

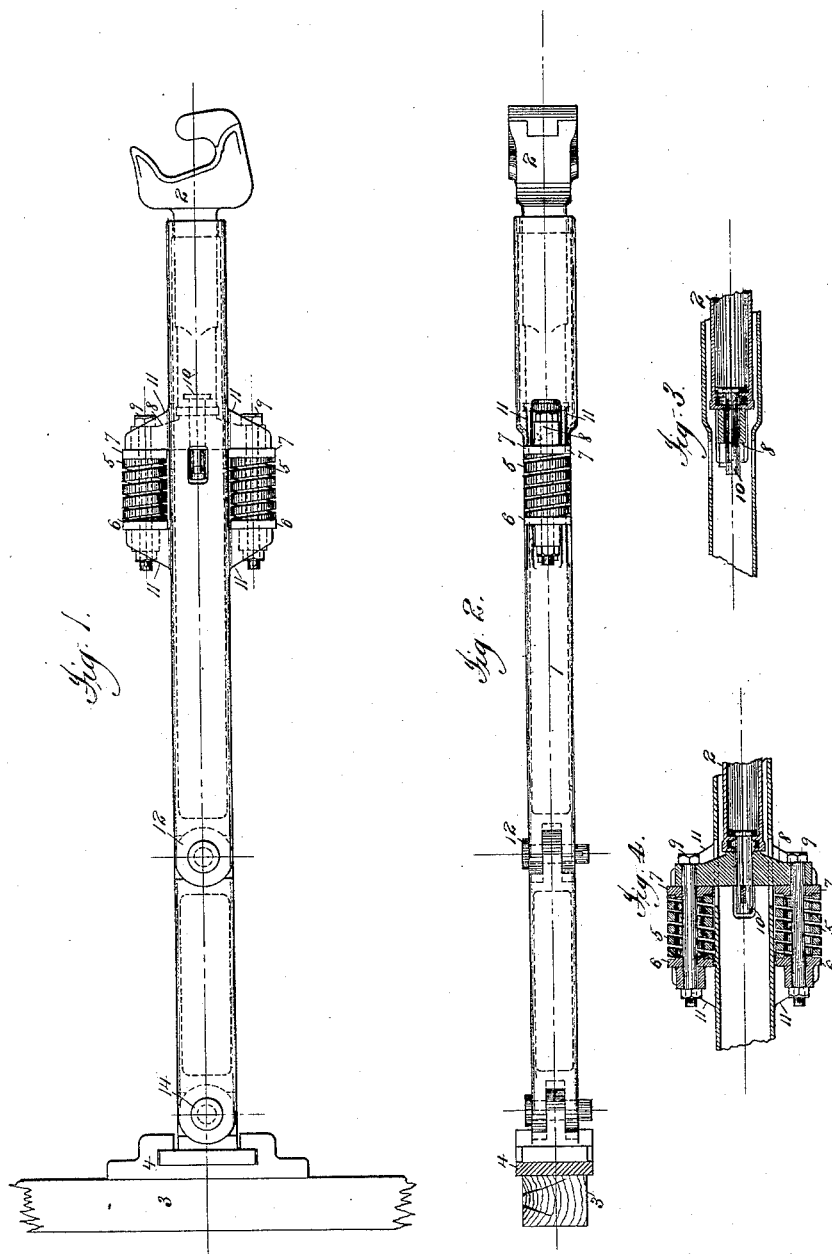
(No Model.)

2 Sheets—Sheet 1.

D. L. BARNES.
DRAW BAR FOR RAILWAY CARS.

No. 418,150.

Patented Dec. 31, 1889.



WITNESSES:

Les H. Bots
J. J. Kennedy

INVENTOR

David L. Barnes

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(No Model.)

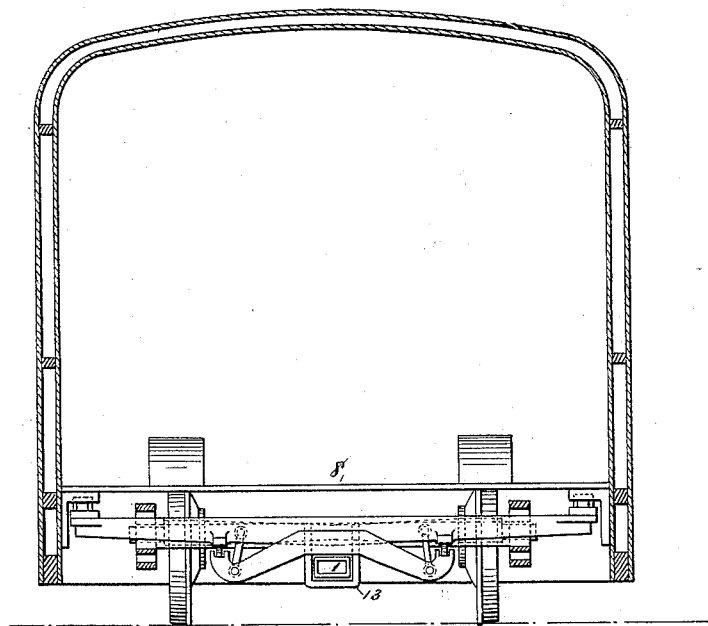
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Fig. 5.



