J. H. COLLINS.

VEHICLE.

APPLICATION FILED JULY 19, 1919.

Patented July 26, 1921.

2 SHEETS—SHEET 1.

1,385,815.

Fig. 1.

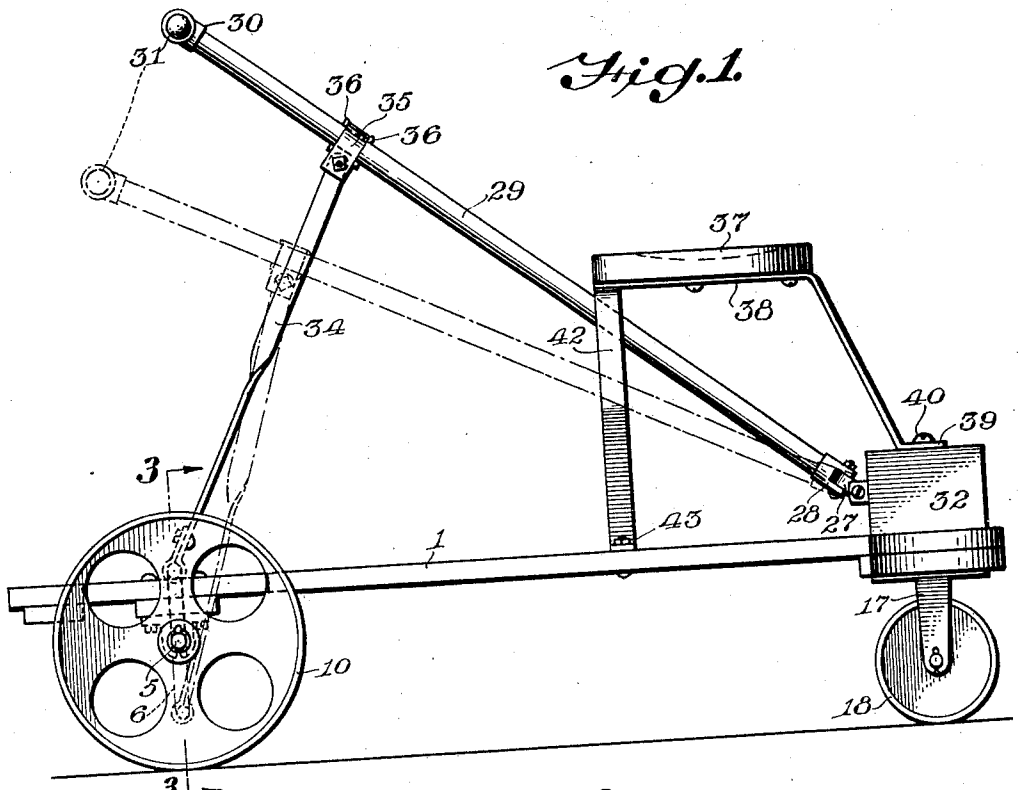
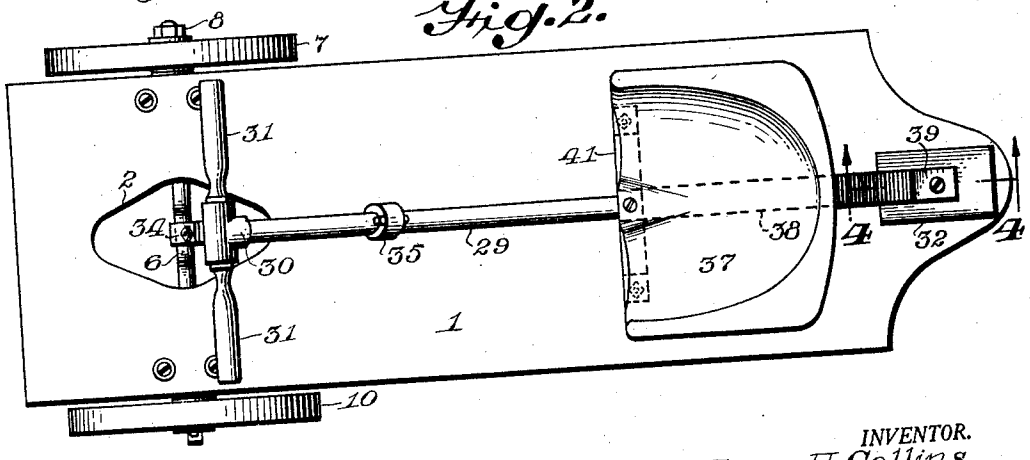


Fig. 2.



