

L. E. DUGAS.

Velocipede.

No. 89,744.

Patented May 4, 1869.

Fig. 1.

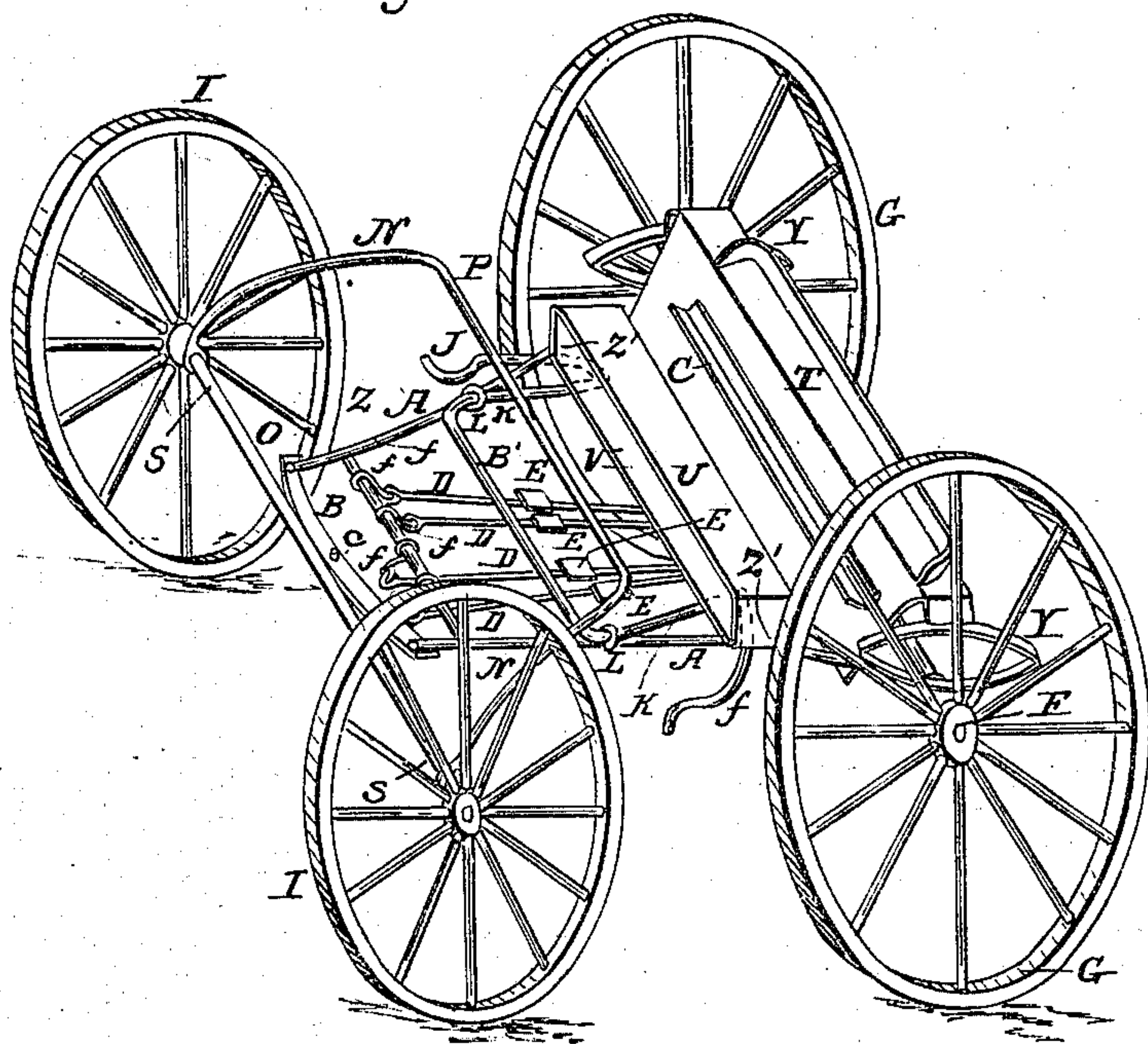
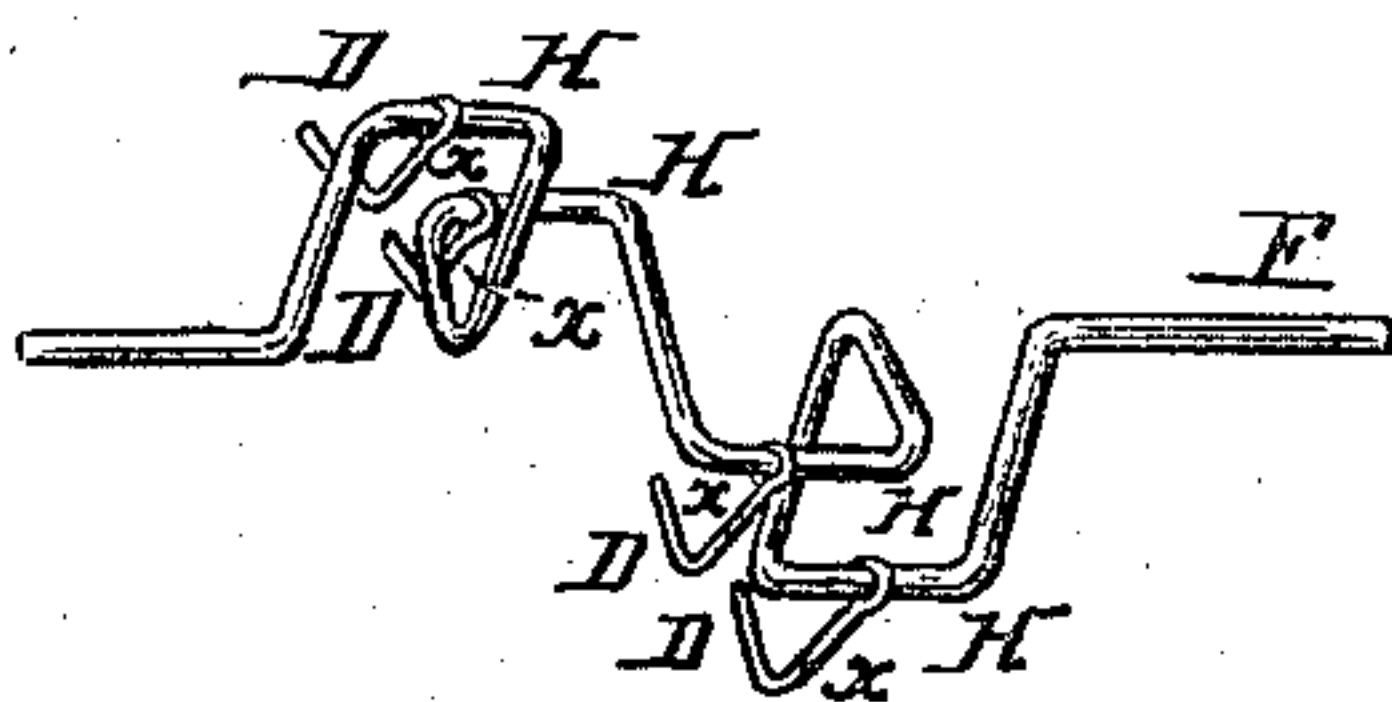


