

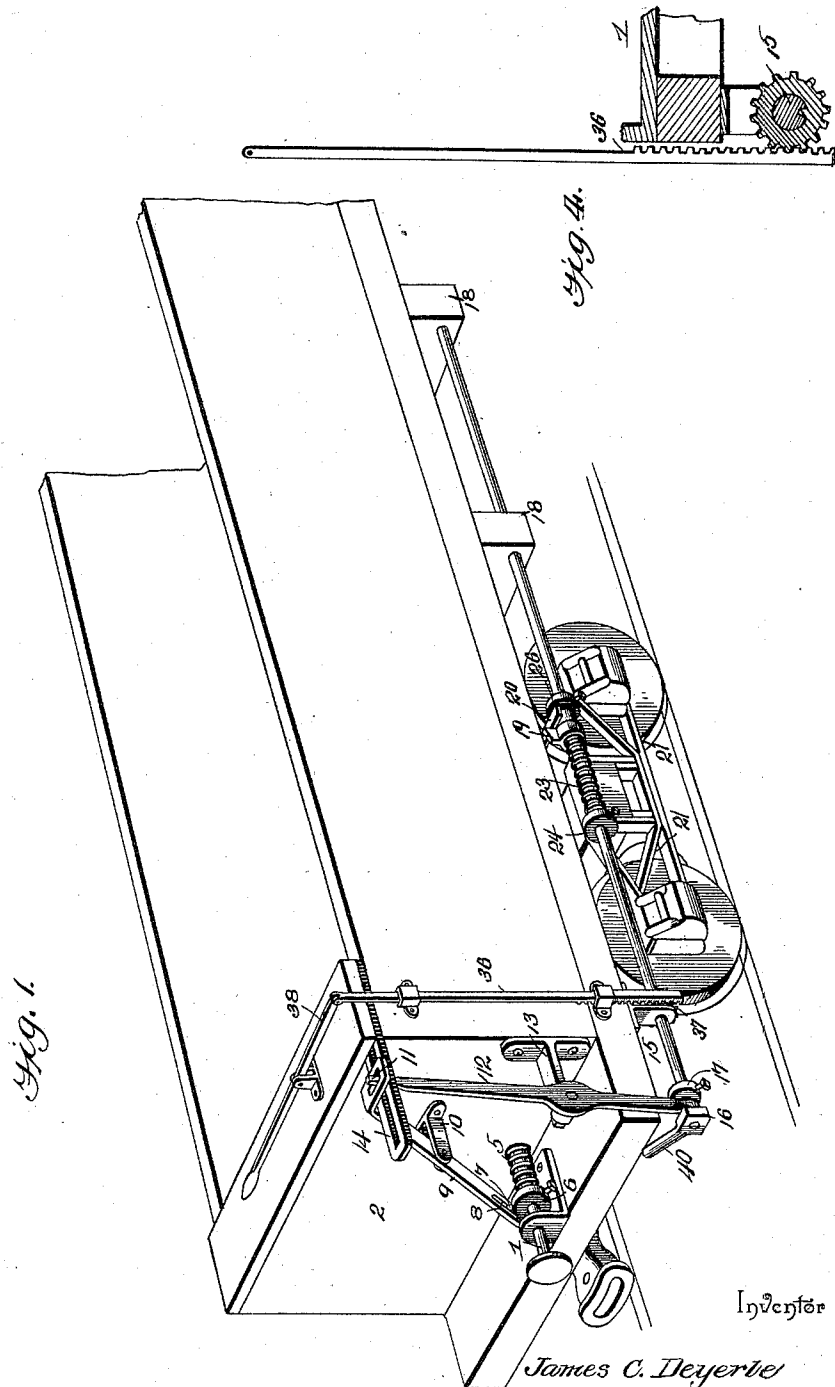
(No Model.)

2 Sheets—Sheet 1.

J. C. DEYERLE.
BRAKE FOR RAILWAY CARS.

No. 535,819.

Patented Mar. 19. 1895.



Witnesses

Jos. L. Stack
J. H. Riley

By *W. S. Attorneys.*

James C. Deyerle
Admors & Co.

(No Model.)

