

R. J. EDWARDS.  
 DERAILMENT GUARD FOR RAILROAD CARS.  
 APPLICATION FILED JUNE 14, 1909.

943,665.

Patented Dec. 21, 1909.

FIG. 1.

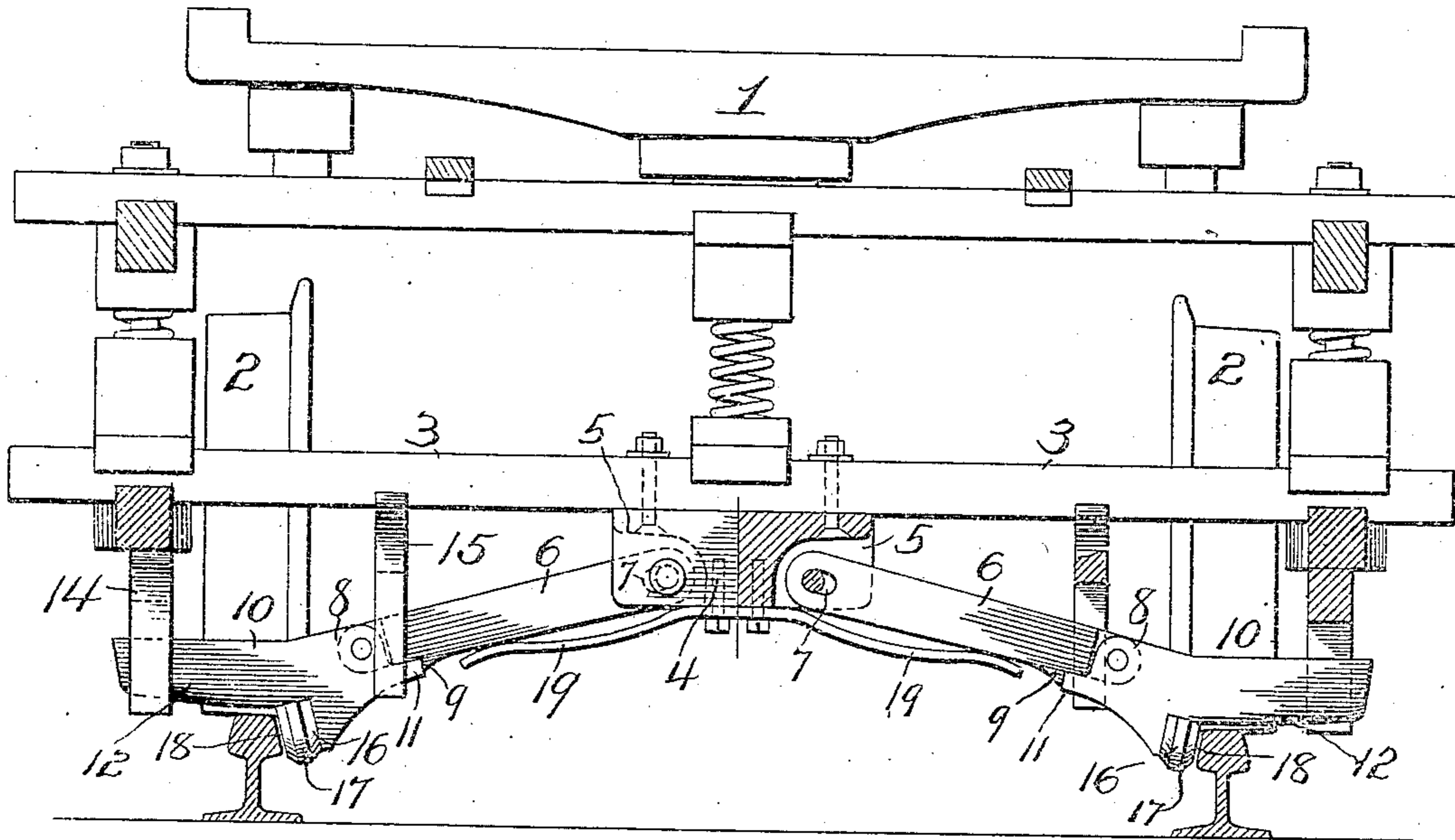


FIG. 2.

