(No Model.)

E. G. LATTA.

VELOCIPEDE SADDLE.

No. 467,725. Patented Jan. 26, 1892.

Fig. 1.

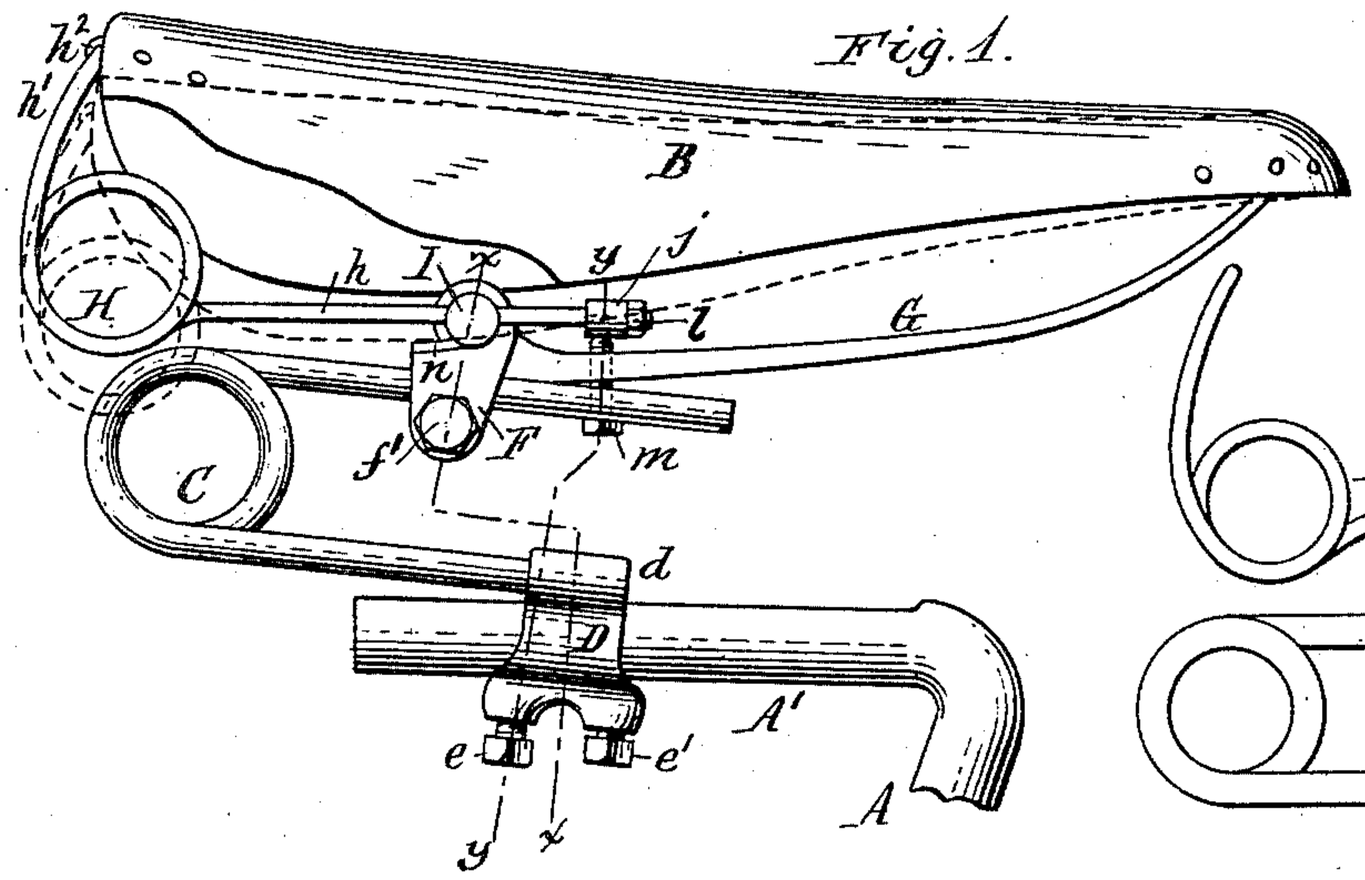

Fig. 7.