Attest:
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Inventor:
David L. Barnes
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att'y.

UNITED STATES PATENT OFFICE.

DAVID L. BARNES, OF CHICAGO, ILLINOIS, ASSIGNOR TO ROWLAND R. HAZARD, OF NEW YORK, N. Y.

DRAW-BAR FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 418,150, dated December 31, 1889.

Application filed April 17, 1889. Serial No. 307,591. (No model.)

To all whom it may concern:

Be it known that I, DAVID L. BARNES, a citizen of the United States, and a resident of Chicago, Illinois, have invented a new and useful Improvement in Draw-Bars and their Combination with Railway-Cars, of which the following is a specification.

My invention relates to an improvement in draw-bars and their combination with railway-cars; and it consists in the several combinations of parts hereinafter described and claimed.

In the accompanying drawings, forming part of this specification, Figure 1 is a plan view of a draw-bar embodying my invention. Fig. 2 is a side elevation of the same. Fig. 3 is a longitudinal vertical section through draw-bar at end of coupler. Fig. 4 is a longitudinal horizontal section at the same place. Fig. 5 represents the combination of railway-truck and draw-bar.

Referring to Fig. 5 of the drawings, it will be seen that the draw-bar 1 is suspended from the truck there shown by metal straps 13, (the drawings necessarily showing only one,) so arranged that the said draw-bar shall lie in about the same horizontal plane as the side or floor sills of the car. By this arrangement all buffing and pulling strains are transmitted in the same horizontal plane as the side or floor sills of car. The draw-head 4, secured to car-sill 3, is grooved vertically, as shown, to receive the correspondingly-formed end of the draw-bar 1, the said construction constituting a sliding connection, which allows for sufficient vertical displacement of truck relative to car-body without interfering with the utility of the draw-bar. This arrangement also permits draw-bar to separate automatically from draw-head 4, when car is raised off from trucks for repairs, &c.

The draw-bar 1 is provided with two joints 12 and 14, for the purpose of allowing the necessary motion to rear end of draw-bar as the truck swivels in passing curves. From the coupler 2 to the first joint 12 the draw-bar always remains central between sides of truck, being held by the metal straps 13, before referred to. The said draw-bar 1 is

about as long as the truck by which it is supported, projecting only sufficiently beyond it and the car to permit of coupling with adjacent car. The common spring-buffers used on nearly all passenger-cars on each side of coupler are preferably used in connection with my draw-bar.

The automatic coupler 2 is connected to the springs as follows: The draw-bar 1 is provided with four brackets 11, between which the springs 5 are placed. The coupler is connected by tail-bolt 10 to equalizer 8, which latter is connected to springs by bolts 9. Spring-plates 6 and 7 are interposed between springs and brackets. Whenever a tensile strain is exerted on coupler, the springs are compressed against outer brackets, the spring-plates 6 being removed from contact with the adjacent brackets. Whenever a compressive force acts upon coupler the springs are compressed again, but against the inner brackets, the spring-plates 7 receding from the adjacent brackets.

This draw-bar is especially applicable to the form of truck shown and described in my application for Letters Patent filed March 20, 1889, Serial No. 304,033, one view of which is shown in Fig. 5 of this specification.

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

1. The combination, with a railway-carriage and its truck, of a draw-bar carried by the truck and connected to the carriage by a vertically-sliding connection to allow for vertical movement of carriage relative to truck, substantially as described.

2. The combination, with a railway-carriage and its truck, of a draw-bar provided with two joints and carried by said truck, said draw-bar being connected to the carriage by a vertically-sliding connection, substantially as described.

3. The combination, with a railway-carriage and its truck, of a draw-bar carried by the truck and connected to the floor-sill of carriage, whereby all buffing and pulling strains are transmitted in the same horizontal plane as that of the floor-sills of car, substantially as described.

4. The combination, with a railway-car-

riage and its truck, of a draw-bar carried by
the truck below the axle thereof and con-
nected to the floor-sill of carriage, whereby
all buffing and pulling strains are transmitted
5 in the same horizontal plane as that of the
floor-sills of car, substantially as described.

5. The combination, with a railway-truck,
of a draw-bar carried by the same, and a
coupler, tail-bolt, equalizer, springs, bolts,
10 brackets, and spring-plates, substantially as
described.

In testimony that I claim the foregoing as
my invention I have signed my name, in
presence of two witnesses, this 13th day of
April, 1889.

DAVID L. BARNES.

Witnesses:

H. S. PETTENGILL,
DANIEL D. WAUGH.