

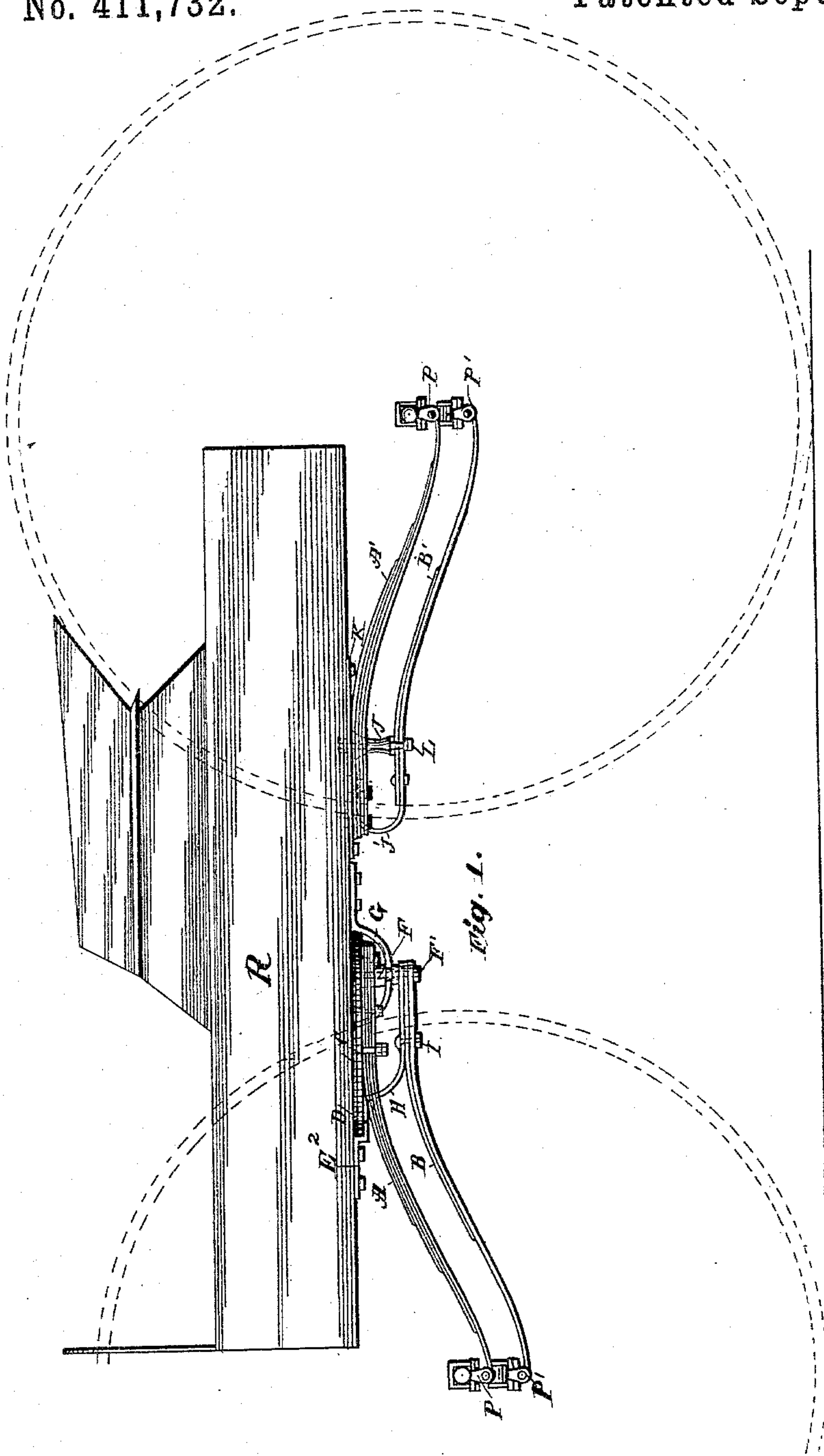
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3 Sheets—Sheet 1.

C. W. SALADEE.
SPRING PLATFORM FOR ROAD WAGONS.

No. 411,732.

Patented Sept. 24, 1889.



