

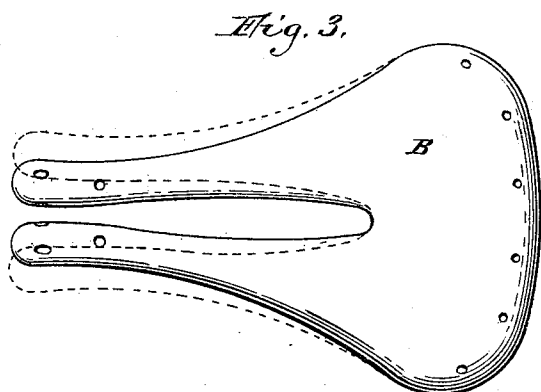
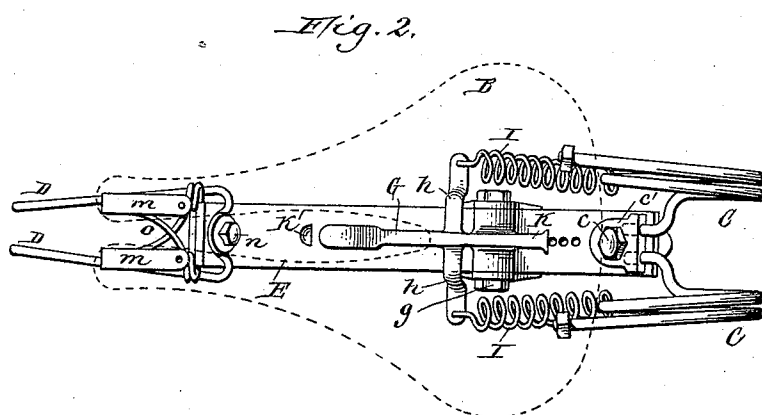
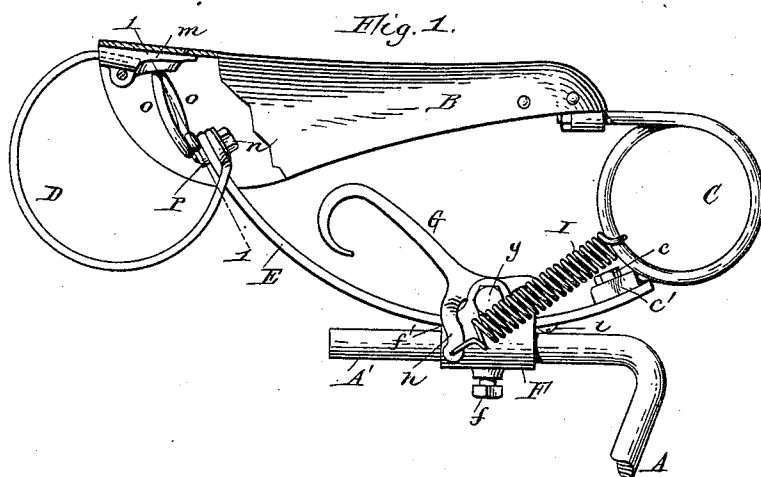
(No Model.)

3 Sheets—Sheet 1.

E. G. LATTA.
VELOCIPED SADDLE.

No. 464,653.

Patented Dec. 8, 1891.



Witnesses:
Jacob S. S. S. S.
Theo. L. Popp.

