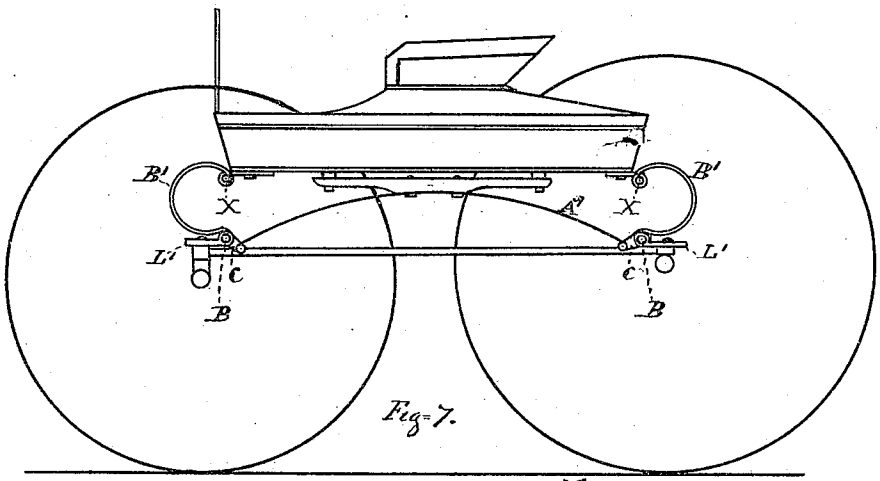
2 Sheets--Sheet 1.

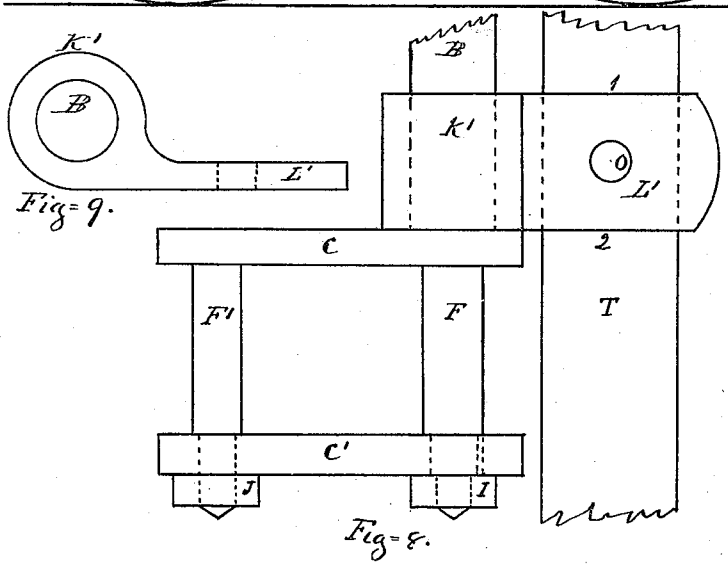
C. W. SALADEE.

Improvement in Springs for Vehicles and their Connections.

No. 132,925. Patented Nov. 12, 1872.



Fig=7.



Fig=9.

Fig=8.

Witnesses
G. B. Saladee
C. W. Saladee jr

Inventor
Chas. W. Saladee

2 Sheets--Sheet 2.

C. W. SALADEE.

Improvement in Springs for Vehicles and their Connections.

No. 132,925. Patented Nov. 12, 1872.

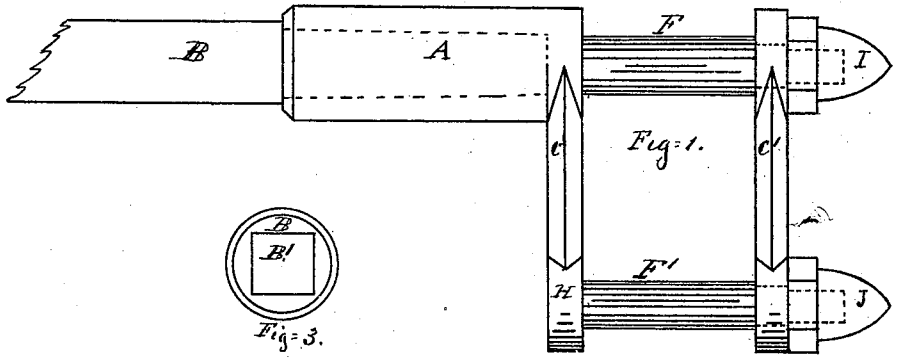


Fig-1.

Fig-3.

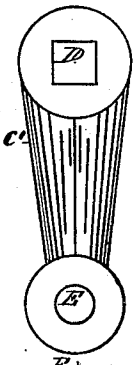


Fig-2.

