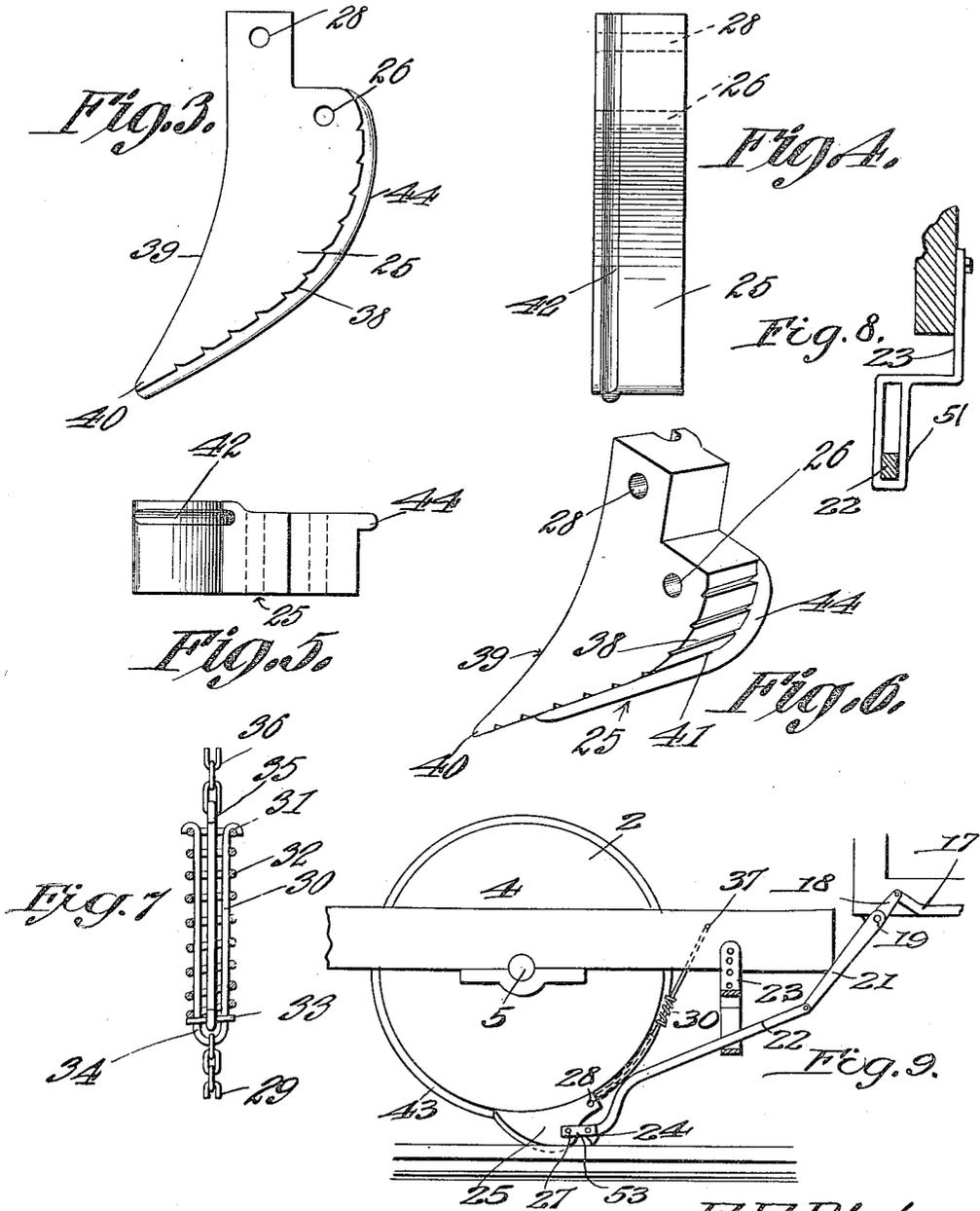




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 EMERGENCY SHOE.  
 APPLICATION FILED NOV. 27, 1914.

1,154,809.

Patented Sept. 28, 1915.  
 2 SHEETS—SHEET 2.



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# UNITED STATES PATENT OFFICE.

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## EMERGENCY-SHOE.

1,154,809.

Specification of Letters Patent. Patented Sept. 28, 1915.

Application filed November 27, 1914. Serial No. 874,246.