E. G. Latta Inventor.
By Wilhelm R. R. Attorneys.

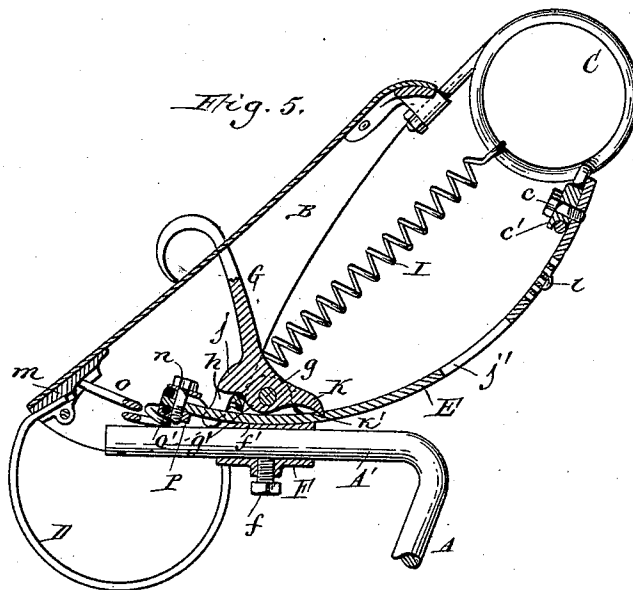
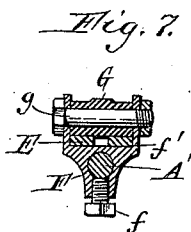
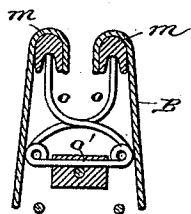
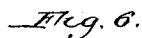
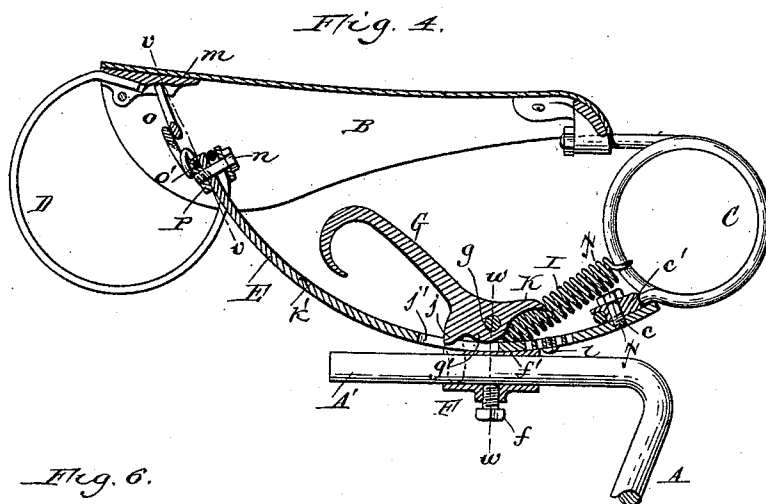
(No Model.)

3 Sheets—Sheet 2.

E. G. LATTA.
VELOCIPED SADDLE.

No. 464,653.

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(No Model.)

3 Sheets—Sheet 3.

E. G. LATTA.
VELOCIPED SADDLE.

No. 464,653.

Patented Dec. 8, 1891.

Fig. 9.

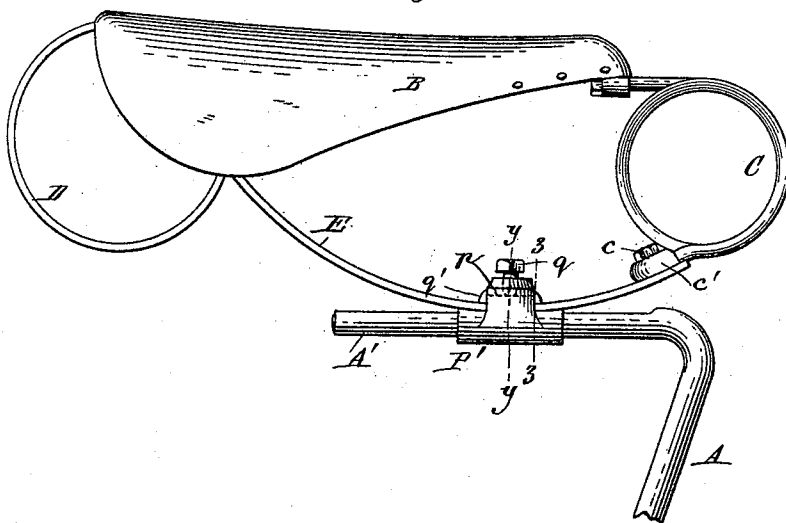


Fig. 10.

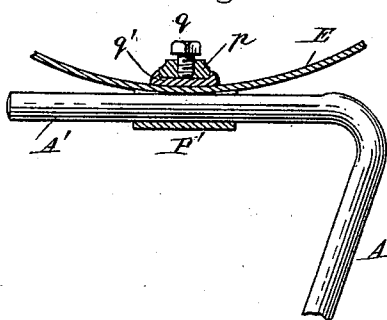


Fig. 11.

