

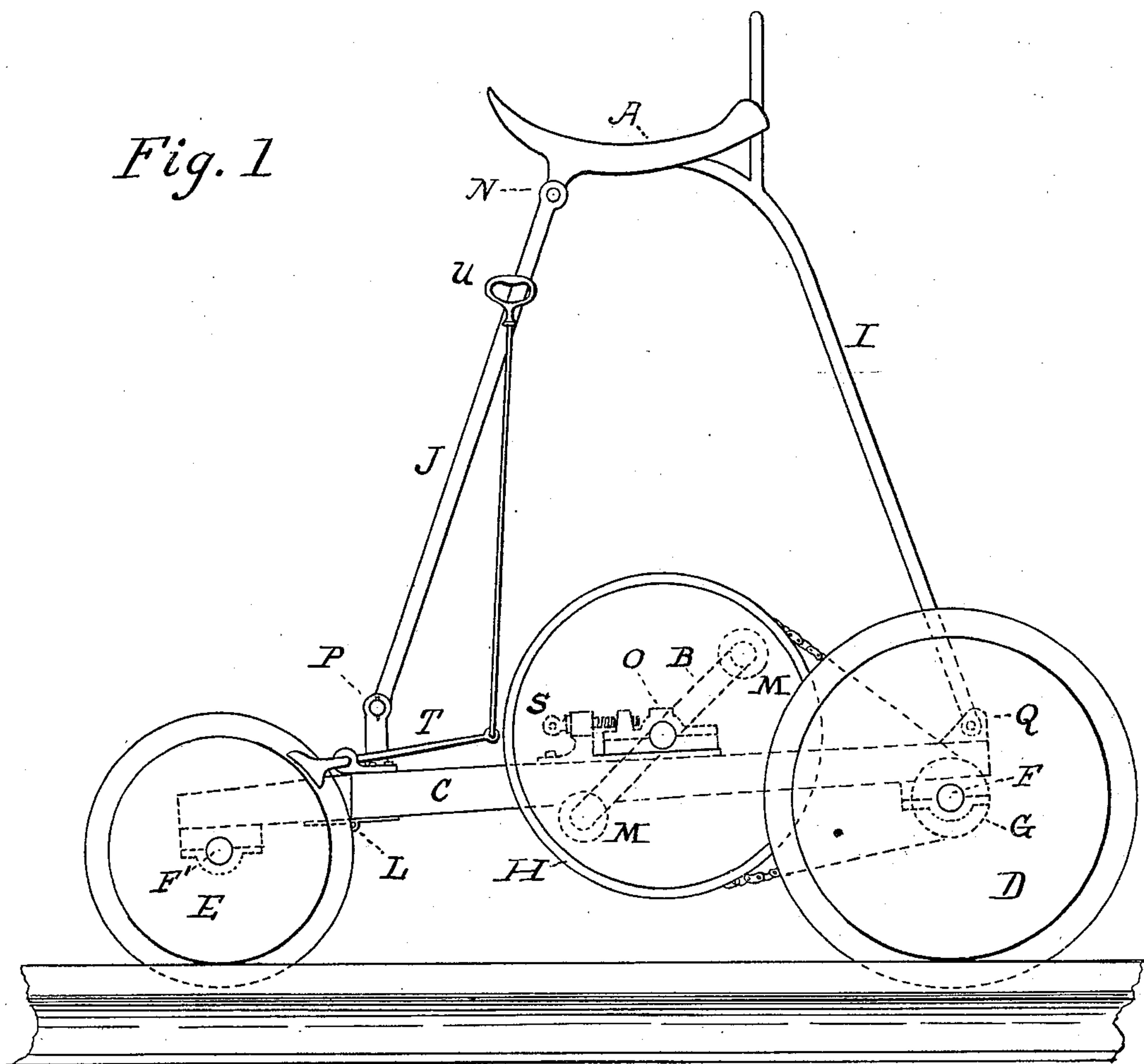
(No Model.)

2 Sheets—Sheet 1.

G. A. MOSHER.
RAILWAY VELOCIPED.

No. 258,589.

