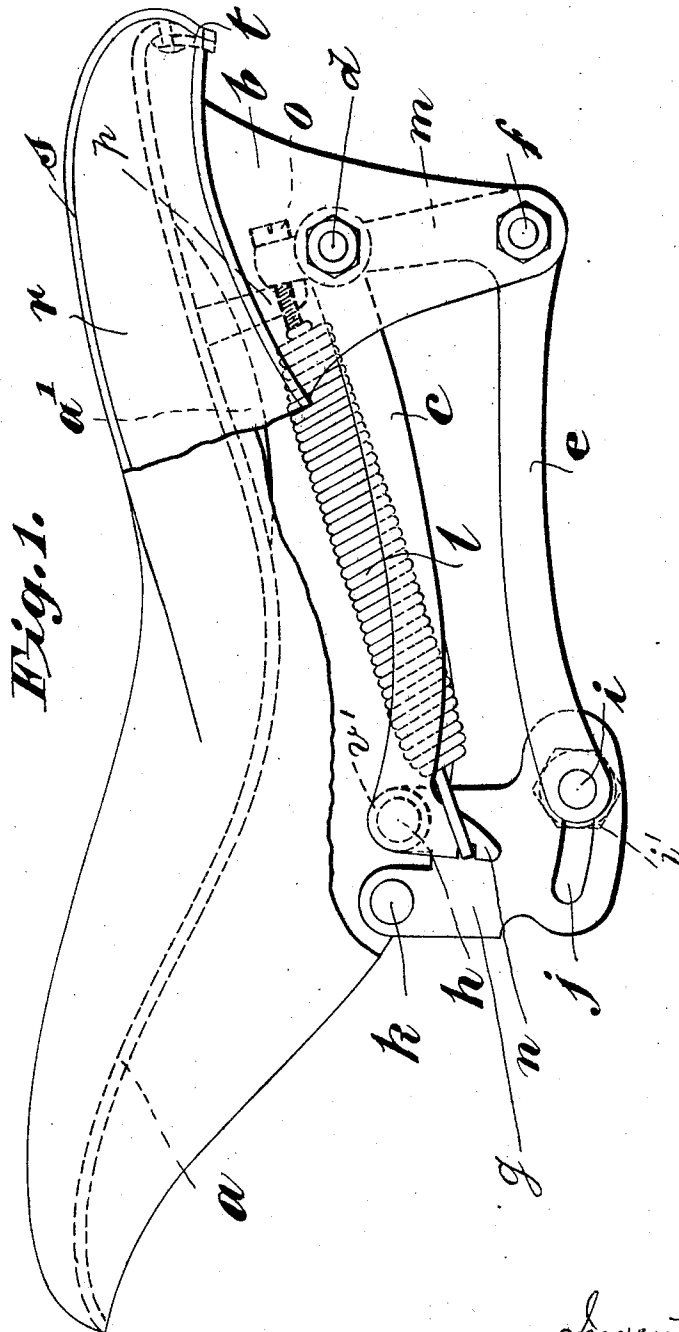


T. SHEPHERD.
CYCLE SADDLE, SEAT, STOOL, AND THE LIKE.
APPLICATION FILED MAY 20, 1911.

1,044,272.

Patented Nov. 12, 1912.

