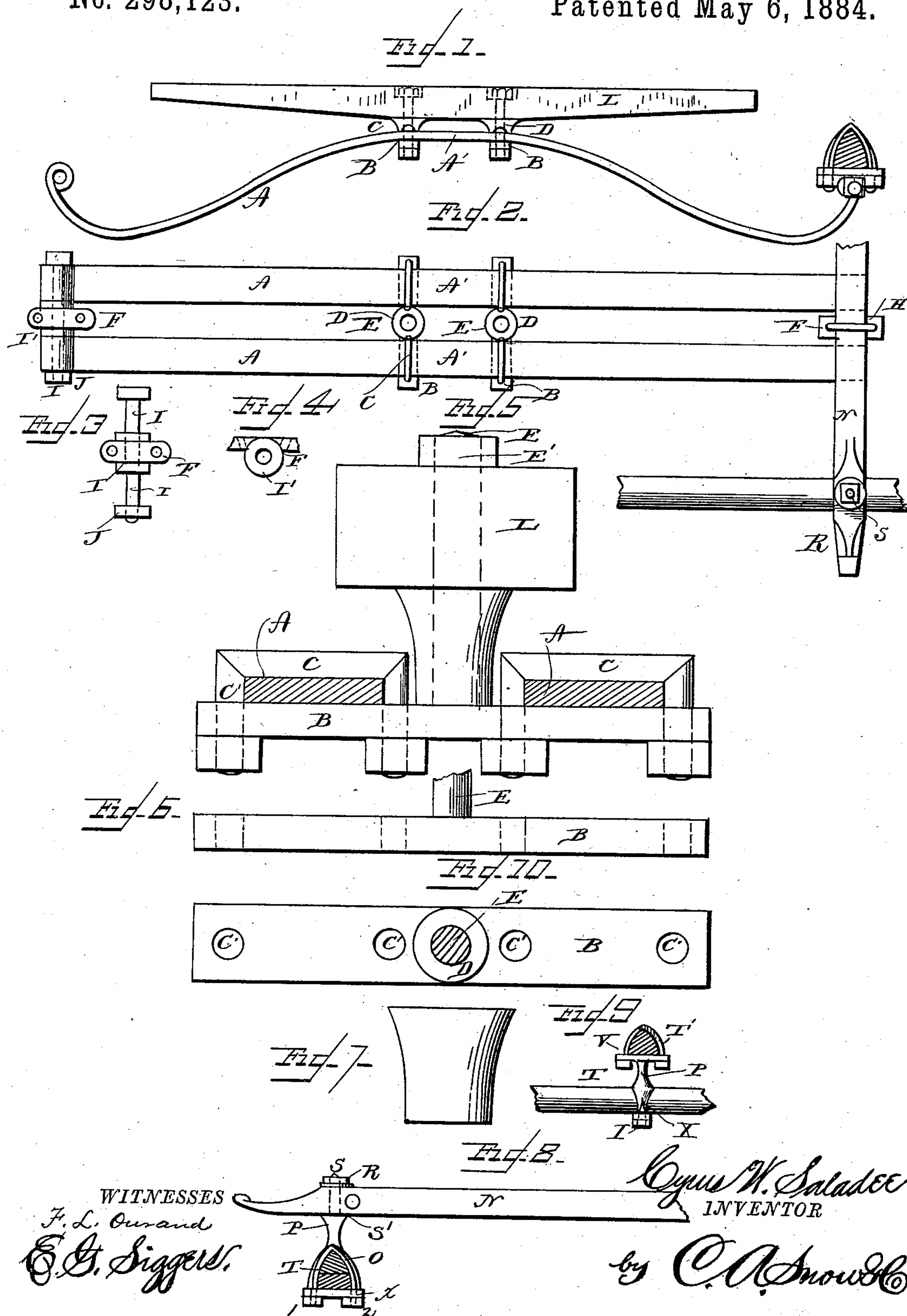


(No Model.)

C. W. SALADEE.
SIDE BAR VEHICLE.

No. 298,123.

Patented May 6, 1884.



Attorneys

UNITED STATES PATENT OFFICE.

CYRUS W. SALADEE, OF TORRINGTON, CONNECTICUT.

SIDE-BAR VEHICLE.

SPECIFICATION forming part of Letters Patent No. 298,123, dated May 6, 1884.

Application filed January 26, 1884. (No model.)

To all whom it may concern:

Be it known that I, CYRUS W. SALADEE, a citizen of the United States, and a resident of Torrington, in the county of Litchfield and State of Connecticut, have invented certain new and useful Improvements in Side-Bar Road-Wagons, of which the following is a specification.

The first part of my invention relates to the springs and the means for interposing the same between the side bars and the bottom of the body; and it consists of two flexion members arranged parallel to each other, thereby forming a "duplex" spring-support under each end of the body, their outer ends connected to a single bearing suspended from the side bars on opposite sides, and having their center portions combined with a single upper member on which to support the body; and my invention has for its object, first, to secure the flexion motion of the plates composing the springs throughout their entire length; second, the production of a spring requiring only about one-half the quantity of steel usually employed to carry a given load, and thereby greatly reduce the cost of its manufacture; third, to secure the greatest possible degree of elasticity within a limited space, together with requisite strength and durability; and, fourth, by the duplex arrangement of springs under each end of the body, as described, I obtain a greater security against accident from the fracture of any one of the plates than can be had in any single form of cross-spring now used in side-bar vehicles. In the latter case, if either end of a single spring supporting the body is fractured, there is nothing to prevent the latter from falling upon the perch and against one or the other of the side bars, and thereby defacing, if not crushing in, the side of the body; but in the duplex arrangement of the springs herein shown and described, if either one is broken, its associate member is present to prevent the body from falling, since it rarely ever occurs that more than one spring is fractured at the same time.

