(No Model:)

T. B. JEFFERY.

VELOCIPEDE.

No. 282,528. Patented Aug. 7, 1883.

Fig. 3.

Fig. 1

Fig. 2.

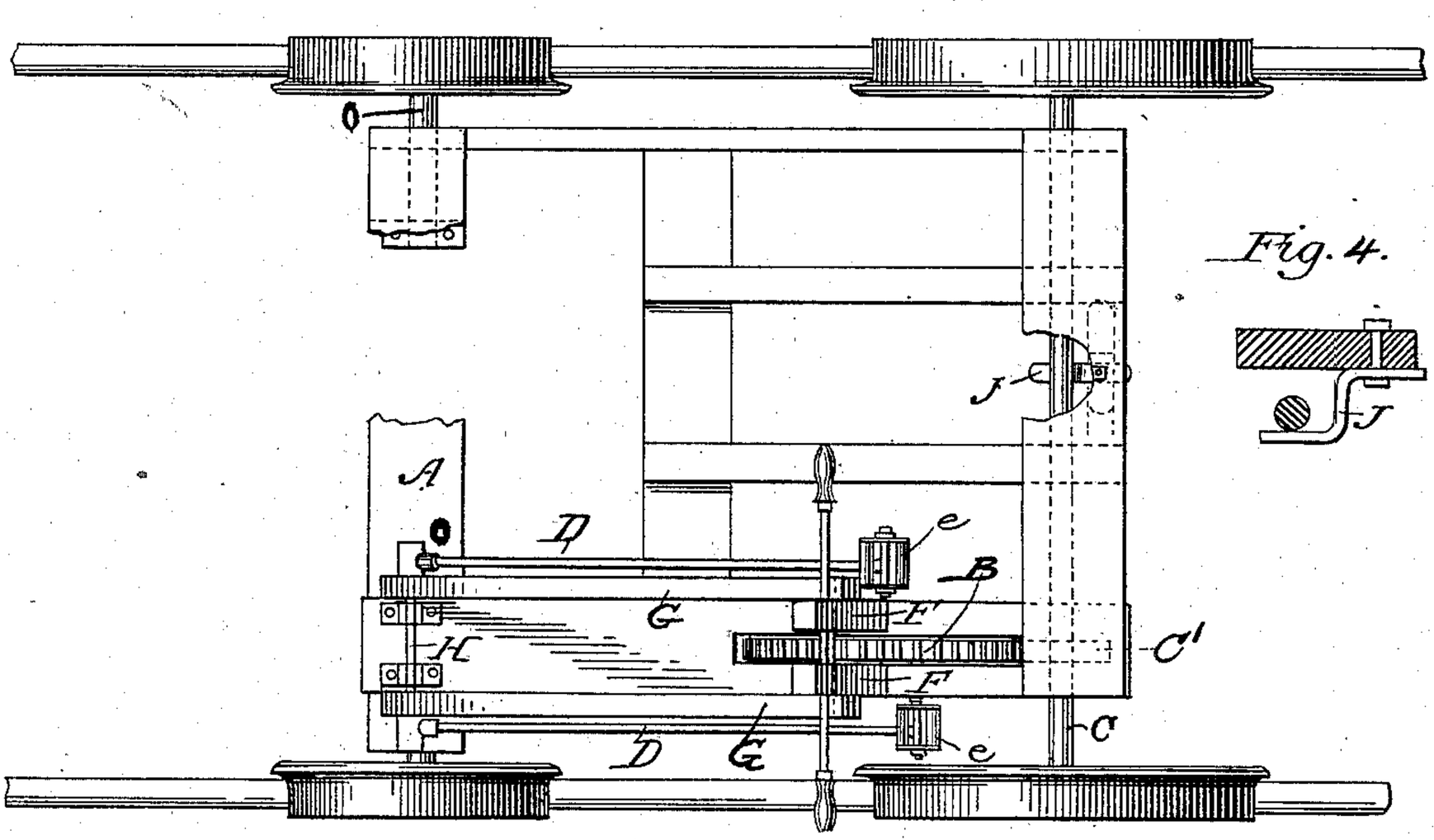

Fig. 4.

Witnesses:

Evelyn Emory.

Frank L. Blanchard.

Inventor:

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UNITED STATES PATENT OFFICE.

THOMAS B. JEFFERY, OF CHICAGO, ILLINOIS.

VELOCIPEDE.

SPECIFICATION forming part of Letters Patent No. 282,528, dated August 7, 1883.

Application filed May 31, 1882. (No model.)

To all whom it may concern:

Be it known that I, THOMAS B. JEFFERY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Velocipede, of which the following is a specification.

