

(No Model.)

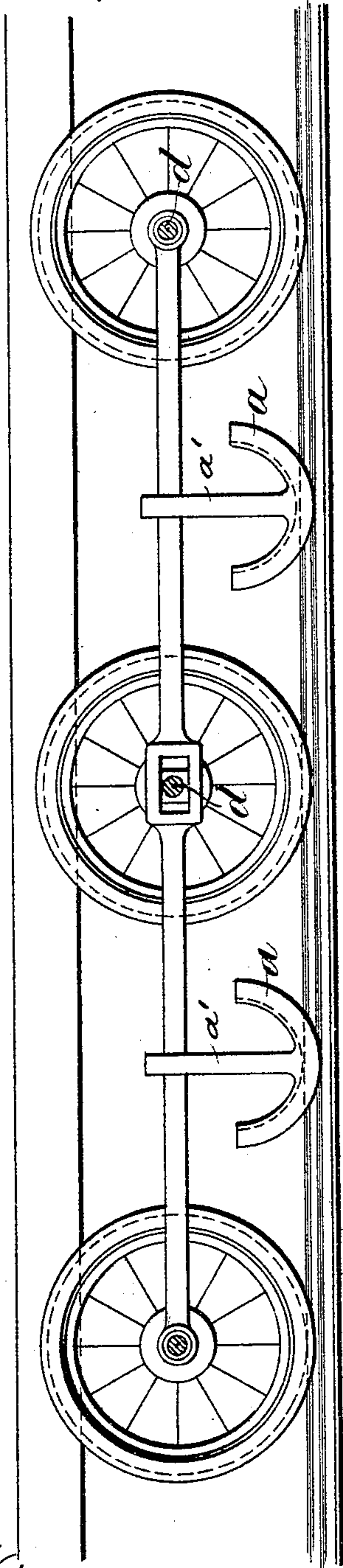
2 Sheets—Sheet 1.

H. L. SIMMONS.  
GUARD SHOE FOR RAILWAY VEHICLES.

No. 481,068.

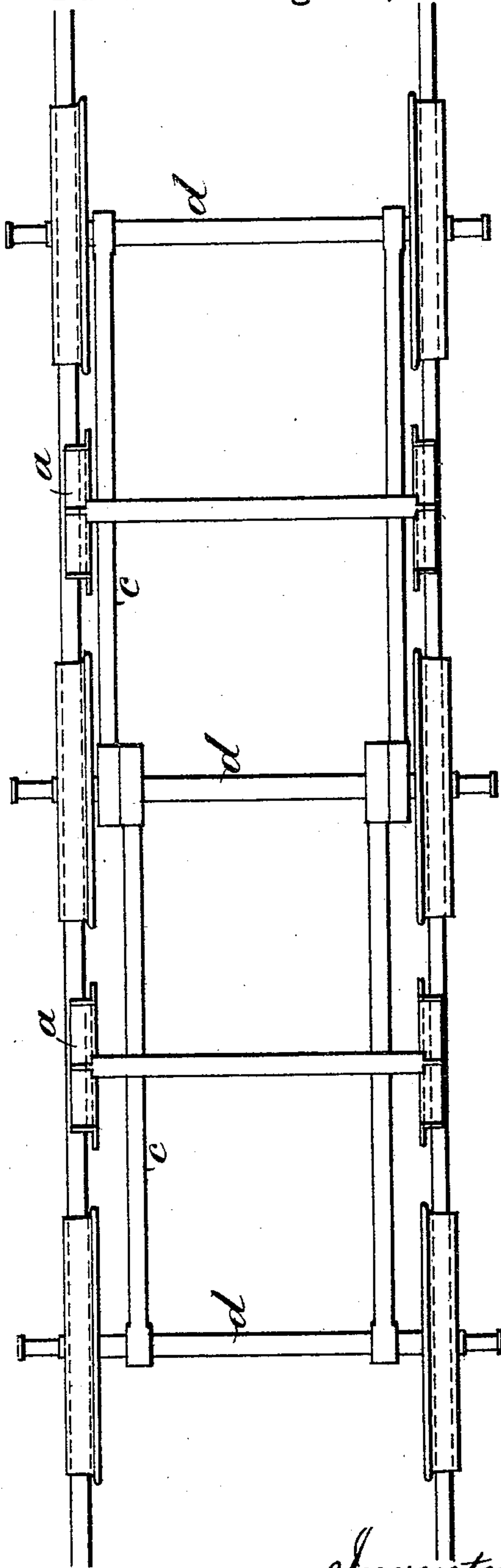
Patented Aug. 16, 1892.

*Fig. 2*



Witnesses:  
Walter Allen  
John Cullen

*Fig. 1.*



Inventor.  
Henry L. Simmons.  
by Herbert W. Jenner  
Attorney.