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Fig. 3.

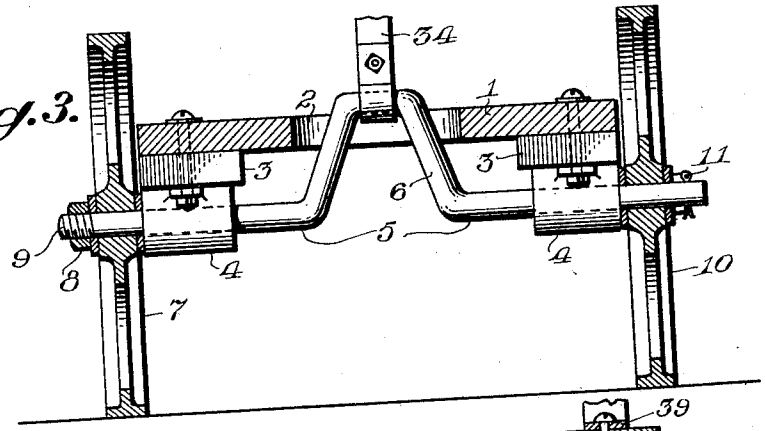


Fig. 4.

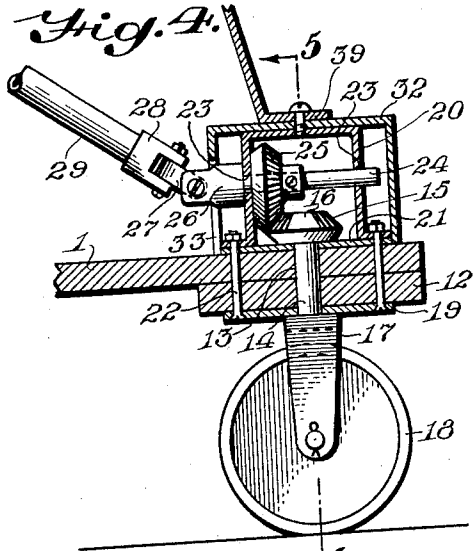


Fig. 5.

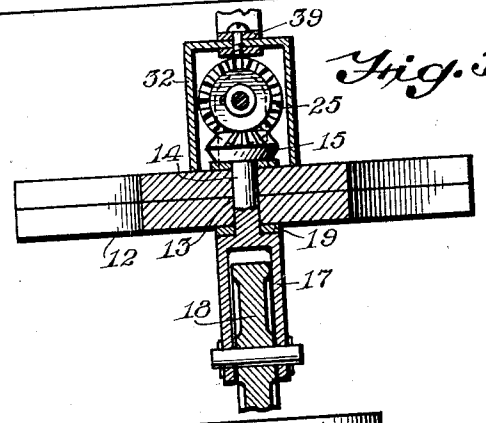
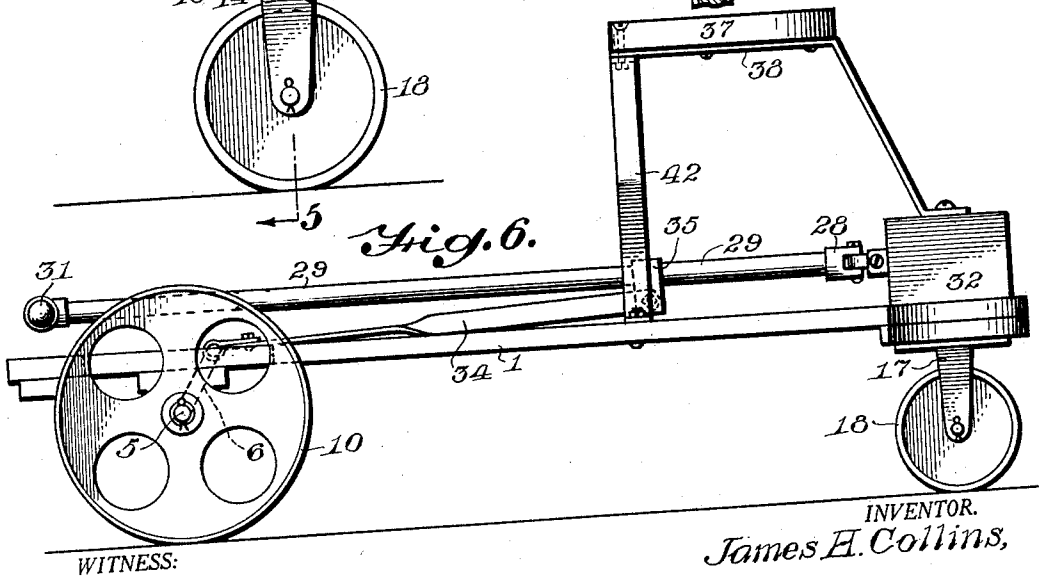


Fig. 6.