Fig. 2.



Witnesses:

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Inventor:

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United States Patent Office.

L. E. DUGAS, OF WARREN, ILLINOIS.

Letters Patent No. 89,744, dated May 4, 1869.

IMPROVED VELOCIPEDE.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, L. E. DUGAS, of Warren, in the county of Jo Daviess, and State of Illinois, have invented an Improved Velocipede; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and letters marked thereon, making a part of this description, in which—

Figure 1 is a perspective representation of my invention.

Figure 2, a perspective representation of the crank-axle removed from the wheels.

The nature of the present invention consists in the novel construction and application of treadles to a four-wheeled velocipede, and the arrangement of the brake and steering-device, whereby persons are enabled to occupy a convenient seat, readily apply the propelling-force, and control the velocipede, as the whole is hereinafter fully shown.

I I O are the forward wheels and their axle, and G G the hind wheels, which may have any ordinary construction most convenient.

The axle F, fig. 2, of the hind wheels, has cranks H formed on it, corresponding in number to the number of treadles, D, fig. 1, by means of which it is turned.

These treadles, at their rear ends, have short elbows, *z*, bent upward, and hooked around the cranks, and at their forward ends they are connected with a cross-bar, Z, by means of hooks *f f*, &c.

By means of this arrangement, the treadles are brought down to a suitable position for the operator to conveniently reach them with the feet, while at the same time the treadles have an easy lateral motion, which enables the feet to retain their position on the foot-pieces E, notwithstanding the road be rough and sideling.

The frame which holds the axles in position consists

of two light bars of steel or iron, A, which are fastened to the crank-axle F near the wheels G, and to a curved bolster, B, which is pivoted to the axle O in the usual manner.

If it is desirable to make the frame very light, and yet strong, gas-pipes may be substituted for the bars A.

The steering-device consists of a metal bail, P, which has its arms N so formed as to loop around the axle O, and allow the bail to be raised or lowered, as the case may require.

The brake consists of two levers, J, which are pivoted to the under side of a spring-seat, U V, attached to the bars A, and also to the ends of arms K, of a draw-bar, B, which are arranged to slide through guide-loops L, rigidly fastened to the bars A.

A seat, T, is placed on springs Y, bearing on the crank-axle F, and so balanced as properly to equalize the weight to be carried on the wheels, in addition to the operator's.

Operation.

Two persons are to occupy the seat U, place their feet on the treadles D, at E, and alternately work them up and down, while at the same time the steering-device P should be grasped with the hands, and swung to the right or left, as the case may require, to guide the velocipede.

The brake J J is operated by simply pushing against the rod B' with the foot.

Having thus described my invention,

What I claim, and desire to secure by Letters Patent of the United States, is—

The combination of the suspended treadles D E, crank-shaft F H, seats U T, brake J J, rod B', bars A A, bar Z, bail N P, and bolster B, as described.

Witnesses:

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