4 SHEETS—SHEET 1.



Witnesses:
Geo C Poulton
Walter Allen

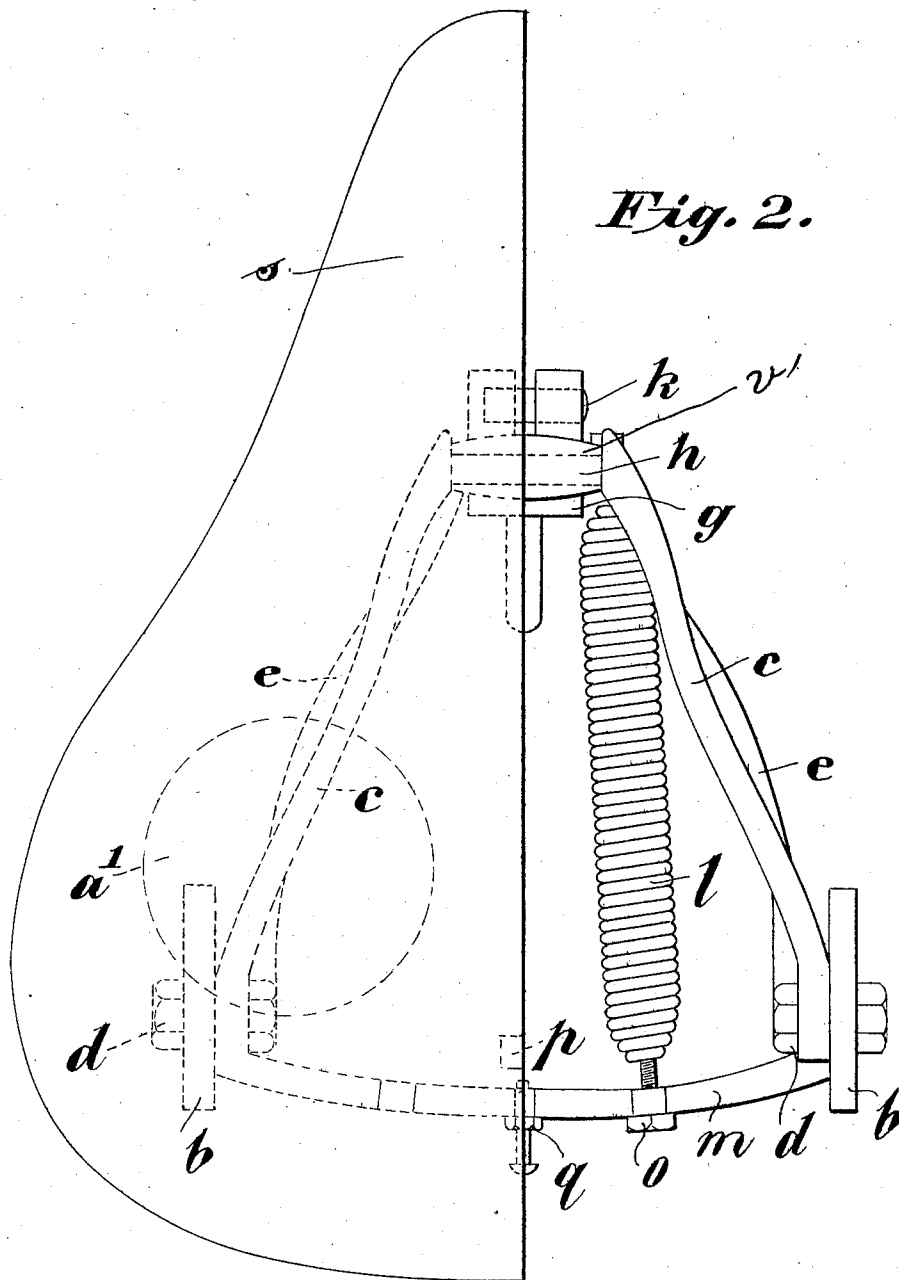
Inventor.
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4 SHEETS-SHEET 2.



