J. G. EPLEY.

SHOCK ABSORBER FOR MOTOR CYCLE SEATS, &c.

APPLICATION FILED OCT. 23, 1913.

1,150,259. Patented Aug. 17, 1915.

Fig. 1.

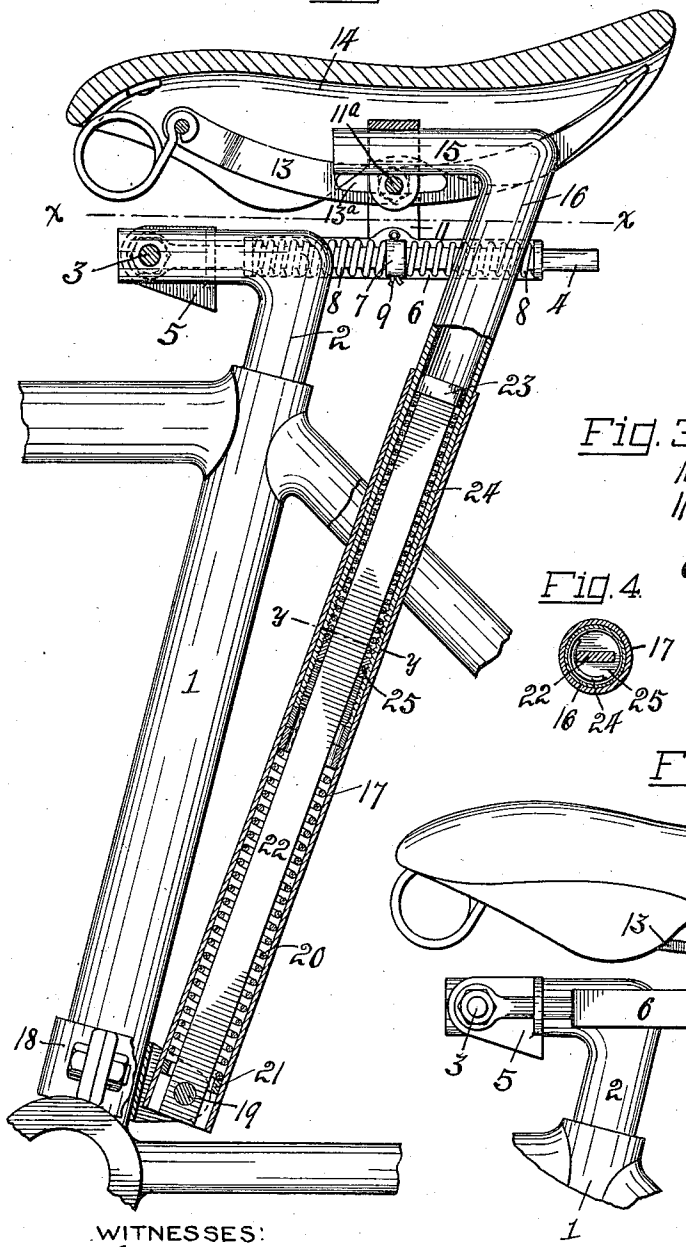


Fig. 3.

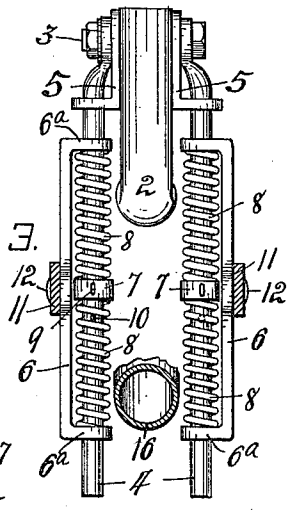
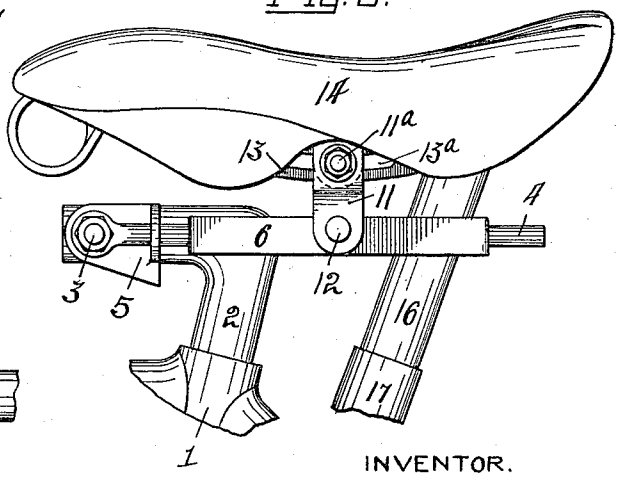


Fig. 4.

