(No Model.)

2 Sheets—Sheet 1.

S. A. BEMIS.

CAR TRUCK.

No. 299,510. Patented June 3, 1884.

Fig. 1

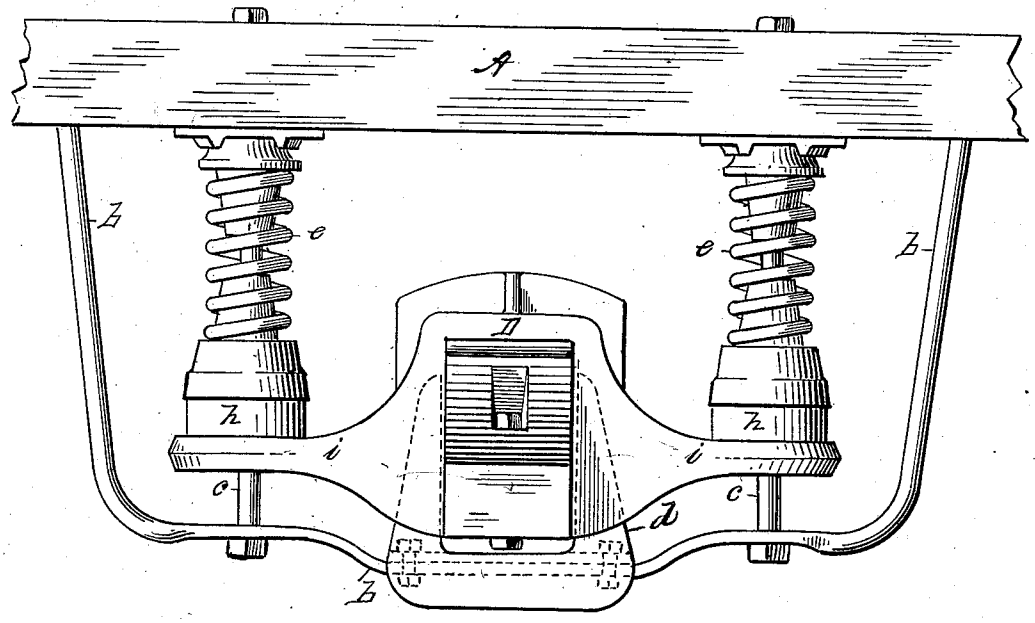


Fig 2

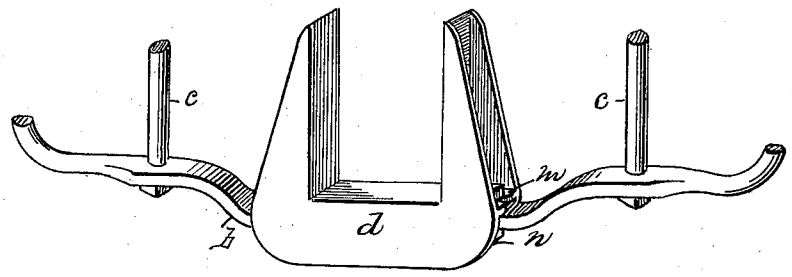


Fig 3

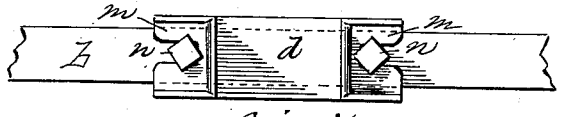
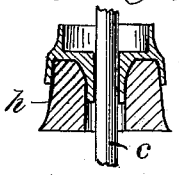


Fig 7



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J. D. Garfield

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BY Henry A Chapin

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N. PETERS. Photo-Lithographer. Washington. D. C.

(No Model.) 2 Sheets—Sheet 2.

S. A. BEMIS.

CAR TRUCK.

No. 299,510. Patented June 3, 1884.

