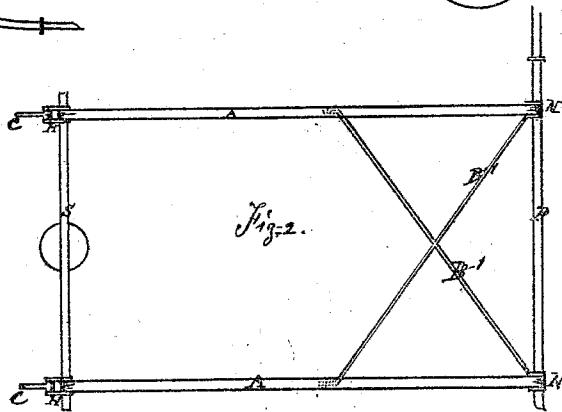
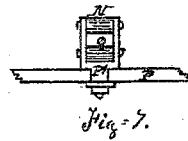
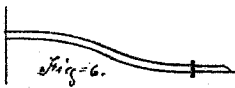
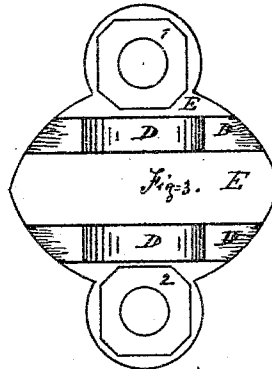
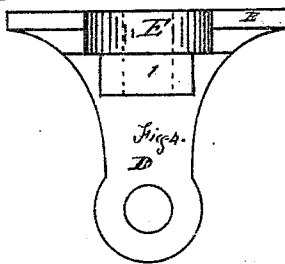
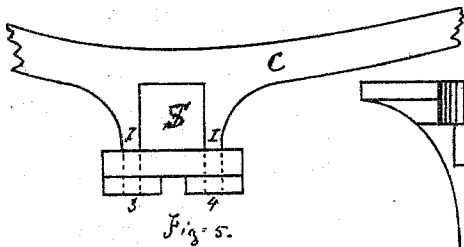
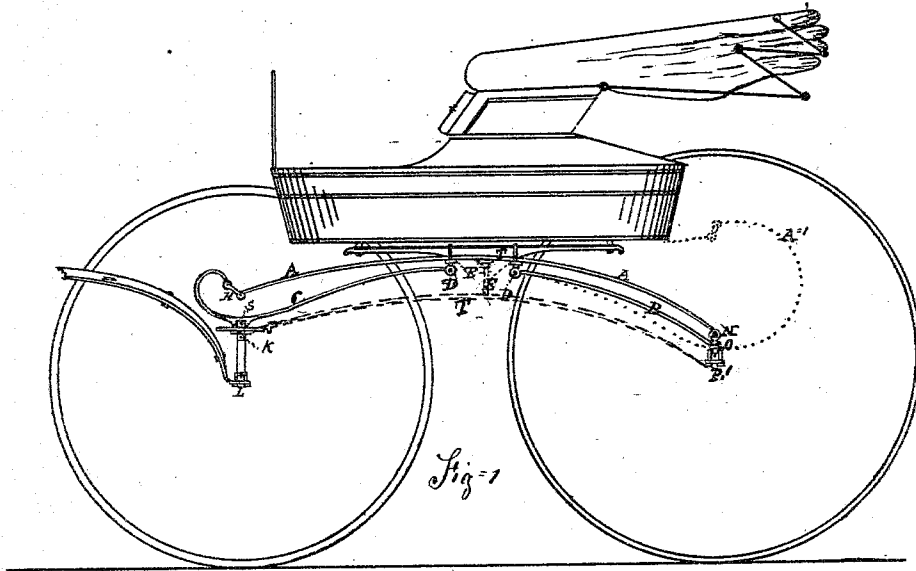


C. W. SALADEE.

Improvement in Pleasure Vehicles.

No. 127,371.

