

No. 777,190.

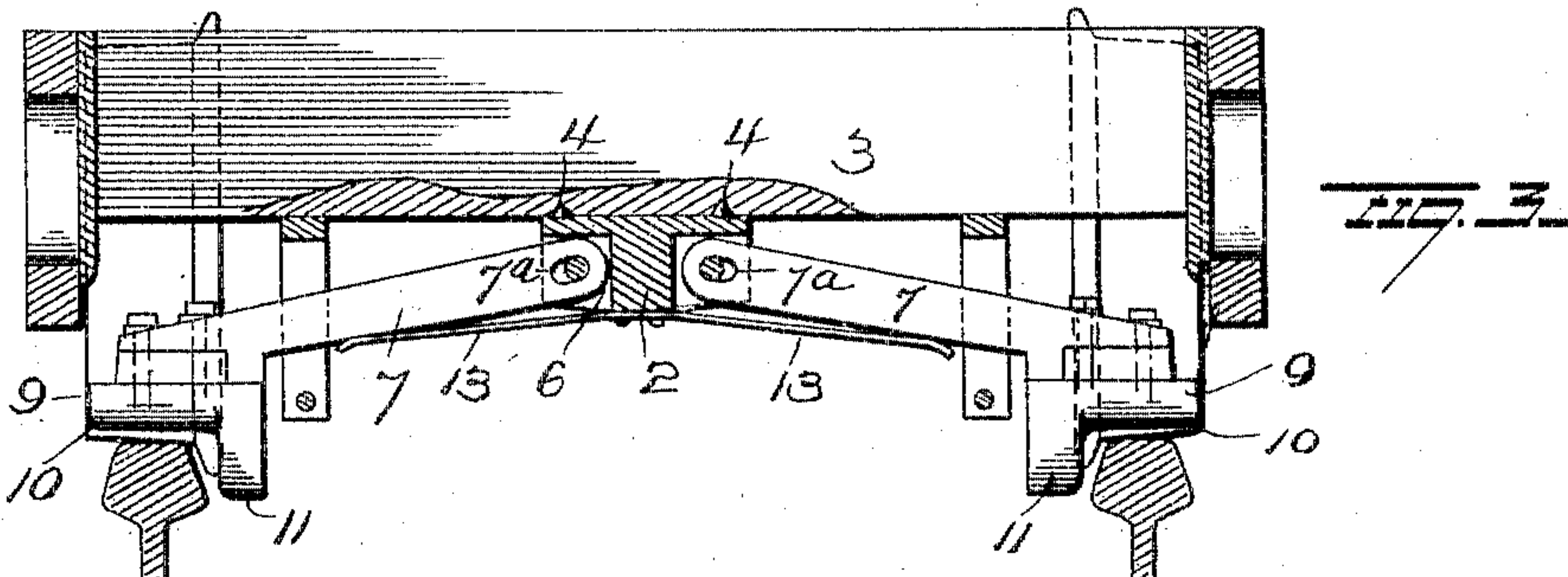
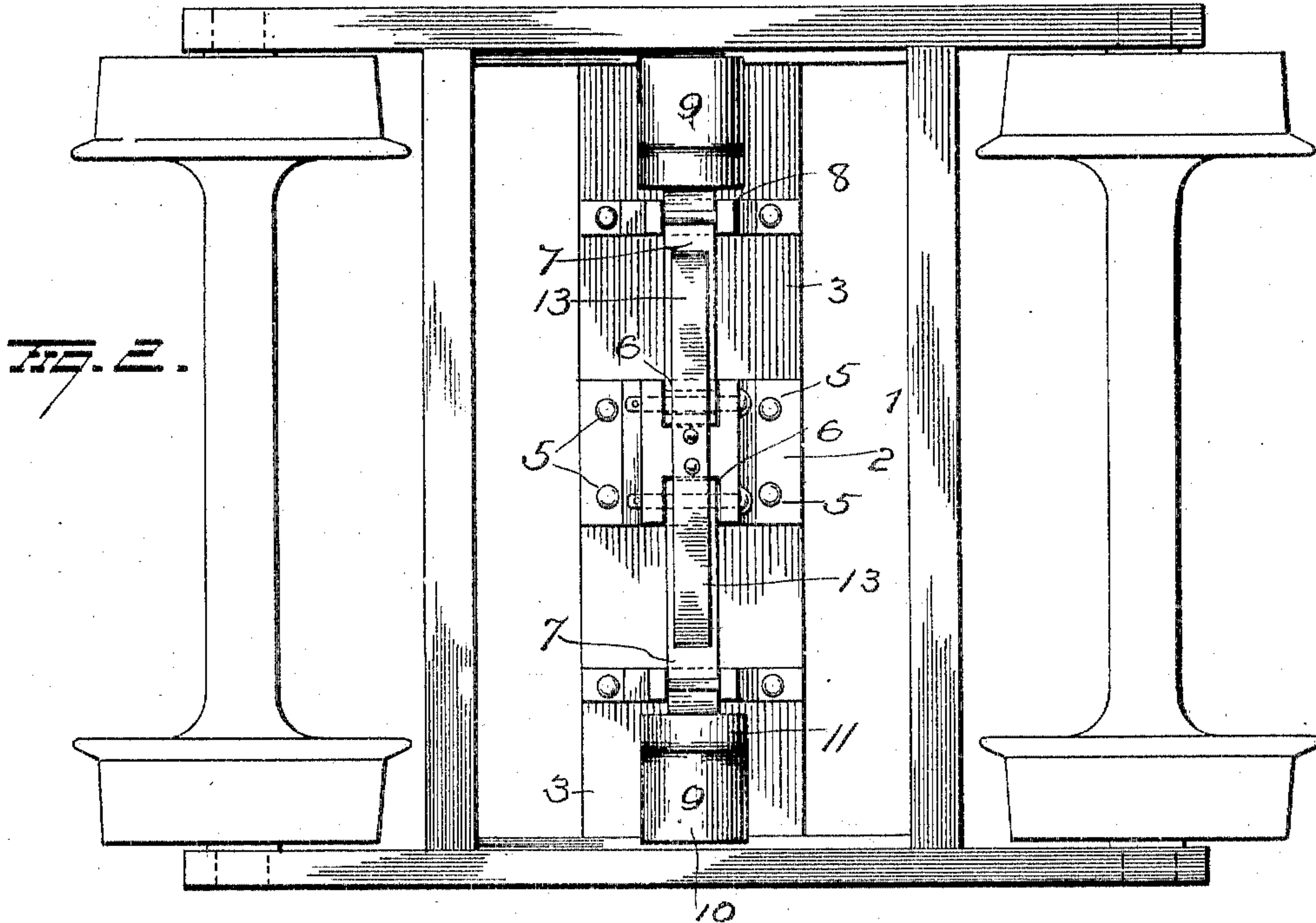