Witnesses.
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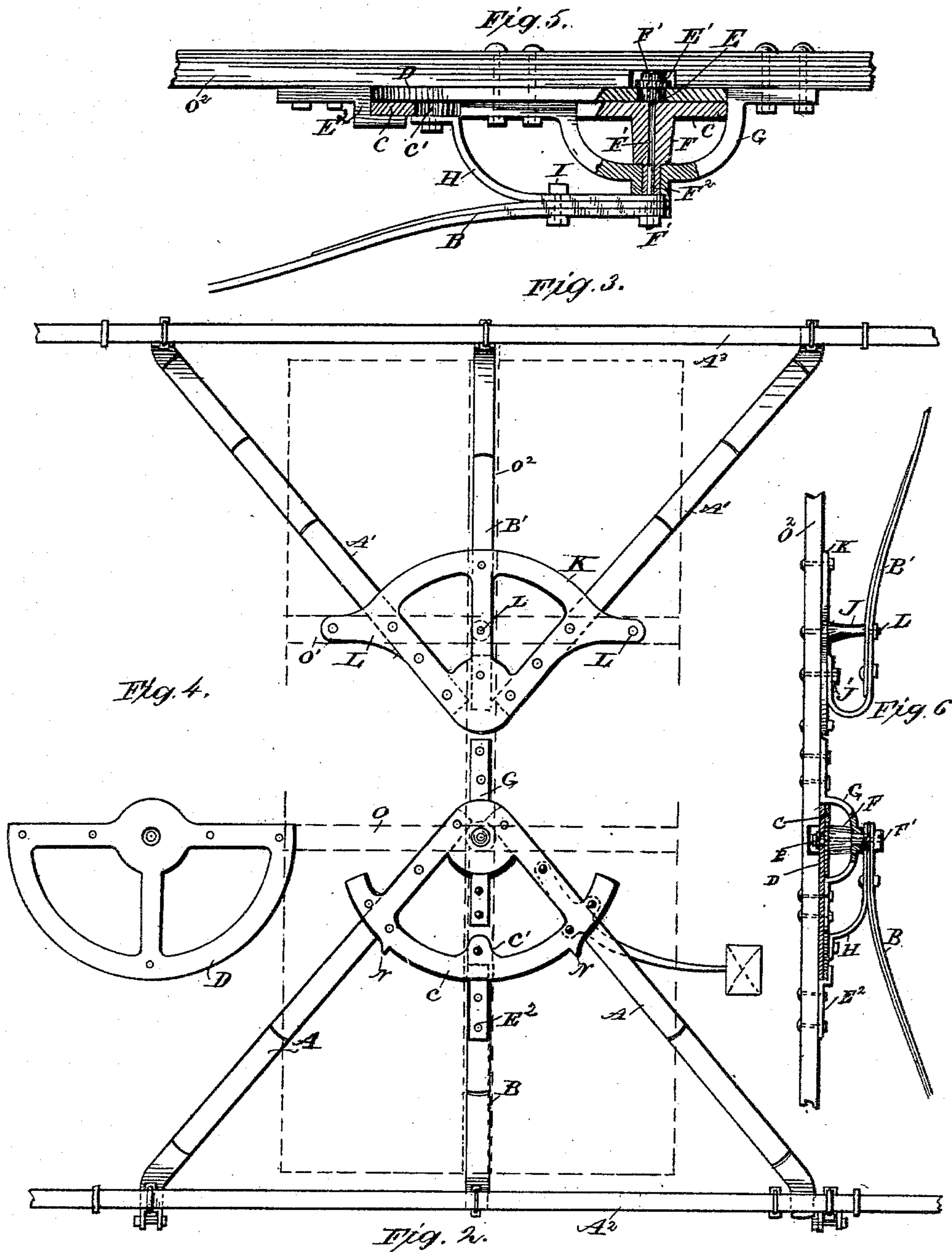
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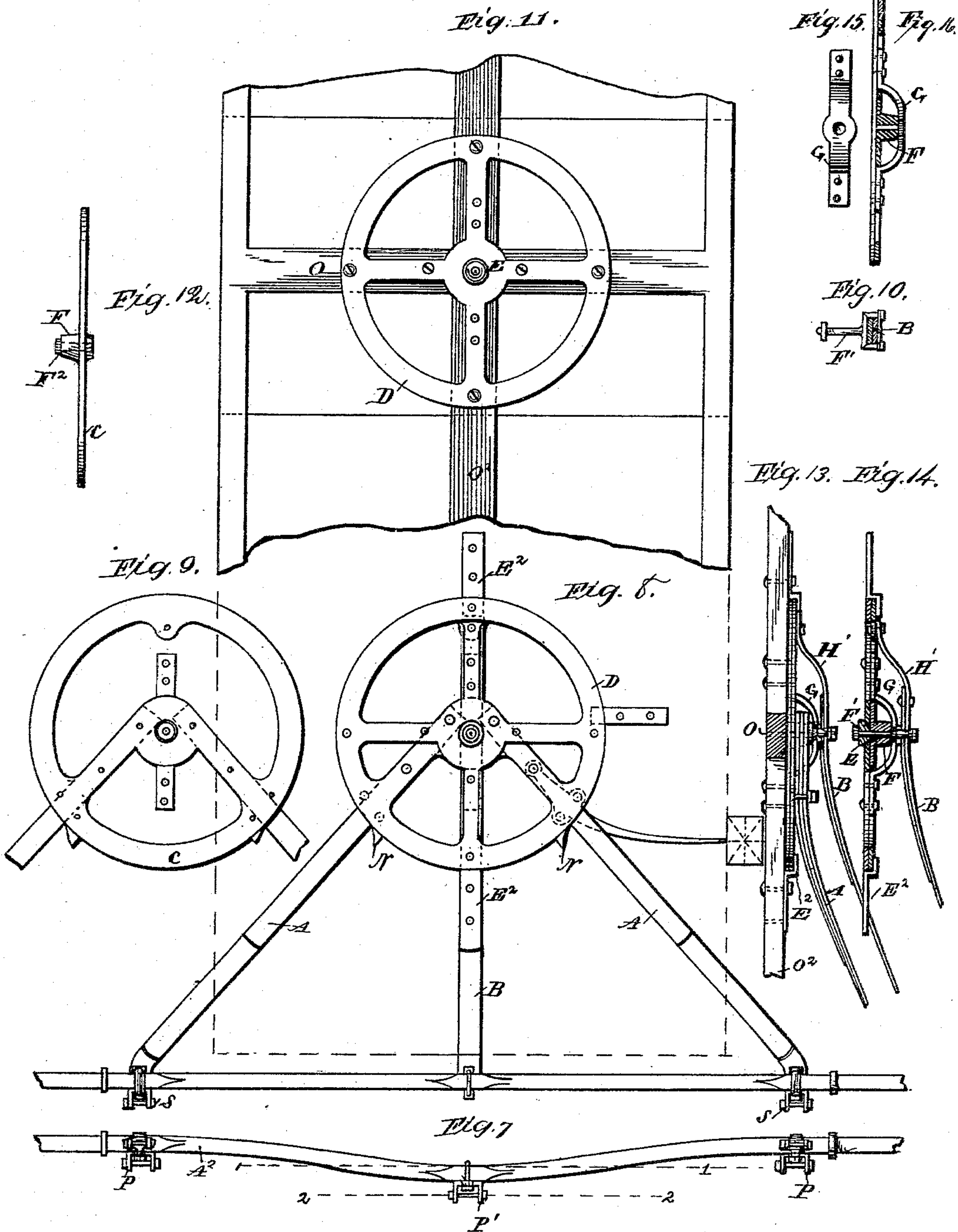
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C. W. SALADEE.

