

No. 750,069.

PATENTED JAN. 19, 1904.

T. G. STEVENS.
SADDLE FOR CYCLES OR THE LIKE.

APPLICATION FILED NOV. 19, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

Fig. 1.

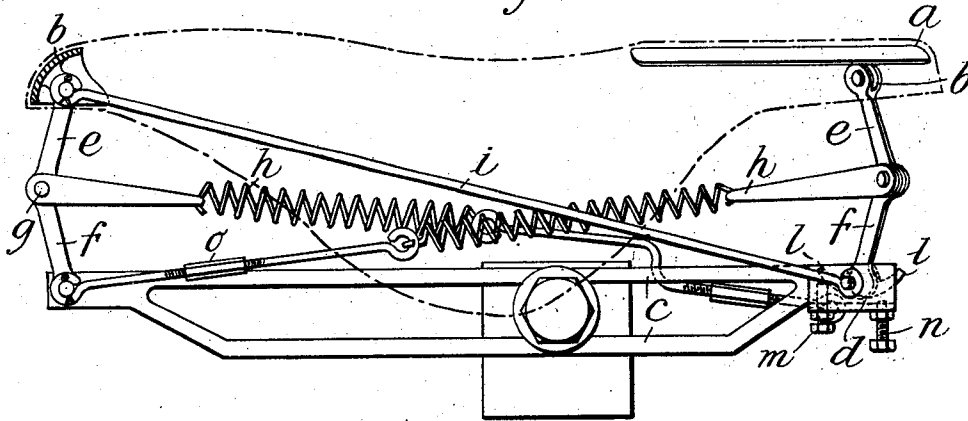
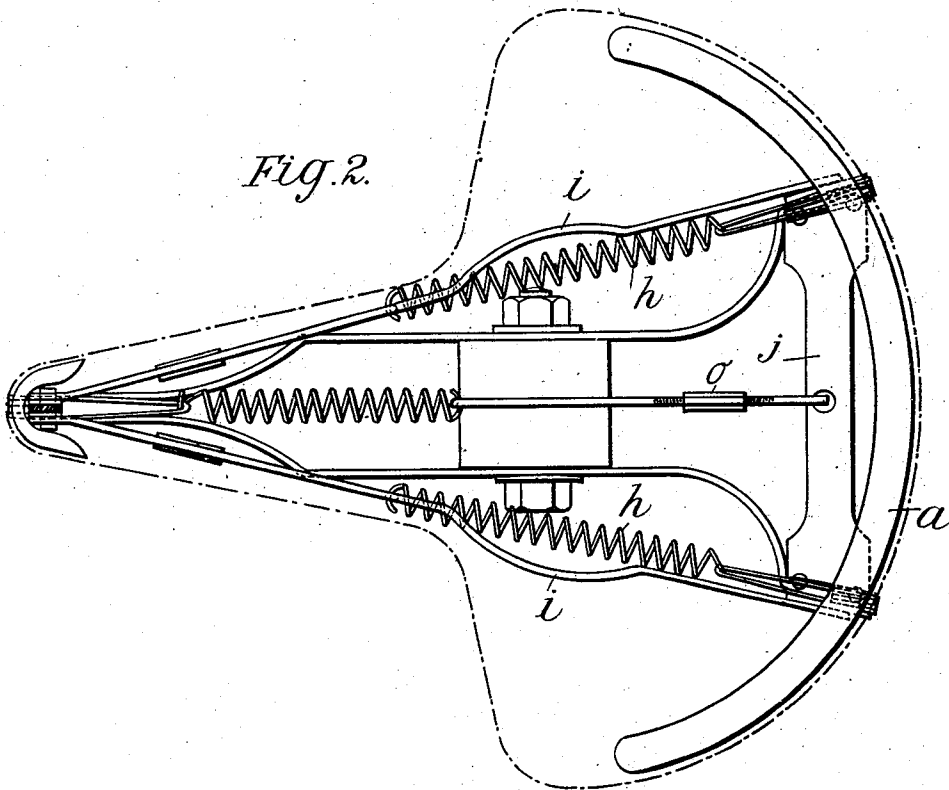


Fig. 2.



WITNESSES.

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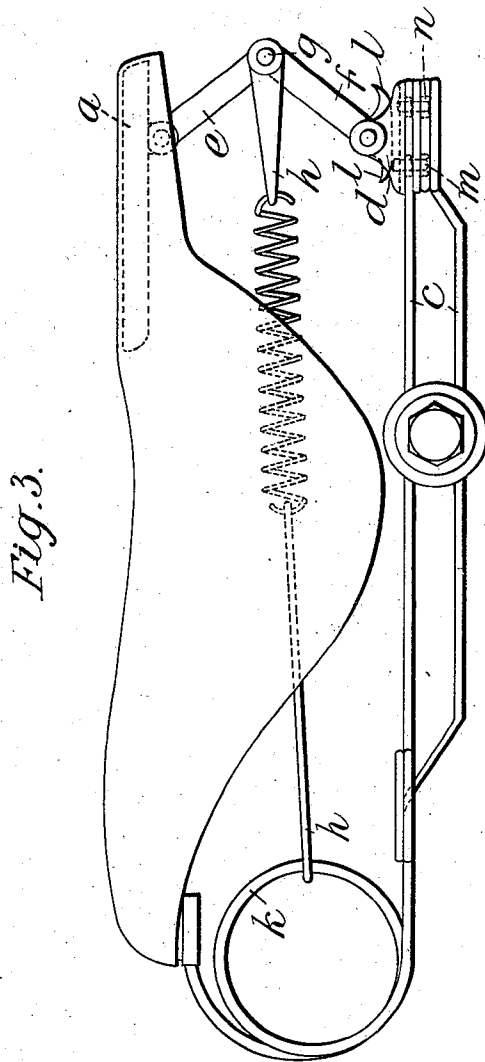
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UNITED STATES PATENT OFFICE.

