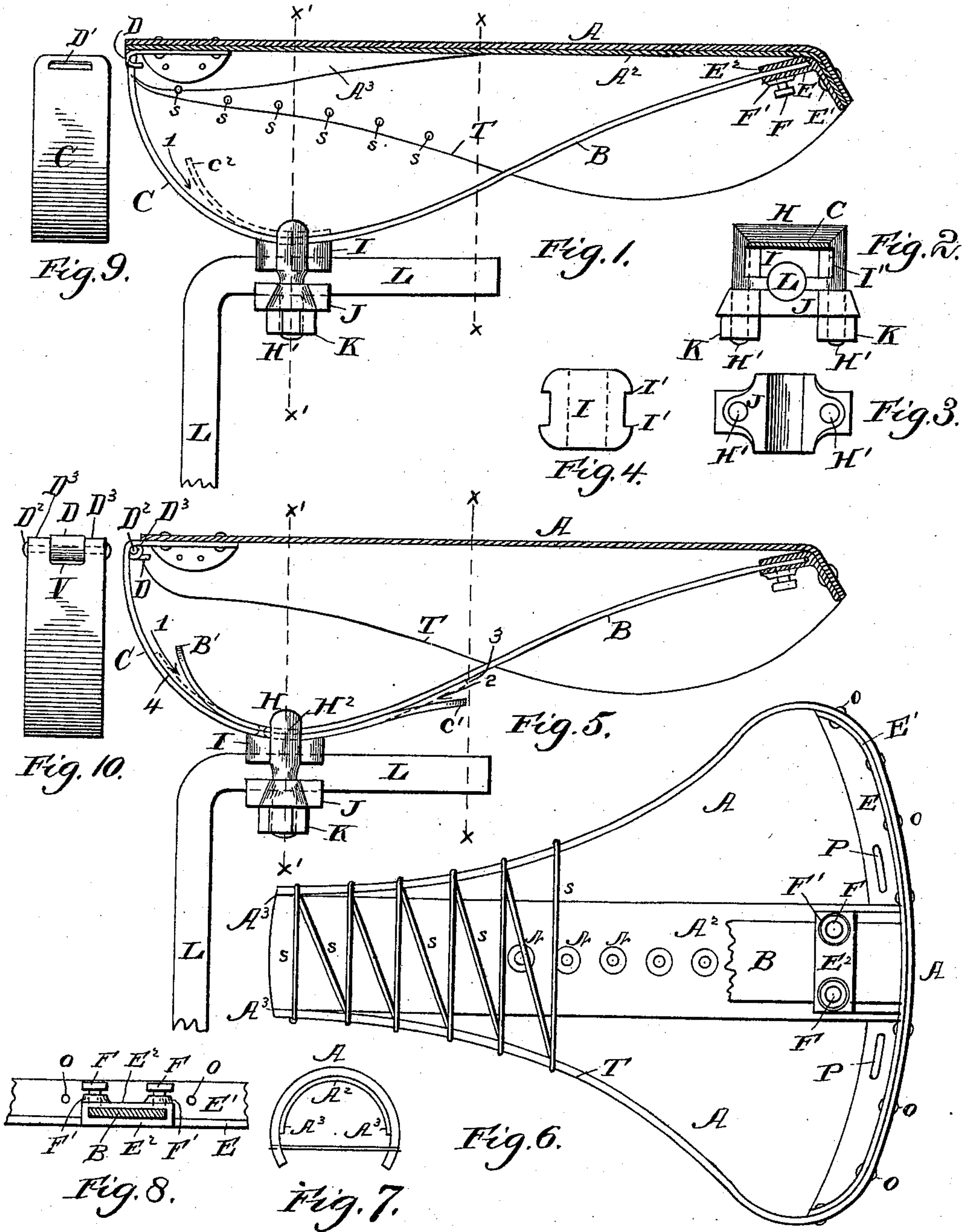


(No Model.)

C. W. SALADEE.  
SADDLE FOR CYCLE VEHICLES.

No. 486,197.

