2 Sheets—Sheet 1.

C. W. SALADEE.

Road-Wagon.

No. 197,670. Patented Nov. 27, 1877.

Fig. 1.

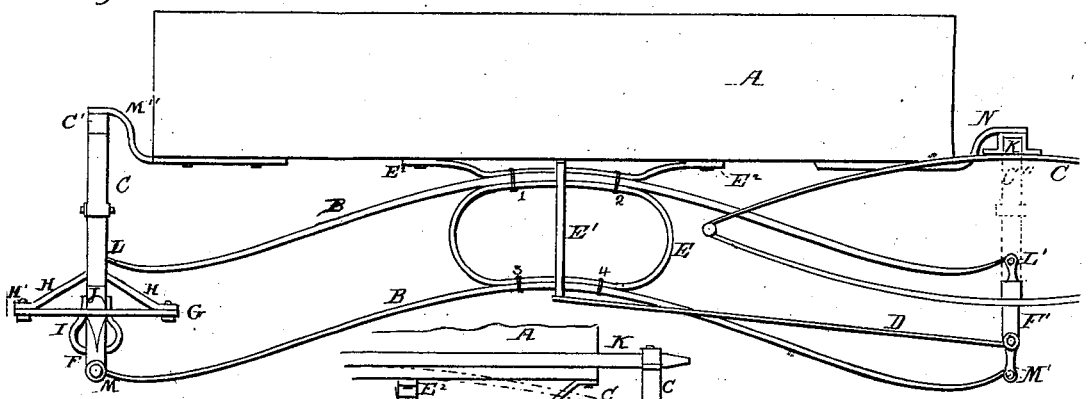


Fig. 4.

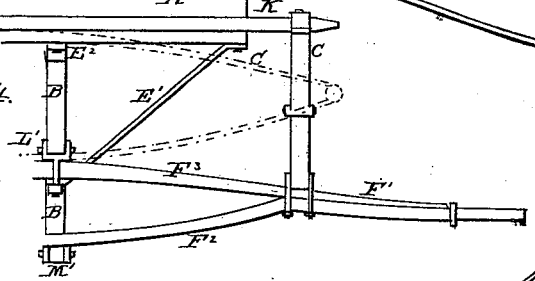


Fig. 2.

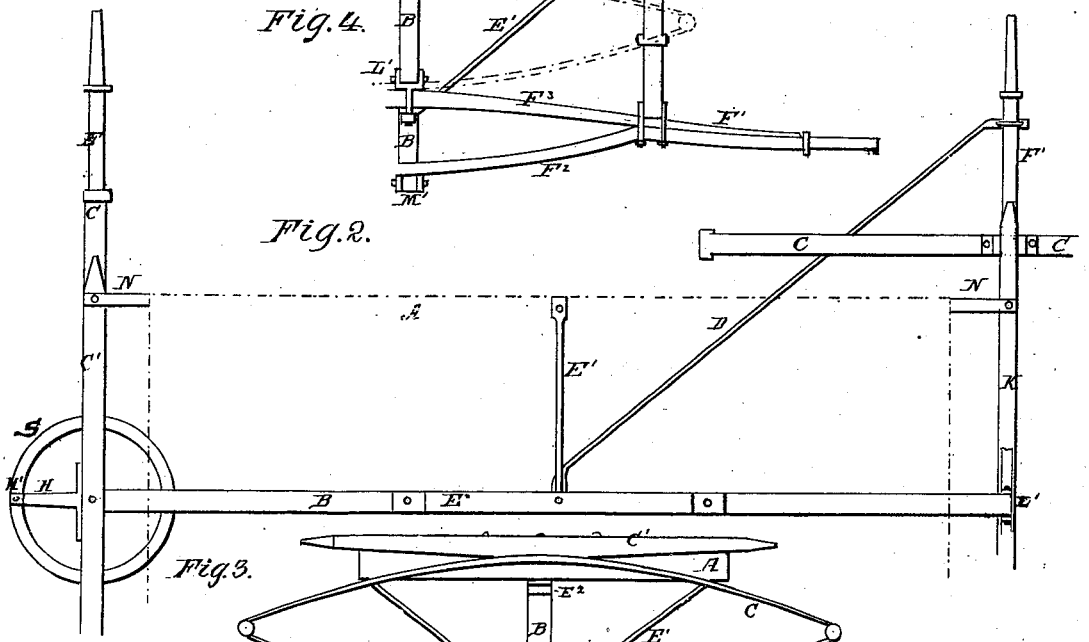


Fig. 3.