THOMAS GEORGE STEVENS, OF GREENHITHE, ENGLAND.

SADDLE FOR CYCLES OR THE LIKE.

SPECIFICATION forming part of Letters Patent No. 750,069, dated January 19, 1904.

Application filed November 19, 1903. Serial No. 181,851. (No model.)

To all whom it may concern:

Be it known that I, THOMAS GEORGE STEVENS, a subject of the King of Great Britain and Ireland, residing at 5 The Terrace, Greenhithe, Kent, England, have invented certain new and useful Improvements in Saddles for Cycles or the Like; 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.

This invention for improvements in saddles for cycles and the like relates to means for supporting the seat proper of the saddle on its frame so as to increase its resiliency and also to enable the amount of spring resistance to be readily determined and adjusted to weight of the rider.

According to this invention the cantle-plate or back part, which is secured to the seat proper, is connected to the supporting-frame by toggle-links pivoted together in pairs, and these connecting or central pivots are connected by springs to the supporting-frame, so that on the application of a load to the cantle-plate the toggle levers or links are thereby displaced, the angle between them being diminished and the resisting-springs connecting their central pivots to the supporting-frame extended until the opposing forces of the imposed load and spring resistance are balanced. The peak of the saddle may also be similarly connected to the frame and the seat kept symmetrically in position over the frame by means of stay-rods arranged as hereinafter described.

In saddles in which the cantle is connected directly to the supporting-frame by helical supporting-springs the resistance of the springs increases as they are compressed; but by the use of toggle-links, as herein described, the initial angles between them may be so fixed that as the cantle is depressed the resistance may be practically constant or even reduced, thus rendering the seat extremely sensitive and resilient and enabling the amount of spring resistance to be readily determined and adjusted to the weight of the rider.

Instead of connecting a balancing-spring to each pair of toggle-links two or more pairs

may be coupled together and connected to a single spring, as will be readily understood.

In the accompanying sheet of illustrative drawings, Figure 1 is a side elevation of a saddle constructed according to this invention, the seat being shown in dotted lines. Fig. 2 is a plan, and Fig. 3 is a side elevation, showing a slightly-modified form of construction.

Referring to Figs. 1 and 2, the cantle *a* and peak of the saddle are provided with depending lugs *b*, and the supporting-frame *c* is provided with corresponding eyes or upwardly-directed lugs *d* at its rear and front ends. Between each corresponding pair of lugs *b* *d* a pair of toggle-links *e* *f* are mounted, their outer ends being pivoted to the lugs, while their inner ends are pivoted together at *g*. The lower ends of the links *f* are formed with upwardly-curved forward and rearward extensions *l*, adapted to bear against adjusting screws or stops *m* *n*, the stops *m* *n* serving to adjust the angle formed between each pair of links *e* *f* in their extreme positions when loaded or unloaded, and thus limit their motion. As shown, two pairs of links *e* *f* are arranged to support the cantle and one pair to support the peak of the saddle. The central pivot *g* of each pair of links *e* *f* is connected by a spring-link *h* to the supporting-frame *c*, the spring-links *h* of the rear toggle-links being connected with the lug *d* at the front part of the frame *c* and that of the front toggle-links with a bar *j* on the rear part of the frame. Each spring-link *h* is formed in two parts connected by an adjusting screw-nut *o* for adjusting the tension according to the weight of the rider. In order to maintain the saddle in position over the frame *c* and counteract any tendency to become displaced either laterally or longitudinally, the rear part of the frame *c* is connected to the peak by stay-rods *i*, converging from the rear toward the peak and preferably secured to the lugs *d* *b*. The converging ends of the spring-links *h* and the lower front toggle-link are pivotally connected by a single bolt with the forward lug *d*, while the ends of the rods *i* are connected in like manner with the peak lug *b* and rear frame lugs *d*, respectively. By this arrange-

ment the springs and connection can be readily taken apart for repair or renewal or for inserting springs of different strength.

In the modified form of construction shown in Fig. 3 the frame *c* is connected to the peak by the spring *k* and to the cantle by the toggle-links *e* *f*, hereinbefore described, the spring-links *h* being provided with hooks at their forward ends, which engage in the coils of the spring *k*.

What I claim, and desire to secure by Letters Patent, is—

1. A saddle for cycles and the like, having a supporting-frame, a seat portion, toggle-links connected to the supporting-frame and to the seat portion, and springs connected to the central pivots of the toggle-links and to the frame, substantially as described.

2. A saddle for cycles and the like, having a supporting-frame, a seat portion, toggle-links arranged in pairs and connected at the rear of the seat to the cantle and to the supporting-frame, and at the front to the peak

and frame, spring-links connecting the central pivots of each pair of toggle-links with the frame, and stay-rods connecting the rear of the frame to the peak or front of the seat, substantially as described.

3. A saddle for cycles and the like, having a supporting-frame, a seat portion, toggle-links arranged in pairs and connected at the rear of the seat to the cantle and to the supporting-frame, and at the front to the peak and frame, means for limiting the motion of the toggle-links when loaded or unloaded and determining their extreme positions, spring-links connecting the central pivots of each pair of toggle-links with the frame, and stay-rods connecting the rear of the frame to the peak or front of the seat, substantially as described.

In testimony whereof I have affixed my signature in presence of two witnesses.

THOMAS GEORGE STEVENS.

Witnesses:

WILLIAM H. WHEATLEY,
H. D. JAMESON.