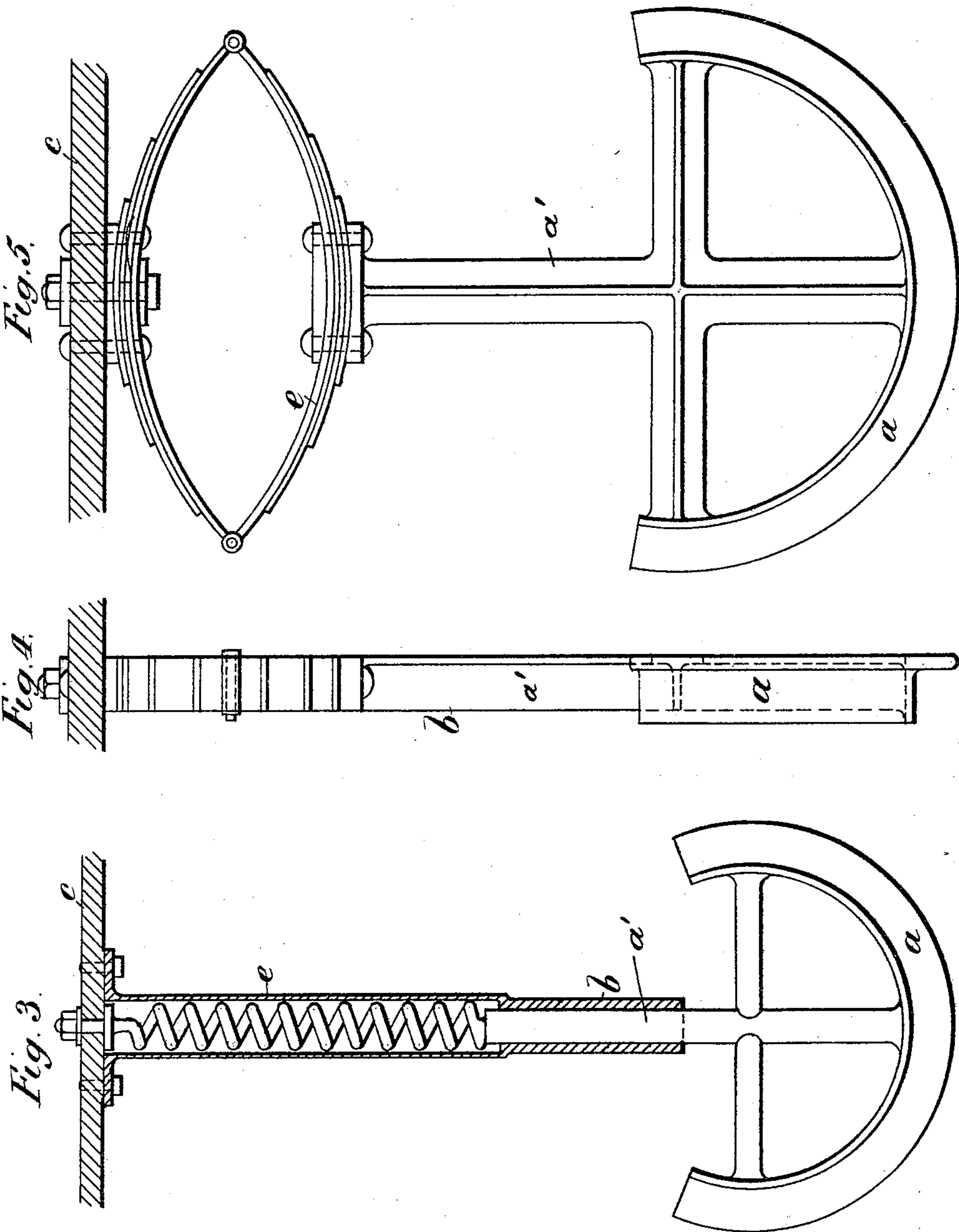
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# UNITED STATES PATENT OFFICE.

HENRY LATIMER SIMMONS, OF ST. DAY, ENGLAND.

## GUARD-SHOE FOR RAILWAY-VEHICLES.

SPECIFICATION forming part of Letters Patent No. 481,068, dated August 16, 1892.

Application filed February 20, 1892. Serial No. 422,327. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY LATIMER SIMMONS, a subject of the Queen of Great Britain and Ireland, residing at St. Day, in the county of Cornwall, England, have invented certain new and useful Improvements in Guard-Shoes for Railway-Vehicles; 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.

This invention for improvements in guard-shoes for railway-vehicles has for its object to prevent railway-vehicles from jumping or running off the line; and it consists, essentially, in fitting the railway-vehicle with guard-shoes having their acting surfaces parallel and close to the rail below its face, but high enough to avoid coming in contact with the sleepers or other fixtures belonging to railroads.

In the accompanying two sheets of illustrative drawings, Figure 1 is a plan of a vehicle-frame fitted with guard-shoes and standing on rails, and Fig. 2 is a side elevation of the same. Fig. 3 is a side elevation of a guard-shoe, and Fig. 4 is an end elevation of the same. Fig. 5 is a similar view to Fig. 3, showing a slightly-modified shoe.

The shoes *a* are provided with central stems *a'*, which slide vertically in guides *b*, secured to longitudinal bars *c*, fixed on the vehicle-axles *d*. The shoes *a* are attached to springs *e*, secured to the bars *c*, so that when the shoe meets an obstruction on the line or a crossing it automatically rises and again descends when the obstruction is passed.

In the modified arrangement shown in Fig. 5 the guides *b* are dispensed with, the springs *e* being accordingly modified. Where circumstances permit such, as in single lines where there are no fixtures for the shoes to pass, the springs are dispensed with and the shoes rigidly attached to the longitudinal bars *c*. Should the vehicle tend to leave the line, the shoes on one side of the vehicle will bear against the side of the rail and again bring it to its normal position on the rails.

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

1. The combination, with the longitudinal bars carried by the axles, of the rail-guard shoes provided with central stems connected to the said bars and depending from them, substantially as set forth.

2. The combination, with a longitudinal bar carried by the axles, of a rail-guard shoe provided with a central stem and a spring connecting the said stem with the said bar, substantially as set forth.

3. The combination, with the stationary tube *e*, carried by the car and provided with a guide at its lower end, of a rail-guard shoe provided with a central stem sliding in the said guide and a spring inclosed within the said tube and adapted to support the said shoe and permit it to rise, substantially as set forth.

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

HENRY LATIMER SIMMONS.

Witnesses:

S. SIMMONS,  
M. PRYOR.