Witnesses:
Geo C. Boulton
Walter Allen

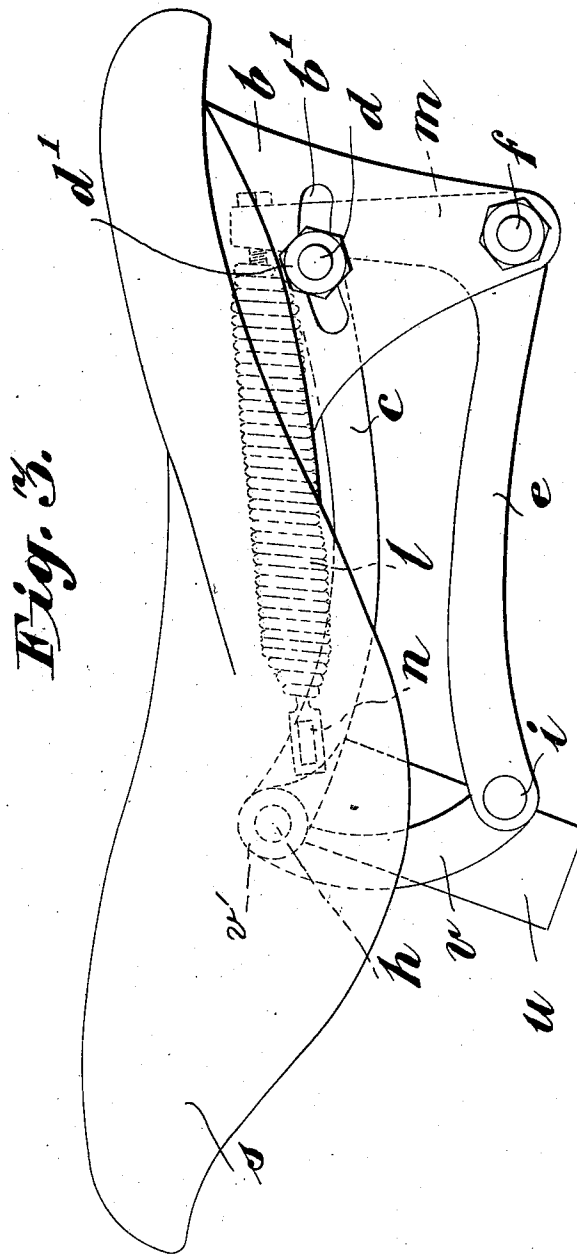
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4 SHEETS—SHEET 3.



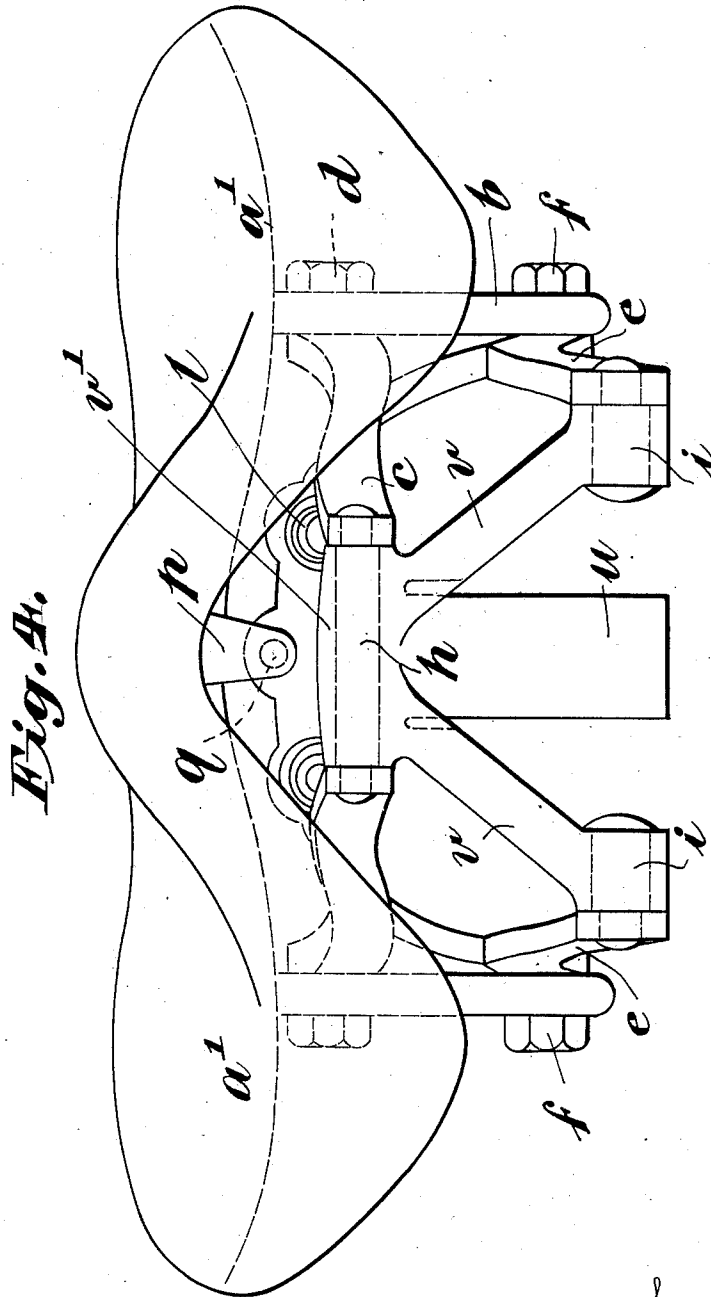
Witnesses:
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4 SHEETS—SHEET 4.



