(No Model.) 2 Sheets—Sheet 1.

R. J. FLEISCHER.

VELOCIPEDE.

No. 439,395. Patented Oct. 28, 1890.

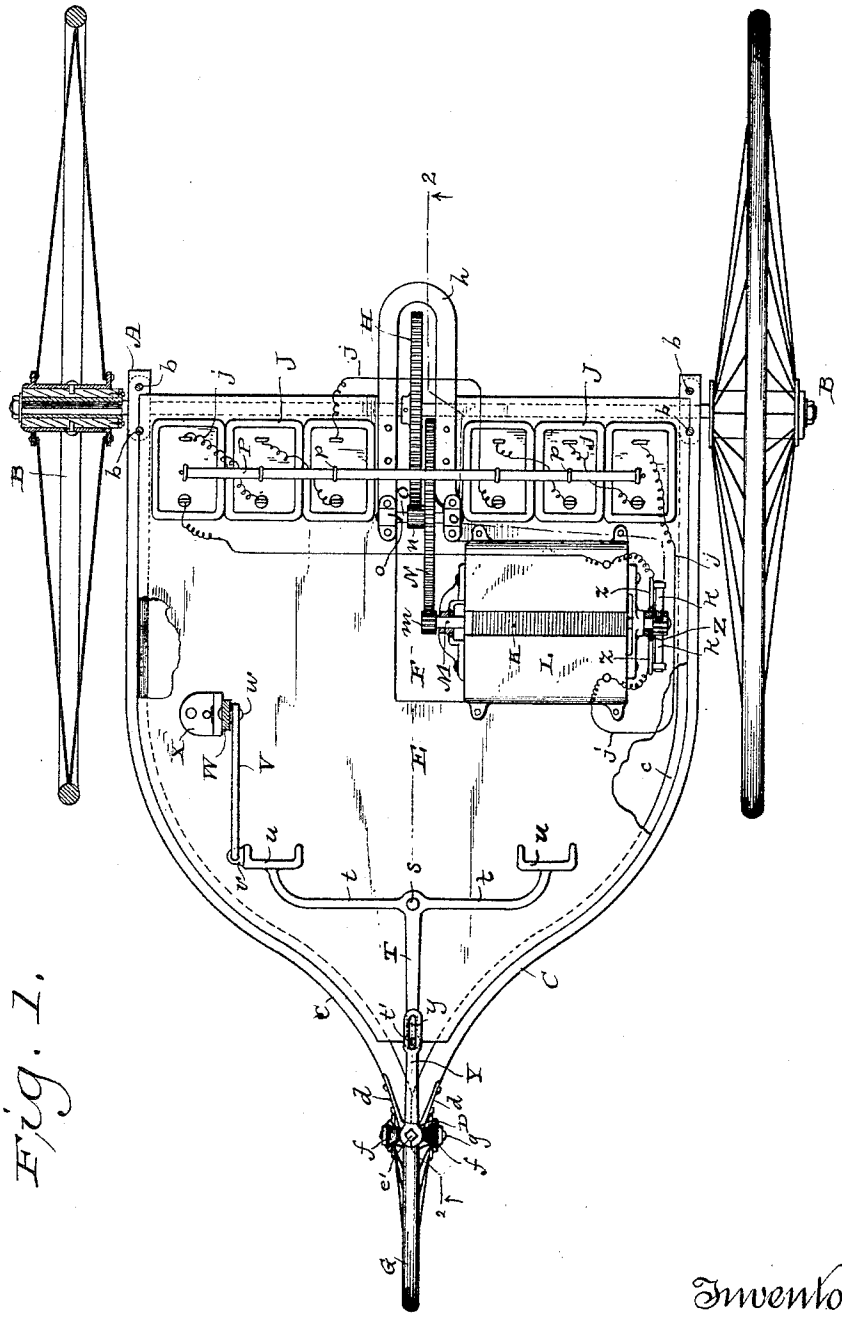


Fig. 1.

