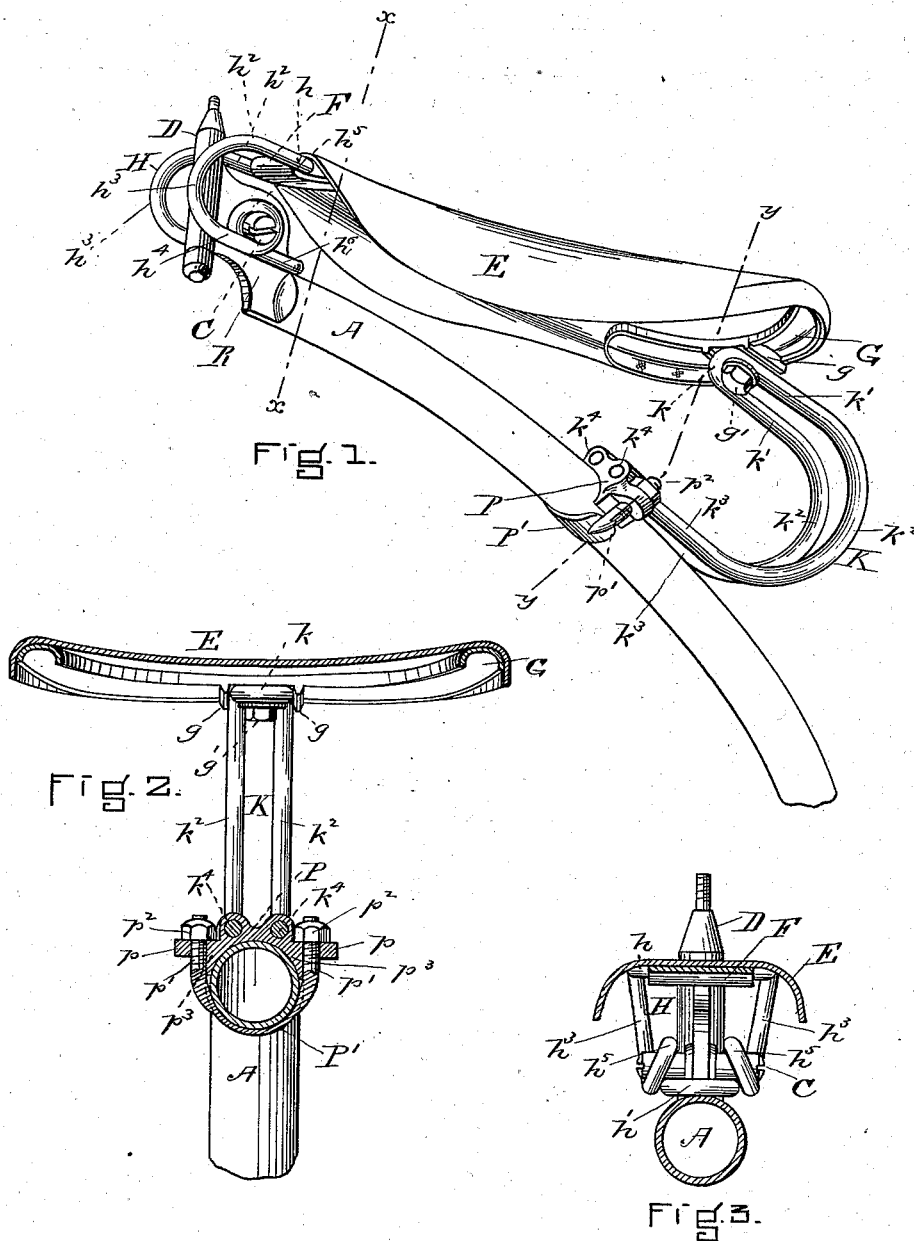


(No Model.)

J. KNOUS.
VELOCIPED SADDLE.

No. 382,430.

Patented May 8, 1888.



WITNESSES.

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VELOCIPED-SADDLE.

SPECIFICATION forming part of Letters Patent No. 382,430, dated May 8, 1888.

Application filed November 25, 1887. Serial No. 256,050. (No model.)

To all whom it may concern:

Be it known that I, JOHN KNOUS, of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and
5 useful Improvements in Velocipede-Saddle Mechanisms, of which the following is a specification.