The other part of my invention relates to the improved mode shown and described, for rigidly connecting the opposite ends of the side-bars with the bolster in front and the axle in the rear, as and for the purpose hereinafter fully set forth.

In the drawings, Figure 1 represents a side side elevation of the springs with their center portions connected to the spring-bar, and showing one end of the springs connected to the side bar, while the opposite end is detached from the latter. Fig. 2 is a top or plan view of Fig. 1, at one end showing the connection of the duplex springs to the side bars, while at the opposite ends the side bar is removed the better to expose the connection by which they are united before they are suspended from the side bars. Figs. 3 and 4 are detached views of the parts F I J, seen in Fig. 2. Fig. 5 is an enlarged side elevation of one of the cross-bars which unite the center portions of the springs preparatory to connecting them to the spring-bar or member supporting the body. Figs. 6, 7, and 10 are detached views of parts seen in Fig. 5. Fig. 8 is a side elevation of the rear end of a side bar, exposing the means whereby it is connected to the axle; and Fig. 9 represents a modification of Fig. 8.

The springs A A are made, preferably, each of a single plate of steel; yet, if desired, for the heavier class of vehicles, they may be composed each of two or more plates, one overlying the other in the usual way. In giving form or shape to these springs I prefer to leave the center portions between the bearings B B on a straight line, or nearly so, then bent downwardly from said bearings and their ends curved upwardly to connect with the side bars or other part of the frame. The end of each spring A A is connected with the trunnion-plate F I' upon trunnion-pins I I, which latter may be formed an integral part of the plate, or may be a passing bolt, as seen in Fig. 3, securing the spring-heads to the opposite sides of the plate F, as seen in Fig. 2. The plate F is secured to the under side of the bar N, Fig. 2, preferably by means of a single clip, H, and thus secure both spring-heads to a single fastening. The center portions of the springs A A are connected together by cross-bars B B with clips C, as clearly shown in Fig. 5. A bolt or pin, E, connects with the cross-bar B. (See Fig. 6.) This pin is provided with a shoulder on which to rest the spring-bar L, preferably a hollow tube or spool, D, loosely fitting over the pin E, as in Fig. 5, and which passes up through the spring-bar L, and the whole firmly held together by the nut E', all

as clearly shown in Fig. 5. The spring-bar L, Fig. 1, may be a rigid bar, as shown, or a flexion member, and in either case the outer ends of this member are secured to the bottom of the body, at the sides, in any of the well-known modes for making such connection to support the body thereon.

By the mode hereinbefore described for connecting the springs together at their center portions and to the upper member, L, supporting the body, I secure the flexibility of each spring-plate throughout its entire length, since their center portions between the bearings B B are free of all contact, and thereby adding to the motion and softness of the spring and diminishing its liability to fracture.

In the running-gear of road-wagons, where the semi-elliptic springs over the axles on which to carry the opposite ends of the side bars are omitted, and the latter are secured directly to the bolster in front and the axle at the rear, it is found difficult to prevent the bottom of the body from striking the perch, by reason of the low position of the side bars from which the springs and body are suspended. I remedy this defect by interposing between the side bars and the bolster and axle the standards P seen in Figs. 8 and 9. These standards are preferably made with a pin, S, and shoulder S', the pin passing up through the side bar, and the latter secured by the nut R, Fig. 8. The lower end of the standard P terminates in forming the clip T, which incloses the axle or bolster, as clearly shown in Fig. 8; but if it is not desirable to pierce the end of the side bar for the pin S, as in Fig. 8, the top of the standard may terminate by forming a T-head, V, Fig. 9, and a clip, T', substituted for the pin S, for securing the end of the side bar to the standard. By the employment of this standard P, I am permitted to elevate the side bars to any desired point which the hang of the body may require to prevent its contact with the perch when loaded and in motion, and, besides, giving to this connection a very light and stylish appearance.

I claim—

1. A duplex spring for side-bar road-wagons, consisting of two flexion members ar-

ranged parallel to each other in pairs under each end of the body, and having their outer ends connected to a single bearing suspended from the side bars on opposite sides, substantially as set forth.

2. A duplex spring for side-bar road-wagons, consisting of two flexion members arranged parallel to each other in pairs under each end of the body, their outer ends connected to a double pivotal bearing suspended from the side bars by a single clip, in combination with a single upper member, L, having its center position rigidly secured to the lower members, A A, midway between their ends, by cross-bars B B, clips C C, a shouldered bolt-pin, E, and nut E', and adapted to support the body at the sides, substantially as set forth.

3. A duplex spring-support for vehicles, consisting of two flexion members arranged in pairs parallel to each other, their center portions, A', between the bearings B B, made straight, or nearly so, and connected to the member L by clips C C, shouldered pin-bolt E, and nut E', thence bent downwardly from said bearings, and their outer ends curved upwardly to connect with the frame of the running-gear at opposite sides by a double pivotal and single clip connection, substantially as set forth.

4. A duplex spring-support for vehicles, consisting of two flexion members arranged in pairs parallel to each other, and having their center portions connected together by cross-bars B B and clips or bolts E, base D, and upper member, L, all combined and arranged to operate substantially as set forth.

5. In a side-bar road-wagon, the combination, with the side bars and the bolster, of the standard P, provided with the pin S and shoulder S', the pin passing up through the side bar and secured in place by nut R, and terminating at its lower end in the clip T, which incloses and is secured to the bolster, substantially as specified.

CYRUS W. SALADEE.

Witnesses:

E. G. SIGGERS,
G. B. HARRIS.