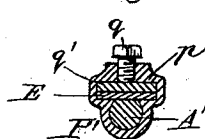


Fig. 12.



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UNITED STATES PATENT OFFICE.

EMMIT G. LATTA, OF FRIENDSHIP, NEW YORK.

VELOCIPED-SADDLE.

SPECIFICATION forming part of Letters Patent No. 464,653, dated December 8, 1891.

Application filed October 21, 1890. Serial No. 368,827. (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 especially desirable for Safety machines having a depressed main frame, so as to be suitable for ladies' use.

One of the objects of my invention is to so support the saddle that the same may be tilted into a convenient position for mounting and so that the same may be adjusted to any desired inclination.

Another object of the invention is to prevent the sides of the flexible saddle from yielding excessively under unusual shocks or strains.

In the accompanying drawings, consisting of three sheets, Figure 1 is a side elevation of my improved saddle with a portion of the flexible seat broken away to fully expose its front support. Fig. 2 is a top plan view of the saddle with the flexible seat omitted. Fig. 3 is a top plan view of the seat. Fig. 4 is a longitudinal section of the saddle, showing the same in a normal position. Fig. 5 is a similar view thereof, showing the saddle tilted into the position for mounting. Fig. 6 is a cross-section in line *v v*, Fig. 4, showing the construction of the spring whereby the portions of the divided saddle are spread apart. Figs. 7 and 8 are cross-sections in lines *w w* and *x x*, Fig. 4, respectively. Fig. 9 is a side elevation of a modified construction of the saddle. Fig. 10 is a fragmentary longitudinal section of said modification. Figs. 11 and 12 are cross-sections in lines *y y* and *z z*, Fig. 9, respectively.

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

A represents the saddle-pillar, having the usual horizontal extension *A'*, and B is the flexible seat.

C represents a double coiled spring supporting the rear end of the seat, D a double spring supporting the front end of the seat, and E a curved rigid bar or frame connecting the front and rear springs, and which is capable

of sliding lengthwise in a clip F, secured to the pillar-extension. The rear spring is preferably composed of a single piece of wire detachably secured at its bent central portion to the rear end of the frame by a bolt *c* and having its ends secured to the flexible seat in any suitable manner. The rear spring is prevented from sliding upon the curved bar E by a clamping plate or washer *c'*, which straddles the double portion of the spring and is provided with grooves in which the adjacent parts of the spring are seated, as represented in Fig. 8. The clip F is provided with a horizontal opening, through which the pillar-extension passes, and is adjustably secured to the extension by a set-screw *f*. The clip is formed on its upper side with a concave seat *f'* for the curved bar or frame E.

G represents a trip-lever pivoted at its lower portion to the clip F by means of a horizontal bolt *g*, passing through lugs or ears formed on the upper side of the clip. This trip-lever is provided at its lower end, on the front side of its pivot, with an eccentric *g'*, which bears against the upper side of the curved bar E when the lever is in the locked position (represented in Figs. 1 and 4,) so as to clamp the same in the clip F. The lever is formed with a curved upper portion and is provided at its lower portion on opposite sides of the clip F with downwardly-projecting arms *h h*.

I I represent spiral springs attached at their rear ends to the rear spring C and at their front ends to the arms *h*, respectively, and which tend to swing the lever forwardly, so as to cause the eccentric to clamp the curved bar E against its seat.

j represents a nose or projection formed on the front side of the trip-lever near the lower end thereof, and which engages in a longitudinal slot *j'*, formed in the curved bar E, when the lever is in the locked position. (Represented in Figs. 1 and 4.) When in register with the slot of the curved bar, the nose *j* permits the eccentric of the locking-lever to be moved forwardly sufficiently to clamp the bar, while when the nose is out of register with said slot it bears against the curved bar and prevents the eccentric of the locking-lever from gripping the bar. In case the bar is not reliably clamped by the eccentric of

the lever the nose *j* also serves to prevent displacement of the bar in its clip by striking the front end of the slot.