Patented Nov. 15, 1892.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

CYRUS W. SALADEE, OF CLEVELAND, OHIO, ASSIGNOR TO THE WHITTEN-GODDING CYCLE COMPANY, OF PROVIDENCE, RHODE ISLAND.

## SADDLE FOR CYCLE-VEHICLES.

**SPECIFICATION** forming part of Letters Patent No. 486,197, dated November 15, 1892.

Original application filed October 19, 1892, Serial No. 449,306. Divided and this application filed June 18, 1892. Serial No. 437,200. (No model.) Patented in Canada June 23, 1892, No. 39,190.

*To all whom it may concern:*

Be it known that I, CYRUS W. SALADEE, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Saddles for Cycle-Vehicles, (for which Canadian Letters Patent were issued to me June 23, 1892, No. 39,190;) and I do hereby 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.

My invention relates to the combination, with a seat and a clamp, of a spring adapted to support the opposite terminal ends of the seat or top, said spring being composed of two flat members arranged to have their meeting ends overlap each other, so that the inner end of each member is normally out of contact with and serves to reinforce the main body of the other member and automatically adjust the spring to the weight of the rider, and said overlapped ends are fastened or united directly together, so as to be immovable longitudinally on each other and to adapt the spring to be adjusted lengthwise in the clamp to tilt or cant the seat or top and accommodate the same to the convenience of the rider.

To enable others to more readily understand my invention, I have illustrated the same in the accompanying drawings, referring to which—

Figure 1 is a side elevation of a saddle embodying my invention with the seat or top in longitudinal section and showing my improved clamp between the seat-spring and the saddle-post. Figs. 2, 3, and 4 are detached views of the improved form of clamp shown by Fig. 1, Fig. 2 being a front view of the clamp in its entirety and with the saddle-post and spring in cross-section; Fig. 3, a detail plan view of the yoke-plate, and Fig. 4 a like view of the intermediate plate between the yoke-clip and the spring. Fig. 5 is a side view, with the seat-top in longitudinal section, of my preferred form of spring, which comprises two members (a front and rear member) arranged and connected together for the automatic adjustment or support of the weight on the seat or top. Fig. 6 is an inverted plan view of the seat or top, more clearly illustrating

the construction thereof. Fig. 7 is a front elevation of the front or pommel end of the seat or top shown in Figs. 1, 5, and 6. Fig. 8 is a detail front view of a part of the cantle-bar, showing the rear end of the spring in cross-section. Fig. 9 is a detail elevation of the front end of the spring shown in Fig. 1. Fig. 10 is a detail front view illustrating the preferred pivotal connection between the front end of the spring and the pommel-hook shown in Fig. 5.

Like letters and figures of reference denote like parts in the several figures of the drawings.

L is the usual saddle-post or "L-rod" of a bicycle, tricycle, or other form of saddle-vehicle, preferably provided with the rearward horizontal arm, to which the seat-spring is fastened by the clamp H.

A is the seat or top of the saddle, preferably made of leather, as is usual, and B C is the spring.

The spring B C of Fig. 1 is made of a single continuous piece of flat metal bent into nearly-C shape at its front end and then curved upward and backward at its rear end, as at B, and around the lower or depressed portion of the spring is fitted the clamp H. The upper extremity of the front end C of the spring is pierced with a transverse slot D', in which is fitted the hook of the pommel-plate D, rigidly fastened to the pommel of the seat A, thus pivotally connecting the front end of the spring and the seat-pommel together. The rear end of the spring is rigidly and adjustably fastened to the cantle of the saddle, which connection is effected by fitting said rear extremity in the forwardly-extending socket E', rigid or integral with the front side of the cantle-bar, and providing the two set-screws F F', which work in suitable threaded bearings in the wall of the socket and operate against the end of the spring to hold the same in the socket, as indicated very clearly in Figs. 1, 5, 6, and 8 of the drawings. The duplex set-screws F F', arranged near opposite sides of the socket and adapted to bind on the rear part of the spring near its side edges, is an important feature of the connection between the hind end of the seat and spring. Heretofore only a single set-screw has been



employed to hold the rear end of the spring to the seat-cantle, and when the side edges of the spring are fitted loosely in the socket the spring can move laterally or at right angles to its length in the socket; but by using the duplex clamping-screws, arranged as described, the opposite edges of the spring are firmly clasped and the lateral movement rendered impossible. A further advantage of this construction resides in the fact that the two screws effectually prevent any longitudinal movement of the spring in the socket after the spring and seat-top have been adjusted to take up the stretch in the seat.

