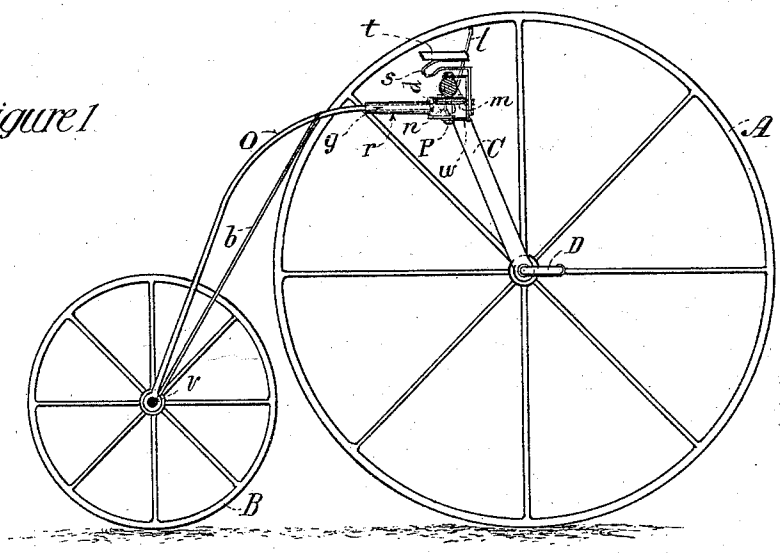
(No Model.)

C. W. HAYS.

VELOCIPEDE.

No. 280,927. Patented July 10, 1883.

Figure 1



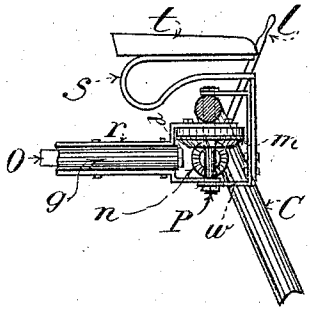


Fig. 3

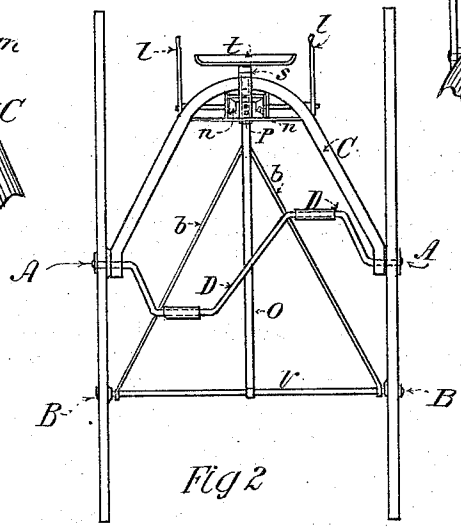


Fig 2

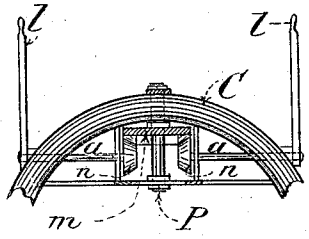


Fig. 4

Witnesses
John L. Reichenbach
Peter Binder

Inventor
Charles W. Hays
by his attorney
Thomas D. Mowbray

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

CHARLES W. HAYS, OF PHILADELPHIA, PENNSYLVANIA.

VELOCIPEDE.

SPECIFICATION forming part of Letters Patent No. 280,927, dated July 10, 1883.

Application filed March 24, 1883. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. HAYS, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Velocipedes; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to four-wheeled velocipedes; and the improvements consist in the peculiar manner of constructing same, as will be hereinafter described, and more particularly pointed out in the claims.

In the accompanying drawings, in which similar letters of reference indicate like parts, Figure 1 shows a longitudinal section of a velocipede containing my improvements. Fig. 2 is an end elevation. Figs. 3 and 4 are sectional views, showing the guiding-rigging, the location of the seat, and the means of connecting back and front wheels.

A A represent the two front wheels; B B, the hind and smaller wheels.

D D is the axle connecting the two front wheels. This axle is bent in the manner shown in Fig. 2, so as to form the pedals or cranks for propelling the velocipede.

U is the axle connecting the two hind wheels.

C is a curved support resting on the front axle, D, at either side thereof, and is inclined backward, as shown in Fig. 1.

O is the coupling-pole, which connects the front and hind parts of the velocipede.

g is a short tubular sleeve fitted over the upper end of the pole O.

d is a nut or collar on the end of the pole O, to prevent the pole from slipping backward out of the sleeve *g*.

r r is a forked iron frame-work secured at one end over the sleeve *g*.

P is a round iron bolt passing through the inclined support C and the forked frame *r*.

b b are braces passing from the hind axle, at either side thereof, and connecting with the coupling-pole O, thus giving stability and strength to the said pole.

m is a beveled cog-wheel secured rigidly to the under side of the forked iron frame *r r*. This cog-wheel has a central hole to allow the bolt P to pass through.

n n are two other beveled cog-wheels, smaller than the wheel *m* and geared into it on opposite sides, as shown in Fig. 4.

a a are two horizontal shafts, upon which are secured the beveled cog-wheel *n n*.

l l are two levers on opposite sides of the seat and attached to the shafts *a a*. The levers *l l* being moved back or forward by the rider, the motion is conveyed to the shafts *a a*, and through them to the beveled cog-wheels *n n* and *m*, and by this means the direction of the wheels A A is changed and the velocipede guided at will.

w is an iron frame-work extending from the top of the support C to the bottom of the forked frame *r*, for the purpose of strengthening the several parts.

t is the seat, secured to the spring *s*, which is fastened to the frame *w*.

In a velocipede constructed as herein described, the seat being secured on the front axle, the rider is always facing in the direction he is moving, and as he sits back of the pedals or cranks he is enabled to apply his full force with the least possible effort. The guiding-rigging is also simple and easily managed, while the swivel arrangement formed by the tubular sleeve *g*, passing over the end of the coupling-pole O, allows the hind wheels to adjust themselves readily to any unevenness in the road, and to pass over any ordinary obstruction without jolting the rider.

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

1. The double-crank axle D, in combination with the backward-inclined support C and coupling-pole O, said coupling-pole being free to rotate within the sleeve *g*, thus allowing the hind wheels to adjust themselves to uneven ground, substantially as and for the purpose described.

2. The backward-inclined support C, joined to the coupling-pole O, having the tubular sleeve *g*, in combination with the running-gears of a velocipede, substantially as shown and described.

3. The levers *l l*, shafts *a a*, beveled cog-wheels *n n*, and beveled cog-wheel *m*, bolted to the forked frame *r r*, in combination with the running-gears of a velocipede, substantially as and for the purpose described.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES W. HAYS.

Witnesses:

THOMAS D. MOWLDS,

FREDK. J. LAMBERT.