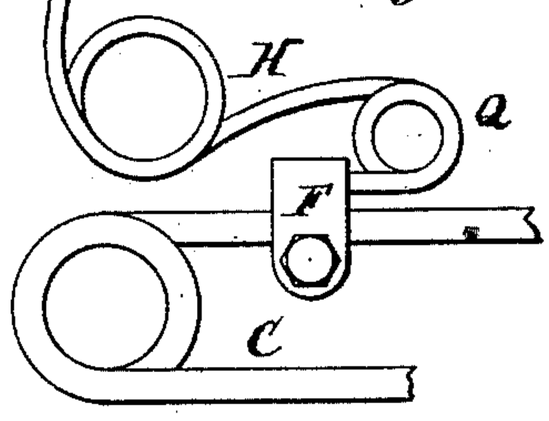

Fig. 2.

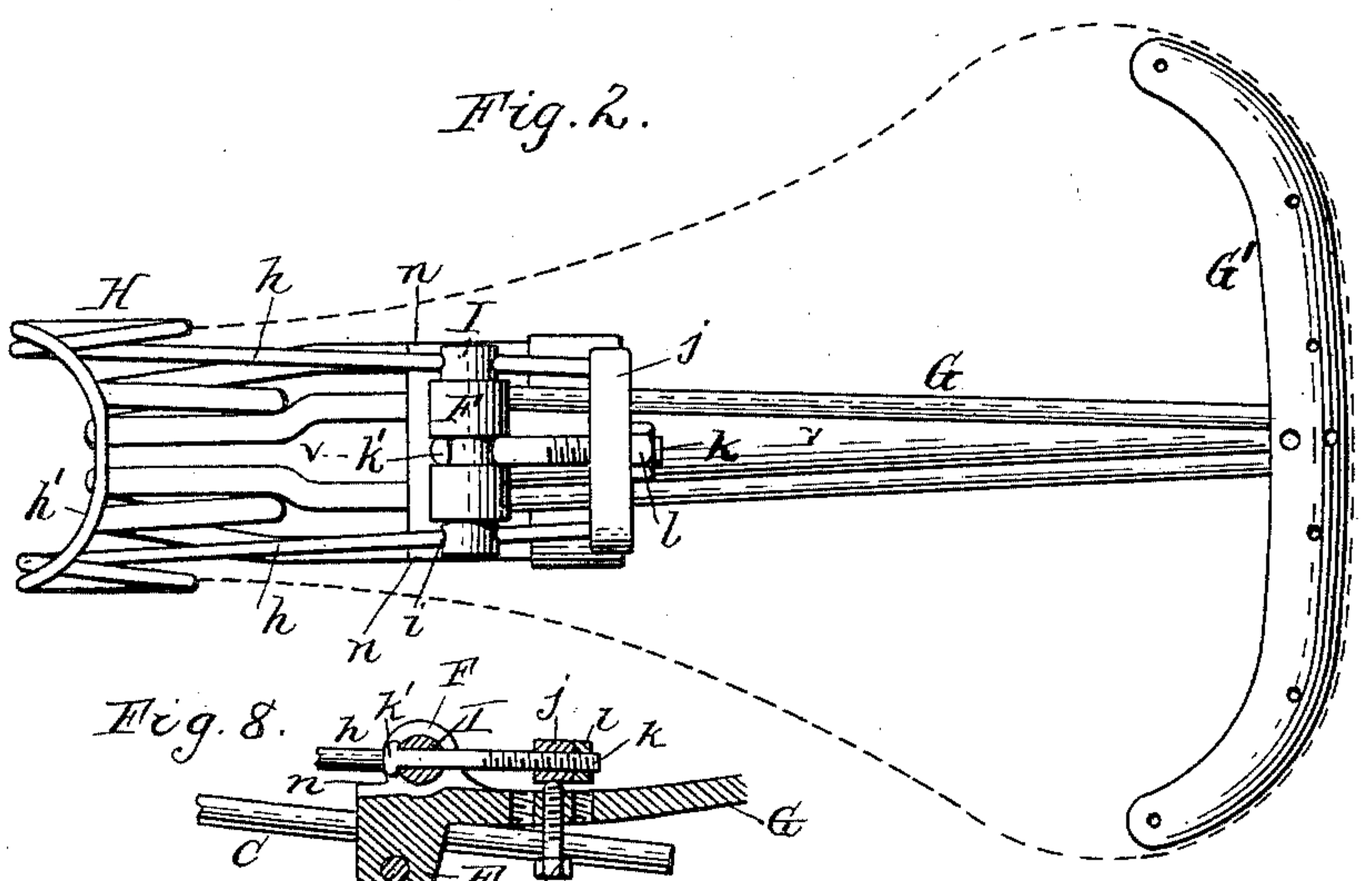

Fig. 3.

