

M. STAUDT.

Velocipede.

No. 112,646.

Patented March 14, 1870.

Fig. 1.

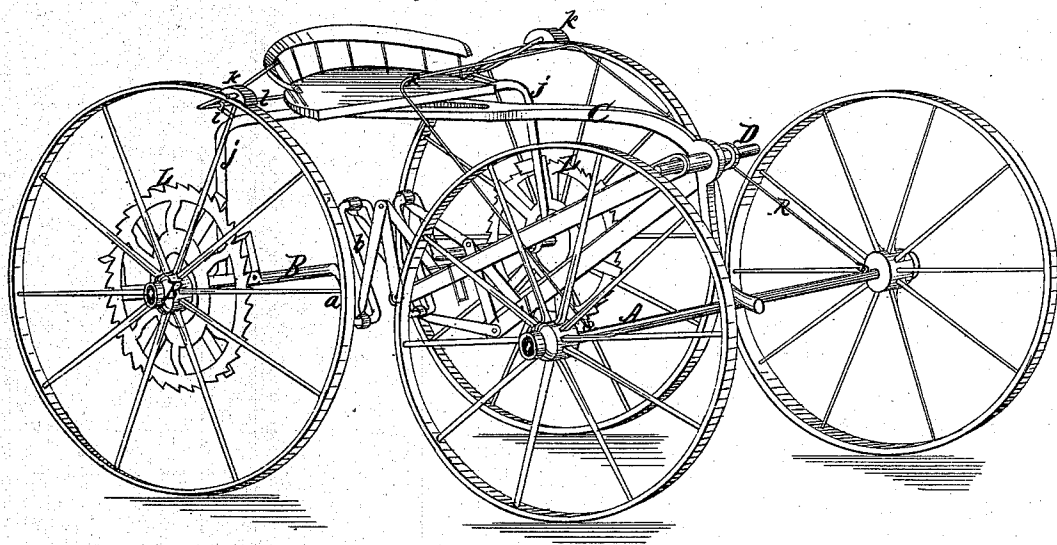


Fig. 2.

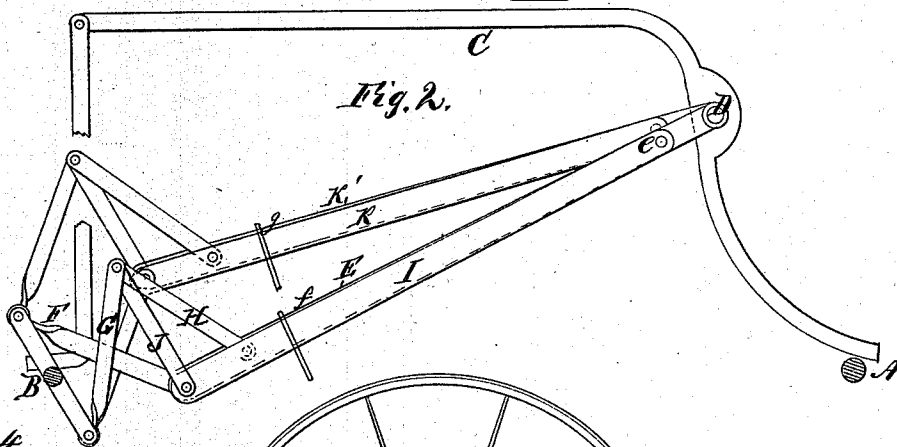


Fig. 3.

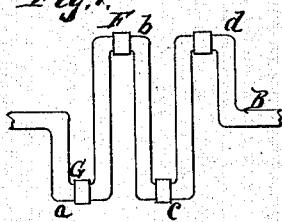
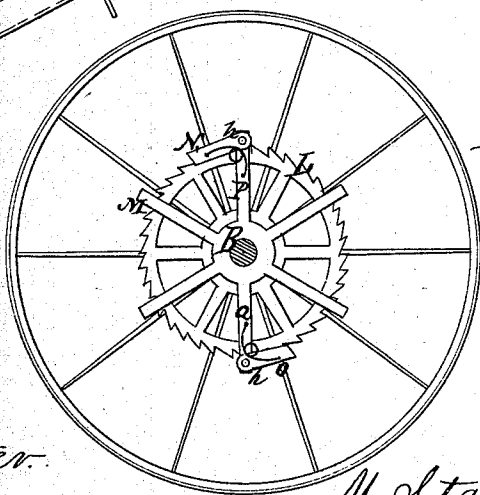


Fig. 3.