Patented May 30, 1882.



Witnesses
A. Davenport
John T. Booth

Inventor
Geo. A. Mosher

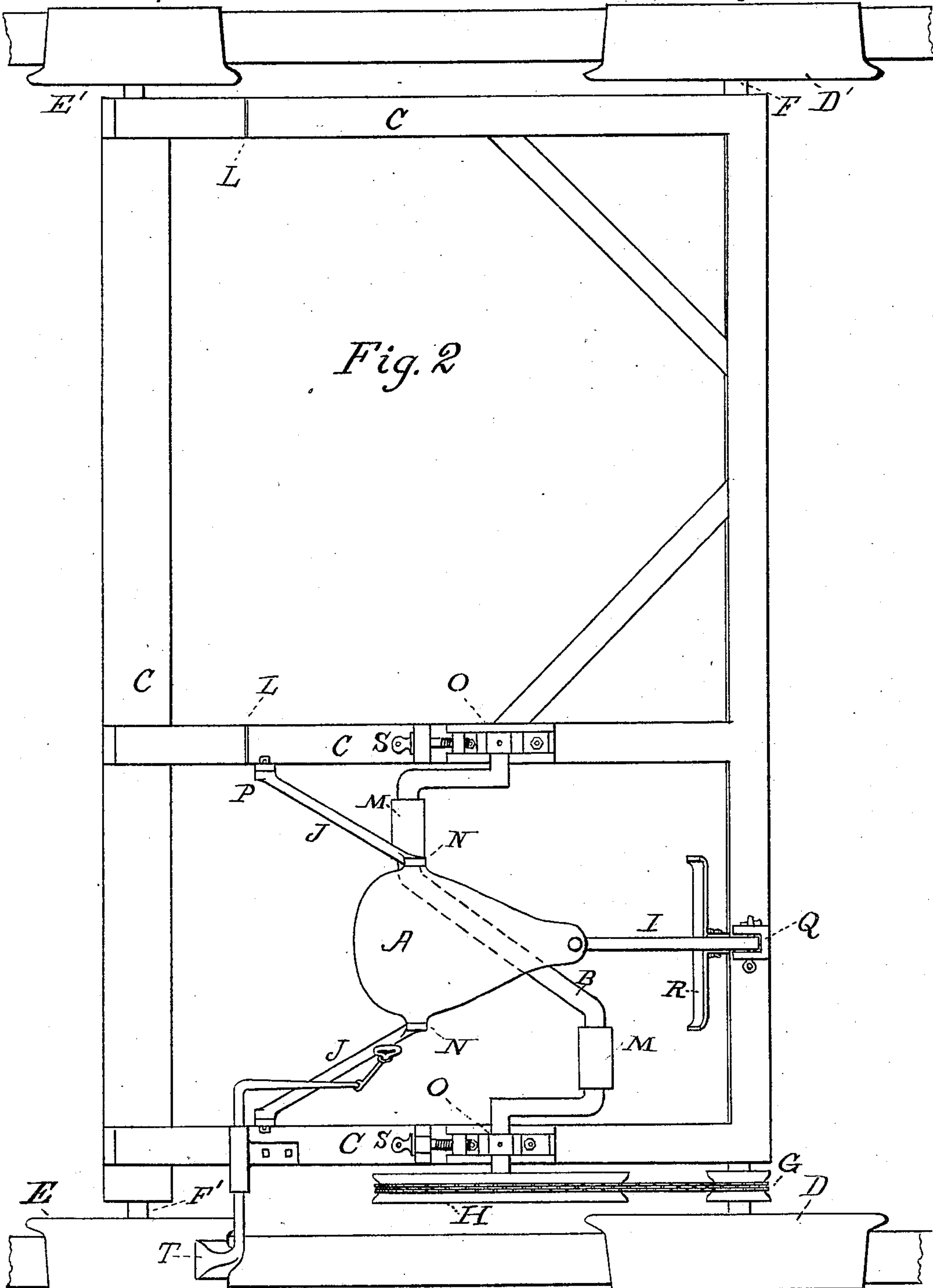
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UNITED STATES PATENT OFFICE.