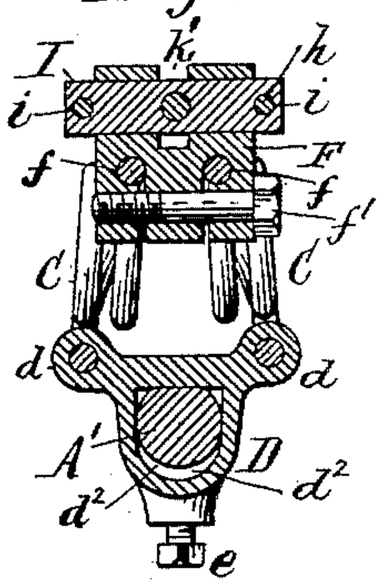

Fig. 8.

Fig. 4.

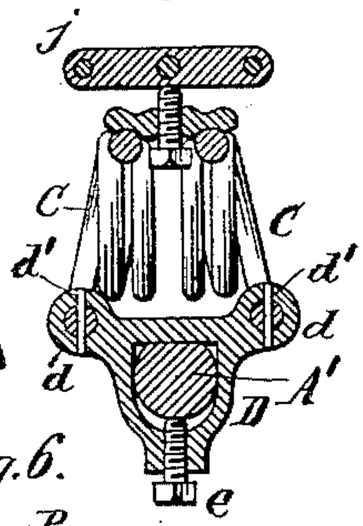

Fig. 5.

