Dec. 9, 1924. 1,518,157

A. J. LINDER

SADDLE

Filed Feb. 10, 1921

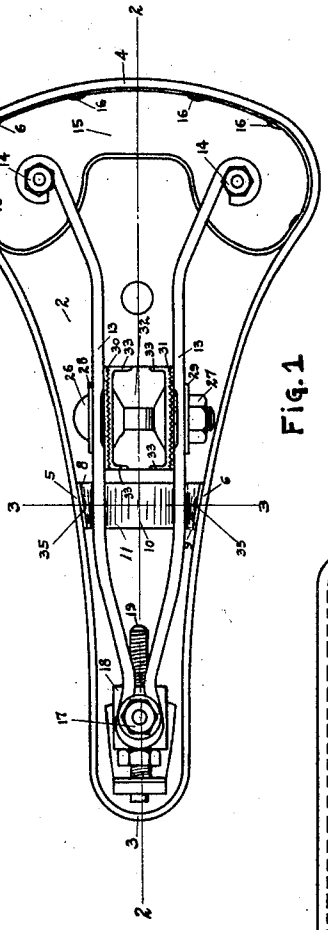


Fig. 1

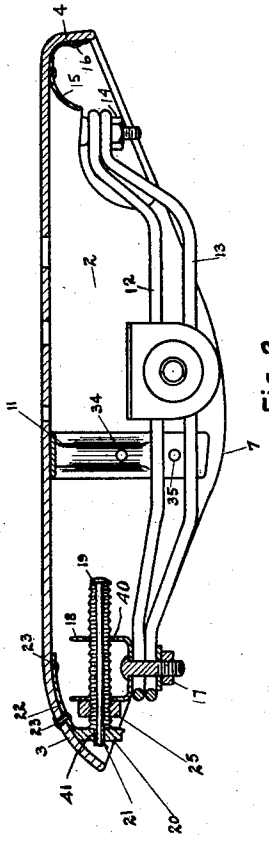


Fig. 2

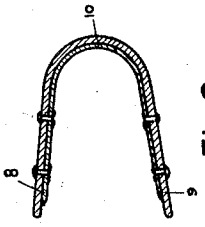


Fig. 3

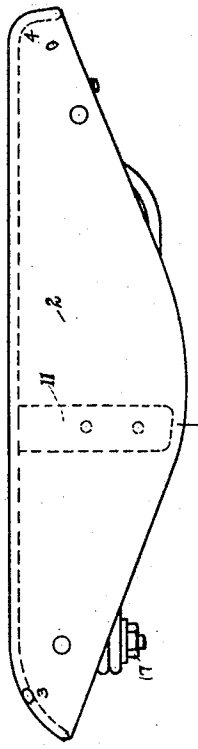


Fig. 4

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UNITED STATES PATENT OFFICE.

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SADDLE.

Application filed February 10, 1921. Serial No. 443,797.

To all whom it may concern:

Be it known that I, ANDREW J. LINDER, a citizen of the United States, residing at Elyria, in the county of Lorain and State of Ohio, have invented certain new and useful Improvements in Saddles; and I do hereby declare the following to be a full, clear, concise, 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 improvements in saddles for bicycles, motor cycles and the like, and has for its main object the improvements in saddles, whereby the saddle is made stronger and more durable, and at the same time maintains an effective spring action, whereby shocks, jolts, etc., are absorbed efficiently, and which results in making riding more comfortable and enjoyable.

It is a particular object of my invention to strengthen the middle portion of a saddle, which is supported only at the front and rear ends, such saddle having its seat made of a strip of leather which is transversely curved to form an inverted U at its mid portion.

It is also an object of my invention to accomplish the aforesaid and other objects in a structure which may be simply and inexpensively manufactured, and in which my improvements may be applied to saddles and saddle parts previously manufactured, with a minimum effort and expense.

The above and other objects of my invention and the invention itself will be better understood from a description of an embodiment of the invention illustrated in the accompanying drawings, and in which drawings—

Fig. 1 shows a bottom plan view of an embodiment of my invention.