Patented May 28 1872.



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No. 127,371.

2 Sheets--Sheet 2.

Patented May 28, 1872.

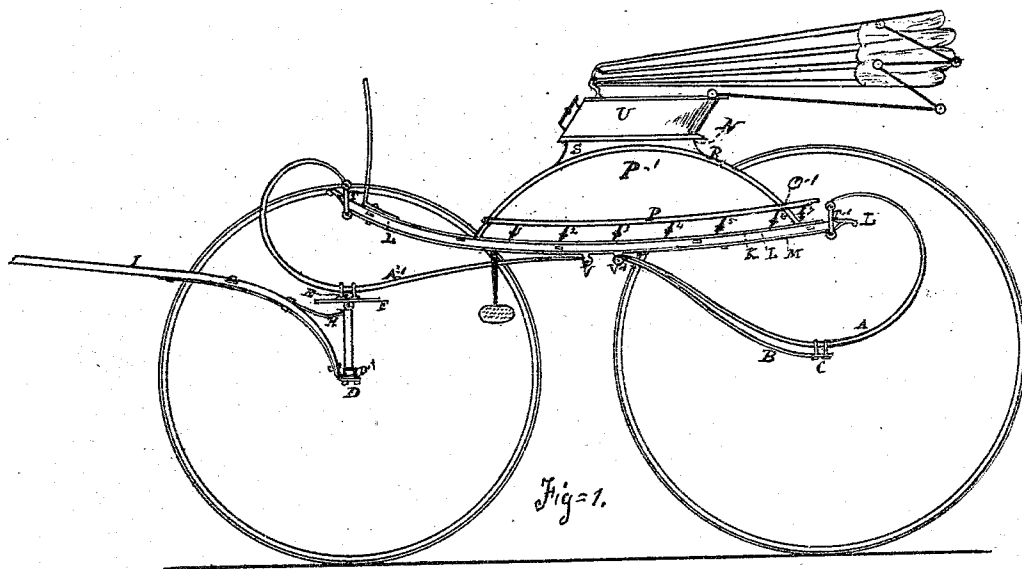


Fig. 1.

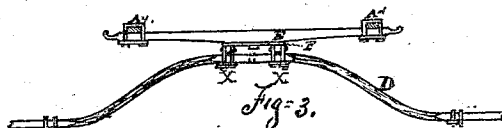


Fig. 3.

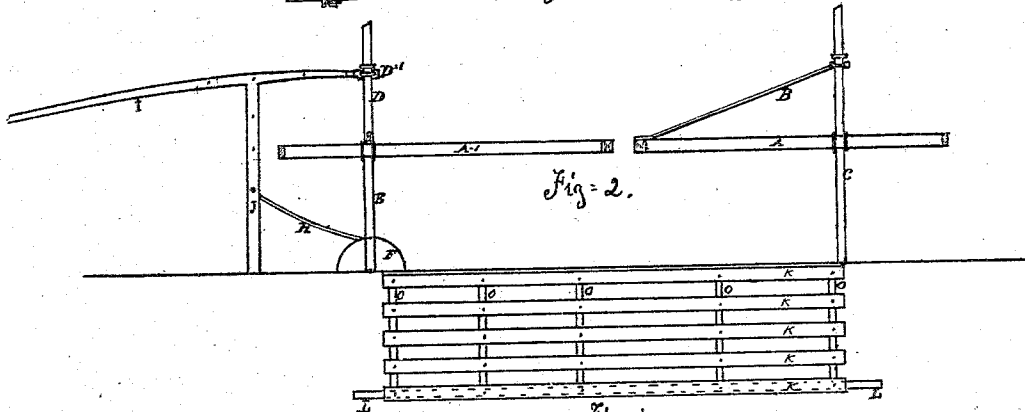


Fig. 2.

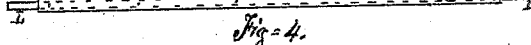


Fig. 4.