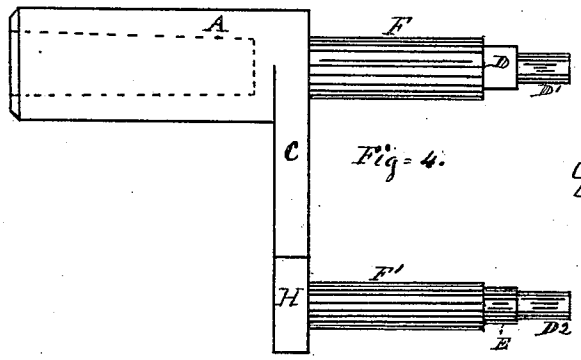


Fig-4.

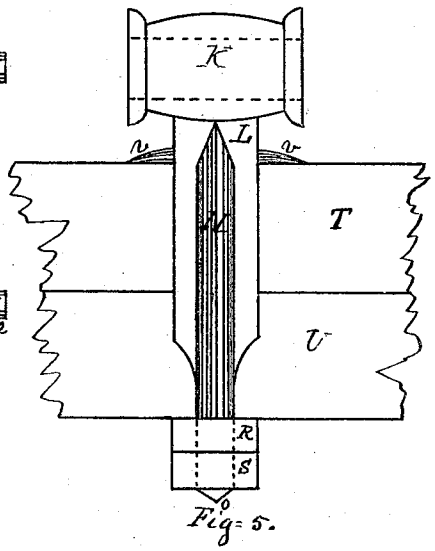


Fig-5.

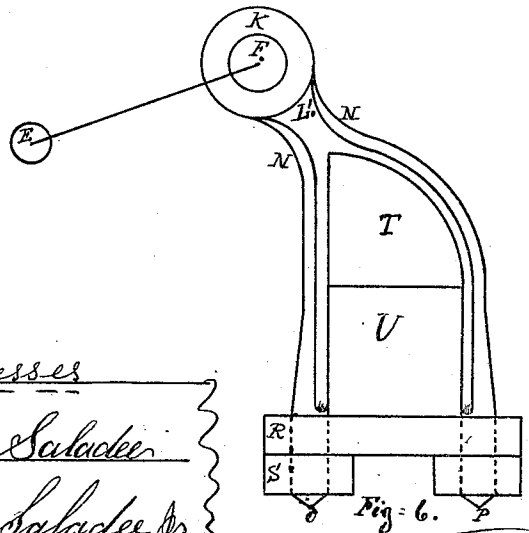


Fig-6.

Witnesses

G. B. Saladee

C. W. Saladee Jr.

Inventor

Jno. B. Saladee

UNITED STATES PATENT OFFICE.

CYRUS W. SALADEE, OF ST. CATHARINES, CANADA.

IMPROVEMENT IN SPRINGS FOR VEHICLES, AND THEIR CONNECTIONS.

Specification forming part of Letters Patent No. **132,925**, dated November 12, 1872.

To all whom it may concern:

Be it known that I, CYRUS W. SALADEE, late of St. Catharines, in the Dominion of Canada, have invented certain Improvements in the Application of Springs and Connecting-Rods to Pleasure-Vehicles, of which the following is a specification embodying my invention:

Nature and Object.

The first part of my invention relates to the construction and arrangement of connecting-rods for equalizing the action of springs to vehicles. The second part of my invention has for its object the combination of four C-springs with side half-elliptic springs, one C-spring being placed at each end of the side springs, with or without the connecting-rods. This part of my invention has for its object the employment of four independent C-springs in combination with side springs, first, to fill up the open, naked-looking space between the ends of the body and the bolster and axle, which is noticeable in all side-spring buggies; and, second, to admit of the use of lighter side springs than could be employed without the use of the four independent C-springs, and, at the same time, add additional elastic or vibrating motion to the whole.

I will here state that I do not want my present invention to be confounded with the C-springs in combination with side springs as shown and claimed in my patent No. 127,371, dated May 28, 1872; for in that patent the C-spring A′, shown in dotted lines, is but the extension of the "under brace," terminating in the C-spring there shown, while the C-springs shown in Fig. 7 are independent of and operate separate from the side springs, though acting in combination therewith. Besides, in the present invention the lower ends of the C-springs are secured and operated on the outer ends of the connecting-rods, as plainly shown in the drawing, or hinged to the axle and bolster independent of the rod.