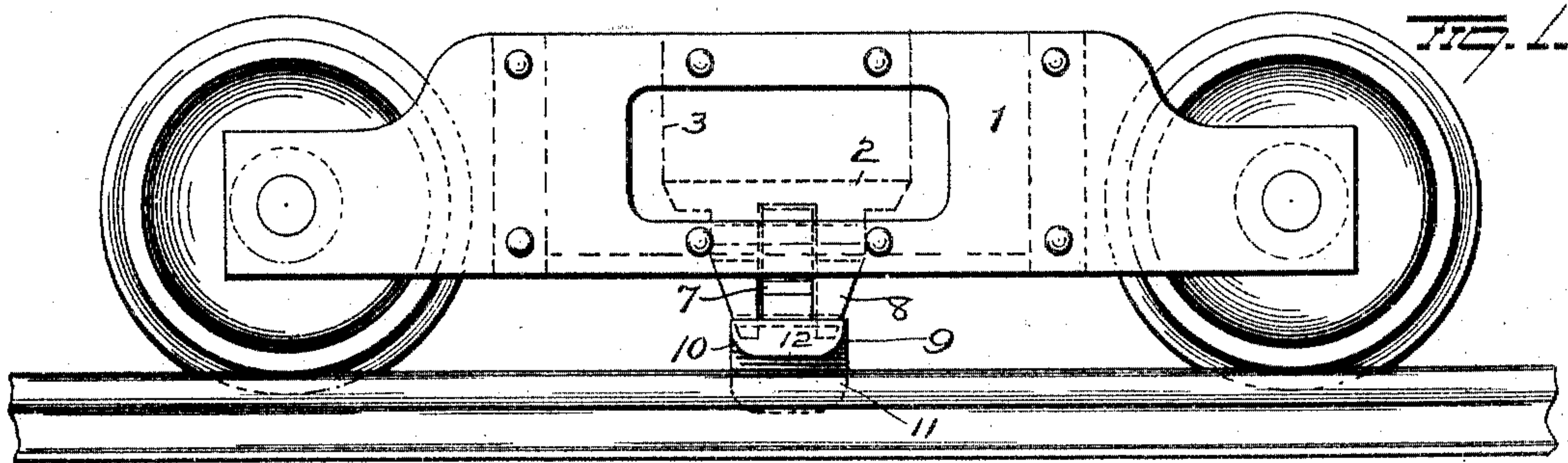
PATENTED DEC. 13, 1904.