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CYRUS W. SALADÉE, OF ST. CATHARINE'S, CANADA.

IMPROVEMENT IN PLEASURE VEHICLES.

Specification forming part of Letters Patent No. 127,371, dated May 28, 1872.

SPECIFICATION.

Be it known that I, CYRUS W. SALADÉE, of St. Catharine's, in the Dominion of Canada, have invented certain Improvements in the General Construction of Light Pleasure Vehicles, of which the following is a specification embodying my invention:

The first part of my invention relates to the general construction of light pleasure vehicles with the body suspended upon the axles without perch, and of which I show two modifications by the drawing, Sheets 1 and 2. The second part of my invention relates to a new and improved mode of constructing the body of light vehicles, whereby additional lightness and strength are secured, as well as a pleasingly novel and ornamental appearance. The third part of my invention relates to one modification (shown in the drawing, Sheet 1) for the construction of light running-gear, by the employment of four C-springs, and generally dispensing with the use of perch and stays between the front and hind axles. The fourth part of my invention relates to another modification for the construction of light gearing, as shown in the drawing, Sheet 2, with side half-elliptic springs and without perch, the springs in this modification being connected to the hind axle in connection with under braces, so attached as to relieve the springs from end strain, and so as to prevent the rotation of the hind axle by the vibration of the springs. The fifth part of my invention relates to securing and operating the ends of half-elliptic side-springs upon what I shall term a "carrier-brace," so as to admit of the spring operating in a stirrup on the outer end of the last-mentioned brace, as well as to relieve the spring from end strain, by securing the inner end of this carrier-brace to the underside of the spring at or near its center.

I will now proceed to describe my invention in detail; and first, the modification shown in the drawing, Sheet 1.

In these drawings, Figure 1 is a side elevation of a complete buggy embracing some of the different points of my invention. Fig. 2 is a half-plan view of the running-gear with the body removed. Fig. 3 is a front view of the front axle, fifth-wheel, and spring-bar. Fig. 4 is a half-plan view of the bottom frame-work of the body.

That part of my invention relating to the body consists chiefly in making it an open frame-work. The sill-pieces L are extended at both ends so as to answer the purpose of "body-loops." The shape of these sill-pieces, from a side view, may vary, to suit the fancy of the manufacturer, and are framed to the ends of the cross-pieces O, seen in Fig. 4. Lengthwise the body, across the top of these cross-pieces O, are screwed the slats K, which are made about three-eighths of an inch thick by two inches wide, of hard wood, and with open spaces between of about one inch. These slats K serve as the floor of the body, and, when desired, the tops of them may be covered by laying loosely thereon a matting, a carpet, or an oil floor-cloth. Upon the top side of the sill-pieces L is placed or framed the arch-piece R, seen in Fig. 1, which is of bent hard wood, and forms the segment of a circle, and upon which is fitted the seat-rest S. On the side of the arch-piece R, and about four inches from the top of the sill, is framed the rail-piece P, between which and the sill are placed the ornamental rounds 1, 2, 3, &c. This rail-piece P extends back of the arch R far enough to take a corresponding cross-piece over the back end of the body, and between which and the rear cross-piece of the body are placed the same kind of rounds seen in the side view of the body. In other terms, the railing P and ornamental rounds 1, 2, 3, &c., extend around the back end of the body, as plainly indicated in Fig. 1, Sheet 1. The top of the arch R is provided with a seat-rest, S, closely fitting the top of the arch-piece R, and the face side of this seat-rest coming to within one-quarter inch of the face side of the arch. This seat-rest S may be left plain, as shown, or it may be carved or cut through by "jig-sawing" in any fanciful design, and so add to its finish. Upon the seat-rest S is secured the seat U, of any pattern preferred, and cross-braced inside the body in the usual manner. The front of this body is provided with any style "dash" desired. A moment will suffice to show that by this method of framing together a body I not only secure an extremely light and airy appearance to the whole vehicle, but a corresponding strength to the body is had as well.

