No. 822,660. PATENTED JUNE 5, 1906.

C. W. ERRICK.

BICYCLE SADDLE AND SPRING THEREFOR.

APPLICATION FILED JUNE 24, 1905.

Fig. 1.

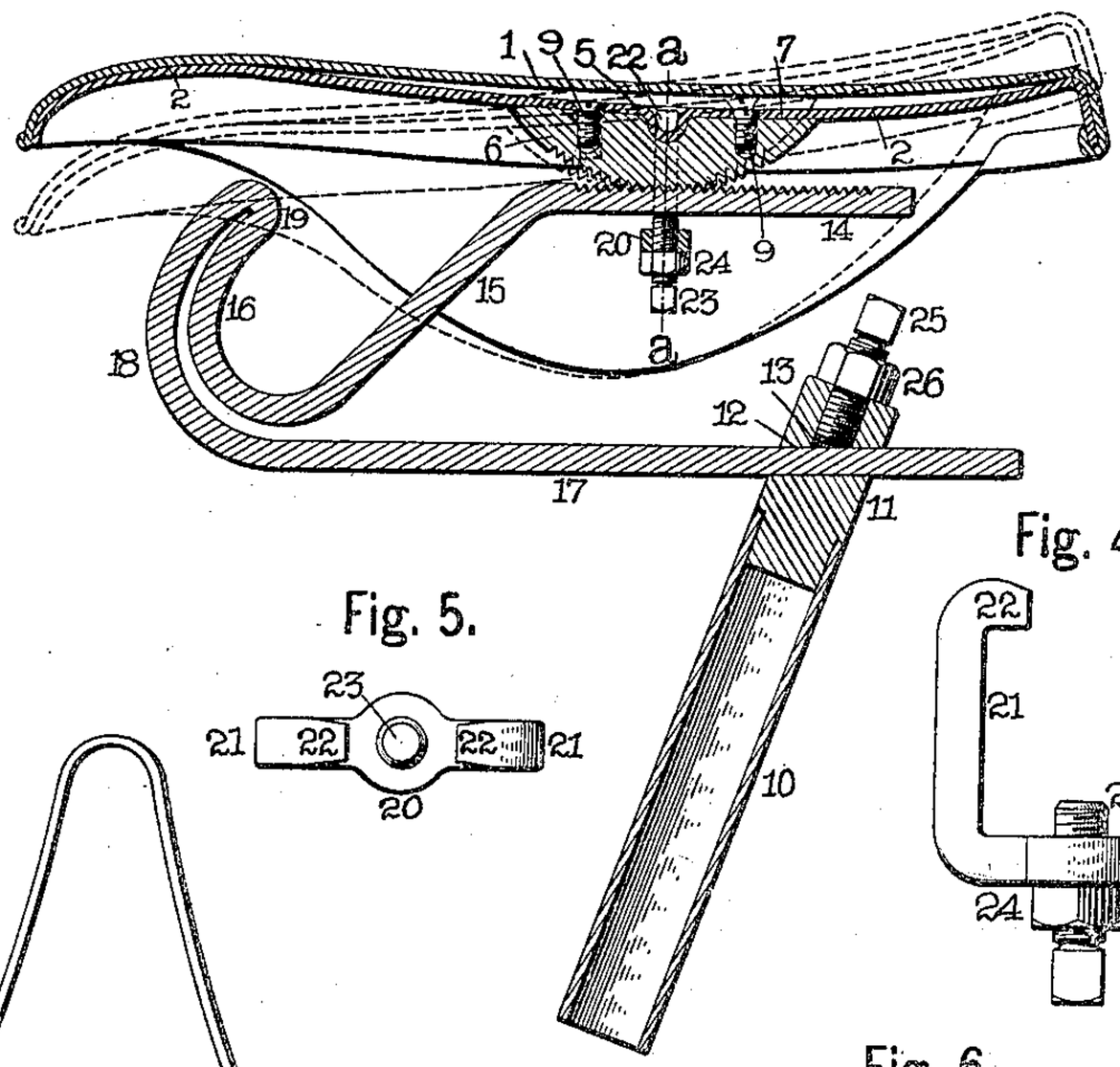


Fig. 2.