GEORGE A. MOSHER, OF TROY, NEW YORK, ASSIGNOR OF ONE-HALF TO
NELSON DAVENPORT, OF SAME PLACE.

RAILWAY-VELOCIPED.

SPECIFICATION forming part of Letters Patent No. 258,589, dated May 30, 1882.

Application filed February 11, 1882. (No model.)

To all whom it may concern:

Be it known that I, GEORGE A. MOSHER, of the city of Troy, county of Rensselaer, and State of New York, have invented a new and
5 useful Improvement in Railway-Velocipedes, which is fully described in the following specification and the accompanying drawings, in which—

10 Figure 1 is a side elevation of the right-hand side of the velocipede placed as represented in Fig. 2. Fig. 2 is a plan view.

Similar letters of reference indicate corresponding parts.

15 My invention consists in constructing a light and easily-propelled railway-velocipede, capable of being folded together so as to occupy a small space when not in use, and in applying pedaled cranks to a four-wheeled railway-car, or a crank of any description to a four-
20 wheeled railway-velocipede, so that the crank shall not form a part of or be attached directly to either of the two supporting-axles; also, in the easy and quick method of adjusting the relative positions of seat, pedals, and driving-
25 pulleys.

The objects of my invention are to construct a railway-velocipede which one man can easily and quickly place upon or remove from a railway-track, and easily and quickly fold into a
30 small space for storage or transportation, or easily adjust and with his feet safely propel at a high rate of speed on a railway-track.

Fig. 2 is a plan view, representing the velocipede as it appears when in position ready for
35 use.

A represents the seat or saddle; B, the double crank-shaft, provided with pedals M M and fixed driving-pulley H, turning in the bearings O O. The seat is supported by the
40 upright posts J J and I. The upper ends of the posts J J are hinged to the seat at N N, and the lower ends to the car-frame at P P. The lower end of post or brace I is held in place by the socket and pin Q, attached to the
45 car-frame. The car-frame C is supported by the axles F and F'. The forward axle, F, is provided with the fixed pulley G in position to receive power from pulley H by a belt, chain, or cable; also, with two fixed track-
50 wheels, D and D'. The rear axle, F', is provided with two fixed track-wheels, E and E',

and is held by the car-frame in a position parallel with the forward axle. The track-wheels are each provided with flanges, and I prefer to construct them beveled and fixed to their re-
55 spective axles, the better to keep them upon the track and obtain the best results, though it is not absolutely necessary that all the wheels should be beveled or fixed upon their
60 axles.

As shown in Fig. 1, the seat A is almost directly over the crank-shaft B, and is preferably of such a height that the rider can just straighten the leg when the pedal propelled
65 by that leg reaches the lowest point and maintain himself in an erect position, about the same as that assumed in walking. This position is favored by bicycle-riders as the one most conducive to ease and strength in the exercise of
70 foot-power. It is necessary, therefore, that the seat should be two feet or more higher than the crank-shaft, but the track-wheels are quite small, for the purposes of economy in weight and space. It becomes very desirable, therefore, that some easy and quick method
75 should be provided for folding the seat down upon the car-frame, where it will occupy less room and be less exposed to injury when stored or transported out of use. This is done by releasing the lower end of brace I from the car-
80 frame. The freed end of the brace is then carried forward and the upright hinged supports J J are laid down flat upon the frame, the free end of the brace being at the same time raised and carried over toward the rear axle, F', upon
85 the hinges N N, until the brace and seat are closely folded down in an inverted position upon the car-frame. To restore the seat to its upright position, ready for use, it is only necessary to reverse the operation and fasten the
90 lower end of brace I to the car-frame, as before.

By means of hinged, sliding, or other suitable joints, L L L, in the cross-bars of the car-frame it is possible to still further reduce the
95 size of the machine, when not in use, by folding the frame C upon itself, carrying the axle F' forward and under the frame, so that it will occupy a position nearly or quite in contact with pulley H.
100

Common button-hinges may be used, as L L L, on the lower side of the cross-bars of the

car-frame, or any other folding or sliding device may be employed to easily and quickly bring the axles nearer together.