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UNITED STATES PATENT OFFICE.

JAMES H. COLLINS, OF HARRISBURG, PENNSYLVANIA.

VEHICLE.

1,385,815. Specification of Letters Patent. Patented July 26, 1921.

Application filed July 19, 1919. Serial No. 311,957.

To all whom it may concern:

Be it known that I, JAMES H. COLLINS, a citizen of the United States, residing at Harrisburg, in the county of Dauphin and State of Pennsylvania, have invented certain new and useful Improvements in Vehicles, of which the following is a specification.

The object of this invention is to provide an improved vehicle, particularly having in mind the demands and tendencies of youth, both male and female.

In vehicles of this general class, there are found those, which comprise means for guiding but which must be pushed by direct cooperation of the occupant's feet with the ground; also those which have means of locomotion but without means for guiding them; and, still further, those which have separate means for propelling and steering the vehicle.

This invention, however, provides but a single member, oscillatable similarly to one-half of the "walking beam" lever of a rail-road hand-car to propel the vehicle, and rotatable about its own longitudinal axis to steer, or direct the course of movement of the vehicle, said member being connected by means of a pitman and crank to a driving-wheel, which it operates by oscillating about a pivot comprising its connection with the steering-wheel, which said member alters in position by oscillating about its own longitudinal axis.

And a further and more detailed object of the invention is to provide a frame or platform upon which the rider may stand or sit, a driving-wheel, a crank connected to said wheel, a stud connected to and journaled upwardly with respect to said frame, a steering-wheel carried by said stud, a bevel-gear also carried by said stud, a second bevel-gear in mesh with said first gear, and an operating-rod connected by a toggle to the second gear, to alter the direction of the steering-wheel angularly by moving said rod about its longitudinal axis, and said rod being connected by a pitman to said crank, to revolve said driving-wheel, by moving said rod about said toggle-connection as a pivot.

With these and further objects in view, the invention comprises further details of construction and operation fully brought out in the following description, when read in conjunction with the accompanying drawings, in which Figure 1 is a side elevation of the preferred embodiment of the invention; Fig. 2 is a top plan view of the same; Fig. 3 is a section on the line 3—3 of Fig. 1 in the direction of the arrows; Fig. 4 is a section on the line 4—4 of Fig. 2 in the direction of the arrows; Fig. 5 is a section on the line 5—5 of Fig. 4; and Fig. 6 is a side elevation of the device showing the manner in which the operating-lever and pitman connected thereto are folded for purposes of shipment or storage.

Referring to the drawings, a frame, platform, or body member 1, is provided with an aperture 2 in one end portion thereof, while to each side of said aperture blocks 3 are secured to the under side of said frame, to which blocks in turn are secured suitable straps, or other form of journal bearings 4. Extending in opposite directions through the said journal bearings are the alined end portions 5 of a driving-shaft, the central portion of which is formed to provide an offset 6, to operate as a crank for turning the shaft, and a wheel 7 upon one end thereof, said wheel being fixedly secured to said shaft in any suitable manner, as for instance by means of a nut 8 engaging the threaded shaft end 9. Upon the other end of said shaft is revolubly mounted a wheel 10, which is removably secured in position by any suitable means such for instance as the cotter-pin 11.

The opposite end portion of the frame 1 is preferably reinforced by a block 12 secured to the underside thereof in any suitable manner, while said frame and block are together provided with a continuous upwardly extending aperture 13, through which is rotatably journaled an axis or stud 14, having secured to its upper end a bevel-gear 15, provided at spaced portions with means 16 interrupting the otherwise regular continuity of the teeth of said gear, for a purpose hereinafter described. To the lower end portion of said stud is rigidly se-

cured a yoke 17, between the opposite spaced end portions of which is rotatably mounted in any suitable manner a steering-wheel 18, said yoke being spaced from and restrained against direct contact with the block 12 by means of a plate 19, which takes care of the end upward thrust of the steering-wheel upon the said stud.