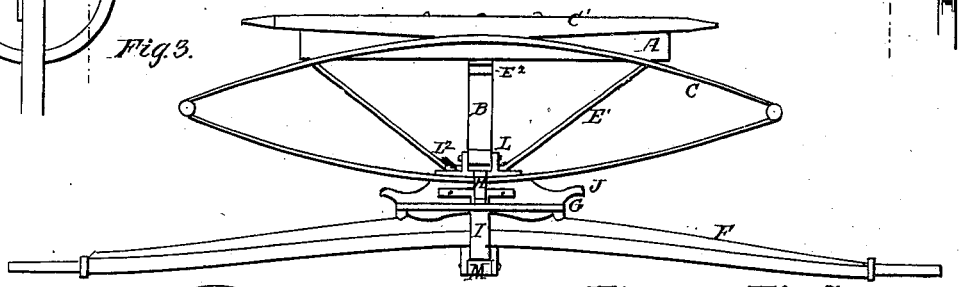


Fig. 5.

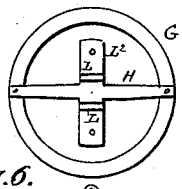


Fig. 6.

Fig. 9.

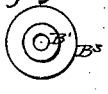


Fig. 8.

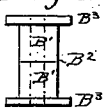
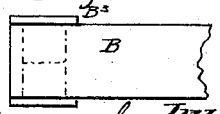


Fig. 7.



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2 Sheets—Sheet 2.

C. W. SALADEE.

Road-Wagon.

No. 197,670. **Patented Nov. 27, 1877.**

Fig. 10.

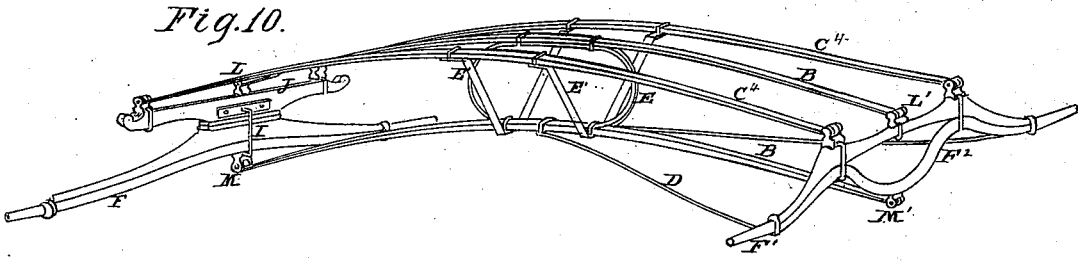


Fig. 11.

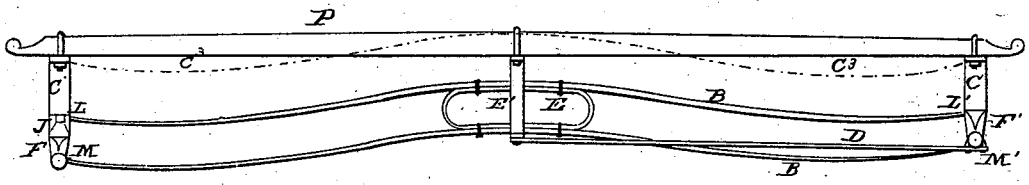
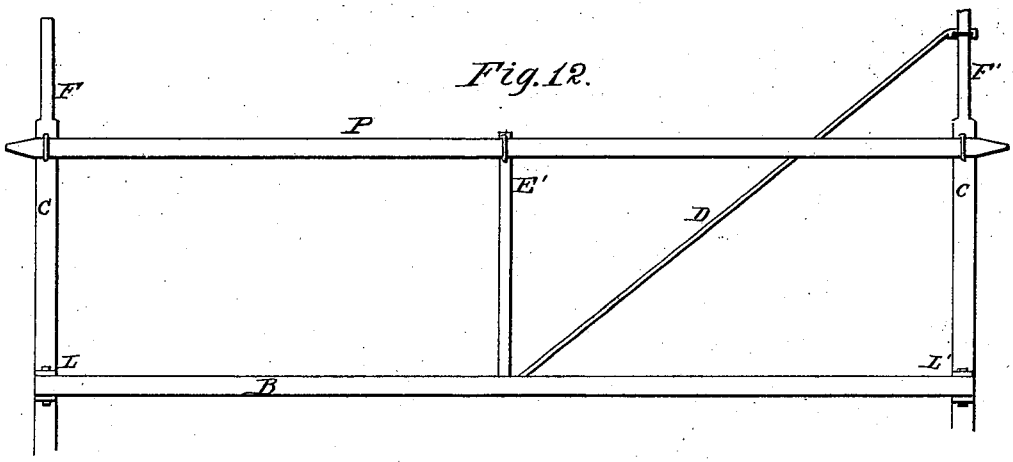