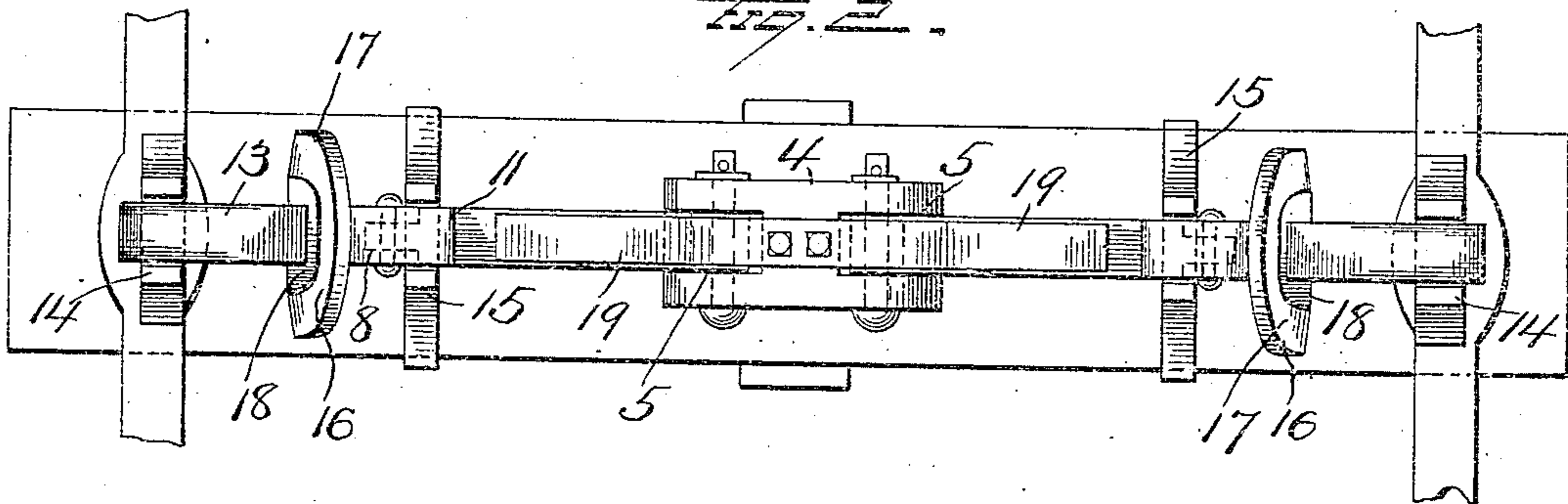
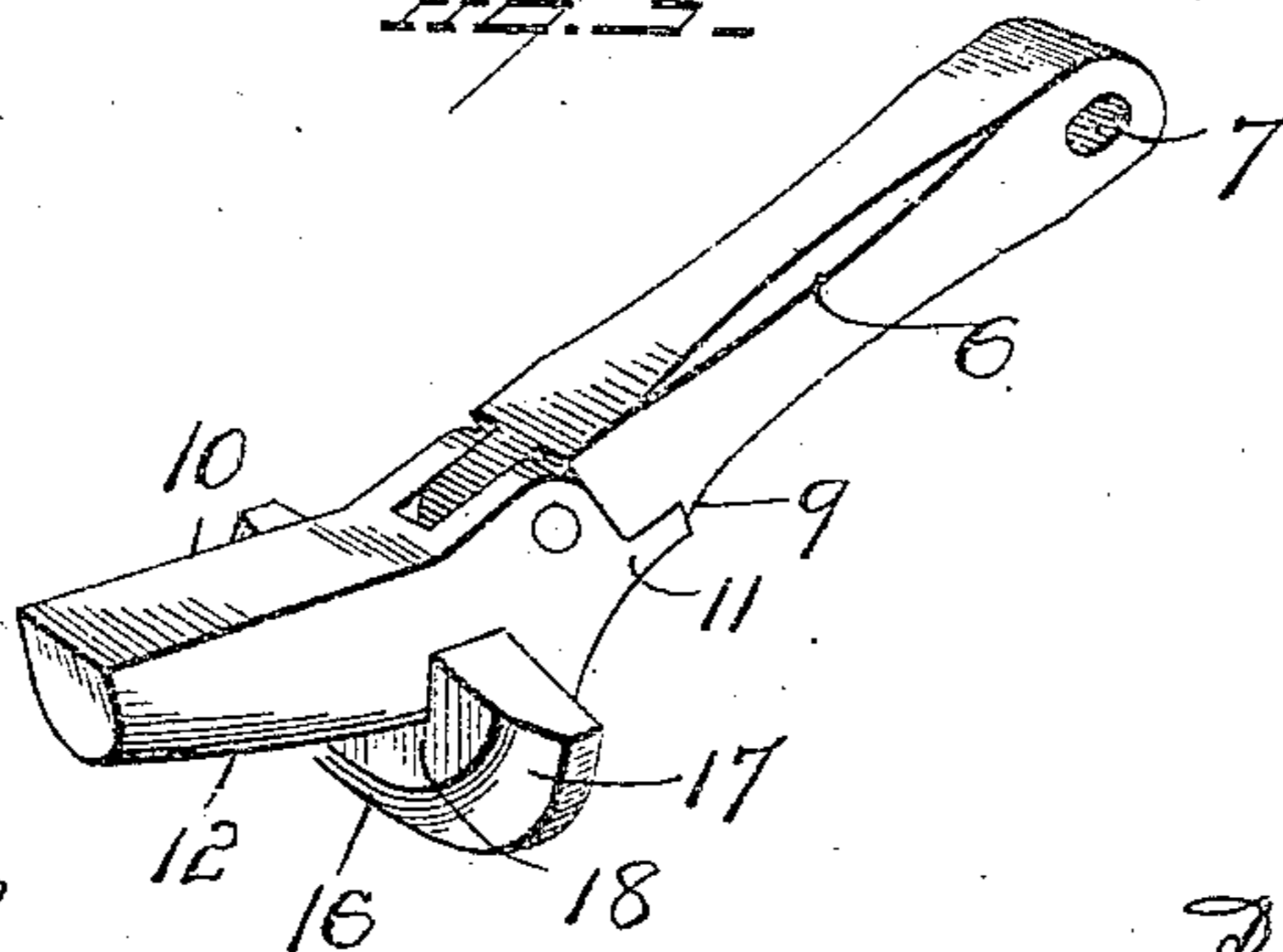