Witnesses
Geo. W. Young.
Wm. Klug.

Inventor
Richard J. Fleischer
By N. G. Underwood
Attorney

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.) 2 Sheets—Sheet 2.

R. J. FLEISCHER.

VELOCIPEDE.

No. 439,395. Patented Oct. 28, 1890.

Fig. 2.

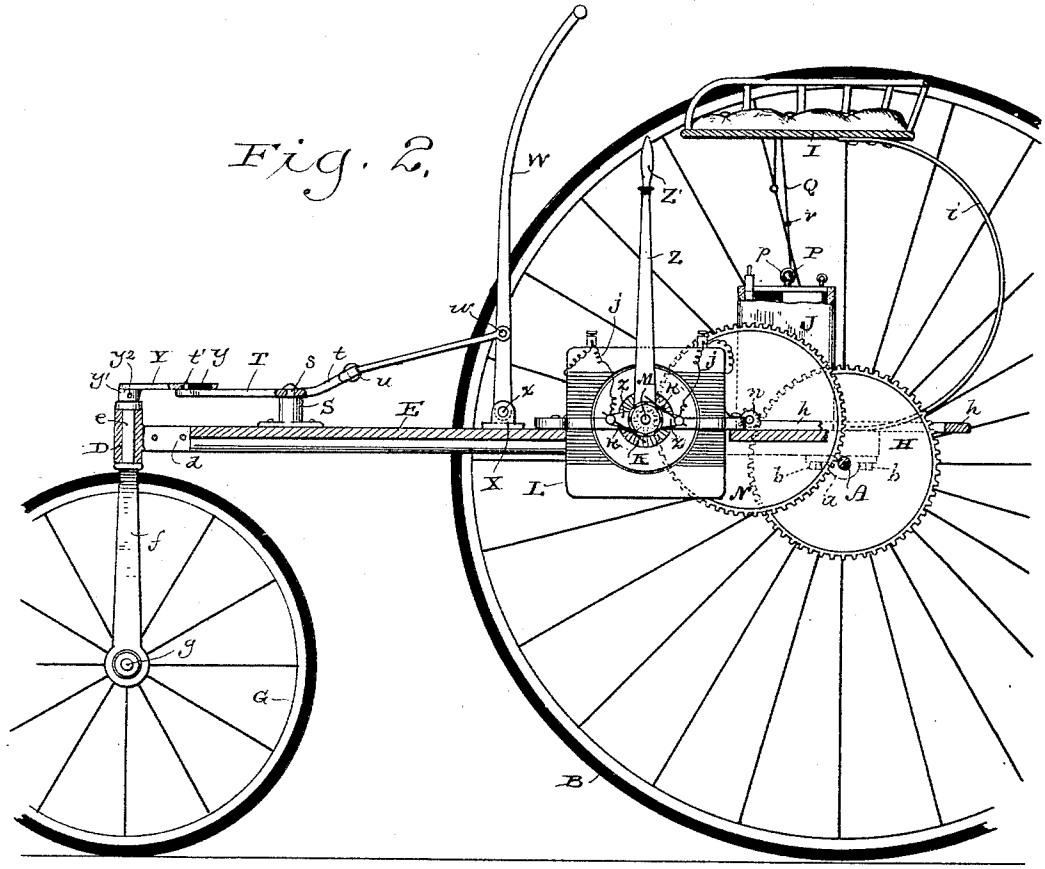


Fig. 4.