SPRING PLATFORM FOR ROAD WAGONS.

No. 411,732.

Patented Sept. 24, 1889.



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UNITED STATES PATENT OFFICE.

CYRUS W. SALADEE, OF CLEVELAND, OHIO.

SPRING-PLATFORM FOR ROAD-WAGONS.

SPECIFICATION forming part of Letters Patent No. 411,732, dated September 24, 1889.

Application filed June 24, 1889. Serial No. 315,300. (No model.)

To all whom it may concern:

Be it known that I, CYRUS W. SALADEE, of Cleveland, county of Cuyahoga, and State of Ohio, have invented certain new and useful
5 Improvements in Spring-Platforms for Road-Wagons; and I do hereby declare the following to be a full, clear, and exact description of my invention, such as will enable others skilled in the art to which it appertains to make
10 and use the same.

My invention relates to improvements in spring-platforms for road vehicles, and has for its objects, first, to provide a simple construction that will secure great strength and
15 rigidity of parts and lessen the cost of manufacture as compared with the ordinary spring-platform now in general use; second, to dispense with the employment of the usual reach connecting the axles and to greatly facilitate
20 the turning of the vehicle in the shortest possible area; third, to relieve the cross strain upon the front platform and wagon-body when turning, and, fourth, to prevent the action of the springs from rotating the axle. I
25 attain these objects by the construction and arrangement of parts illustrated in the accompanying drawings and described herein. The matter constituting my invention is specifically defined in the appended claims.

