(No Model.)

J. H. PATTON.

BICYCLE.

No. 318,789. Patented May 26, 1885.

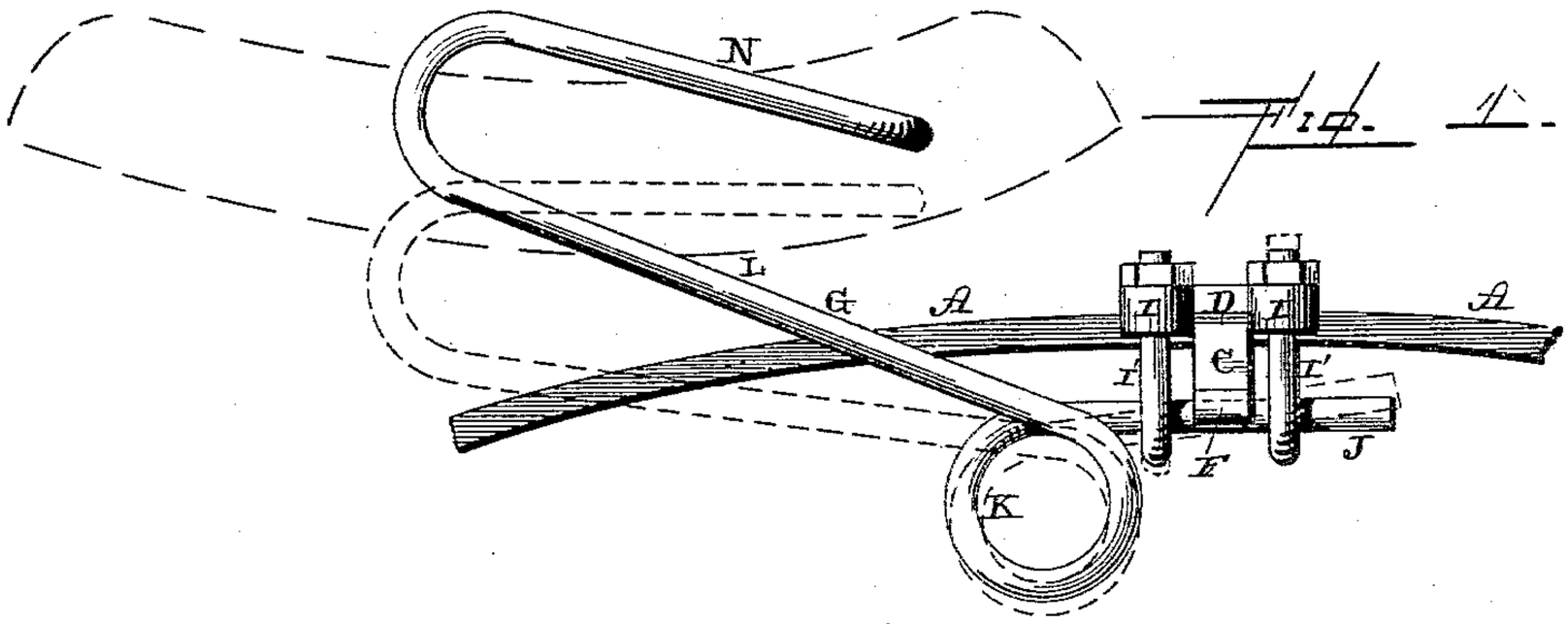


Fig. 1.

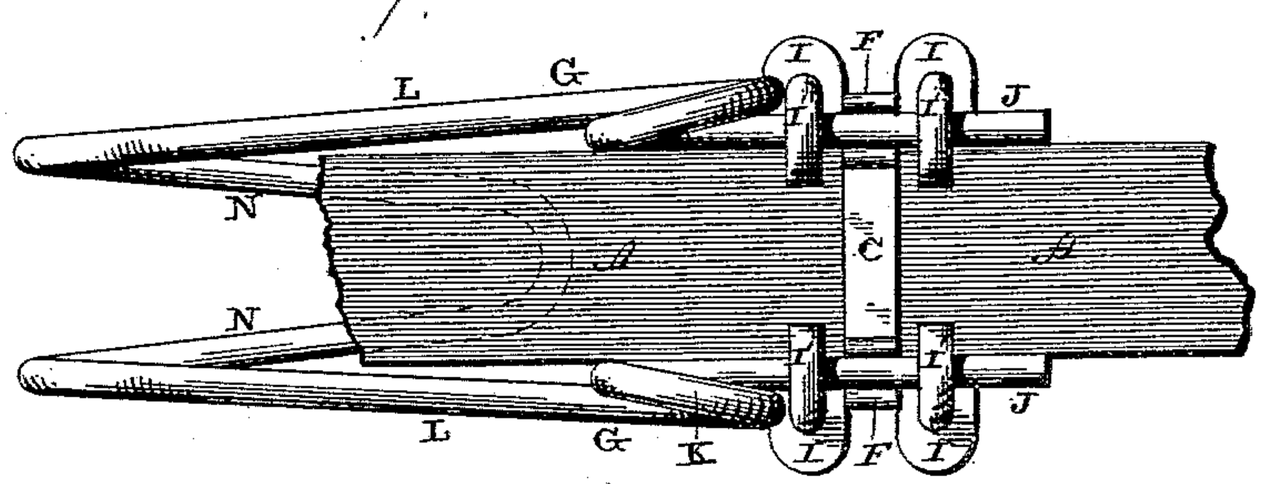


Fig. 2.