Fig 4

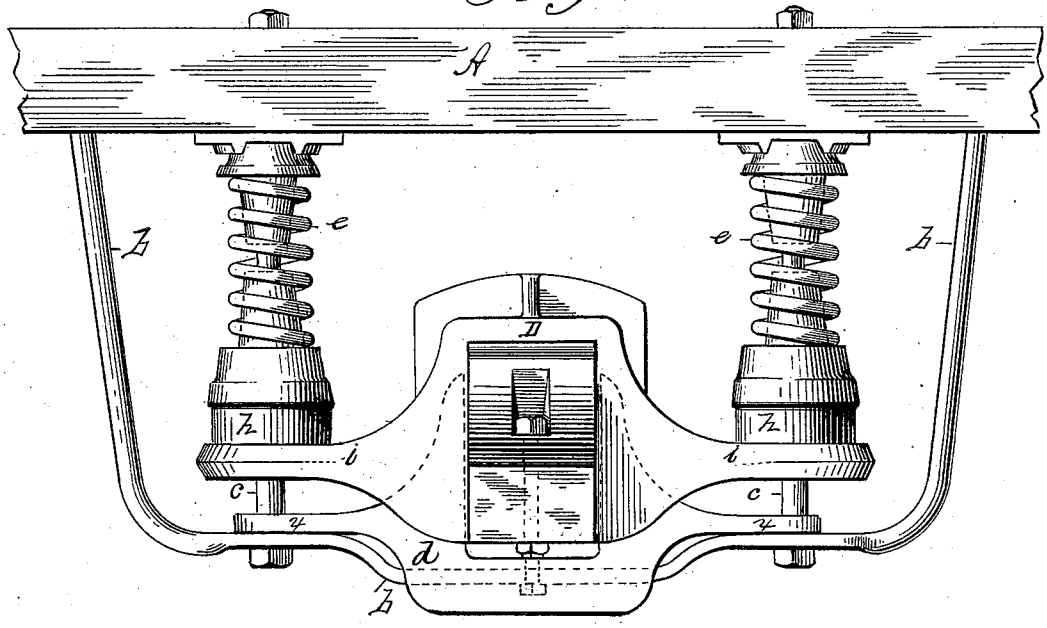


Fig 5

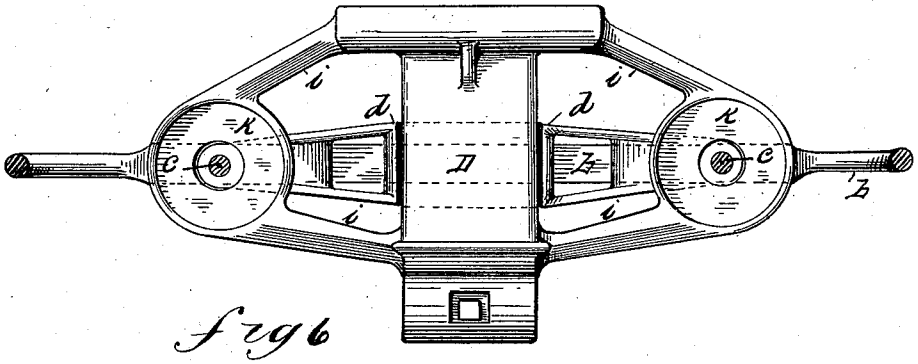
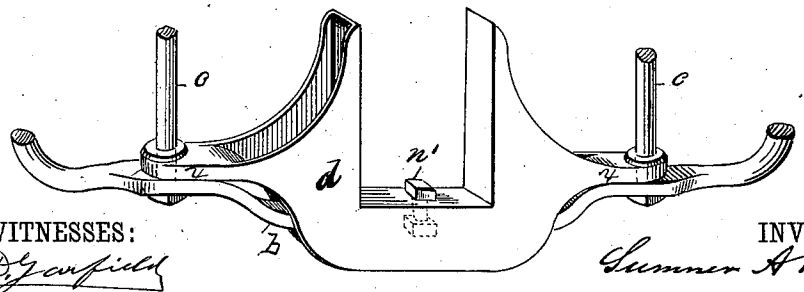


Fig 6



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UNITED STATES PATENT OFFICE.

SUMNER A. BEMIS, OF SPRINGFIELD, MASSACHUSETTS.

CAR-TRUCK.

SPECIFICATION forming part of Letters Patent No. 299,510, dated June 3, 1884.

Application filed December 5, 1883. (No model.)

To all whom it may concern:

Be it known that I, SUMNER A. BEMIS, a citizen of the United States, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Axle-Box Connections for Railway-Cars, of which the following is a specification.

This invention relates to improvements in axle-box housings or connections for railway-cars, the object being to provide improved means for supporting the axle-box opposite its vertical sides, whereby each axle-box is supported on the car independent of any other box on the same side of the car, and whereby the movement of the end of the axle occasioned by the application of the brake to the wheel is first met by a flexible resistance and finally by an immovable one.

In the drawings forming part of this specification, Figure 1 illustrates a portion of the frame of a car having applied thereto an axle-box and housings or connections constructed according to my invention. Figs. 2 and 3 are detail parts of Fig. 1. Fig. 4 is a similar view to Fig. 1, but showing a modified construction of the box-shoe in so far as the manner of securing it to the supporting-strap is concerned. Figs. 5 and 6 are detail views of parts of Fig. 4. Fig. 7 is a vertical section of the lower part of one of the springs.