*To all whom it may concern:*

Be it known that I, FERNAND E. RIVIERE, a citizen of the United States, residing at New Orleans, in the parish of Orleans and State of Louisiana, have invented a new and useful Emergency-Shoe, of which the following is a specification.

The device forming the subject matter of this application is a brake adapted to be introduced at the will of an operator between the periphery of the wheel of a vehicle, such as a railroad car, and the track, for the purpose of producing a braking action.

One object of the present invention is to provide novel means for supporting and actuating the shoe which is introduced between the periphery of the wheel and the track; and another object of the invention is to improve the construction of the shoe.

The invention aims to improve generally and to enhance the utility of devices of that type to which the present invention appertains.

With the above and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the accompanying drawing: Figure 1 is a view partly in section and partly in elevation showing a railroad car equipped with the brake mechanism forming the subject matter of this application; Fig. 2 is a top plan of the brake mechanism; Fig. 3 is a side elevation of the shoe; Fig. 4 is an elevation showing one edge of the shoe; Fig. 5 is a top plan of the shoe; Fig. 6 is a perspective of the shoe; Fig. 7 is an elevation showing a longitudinally extensible connection whereby the shoe is assembled with the truck frame; Fig. 8 is a vertical sectional detail illustrating one of the guides or hangers in which the shoe actuating plunger is mounted; Fig. 9 is a fragmental side elevation showing the position of the shoe and adjacent parts when the shoe coacts with the wheel.

In the drawings, the numeral 1 indicates generally a vehicle of any desired type, such as a trolley or railroad car.

The wheels of the car 1 are denoted by the numeral 2 and the rim of the wheel is indicated by the reference character 43.

The track which is traversed by the wheels of the car is shown at 3.

The numeral 4 indicates the truck frame and carries axles 5 upon which the wheels 2 are immediately mounted.

The platform of the car is shown at 6.

Mounted upon some accessible portion of the car, as in the platform 6, is a base plate 7 equipped with an upstanding ear 8 carrying a pivot element 9 upon which is fulcrumed a lever 10 extended downwardly through the platform 6, the lever 10 being provided with suitable latch mechanism of any desired sort indicated at 11 and adapted to coact with a segment 12 which if desired may be fixed to the base plate 7. Secured to the lower end of the lever 10 and to the car is a retractile spring 50 which serves to prevent too abrupt a throwing of the lever 10 and also aids in returning the parts to the positions shown in Fig. 1.

Pivotaly connected with the lower end of the lever 10 as shown at 14 is a rearwardly extended pitman 15, mounted to reciprocate in a guide 16 carried by the platform 6. The rear end of the pitman 15 upwardly inclined to form an arm 17 pivotaly connected as shown at 17<sup>a</sup> with an upstanding crank arm 18 on a shaft 19 journaled for rotation in bearings 20 carried by any accessible portion of the frame of the car 1. Projecting downwardly from the shaft 19 is an arm 21 to which is pivoted as shown at 21<sup>a</sup>, a downwardly and rearwardly extended plunger 22. The plunger 22 at its rear end is formed into a goose neck 24 received within a guide 23 depending from the truck frame 4. When the parts are not in operation, as shown in Fig. 1, the goose neck 24 rests upon the lower portion of a loop-shaped head 51 constituting a part of the guide 23. The plunger 22 is mounted to move vertically in the loop-shaped head 51 of the guide 23 but cannot rotate or move laterally, as Fig. 8 will make evident. The goose neck 24 terminates in a curved finger 52 and to the goose neck are pivoted links 53.

The invention includes a shoe 25 provided near its upper end with an opening 26 receiving a pivot element 27 which is connected to the links 53. In the shoe 25 at its upper end is formed an opening 28 adapted to receive the lower end of a chain 29 constituting a part of a longitudinally extensible, resilient connection. The upper end of the chain 29 is assembled with the bend of a U-shaped link 30 provided at its upper end with hooks 31. A compression spring 32 surrounds the U-shaped link 30 and the upper end of the spring 32 is engaged by the hooks 31. The lower end of the spring 32 is engaged by a cross pin 33 mounted in an eye 34 formed at the lower end of a link 35, the upper end of which is connected with a chain 36, the upper end of the chain 36 being connected as shown at 37 with the truck frame 4.