FIG. 3.



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# UNITED STATES PATENT OFFICE.

RICHARD JAMES EDWARDS, OF GALENA, ILLINOIS.

## DERAILMENT-GUARD FOR RAILROAD-CARS.

943,665.

Specification of Letters Patent.

Patented Dec. 21, 1909.

Application filed June 14, 1909. Serial No. 502,160.

*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 Improvements in Derailment-Guards for Railroad-Cars; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as it appertains to make and use the same.

This invention relates to improvements in derailment guards for railroad cars,—one object of the invention being to so construct a derailment guard that the engagement of the depending portion of the shoe with the side of the rail will be insured when the truck rises at one side and the wheels tend to leave the rail tread.

A further object is to so construct the shoe of a derailment guard that the depending portion of said shoe will pass readily through railroad frogs.

A further object is to construct the shoe of a derailment guard in such manner that it will not be liable to engage objects, such as a station platform, in close proximity to the rails.

A further object is to provide a derailment guard structure employing a shoe, with means for guiding said shoe and at the same time bracing the same,—said means being located on the truck so as to be disposed both inwardly and outwardly from the rails.

With these objects in view the invention consists in certain novel features of construction and combinations of parts as hereinafter described and pointed out in the claims.

In the accompanying drawings, Figure 1 is a transverse sectional view of a car truck showing the application of my improvements thereto and their relation to the railroad rails. Fig. 2 is a bottom plan view, and Fig. 3 is a detail view of one of the guard arms and shoe.

1 represents a car truck of any approved construction having suitable journal boxes for the axles of wheels 2. From the spring-board 3 of the truck, at the center thereof, a bracket 4 depends and is provided at its respective ends with the recess 5 in which the inner ends of guard-arms 6 are pivotally supported. These guard-arms are provided with elongated slots 7 for the passage of the pivot pins so as to permit a slight longitu-

dinal movement of said guard-arms and the shoes carried thereby to compensate for the longitudinal play of the wheels and axles relatively to the truck frame.