2 Sheets—Sheet 2.

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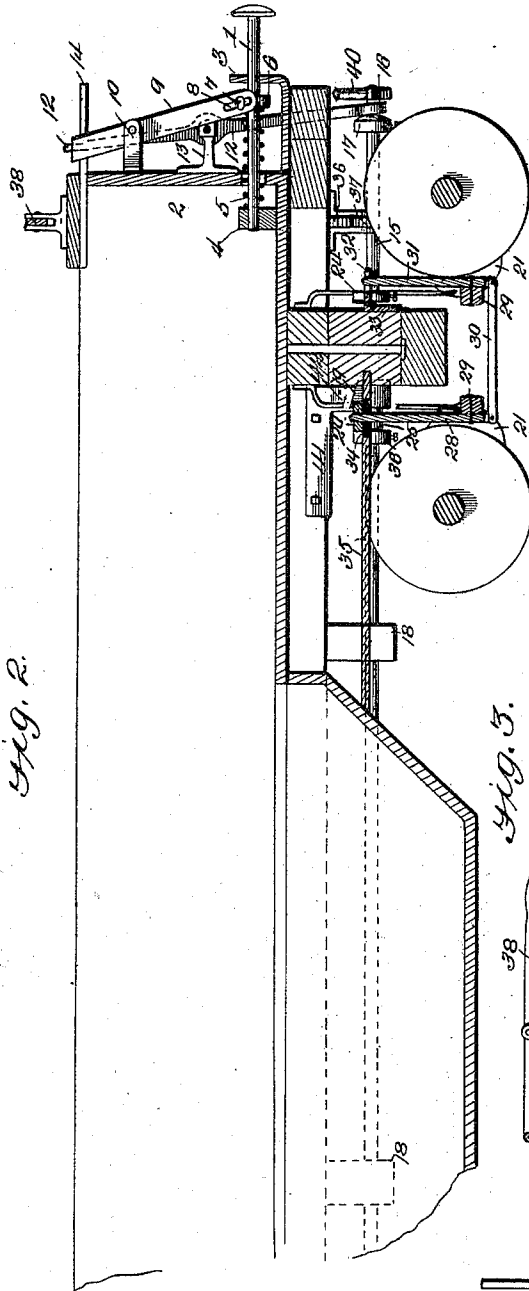


Fig. 2.

Fig. 5.

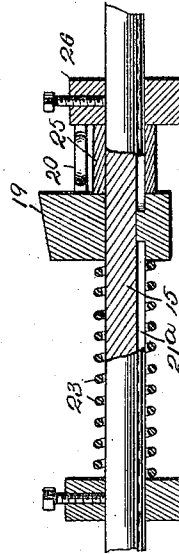


Fig. 3.

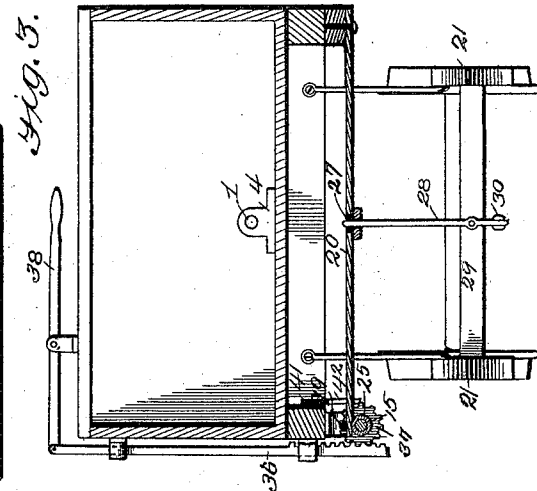
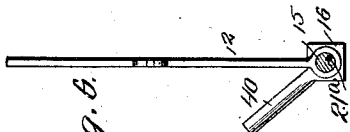


Fig. 6.



Witnesses

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J. H. Piley

By his Attorneys.

James C. Deyerle.
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UNITED STATES PATENT OFFICE.

JAMES C. DEYERLE, OF SALEM, VIRGINIA.

BRAKE FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 535,819, dated March 19, 1895.

Application filed December 27, 1894. Serial No. 533,083. (No model.)

To all whom it may concern:

Be it known that I, JAMES C. DEYERLE, a citizen of the United States, residing at Salem, in the county of Roanoke and State of Virginia, have invented a new and useful Automatic Brake for Railway-Cars, of which the following is a specification.