Witnesses:

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MANASSA STAUDT, OF SUMMIT HILL, PENNSYLVANIA.

Letters Patent No. 112,646, dated March 14, 1871.

IMPROVEMENT IN VELOCIPEDES.

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

I, MANASSA STAUDT, of Summit Hill, in the county of Carbon and State of Pennsylvania, have invented an Improved Treadle-Wagon, of which the following is a specification.

Nature and Object of the Invention.

The first part of the invention consists of two sets of foot-levers, placed on opposite sides of the wagon-pole, and vibrate on a pin in the head of the same; they are connected to a four-crank axle by means of links, as is hereinafter shown and described.

The second part of the invention relates to the combination of the rear wheels of the wagon with ratchet-wheels, pawls, and spider-wheels, whereby the said wagon-wheels are rotated.

Description of the Accompanying Drawing.

Figure 1 is a perspective view.

Figure 2 is a side view of the vibrating levers and links.

Figure 3 is an inside view of one of the rear wheels of the wagon, showing the ratchet-wheel, pawls, and the spider-wheel.

Figure 4 is a back view of the crank-axle.

General Description.

A and B are the axles of the wagon, and C the pole and seat-carrier of the same; the rear axle B has four cranks, *a b c d*, situated in the same plane, in pairs, on opposite sides of the axle.

D is a stud secured to and projecting both ways beyond the head of the pole.

E, fig. 2, is a vibrating lever which turns on the pin D; it is connected to the crank *b* by the link F, and to the crank *a* by the jointed links G H.

I is a lever which vibrates on a pin, *e*, of the lever E; it is connected to the jointed levers G H, at their intersection, by the links J, as shown at fig. 2. The upper and lower connecting links F and G connect with the cranks *b* and *a* on opposite sides of the axle, figs. 2 and 4.

On the opposite side of the pole C is a system of levers, *k k'*, and links, which are identical in construction and arrangement with the levers and links just described. The levers vibrate on the opposite end of the stud D, and operate through the medium of their

links, the remaining cranks *c d*; they are set and adjusted to lift and depress alternately with the levers E and I.

When pressure is applied to the foot-rests *f g* the levers E and I descend, as shown in fig. 2. The connecting-link G acts by thrusting or pushing its crank *a*, while the connecting-link F draws its crank *b* forward, which could not be accomplished except by the levers E and I vibrating, as shown, one on the pin D and the other on its fellow, whereby two motions and two pressures are produced at a time.

The system of levers and links on the opposite side of the pole C are operated precisely similar and produce like results.

L, fig. 3, is a ratchet-wheel on the inner side of each hind or rear wheel, fig. 1, and M is a pawl and spider-wheel, which turns with the axle B.

The pawls N and O on the arms P and Q of the spider-wheel take into the serrations or teeth of the wheel L, and are kept in place by the springs *h*, fig. 3.

The revolution of the spider-wheel with its axle carries with it the ratchet-wheel and its wagon-wheel. If the wagon should be turned backward, the resistance offered by the pivot-wheel would overcome the friction of the pawls on the ratchet-wheel and permit them to slide over without turning the pivot-wheel.

The rear end of the pole C is carried by a cross-bar, *i*, on the uprights *j*, from the axle B.

The hind wheels are controlled by the shoes *k k* on the cross-bar and pieces *l* at the back of the seat, fig. 1.

R is a steering-frame from the front axle A, controlled by the rider from his seat.

I claim as my invention—

1. The combination of the levers E and I, links F, G, H, and J, and the cross-bar or stud D with the cranks *a* and *b*.

2. The axle B, ratchet-wheel L, spider-wheel M, pawls N, and the springs *h*, in combination with the cranked axle A and its attendant wheel.

In testimony whereof I hereunto sign my name to this specification in presence of two subscribing witnesses.

MANASSA STAUDT.

Witnesses:

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