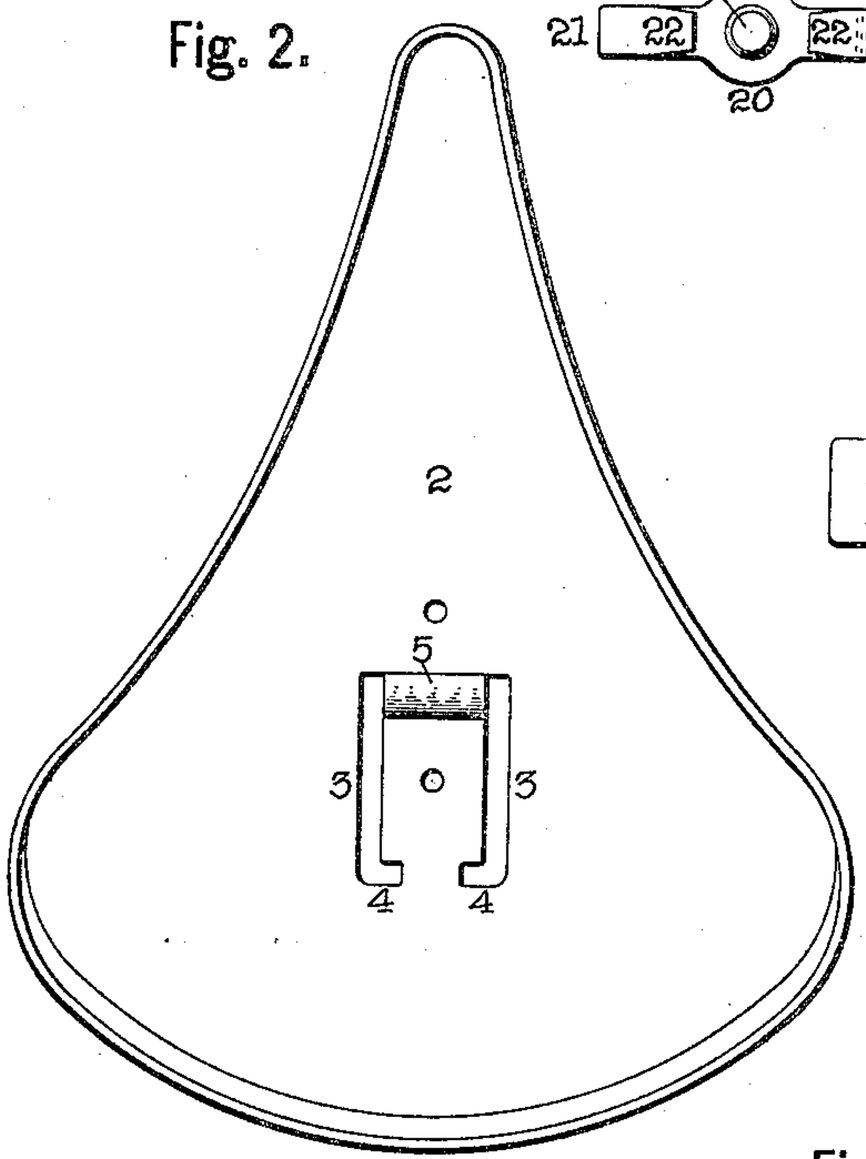


Fig. 3

Fig. 5.

Fig. 4.

Fig. 6.

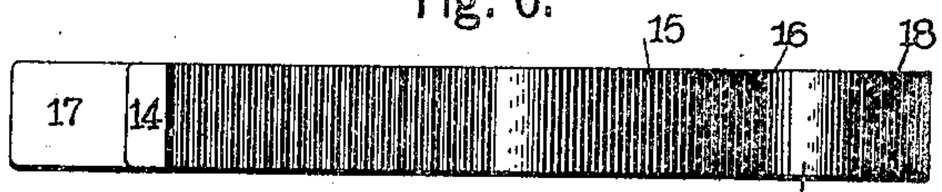


Fig. 7.