Fig. 12.



Attest:

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UNITED STATES PATENT OFFICE.

CYRUS W. SALADEE, OF WASHINGTON, DISTRICT OF COLUMBIA.

IMPROVEMENT IN ROAD-WAGONS.

Specification forming part of Letters Patent No. **197,670**, dated November 27, 1877; application filed September 5, 1877.

To all whom it may concern:

Be it known that I, CYRUS W. SALADEE, of Washington city, in the District of Columbia, have invented certain Improvements in Road-Wagons, of which the following is a specification, embodying my said invention.

To enable others skilled in the art to make and use my invention, I herewith submit the following general description.

My invention consists in the construction of a new and improved road-wagon, in which the main feature is the employment of a spring-perch composed of two or more half-elliptic springs, one over the other, and extended to connect the front and rear axles, as fully described hereinafter.

The construction, arrangement, and operation of the spring-perch are such as to admit of its combination with any of the well-known supporting-springs of vehicles, as now generally used, such as elliptic, half-elliptic, end or side springs, as, also, to "side-bar wagons" having the usual semi-elliptic end springs.

In the drawings, Figure 1 is a side elevation of a complete vehicle, except wheels and top, on the plan of my invention. Fig. 2 is a half-plan view of the same. Fig. 3 is a front elevation of the gearing; Fig. 4, a half-rear plan elevation of the same. Fig. 5 is a detached plan view of the fifth-wheel and upper shackle-plate for front end of upper perch-spring. Fig. 6 is a side elevation of same. Fig. 7 is an enlarged detached view of the end of the spring B, with flanged sleeve in position; Fig. 8, the sleeves detached from the spring-head; and Fig. 9 is a side elevation of the sleeve from an inside view. Fig. 10 is a perspective view of a complete gearing, showing the spring-perch B B combined with two ordinary side springs, C^4 C^4. Fig. 11 is a side elevation of a side-bar gearing; and Fig. 12, a half-plan view of same, showing the spring-perch combined with the ordinary end springs C and side bars P of this class of wagon.

In Fig. 1, the body A is supported upon three elliptic springs, C, two placed at right angles to the rear axle, and one on a line over the front axle; but, when desirable, a single spring may be used over the rear axle the same as over the front one. (See dotted lines C″.) The elliptic springs are secured to the head-block or bolster J, and to the rear axle F′, in the usual manner, as seen in Figs. 3 and 4, by clips and bolts, and two, three, or four springs may be used, two in front, the same as in the rear. The bolster J rests upon a circle or fifth-wheel, G, as in Fig. 3, and is held in its position thereon by the bolts passing through the ends of the bolster, and by the brace H, the latter being united to the shackle-plate L^2.

A yoke, M, (see Figs. 1 and 3,) carrying the lower spring-shackle, is suspended from both sides of the bolster J.

On top of the rear axle is secured the central shackle L^1, and below the axle the shackle M′. Springs B B have their ends hinged into said spring-shackles above and below the front and rear axles, as seen in Figs. 1 and 10, and their center portions are connected together, one over the other, by the brace E. The body A is connected to the supporting-springs by bars and loops, links, or otherwise, in any usual way. The center portion of the spring-perch is secured to the bottom of the body by the braces E^2 and E^1, which latter has its center secured to the lower spring of the perch, its ends extending upward to the bottom of the body near the opposite sides, and bolted thereto.

