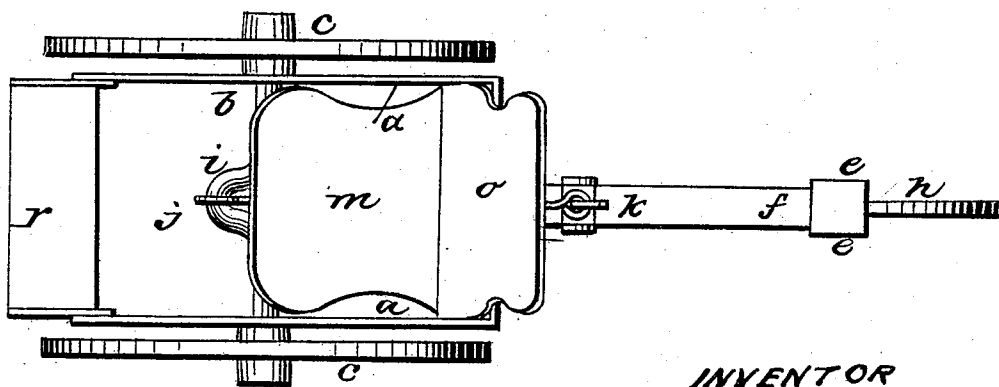
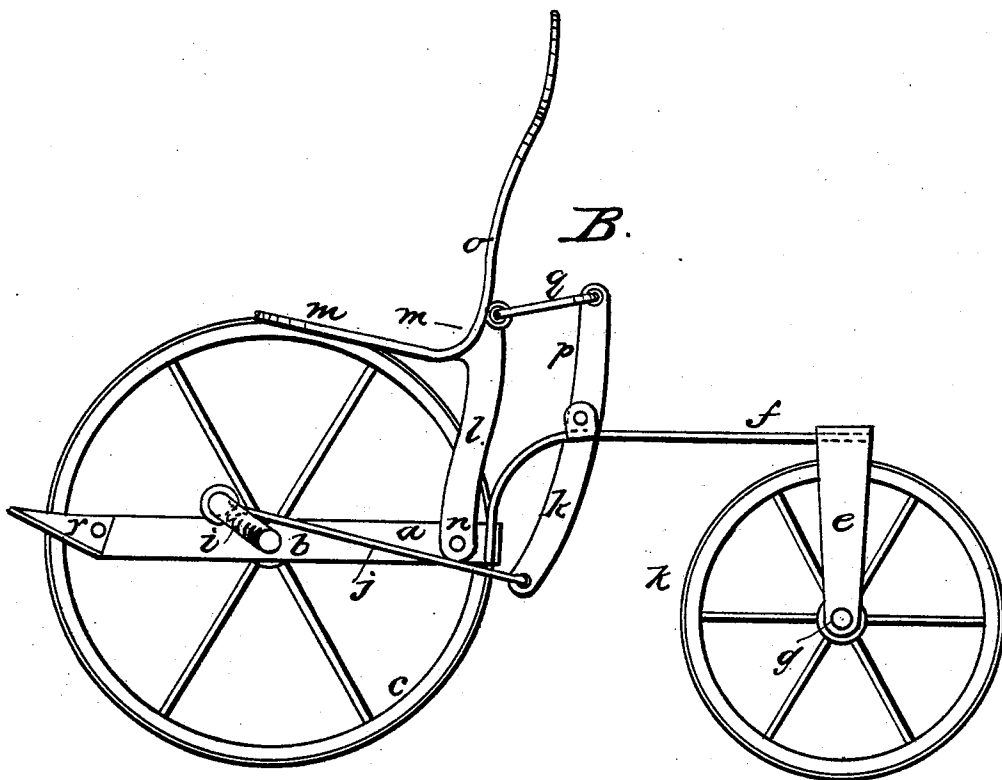


J. F. PIPER.

Velocipede.

No. 90,869.

Patented June 1, 1869.



WITNESSES

S. B. Kilder
M. W. Frothingham

INVENTOR

J. F. Piper.
By his Attys.
Croby, Halster & Gould

UNITED STATES PATENT OFFICE.

J. F. PIPER, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO HIMSELF AND C.
B. LINTON, OF SAME PLACE.

IMPROVEMENT IN VELOCIPEDES.