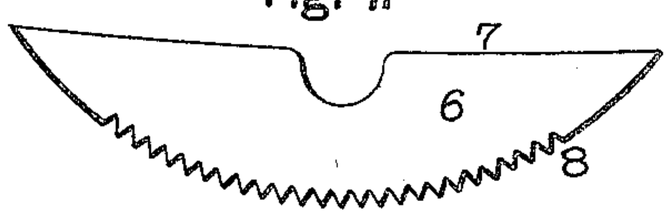
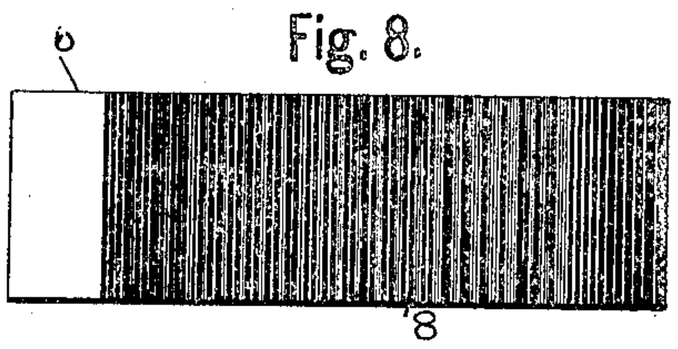
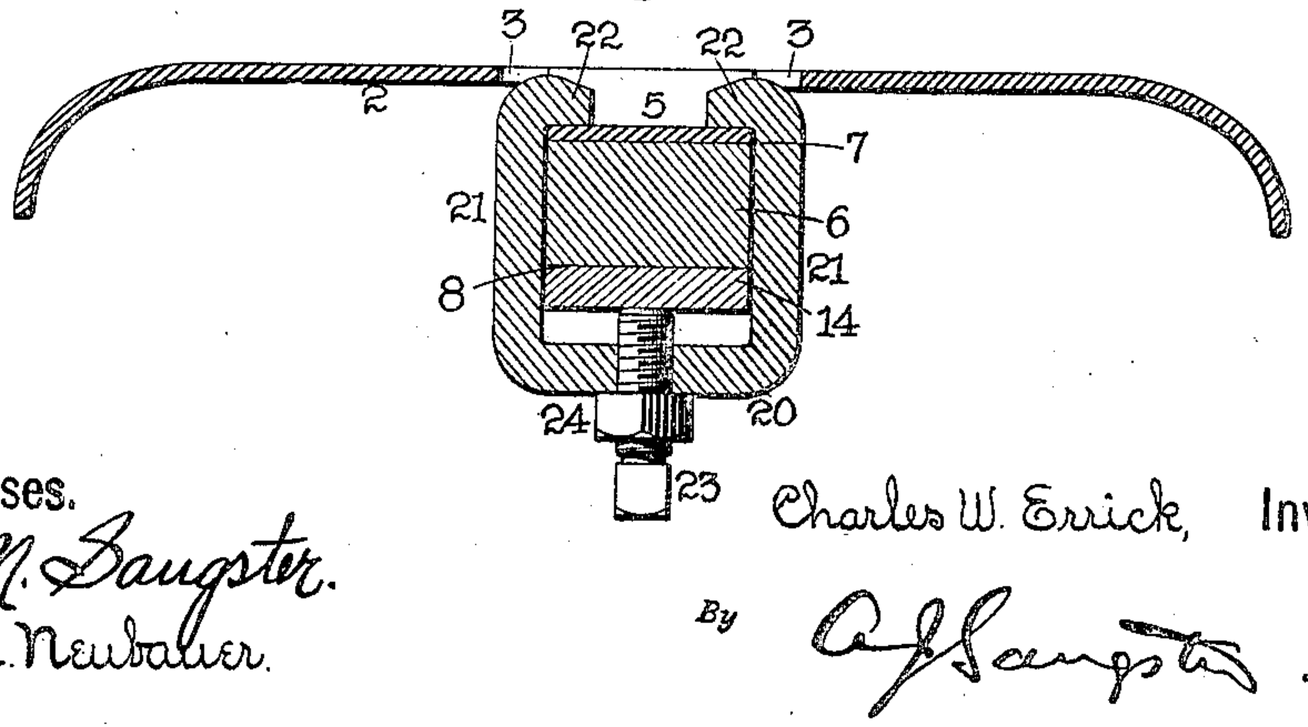


