(No Model.)

# C. W. SALADEE.

## VEHICLE SPRING.

No. 305,242. Patented Sept. 16, 1884.

Fig. 1.

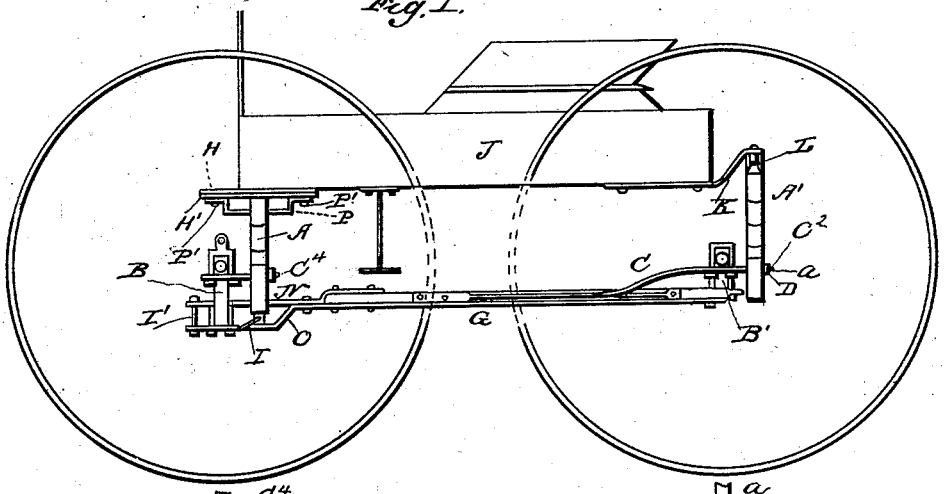



Fig. 2.

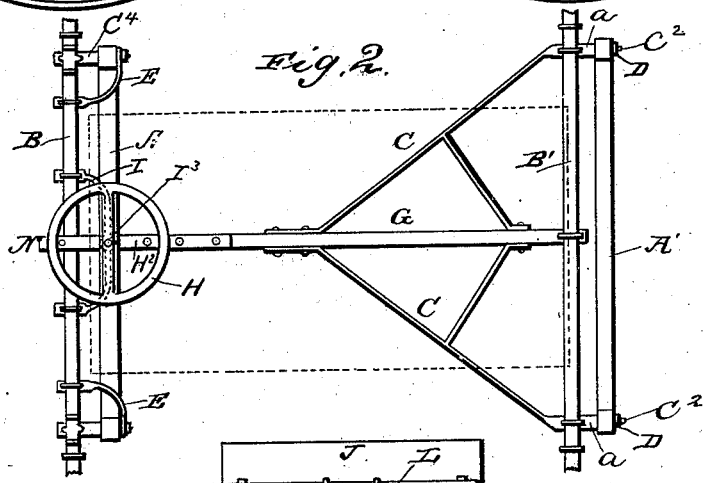



Fig. 3.

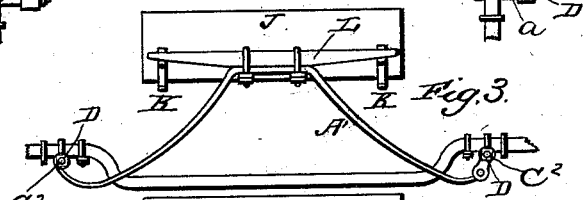



Fig. 4.

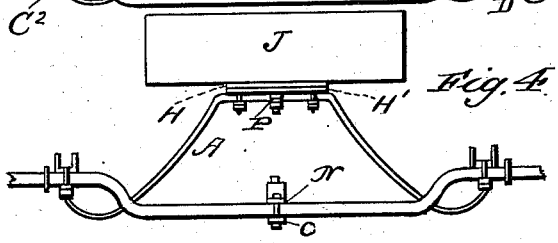
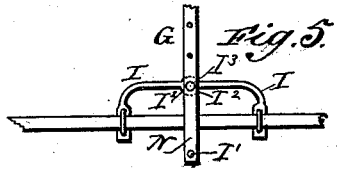



Fig. 5.




WITNESSES:

E. H. Bates.

R. Owasi.

INVENTOR

Cyrus W. Saladee,

by Anderson & Smith

his ATTORNEYS

# UNITED STATES PATENT OFFICE.

CYRUS W. SALADEE, OF TORRINGTON, CONNECTICUT.

## VEHICLE-SPRING.

SPECIFICATION forming part of Letters Patent No. 305,242, dated September 16, 1884.

Application filed May 14, 1884. (No model.)

*To all whom it may concern.*

Be it known that I, CYRUS W. SALADEE, a citizen of the United States, residing at Torrington, in the county of Litchfield and State of Connecticut, have invented certain new and useful Improvements in Road-Wagons; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a representation of a side view of a wagon, showing my improvements. Fig. 2 is a plan view of the running-gear thereof, the wheels not being shown. Fig. 3 is a rear view of the rear axle, spring, spring-bar, and body. Fig. 4 is a front view, showing the front axle, spring, and the lower line of the body resting on the fifth-wheel. Fig. 5 is a detached plan view of the central portion of the front axle, showing the bracket-bearing for the front end of the perch.