Fig. 2 shows a longitudinal section of the saddle illustrated in Fig. 1, taken on the line 2—2 of Fig. 1.

Fig. 3 shows a transverse section of the saddle of Fig. 1, being a sectional view taken on the line 3—3 of Fig. 1. In this view of Fig. 3 portions of the saddle to the rear of the line of section are omitted.

Fig. 4 shows a side elevation of the saddle structure illustrated in the other figures, certain hidden parts being indicated in this figure by dotted lines.

Referring now to the embodiment illustrated in the drawing, at 2 is shown the seat of the saddle, which may be made of leather or like suitable material, the leather seat having transverse curvatures of substantially U-shaped cross-section, the depending arms of the U being normally somewhat further apart at their ends than at relatively higher portions and the degree of sharpness of the transverse curvature being relatively greater toward the front than toward the rear portions of the leather seat.

The above roughly describes the shape of leather seat employed in the embodiment illustrated, though my invention may be practiced in saddles employing seats of different shapes.

The leather seat is supported at the front and rear portions only by longitudinally disposed truss members 12 and 13, which are secured at the rear end of the saddle by nuts 14 to a metallic cantle member 15, the said metallic cantle being secured to and supporting the leather seat by rivets 16 passing through the cantle and seat.

The spring truss members 12 and 13 are secured at their forward ends by a nut 17 to a clevis 18. As shown in Fig. 2, I have a screw 19 extending through holes 40 in both arms of the clevis. These holes are large enough to permit the screw 19 to slide therein in either direction. The holes 40 in the arms of the clevis are large enough and the clevis arms themselves are thick enough not to interfere with the sliding operation of the screw. It will be observed that I provide a nut 25, on the screw 19, to the left of the clevis. By rotating the nut the screw 19, may be driven either to the right or to the left. The left hand end of the screw forms a smooth head without threads. The diameter of this head is smaller than the diameter of the threaded section. Therefore a shoulder is formed at this point. In the pommel there is a hole 41 through which the unthreaded portion or head of the screw 19, passes. In order to prevent the screw 19, from rotating, one side of the screw is ground off from one end to the other, thus forming a flat side as along the side 20. The holes in the clevis 18, and the hole in the pommel 22, are also provided with a corresponding flat section, which flat sections serve as keys, that prevent the screw from turning, although they do permit the screw to slide. It will be understood that

the shoulder 21 near the left hand end of the screw 19, Fig. 2, prevents the screw from sliding in the hole to the left beyond that point. However, the screw 19 may be withdrawn in the reverse direction. With this construction therefore, by rotating the nut 25, to cause the screw 19 to slide to the left, tension is put upon the truss members 12 and 13, which stretches the leather that forms the seat 2, of the saddle. It will be observed that the pommel 22, is riveted by means of the rivets 23, to this leather at the front end of the saddle.

The spring truss members 12 and 13 are disposed one above the other, their mid portions extending parallel and passing through grooves in a clamp structure comprising the bolt 26, the nut 27, washers 28 and 29, like grooved button discs 30 and 31, each having a pair of parallel grooves on its convex face adapted to embrace the parallel portions of the truss members 12 and 13. An intermediate U-shaped clamp center member, having a certain amount of resiliency, is placed between the buttons 30 and 31 at 32. The opposing faces of the clamp member 32 and the button members disposed on either side thereof have serrated edges, the serrations of the clamp member adapted to index between the serrations on the button members, so as to prevent relative rotation of the clamp and button members.

The clamp member 32, also, is shaped substantially like an inverted U, and has side projections 33 mid way between its apex and the ends of its depending arms, so as to form a clamping inner surface for the supporting seat post end which extends horizontally and is generally substantially circular in cross section. The clamping mechanism operates to securely clamp the seat post of the bicycle or other apparatus to which the seat is secured securely to the spring truss members 12 and 13, each of which has a pair of arms, the arms of the one truss member being located above the arms of the other truss member, as before described.