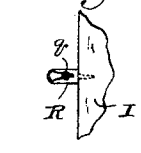
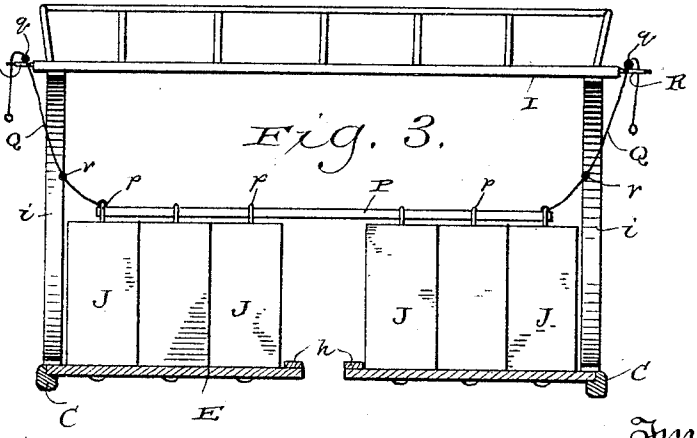


Fig. 3.



Witnesses
Geo. W. Young.
Wm. Klug

Inventor
Richard J. Fleischer
By H. G. Underwood
Attorney

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

RICHARD J. FLEISCHER, OF TISCH MILLS, WISCONSIN, ASSIGNOR OF TWO-THIRDS TO ANTON LANGENKAMP AND CHARLES DEDERICH, BOTH OF SAME PLACE.

VELOCIPEDE.

SPECIFICATION forming part of Letters Patent No. 439,395, dated October 28, 1890.

Application filed March 21, 1890. Serial No. 344,707. (No model.)

To all whom it may concern:

Be it known that I, RICHARD J. FLEISCHER, of Tisch Mills, in the county of Manitowoc, and in the State of Wisconsin, have invented certain new and useful Improvements in Velocipedes; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to velocipedes; and it consists in certain peculiarities of construction, whereby the same are designed to be operated by electricity, as hereinafter set forth and subsequently claimed.

In the drawings, Figure 1 is a plan view of my improved device with portions broken away and in section to better illustrate details of construction. Fig. 2 is a longitudinal vertical section on the line 2 2 of Fig. 1. Fig. 3 is a detail elevation of the seat and battery-cells, showing also the means of simultaneously rendering all the cells temporarily inoperative; and Fig. 4 is a detail of the attachment to the seat for this last-named purpose.

A represents the axle of my velocipede, and B B the main wheels, of any preferred construction, attached to said axle in any convenient and suitable manner.

C C are bent side frames, (preferably grooved or rabbeted along their inner side edges, as shown at *c*,) whose rear ends rest on said axle A and are secured thereto, as by cap *a* (shown in dotted lines) and screw-bolts *b b* and nuts. The front ends of the side pieces C C are joined together at the front by the strips *d d* of a vertical bearing D, which receives the vertical spindle *e*, attached to the fork or spanners *f f*, which carry the axle *g* of the front or steering wheel G.

E is the platform or flooring of the velocipede, the side edges of the same being preferably received within the groove or rabbet *c* of the side frames C, and said platform being preferably cut out or recessed at the rear, as shown at F. The rear or main axle A carries, preferably at its center, a gear-wheel H, moving partly in the slot F, the edges of this slot being preferably protected at the rear end by a band *h*, which projects back of the platform and also protects the rear edge of said wheel H. On each side of said slot F and conveniently out of the way beneath the seat I (which latter is supported, as shown, on spring seat-supports *i i*) are a series (six being shown as a convenient number, but the number being more or less, if required) of galvanic cells or generators J J, electrically connected by wires *j j* to the brushes *k k* of a commutator K, forming part of an electric motor L, suitably supported on said platform E, the shaft M, projecting from the opposite end of said motor L, carrying a toothed pinion *m*, in mesh with a gear-wheel N, whose journal O is mounted in suitable bearings *o o* at about the front end of the band *h*, said wheel N projecting down through the described slot F in the platform E and the hub of said wheel N having fast therewith a toothed pinion *n*, in mesh with the hereinbefore-described gear-wheel H.

