

A. B. DAVIS.
Car-Spring.

No. 221,036.

Patented Oct. 28, 1879.

Fig. 1.

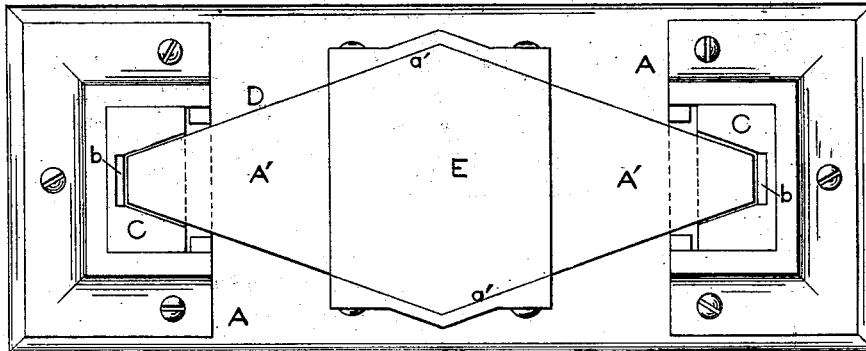


Fig. 2.

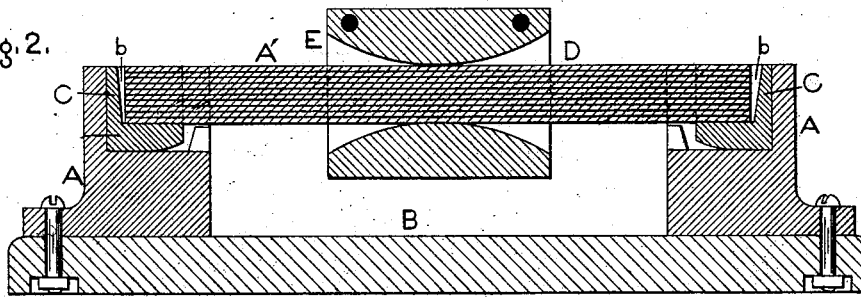


Fig. 3.

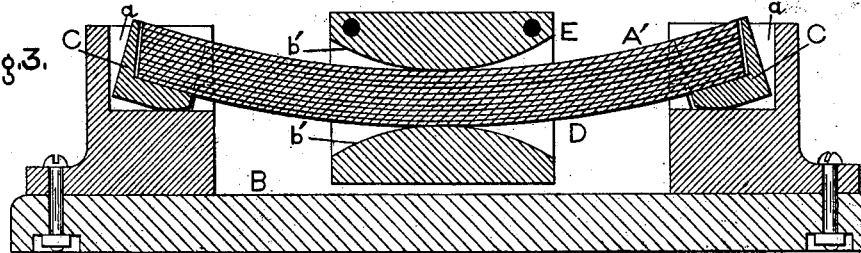


Fig. 6.

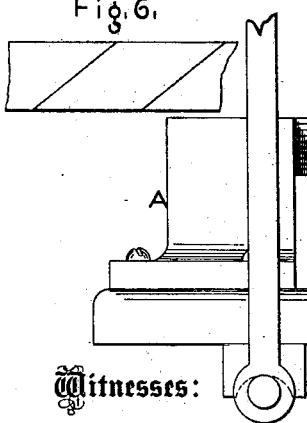


Fig. 4.

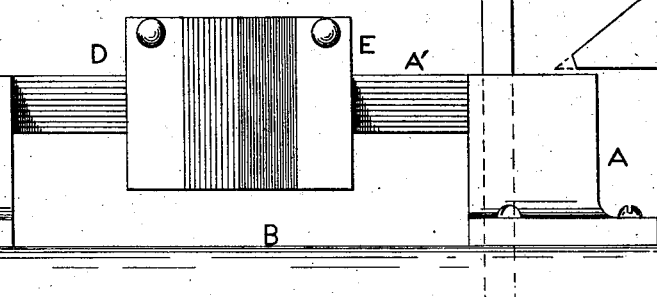
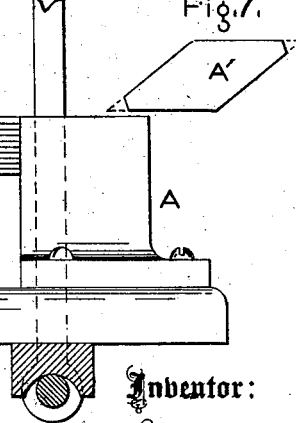


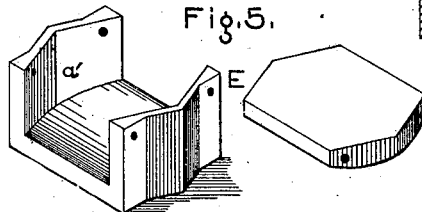
Fig. 7.