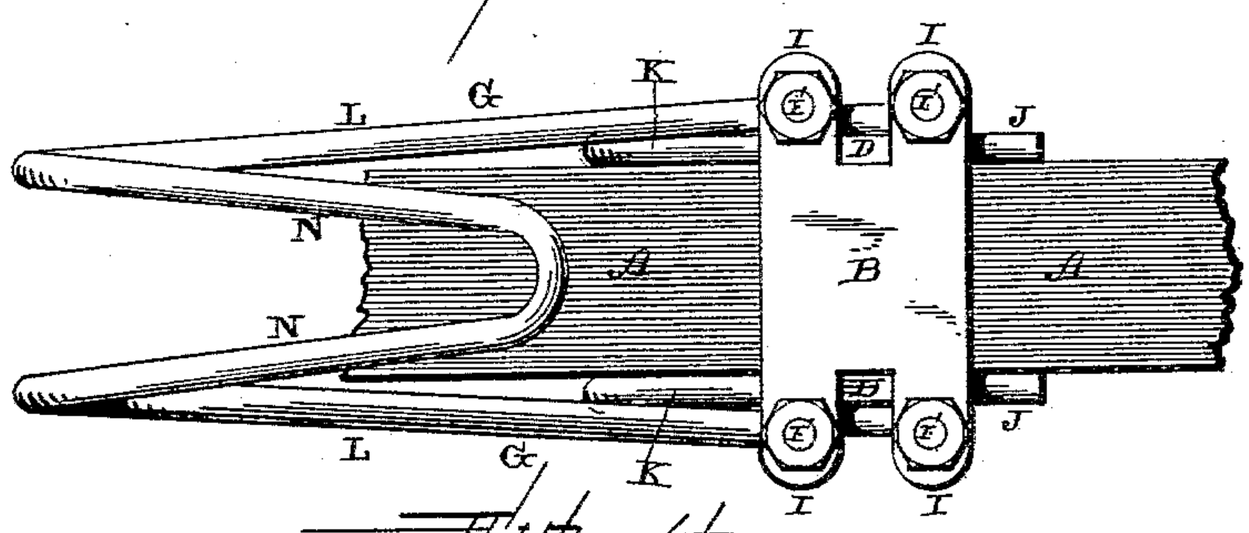
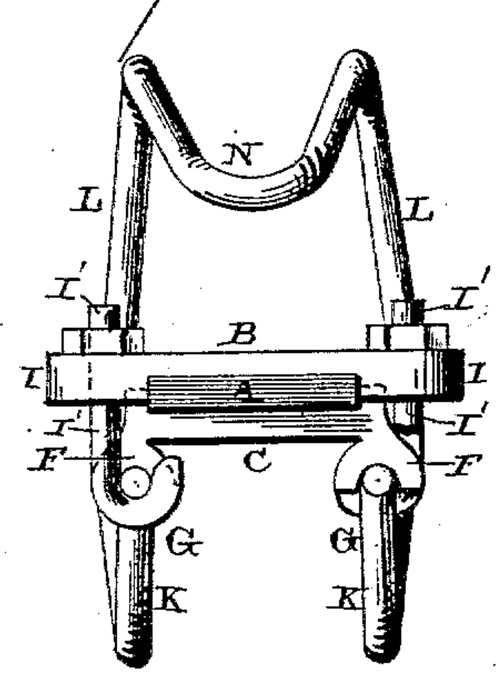


Fig. 3.

Fig. 4.



Witnesses.

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UNITED STATES PATENT OFFICE.

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BICYCLE.

SPECIFICATION forming part of Letters Patent No. 318,789, dated May 26, 1885.

Application filed April 6, 1885. (No model.)

To all whom it may concern:

Be it known that I, J. HERVEY PATTON, of Harrisburg, in the county of Dauphin and State of Pennsylvania, have invented certain new and useful Improvements in Bicycles; 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 it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in bicycles; and it consists in, first, a clamp which is composed of a saddle-piece which has its ends to catch upon the top of the prongs of the seat-spring, a flat plate which is placed upon the top of the flat spring, and suitable clamping eyebolts or hooks, by means of which the two parts of the clamp, the flat spring, and the seat-spring are secured together; second, the combination of the clamp, which is composed of two parts, with a seat-spring, and the clamping-hooks, which secure the spring to the clamp, whereby the spring can be adjusted back and forth, so as to obtain more or less elasticity, and the seat-spring can be raised or lowered, as may be desired; third, a seat-spring which has a straight or horizontal portion where it is fastened to the clamp, a coil, a straight portion which is inclined forward and upwardly from the coil, and which has its upper end or portion turned backward and downward to receive the saddle, all of which will be more fully described hereinafter.