When the springs *I* are below the pivot-bolt of the eccentric-lever, as shown in Figs. 1 and 4, they tend to hold the lever in a locked position, while upon swinging the lever rearwardly to release the bar the springs assume a position above the pivot-bolt of the lever and tend to hold the lever in an unlocked position. The lever is provided in rear of its pivot with a nose or detent *k*, which limits the rearward movement of the lever by striking the curved bar *E* and prevents the springs from pulling the lever rearwardly too far.

When the lever is in the unlocked position, (represented in Fig. 5,) the curved bar may be forced backwardly in the clip to the position represented in said figure, the springs *I* being strained or distended by this movement of the bar. The bar is locked in this position by the detent *k* of the lever, which enters a notch or recess *k'* near the front end of the bar, as shown. The detent of the lever is made wider than the slot in the curved bar to prevent it from entering the slot. When the saddle is thus tilted, the curved upper end of the lever projects through a slot or opening formed centrally in the flexible seat. The position of the saddle represented in Fig. 5 is very convenient for the forward mount of a bicycle or tricycle having a depressed reach or main frame.

Upon mounting the tilted saddle the rider strikes the projecting curved end of the trip-lever and swings the same forwardly. As soon as the strained springs *I* have passed downwardly below the pivot-bolt of the lever they contract, drawing the curved bar *E* forward into the position shown in Figs. 1 and 4, and at the same time causing the eccentric of the trip-lever to clamp the bar in place. The saddle is thus thrown forward and upward under the rider automatically without requiring the saddle to be manipulated, it being only necessary to tilt the saddle preparatory to mounting.

l represents a stop arranged on the curved bar *E*, and which is adapted to strike against the rear side of the clip *F*, so as to limit the forward movement of the curved bar in the clip. This stop preferably consists of a screw seated in one of a series of holes arranged lengthwise in the curved bar, so that the inclination of the saddle may be varied to suit the rider by placing the screw in the proper hole.

As represented in Fig. 3, the front portion of the flexible seat is divided to form two parts or members. Each part of the flexible seat is provided at its front end with a plate *m*, and these plates are secured, respectively, to the upper ends of the front spring, the plates being formed with sockets, in which the ends of the spring are seated. The front spring preferably consists of a single piece of spring-wire, which is doubled at its center, and

having its doubled portion secured to the front end of the curved bar *E* by a bolt *n*.

O O represent supporting springs or levers attached at their lower portions to the front end of the connecting-bar *E* and having their upper free ends seated in sockets or cavities formed in the under sides of the seat members. The springs *O* cross each other, as shown in Fig. 6, and are preferably formed of a single piece of wire, which is bent to form a cross-bar *o'*, which connects the springs, the elasticity of the latter being increased by coils formed at the junction of the cross-bar and the springs, as shown. The springs are connected to the curved bar *E* by a plate *P*, having an eye, in which the connecting-bar *o'* of the spring is confined, and which is secured to the curved bar *E* by the same bolt which secures the front spring to the bar.

When the machine receives an unusual shock, as in striking a stone, the front portion of the saddle moves downward and backward about in the line indicated by *l l* in Fig. 1, and the sides of the saddle tend to move inwardly toward each other. This movement depresses the crossed springs *O*, causing the same to move outwardly and spreading apart the members of the saddle, as approximately shown by dotted lines in Fig. 3. Ordinary hammock-saddles give way at their outer edges under unusual strains and leave the central part alone to bear the rider's weight, causing the central part to sag and producing the trouble known as "perineal pressure." By my improvement the sides of the flexible saddle are forced outward sufficiently to cause the strain to be exerted principally against the fleshy parts of the thigh, thereby relieving the central part of the saddle and preventing undue sagging thereof. The main front spring *D* and auxiliary spring *O* both support the front portion of the saddle, and as they extend from the curved bar or frame *E* to the saddle on different lines or at different angles they hold the saddle against undue backward movement, while still permitting the saddle to yield sufficiently to render it comfortable.

It will be observed that the crossed springs act as flexible levers fulcrumed at their lower ends, and that rigid levers might be substituted for the springs, the levers operating to expand the parts of the divided saddle when depressed and being returned to their normal position by the reaction of the front springs *D*. In either case the springs or levers act as an expending device, which causes the parts of the saddle to spread apart when depressed.