Each guard-arm 6 is provided at its outer end with a lug 8 and a shoulder 9. To the lug 8 of each guard-arm, a shoe 10 is pivotally attached so as to be capable of vertical movement and each shoe is provided with an inwardly projecting lip 11 which engages the shoulder 9 to retain the shoe normally in line with the guard-arm and prevent it from descending below such position. That portion of the shoe 10 which is disposed over the rail is inclined upwardly so that it will be free from engagement with objects, such as planked crossings adjacent to the track. The underface 12 is preferably slightly curved transversely. The outer portion of each shoe is guided between parallel guide-arms 14 which depend from the truck outwardly beyond the rails of the road. Similar guide-arms 15 depend from the spring-board and serve to guide the shoes and guard arms adjacent to the junctions of the same,—said last mentioned guide-arms being thus disposed inwardly removed from the rails. By this arrangement of guide-arms, each shoe will be guided and also braced near each of its ends.

Each shoe 10 is provided with a depending flange 16 to engage the side of the tread portion of the rail. Each flange 16 is made preferably about one foot in length, and each of its ends 17 is made wedge shaped and its lower portion beveled, while its intermediate portion is made with a straight engaging face 18 to make contact with the side of the rail-head.

Spring railway frogs are usually about 4 and one-half feet long and as the derailment guard is located midway between the wheels of the truck, the flange on the shoe of the guard will be in the frog about one foot at the instant that the wheels of the truck begin to move out of the frog. By making these flanges wedge-shaped at their respective ends, they will be permitted to readily enter the frog after the latter has been opened by the wheels of the truck in advance of the derailment guard.

The shoes 10 will be maintained normally slightly above the treads of the rails by means of springs 19 secured to the brackets 4 and bearing at their free ends against the under faces of the respective guard-arms.

When the car is rounding a curved portion of the road and the truck tends to rise on one side, the flange 16 of the shoe 10 at that side of the truck will engage the side of the rail head and its frictional contact with the guard-arm relatively to the shoe (the pivotal or hinge connection between said shoe and guard-arm permitting such movement) and said flange will be caused to properly engage the rail and maintain the shoe in proper and effective relation to the rail.

Having fully described my invention what I claim as new and desire to secure by Letters-Patent, is,—

1. The combination with a truck and derailment-guard-arms pivotally supported thereby, of a shoe hinged to the outer end of each of said arms and adapted to engage a rail.

2. The combination with a truck, and derailment-guard-arms pivotally supported thereby, of shoes pivotally connected with the free ends of said arms and adapted to engage railroad rails, and means for limiting the downward movement of each shoe relatively to the arm to which it is pivotally connected.

3. The combination with a truck and derailment-guard arms pivotally supported thereby and provided at their outer ends with lugs, of shoes pivoted to said lugs and provided with lips to engage the under faces of the arms for limiting the downward movement of the shoes relatively to the arms, and springs engaging said arms and maintaining the shoes normally elevated slightly above the treads of the rails.

4. The combination with a truck, of guard-arms pivotally supported thereby, shoes carried by said guard-arms and having their lower faces beveled upwardly from their inner ends outwardly and projecting over the treads of the rails, and a flange depending from each shoe at the inner end of said beveled portion and adapted to engage the side of the adjacent rail.

5. The combination with a truck, of guard-arms pivotally supported thereby, a shoe carried by each guard-arm and adapted to project over the rails and a flange depending from each shoe and adapted to engage the inner side of the adjacent rail, the flange of each shoe being elongated in form and having wedge-shaped ends.

6. The combination with a truck and guard arms pivotally supported thereby, of shoes pivotally attached to the outer ends of said guard-arms, each of said shoes adapted to project over a rail of the track and each shoe provided with a depending flange to engage the inner side of the adjacent rail, and two pairs of guide-arms for each shoe, said guide-arms depending from the truck and embracing the shoe near the outer end thereof and in proximity to the connection of the inner end of said shoe with the guard-arm respectively.

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

RICHARD JAMES EDWARDS.

Witnesses:

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M. E. COLTMAN.