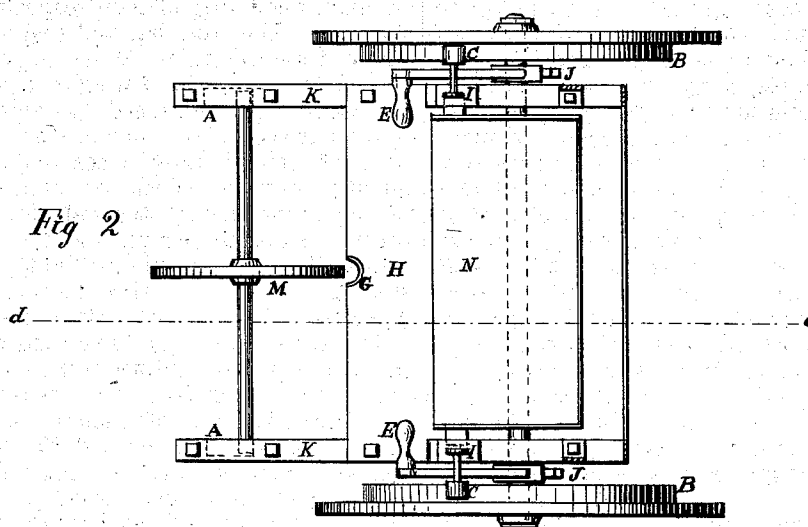
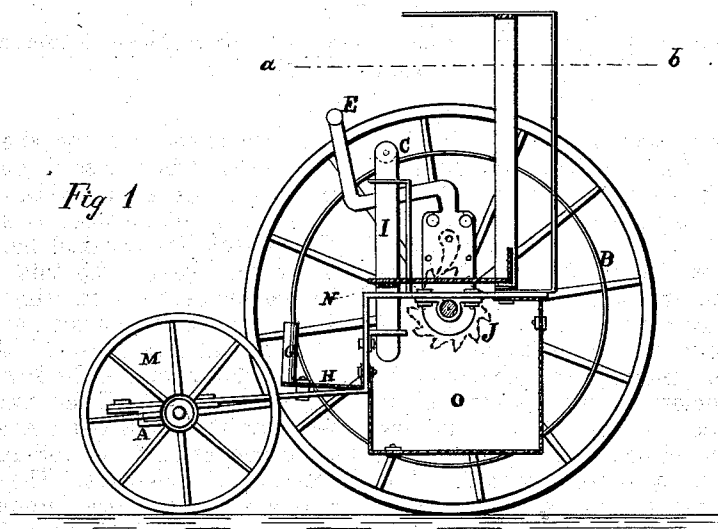


W. BUSH.
Velocipedes.

No. 155,569.

Patented Oct. 6, 1874.



Witnesses:

August 26th
Wm. H. Barnum

Inventor

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UNITED STATES PATENT OFFICE.

WILLIAM BUSH, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN VELOCIPEDES.

Specification forming part of Letters Patent No. **155,569**, dated October 6, 1874; application filed January 12, 1874.

To all whom it may concern:

Be it known that I, WILLIAM BUSH, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in a Class of Vehicles known as Locomotors or Velocipedes, of which the following is a specification:

My present invention relates to improvements in the method of propelling and guiding, and in the general arrangement of, velocipedes or locomotors; and has for its object the production of vehicles of this class more easy of control and more complete and efficient than those at present existing. I accomplish these results by providing means whereby the vehicle may be easily propelled, and the weight of the person driving, or other weight, is made to assist in propelling such vehicle or of itself to start the same, means whereby the vehicle will, of itself, keep a straight course, or be easily guided to the right or to the left, if desired, and means whereby any person, male or female, may, with propriety, ride upon such vehicle, carry a number of bundles or packages, and have the clothing protected from dust and mud, all with economy of space and under a neat and concise arrangement. The vehicle to which my improvements relate is a three-wheeled one, having one wheel in front and two wheels in the rear rigidly attached to the axle, so that both must turn with it and together. It may be provided with adjustable top and rear cover to be detached *ad libitum*. The rear wheels are about twice as large as the front wheel, to cause the vehicle to move easily up hill. The frame rests on the axles, front and rear, and the hind axle turns in two stationary boxes attached below on the frame. Elastic springs may be adjusted under the seat.