The invention relates to improvements in automatic brakes for railway cars.

10 The object of the present invention is to provide an attachment designed especially for freight cars, and adapted to apply automatically the brakes when the cars of a train contact, as in descending a grade, and thus
15 prevent the cars composing the train from crowding the engine; and to relieve the wheels of the brakes automatically after a grade has been passed, or when traveling on a level, or ascending a grade.

20 The invention consists in the construction and novel combination and arrangement of parts, hereinafter fully described, illustrated in the accompanying drawings and pointed out in the claims hereto appended.

25 In the drawings: Figure 1 is a perspective view of one end of a car, provided with an automatic brake, constructed in accordance with this invention. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is a transverse sectional view, taken longitudinally of the brake lever. Fig. 4 is a detail sectional view illustrating the construction of the rack-bar and pinion for throwing the attachment into and out of operation. Fig. 5 is a detail
35 sectional view of the reciprocating shaft or bar, illustrating the construction of the yielding lug, and the manner of mounting and cushioning the same. Fig. 6 is a detail sectional view illustrating the construction of the arm for enabling the reciprocating rod to be operated from the ground.

Like numerals of reference indicate corresponding parts in all the figures of the drawings.

45 1 designates a slidingly mounted operating push-bar, projecting horizontally from one end of a car 2, and arranged in suitable guides or bearings 3 and 4, and having disposed on it a spiral spring 5, interposed between the
50 adjacent end of the car or the guide 4 and an adjustable collar 6, and forming of the push-

bar a yielding bumper or cushion. The adjustable collar 6, is secured by means of a set-screw, and is provided with a projection 7 arranged in a slot 8 of the lower end of an inclined lever 9, which is fulcrumed on the end
55 of the car in a bracket 10; and the upper end of the lever 9 is provided with a slot 11, and loosely receives the upper end of a substantially vertically disposed lever 12 fulcrumed
60 at the end of the car on a bracket 13. The upper end of the lever 12 is located in a slot of a horizontally disposed guide-plate 14, projecting horizontally from the car.

The lower end of the lever 12 is provided
65 with an eye or hook, and is connected with the outer end of a reciprocating rod or shaft 15 by means of a nut 16, and an adjustable collar 17, and the reciprocating rod or shaft is journaled in bearings 18 at one side of the
70 car. The reciprocating rod or shaft carries a yielding lug 19 arranged to engage a brake-lever 20, connected to and adapted to apply brake-shoes 21 of a brake-mechanism to the wheels, whereby when the push-bar is forced
75 inward, incident to the car contacting with another, as when descending a grade, the brake will be yieldingly applied.

The lug 19 is provided with a sleeve, which receives the reciprocating rod or shaft, and is
80 splined to the same, the reciprocating rod or shaft being provided with a longitudinal groove 21^a to receive a projection extending inward from the sleeve of the lug. By this construction the lug is capable of an inde-
85 pendent movement longitudinally of the reciprocating rod or shaft, but is fixed to the same with relation to any rotary movement thereof. A spiral spring 23 is disposed on the rod or shaft, and is located in advance of the
90 lug, and in rear of an adjustable collar 24, whereby when the rod or shaft is forced rearward, it yieldingly engages the lug, and causes the latter to similarly engage the brake-lever. A spacing sleeve 25 is disposed on the
95 rod or shaft in rear of the lug to receive the brake-lever, and an adjustable collar 26 is fixed to the rod or shaft in rear of the sleeve 25, in order to retain the brake-lever in position to be engaged by the lug.

The brake lever 20 is arranged horizontally, and is disposed transversely of the car, and is
100

fulcrumed at one side thereof opposite that on which the reciprocating rod or shaft is mounted, and it is provided intermediate of its ends with a slot 27, receiving the upper end of a lever 28, which is connected intermediate of its ends with a brake-beam 29, and which has its lower end connected by a bar or rod 30, with a similar lever 31, and the latter is connected intermediate of its ends with a brake-beam 29, and has its upper end located in an opening 32 of a bracket 33 secured to the truck, and forming a bearing for the lever 31. The upper end of the lever 28 is guided in an opening 34 of a flat bar 35, and when the horizontally disposed brake lever is operated by the reciprocating rod or shaft, the brake-shoes are applied to the wheels.

