R. E. LOWE.

Velocipede.

No. 99,096. Patented Jan. 25, 1870.

Fig. 1

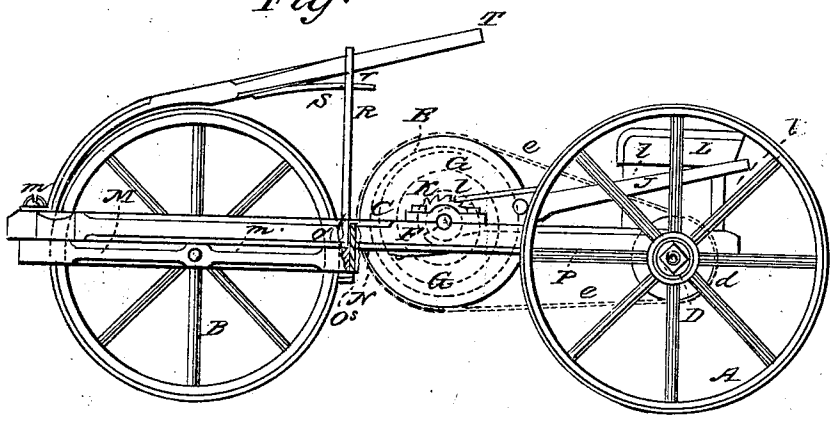
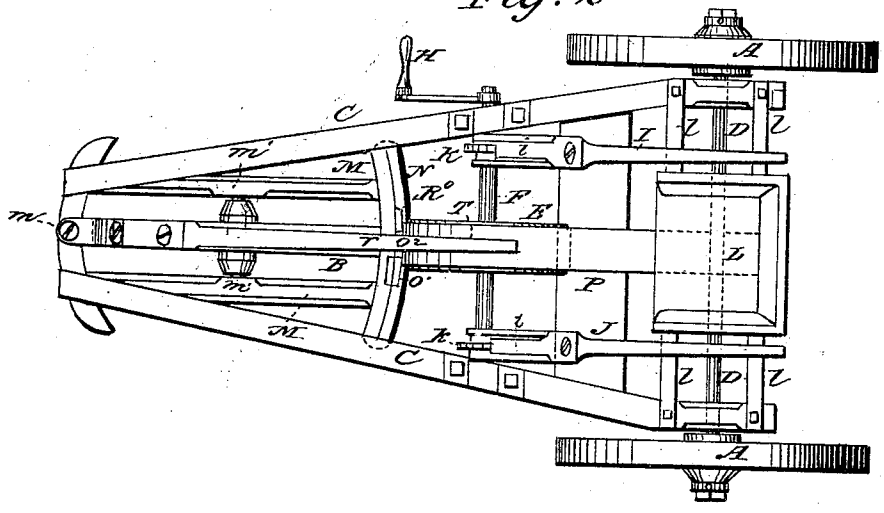


Fig. 2



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Letters Patent No. 99,096, *dated January* 25, 1870; *antedated January* 9, 1870.

IMPROVEMENT IN VELOCIPEDES.

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, R. E. LOWE, of Upper Alton, in the county of Madison, and State of Illinois, have invented a new and improved Velocipede; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a longitudinal vertical section.

Figure 2 is a top view.

The object of this invention is to provide for the public a velocipede more easily propelled and steered than any heretofore in use, and adapted to the use of ladies as well as gentlemen.

In the drawings—

A A indicate the rear wheels.

B, the forward or steering-wheels.

C, the frame, nearly in the form of an equilateral triangle, with its apex in front of the forward wheel.

D, the axle of the rear wheels.

d, a small pulley upon said axle.

E, a large driving pulley, mounted loosely on a shaft, F, which extends across the centre of the frame.

e, a belt, running from pulley E to pulley *d*, and communicating motion from the larger to the smaller pulley, and thereby to the wheels and whole carriage.

G, a spring within the large pulley E, connected at one end to said pulley, and at the other to the shaft F.

H, a crank, on the end of shaft F.

I J, two levers, bearing on the shaft F, and each provided with a pawl, *i*, which, as the levers are thrown forward, engages with a ratchet-wheel, K, on the shaft, and rotates the latter forward, but as the levers are thrown backward slips over the teeth of the ratchet without moving the shaft.

L, the carriage-seat, mounted on springs, *l l*, over the axle D.

P, a foot-rest, below and in front of the seat.

The steering-apparatus consists of a frame, M, pivoted at *m*, so as to swing horizontally from side to side, and supporting the forward wheel B, the trunnions of which bear in it at *m' m'*.

The rear end of this frame is provided with three friction-rollers, *o* o^1 o^2, two of which travel in contact with the upper side, and one in contact with the under side of a curved supporting bar, N.

R is a standard, projecting up from the rear end of the swinging frame, and provided with an opening, *r*, in its upper end, through which extends the handle of the brake T.

S is a spring, which holds the brake away from the wheels when its services are not needed.

This completes the description of my improved velocipede. I might add, however, that the velocity of shaft F may be increased by the proper gearing either in connection with the ratchets or not, as might be preferred.

Instead of the hand-levers I J, pedals, double cranks, or other suitable apparatus might be provided, working either in connection with the ratchets or not, as the means for giving motion to the shaft by the driver's foot.

The pulleys, too, may be placed at one side of the apparatus, if desired, in order to better adapt the device for ladies' use.

The spring G may be made in sections, and placed either inside or outside of the pulley.

And, finally, the belt *e* might be exchanged for cog-gearing, if preferred.

I do not desire to limit myself to the precise construction and arrangement of the parts shown, but to be at liberty to vary them within reasonable limits, so long as I confine myself to the general principles of the machine herein described.

The advantages of my improved velocipede are many and obvious.

It is adapted to the use of either sex. It is moved by the power stored up in the spring, instead of by the direct impulse of the hand or foot upon the driving-shaft, in consequence of which its motion is even and uniform. By means of the crank, power can be stored up before starting, if desired, which will last for a considerable time. It will in fact be generally best to give the crank a few turns before mounting the carriage, in which case the vehicle will start off automatically.

Again, the pivoting of the frame M at its forward end, upon the vertical pin *m*, has the effect to cause the wheel B to run, like a caster-wheel, always in line with the direction in which the carriage is moving. This renders it unnecessary for the driver to give any attention to the steering-apparatus, except when it is necessary to change the direction of the velocipede.

The rollers *o* o^1 o^2 and traveller N support the frame M, and guide it in swinging from side to side.

The handle T is employed not only for the purpose of applying the brakes, but also of swinging the frame M upon its pivot. The driver need not, therefore, remove his hand from the steering-apparatus in order to apply the brakes.

The whole apparatus is light, compact, and simple, in construction and operation, and can be built at very little cost.

Having thus described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination and arrangement, in a velocipede, of the coiled spring G, pulley E, shaft F, levers I J, pawls *i i*, ratchet-wheels K K, belt *e*, and pulley

d, or their equivalents, when applied and operating in the manner and for the purposes described.

2. The swinging frame M, pivoted at its forward end and supporting the guide-wheel B, when used in connection with a velocipede, substantially as and for the purpose set forth.

3. In a velocipede, the employment of the curved traveller bar N and rollers o o^1 o^2, in connection with the swinging frame M, substantially as and for the purpose described.

4. The arrangement of the lever T, in connection with the wheel B, spring S, post R, and pivoted frame M, as herein described, whereby said lever is adapted either to swing the wheel on its pivot by a lateral pressure, or by a vertical pressure to retard the motion of the wheel, substantially as described.

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Witnesses:

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