Another modification of my invention, as

applied to bodies of this class, is to fill the space P' under the arch R with a wood panel; so also the corresponding space across the back of the arch from N to O', and leaving the space of the rounds 1, 2, 3, &c., open, as now shown. But in this case an open seat with rounds, as under the railing P, should be used.

That part of my invention relating to the gearing, in the modification shown in the drawing, Sheet 1, embraces the idea generally of "no perch," and of suspending the body upon four (4) C-springs, with no wood-work about the gearing except the thills or pole and one spring-bar in front. The thills or pole and the front axle are rigidly connected at their point of contact, while the center of the axle is bowed or arched up in the center to receive the fifth-wheel F, (see Fig. 3, Sheet 1,) and between which and the axle D is interposed a hinge-joint to admit of raising and lowering the points of the thills or pole. In this modification of "no-perch gearing" I clip to the hind axle the C-spring A, one on each side, as seen in Figs. 1 and 2, Sheet 1, and upon the top end of this spring is secured the rear ends of the sill L by means of the stirrup T', as seen in the drawing. The under side of the sill L is ironed throughout its entire length, and which iron M terminates at both ends by forming an eye through which to pass the bolt in the lower end of the stirrup T and T'. The front spring A' is clipped to the spring-bar over the front axle in like manner as the hind springs to the axle. To secure the inner end of the springs to the body ears V and V' are formed solid upon the iron plate M on the under side of the sill L, at or near the center of the body, into which the inner ends of the springs are hinged by means of a bolt passing through these ears and the eye in the end of the spring; and so the body, hind axle, and spring-bar over the front axle are all connected together as designed. And now, for the purpose of protecting the springs against side or end strain, a brace, B, Figs. 1 and 2, may be applied, as shown. But the "under brace" and "carrier-brace," which I will presently describe in the other modification of my "no-perch gearing," shown in the drawing on Sheet 2, will be found as admirably adapted in combination with this form of C-spring as with the half-elliptic spring seen on Sheet 2, and which last-named braces I shall generally use in connection with the "C-spring no-perch gearing" Shown in sheet 1. Between the fifth-wheel and the front axle is interposed the hinge-joint, plainly shown by Fig. 3, Sheet 1. The front axle D is arched up in the center to receive the fifth-wheel, as shown in this last-named figure. The thills or pole are rigidly clipped to the front axle at D', as seen by Fig. 2, Sheet 1; and to support the arch of the axle in its rigidly relative position to the cross-bar of the thills or pole two braces, H, are extended from one to the other, so that in raising or lowering the points of the thills the hinge-

joints interposed between the fifth-wheel and the front axle are operated upon, and which admit of this movement freely. These hinge-joints under the fifth-wheel are rendered "anti-rattling" by an improvement I have secured in a former patent, and by which, when the vehicle is not in use, the points of the thills may be raised up out of the way until their cross-bar rests against the front springs, and where they will be firmly held by reason of the center of gravity upon the fifth-wheel having been thrown back past the center of the bearings of the axle in the wheels, and so the weight of the front end of the body will hold the thills or pole in this raised position without other provision.

I have thus produced the lightest possible form of pleasure vehicle, embracing superior strength, simplicity of construction, stylish in appearance, and is unsurpassed for the ease of motion attained by the peculiar arrangement of the C-springs in combination with the body and axles, and dispensing, when desired, with the use of perch and the ordinary amount of superfluous wood and iron work.

The other modification of my invention in "no-perch gearing," shown in the drawing on Sheet 2, is substantially the same as in the one above described, but has the body suspended upon half-elliptic side springs.