Witnesses:

W. P. Grant,
H. F. Fisher

Fig. 5.



Inventor:

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UNITED STATES PATENT OFFICE.

AUGUSTUS B. DAVIS, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF
ONE-HALF OF HIS RIGHT TO WILLIAM B. WHITNEY, OF SAME PLACE.

IMPROVEMENT IN CAR-SPRINGS.

[Specification forming part of Letters Patent No. **221,036**, dated October 28, 1879; application filed
September 8, 1879.]

To all whom it may concern:

Be it known that I, AUGUSTUS B. DAVIS, of the city and county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Springs for Railway-Cars and other purposes, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a top or plan view of the spring embodying my invention. Fig. 2 is a longitudinal vertical section thereof. Fig. 3 is a similar view, the spring loaded. Fig. 4 is a side elevation thereof. Fig. 5 is a perspective view of detached portions. Figs. 6 and 7 are views of the spring-blank and one of the springs.

The invention consists in certain improvements in that class of car-springs which are constructed of flat spring-plates having unattached ends resting in free bearings and sustaining the load upon their centers, as hereinafter specifically set forth.

Referring to the drawings, A represents the pedestals, which are supported on the spring-plank B, and they may be cast in one, with a base, and suspended in the usual way of swinging bolsters, or otherwise supported or suspended, as desired or required.

On the upper face of each pedestal is a recess, *a*, in which is fitted a follower, C, whose under or bearing face is curved, in order to permit the followers to rock or roll on the pedestals; and said followers are provided with pockets *b* for receiving the ends of the spring D, which are suspended or supported on said followers.

The spring is formed of a series or pile of flat plates, A', of rhomboidal form, which have the broadest or greatest surface at their centers, and are connected centrally by means of a clamp, E, consisting of a box open at opposite sides, through which the ends of the spring project, and having the inner faces, *a'*, of its sides of the shape or contour of the portion of the spring within the box. The inner faces of the top and bottom, *b'*, of the box are convex, the crowns resting tightly on the respective faces of the spring, the convexity or curvature being greater than any curvature which the spring may assume.

It will be seen that the weight of the car-body is superimposed on the clamps or boxes E, acting as bearers for the load, and transmitted to the center or widest part of the spring, thus deflecting and shortening the spring, and causing the followers C to roll and conform to the motions of the ends of the spring, thus securing to the spring the same endwise motions as when it is straight, and preventing all wiping or rubbing and wearing action of the spring on the followers.

When the spring, from long use or otherwise, is set out of a straight line it is removed and reversed and again supported on the followers, thus rendering service anew and avoiding the displacement of the plates for straightening and tempering purposes.

Owing to the construction of the inner faces of the boxes E the spring-plates are prevented from shifting or displacement therefrom, and permitted to play their entire length, as there is but a small point of contact of the crowns of the tops and bottoms of the boxes with the outer plates of the spring.

The degree of resiliency of the spring may be adjusted by increasing or decreasing the number of plates and the breadth thereof, the rhomboidal form of the plates being preserved.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A reversible spring formed of rhomboidal plates, and a clamp-box having matched sides, so that the plates fit either way to provide for reversibility, substantially as shown and described.

2. The rocking followers C, having curved bottoms resting in recessed pedestals, and also having pockets *b*, in combination with the springs A', substantially as shown and described.

3. The clamp for the spring-plates, consisting of a box, E, having matched sides *a'* and top and bottom with convex faces *b'*, substantially as and for the purpose set forth.

A. B. DAVIS.

Witnesses:

JOHN A. WIEDERSHEIM,
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