Witnesses:
Geo C Pmeton
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UNITED STATES PATENT OFFICE.

TIMOTHY SHEPHERD, OF BIRMINGHAM, ENGLAND.

CYCLE-SADDLE, SEAT, STOOL, AND THE LIKE.

1,044,272.

Specification of Letters Patent.

Patented Nov. 12, 1912.

Application filed May 20, 1911. Serial No. 628,431.

To all whom it may concern:

Be it known that I, TIMOTHY SHEPHERD, a subject of the Kingdom of Great Britain, residing at 6 Moseley street, Birmingham, in the county of Warwick, England, engineer, have invented certain new and useful Improvements in and Relating to Cycle-Saddles, Seats, Stools, and the Like, of which the following is a specification.

The object of my invention is to increase the comfort of seats generally, but more especially in relation to those suitable for cycles, motor cars, et cetera where vibration causes considerable discomfort when ordinary seats are used. To accomplish this end I find two things are essential. First. To improve the outward shape or contour of the base or seat. Secondly. To improve the ordinary method of springing the said base or seat.

In order that this invention may be clearly understood and more easily carried into practice, reference may be had to the appended four sheets of drawings, upon which:—

Figure 1 is a side elevation of a saddle according to the invention as applied to cycles and the like, parts being broken away to more clearly show the construction. Fig. 2 is a plan of the saddle shown in Fig. 1 with the upper portion of the saddle removed in one half to more clearly show the subjacent parts. Fig. 3 is a side elevation of a modification of the invention applicable to seats, stools, cycles and the like. Fig. 4 is a front elevation of the modification shown in Fig. 3.

Like reference letters apply to similar parts in each figure.

In a convenient embodiment of the invention such as illustrated by the drawings, I improve the shape or contour of the base or seat *a* by constructing a top of metal, or other material, of a shape as near as possible to the human figure when in a sitting posture. I arrive at the most suitable shape for this top by taking plaster casts of average men when in the usual sitting or riding position. The shape of the tops arrived at in this manner is slightly raised at the back, and half circular in outline. Near the middle two distinct rounded depressions *a'* are seen; one on each side. Two gutters lead to those rounded depressions to allow for the free passage of the legs, and at the peak or center of the front portion there

is a slight prominence which separates one leg from the other. This specially shaped seat distributes the weight of the sitter over a much greater area than is possible on ordinary seats, so that he does not feel the usual amount of pressure on any particular part of his body. Much less is it possible for him to experience excessive pressure on a small area while a considerable portion of his seat is practically untouched. This top

I may pierce with holes so as to allow free ventilation where necessary which also serves to keep the seat cool. I may then cover the top so constructed with a thick saddle felting or other soft material *r* preferably of equal thickness throughout. This adds to the comfort of the seat and makes sufficient allowance by its yielding properties for the differences in shape between one man and another. On top of this felting I put a covering of leather or other suitable materials to take the wear, which material is preferably waterproof when needed for outdoor work. Both the felting and leather covers may be pierced with holes where deemed necessary to secure free ventilation.

