projecting brackets with rubbers.

The single truck may be similarly simplified by uniting the two inside brackets at their centers by a single pair of cross-ties. Each pair of brackets, however, must connect together, either around or over each wheel, so as to equalize the weight on both sides.

Vertical slots are made crosswise in the ends of the brackets to receive and hold the ends of the cross-ties, which are fitted to them. The under tie is fastened firmly therein, and the upper one so as to allow the full action of the springs. These slots at the top are closed by cross-pieces, secured by bolts, in addition to those which attach the rubbers and pass through the ends of the ties to keep the wheels vertical.

What I claim as my invention in the suspension-truck, either single or double, and wish to secure by Letters Patent of the United States, is—

1. The arrangement or combination of car-wheels, brackets, springs, and cross and longitudinal ties, either with or without the rubbers, substantially as herein specified.

2. The grooved or flanged rubbers, either adjustable or fixed, attached to either the ends of the brackets or to brakes, to remove all obstacles from before the car-wheels, substantially as herein specified.

HIRAM STRAIT.

Witnesses:
I. H. MARTIN,
W. L. ALDRICH.