Any suitable brake-mechanism may be employed, and may be connected with the usual mechanism for operating brakes by hand, and as this construction is well understood in the art, detail description and illustration thereof are unnecessary.

The reciprocating rod or shaft is partially rotated to carry the lug 19 into and out of position for engaging the brake-lever by means of a rack bar 36, and a pinion 37. The pinion 37 is splined to the reciprocating rod or shaft, and permits the same to move longitudinally through it by engaging the groove thereof; and the rack-bar is mounted for vertical movement on one side of the car, and meshes with the pinion; and the upper end of the rack-bar is connected to an operating lever 38, which is fulcrumed at one end of the car, and is in convenient position to be readily operated by a train hand. The brake-beams are suspended by links, or any suitable means, from the frame of the truck. The reciprocating rod may be partially rotated from the ground, by means of an arm 40, rigidly mounted on the end of the rod, by means of the nut 16, the arm 40 being preferably formed integral with the nut 16.

The car is provided on the inner face of one of its side beams with a plate or iron 41, having a depending stop 42 arranged to be engaged by the brake lever, when the brake shoes are off the wheels and the brake is not applied, to limit the movement of the brake lever, and prevent the same from following the lug 19 to the extreme end of its movement, to prevent the said brake lever from binding against the lug. By means of this stop the lug is maintained free to swing downward when the rock-shaft is rotated.

It will be understood that a set of operating mechanism similar to that just described, is designed to be applied to each end of a car, and the push-bars of one car are designed to be arranged to engage those of another, and it will be readily apparent that the cars are cushioned against shocks, and that, in descending a grade, the brakes are automatically applied when the cars come in contact with one another. It will also be seen that the wheels are automatically relieved of the

brakes by the spiral springs, as soon as the cars are free and out of contact.

Changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

What I claim is—

1. The combination with a car, having a brake mechanism provided with a brake-lever, of a reciprocating rod journaled on the car and adapted to engage the brake-lever, a yielding mounted push-bar projecting from one end of the car, an inclined lever fulcrumed on the car at the end thereof and having its lower end connected with the push-bar, and an upward extending lever having its upper end connected with the inclined lever, and its lower end connected with the reciprocating rod, substantially as described.

2. The combination with a car, provided at one end with a horizontally disposed guide having an opening, of a brake-mechanism mounted on the car and having a brake-lever, a reciprocating rod journaled on the car and arranged to engage the brake-lever, a push-rod or bar slidably mounted on the car and projecting from one end thereof and provided with a projection, an inclined lever having its ends slotted and fulcrumed on the car, its lower end receiving said projection, and an upward extending lever having its lower end connected with the reciprocating rod, and having its upper end arranged in said guide and in the slot at the adjacent end of the inclined lever, substantially as described.

3. The combination with a car, of a brake-mechanism mounted on the car and having a brake-lever, a reciprocating rod journaled on the car and carrying a lug for engaging the brake-lever, a push-bar mounted on the car and connected with the reciprocating rod, a pinion connected with the reciprocating rod and adapted to turn the same, a rack-bar mounted on the car and meshing with the pinion, and a lever connected with the rack-bar for operating the same, whereby the said lug is carried into and out of position for engaging the brake-lever, substantially as described.

4. The combination with a car having a brake-mechanism provided with a brake-lever, of a reciprocating rod journaled on the car and provided with a yielding mounted lug for engaging the brake-lever, a push-bar mounted on the car and projecting therefrom, the inclined and the upward extending levers having their upper ends connected with each other, and fulcrumed intermediate of their ends on the car and having their lower ends respectively connected with the push-bar and the reciprocating rod, a pinion connected with the reciprocating rod, a rack-bar mounted on the car and meshing with the pinion, and means for operating the rack-bar, substantially as described.

5. The combination with a car, of brake-

beams carrying brake-shoes, the upward extending levers 28 and 31, having their lower ends connected and attached intermediate of their ends to the brake-beams, a bracket receiving the upper end of the lever 31, a brake-lever disposed transversely of the car and having an opening receiving the upper end of the other lever 28, a guide having an opening receiving the lever 28, and the reciprocating rod

for operating the brake-lever, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JAMES C. DEYERLE.

Witnesses:

JACOB S. BAER,

EMILY F. TALIAFERRO.