R. J. EDWARDS.
DERAILMENT GUARD.

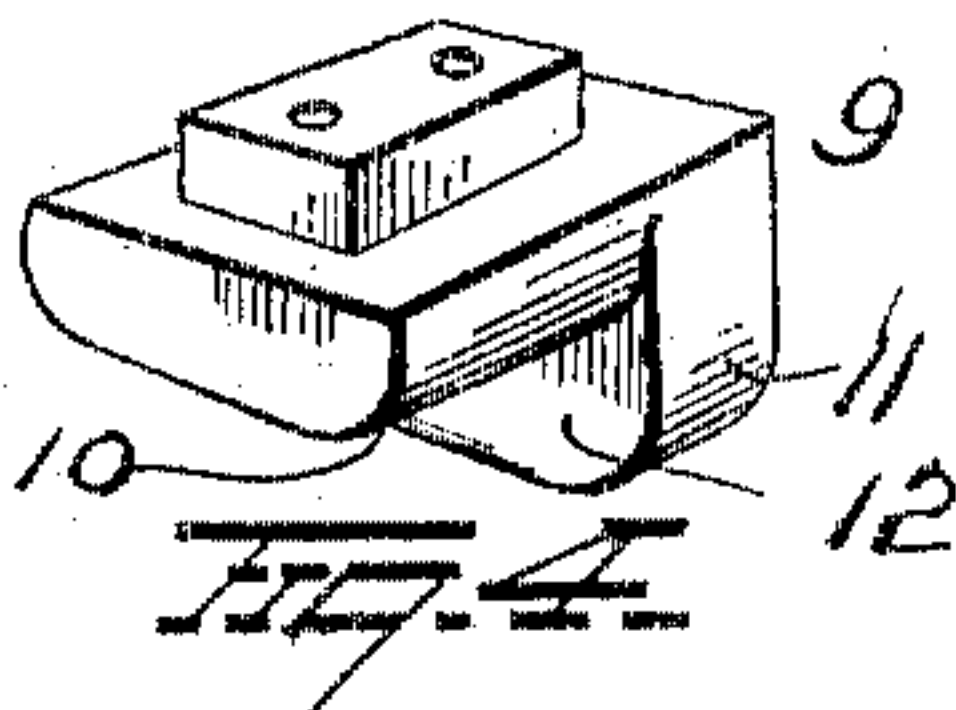
APPLICATION FILED AUG. 2, 1904.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES
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G. F. Downing



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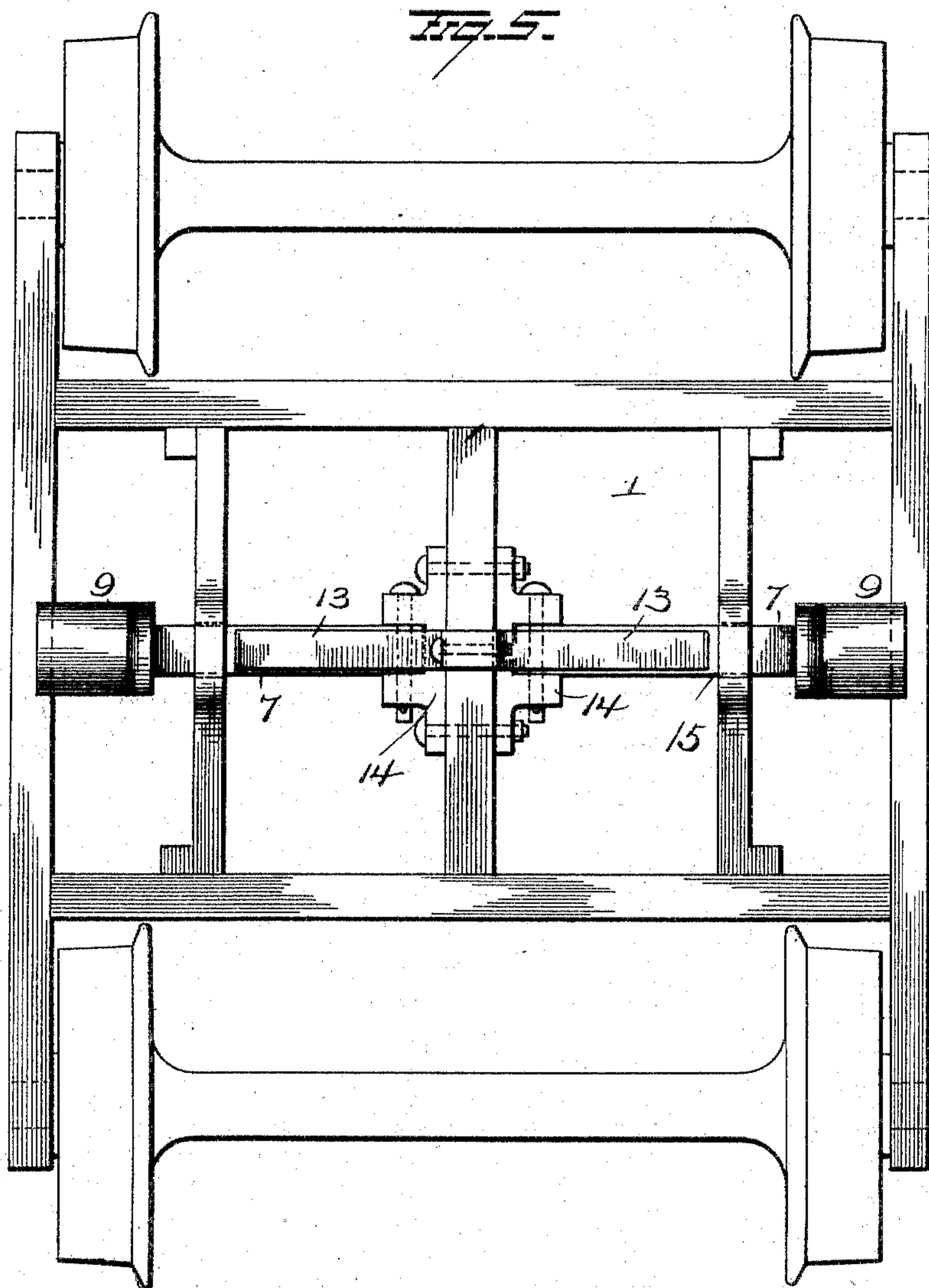
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UNITED STATES PATENT OFFICE.