Fig. 2.



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SHOCK-ABSORBER FOR MOTOR-CYCLE SEATS, &c.

1,150,259. Specification of Letters Patent. Patented Aug. 17, 1915.

Application filed October 23, 1913. Serial No. 796,796.

To all whom it may concern:

Be it known that I, JAMES G. EPLEY, a citizen of the United States, and a resident of Leipsic, in the county of Putnam and State of Ohio, have invented a certain new and useful Shock-Absorber for Motor-Cycle Seats, &c.; 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, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this specification.

This invention relates to saddle supporting means for bicycles, motorcycles or the like, but is not restricted to such use as it may be used in any connection for which it may be adapted or appropriate.

The object of my invention is the provision of a support of this nature which is simple, efficient and inexpensive in its construction, and which permits the supported saddle to have both horizontal and vertical yielding movements relative to the vehicle, whereby to cushion the various jerking movements of the vehicle and to improve upon the riding conditions thereof.

The invention is fully described in the following specification, and while, in its broader aspect, it is capable of embodiment in numerous forms, a preferred embodiment thereof is illustrated in the accompanying drawings, in which,—

Figure 1 is a side elevation of a portion of a vehicle frame with my invention associated therewith and in central vertical section. Fig. 2 is a side elevation of the upper portion of Fig. 1, with the parts in full. Fig. 3 is a section on the line x, x in Fig. 1, and Fig. 4 is a cross-section on the line y, y in Fig. 1.

Referring to the drawings, 1 designates the upright or customary hollow seat post receiving standard of a bicycle or motorcycle frame, and 2 a post mounted in and rising from the upper end thereof. The post 2, in the present instance, is of L-form with its upper end angled forwardly, and pivoted to such angled portion, by a bolt or shaft 3 extending transversely therethrough, are a pair of rearwardly extending rods 4, 4 one at each side of the post. Disposed between the inner end portions of the rods 4, 4 and the adjacent upper end portion of the post 2 are guide plates or members 5, 5, which are connected to the forward ends of the rods 4 and serve to laterally brace the rods relative to the post during such movements. The rods 4 project through portions of the respective guide plates.

Disposed, in the present instance, at the outer side of each rod 4 longitudinally thereof is a bar 6 having transverse projecting apertured ears 6^a at its opposite ends through which the associated rod 4 loosely projects. Fixed to each rod 4 intermediate the ends of the associated bar 6 is a collar 7, and between the collar and each ear 6^a of the bar is disposed a coiled compression spring 8. These springs have their inner ends thrust against the collar 7 and their outer ends thrust against the respective ears 6^a, and serve to yieldingly retain the bar 6 in one position of its longitudinal movement relative to the rod 4 on which it is mounted, but permit the bar to have limited yielding or cushioned movements in either direction on such rod. Each collar 7 is shown as being fixed to the respective rod 4 by a cotter-pin 9, and a plurality of holes 10 may be provided in each rod 4 for receiving such cotter-pin to permit a longitudinal adjustment of the collar on the rod, as desired.

An inverted U-shaped seat carrying yoke 11 rises from and has the lower ends of its legs pivoted to studs 12 projecting from the outer sides of the bars 6 substantially central of their ends. This yoke is intended to have clamping engagement with the lower frame bars 13 of a seat 14, or to any other convenient attaching part of a seat, and also to form a clamping loop at its upper end for receiving and having clamping engagement with the horn or horizontally projecting portion 15 of a seat post 16. The clamping action of the yoke 11 against the seat coacting parts 13 and the post-horn 15 is effected, in the present instance, by a bolt 11^a, which extends through registering apertures in the leg portions of the yoke and slots 13^a in the seat parts 13.