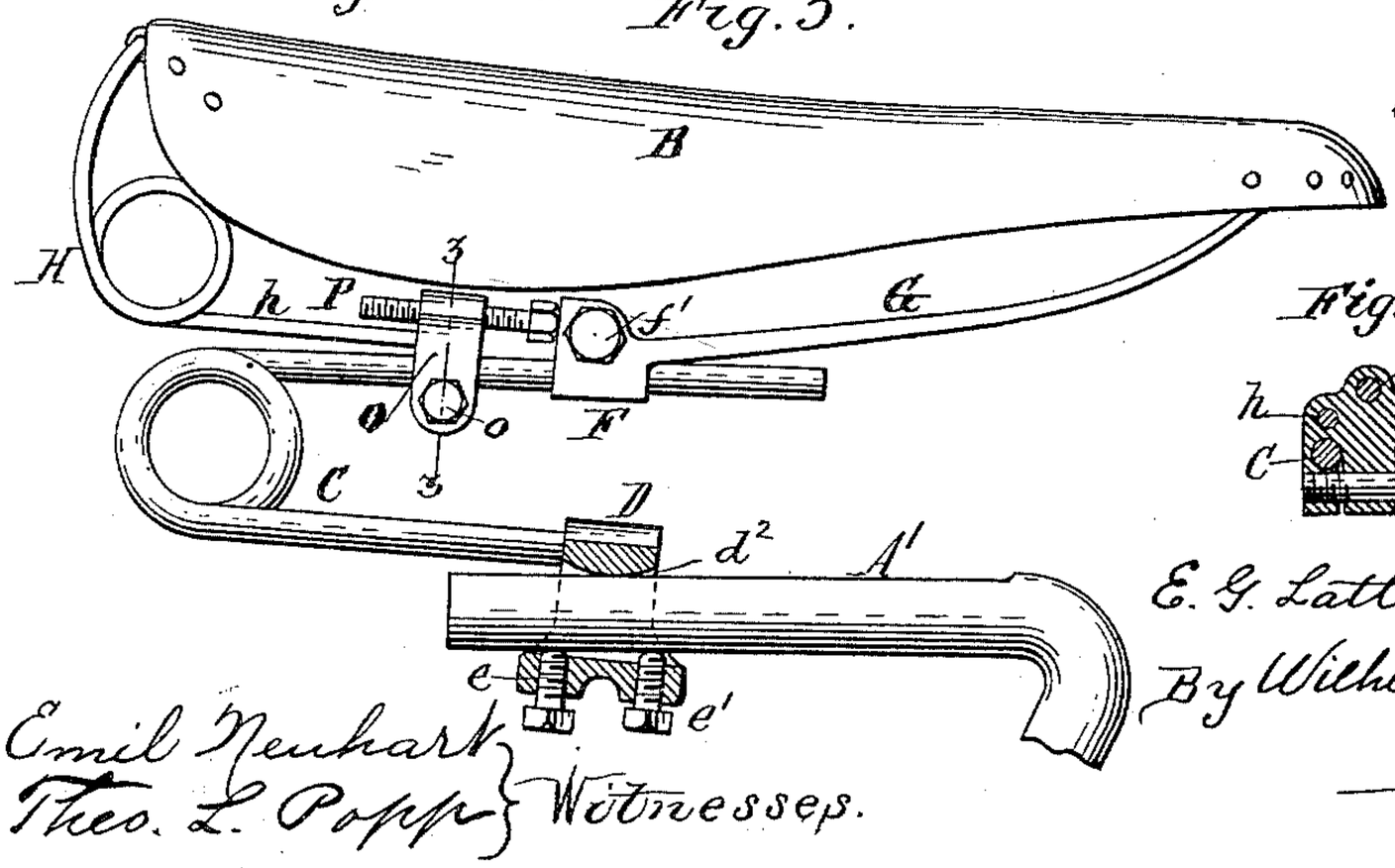

Fig. 6.

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UNITED STATES PATENT OFFICE.

EMMIT G. LATTA, OF FRIENDSHIP, NEW YORK.

VELOCIPEDE-SADDLE.

SPECIFICATION forming part of Letters Patent No. 467,725, dated January 26, 1892.

Application filed May 11, 1891. Serial No. 392,269. (No model.)

To all whom it may concern:

Be it known that I, EMMIT G. LATTA, a citizen of the United States, residing at Friendship, in the county of Allegany and State of New York, have invented new and useful Improvements in Velocipede-Saddles, of which the following is a specification.

This invention relates to a saddle which is particularly desirable for rear-driving Safety bicycles.

My invention has for its objects to render the resiliency of the saddle-supporting springs and the tension of the flexible seat variable in a simple manner to suit riders of different weight, to support the saddle in such manner that its inclination may be readily changed at will, and, finally, to so arrange the supports of the saddle that its pommel or front portion may fall to a limited extent in case the rider is forced forwardly on the saddle by the wheels striking an obstruction.

In the accompanying drawings, Figure 1 is a side elevation of the saddle with a portion of the flexible seat cut away. Fig. 2 is a top plan view thereof with the flexible seat removed, the latter being indicated by broken lines. Figs. 3 and 4 are cross-sections of the saddle in lines *x x* and *y y*, Fig. 1, respectively. Fig. 5 is a side elevation of a modified construction of the saddle. Fig. 6 is a cross-section in line *z z*, Fig. 5. Fig. 7 is a side elevation showing a modified form of the pommel-supporting spring. Fig. 8 is a longitudinal section of the seat-tensioning device in line *v v*, Fig. 2.

Like letters of reference refer to like parts in the several figures.

A represents the saddle-pillar, having the usual horizontal arm or extension A′, flattened on its upper side, and B is the flexible seat.

C C represent the lower springs of the saddle, and D is a clamp adjustably secured to the arm of the saddle-pillar and provided at its upper end with eyes or perforated lugs *d*, in which the lower ends of the springs C C are rigidly secured by transverse pins *d′*, as shown in Fig. 4, or by other means. The springs C each consist of an upper and a lower member or branch, which members are connected at their front ends by a bend or coil, as shown in Fig. 1. The upper branches of the springs C are preferably arranged closer together than their lower branches, as represented in Figs. 2, 3, and 4.

As shown in Fig. 5, the bore or horizontal opening d^2 of the clamp through which the pillar-arm passes is made of larger diameter than the arm, and the upper side of this bore is made convex, so that the clamp may rock or tilt on the flat upper side of the pillar-arm. The clamp is provided on its under side on opposite sides of its transverse axis with adjusting or set screws *e e′*, whereby it is clamped in position upon the pillar-arm. Upon loosening the front screw *e* and tightening the rear screw *e′* the clamp is caused to rock or tilt forwardly, thereby inclining the saddle-supporting springs and the saddle forwardly, while upon loosening the rear screw and tightening the front screw the saddle is inclined rearwardly. Upon loosening either set-screw *e e′* the clamp D and the parts carried by the same may be adjusted forwardly or backwardly on the pillar-arm. The clamp D may be reversed so that the set-screws *e e′* will bear against the upper side of the pillar-arm and the convex face of the clamp on the under side of the pillar-arm.

F represents a clamp secured to the upper branches of the springs C, and having a rearwardly and upwardly extending arm or stretcher-bar G, which supports the cantle or rear portion of the flexible seat. The supporting-arm G is rigid and preferably corrugated lengthwise to increase its stiffness. The cantle-plate G′ is of the usual form and is secured to the rear end of the supporting-arm G by rivets, as shown in Fig. 2, or, if desired, the cantle-plate may be formed integrally with the arm.