RICHARD J. EDWARDS, OF GALENA, ILLINOIS.

DERAILMENT-GUARD.

SPECIFICATION forming part of Letters Patent No. 777,190, dated December 13, 1904.

Application filed August 2, 1904. Serial No. 219,216. (No model.)

To all whom it may concern:

Be it known that I, RICHARD J. EDWARDS, of Galena, in the county of Jo Daviess and State of Illinois, have invented certain new and useful

5 Improvements in Derailment-Guards; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

10 My invention relates to an improved derailment-guard, the object of the invention being to construct such device in a manner to insure its automatic operation to prevent the wheels of the truck leaving the track.

15 A further object is to construct a derailment-guard in such manner that the shoes thereof will be normally held in close proximity to but not in actual contact with the rails and so that in case the wheels tend to leave the track said shoes will automatically engage the inner faces of the rail-tread, and thus prevent sufficient lateral displacement of the truck to not allow the wheels to leave the rails.

20 A further object is to so construct a derailment-guard that the shoes will be normally maintained close to but out of actual contact with the rails, at the same time permitting them to yield vertically to ride over obstructions on the rails and also permitting said shoes to maintain engagement with the rail as the truck and wheels at one side thereof rise.

25 A further object is to provide a derailment-guard which shall embody simplicity and strength in its construction, which shall be sure and automatic in its operation, and which shall be effectual in every respect in the performance of its functions.

30 A further object is to construct a derailment-guard in such manner that it will be as well adaptable to locomotives and tenders as to cars and also to railroad automobiles.

35 With these objects in view the invention consists in certain novel features of construction and combinations and arrangements of parts, as hereinafter set forth, and pointed out in the claims.

40 In the accompanying drawings, Figure 1 is a side elevation of a car-truck in position on

a track and showing the application of my improvements thereon. Fig. 2 is a bottom 50 plan view. Fig. 3 is a transverse sectional view. Fig. 4 is a detail view of one of the shoes. Fig. 5 is a view of a modification.

1 represents a car-truck, such as commonly employed for passenger-cars, although my im- 55 provements, hereinafter to be described, are equally applicable to freight-car trucks, it being simply necessary to adapt the attached devices to the particular construction of truck to which it may be desired to apply my im- 60 provements. A bracket 2 is located centrally on the bottom of the truck—in the present instance against the under face of the bolster 3—and is provided with lugs 4 to enter sockets in said bolster, and said bracket is rigidly 65 secured to the truck-bolster by means of bolts 5. The bracket 2 is provided with grooves or recesses 6, in which the inner ends of arms 7 are pivotally supported, and the arms are made with elongated slots 7^a for the passage 70 of the pivot-pins, so as to permit slight longitudinal movement of said arms. From their pivotal support at the center of the truck the arms 7 project laterally in opposite directions and pass through slotted guides 8, se- 75 cured to the bolster near its ends. To the free ends of the pivoted arms 7 shoes 9 are fixed, each of said shoes having a curved face 10 to be disposed over the head of the rail and a depending portion 11, having a face 12 to 80 be disposed alongside the tread of the rail and approximately at right angles to the top face thereof.

