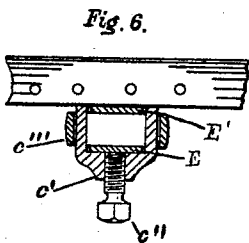
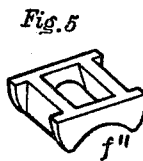
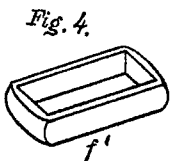
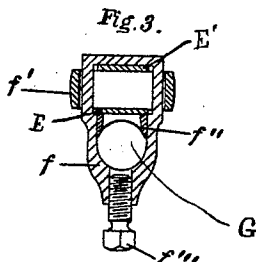
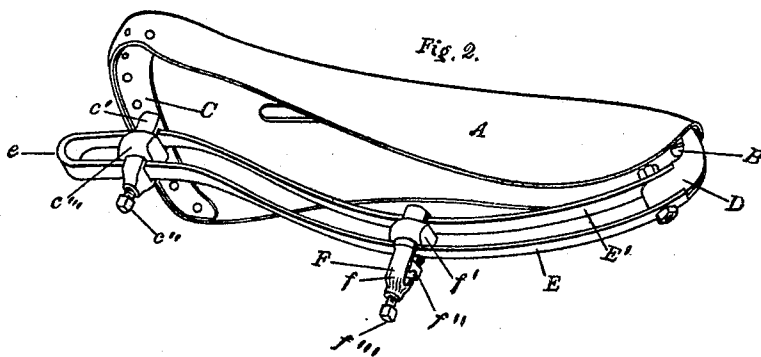
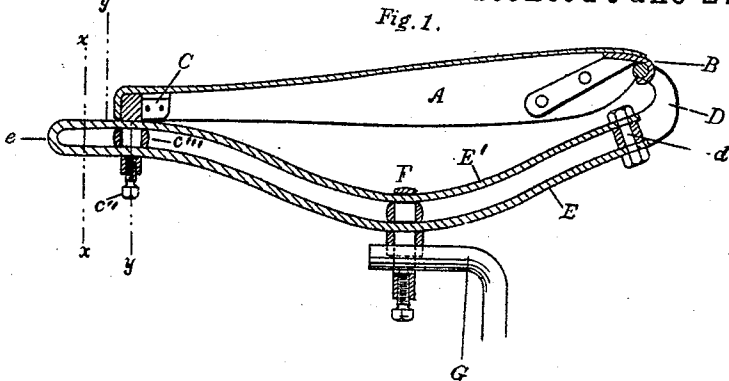


J. H. SAGER.  
BICYCLE SADDLE.

No. 500,158.

Patented June 27, 1893.



Witnesses  
 M. W. M. Rodew.  
 Daniel Upton

Inventor  
 James H. Sager  
 by Howard L. Osgood  
 atty

(No Model.)

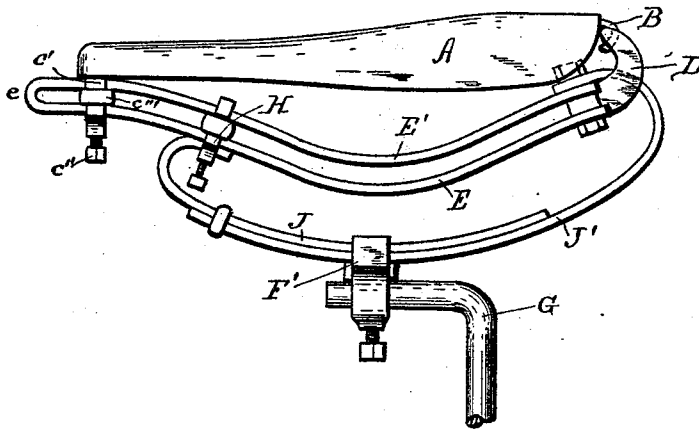
2 Sheets—Sheet 2.

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Fig. 7.



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# UNITED STATES PATENT OFFICE.

JAMES H. SAGER, OF ROCHESTER, NEW YORK, ASSIGNOR TO THE RICH & SAGER COMPANY, OF SAME PLACE.

## BICYCLE-SADDLE.

SPECIFICATION forming part of Letters Patent No. 500,158, dated June 27, 1893.

Application filed October 5, 1892. Serial No. 447,954. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES H. SAGER, a citizen of the United States, and a resident of the city of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Bicycle-Saddles, of which the following is a specification, reference being had to the accompanying drawings, of which—

Figure 1. is a central, longitudinal section of my saddle. Fig. 2. is a perspective view thereof, seen from beneath. Fig. 3. is a vertical cross-section of the main clamp. Figs. 4 and 5 are details of parts of said clamp; and Fig. 6. is a rear elevation of the cantle clamp showing the ends of the springs broken off, and part of the cantle-stretcher. Fig. 7 shows a side elevation of my saddle, provided with supplementary springs interposed between it and the saddle post of a bicycle.

My invention relates to the improvements in bicycle saddles, hereinafter described and claimed, and is intended to provide a stiff, light, safe and strong saddle which may be used for racing purposes, and, by interposing a simple or compound spring between the saddle post and the springs E E', shown in the drawings, it may be changed into a saddle for ordinary riding.