My invention relates to improvements in velocipedes that are designed to run on railroad-tracks; but the devices and arrangement may be modified and used with advantage on ordinary roads.

The objects of my invention are to produce a light-running railroad-velocipede arranged to be operated by the feet of the rider, and capable of being quickly made portable when required. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation, and Fig. 2 a top view, of the machine. Fig. 3 is a section of a bearing-box, and Fig. 4 that of the end bar, showing the clip for retaining the shaft.

Similar letters refer to like parts throughout the several views.

The frame A is provided with journal-bearings I, containing friction-rollers in their upper portion, in which turn the shafts C and O O. These shafts have on their outer ends light flanged wheels, on which the machine runs. The shaft C is provided with a pinion, C′, by which it is revolved, motion being obtained through a larger toothed wheel, B, with which it is connected.

The wheel B turns on an axle in bearings fixed to the frame A, and is provided with cranks, by which it is turned. The cranks carry connecting-rods E and guide-rods D, the upper end of a connecting-rod being attached to one end of a guide-rod, the other end of the guide-rod being pivoted to the horizontal frame, the connecting-rods being caused to move in a nearly vertical direction, the guide-rods being nearly horizontal in their lowest position. At or near the junction of the connecting and guide rods are provided the foot blocks or pedals *e*. These receive the power from the operator, who is thus enabled to put his whole weight on the jointed device, which, by its connection with the gear-wheel B and pinion, acts in propelling the machine.

To overcome much of the necessary friction of the shafts, I provide bearings that contain rollers of the form ordinarily employed to reduce friction. These are placed in the upper part of the bearing, the lower portion being left open to allow the shaft to be quickly removed from the bearing, when desired, provision being made to retain the shaft, when necessary, by means of the catch or clip J, capable of being moved on a bolt in the frame into a position that will admit the shaft or prevent its withdrawal.

The main or driving shaft C is fastened to both drive-wheels and extends across the frame. The other or supporting wheels run best on independent axles, which admits of their being guided more readily when off the track.

Upon the frame is erected a hand-bar, F, having a handle secured to its upper end, and its lower end hinged to the frame. This is kept in an elevated position by means of the braces G, the upper ends of which are clamped to the hand-bar just mentioned, and their lower ends hinged to the frame at a point considerably removed from the hinge of the bar F. By means of this hand-rest or support I can dispense with a seat and apply great force to the foot-blocks with little effort, and by thus connecting and bracing the hand-bar I am enabled to erect or lower it at pleasure to adjust it to the height of the rider, or to economize space when being shipped or stored, and by means of the openings under the bearings I can readily remove the main axle and two largest wheels to allow the frame to be more easily handled, the catch or dog J being used to allow this detachment and to again retain the shaft when wanted.

The shafts O, carrying flanged wheels, are placed in what I prefer to consider the "forward" part of the velocipede, although either end may be the forward end, the machine moving nearly as well one way as another. The shafts turn on rollers, forming bearings for their outer ends, the inner ends working satisfactorily in plain boxes holding a reduced portion of the shaft, and prevent any lateral motion of the wheels.

It will be seen from the above that the operator, placing his weight on either pedal by its connections, will cause the wheels to revolve and move the machine, which, by the gearing, may be made very rapid.

The driving mechanism may be duplicated for the use of two operators, or two men may work the single driving device by placing their feet on the guide-rods.

What I claim as my invention is—

1. The flanged driving-wheels and shaft carrying a pinion geared to a larger toothed wheel, or its equivalent, having a cranked axle, in combination with the connecting-rods joined to the cranks, and guide-rods to the connecting-rods, substantially as and for the purpose described.

2. The guide-rods placed on opposite sides of and above the axle of the wheel B, in combination with the connecting-rods, cranks, and foot-blocks, substantially as and for the purpose described.

3. The two flanged driving-wheels, secured to a shaft connected to a pinion and gear-wheel, or their equivalent, in combination with the guide-rods, jointed to both the frame and connecting-rods and the latter to the cranked axle of the wheel B, substantially as and for the purpose set forth.

4. In a railroad-velocipede, the jointed hand bar or rest, attached to the frame and placed above the guide-rods carrying the pedals, the latter being attached to connecting-rods and cranks and geared to the driving-axle, substantially as described.

5. In a velocipede having flanged wheels fixed to a geared axle, the bearings containing friction-rollers in their upper portion, and openings through which the shaft is admitted in their lower portions, in combination with movable dog, or its equivalent, by which the shaft is retained or detached, substantially as and for the purpose described.

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Witnesses:
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