Specification forming part of Letters Patent No. 90,869, dated June 1, 1869.

To all whom it may concern:

Be it known that I, J. F. PIPER, of Boston, in the county of Suffolk and State of Massachusetts, have invented an Improved Chair-Velocipede; and I do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

My invention relates particularly to the construction of three or four wheeled velocipedes, with reference to provision for enabling the vehicle to be driven by simultaneous pressure of both feet aided by the weight of the rider sitting in a tilting chair or upon a seat to which a back is fixed.

The invention consists in combining a tilting chair, mounted upon a velocipede-frame, with a cranked wheel-carrying axle by means of a lever, one arm of which is connected to the chair-back, and the other arm to the axle-crank, the carriage-frame being provided with a foot-board or brace, against which the rider presses with his feet in straightening his legs to tip the chair in one direction, the momentum acquired by the wheels and the weight of the rider operating to tip the seat in the opposite direction, thus effecting continuous rotation of the crank-axle and its wheels, and consequent progress of the machine.

The drawings represent a velocipede embodying the invention.

A shows a plan of the vehicle; B, a sectional elevation thereof.

a denotes the carriage-frame, supporting an axle, *b*, upon the opposite ends of which are fixed two wheels, *c* *e*, and between jaws *e*, depending from a reach, *f*, is an axle-pin, *g*, upon or with which turns the rear wheel *h*. At the center of the axle *b* is a bell-crank, *i*, to which is connected by a link, *j*, one end of a vertical lever, *k*, fulcrumed in the perch or reach *f*, as seen at B.

To the frame *a*, just in front of the perch *f*, legs *l*, depending from the rear side of a chair, *m*, are jointed by a cross-pin or pivot-rod, *n*, this chair having a seat, *m*, and a back, *o*, and tipping freely on the rod *n*. The arm of the lever *k*, to which the axle-crank is jointed,

extends below the perch, and extending above the perch is the other arm, *p*, of the lever, to the end of which is jointed a link, *q*, which connects the lever to the chair or chair-back, as seen at B. At the front end of the frame *a* is a cross-piece, *r*, for the feet of the rider, this cross-piece being made adjustable in position, or so as to tip if desirable.

The rider sitting upon the seat *m*, with his feet upon the foot-brace *r*, leans back, and by pressing his feet against the foot-brace and straightening his legs, tips back the chair, throwing back the upper end of the lever *k*, and the lower end thereof forward, and by the connection of the lever with the crank *i*, partially turns the crank, as will be readily understood.

The movement imparted to the crank being sufficient to carry it over the dead-center, the rider next relaxes the pressure of his feet and leans slightly forward in the chair, which position will cause his weight to tip down the chair-seat, thus tipping the lever in the opposite direction, and this alternate or rocking movement of the chair being kept up, the lever *k* will impart a continuous rotative movement to the cranked axle and its wheels, as will be readily understood. The details of construction may be materially modified from those shown, the essential features of the invention embracing the tipping seat and its back, the lever, and the connections of the opposite ends of the lever to the axle-crank and to the chair-back.

It will readily be seen that by means of the tilting chair-back and the foot-brace, a great force can be very easily exerted by a rider seated in the chair to tilt back the seat as he straightens his legs, his feet pressing against the foot-brace, the power thus exerted being transmitted through the lever and its connections to the axle. The force of both feet or legs can be exerted simultaneously, the sitting position of the rider is an easy and natural one, and the force expended is much more readily and easily applied than in propelling axle-cranks or pedals from a perch-bestriding position.

My improved velocipede is particularly adapted to women and to children. It is not

expensive in its construction, can readily be made enduring, and is neat in appearance, and stands alone.

The construction shows a single follower-wheel, but it will readily be understood that a pair of rear wheels may be used.

The rear wheel is to be arranged in any suitable manner to turn with reference to a vertical axis or axial line for steering purposes.

I do not claim a rocker-seat connected to the rear axle by a single link; but

I claim—

In a velocipede propelled by the rocking of the rider's chair or seat, and having its guide wheel or wheels in the rear of the seat, the arrangement of the seat, perch *f*, rock-lever *k*, and links *g* and *j*, relatively to each other and to the wheels, substantially as shown and described.

J. F. PIPER.

Witnesses:

J. B. CROSBY,
FRANCIS GOULD.