Positioned above the bevel-gear 15 and secured to the frame 1 is an inverted U-shaped member 20, which is preferably spaced from said frame by means of a plate 21, and said U-member, plates 19, 20 and 21, frame 1, and block 12, being secured to one another in unitary relation by means of bolts or other suitable fastening means 22. The opposite upwardly extending portions of the member 20 are provided with alined apertures 23, through which extends a relatively short shaft 24, having secured thereto between said upright portions a second bevel-gear 25, which abuts against one of said portions and meshes with the teeth of the first bevel-gear 16.

Upon the forward end of the shaft 24 there is secured an enlarged yoke 26, between the oppositely positioned portions of which is pivotally mounted a link 27, which in turn at its opposite end is pivotally mounted between the oppositely positioned spaced portions of a second yoke 28, to which is rigidly secured the operating-bar or rod 29, which, when in operative position, normally extends forwardly and upwardly in a diagonal position, and is provided upon its free end with means 30 for securing to it oppositely extending handles or grips 31. In order to entirely protect the rider of the vehicle from the two bevel-gears just described, said gears and coöperating mechanism are substantially entirely covered by a shield or apron, which comprises an inverted casing 32 having three sides wholly inclosed, while its forward side is provided with an aperture 33 through which freely extends the yoke 26.

To the crank portion 6 of the driving-shaft there is secured a driving-rod or pitman 34, which, at its uppermost end, is secured to a strap 35, which is slidably mounted upon the operating-rod 29, and is normally maintained in a fixed position with relation thereto by means of suitable pins 36 extending through said rod, but removable therefrom when it is desired to arrange the vehicle for storing, packing, or shipping, in which case the rod 29 is first moved into its uppermost position with the crank portion 6 of the driving-shaft likewise uppermost, after which the lower pin 36 is removed, and the strap or collar 35 slid downwardly along the rod 29 until in a position shown in Fig. 6, wherein the said rod is permitted to assume a position parallel with, and adjacent to, the upper surface of the frame 1.

The vehicle as thus described comprises the entire construction, in which the same has been found to be entirely satisfactory, but a slightly modified form thereof may be made to comprise a seat 37, which may be secured to a strap 38, at its rear end extending downwardly, and thence rearwardly to form a short base portion 39, which rests directly upon the closure 32, and is secured to said closure and inverted U-shaped member 20 by means of a single screw or bolt 40. The forward portion of the seat 37 should rest upon a transversely extending strap 41, adapted to prevent the seat from readily becoming loose and tilting toward one side or the other, said last-named strap, together with the strap 38, preferably resting directly upon a member 42, which may serve as a guide in either form of the vehicle for the oscillating operating-rod 29, said member comprising downwardly extending parallel portions, diverging outwardly throughout their lower extent, and at their ends 43 being secured by any suitable means directly to the frame 1 of the vehicle.

From the drawings and above description, it will be obvious that a rider, either standing upon the frame 1 or sitting upon the seat 37, can conveniently grasp the handles 31 and oscillate upwardly and downwardly the operating-rod 29, which, by means of the pitman 34, revolves the driving-shaft 5 and the driving-wheel 7 secured thereto, thus propelling the vehicle forwardly. By reversing the direction of the driving-wheel, the propulsion of the vehicle in the opposite direction is obtained, while in either case the steering-wheel is revolved oscillatingly in either direction by simply depressing one or the other of the handles 31 as may be desired, thus providing a single member which acts both as a driving- and steering-rod.

As it is obviously unwise to permit a child to operate the vehicle without some means of preventing the steering-wheel from turning the vehicle sharply, or said wheel assuming a position at right angles to the longitudinal axis of the body frame, some of the teeth of the bevel-gear 15 are either left uncut, or, if cut, are filled-in in order to provide the spaced means 16, over which the bevel-gear 25 cannot revolve.

Having thus described my invention, what I claim and desire to protect by Letters Patent of the United States is:—

1. A vehicle, comprising a driving-wheel, a crank connected thereto, a revoluble stud, a steering-wheel carried by said stud, a bevel-gear also carried by said stud, a second bevel-gear coöperating with said first gear, and a member connected by means of a toggle to said second gear and connected by a link to said crank.

2. A vehicle, comprising a driving-wheel, a crank connected thereto, a revoluble stud,

a steering-wheel carried by said stud, a bevel-gear also carried by said stud, a second bevel-gear coöperating with said first gear, and a member connected by a toggle to said second gear to operate said steering-wheel through said gears when revolving about its longitudinal axis, and said member being connected by a pitman to said crank to rotate said driving-wheel when oscillating about the toggle connection as a pivot.

In testimony whereof I have affixed my signature.

JAMES H. COLLINS.