In the accompanying drawings, and forming part of my specification, and in which Figure 1 is a vertical section, Fig. 2 a plan view, B B are rims of wood or light metal fastened on the inside of the spokes of the rear wheels. Said rims are of a less diameter than the wheels, and are so constructed and attached as to leave an equal margin. They should have smooth outer surfaces. Upon these rims press the smooth rollers C C. Said rollers are attached to vertical bars I I, which are

placed between the rear wheels in front of the rear axle. They pass through apertures in the frame, and are so wide apart as to allow a person to sit between them. A cross-bar, N, connects the vertical bars below, a little above the frame. To this cross-bar is attached the seat, which will thus partially revolve in apertures of the bar, if lifted behind. The vertical bars are held above in position by standards, and slide downward by pressing on the seat until the cross-bar, on which the seat rests, reaches the upper surface of the frame, or until the rollers C C begin their pressure on the rims. The pressure of the rollers is to aid in the propulsion of the velocipede, or simply to start it in the first instance. The vertical bars, rollers, and cross-bar are in front of the rear axle, so that said rollers will press on the rims in front of a vertical central line of the wheels, or a distance of about one-fourth of their respective circumferences. The cross-bar and seat are slightly higher than the axle. When a person seats himself in the seat or a weight is placed in it, the rollers will be caused to press upon the upper surfaces of the rims in front of the top point of their circumferences, and will consequently start the wheels, or materially assist in the propulsion of the vehicle. The seat turns to suit the occupant and to cause the rollers to press heavily or lightly upon the wheels. The two vertical bars I I may be inverted and pass thus through the apertures of the frame vertically downward and below the axle and seat, and the rollers are made to press on the inside of the respective rims' peripheries in front of their circumferences, as before mentioned, and with the same effect. E E are levers having handles on their upper ends, which may be turned inward at a right angle to permit said levers to be more easily worked than if such handles were a mere continuation in a straight line of such levers, and being provided toward their lower ends with pawls pivoted to them and working into cog or ratchet wheels J J. These ratchet-wheels are rigidly fixed to the rear axle, near each end of the same, so that said axle must turn with them. The levers E E are bent or curved in such manner as to pass under a projection at right angles to and

from the upper ends of the bars I I, as shown. The levers E E may be worked, causing the pawls to take into the notches of wheels J J behind the centrum of the axle and cog-wheels, (the handles being raised to an erect position,) when pushing said levers forward will also cause propulsion of the vehicle. The pawls are so constructed and arranged and attached that when the bars and levers are resting below on the frame, in a horizontal position, the vehicle may be moved either backward or forward without interfering with said pawls. When the levers are erect the vehicle may also be turned backward without their interference. A A are rectangular journal-boxes attached to the under side of two horizontal bars, K K, which are bent nearly at a right angle upward, and then at a right angle backward, and connect the front and rear wheels by means of their axles. Said journal-boxes are closed at their outer sides, so as to prevent the axle moving sidewise or longitudinally, and are made rectangular to allow the axle, which is fixed to the wheel M, to slide forward and backward. This axle is made to rest continually against the rear breast of the journal-boxes, (unless pushed forward on one side or the other to guide the vehicle, at the will of the person driving it,) by the shape and position of the front part of the horizontal bars K K. These bars K K of the frame, and to which the journal-boxes are attached, are higher behind than at the journal-boxes. The first bend of these bars—that is, the lower bend—is greater than a right angle, and by this means the rear breast is made to rest normally against the axle of the front wheel, as the box really presses down upon it. The journal-boxes being sufficiently long to allow of the proper forward movement of the axle, the vehicle may be guided by the person in it pressing the axle on one end or the other with his foot, or otherwise. When the vehicle moves straight on, both ends of the front axle revolve at and rest against the rear breast of the rectangular boxes. H is a platform or rest for the feet, bolted or otherwise attached to the frame, and has fixed to it a fender or mud-shield, G, which is directly behind the tire or circumfer-

ence of the front wheel. Below the rear axle and between the wheels, about as much forward as rearward of said axle, is a box, O, for containing packages, &c. It will be observed that the box being below the axle, the center of gravity is very low, thus presenting no hindrance to the locomotion of the vehicle, and making it less liable to be upset.

By this arrangement of the box or receptacle, with the step or foot-rest and the dust-shield all attached, constructed, and relatively arranged as shown, I give the device a neat and trim appearance, effect a great economy in space, and produce a vehicle in which any person, male or female, may ride with due regard to decency, with comfort, with protection to their clothing, and with safety, for the vehicle cannot readily be upset in running down hill rapidly, in turning short curves, or otherwise, as by pressure upon the foot-rest or shield. They being connected with the box, said box will always tilt into equilibrium.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination of the rims B, the rollers C, the vertical bars I, and the cross-bar and seat N, substantially as and for the purpose set forth.

2. The combination of the front wheel M with the journal-boxes A and bars K, bent downward, as described, whereby a forward pressure is given, and the axle of said wheel is caused to rest normally against the rear breast of the journal, and the vehicle may be guided, all substantially as described.

3. The combination of the levers E, having pawls, with the cog or ratchet wheels J and the bars I, substantially as and for the purpose specified.

3. In a velocipede or locomotor, the box or receptacle O, below the rear axle, and the foot-rest H having shield G, all combined as set forth.

WILLIAM BUSH.

Witnesses:

AUGUST FELL,
S. E. CHAMBERLAIN.