In my device the power is applied directly to the crank-shaft B upon the pedals M M. It has been practically demonstrated that more power is utilized when applied directly to a crank in velocipedes than when applied through treadles, for the reason that by a forward impulse of the foot when the crank is at the highest point, and by a backward impulse when the crank is at the lowest point, the dead-point, which cannot be avoided with treadles, is partially overcome.

I am aware of the construction of a folding three-wheeled railway-velocipede; but it is impossible to construct a light three-wheeled railway-velocipede and give stability to the parts such as to avoid a swaying motion, which causes a binding strain and friction upon the bearings, and requires more power to propel it.

When the track-wheels are loose wheels, or revolve independently of each other, the car depends upon the flanges of the wheels to keep the track. Consequently it is retarded by the friction of the flanges upon the rails, and is more likely to leave the track when propelled at a high rate of speed.

By employing parallel axles, with two fixed and beveled wheels upon each axle, as shown in Fig 2, perfect stability of parts is secured without any binding strain upon the bearings; and the car will keep the track the same as an ordinary railway-car truck, without depending solely upon the flanges of the wheels. I prefer to make the track-wheels small, and secure the required adaptation for speed by the difference in diameter of the two pulleys G and H.

A sliding foot-rest, R, is adjustable to any desired position on brace I, designed to support the feet of the rider when not employed in propelling the car.

The bearings O O are adapted to slide backward and forward upon the cross-bars of the car-frame, and their position may be adjusted by means of the screws S S. The objects of this adjustment are to regulate the tension of the belt or chain connecting the pulleys H and G, to change the position of the crank-shaft B relatively to the seat A, to accommodate the convenience of the rider, and to move the pulley H farther forward when the velocipede is folded, so that the rear axle may be folded into a position nearer the forward axle without coming in contact with said pulley. When in use it is necessary that the axles should be about two and one-half feet apart to give sufficient room for the feet of the rider to travel with the revolving cranks between the axles; but when the apparatus is being stored or transported it is very desirable that it should occupy as little space as possible.

By using a crank-shaft, B, separate and distinct from the axles F and F', and making pulley H about the size of the driving track-wheels, the feet of the rider come very near the ground when propelling the machine, which enables him to maintain an erect position without too great an elevation of the seat, and by having the pulley G proportionately smaller than pulley H the required speed can be obtained with very small track-wheels. If the cranks form a part of either of the axles F F', the required speed cannot be obtained without the use of at least two large driving-wheels and a correspondingly-elevated seat.

By applying the brake T to one of the rear wheels, which is done by raising the handle U, the danger of tipping forward, resulting from applying the brake too suddenly or too violently, is avoided, for the instant the rear wheels are lifted from the track the brake ceases to have any effect.

Any of the known methods heretofore employed in transmitting power may be used instead of the chain shown in the drawings as connecting pulleys H and G.

I am aware of the construction of a four-wheeled railway-velocipede employing a crank-shaft axle for two of the track-wheels and operated by treadles. Such a mode of construction necessitates the use of large driving-wheels wholly unsuited to the purposes of my invention, and I do not claim the same as any part thereof.

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

1. In a railway-velocipede, and in combination, a seat or saddle, a detachable seat-support, I, hinged supports J, and connecting-joints N, substantially as described, and for the purposes set forth.

2. In a railway-car, a car-frame made in two sections, each section being provided with two track-wheels, one upon each end of the same axle, in combination with sliding or folding joints which connect said sections together in such a way that said axles will be and remain parallel to each other in every position assumed by said sections, for the purpose of varying the length of said car and enabling the same to run upon a railway-track in a folded as well as extended position, substantially as described.

3. In a railway-velocipede, a double crank-shaft provided with sliding bearings adapted to be moved backward or forward relatively to a superimposed seat or saddle, in combination with said seat or saddle, substantially as described, and for the purposes set forth.

GEO. A. MOSHER.

Witnesses:

GEO. F. NICHOLS,
N. DAVENPORT.