The clamp F is provided with two horizontal openings *f f*, which receive the upper branches of the springs C. The clamp is split from these openings to its lower end and is secured to both of said springs by a single clamping-bolt *f′* passing horizontally through the split portions of the clamp, as clearly shown in Fig. 3. Upon loosening the bolt *f′* the clamp F may be adjusted forwardly on the upper branches of the springs C to shorten the leverage of the branches and render the

same stiffer, or the clamp may be adjusted rearwardly to increase their leverage and render the springs more elastic.

H represents the upper spring arranged above the springs C, and which supports the pommel or front portion of the saddle. The spring H consists of two horizontal branches *h h*, which extend forwardly from the upper clamp F and thence upwardly to the pommel of the saddle, the front portions of the branches *h* being each formed with a coil to increase their elasticity and connected by a bow *h'*, the central portion of which is straight and pivoted in the transverse eye or bearing h^2 at the front end of the saddle.

I is a horizontal pivot or trunnion journaled in horizontal openings or bearings arranged in the clamp F above the upper branches of the springs C, and provided in its projecting end portions with diametrical openings *i*, through which the branches *h* of the upper spring H loosely pass. The branches *h* are rigidly connected together at their rear ends by a cross-bar *j*.

k represents a horizontal tension-bolt passing through smooth openings formed centrally in the cross-bar and the pivot I. The head of this bolt is flat-sided and seated in an upright slot *k'*, formed in the upper side of the clamp F, as represented in Figs. 2 and 8, whereby the bolt is held against turning in the cross-bar and the pivot.

l represents an adjusting-nut applied to the threaded rear end of the bolt *k* and bearing against the rear side of the cross-bar *j*. Upon screwing the nut *l* forwardly on the bolt *k* the cross-bar *j* is caused to advance on the bolt and the horizontal arms of the spring H are caused to move forwardly in the openings of the pivot I, thereby increasing the tension of the spring H and stretching the flexible seat.

m represents a tilting-screw arranged in one of a longitudinal series of threaded holes formed in the supporting-arm G and bearing with its inner end against the under side of the cross-bar *j*. Upon screwing the tilting-screw upwardly the bar *j* and the rear portions of the spring branches secured thereto are caused to rise, thereby turning the pivot I in its bearings in the clamp F and tilting or inclining the seat, as indicated by broken lines in Fig. 1. The front portions of the branches of the spring H are arranged outside of the lower springs C, so as to clear the latter when the saddle is tilted forwardly.

n represents stops arranged in the front side of the clamp F below the pivot I and which limit the downward movement of the branches of the upper spring H. By this arrangement of the front saddle-supports the pommel or front portion of the saddle is permitted to drop to the position indicated by dotted lines in Fig. 1, when an unusual weight or pressure is exerted upon the same—as, for instance, when the rear wheel strikes an obstruction—which causes the rider to be moved forwardly on the saddle. By thus enabling the pommel to fall to a limited extent the rider is largely relieved from the shocks received by the machine in passing over obstacles in the road. As soon as the rider again shifts himself rearwardly on the saddle after having been impelled forwardly, the saddle is caused to assume its normal position. When the connecting-bar *j* clears the tilting-screw *m* by the forward adjustment of the spring H, the tilting-screw is shifted forwardly to the next opening in the stretcher or supporting-arm G, so as to bear against the bar.

By locating both of the supporting-springs at the front end of the saddle the rear end of the saddle is afforded greater freedom of movement than by locating the supporting-springs at opposite ends of the saddle. This feature renders the saddle especially desirable for rear-driving Safety bicycles, in which the principal shocks are caused by the rear wheel.

If the feature of the falling pommel is not desired, the tilting of the saddle may be accomplished by the pivot I and tilting-screw *m*, in which case the clamp C may be of any ordinary construction and used simply to secure the lower spring C to the pillar-arm A'.

The modification of my invention represented in Fig. 5 forms a lighter and less expensive construction which embraces all the advantages of the construction shown in the previous figures except the dropping pommel. In this modified form the connecting-bar *j* of the first-described construction is replaced by a clamp O, arranged upon the lower springs C in front of the clamp F and having a clamping-bolt *o*. P is a horizontal adjusting-screw arranged in a longitudinal opening in the upper end of the clamp O and bearing with its head against the front side of the clamp F. Upon loosening the clamping-bolts of the clamps F and O and turning the adjusting-screw P in the proper direction the clamps are forced farther apart, thereby increasing the tension of the supporting-springs and the seat. As the falling feature of the pommel is not embodied in this construction, the upper springs H may be located directly above the lower springs, which arrangement permits of a somewhat closer build of the parts.