In the drawing on Sheet 2, Fig. 1 is a side elevation of a complete buggy. Fig. 2 is a plan view of the springs, hind axle, cross-braces, front, spring-bar, and fifth-wheel. Fig. 3 is a bottom face view of the clip-yoke to the main spring-bars T, and for the reception of the ends of the "under" and "carrier braces" B C, Fig. 1. Fig. 4 is a side elevation of Fig. 3. Fig. 5 is a side view of a piece of the carrier-brace C, seen in Fig. 1, showing how it is secured to the cross-bar S. Fig. 6 is a front view of the front axle, arched up in the center, as shown and described in the other modification. Fig. 7 is a rear view of the "shackle-clip" P' in position on the hind axle, and with the heads N of the spring and the under brace B in position between the ends of the clip.

The springs shown in this modification are the ordinary "half-elliptic side spring" of required length and proportion. In this modification, the same as in the other, neither of the axles have a "bed-wood" on them, but are wrought and arched up in the center, as the case may require; so also the arrangement and application—each part with the other—of the front spring-bar, fifth-wheel, axle, and thills, are just the same, as shown on Sheet 1, except that the connecting braces H, between the cross-bar of the thills and the front axle, are here omitted. The hind ends of the springs A are secured and operated between the ears of the shackle-clip P', as seen in Figs. 1 and 7, and in which is had two bearings; the upper one, N, (see Fig. 7,) passing a bolt to receive the end of the spring, and O passing the bolt to receive the rear end of the under brace B, and the whole clipped to the axle, as seen in Figs.

1 and 7. Upon the center of the spring is placed the spring-bar T, and there secured by clips, as shown in Fig. 1. These clips take a "yoke," E, on which is formed the ears D D, a bottom view of which is had in the enlarged view, Fig. 3, and a side elevation is had of the same in Fig. 4. The ears D D receive the inner ends of the under and carrier braces B C on a bolt passing through them. These braces B may be placed in position diagonally across each other, as seen in Fig. 2, B', or they may be applied directly under the spring, and in a line with them, as seen in Fig. 1, and an extra pair of cross-braces, B', Fig. 2, applied, and which will prevent one side of the body upon the springs from being depressed more than the other when the weight is all thrown upon one spring. The points of connection of the front ends of the under brace B at D is from the center of the edge of the spring at that point to the center of the bolt, passing through the eye at D the same distance as between the two bearings, from center to center, at N O, Figs. 1 and 7; and thus, as the spring is depressed, the under brace B is permitted to act with the spring, and, being connected at rigid points at E D and N O, they operate parallel to each other, and so effectually prevent the rotation of the axle in the hub of the wheel by the vibration of the spring. This under brace serves the best purpose when made of steel and bent to the same curve of the spring, as shown in Fig. 1; and in some instances I propose making this under brace of a single or double leaf of spring-steel of the same dimensions as are the leaves of the main-spring A, when the brace B' and the spring A will vibrate together in their relative parallel position to each other. The point O for the bearings of the rear end of the under brace B is not necessarily located on the top side of the axle, as shown by Figs. 1 and 7, but may be placed in position immediately under the center of the axle, and lower the point of bearing of the front end of the under brace at D, Fig. 1, accordingly, and the operation will be exactly the same. In all cases where it is desired to use this under brace B under the front end of the spring as well as under the rear end, I make it in one piece, extending from one end to the other of the mainspring, and in any appropriate manner rigidly secure its center between the ends to the center of the under side of the spring A, at a proper distance below the spring, so as to make it parallel with the lower side of the spring A throughout its entire length. (See dotted lines T, Fig. 1, Sheet 2.) In this case the under brace B, as shown by dotted lines T, would be nothing more nor less than a duplicate of the spring A, the two operating together, one over the other, with their centers rigidly connected together the same distance apart as will be their bearings at their outer ends, and so vibrate parallel with each other throughout their entire length, and operate the same in front, as now shown from center E D to the hind axle, as seen in Fig. 1,

Sheet 2; and the cross-braces B', Fig. 2, should, in this mode of applying the under brace, be placed in front to the cross-bar S and the springs A, as well as to the hind axle. (See Fig. 2.)