A saddle constructed as above enables the rider to obtain a certain amount of tilting or rotative action, due to the resiliency of the spring truss members, and at the same time, the spring truss members will absorb the shocks and jolts which might otherwise be communicated to the saddle seat by the vibration of the bicycle or other apparatus to which the post is attached. However, in practice it has been found that the weight of the rider will after a while change the shape of the saddle from that illustrated, wherein the mid portion of the saddle is substantially as high as the cantle and pommel ends thereof, so that the mid portion will be depressed relatively thereto to an objectionable degree and the riding comfort previously secured will disappear.

In my improved construction I prevent such crushing of the mid portion of the saddle by placing a metallic member 11, having the shape of an inverted U on the inner surface of the leather seat, substantially at the middle of the saddle securing it by both of its depending arms by rivets 34 and 35 disposed at a substantial distance each from the other and from the apex of the curvature of the inverted U-shaped member, a plurality of the said rivets being peferably employed to secure each arm, so as to prevent displacement of the member 11, due to rotation about securing rivets, were only one employed in connection with each arm.

I find that my improved construction forms a truss structure in which the member 11 is a strut, and in which those portions of the leather seat intermediate the top of the strut and the pommel and the top of the strut and the cantle form ties, other ties being those portions of the leather seat between the cantle and the lower arm ends of the U-shaped member, and between the pommel and lower arm ends of the said U-shaped tie member, the U-shaped member, when the saddle is being used, being subject to compressive stress and the portions of the leather seat above mentioned being subject to tensile stress.

It will be noted that in accomplishing the above-mentioned function of preventing sagging of the mid portion of the saddle, that this is accomplished without destroying the capability of the sides of the saddle to be compressed towards each other and by its resiliency to return to normal position when the pressure is removed.

Having thus described my invention, I am aware that the structure employed in the specific embodiment herein illustrated and described, for the purposes of illustrating my invention, may be departed from, but without departing from the spirit of my invention.

What I claim is:

1. In a saddle, the combination with an upper seat member composed of leather or like material, a supporting member for the said saddle secured at one end to the cantle and at the other end to the pommel thereof, means to secure the said member at an intermediate point to a vehicle, said member exerting a longitudinal tension upon the leather seat between the said pommel and cantle portions, downwardly depending sides for the said seat and a metallic reinforcement for each of the said sides, said reinforcement for each side being secured at a plurality of points substantially distant from each other, said points being located one above the other, said metallic reinforcement when the middle portion of the

saddle is loaded being under compressive stress to prevent the sagging of the saddle at such mid point, the lower portions of each seat side being under tensile stress between the pommel and cantle portions to support the said metallic reinforcement.

2. In a cycle saddle, a leather seat, means to support the pommel and cantle portions of said seat, said seat having depending sides, the upper surface of the seat being transversely curved, and an inverted U-shaped member secured at a plurality of points to each depending side of the said seat to stiffen the said sides at a point intermediate the seat cantle and seat pommel.

3. In a cycle saddle, a leather seat, means to support the pommel and cantle portions of said seat, said seat having depending sides, the upper surface of the seat being transversely curved, and an inverted U-shaped member secured at the ends of its depending arms to adjacent portions of the said seat sides and having a curved upper outer face adapted to contact with the inner surface of the seat intermediate the pommel and cantle thereof.

4. In a cycle saddle, a leather seat, means to support the pommel and cantle portions of said seat, said seat having depending sides, the upper surface of the seat being transversely curved, and an inverted U-shaped metallic member secured at a plurality of points to each depending side of the said seat to stiffen the said sides at a point intermediate the seat cantle and seat pommel.

5. In a cycle saddle, a leather seat, means to support the pommel and cantle portions of said seat, said seat having depending sides, the upper surface of the seat being transversely curved, and an inverted U-shaped metallic member secured at the ends of its depending arms to adjacent portions of the said seat sides and having a curved upper outer face adapted to contact with the inner surface of the seat intermediate the pommel and cantle thereof.

6. In a cycle saddle, a leather seat, stretching means secured to the cantle and pommel to longitudinally expand the seat, said seat being transversely curved, seat sides depending from the curved seat and a metallic seat support within the said curved seat and in contact therewith and its depending sides, said support being secured to the said sides near the lower portions thereof.

In witness whereof, I have hereunto signed my name.

ANDREW J. LINDER.