In the drawings, A indicates a part of a car-frame, and to the under side of the latter is firmly secured the iron strap *b* by its ends, and centrally between the spring-studs *c c* on said strap is bolted rigidly the car-box shoe *d*. Said shoe is provided with a slotted web, *m*, on each side, and bolts *n n* pass through said slots and the strap *b*, whereby the shoe is secured to the latter. The car-box D is placed between the vertical sides or jaws of the shoe *d*, said jaws extending upward opposite the vertical sides of the car-box and between the lateral braces *i* on each side of the box. The opening between the jaws of the shoe *d* is made wider than the thickness of the car-box, and the latter is adjusted to a position about midway between the faces of said jaws, for the purpose of allowing the box a certain degree of lateral movement therebetween.

At the extremity of the outer ends of the braces *i*, on the opposite sides of the car-box D, are formed the spring-cups K K, which receive the lower ends of the rubber springs *h h*, which, with the steel spiral springs *e e*, and the usual intermediate connections, form ordinary car-springs. The spring-studs *c c* are rigidly secured to the frame part A and to the strap *b*, passing through the aforesaid springs and through the center of the cups K K, whereby the box D is properly supported. As shown in Fig. 7, the spring-stud *c* is of smaller diameter than the hole in the lower end of the spring *h*. The aforesaid springs *h* fit within a raised border around cups K, which prevents the springs from becoming displaced, and compels the base of the spring to sway laterally with such movement of the car-box. It will be seen by reference to Fig. 5 that the spring-stud hole through cup K is of considerably greater diameter than the stud.

The cup parts of the car-box, lettered K, are designated "spring-steps."

The modified feature of construction illustrated in Figs. 4, 5, and 6 consists only in the manner of securing the shoe *d* to the strap *b* by extending arms *x* from opposite sides of the shoe, through which pass the studs *c*, and by putting a bolt, *n'*, through the base of the shoe and the strap *b* thereunder. The bolt *n'* serves to prevent noise from rattling if the holes through arms *x* become worn.

When the above-described modified fastening is adopted the slotted webs *m* and bolts *n* are dispensed with. The front and rear sides of the shoe *d* are provided with a down-hanging flange, between which the strap *b* passes.

The operation of my improvements is as follows: When the brakes are applied to the wheels of a car, the axle and axle-box are forced in the direction of the brake-pressure, and the spring-steps on the axle-box are thereby moved against the flexible resistance of the base of the springs *h* until the side of the axle-box strikes one of the jaws of the shoe *d*, when the latter prevents further movement of the box in that direction, and upon the removal of the brake-pressure the box reassumes its position midway between the jaws of the shoe actuated by the springs *h h*. Thus the first force of the brake-pressure is met by a flexible or cushioned resistance, and finally by a rigid one,

and the strap *b* and shoe *d* constitute a sufficient and serviceable support for the car box and axle against undue lateral movement of the latter.

What I claim as my invention is—

1. The within-described improved car-box connection consisting of a strap secured to the car on opposite sides of the car-box and passing under the latter, and of a car-box shoe secured solely to said strap under the car-box, and having jaws projecting upward on opposite sides of the latter, substantially as set forth.

2. An improved car-box connection consisting of a strap secured to the car on opposite sides of the car-box and passing under the latter, and of a car-box shoe secured to said strap under the box, having jaws projecting upward on opposite sides of the latter, which permit of a certain degree of lateral movement of the car-box therebetween, substantially as set forth.

3. In combination with the strap *b*, and with a car-box having perforated spring-steps thereon, substantially as described, the spring-studs passing loosely through said steps and rigidly secured to the car-frame and to said strap, the springs supported on said studs having rubber bases loosely fitted on the latter and bearing on said spring-steps, and a car-box shoe secured on said strap under the car-box, having jaws thereon projecting upward on each side of the car-box, which permit the latter to move laterally between them, substantially as set forth.

4. In combination with the strap *b*, and with a car-box provided with the braces *i*, and the perforated spring-steps, the spring-studs passing loosely through said steps and rigidly secured to the car-frame and to said strap, the springs supported on said studs having rubber bases loosely fitted on the latter and bearing on said spring-steps, and a car-box shoe secured on said strap under the car-box, having jaws thereon projecting upward on each side of the car-box and between said braces, substantially as set forth.

SUMNER A. BEMIS.

Witnesses:
H. A. CHAPIN,
J. D. GARFIELD.