The clamp H is made in the form of a yoke or clip, U-shaped, as seen in Fig. 2, and this clip-yoke is arranged to straddle the spring and the L-rod, the lower threaded prongs of said clip-yoke being provided with the nuts K K, so that the yoke has a binding action on the spring and the L-rod equivalent to the effect of two set-screws, whereas it has heretofore been customary to use a single screw to hold the clamp and spring on the L-rod. The lower ends of the clip-yoke are passed through apertures H' H', pierced near the ends of a clip-plate J, fitted or arranged against the lower side of the L-rod, and between the upper side of the L-rod and the seat-spring is fitted an intermediate bearing-plate I, on which rests the seat-spring, as shown in Figs. 1, 2, 3, 4, and 5 of the drawings. In the opposing faces of the clip-plate J and the bearing-plate I of the clamp are formed longitudinal central recesses or grooves, which conform to the contour of the L-rod and which adapt said plates to fit snugly thereon, and the bearing-plate is held against displacement within the yoke-clip by means of the ears or lugs I' I', formed in its side edges by recessing the same sufficiently to receive the arm of the yoke-clip. (See Figs. 2 and 4.) As the nuts are turned upon the threaded arms of the yoke the clip-plate J is forced against the lower side of the L-rod and the yoke is drawn down, so that its head bears firmly on the spring and the latter depresses the bearing-plate I on the upper side of the L-rod, whereby the L-rod is clamped very securely between the plates I J, and the spring is held between the head of the clip-yoke and the bearing-plate, the whole presenting a substantial and secure connection for the seat-spring on the L-rod or saddle-post.

Referring now more particularly to Fig. 5, my preferred form of spring is made or composed of two members B C, the former being the rear member and the latter the C-shaped front member, and these two members are united or secured rigidly together—as, for instance, by a countersunk rivet, as indicated by dotted lines in Fig. 5—so as to be immovable longitudinally upon each other and form, practically, one continuous spring. The meeting united ends of the two members are extended beyond the fastening H<sup>2</sup>, (indicated by dotted lines in Fig. 5,) and these extended

ends B' C' of the front and rear members B C of the spring are arranged out of lateral contact or engagement with the bodies of the members to form the openings or spaces. (Indicated by the arrows 1 2 in Fig. 5.) As shown, the end B' of the rear member B is arranged above and is curved out of the line of the body of the front member C, and the rear extended end C' of the front member C is arranged below and curved in like manner relative to the body of the rear member B, and when the load or weight is imposed on the saddle the members B C are moved downward and rearward, respectively, in the manner hereinbefore described, so that the ends B' C' of the members are in contact with the main portions of the spring, whereby the latter is reinforced by the ends B' C', and it is stiffened in proportion to the weight or load on the seat or top A. I do not, however, confine myself to arranging the bearing ends B' C' of the members out of lateral contact with the main portions of the spring in order to secure the openings 1 2 and accommodate the spring to the load on the seat, and said ends B' C' of the members may be curved so as to lie against the main portion of the members, as indicated at 3 4 by the dotted lines in Fig. 5, which ends of the members act to reinforce and stiffen the spring. Again, the spring can be made to accommodate itself to the load by means of the bearing C<sup>2</sup>, (shown in dotted lines in Fig. 1,) which bearing is preferably made of a separate piece from the spring, arranged in the path of one of the members or parts of the spring and secured rigidly to the saddle-clamp H. However, I prefer the construction and arrangement of the bearing ends shown by Fig. 5.

