(No Model.)

W. A. HANCE.

CYCLE SADDLE.

No. 454,431. Patented June 16, 1891.

Fig. 1.

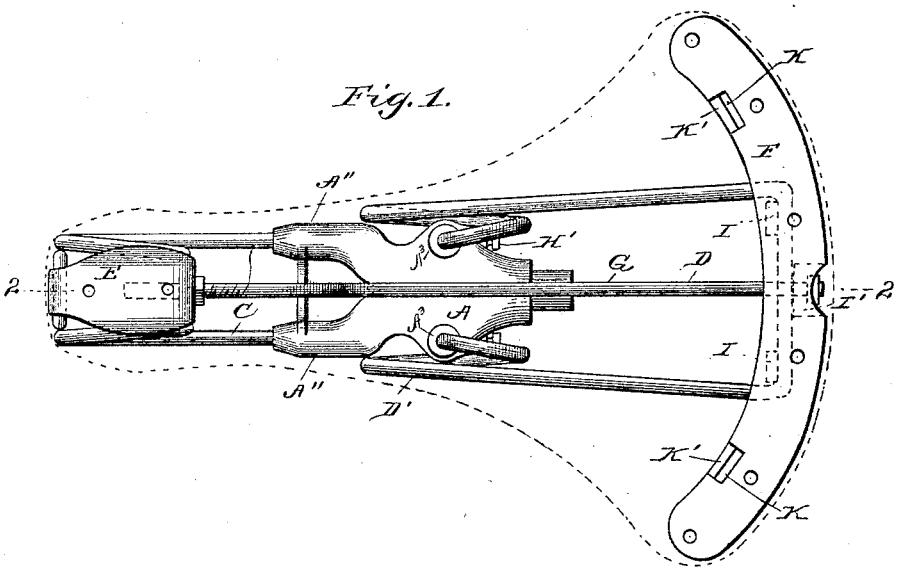
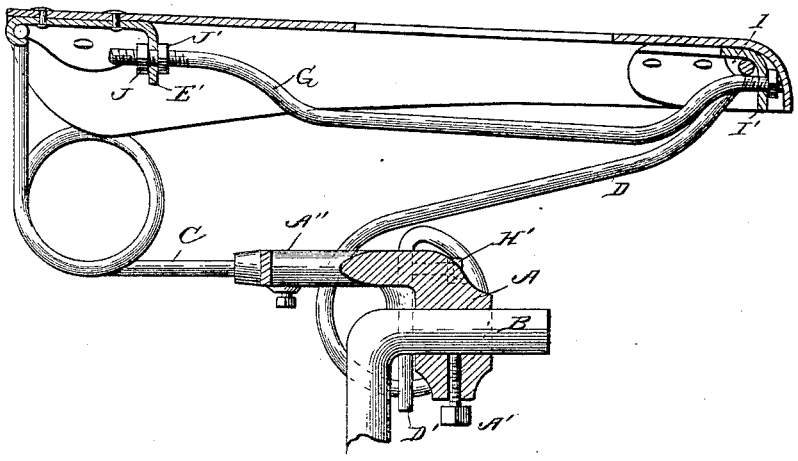


Fig. 2.



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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM A. HANCE, OF FREEPORT, ILLINOIS, ASSIGNOR TO THE STOVER BICYCLE MANUFACTURING COMPANY, OF SAME PLACE.

CYCLE-SADDLE.

SPECIFICATION forming part of Letters Patent No. 454,431, dated June 16, 1891.

Application filed December 22, 1890. Serial No. 375,411. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. HANCE, a resident of Freeport, in the county of Stephenson and State of Illinois, have invented certain new and useful Improvements in Cycle-Saddles; 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 pertains to make and use the same.

The object of this invention is to produce a saddle that while unusually simple and strong shall be more satisfactory in its action than the saddles heretofore in use.

In the drawings, Figure 1 is a plan of the saddle-support, the leather being removed and its position indicated in dotted lines. Fig. 2 is a section on the line 2 2, Fig. 1.