The saddle is supported by a parallel motion device and springs so that it will rise and fall bodily under the weight of the rider. A stationary support *g* is provided, and this support is preferably a clip which is slotted on one side, and is provided with a screw *k* for clamping it to the usual seat-pillar of the bicycle frame. Two lugs *b* are provided on the underside of the rear part of the saddle-plate *a*. Two links *c* are pivoted at their front ends by a pin *h* to a bearing *v'* on the upper part of the support or pillar-clip *g*, and the rear ends of these links are pivoted to the middle parts of the lugs *b* by pins *d*. These links have projections *n* at their front ends under the pin *h*. Two arms *e* are arranged under the links *c*, and their front ends are pivoted to the support or pillar-clip *g*, under the pin *h*, by means of a pin *i*. The rear ends of the arms *e* are pivoted to the lower parts of the lugs *b*, under the pins *d*, by means of pins *f*. The rear ends of the said links and arms are arranged wider apart than their front ends, and *m* is a bridge-piece which extends between the rear end portions of the arms *e*, and which is preferably formed integral with them. This bridge-piece is curved upwardly, and its middle part is preferably arranged to project a little above the level

of the pins *d*. Helical springs *l* are arranged between the bridge-piece and the projections *n*. The rear end portions of these springs *l* are preferably connected to the bridge-piece *m*, by screws *o* so that the tension of the springs can be adjusted. A stop *p* is formed on the underside of the saddle-plate, and *q* is an adjustable stop-screw on the middle part of the bridge-piece. The stop *p* strikes against the stop-screw so that the rearward motion of the saddle is thereby limited. The saddle-plate moves up and down bodily, and without tilting or rocking, under the weight of the rider. The support, lugs, links and arms are pivotally connected together in the form of a parallelogram, the elements of said parallelogram being normally held in position by the springs, or any equivalent spring connection, which is secured between two of the elements of the parallelogram. In order to adjust the tilt of the saddle-plate, a slot *j* is formed in the support *g*. The pin *i* is adjustable in this slot lengthwise of the saddle-plate, and is provided with a nut *i'* for securing the pin to the support after its position has been adjusted.

In the modification shown in Figs. 3 and 4, a tubular support *u* is provided for engaging with the seat-pillar, and two diverging arms *v* are provided and project downwardly from the bearing *v'* at the upper part of the support. The arms *e* are pivoted to the lower parts of the arms *v*. The tilt of the saddle is adjusted by means of slots *b'* in the lugs *b*. The pins *d* are adjustable in the slots *b'* longitudinally of the saddle, and the pins *d* are provided with nuts *d'* for clamping them to the lugs after their position has been adjusted.

What I claim is:

1. The combination, with a saddle or seat, and a stationary support; of upper and lower parallel motion members pivotally connected with the saddle at one end and having their other ends pivoted to the said support, the said lower members having an upwardly projecting bridge-piece secured crosswise between their end portions which are remote from the said support, and a spring engaging with the said bridge-piece and carried by the said support and operating to sustain the said saddle and

members in a substantially horizontal position.

2. The combination with a saddle or seat, and a stationary support provided with a slot; of upper and lower parallel motion members pivotally connected with the saddle at one end, upper and lower pivots connecting the other ends of the said members with the said support, the lower pivot being adjustable in the said slot, and the said lower members having an upwardly projecting bridge-piece secured crosswise between their end portions which are remote from the said support, and a spring engaging with the said bridge-piece and carried by the said support and operating to sustain the said saddle and members in a substantially horizontal position.

3. The combination, with a saddle having two downwardly projecting lugs at one end portion, of a stationary support arranged under the other end portion of the saddle, two links arranged longitudinally under the saddle and pivoted to the support at one end and to the lugs at the other end, two arms arranged below the said links and also pivoted to the said support and lugs, a bridge-piece extending between the said arms and projecting above them, and a spring connection between the said bridge-piece and the said links.

4. The combination, with a saddle having two downwardly projecting lugs at one end portion, of a stationary support arranged under the other end portion of the saddle, two links arranged longitudinally under the saddle and pivoted to the support at one end and provided at the said end with projections below their pivot, the other ends of the said links being pivoted to the said lugs, two arms arranged below the said links and also pivoted to the said support and lugs, a bridge-piece extending between the said arms and projecting above them, and a spring connection between the said projections on the links and the said bridge-piece.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

TIMOTHY SHEPHERD.

Witnesses:

ARTHUR H. BROWN,
HOLLIS F. BROWN.