The seat-post 16 extends down between the rear end portions of the rods 4, 4 and has its

lower end telescoped within a hollow post or standard 17 for free reciprocatory movements therein. The standard 17 pivotally rises from adjacent to the lower end of the frame standard 1, as from a clamping bracket 18 attached to said frame standard, the pivot 19 of the standard being such as to permit it to have forward and backward swinging movements relative to the frame. The lowering movements of the seat post 16 within the standard 17 are cushioned by a coiled compression spring 20, which is disposed within the standard between the lower end of said post and a stop collar or shoulder 21 in the base portion of the standard. In order to cushion the upward as well as the downward movements of the seat post 16 within the standard 17, a bar 22 projects up within the standard 17 and the lower end portion of the post 16 from the pivot 19, to which it is anchored, in the present instance, and has its upper end headed or shouldered, as at 23, to oppose the upper end thrust of a coiled compression spring 24, which encircles the upper end portion of said bar and has its lower end thrust against a collar or thrust member 25 within the lower end portion of the post 16. The collar or thrust member 25 is threaded within the post 16 to permit of an adjustment of one within the other to vary the tension of the spring 24. The bar 22 is preferably square or of any other form than circular in cross-section, and the opening through the collar or thrust member 25 corresponds to the cross-sectional shape of the bar so that an adjustment of the collar within the seat post 16 may be effected by disconnecting the seat 14 from the seat post and then turning such post in a direction suitable for the adjustment required, the collar 25 being held by the bar 22 against turning during such adjusting movement.

It is evident that a seat 14 supported in this manner is permitted to have yielding vertical movements due to the cushioned telescoping of the seat post 16 within the pivoted standard 17, and that the seat is also permitted to have horizontal movements relative to the post 2 due to the cushioning action of the springs 8 upon the bars 6, thus eliminating all of the unpleasantness due to the horizontal and vertical jarring action of vehicle frames when being driven over rough surfaces. It is, of course, evident that the rods 4, 4 and standard 17 will have pivotal movements relative to the frame when the seat has either horizontal or vertical movements or a combination of both and that the yoke 11 will have an accommodating pivotal movement relative to the carrying bars 6, 6 during such action.

I wish it understood that the invention is not limited to any specific construction or arrangement of the parts but contemplates broadly the provision of a seat supporting device of this character.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is,—

1. In combination, a frame, a standard swingingly rising from said frame and having parts connected for relative longitudinal movements, means cushioning the relative movements of said parts, a seat carried by the upper one of said parts, a pair of rods pivotally projecting from a part of said frame longitudinally thereof and transversely of said standard, and movable yielding connection between said rods and seat whereby to resist swinging movements of said standard.

2. In combination, a frame, a yielding standard swingingly rising from a part thereof, a seat carried wholly by said standard, and means connecting said frame and seat independent of said standard for yieldingly resisting swinging movements of the standard relative to the frame.

3. In combination, a frame, a standard pivotally rising from a part of said frame for swinging movements longitudinally thereof, a seat carried by said standard, rods pivotally attached to the frame adjacent to the upper end portion of the standard and extending longitudinally of the frame, a member carried by each rod for longitudinal movements relative thereto, means yieldingly resisting relative longitudinal movements of said rods and members, and means pivotally attached to said members and connecting the same with said standard and seat.

4. In combination, a frame having a seat post receiving standard, a post mounted in said standard, a supplemental standard pivotally rising from adjacent the base portion of said first standard and having telescoping parts mounted for yielding longitudinal movements, a seat carried by said supplemental standard, means attached to said post for vertical pivotal movements and extending rearwardly therefrom, and movable yielding connection between said means and seat to permit the seat to have swinging movements with said supplemental standard and also vertical yielding movements relative to the frame.

5. In combination, a frame, a standard swingingly rising from said frame, a seat carried by said standard, means for fixedly attaching the seat to the upper end of said standard, and means connecting said frame and seat independent of the standard for yieldingly resisting swinging movements of the standard relative to the frame.

6. In a cycle frame having a rear wheel receiving fork, the combination of a standard pivotally attached to said frame adjacent to the loop or inner end of its fork and

rising therefrom, said standard having parts mounted for relative longitudinal yielding movements, a seat carried by said standard, and means disposed at the upper end of said standard for yieldingly resisting swinging movements of the standard relative to the frame.

In testimony whereof, I have hereunto signed my name to this specification in the presence of two subscribing witnesses.

JAMES G. EPLEY.

Witnesses:
HARRY L. RAMSEY,
HARRY A. MYERS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."