Still another modification for the application of this under brace B in combination with half-elliptic side spring is to shape and extend its rear end, as shown by the dotted lines A', Fig. 1, Sheet 2, and by a stirrup or otherwise connect the top end to the body-loop; and in this modification the extension of the under brace is virtually a C-spring, acting in combination with the half-elliptic side spring. In this combination of a C-spring, in place of the short under brace B, with the side spring A, the C-spring A', in dotted lines, Fig. 1, Sheet 2, will rest in the bearing O underneath the axle, while the end of the spring A will rest and operate in its bearing at N, as shown. This combination of the C-spring with half-elliptic side-springs applies equally to both ends of the spring A when required so to be used.

The front end of the under brace B and the rear end of the carrier-brace C may, if desired, be hinged upon one bearing under the spring at X, Fig. 1, and operate equally well. The carrier-brace C is formed as plainly shown by Fig. 1, Sheet 2, and secured to the cross-bar S in the manner clearly seen in Fig. 5, Sheet 2. The rear end of this brace is secured to the under side of the spring, the same as the under brace B. The front end of the carrier-brace takes a C shape, terminating with an eye to receive the bolt holding the upper end of the stirrup H; and in the lower end of this stirrup is secured the front end of the spring A. The application of the under brace B and carrier-brace C to half-elliptic side springs relieves the latter from all end strain, which, otherwise, they would have to sustain in a gearing having no perch. This carrier-brace C may also be made of a single leaf of heavy spring-steel, or of two leaves of appropriate proportion, and clipped to the cross-bar S, Sheet 2, in the usual manner, and answer the same purpose as if made of iron, as now shown in the drawing.

Claims.

I claim as my invention—

1. In buggy-bodies, the arch R, or its equivalent, in combination with the railing P and sills L, Sheet 1, substantially as shown and described.
2. The slatted bottom O and K of the body, Fig. 4, when the sills are provided with the railing P, Sheet 1, or other appropriate side, substantially as and for the purpose set forth.
3. In combination with the arch R and railing P, the wood panels P', Sheet 1, with or without the corresponding panel across the back of the arch, substantially as shown and described.
4. In combination with a slatted-bottom body, the extension of the sills L, Sheet 1, as

a substitute for "body-loops," as shown and described.

5. Four C-springs, in combination with the body, front, spring-bar, and hind axle of the vehicle, Sheet 1, with the under brace B, seen in Fig. 1, Sheet 1, substantially as and for the purpose shown and described.

6. The combination of the arched axle D, thills D', and brace or braces H, Sheet 1, as and for the purpose specified.

7. Half-elliptic side springs, operated upon a carrier-brace, C, Sheet 2, or its equivalent, substantially as and for the purpose set forth.

8. The under brace B, constructed, applied, and operating, in combination with half-elliptic side or C-spring, Sheet 2, in such manner that their parallel action with each other shall prevent the rotation of the axles in gearing without perch, substantially as specified.

9. The spring A, Sheet 2, and spring-brace T, in dotted lines, Fig. 1, rigidly secured together, one over the other, at a point central between their outer ends, with a proper space between throughout their entire length, and

vibrating together, in the manner and for the purpose substantially as shown and described.

10. In combination with the springs A under brace B, the braces B', arranged diagonally, Sheet 2, in front and back of the cross-center of the springs, or to either end from the cross-center of the springs, substantially as shown and described.

11. The shackle-clip P', provided with the bearings N O, Sheet 2, as and for the purpose set forth.

12. The clip-yoke E, having ears D, Figs. 3 and 4, Sheet 2, formed thereon, substantially as and for the purpose shown and described.

13. In combination with half-elliptic side springs, a C-spring, as shown by the dotted lines A', in connection with either one or both ends of the side spring A, Sheet 2, in manner and for the purpose substantially as shown and described.

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