My invention has a saddle leather A, provided with a pommel hook B, and a cantle stretcher C, as usual. To the cantle-stretcher is fixed, as by casting the same integral therewith, a clamp frame c', which has a rectangular perforation therethrough and a set screw c''. The pommel hook engages with one end of an eye D, which is preferably of the curved form shown in the drawings; the other end of this eye is a solid portion perforated for the passage of the bolt d. On the upper and lower sides of the solid part of the eye are laid the ends of a spring or springs E E'. These ends are perforated and the bolt passes through these perforations and the ends of the springs are rigidly fastened to the eye D, by tightening the bolt. The springs E E' may be made separate as by cutting them off on the dotted line x-x of Fig. 1, or may be made, as I prefer, of a single flat steel bar bent upon itself at or near its middle point,

as at e; the two parts (or, if the springs are separate, the two springs) extend from their rear ends substantially straight and parallel for a short distance and are then bent, still parallel, in uniform curves (with the concave sides next to the saddle) to their front ends, which are fastened to the eye D, as above described, by the bolt d; the lengths from the straight parts to the ends being the distance from the cantle clamp c to the eye D, when the saddle leather A is properly stretched. The two parts E E' are thus arranged vertically one above the other with their flat sides in horizontal transverse lines. The springs E E' having been bent as described, and having been perforated for the bolt d, are passed, free ends first, through the cantle clamp c, after a collar c''' of about the same thickness as the distance between the springs E and E' is slipped over the clamp frame c', the springs being one above and one below the collar. When the set screw c'' is tightened the lower spring, E, is pressed against the movable collar c''', which in turn presses the upper spring, E', against the upper part of the perforation in the cantle clamp and the parts are solidly fastened together. The main clamp F is now slipped on the springs E E'. It consists of a perforated frame f, a collar f', similar to the collar c''', a block f'' and a set screw f'''. The perforation is rectangular at its upper part, and is curved at the bottom, and is of such size as to hold the springs E E', with the movable collar f' between them, the movable block f'' under the lower spring, and the saddle post G under the block f''. The set screw f''' presses the saddle post upward against the block, which is movable between the parallel sides of the clamp frame. The block presses against the spring E, which presses the movable collar f' against the upper spring E', which is thus pressed against the top of the clamp frame. The front ends are then bolted to the eye D. The springs are thus, or may obviously be otherwise separately connected with the cantle and pommel. When the set screw f''' is properly tightened the saddle is tightly fastened upon the saddle post. The main clamp F is fixed at any selected position on the curved part of the

springs E E'. It is obvious that springs of other cross-sections than the form shown may be used in my saddle, and that said springs may be brought close together without departing from my invention.

The construction of this saddle having been described, it is evident that by moving it forward or backward in the main clamp F, the inclination of the saddle may be varied, and at the same time the relative elasticity of the springs behind and in front of the main clamp is changeable; that by adjusting the cantle clamp on the springs the tension of the saddle leather may be increased or reduced, and if the saddle leather stretches it may be tightened as desired. The use of the two superposed and separated springs, each being fastened rigidly at the ends, causes them to work against each other, and produce a strong, stiff and light combination spring, which is advantageous, not only on account of such strength, stiffness and lightness, but also because if one spring breaks, the rider is not obliged to abandon the use of his bicycle, but may continue by using the remaining spring. The elastic action of the springs E E' is reduced to a minimum, and when they are pressed upward by a jolt acting at the main clamp the tendency is to straighten them out on account of their curvature, while the saddle leather, being already stretched, opposes this straightening, and instead of the saddle leather dropping in the middle as with "hammock" saddles, the leather is strained tighter. The springs E E' are slightly stiffer and are easier to manufacture, if made in one piece.

The device described is intended for use as a light scorcher or racing saddle but may be used in combination with supporting springs interposed between the springs E E' and the saddle post G, by using clamps of suitable forms, which any skilled mechanic will adapt to the conditions shown. Fig. 7 shows this construction in full lines. F' and H are clips and J and J' are the interposed springs.

By the use of flat springs this saddle is stiff to resist motions, not only in a vertical plane, but those in a horizontal plane.

I do not limit my invention to the precise forms of springs or of the other parts shown and described.

What I claim is—

1. In a bicycle saddle, the combination of a saddle leather, a pair of springs vertically arranged with reference to each other, connected with the pommel and cantle of the saddle, and a clamp for attaching said springs to the sad-

dle support of a bicycle, substantially as described.

2. In a bicycle saddle the combination of a saddle leather, a pair of curved springs vertically arranged with reference to each other, and having their concave sides next to the saddle leather, means of attaching said springs to the pommel and cantle of the saddle, and a clamp for attaching said springs to the saddle support of a bicycle, substantially as described.

3. In a bicycle saddle the combination of a saddle leather, a pair of springs vertically arranged with reference to each other and fastened together at one end, and connected at the other end with the pommel of the saddle, means for clamping said springs to the cantle end of the saddle, and a main clamp for attaching said springs to the saddle post of a bicycle, substantially as described.

4. A saddle spring for bicycle saddles, consisting of springs vertically arranged with reference to each other and means of connecting each end thereof with a bicycle saddle, substantially as described.

5. A saddle spring for bicycle saddles consisting of a pair of separated springs vertically arranged with reference to each other, and means of connecting each end thereof with a bicycle saddle, substantially as described.

6. A saddle spring for bicycle saddles consisting of parallel flat springs, arranged vertically one above the other each connected with both ends of the saddle, substantially as described.

7. A saddle spring for bicycle saddles, consisting of a pair of parallel flat springs, arranged vertically one above the other separated from each other, and each connected with both ends of the saddle, substantially as described.

8. In a bicycle saddle the combination of a saddle leather, having a pommel hook and a cantle stretcher provided with a clamp, a pair of springs, vertically arranged with reference to each other and extending the full length of the saddle and adjustably fastened in said clamp, an eye attached to the front ends of said springs, and a main clamp adapted to fasten said springs to the saddle post of a bicycle, substantially as described.

JAMES H. SAGER.

Witnesses:

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C. MCDOWELL.