My improvements relate more particularly to that class of steering mechanisms in which
10 the flexile seat and the spring-supporting mechanisms are directly combined, sometimes called "hammock-saddles," and relate, rather, to the supporting parts of the mechanism—that is, to the front and rear springs, the construction of them, and the combination of
15 them with the flexile seat-piece and with the frame of the velocipede, and with each other. Moreover, my present invention has for its object the simplifying and improvement in details
20 of construction and in the operation of the saddle known as the "Kirkpatrick" saddle, described in Letters Patent of the United States No. 314,142, to Thomas J. Kirkpatrick, dated March 17, 1885, and upon certain improvements
25 which were set forth in the application Serial No. 225,076, filed January 22, 1887, by Curtis H. Veeder, for patent for improvement in seats for velocipedes. In both of these specifications there is set forth a velocipede-saddle
30 constructed with a flexile seat-piece supported at its ends only by independent front and rear springs, the front spring being connected with the neck and the rear spring being connected with the perch, and in this respect my present
35 improved saddle is like them. In the Kirkpatrick device is shown and described a backward, downward, and then forward curving rear spring constructed of a flat steel plate, the upper end of which is connected with a
40 transverse saddle-piece, and the lower end of which is connected by a sliding clip to the perch, and the front spring is constructed of two weaker or smaller similar springs constructed of flat steel plates extending forward
45 beyond the spindle and neck, connected by a loop to the flexile seat-piece at their upper ends, and connected at their lower ends with a plate or clip which rests at one end upon the top of the perch, and is secured by means
50 of lugs at its other end and a pin or bolt to the neck. In the Veeder device referred to there are two separate coiled-wire rear springs con-

nected at their upper end with the seat piece and held in the movable clip at their lower ends upon the perch, and the front spring consists of a coiled-wire piece having a loop or
55 pull for connection with the flexile seat-piece at its upper end and a trip or smaller loop to rest upon the perch or a projection therefrom at its lower end, and fulcrumed at its middle
60 coils upon a pin extending through the neck, the whole spring being backward of the spindle. Now, in my present improved construction I do away with the flat steel plates of the
65 Kirkpatrick device, and also do away with the separate clip by which the front springs are attached to the neck, and in place thereof I put a rear spring constructed of round steel wire or rod bifurcated and doubled or bent in
70 two parallel proximate equal branches extending rearwardly, downwardly, and forwardly, and held above to a seat-piece and below to a clip by suitable modified devices; and I put for a front support a spring of round steel rod or wire, shaped and constructed to be used
75 without a separate clip, and to form a rest on either side the neck to take the support of a pin through the neck, and a short close loop to fit substantially the neck and rest upon the top of the perch, and with its equal forwardly and upwardly and backwardly projecting branches extending beyond or forward of the neck and head, and brought together to form a loop or pull for attachment
80 to the flexile seat-piece, and by this construction I secure a simpler, lighter, and more economical mechanism, and at the same time one in which the action of the springs is vertical and independent, and in which the tension of the flexile seat-piece is better kept,
85 and in which the supports are more securely held in position and more durably connected. This construction differs also from the Veeder construction not only in respect to the clips by which the rear spring is held to the seat-piece
90 and the perch, but also in the different construction of the rear spring, by which its action is practically vertical only and of similar construction, and the front spring is of different construction in that it has its main arms
95 longer, extending on either side forward of the spindle and head, so as to get greater elasticity and a substantially vertical action, and so as to bring the forward end of the flex-

ile seat nearer to the spindle, so as to make a longer, more effective, and simpler construction altogether.

I do not claim anything described or shown in either of the specifications referred to; but the nature and extent of my improvements will be apparent to those skilled in the art from the following description, taken in connection with the accompanying drawings.

Figure 1 shows in perspective, and as somewhat inclined upward and from the spectator, my improved saddle mechanism connected with the perch and neck of a bicycle. Fig. 2 shows the same in transverse section on the broken bent line yy of Fig. 1, and looking toward the rear; and Fig. 3 shows the same in transverse section on the line xx of Fig. 1, and looking toward the front.

A is the perch, and B is the neck, and D is the spindle for the steering-head of a bicycle.