The rear end B of the spring is secured to the cantle-bar in the same way as the spring in Fig. 1; but the front end C of the spring in Fig. 5 is connected to the pommel-hook D by the improved joint illustrated by Figs. 5 and 9, which joint is adapted to permit the seat and front end of the spring to have a better action, and which affords increased strength and durability. The upper extremity of the spring is turned or bent over into the eye or loop D<sup>3</sup>, and this eye-shaped end is recessed or notched centrally at v to separate or divide the eyes D<sup>2</sup> D<sup>2</sup> and enable the eye on the pommel-plate to fit between the spring-eyes D<sup>2</sup> and coincide therewith. Through these aligned eyes of the pommel-plate and the spring is passed a pivotal bolt D<sup>3</sup>, which pivotally unites the front end of the spring to the plate on the pommel of the saddle.

The cantle-bar E is preferably of cast metal and extends nearly or quite around the cantle of the top or seat A, and the vertical flange E' of said cantle-bar is rigidly united to the top by rivets or in any other suitable way. In the horizontal flange of the cantle-bar I provide longitudinal slots P P, adapted to receive the straps or loops by



which the usual "tool-bag" can be attached to the cantle of the saddle. This cantle-bar serves to reinforce and stiffen the cantle of the seat or top A, provides for the convenient attachment of the tool-bag, and also enables the rear end of the seat-spring to be rigidly attached thereto and the seat to be adjusted or stretched longitudinally to keep the same taut and convenient to the rider.

The saddle having the spring constructed as in Fig. 1 is more especially adapted for use on that class of cycles which are provided with pneumatic tires and in which it is not essential that the spring shall have so much elasticity or resiliency as is required in the ordinary kinds of cycles; but the springs shown in Figs. 5, 11, and 12 are designed for use on the ordinary wheels equipped with solid or "cushion" tires, as such springs are capable of giving an easy resilient carriage.

I will now proceed to describe my improved seat or top. (Shown in Figs. 1, 5, 6, and 7.) It is usual in this art to construct the seat or top of a continuous piece of leather or equivalent material, which is pressed or formed by dies into the proper shape with depending sides at the narrowed pommel thereof; but the ordinary saddle is open to the serious objections, first, that it sags down in the middle, owing to the peculiar action of the springs in general use producing a "hammock motion," and, second, the depending sides adjacent to the pommel or between the pommel and the divergent part of the seat are liable to spread or expand, and thereby tending to chafe the legs or parts of the rider which come in contact with the same while in the act of working the pedal-cranks of the machine, as also to admit of an undue depression of the middle of the seat or top. I overcome these objections by reinforcing the seat or top, said reinforcement consisting of a single continuous piece of any suitable material applied or fitted against the lower side of the seat, at the middle thereof, and extending longitudinally throughout its whole length from the pommel to the cantle of said seat. This reinforcement may consist of a piece of woven fabric of such nature as to resist, as far as possible, any tendency to stretch when under longitudinal or any other tension, or said reinforcement may be made of a thin flexion piece of metal. The reinforcement or support is rigidly united to the longitudinal center of the seat or top in any suitable way that will answer the purpose, and in any application of the reinforcement or support to the seat it should be made of sufficient width to answer the purpose, and preferably the front thereof should have its sides turned down at A<sup>3</sup> within the sides of the seat or top to conform to the shape of the same.

The sides are prevented from spreading apart or expanding at the front end or pommel of the seat or top by any suitable transverse fastening devices, and in the preferred embodiment of my invention I employ a lac-

ing S in the form of a cord or thong, which is passed across the narrow end of the seat and through the apertures s, which are pierced near the lower edges of the depending sides of the seat. A seat thus constructed can have its sides drawn together for any suitable distance in rear of the pommel thereof, and said sides being thus prevented from spreading not only tend to brace the top of the seat against sagging in the middle, but effectually protect the legs of the rider against chafing while operating the pedal-cranks of the machine.

The longitudinal reinforcement of the seat is provided with vertical openings N, which align with like openings in the seat or top A for the purpose of ventilating the seat.