The pivoted arms 7 and shoes 9 carried thereby are normally supported at points in- 85 termediate the ends of their vertical movements by means of spring-arms 13, the latter being secured at their inner ends to the bracket 2 and bearing at their outer ends against the under faces of the pivoted arms 7. The 90 spring-arms 13 may conveniently consist of a single or leaf strip of spring metal secured centrally between its ends to the bracket 2 and bearing at its extremities against the under faces of the pivoted arms 2, as shown in 95 Fig. 2. The springs 11 are so proportioned

that they support the horizontal faces of the shoes normally a slight distance above the tops of the rail-treads, with the depending portions of said shoes alongside of but out of contact with the rails. The portion 11 of each shoe depends below the upper face of the rail approximately the same distance that the flanges of the rail project below the tread of the rail, and said depending portions of the shoes are normally located a distance from the tread or head of the rail approximately equal to the thickness of the flanges of the wheels. With this construction and arrangement of parts it will be seen that when the beveled flanges of the wheels crowd against the rails (as when rounding a curve in the track) and begin to rise the portion 11 of the shoe 9 will approach the head of the rail and before the edge of the flanges of the wheels can reach the top of the rail-tread the portion 11 of the shoe will engage the side of the rail-tread. The frictional contact of the depending portion 11 of the shoe 9 with the rail-tread will retain it against the same, although the side of the truck may continue to rise until the flanges of the wheels shall have risen above the rail, this action of the shoe being permitted by the yielding of the spring 13, the latter having sufficient strength only to normally support the shoes free of the rail-tread. Thus the truck will be effectually prevented from leaving the rails and this without necessity for the manipulation of manually-operated controlling devices, the operation of my improvements being purely automatic.

By making the horizontal face 10 of the shoes curved and supporting said shoes by the pivoted arms in the manner hereinbefore described the shoes will readily yield vertically and ride over any obstruction which may be met with on the rails.

In Fig. 5 I have shown the application of my improvements to a freight-car truck. In this construction the arms 7 are pivotally attached to brackets 14, secured to the faces of brace 15 of the truck, and the spring which forms the spring-arms 13 is also secured to said central brace 15.

My improvements are exceedingly simple in construction, are automatic in operation, and are not liable to get out of order.

Various changes might be made in the details of construction of my invention without departing from the spirit thereof or limiting its scope, and hence I do not wish to limit myself to the precise details herein set forth.

Having fully described my invention, what

I claim as new, and desire to secure by Letters Patent, is—

1. The combination with a railroad-vehicle, of a derailment-guard comprising two arms attached to the vehicle and freely movable vertically in both directions from their normal position, shoes secured to said arms and springs maintaining said arms in their normal position with the shoes in proximity to but out of contact with the rails.

2. The combination with a railroad-vehicle, of a derailment-guard comprising two arms pivotally attached thereto and projecting in a horizontal direction from their pivotal support, said arms movable on their pivotal support in both directions from their normal positions, shoes secured to said pivoted arms and springs maintaining said arms in a normal position with the shoes in proximity to but out of contact with the rails.

3. The combination with a truck, of arms pivoted thereto and free to swing on their pivotal supports, a shoe at the free end of each arm and means for maintaining said shoes normally out of contact with the rails of a track and permitting them to automatically move in a vertical direction both above and below their normal position.

4. The combination with a truck, of arms pivoted thereto and projecting laterally in opposite directions and free to move automatically in both directions from their normal positions, a shoe secured to the free end of each arm, each shoe having a horizontal face to be disposed over the rail-tread and a vertical face to be disposed alongside the rail-tread, and springs normally holding said shoes normally at points between the ends of their vertical movements and free of the rails of the track.

5. The combination with a truck, of a bracket secured rigidly thereto, arms pivoted to said bracket and projecting laterally therefrom, a shoe secured to the free end of said arms and each having a portion to depend alongside the rail-tread, and springs secured to said bracket and bearing at their free ends against the under faces of the pivoted arms to maintain the shoes above the rails and below the upper extremity of their movement.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

RICHARD J. EDWARDS.

Witnesses:

R. S. FERGUSON,
A. W. BRIGHT.