To all whom it may concern:

Be it known that I, FRANCIS N. PARIS, a citizen of the United States, residing at Altoona, in the county of Blair and State of Pennsylvania, have invented certain new and useful Improvements in Suspension-Springs for Brake-Beams, of which the following is a specification.

This invention relates to an improvement in the suspension devices made use of on railway-car trucks for the purpose of supporting the center struts or its equivalent in various forms of metal brake-beams used in the brake-rigging for such trucks.

The object of my invention is to provide a one-piece steel spring, which in a four-wheel truck will act as a support for both brake-beams, to so arrange said supporting-spring as to allow maximum room for the application of heavy brake-beams, and to render all parts easily accessible for repairs and inspection.

A further object is to so locate this supporting-spring that it will act as a safety device to prevent a brake-beam from falling to the truck should any one of the brake-beam hangers fail.

I attain my objects by applying the suspension-spring to the car-truck and brake-rigging in the manner illustrated in the accompanying drawings, in which Figure 1 represents a plan view of a four-wheel car-truck in one of its usual forms with my suspension-spring applied thereto; Fig. 2, a transverse vertical section thereof on the line z-z in Fig. 1, the brake-beams, however, being shown sectioned at the center struts; Fig. 3, a longitudinal sectional view of my suspension-spring and attaching-clamp upon an enlarged scale, and Fig. 4 an end view of the same.

Like numerals designate like parts in the several views.

The truck as herein illustrated consists of a bolster 1, supported at each end upon springs, (not shown,) which rest upon the spring-plank 18, the ends of which are bolted to the vertical guide-pieces 19, attached to the wheel-pieces 20, between which guides the ends of the bolster are free to rise and fall.

The brake-beams 5 are attached at their ends directly to the brake-heads 4 opposite each wheel, said brake-heads being hung from inward projections or brackets 2 on the guides 19 by means of the hangers 3. The brake-beams, as herein illustrated, consist of the principal members 5, which are hollow and extend across between opposite brake-heads, said principal members being strengthened by truss-rods 6, passing from end to end and bent through the outer ends of the center struts 7. The operating-levers 8 and 12 are coupled to these center struts, one only of which is shown in Fig. 1, the other being omitted for the purpose of showing my suspension-spring, which is located directly below these struts. The brake-levers are hung at an incline, and therefore pass through inclined slots on the center struts, to which they are pivotally coupled by bolts. The lever 8 is held fast at one end in the adjusting-piece 9, projecting from the bracket 10, attached to the bolster 1. At the opposite or free end this lever is coupled, by means of the link 11, to the corresponding end of the lever 12. The opposite end of this lever 12 passes through the guide 13, attached to the bolster, and is coupled to the rod 14, by which it is connected with the brake-operating system.

In order to support the outer ends of the center struts 7 from the spring-plank 18 and yet allow for the necessary play of the brake-beams, due to the action of the brake-levers and the relative motions between bolster and spring-plank, it has heretofore been customary to attach a suspension-spring at each side of the spring-plank, said springs overlapping the center struts and being coupled thereto by hanging links. This construction has certain objectionable features, to overcome which I attach a single flat spring-plate to the under side of the spring-plank, said spring extending out at each side of the plank beneath the brake-beams, as indicated at 16, and the ends of said spring being formed into double eyes, which receive the lower ends of the supporting-links 15, the upper ends of said links being coupled to the outer ends of the center struts 7. The spring 16 is held in place by means of a malleable-iron clamp 17, secured to the under side of the spring-plank by means of five bolts, one of which only passes through the spring at its center (see Fig. 3) to prevent end motion or sliding. By this arrangement and location of the suspension-spring it will be noted that I materially reduce the cost of manufacture, one flat spring and one attaching-clamp only being required, where heretofore it required a spring.
and clamp upon each side of the spring-plank. Moreover, since the spring lies below the brake-beam, it leaves ample room for the application of the heaviest type of beams and also leaves the space above the beams clear and accessible for repairs and inspection. In addition to this if for any reason the brake-hangers at either end should give way the brake-beam in dropping would be caught and supported by the suspension-spring, the spring therefore acting as a safety device to prevent the loosened end of the beam—that is to say, the brake-head and shoe—from dropping to the track.

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

1. In a car-truck, the combination, with the spring-plank and a brake-beam, of a suspension-spring attached to the spring-plank and projecting beneath the brake-beam, and a link coupling the end of said spring to the brake-beam.

2. In a car-truck, the combination, with the spring-plank and brake-beams at each side thereof, of a suspension-spring attached to the under side of the spring-plank and projecting out at each side thereof beneath the brake-beams, and links coupling the ends of said spring to the brake-beams.

3. In a car-truck, the combination, with the spring-plank and center strut brake-beams at each side thereof, of a suspension-spring comprising a flat plate provided with eyes at each end, a clamping-piece by which said spring is fastened to the under side of the spring-plank, and links coupling the ends of the spring to the outer ends of the center struts of the brake-beams.

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

FRANCIS N. PARIS.

Witnesses:

otto f. struse,
john f. gough.