The front member C of the spring may be made of a piece of flat metal or from a single piece of round wire of the proper strength, which is bent to the necessary shape.

I am aware that changes in the form and proportion of parts and details of construction of the devices herein shown and described as an embodiment of my invention can be made without departing from the spirit or sacrificing the advantages thereof, and I therefore reserve the right to make such changes as fairly fall within the scope of the same.

No claim is herein made to the combination, with a seat and a post-clamp, of a continuous spring having its forward end curved upward directly from said post-clamp and connected to the pommel and its hind end extended rearwardly from the post-clamp and upwardly to the cantle of said seat, said post-clamp serving to confine said continuous spring directly to the saddle-post and arranged about midway between the front end of the seat and its vertical center; nor to the combination, with a seat and a post-clamp, of a continuous spring having its forward end curved upwardly from said post-clamp and connected to the pommel and its hind end bent upwardly and rearwardly from the clamp to sustain the cantle of the seat, said clamp serving to connect the spring directly to the saddle-post at a point sufficiently in advance of the vertical center of the seat to throw the weight of the rider in rear of the vertical line of the clamp, whereby the front end of the upturned spring is compelled to move rearwardly in unison with the downward motion of the hind end of the spring; nor to the combination, with a seat, a spring-support therefor, and a saddle-post, of the post-clamp comprising the upper bearing-plate and the lower clip-plate recessed to embrace opposite sides of the saddle-post, said upper bearing-plate having the shoulders or lugs on its side edges and a yoke bearing in said upper plate and having its depending lugs passed between the shoulders thereof and through the lower clip-plate to receive the fastening-nuts; nor to the combination, with a top or seat and a spring, of the cantle-



bar rigidly secured to the seat or top and provided with the socket, which receives the rear end of the spring, and the duplex clamping-screws F F', fitted in bearings near opposite  
5 sides of said socket and adapted to firmly bind the spring at two different points in the socket, as the same forms the subject-matter of a divisional application filed by me on the  
10 19th day of October, 1892, Serial No. 449,306.

What I claim is—

1. In a saddle for cycle-vehicles, the combination, with a seat and a post-clamp, of the spring having its terminal ends connected to the pommel and cantle of the seat, respectively, and the duplex bearing having its parts  
15 or members situated above and below the spring on opposite sides of the clamp and adapted to contact with the spring when the seat is depressed, as and for the purpose described.  
20

2. In a saddle for cycle-vehicles, the combination, with a seat, of the spring having its forward end curved directly from a clamp up to and connected with the pommel and its  
25 hind end rearwardly extended to support the cantle of said seat, a post-clamp connected to said spring and arranged about midway between its vertical center and the pommel

thereof, and the bearing having its front part arranged above the spring in front of the clamp and its rear part below the spring in rear of the clamp, said bearing being normally out of contact with the movable parts of said spring, as and for the purpose described.  
35

3. In a saddle for cycle-vehicles, the combination, with a seat and a post-clamp, of the spring consisting of the front and rear members, the front member having its forward end curved directly from said clamp up to and  
40 connected with the pommel and the rear member extended rearwardly and upwardly to support the hind end of the seat, the inner ends of said members being confined to said clamp and extended beyond the clamp in opposite  
45 directions and arranged above and below the spring members normally out of contact with the same, for the purpose described, substantially as set forth.

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

CYRUS W. SALADEE.

Witnesses:

C. D. RILEY,  
J. H. KNIGHT.

It is hereby certified that in Letters Patent No. 486,197, granted November 15, 1892, upon the application of Cyrus W. Saladee, of Cleveland, Ohio, for an improvement in "Saddles for Cycle-Vehicles," an error appears in the printed specification requiring correction, as follows: In the heading the words and figures "Original application filed October 19, 1892, Serial No. 449,306. Divided and this application filed June 18, 1892," should read *Application filed June 18, 1892*; and that the Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 22d day of November, A. D. 1892.

[SEAL.]

CYRUS BUSSEY,  
*Assistant Secretary of the Interior.*

Countersigned:

W. E. SIMONDS,  
*Commissioner of Patents.*