This invention has relation to wagons; and it consists in the construction and novel arrangement of devices, as hereinafter set forth, and pointed out in the appended claims.

The object of this invention is to improve the construction of wagons, as hereinafter explained, so as to secure lightness, strength, simplicity, and ease of motion, and to cheapen the cost of manufacture.

In the accompanying drawings, the letter B designates the front axle, and B′ the rear axle. It is preferred to use bent or "cranked" axles; but straight axles may be employed.

G represents the perch, which is secured to the rear axle in any ordinary manner.

C C are the lateral braces or stays of the perch, the ends *a* of which are extended to the rear of the rear axle, and terminate in trunnion-bearings $C^2$, adapted to receive the heads of the rear cross-spring, A′, or links, to which the ends of the spring are connected.

The cross-springs A and A′ employed are preferably of the self-compensating form, and are designed to be suspended from trunnions by direct connection therewith. Sometimes, however, the springs may be connected to the trunnions by links. The spring head or link is to be fastened on the trunnion by means of a screw-nut, D. In the construction illustrated the extended end portions of the perch-stays C C are fastened to the axle by means of clip-loops passing downward over the axle and connected to the stays. The front cross-spring, A, is connected to trunnion-bearings $C^1$, which are clipped to the front axle. Each trunnion-bearing $C^1$ is provided with a stay-brace, E, which is fastened to the outer end of the trunnion-bearing and to the axle. The stay-brace E is preferably of curved form, as shown, and it is designed to support the outer end of the trunnion against lateral strain.

To the top of the spring A are secured the upper and lower circles of the fifth-wheel H H′, the latter being braced by a stay, P, passing under the spring, and having its opposite ends bolted to the cross-bar $H^2$ of the circle by bolts P′.

As the spring A is located in rear of the axle, it is apparent that the axial line passing through the center of the fifth-wheel will also be in rear thereof, and therefore the pivotal point of the front end of the perch must be in rear of the front axle or centered in the axial line of the fifth-wheel center. For this purpose a bracket, I, is employed, said bracket being clipped to the axle B at its front ends while its body portion is thrown back or in rear of said axle. The center of the bracket is provided with a boss, $I^2$, which is formed with a bolt-hole. This boss extends both above and below the bracket-body. The upper perch-plate, N, passes over the top of this boss, and the lower perch-plate, O, under the bottom thereof, and a bolt, $I^3$, connects the perch-plates and bracket, so that a pivotal connection is made at this point in axial line with the center of the fifth-wheel. The perch-plates N and O are extended so that they terminate in front of the axle, where their ends are connected by a bolt, I′. In this manner a lever-brace is provided from the pivotal bearing of the bracket I to the axle, which serves to counteract the vertical strain exercised by the spring A by reason of its position in rear of said axle.

The front end of the body J of the vehicle

is secured immediately to the upper fifth-wheel circle, H—a construction which is admissible because the spring, which is the only support of the body in front, is arranged in rear of the front axle. Should it, however, be required to carry the front of the body higher, a bar or head-block may be interposed between the bottom of the body and the fifth-wheel. The rear end of the body is suspended from the rear spring, A′, by means of the spring-bar L and the body-loops K K, which extend therefrom under said body, these loops being made in curved form, and having their front ends level with the upper fifth-wheel circle, so that the body will be carried in proper position.

I am aware that the form of axle shown in the drawings is not new, and that the springs have been shown in the drawings of prior applications which I have made. I do not desire, however, in this application to claim springs of this form, or to limit the invention to the combination therewith of the other features, for springs of different form can be easily applied by those skilled in the art of making carriages.

Having described this invention, what I claim, and desire to secure by Letters Patent, is—

1. In a wagon, the axle stays or braces C C, extended in rear to form trunnion-bearings at the rear of the axle, for the suspension of opposite ends of the cross-spring, substantially as specified.

2. The cross-spring suspended from the side of the axle, in combination with the fifth-wheel circles H and H′ and the brace P, supporting the lower fifth-wheel circle, substantially as specified.

3. The combination, with the body of the vehicle and the front axle, of the front cross-spring, suspended from said axle at the side thereof, the fifth-wheel circle H′, supported on said spring, the fifth-wheel circle H, supporting the front of the body, and the fifth-wheel brace P, substantially as specified.

4. The combination, with the front axle and the front cross-spring, of the trunnion-bearings C′ and the trunnion-braces E, extending from the axle to the outer ends of the trunnions, substantially as specified.

5. The combination, with the front axle and its center bracket, I, having a pivot-bearing in line with the center or axis of the fifth-wheel, of the perch-plates N and O, pivoted to said bearing and extended beyond said axle to form a lever-brace, substantially as specified.

6. The combination, with the body J, of the cross-springs suspended at the side of the axles, the fifth-wheel upon the front or cross spring, supporting the front of the body, and the rear spring-bar and body-loops supporting the rear end of the body, substantially as specified.

7. The combination, with the body supported in front on the fifth-wheel by the front spring, of the rear spring, its spring-bar, and the curved body-loops having their front portions extending under the rear of the body at a level with the upper circle of the fifth-wheel, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

CYRUS W. SALADEE.

Witnesses:

FRED A. BARTLETT,

ISAAC W. BROOKS.