30 In the drawings, Figure 1 is a side elevation of a wagon-body mounted upon my improved spring-platforms. Figs. 2 and 3 are plan views of the front and rear platforms in their proper relation to the wagon-body, which
35 is shown in outline by the dotted lines in these figures. Fig. 4 is a detached plan of the upper or D plate of the fifth-wheel. Fig. 5 is an enlarged side elevation of the fifth-wheel and supports, showing the working parts in central section. Fig. 6 illustrates the manner of
40 attaching the inner ends of the central springs of the front and rear platforms to the center bottom rail of the wagon-body. Fig. 7 is a front elevation of the wagon-axle, and illustrates the manner of attaching the side and
45 center springs at different levels, as shown by the dotted lines 1 1 and 2 2. Figs. 8, 9, 10, 11, 12, 13, 14, 15, and 16 illustrate modifications of my invention, which are further described
50 hereinafter.

Similar letters refer to similar parts throughout the several views.

Two independent spring-platforms support the wagon-body—one at the front end and one at the rear end—and each is suspended from 55 its axle by the terminal ends of the springs connected thereto. The front platform consists in a fifth-wheel composed of upper and lower plates and springs, which are rigidly connected at their inner ends to the lower 60 plate of the fifth-wheel and extend radially therefrom to the front axle, to which their outer ends are attached at or near the shoulders thereof. The rear platform consists of a bearing-plate similar to the lower plate of 65 the fifth-wheel rigidly attached to the wagon-body and an arrangement of springs similar to that used in the front platform.

The spring-platforms shown in the drawings are independent of each other, and either 70 may be used to support one end of a wagon-body, while some other well-known means may be employed to support the opposite end.

In the drawings, R represents the body of the vehicle, the bottom frame of which is provided with the cross-bars O and O' and a longitudinal central bar O², connecting the side 75 and end sills of the body, and shown in dotted lines in Figs. 2 and 3. Rigidly secured to the bars O and O² is the upper or D plate 80 D, the center of the cross-bar of said plate being bored to receive the pivotal spool E, provided with a flange E'.

C represents the lower plate of the fifth-wheel, which is preferably segmental in form 85 and arranged to bear against the lower surface of the plate D. To the under plate C are rigidly attached on either side the main supporting-springs A A, Fig. 2, which extend from thence diagonally to the axle at or 90 near its opposite shoulders. At the center of the arc C and on its lower surface is formed, preferably integral therewith, the boss F, as shown in detail in Fig. 5. The lower extension F² of the boss F penetrates the hub of 95 the under brace or "hanger" G, as seen in Fig. 5. The upper plate D is bored to receive the hollow spool E, (provided with the flange E',) which passes through this plate and rests upon the lower plate C. A bolt F' passes 100 through the spool E, boss F, hanger G, and the rear end of the center spring B, (when the latter is employed,) and all the several parts are securely held together by means of said

bolt and the under brace or hanger G. The outer ends of the hanger G are curved upward and bolted to the central frame-piece O², but may be turned at right angles to this position and bolted to the cross-bar O; or two braces crossing each other may be employed, or a hanger with four arms. A safety-hook E² supports the front edge of the under plate C, and serves as a stop to limit the turning of the wagon, so that the wheel shall not come in contact with the sides of the body, thereby omitting the application of the usual "rub-irons." Stops N N are formed on the lower plate C, Fig. 2, which engage each side of the safety-hook E², and thus limit the movement of the axle in turning the vehicle.

It will now be seen, by reference to Fig. 5, that while the upper plate D of the fifth-wheel and the hanger G are immovably connected to the bottom frame of the body the spool E, lower plate C, bosses F and F², center spring B, and spring-brace H are firmly united by the through-bolt F' and move together in their respective bearings when turning the vehicle. The side springs A A and the central spring B, Figs. 1 and 2, are in this instance placed in different horizontal planes to prevent the rotation of the axle by the vibration of the springs. The outer ends of the springs A A are pivotally secured to the shackles P P and the outer end of the central spring B to the shackle P', Fig. 7, all arranged preferably below the axle, whereby to stay the latter against rotating. In this instance the axle is bent down at its center, thereby placing the pivotal bolt of the shackle P', as on line 2 2, in a lower plane than the pivotal bolts of the shackles P P, as on line 1 1. The same depression of the central spring is maintained in relation to the side springs throughout their entire length, as seen in Fig. 1, whereby the action of the springs will not have a tendency to rotate the axle. If preferred, the axle may be straight, or nearly so, and the springs A shackled above the axle and the spring B below the axle, which will accomplish the same purpose.

