

(No Model.)

C. KRAMER.
VELOCIPÈDE.

No. 421,100.

Patented Feb. 11, 1890.

FIG. I.

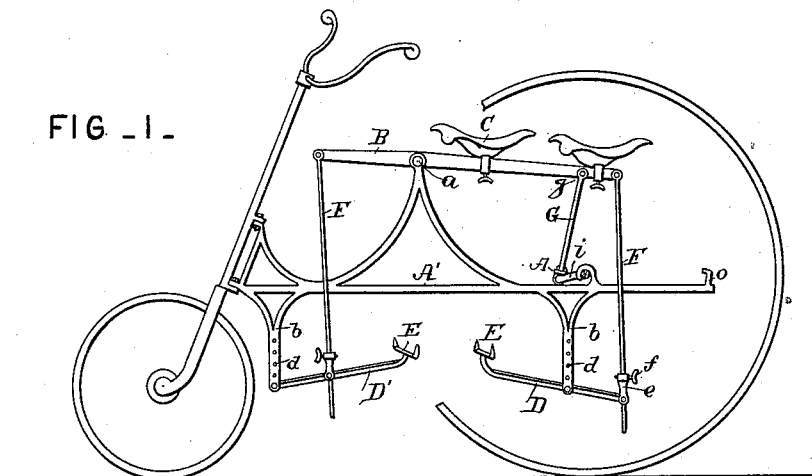


FIG. II.

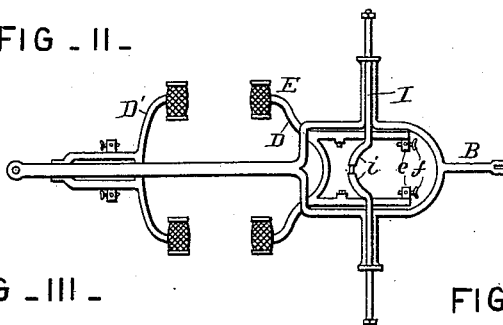


FIG. III.

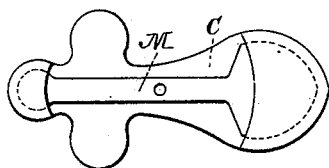


FIG. IV.

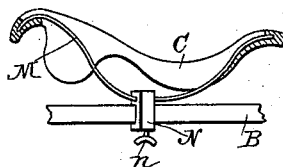


FIG. V.

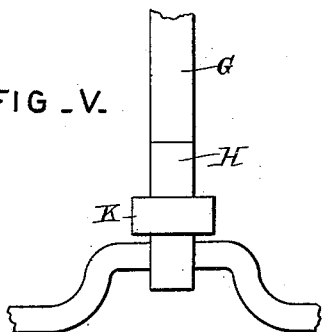


FIG. VII.

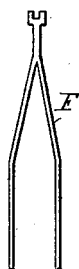
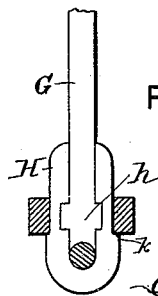


FIG. VI.



Attest:

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UNITED STATES PATENT OFFICE.

CAMILLO KRAMER, OF ALBANY, NEW YORK.

VELOCIPED.

SPECIFICATION forming part of Letters Patent No. 421,100, dated February 11, 1890.

Application filed June 19, 1889. Serial No. 314,790. (No model.)

To all whom it may concern:

Be it known that I, CAMILLO KRAMER, of Albany, in the county of Albany and State of New York, have invented a new and useful Improvement in Velocipedes, which improvement is fully set forth in the following specification.

This invention relates to improvements in velocipedes, and particularly to that class of velocipede in which motion is imparted to the driving-axle from a beam or lever on which the saddle is mounted. A velocipede of this type is described in my patent, No. 361,530, dated April 19, 1889.

The object of the present invention is to simplify the construction of such a vehicle and to attain greater ease in running, so that the machine may be propelled with a uniform motion by the minimum exertion on the part of the rider or riders.

In order that the invention may be fully understood, I will describe the same in connection with the accompanying drawings, in which—

Figure I is a side elevation of a velocipede constructed in accordance with the invention; Fig. II, a plan view of the parts below the saddle-beam. Figs. III and IV are detail views of the saddle; Figs. V and VI, details of the driving-pitman and devices for connecting it with the crank, and Fig. VII a detail of one of the links.