In the modified construction of the tilting saddle represented in Figs. 9, 10, 11, and 12 the automatic trip and locking lever is omitted and a clamping device which is operated by hand is substituted therefor. This clamping device consists of a clip *P'*, having a transverse loop *p*, through which the curved bar *E* passes, and a set-screw *q* and clamp-

ing-plate q' , whereby the bar is secured in the clip. The lower portion of the clip, through which the pillar-extension A' passes, opens into the loop p , as shown in Fig. 11, so that the under side of the curved bar E bears against the extension, as clearly shown in Figs. 11 and 12, the extension being flattened on its upper side, as shown, to prevent the clip from turning or twisting on the extension.

I claim as my invention—

1. The combination, with the saddle-pillar, the seat, and a clip adjustably secured to the saddle-pillar, of a curved bar supporting the seat and capable of sliding lengthwise in said clip to change the inclination of the seat, and a spring which tends to shift the curved bar forwardly in the clip when the bar is released, substantially as set forth.

2. The combination, with the saddle-support and the seat, of a curved bar or main frame sliding lengthwise upon the saddle-support and supporting the seat, a spring which tends to move said curved bar forwardly, and a locking device whereby said bar is held in place, substantially as set forth.

3. The combination, with the saddle-support and the seat, of a curved bar or main frame sliding lengthwise upon the saddle-support and supporting the seat, a locking device for locking the sliding bar in place, and a spring which tends to move said bar forward when released and operate said locking device, substantially as set forth.

4. The combination, with the saddle-support and the seat, of a curved bar or main frame sliding lengthwise upon the saddle-support and supporting the seat, a spring which tends to move said curved bar forwardly, a locking device whereby said bar is held in place, and an adjustable stop which limits the forward movement of the sliding bar, substantially as set forth.

5. The combination, with the saddle-support and the seat, of a curved bar or main frame sliding lengthwise upon said support, a spring which tends to move said sliding frame forward, and a trip device operated by the rider in mounting, and a lock operated by said trip device, whereby the sliding frame is clamped in position, substantially as set forth.

6. The combination, with the saddle-support and the seat, of a curved bar or frame sliding lengthwise on said support, a spring which tends to move the sliding frame forward, and a trip-lever having an eccentric, whereby the sliding frame is clamped in place, substantially as set forth.

7. The combination, with the saddle-support and the seat, of a bar or frame sliding upon said support and carrying the seat, a spring which tends to move the sliding frame forward, and a stop or detent whereby said frame is held in a tilted position, substantially as set forth.

8. The combination, with the saddle-support and the seat, of a bar or frame sliding upon said support and carrying the seat, a spring which tends to move the sliding frame forward, a stop or detent whereby said frame is held in a tilted position, and a trip device connected with said detent and operated by the rider in mounting the seat, substantially as set forth.

9. The combination, with the saddle-support and the seat, of a bar or frame sliding upon said support and carrying the seat, a spring which tends to move the sliding frame forward, a stop or detent whereby said frame is held in a tilted position, and a trip device connected with said detent and projecting through the seat when the saddle is tilted, substantially as set forth.

10. The combination, with the saddle-support and the seat, of a bar or frame sliding upon said support and provided with a notch or recess, a spring which tends to move the sliding frame forwardly when released, and a locking-lever having a nose or detent adapted to engage with the notch of the sliding frame when the latter is tilted, substantially as set forth.

11. A velocipede-saddle having its pommel or front portion divided lengthwise, forming yielding parts or members, a main spring supporting the front portion of the saddle, and an auxiliary spring, also supporting the front portion of the saddle, whereby the yielding members of the saddle are spread apart upon depressing the saddle, substantially as set forth.

12. The combination, with a velocipede-seat having its front portion divided, of a frame supporting the seat at opposite ends, and crossed springs attached at their lower portions to said supporting-frame and bearing with their upper free portions against the parts of the divided seat, substantially as set forth.

Witness my hand this 13th day of October, 1890.

EMMIT G. LATTA.

Witnesses:

F. H. RICE,
HIRAM DIMICK.