C is a pin or bolt for trunnion-lugs on the neck.

E is a flexile seat, of leather or similar material formed into a narrow strip and bent over into a loop, F, at the forward end, or the loop may be made separate and riveted to the seat and riveted to the curved transverse seat-piece G at the rear end.

H is a front support or spring constructed of a single piece of round steel rod or wire, with its ends brought together to form a loop at h , to engage as a pull with the loop F of the flexile seat, and bent at its middle part, H' , to form a rest upon the top of the perch and to fit about the sides of the neck B, and is further constructed with the parallel forward extending arms $h^2 h^2$, downward bends or curves $h^3 h^3$, backward short arms $h^4 h^4$, and with a portion on each side bent to form a rest, h^5 , about the pin C, this rest h^5 forming the connection between the shorter arms, h^4 and h^6 , on each side, and the curves or bends h^3 being forward of and on either side of the spindle and the steering-head of the velocipede when the saddle is in position.

K is a rear support or spring, which I prefer also to form of one piece of round steel wire or rod bent at its middle part, k , and having the parallel proximate backward arms $k^1 k^1$, downward bends $k^2 k^2$, and forward arms $k^3 k^3$; and I form upon the seat-piece G a lug having two ribs, as $g g$, and a flat or curved portion between in which the upper bent part, k , of the spring K is placed and held by means of a suitable bolt or nut or screw, g' , so that the rear spring and the seat-piece are held securely together, and are prevented not only by the bolt, but by the ribs $g g$, from dislocation in use. The lower ends, $k^4 k^4$, of the spring K are held in a clip-piece, P, having suitable longitudinal mortises to receive them, and having also the lugs $p p$, to receive the ends or tenons $p' p'$ of the U-shaped complementary clip-piece P'. The clip-piece P has also projections $p^3 p^3$, fitting about the tubular perch, so as to afford in connection with the remaining part of this clip-piece and its com-

plementary part a cylindrical hole that will not crush the tube. The complementary part P' is held to the clip-piece P by means of the small nuts $p^2 p^2$ on the tenons $p' p'$. It is obvious, now, that when the parts are thus constructed and assembled, as shown in the drawings, the action of the front spring and of the rear spring will be independent—that is, that either may be operated without affecting the other—and that it will be vertical—that is, that the forward end or the rear end, or both, of the flexile seat-piece may be depressed without increasing the slack or curvature of the latter; also, that the greatest simplicity is obtained and that the forward spring is made more yielding and efficient by its extension forward of and on either side of the spindle and head, that no front clip is required and no repeated coiling of the wire about the pin through the neck, that no coils are required in the rear spring, and that the devices for securing it are of the most direct and efficient and at the same time simple and economical construction.

It is obvious that the shape and proportions might be changed, and certain other minor modifications might be made in this contrivance by any one skilled in the art, without departing from the substance of my invention, and I do not mean to be strictly limited to what I have described and shown.

I claim as new and of my invention—

1. In a velocipede-saddle-supporting mechanism, an improved bifurcated vertical-action forward-extending front spring, H, of round steel rod or wire formed into a larger loop, h , for attachment to the flexile seat-piece, and a smaller loop, h' , to fit upon and about the neck, and further constructed with two long arms, h^2 , extending forward of the spindle and head, downward bends h^3 , backward bends h^4 , rests h^5 , and short arms h^6 , essentially as set forth.

2. In a velocipede-saddle-supporting mechanism, an improved independent bifurcated vertical-action backward-extending rear spring, K, of round steel rod or wire formed to a loop, k , for attachment to the saddle-piece, and further constructed with backward arms k^1 , downward bends k^2 , forward arms k^3 , and with the ends k^4 , held in a movable clip-piece, as P, essentially as set forth.

3. An improved velocipede-saddle mechanism consisting in a flexile seat, E, loop F, a saddle-piece, G, a bifurcated vertical-action front spring, H, of round wire, extending forward of the spindle and head and supported by a pin, C, in the neck, and an independent bifurcated vertical-action rear spring, K, of round wire bent with nearly-parallel backward-extending arms held in a movable clip, as P P', on a perch, A, essentially as set forth.

JNO. KNOUS.

Witnesses:

DAVID J. POST,
EDWIN S. HOUSE.