In the figures, A is a clip adapted for attachment to the horizontal portion of a saddle-post B by means of the usual set-screw A′. From this clip two springs C D extend upward to engage, respectively, a hook E and a cantle F. The last two parts are connected by a rod G, and to them the saddle-leather is secured by rivets or in other suitable manner. Each spring is preferably of a single piece of wire bent into U shape at its middle, having a coil in each branch and with its free ends parallel and of equal length. In the front spring the middle U-shaped portion is vertical or nearly so, and the free ends are horizontal, while the coils both lie within the angle of the horizontal and vertical parts. The ends enter sockets A″ in the clip A, where they may be secured by set-screws H to permit their adjustment. The free ends D′ of the rear spring are vertical and are held in sockets A‴ by set-screws H′, and the upper part of the spring extends obliquely rearward to a point at some distance in the rear of the clip A, where it meets the cantle. A hinge-like connection between the two is formed by means of the lugs I in front of the spring's horizontal portion, the lug I′ in its rear, and the rod G, which passes through the lug I′ just below said portion, which it thus holds in close contact with the body of the cantle. The other end of the rod is threaded and passes through a lip E′, projecting downward from the hook E, whose position with reference to the rod is regulated by two nuts J J′, working upon the rod in front and rear, respectively, of the lip E′. The middle portion of the rod is depressed, so that any ordinary depression of the leather may occur without its meeting the rod. The coils in the rear spring are preferably formed well down alongside the clip A, but this is not essential. The cantle is notched at K K, and the notches are spanned by depressed loops K′ that serve for the attachment of straps or the like for any purpose.

It is plain from the construction that the front end of the saddle cannot be pressed downward to any material extent, that the rear portion may be depressed to a very great distance without meeting unyielding resistance, and that in so moving it must swing about a point at some distance in the rear of and below the front end of the saddle, and hence that its distance from the normal position of said front end must be increased. It follows that the saddle has great range of motion, that it inclines rearward as it descends, that it can never pitch forward, and that in spite of these results the front spring shares the strain as fully as in the saddles where the front spring permits depression of its end of the saddle. This last is true for the reason that the rear end must move rearward as well as downward, and since the upper ends of the two springs are connected by the rod and hook it cannot move rearward without flexing the front spring, which therefore offers yielding resistance to depression of the rear end only, but absolutely forbids depression of its own end. This is rendered still plainer, if possible, by considering the rear spring as replaced by a bar hinged at its upper end to the cantle and at the lower end to the clip A. In such case the action of the front spring is evidently unchanged, but it offers the only resistance to the depression of the rear end of the saddle; yet if the spring be strong enough the saddle is still an excellent one. These results are independent of any and all adjustments; but the saddle has other advantages of importance. By rotation of the ends of the front spring the front end of the saddle may be adjusted laterally, and by moving them longitudinally we may readily compensate any

change of form due to set of the spring or stretching of the leather, in length at least. So, too, with the rear spring. By raising or lowering one vertical end only, or by rotation of both without raising either, we obtain lateral adjustment, and by raising or lowering both equally the saddle is given a pitch in accord with the fancy of any rider.

What I claim is—

1. The combination, with a saddle-post clip, of front and rear seat-springs fixed thereto, the former having an upwardly-extending arm admitting of front and rear movement only, and the latter coiled adjacent to the clip and having a long upwardly-inclined arm extending rearward, and a saddle-cover connecting the ends of said arms, whereby under pressure the front end of the saddle remains at a fixed height while the rear end swings with a slight rearward movement downward through a large angle, but only by overcoming the front spring, which resists the rearward motion.

2. The combination, with the clip and the front spring having its upper end arranged to move from front to rear without material downward motion, of the rear spring having its upper end arranged to move rearward and downward under vertical pressure, and a rod connecting said upper ends, whereby weight upon the saddle is borne entirely by springs, producing no tension upon the saddle-cover, and which share the work of resisting the depression that they permit, although the front spring remains at a fixed height.

3. The combination, with the clip, the front spring having the front and rear moving upper end, and the hook engaging said end, of the cantle, the rear spring hinged to the cantle and fixed in the clip, and the rod connecting said hook and cantle, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

WILLIAM A. HANCE.

Witnesses:

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W. H. J. STRATTON.