The forward edge face of the shoe 25 is convexed as shown at 38 and the rear edge face of the shoe 25 is concaved as shown at 39 to conform properly to the periphery of the wheel 2. The faces 38 and 39 cooperate to define an entering point 40 which, when the device is operated, is adapted to move between the periphery of the wheel 2 and the track 3. The forward edge face of the shoe 25 is a friction face, and with this end in view, the said face may be grooved or ribbed transversely as shown at 41. The rear, concaved edge 39 of the shoe which coacts with the periphery of the wheel 2 is grooved longitudinally as shown at 42 so as to receive the rim 43 of the wheel 2. Extended outwardly from the friction face of the shoe 25 is a rib 44 which is adapted to engage the inner edge of the track 3 when the device is in operation, and owing to the cooperation between the rib and the track 3 upon the one hand and between the groove 42 and the rim 43 of the wheel 2 upon the other hand, a movement of the shoe in a lateral or transverse direction is avoided.

When the structure is not in use, as shown in Fig. 1, the shoe 25 is retracted from the periphery of the wheel 2. The goose neck 24 of the plunger 22 is supported upon the lower portion of the head 51 of the guide 23, and thus the shoe 25 is upheld, the lower chain 29 of the longitudinally extensible connection hanging slack.

In order to operate the structure, the pitman 15 is actuated through the medium of the lever 10, the spring 50 being put under tension. The shaft 19 is rocked, and through the instrumentality of the crank arm 18, the plunger 22 is moved rearwardly, the goose neck 24 riding off the guide bracket 23 and the shoe 25 thus being lowered. The entering point 40 of the shoe passes between the periphery of the wheel 2 and the track 3, the wheel riding up onto the shoe and the shoe sliding along the

track. The longitudinally extensible connection shown in Fig. 7 permits the wheels 2 to ride up onto the shoe, but prevents the wheel from riding over the shoe.

When the device is not in use, as shown in Fig. 1, the finger 52 which is formed at the rear end of the plunger 23 bears upon the shoe and supports the shoe in position. When the shoe 25 enters between the wheel 2 and the rail 3, the shoe is tilted, and when the shoe is thus tilted, the goose neck 24 in the plunger 22 receives the upper end of the shoe and prevents the plunger 22 from being strained by direct contact between the upper end of the shoe and the plunger. The shoe 25 may be raised into the position shown in Fig. 1 by a proper manipulation of the lever 10, the raising of the shoe and attendant parts being facilitated by the action of the spring 32 and the spring 50.

Having thus described the invention, what is claimed is:—

1. In a device of the class described, a wheel mounted vehicle; a fixed, depending guide thereon; an inclined plunger mounted to move longitudinally through the guide in direct contact therewith; a wheel engaging shoe pivoted to the plunger; and means for advancing the plunger to lower the shoe; the plunger being provided with means engaging the shoe to prevent a movement of the shoe in one direction with respect to the plunger, thereby to hold the shoe against tilting with respect to the wheel, when the shoe is elevated.

2. In a device of the class described, a wheel mounted vehicle; a plunger carried thereby; means for actuating the plunger; and a wheel and track-engaging shoe pivotally assembled with the plunger, the plunger being provided with a goose neck adapted to receive the upper end of the shoe.

3. In a device of the class described, a wheel mounted vehicle; a guide carried thereby; a plunger mounted to move in the guide and including a goose neck engaging the guide to support the plunger; means for actuating the plunger to move the goose neck off the guide; and a wheel and track engaging shoe pivotally assembled with the plunger, the goose neck being adapted to receive the upper end of the shoe.

4. In a device of the class described, a wheel mounted vehicle; a plunger carried thereby; and a wheel and track-engaging shoe pivotally assembled with the plunger; the plunger comprising a goose neck adapted to receive the upper end of the shoe when the shoe is tilted, and comprising a finger engaging the shoe to support the shoe when the shoe is elevated; and means for actuating the plunger.

5. In a device of the class described, a wheel mounted vehicle; a guide carried thereby; a plunger mounted to move in the

guide; means for actuating the plunger;  
and a track-engaging shoe assembled with  
the plunger; the plunger comprising a  
goose neck adapted to rest upon the guide to  
5 uphold the shoe, and comprising a finger  
engaging the shoe to limit the tilting move-  
ment of the shoe in one direction, the goose  
neck being adapted to ride off the guide and  
being adapted to receive the upper end of

the shoe when the shoe is tilted out of en- 10  
gagement with the finger.

In testimony that I claim the foregoing  
as my own, I have hereto affixed my signa-  
ture in the presence of two witnesses.

FERNAND E. RIVIERE.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,  
Washington, D. C."