The object of my invention is to produce a clamp by means of which the seat-spring can be both readily and securely held in position, and the saddle raised and lowered at will, and to produce a seat-spring which is cheap and simple in construction, and which possesses great strength and elasticity.

Figure 1 is a side elevation showing the clamp and the spring. Fig. 2 is an inverted view of the same. Fig. 3 is a plan view. Fig. 4 is an end view.

A represents the flat spring—such as is used in the Star bicycle—and B C the two parts of the clamp. The lower saddle-piece of the clamp consists of a bar of sufficient length, having the flange D projecting upward at each of its ends, and having the pronged projections F extending downward at each end, for the purpose of catching over the tops of the rear ends of the seat-spring G. The upper portion, B, of the clamp consists of a flat piece, which has a recess formed in its under side to receive the flat spring A, and thus be held in a straight line with the spring under all circumstances. The projection I is formed upon each corner of this upper portion, B, and in between these projections is made a suitable recess, which corresponds in shape to the projections which extend from the top of the lower portion, C. The projections of the lower portion, C, catch in these recesses, and, together with the recess which is formed in the top part of the portion C, so as to receive the flat spring A, serve to prevent the two parts of the clamp from ever getting out of line with each other.

Passing down through the projections on the upper portion, B, of the clamp are hooked clamping-bolts I', which catch under the rear ends of the spring, and which hooked bolts serve to bind the two parts of the clamp, the flat spring, and the seat-spring rigidly together.

The seat-spring, whether made single or double, consists of the straight part J, by means of which it is secured to the clamp, the coil K, the forward and upwardly inclined part L, and the rearwardly and downwardly inclined part N, to which the saddle is fastened in any suitable manner. The straight rear ends of the spring can be made of any desired length, and by loosening the bolts the spring can be adjusted back and forth, so as to increase or decrease the leverage and amount of elasticity which is given to the seat. By loosening the front clamping-bolts and tightening up upon the rear ones the seat can be lowered to any desired degree, and by loosening the rear bolts and tightening the front ones the seat can be raised to any desired extent.

It is apparent by taking the point of attachment in the seat-spring from the top of the coil the whole spring can be lowered the width of the coil, and by the use of the clamp here shown and described the normal position of the spring can be lowered below the flat spring A, thus lowering the whole seat, and bringing the rider nearer the wheel, and thereby giving him a longer reach with his legs to work the treadle-levers. By bringing the point of attachment from the top of the coil, and by the peculiar shape of the spring, all

jar incident to riding over uneven surfaces will be absorbed by it. By means of the abrupt bend of the seat-spring in front the spring is given a sufficient stiffness so that the seat will be held in its normal position under the rider and obviate the swagging of the seat from side to side with every motion the rider may make. This construction of the spring, while it prevents swagging from side to side, permits enough motion to make the seat comfortable and easy.

As here shown, the clamp is made to attach to the flat spring of the Star bicycle only. Where it is to be attached to an ordinary bicycle with a round or elliptical backbone, the clamp is made round or elliptical, instead of flat, at the place where it clamps to the bicycle. This style of clamp, either flat or round, will hold the seat-spring or saddle so firmly that it cannot be forced out of place, and no amount of shaking will change its position. The four screw-hooks, gripping the seat-spring firmly, press the same tightly against the bridge or bearing-piece, and in whatever position the spring or saddle shall be adjusted—that is, high or low. Through raising or lowering the hooks, as before described, the hooks will hold the same firmly in position, and will not allow the seat-spring or saddle to sag or in any way get out of place. The seat-spring is here shown as being made double; but it is evident that it may be made single, if so desired. The clamp can be made with two or four screw-hooks, in connection with two or one bearing or bridge-piece, *c*, as may be desired. The clamp here shown can be reversed in position, the bearing-pieces being placed where the hooks are, and the hooks between them, where the bearing-piece is, or the whole clamp can be turned upside down. Eyebolts can also be used in place of the hook-bolts here shown.

I am aware that a seat of a flattened **Z** shape is old, and this I disclaim.

Having thus described my invention, I claim—

1. A spring for bicycles, having the straight rear ends, the coil, the upwardly-inclined portion and abrupt bend in front, and the rearwardly-inclined portion to which the saddle is clamped, substantially as shown.

2. A seat-spring for bicycles, having the straight rear ends, a coil which extends down below these straight portions, the upwardly and forwardly inclined portion, the abrupt bend in front and at the highest point, and the rearwardly and downwardly inclined front or portion to which this saddle is fastened, substantially as described.

3. The combination of the upper portion, B, of the clamp, with the lower portion, C, provided with bearings for the spring, the adjusting clamping-bolts, and the seat-spring, whereby the ends of the spring can be adjusted up and down, substantially as set forth.

4. A clamp composed of the upper portion, B, having a projection at each corner, in combination with the lower portion, C, having the upward projections which catch in the recesses in the ends of the upper portion, and the downward projections which catch upon the top of the spring, and the clamping hooks or bolts, substantially as specified.

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

JOHN HERVEY PATTON.

Witnesses:
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