Fig. 8.





Witnesses.

L. M. Saugster.

Geo. A. Neubauer.

Charles W. Errick, Inventor.

By A. J. Saugster Attorney.

UNITED STATES PATENT OFFICE.

CHARLES W. ERRICK, OF NORTH TONAWANDA, NEW YORK.

BICYCLE-SADDLE AND SPRING THEREFOR.

No. 822,660. Specification of Letters Patent. Patented June 5, 1906.

Application filed June 24, 1905. Serial No. 266,712.

To all whom it may concern:

Be it known that I, CHARLES W. ERRICK, a citizen of the United States, residing at North Tonawanda, in the county of Niagara and State of New York, have invented a certain new and useful Improved Bicycle-Saddle and Spring Therefor, of which the following is a specification.

This invention relates to an improved bicycle-saddle and spring therefor which is contructed in one integral piece of spring metal; and it consists of an upper member, which is fastened to the saddle, and a lower member, which is secured to the seat-post, said members being joined by an abrupt bend and having portions which extend in proximity with themselves when the upper member of the spring is but slightly depressed and which mutually reinforce, strengthen, and stiffen the spring when the upper member is sufficiently depressed to bring said portions into contact.

The object of the invention is to support the saddle upon a spring which will yield fairly easy under normal conditions to absorb the ordinary shocks and jars of traveling and will automatically reinforce and stiffen itself when abnormally depressed.

The invention also relates to certain details of construction, all of which will be fully and clearly hereinafter described and claimed, reference being had to the accompanying drawings, in which a preferred adaptation thereof is shown.

Figure 1 represents a side elevation of the spring with a vertical longitudinal section through the seat-post and the saddle and its connecting parts. Fig. 2 is a bottom view of the saddle. Fig. 3 is a vertical transverse section through the saddle, the saddle-block, and upper member of the spring on line *a a*, Fig. 1. Fig. 4 is a detached face view of the saddle-fastening clip and its lock-screw. Fig. 5 is a detached top plan view of the saddle-fastening clip and its lock-screw. Fig. 6 is a detached top plan view of the curved spring. Fig. 7 is a detached side elevation of the curved serrated saddle-block. Fig. 8 is a detached bottom view of the serrated saddle-block.

In referring to the preferred adaptation of the invention shown in the accompanying drawings in detail like numerals designate like parts.

The saddle is composed of two members—a flexible top member 1, of leather or the like shaped to the usual form, and a rigid lower member or plate 2, of metal, to which the upper member is fastened at its edges. The plate 2 is provided with two parallel slots 3, which terminate at the rear in enlarged openings 4. That portion of the metal between the slots 3 is bent at an intermediate point to form a transverse groove or depression 5 in the surface thereof. A metal block 6, having a flat top surface 7, conforming substantially to the surface of the plate 2, and a curved or rounded and serrated lower surface 8, is secured to the lower plate 2 by screws 9 or the like.