In the drawing, Figure 1 is a top or plan view of one modification of connecting-rod B, showing the hub A, crank C, crank-pin F′, detachable stirrup C′, and main bearing F. Fig. 2 is a detached face view of the stirrup C′, seen in Fig. 1. Fig. 3 is an end view of the hub A, showing the square hole B′, in which is secured the squared end of the rod B, as seen in Fig. 1. Fig. 4 is a detached top or plan view of the hub A, main bearing F, crank C, crank-pin F′, seen in Fig. 1. Fig. 5 is a front elevation of the clip L N, showing the head K, through which is passed the main bearing F, seen in Figs. 1 and 4. Fig. 6 is a side elevation of Fig. 5. Fig. 7 is a side elevation of an ordinary side-spring buggy having the improved connecting-rods shown and described, and the C-springs in connection therewith in proper position. Fig. 8 is a top or plan view of the second modification of the connecting-rod shown on plate 1; and Fig. 9 is a side elevation of the clip-bearing K′ L′, seen in Fig. 8.

Construction and Application.

In the first modification of connecting-rod shown on Plate 1, the hub A is of a diameter sufficiently large to admit of passing into it the squared end of the rod B, as indicated by the dotted lines in Fig. 1; and center to the outer end of the hub is formed or cast, of malleable iron, as part of the same, the main bearing F, the outer end of which is provided with a square bearing, D, and finishes with the round pin D^1. (See Fig. 4.) Also, on the outer end of the hub is formed, as part of the same, the crank C, with crank-pin F′, with round bearings E and D^2. The main bearing F is now passed through the head K of the clip L N, and the crank-pin F′ through the eye in the end of the side spring, when the stirrup C′ is placed in position upon the bearings D and E, and the whole held firmly in place by means of the screw-nuts I and J, and so that all the working bearings shall play freely in their respective positions. The clip L has a rib, N, formed upon the face, as seen in Figs. 5 and 6, and formed as seen in the latter figure. The top of the clip terminates in a neck, L′, as seen in Fig. 6, and is surmounted by the head K, as plainly shown in Figs. 5 and 6. The center of the head, from a side view, Fig. 6, is thrown forward of the front face of the axle T U a sufficient distance to admit of the free action of the spring and the crank C when the whole is in position.

I have stated that the arrangement of hub and crank above described is to be formed or cast of malleable iron, and as a general thing I shall so produce them; but in all cases where

I find it preferable I shall weld the crank C directly to the rod B a proper distance from the end to leave metal sufficient to swage out the main bearing F, when the stirrup C′ will be applied as in the other case, while the crank-pin F′ will be forged solid with the end of the crank; or a passing bolt may be substituted and answer equally well.

I will here state that in a former patent for improvements in connecting-rods a claim for the formation of a crank and crank-pin on the ends of connecting-rods was allowed me, and which is no part of my present invention; but the detachable stirrup C′ for the permanent support of the end of the crank-pin F′, and the same in combination with the crank, is the main feature of novelty to which I hereinafter lay claim. The other modification of this part of my invention has reference to its employment in combination with C-springs, which latter are operated in connection with side springs, as clearly shown by the drawing on Sheet 2.

In Fig. 7 is shown a side view of the spring A′, the outer ends of which are secured upon the crank-pin F′ of the crank C, while the lower ends of the C-springs are secured upon the connecting-rod B to the main bearing F, and their top ends hinged to each corner of the body, at X. Fig. 8 clearly shows the end of the rod B, and its connections adapted to the arrangement of springs shown and described, and where L′ is the clip-bearing and K′ the head of the same, and through which is passed the rod B, the clip-bearing being secured to the top of the axle T by a passing bolt at O, or in any other substantial manner. Fig. 9 is a side elevation of the clip-bearing L′ K′, seen in Fig. 8, and showing the hole through the head K′ for the passage of the rod B. Now, by reference to Fig. 8, it will be understood that the end of the side spring A′ operates upon the crank-pin F′, while the lower end of the C-spring operates upon the main bearing F, as also shown in Fig. 7.

In all cases where connecting-rods are not used in side-spring buggies, and I desire to employ the four C-springs in combination with side springs, I propose to secure the ends of the side springs to the axle and bolster of the gearing in the usual way, and hinge the lower end of the C-springs to the axle and bolster entirely independent of the connection of the side springs, while the top ends of the C-springs are hinged to the body, as seen in Fig. 7.

I claim—

1. The detachable stirrup C′, in combination with the crank C, main bearing F, and crank-pin F′, as and for the purpose set forth.

2. Four C-springs, B′, in combination with side springs A′, substantially as and for the purpose shown and described.

CYRUS W. SALADEE.

Witnesses:
G. B. SALADEE,
C. W. SALADEE, Jr.