It will now be seen that, as the body A, perch B B, and springs C, are all combined in supporting the body, as described, the springs C, body A, and the center portion of the perch B B, must move up and down together, or in unison each with the other; and as the two perch-springs have their cross-center portion rigidly secured to the bottom of the body, and being otherwise held in their relative position to each other throughout their entire length by the braces E E^1, and their opposite ends supported in the shackles L M L^1 M′ upon the front and rear axles, the depression or elevation of the perch-springs cannot rotate the axle-arms in the wheels, thus preventing the wheels from going out of track. Stays D are extended from the center of the perch B to the opposite ends of the rear axle to maintain the latter in its right-angle position to the perch.

In Fig. 10 is shown the spring-perch B B, arranged and combined to operate in connection with the main supporting side springs C^4,

and such arrangement is clearly and exactly illustrated by this figure.

In Figs. 11 and 12 is seen the spring-perch arranged and combined to operate in connection with a side-bar gearing which is of the usual construction, having two side bars, P, and end springs C. In this modification the spring-perch has its central portion connected to the side bars P by the cross-brace E^1, and the springs are shaped, as shown, to permit the vertical play without altering the distance between the front and rear axles.

Still another modification of my invention is also shown in Fig. 11, by substituting for the side bars P supporting-springs C^3, (seen in dotted lines,) having their opposite ends connected to the ends of the end springs, (seen in this figure,) and the spring-perch B combined therewith, the same as in the side-bar modification shown and described. A soft metallic sleeve, B^1, having flanges B^3 and a round hole for the bolt through their center, is passed into the spring-head B, (see Figs. 7, 8, and 9,) from opposite sides, which is designed to prevent the wear of the bolt in the eye of the spring-head and to stop the squeaking noise common in this connection.

The rear axle F^1 has the central portion of its body separated. The one half, F^2, (see Fig. 4,) is bent down to receive the rear end of the lower spring of the perch B, and the other part, F^3, is arched up to receive the rear end of the upper spring of the perch B, and also to support the single elliptic spring C. (Seen in dotted lines in this figure.)

The longitudinal brace E^2 (seen in Figs. 1 and 3) is secured to the top central portion of the perch B, and the ends extended to attach to the bottom of the body, as seen in Fig. 1.

The body by this brace being rigidly secured to the top center portion of the perch, no longitudinal strain can be imposed upon the end elliptic springs C, as would be the case if the perch were not thus connected to the body.

I do not here claim the double-arched axle shown in Figs. 4 and 10, as it may form the subject of a separate application; but

I claim—

1. A road-wagon constructed with a spring-perch composed of two or more half-elliptic springs, one over the other, extended to connect the front and rear axles, substantially as and for the purpose set forth.

2. In a road-wagon, the spring-perch composed of two or more half-elliptic springs extended to connect the front and rear axles, and having its cross-central portion rigidly fixed in relation to the body and main supporting-springs of the vehicle, substantially as described.

3. The combination of the perch-springs B B, central brace E, and the axle-stays D, constructed to operate substantially as and for the purpose set forth.

4. The combination of the perch-springs B B, cross brace or braces E^1, and the body A, constructed and arranged to operate substantially as and for the purpose set forth.

5. The combination of the longitudinal brace E^2, spring-perch B B, and body A, substantially as and for the purpose set forth.

6. The combination of the head-block or spring-bolster J, fifth-wheel G, brace H, and spring shackle and plate L^2, constructed and arranged to operate substantially as and for the purpose set forth.

7. The combination of the spring-perch B B, main supporting-springs, cross-brace E^1, spring-bolster J, and the front and rear axles of the vehicles, constructed and arranged to operate substantially as and for the purpose set forth.

In testimony that I claim the above as my invention in road-wagons I hereunto set my hand on this the 18th day of July, 1877.

CYRUS W. SALADEE.

Witnesses:

GEO. A. REYNOLDS,

HENRY PIERPONT.