If desired, the clamping-bolt of the clamp O may be omitted, in which case the clamp slides on the lower spring, being held against movement in one direction by the screw P and in the other direction by the tension of the seat. If a still simpler construction is desired, the screw P may also be omitted and the seat stretched by forcing the clamps apart by hand before tightening their clamping-bolts. The clamping-bolt *o* and adjusting-bolt P are, however, preferably employed, as they permit the seat to be shifted on the spring C without disturbing the tension of the seat. If desired, the upper spring may be constructed in rear of the clamp O, with an additional coil Q, in which case the rear end of

the spring enters the clamp from its rear side as represented in Fig. 7. This construction renders the spring more elastic and enables it to yield more freely under the downward pressure received by the pommel.

I claim as my invention—

1. In a velocipede-saddle, the combination, with two coiled springs located under the front portion of the saddle, one above the other, of a clamp or connection whereby the upper spring is adjustably attached to the lower spring, substantially as set forth.

2. In a velocipede-saddle, the combination, with the seat and a curved spring attached to the saddle-pillar, of a rigid stretcher-arm supporting the rear end of the seat and adjustably supported upon said curved spring, substantially as set forth.

3. In a velocipede-saddle, the combination, with the seat, of a rigid stretcher-arm supporting the rear end of the saddle, a spring supporting the front end thereof, and a curved spring supporting said front spring and stretcher-arm and forming a connection between said front spring and stretcher-arm and the frame of the velocipede, substantially as set forth.

4. The combination, with the saddle-pillar or support and the saddle, of a clamp supporting the saddle and having one side of its bore made convex and provided with two set-screws arranged on opposite sides of its transverse center and bearing against the saddle-pillar, substantially as set forth.

5. In a velocipede-saddle, the combination, with a double supporting-spring, of a clamp supporting the seat and having split openings which receive the members of the double spring, and a single clamping-screw whereby both of said members are secured in the clamp, substantially as set forth.

6. In a velocipede-saddle, the combination, with the seat, of a stretcher-arm supporting the rear portion of the seat, a spring supporting the stretcher-arm, and a spring supporting the front end of the seat and pivoted upon the stretcher-arm, substantially as set forth.

7. In a velocipede, the combination, with the saddle-pillar and the seat, of a spring supporting the front portion of the seat, a pivot journaled in a support connected to the saddle-pillar, and an adjusting-screw whereby the pivot is turned in its bearing to tilt the seat, substantially as set forth.

8. The combination, with the saddle-pillar and the seat, of a lower supporting-spring attached to the saddle-pillar, a horizontal pivot journaled in a bearing secured to said supporting-spring, an upper spring supporting the front portion of the seat and connected with its rear portion to said pivot and extending rearwardly beyond said pivot, and a tilting-screw operating against the portion of the spring in rear of said pivot, substantially as set forth.

9. The combination, with the saddle-pillar and the seat, of a lower supporting-spring attached to the saddle-pillar, a horizontal pivot journaled in a bearing or clamp secured to said spring, a stretcher-arm attached to said clamp or bearing and supporting the rear end of the saddle, an upper spring supporting the front end of the seat and having its rear portion attached to said pivot, and a tilting-screw arranged upon the stretcher-bar and bearing against the rear portion of the upper spring, substantially as set forth.

10. The combination, with the saddle-pillar or support and the seat, of a lower spring attached to the saddle-support and an upper spring pivoted upon the lower spring and having its branches or members arranged out of line with those of the lower spring, so as to clear the same when the saddle is tilted, substantially as set forth.

11. The combination, with the saddle-pillar or support and the seat, of a lower spring attached to the saddle-support, an upper spring pivoted upon the lower spring and having its branches or members arranged out of line with those of the lower spring, so as to clear the same when the saddle is tilted, and a stop which limits the tilting movement of the upper spring, substantially as set forth.

12. The combination, with the seat and the saddle-pillar, of a bearing or support connected with the saddle-pillar, a pivot turning in said bearing and having transverse openings, a spring supporting the front portion of the seat and having its branches passing through the openings of said pivot and connected in rear of said pivot by a cross-bar, and a tension-screw connecting said pivot with said cross-bar, substantially as set forth.

Witness my hand this 8th day of May, 1891.

EMMIT G. LATTA.

Witnesses:
H. F. KLEE,
F. H. RICE.