P is a transverse rod extending across the tops of the cells J J and connected to the upper ends of one of the metallic plates *p* in each cell, the ends of this rod P having cords, wires, or chains Q, provided at the proper distances apart with balls or other catches *q r*, and passing through forked pins or lugs R, projecting from the ends of the seat I, as best shown in Figs. 3 and 4, the object of this construction being to enable the bar P to be raised when the velocipede is not in use, withdrawing the metallic plates *p* from their cells, so that the batteries may not be needlessly wasted, the balls or catches *r* being caught over the slot or split in the pins R and the bar P and its connected plates being thereby suspended, free from the contact of the latter with the liquid in said cells until such time as the velocipede is to be again used, when the said rod and plates can be readily lowered and the balls or catches *q* on the cords Q restored to the position shown in Fig. 3.

I will next describe the steering device. S is a step or vertical bearing on the front part of the platform E to receive the pivot *s* of a forked or T-shaped lever T, whose rear branches *t t* end in convenient open stirrups or foot-rests *u u*, one of which has a perforated lug *v* projecting therefrom to receive one end of a link V, whose other end is pivoted, as shown at *w*, to a hand steering-lever

W, which in turn is pivoted, as shown x, to a stud or bracket X on the platform E. The forward end of the lever T has a vertical pin t', which is received in a slot y in the adjacent end of a bar Y, whose other end has a square perforation therethrough and through its depending collar y' to receive the squared top e' of the vertical spindle e, to which it is secured, as by a pin y^2. Z is a lever having a suitably-insulated handle Z′ and mounted on the shaft M of the electric motor L and having projecting arms z z, to which the commutator-brushes k k are secured.

The operation of my device will be readily understood from the foregoing description of its construction, taken in connection with the accompanying drawings. All that is necessary to operate the device is to bring the electric brushes k k in proper relation to the commutator-disk of the motor, as shown in Fig. 1, which is done by a simple movement of the lever Z, and by reversing the position of said brushes (by a similar slight movement of said lever) the velocipede will travel backward, while to stop the same it is only necessary to throw the brushes on the electrical dead-center of the motor-shaft. To guide or steer the same, either the hand-lever W or the foot-lever T, or both, may be employed, as most convenient, and thus the machine is at all times under perfect control of the rider.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a velocipede, the combination, with a frame or platform carrying forked pins or lugs, of a series of galvanic cells or generators and an electromotor on said frame or platform, a lever for varying the position of the brushes of said motor, a transverse rod extending across the tops of the cells and connected to the upper ends of one of the metallic plates in each cell, and flexible connections connected to the ends of the rod and provided with enlargements or clutches to engage the forked pins or lugs, substantially as set forth.

2. In a velocipede, the combination, with the frame or platform and steering-wheel, of a fork or spanners straddling the latter and terminating in a vertical spindle having its bearing at the front end of said frame or platform, a step or bearing on the latter, a foot-lever pivoted thereto, having rear branches ending in stirrups or foot-rests, and a front arm provided with a vertical pin, a bar secured at its front end to the top of the said vertical spindle and having a slotted rear end in engagement with the said pin on the foot-lever, a hand-lever pivoted to said frame or platform, and a link pivoted to said hand-lever and to one of the branches of the said foot-lever, substantially as set forth.

3. In a velocipede, the combination, with a frame or platform and a seat rising therefrom, of a series of galvanic cells or generators, and an electric motor on said frame or platform, electrically connected, forked pins or lugs projecting from the said seat, a transverse rod extending across the tops of said cells and connected to the upper ends of one of the metallic plates in each cell, and cords, wires, or chains connected to the ends of said rod and provided with balls or other clutches at the proper distance apart for engagement with the said forked pins or lugs, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand, at Tisch Mills, in the county of Manitowoc and State of Wisconsin, in the presence of two witnesses.

RICHARD J. FLEISCHER.

Witnesses:
NELS M. KNUDSON,
CHARLES MARSHALEK.