The rear spring-platform is preferably provided with a plate K and springs A', similar in construction to the plate C and springs A, with the difference that the plate K is rigidly secured to the cross-bars O' and O² of the wagon-body R. A central spring B' has its lower leaf bent upward at its inner end and secured by a bolt J' to the plate K, as in Fig. 6. Further stiffness and security is afforded by a spool J and bolt L, which connect the spring and wagon-body at this point.

In Figs. 8, 9, 10, 11, 12, 13, 14, 15, and 16 are shown a circular form of fifth-wheel and details for front platform. The mode of attachment of the springs in the front platform is shown clearly in Figs. 12 to 16, in which the upper plate D of the fifth-wheel is secured to the wagon-body on the cross-rails and provided with the opening E. C is the lower plate; F, the boss; A A, the side springs,

rigidly attached to the plate C, and G the hanger attached to the body or upper plate D. B, the center spring, is attached to the hub F by the through-bolt F', and H', the extension of the lower leaf, is attached to the under side of the lower plate C, for rigidity. For further security the bolt F' may be formed as shown in Fig. 14, so as to inclose the spring B instead of piercing it.

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

1. In a spring-platform, the combination of a fifth-wheel placed in the rear of the front axle and secured to the bottom of the body, side springs diagonally extended from the fifth-wheel to the axle at or near the opposite shoulders thereof, and a longitudinally-arranged central spring also extended from said fifth-wheel to the axle, said side and central springs having their inner ends rigidly connected to the fifth-wheel and their outer ends pivotally connected to the axle in different horizontal planes, substantially as and for the purpose set forth.

2. In a rear spring-platform for road-wagons, the combination, with the bottom of the body and the hind axle, side springs radially extended from the bottom to the axle at widely-separated points, a longitudinally-arranged central spring also extended from the bottom of said body to the axle, the outer ends of said side and central springs being pivotally connected to the axle, their inner ends rigidly secured in relation to the bottom of the body, and having both ends of said central springs suspended in a lower plane than the side springs, whereby to prevent the rotation of the axle by the vibration of the springs, substantially as set forth.

3. In a spring-platform of the character described, the combination of a fifth-wheel placed in the rear of the front axle; provided with an upper plate secured to the bottom of the body, a lower plate provided with a pivotal boss on its bottom surface, a brace or hanger attached to the bottom frame of the body and provided with a central bearing adapted to support the pivotal boss and lower plate, a flanged spool passing through the upper plate, and a bolt extended through said spool, lower plate, and hanger, substantially as set forth.

4. In a spring-platform, a fifth-wheel provided with an upper fixed plate, a brace or hanger extending over the pivotal point of the wheel, a spool passed through said upper plate and resting upon its under plate at its pivotal point, and a bolt passing through the spool, lower plate, and hanger, substantially as described.

5. In a spring-platform of the character described, a fifth-wheel secured to the bottom of the body; a hanger extended over the pivotal center of the wheel and connected with the upper plate and the body, the lower plate of said wheel being pivoted between the up-

per plate and hanger, and a safety-hook at the front portion of said fifth-wheel, substantially as set forth.

5 6. In a spring-platform of the character described, a fifth-wheel secured to the bottom of the body, a hanger extending over the pivot center of said wheel, its lower plate pivoted between the upper plate and hanger, and springs rigidly attached to the lower plate
10 and extending radially therefrom to the axle, substantially as set forth.

15 7. In a rear spring-platform, a plate rigidly attached to the bottom frame of the wagon-body and side springs rigidly attached to said plate and extending radially therefrom to the axle at or near its shoulders, in combination with a longitudinal central spring attached to the plate by a loop in one of its leaves at the inner end and a spool and bolt placed to
20 the rear end of the loop, substantially as described.

25 8. In a spring-platform, a central spring having its inner end attached to the pivot of the fifth-wheel, one or more of its leaves being bent upward and attached to the lower plate of the wheel, in combination with side

springs directly attached to said lower plate and a hanger and bolt securing the lower plate and springs to the bottom frame of the body, substantially as described.

30 9. In a spring-platform of the character described, a fifth-wheel provided with an upper fixed plate, and a lower plate provided with stops on its periphery located equidistant from the center and in front, in combination with
35 a centrally-located safety-hook rigidly fixed in relation to bottom of the body, extended over the lower plate of the wheel, and adapted to engage the stops on said plate, substantially as set forth.

40 10. In a road-wagon, a fifth-wheel consisting of two plates secured to the bottom of the body, each plate being provided with a central hub and radial arms extending from the hub to the periphery, said arms in the lower
45 plate being adapted to receive the inner ends of springs extending thence to the axle, substantially as set forth.

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