A represents the frame; B, the saddle-beam, pivoted to the frame at *a* and carrying the saddles C C. The treadles D D' are pivoted to depending arms *b* of the frame A, these arms being provided with a series of bolt-holes *d*, so that the treadles can be adjusted to suit the rider. The treadles D carry at their ends the foot-rests E.

F F are links connecting the treadles D D' with the front and rear ends, respectively, of the saddle-beam B. The construction of these links is shown in Fig. VII.

The rear portion of treadle D is, as shown in Fig. II, a rectangular frame. To the sides of this frame are fixed sockets *e*, provided with set-screws *f*. The two members of link F are inserted in these sockets and secured therein by the set-screws *f*, making an adjustable connection. Treadle D' is similarly

connected with the saddle-beam. G is a pitman pivoted to the saddle-beam at *g*, and connected at its lower end with the crank *i* of the driving-axle I. The devices for making this connection are illustrated in Figs. V and VI. Pitman G has near its lower end square shoulders *h*. A locking-clamp H has in its sides notches corresponding in shape with these shoulders. This clamp is passed under the crank *i* and either sprung over the end of pitman G or moved sidewise until the shoulders *h* enter the notches in the clamps; as shown in Fig. VI, and lock the latter. A holding-loop K is now slipped down over the clamp, resting on the shoulder *k* of the latter, and prevents its detachment. It will be seen that the pitman can be disconnected from the driving-axle with great facility if occasion should require.

The saddle consists simply of a steel spring M and a leather seat C. The latter is cut shorter than the spring, so that the spring is drawn up in a bow, as shown in Fig. IV, when the leather seat is secured to its extremities, which are slipped into pockets formed on the under side of the leather seat. This construction produces a saddle of great elasticity and permits the ready disengagement of the seat and supporting-spring.

The spring M is secured at about the middle to a slotted sliding-block N, which is movable horizontally on saddle-beam B and secured in any desired position by set-screw *n*.

The saddle-beam may be of any length within practical limits, and more than two saddles may be mounted thereon for the accommodation of a greater number of riders.

At the end of frame A is a hook *o* (or it may be simply a hole with bolts) for the attachment of another vehicle, such as a velocipede similar to that described, but without a front wheel and steering-rod. A number of machines may be thus connected and driven with comparatively small power, as each would have one less wheel than if used singly.

If desired, the rear foot-rest and saddle may be turned backward.

It will be observed that while one of the treadles D is a lever of the first class the other D' is a lever of the second class. Con-

sequently, both treadles as they descend tend to raise the saddle-beam B at the rear, and as they ascend to raise it at the front end. By this construction considerable power is
5 gained. These two treadles may be connected so as to be operated by one rider; but it is obvious that either may be used alone to drive the velocipede when used by a single rider.

10 Modifications may be made in the details of construction and arrangements of the parts without departing from the principle of the invention.

I claim—

15 1. In a velocipede, the combination, with a supporting-frame, of a saddle-beam pivoted thereto and connected with the driving-axle, and two treadles pivoted to said frame and connected with said saddle-beam on opposite
20 sides, respectively, of its fulcrum, substantially as described.

2. The combination of the frame, the saddle-beam, connections for imparting motion from the latter to the driving-axle, a pivoted treadle, and a link adjustably connected with
25 said treadle and saddle-beam, substantially as described.

3. The combination of the oscillating saddle-beam for driving the main axle, the pivoted treadle adjustable vertically on said
30 frame, and the link connecting said treadle and saddle-beam, substantially as described.

4. The combination of the pivoted saddle-beam connected with the driving-axle, as specified, the two treadles pivoted in the frame, one being a lever of the first class and the
35 other a lever of the second class, and the links connecting said treadles respectively with opposite ends of said saddle-beam, substantially as described.

5. The combination, with the oscillating
40 saddle-beam and driving-axle, of the pitman for driving the latter from the former, and the locking-clamp and holding-loop for detachably connecting said parts, substantially
45 as described.

6. The combination, with the driving-axle and its crank, of the pitman having shoulders near the end that connects with said
crank, the locking-clamp passing under said
crank and having notches for the engage-
50 ment of said shoulders, and the holding-loop surrounding said clamp and pitman, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscrib-
55 ing witnesses.

CAMILLO KRAMER.

Witnesses:

CHARLES J. KRANK,
CHARLES OBERLE.