The seat-post 10 is of tubular form, with a solid top plug 11 fitted rigidly in its upper end. The plug 11 has a diagonally horizontal opening or slot 12 which extends therethrough to provide a seat or socket for the spring end, as will be set forth more specifically farther on, and a screw-threaded longitudinal opening 13, extending from the top downward to the opening 12 for the reception of a lock-bolt. The spring is of a peculiar form, being constructed of one piece of spring metal and comprising an upper member and a lower member. The upper member has a straight horizontal part 14, which bends at its forward end to form a diagonal part 15, that in turn bends and curves to constitute a curved part 16. The lower member consists of a straight part 17, which curves at its forward extremity to form a curved part 18, and said curved part 18 terminates at an abrupt bend 19, which joins the lower member to the upper member.

The spring is so shaped that the parts 14 and 17 are substantially parallel and are separated considerably from each other, and the curved parts 16 and 18 are in proximity with each other when the spring is in an undepressed condition or in but a slightly-depressed condition and are brought into supporting contact by more than ordinary pressure. In riding a bicycle equipped with this improved spring the ordinary shocks and jars are taken care of by the spring members with the curved parts out of contact, thereby insuring an easy-riding wheel. When a heavier than usual shock or jar is received, the upper member is depressed sufficiently to bring the upper curved part 16 into contact with the lower curved part 18, which instantly stiffens and strengthens the spring. The spring is se-

cured to the rigid member of the saddle by a frame-like bracket which has a flat horizontal bottom bar 20, two parallel vertical side bars 21, and two inwardly-extending horizontal ears 22, projecting toward each other from the upper extremities of the bars 21. The bracket is secured to the rigid member 2 by fitting its upper ends through the enlarged openings 4 and then sliding it forward in the slots 3 until the ears 22 seat in the groove 5. The rear end of the spring is now inserted in place between the bar 20 and the block 6 and a lock-bolt 23, located in the bar 20, tightened to fasten the spring in position. The lock-nut 24 on the bolt is also tightened to prevent the bolt unscrewing. The upper surface of the straight part 14 of the upper member, which engages with the serrated surface 8 of the block 6, can be roughened or serrated to form a more rigid fastening. The rear of the lower member is secured to the seat by inserting it in the opening 12 in the top plug 11 and tightening a lock-bolt 25. The lock-nut 26 on the bolt 25 can also be tightened to prevent the bolt 25 unscrewing. The purpose in making the lower surface of the block rounding is to provide for tilting the saddle to suit the desires of the rider.

While the improved saddle is described as applied to bicycles, it may be equally adapted to tricycles, motor-cycles, and all other machines or devices in which the operator requires a seat.

I claim as my invention—

1. In combination, a saddle, a seat-post, and a one-piece spring comprising an upper member which is fastened to the saddle and is in part straight and in part curved and a lower member which is fastened to the seat-post and is in part straight and in part curved, said upper and lower members normally extending in proximity and being joined by an abrupt bend, and being adapted to contact for an appreciable extent upon abnormal pressure.

2. A spring formed from a single piece of spring metal and comprising an upper member having a straight rear part, a diagonally-extending intermediate part and a curved forward part, and a lower member having a straight rear part and the curved forward part normally extending beneath and in proximity to the curved part of the upper member to which it is joined by an abrupt bend.

3. The combination with a saddle having a rigid member provided with two parallel slots terminating in enlarged openings and seats on the side of the slots, of a support for said saddle and a bracket for securing said support to said saddle having vertical bars provided with inwardly-extending parts adapted to be fitted up through the enlarged openings, then moved in the slots to engage the inwardly-extending parts in the seats, substantially as set forth.

4. The combination with a saddle having a rigid member provided with two parallel slots terminating in enlarged openings and seats on the side of the slots and a metal block secured to the rigid member and having a rounded and serrated lower surface, of a support for said saddle having a portion provided with a serrated top surface and adapted to engage with the serrated surface of the block, and a bracket for securing said support to said saddle having vertical bars provided with inwardly-extending parts adapted to be fitted up through the enlarged openings, then moved in the slots to engage the inwardly-extending parts in the seats, substantially as set forth.

CHARLES W. ERRICK.

Witnesses:
L. M. SANGSTER,
GEO. A. NEUBAUER.