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COASTER VEHICLE.

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1,070,468. Patented Aug. 19, 1913.

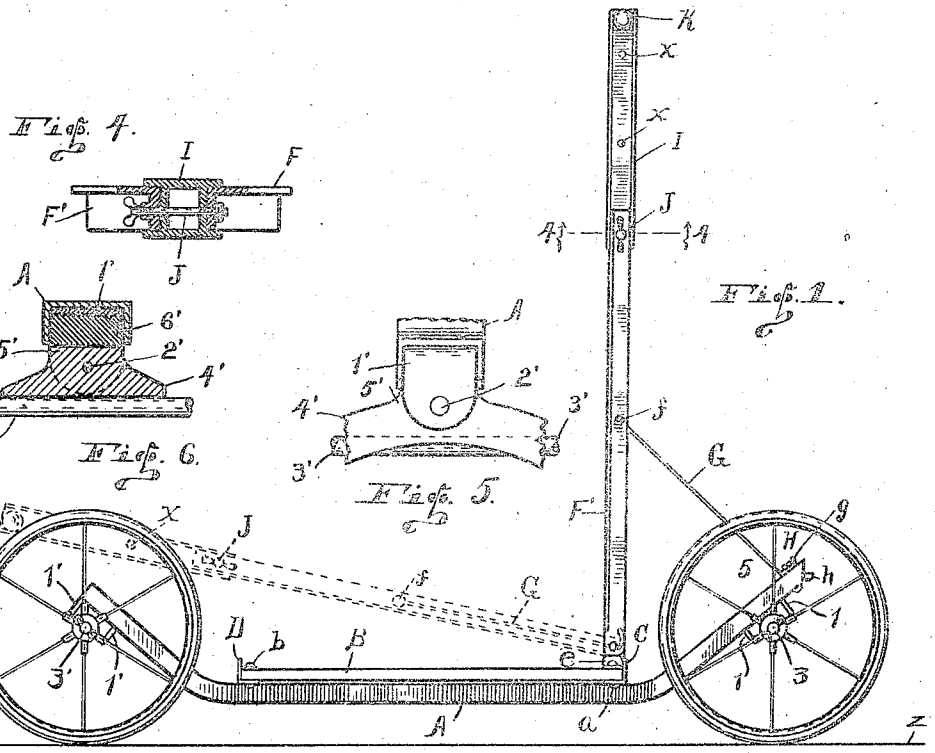

Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

Fig. 6.

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EXTRA FINE COPY

UNITED STATES PATENT OFFICE.

HARRY F. HENLEY, OF RICHMOND, INDIANA.

COASTER-VEHICLE.

1,070,468. Specification of Letters Patent. Patented Aug. 19, 1913.

Application filed December 13, 1912. Serial No. 736,472.

To all whom it may concern:

Be it known that I, HARRY F. HENLEY, a citizen of the United States, residing in the city of Richmond, in the county of Wayne and State of Indiana, have invented a new and useful Construction for Coaster-Vehicles, of which the following is a full, clear, and comprehensive specification, being such as will enable others to make and use the same with exactitude.

This invention relates to a coaster-vehicle, particularly intended for children, in which it is intended that the user will place one of his feet on the carrying surface thereof to support his weight and then use his other foot to propel the vehicle by contacting it with the ground at the side of the vehicle and pushing the vehicle forward therewith, at the same time guiding the device by his hands with means provided for that purpose.

The object of my invention, broadly speaking, is to provide a coaster-vehicle which will be strong and durable in construction, neat and attractive in appearance, easily operated and controlled, and which can be manufactured and sold at a comparatively low price.

A more particular object is to provide a coaster-vehicle which can be easily operated and guided by a child; in which the bearing or load supporting surface is located below the centers of the ground wheels; and wherein the guiding thereof is effected to simultaneously turn the forward wheels to one side of a direct line while the rear wheels will be turned to the opposite side of the direct line, thereby causing the vehicle to be turned more quickly and with more ease than would be the case if only the forward or the rear wheels were turned.

The more important features of this invention are: to provide a vehicle in which the load carrying surface is located below the axial bearings; in which both the forward and the rear axles are pivoted; in which the two axles are entirely independent of each other, yet being adapted, when in use, to automatically operate or turn exactly opposite to each other; and in which the means are provided for causing the bearing surface to automatically right itself, that is,—causing it to automatically return to its normal or horizontal position after being released after having been tilted or turned to one side.

Other objects and particular features and advantages of my invention will be brought out in the course of the following description, and that which is new and useful will be correlated in the appended claims.

One manner for carrying out the objects of my invention in a practical manner is shown in the accompanying drawings, in which—

Figure 1 is a side elevation of the invention complete and in operative position, the guiding lever being shown erect as in use, while in dotted lines the guiding lever is shown folded. Fig. 2 is a plan view of the entire invention, showing the guiding lever as folded in order that it may be carried in small amount of space. Fig. 3 is a detail sectional view, as taken on line 3—3 of Fig. 2, but taken on an enlarged scale. Fig. 4 is a cross sectional view of the guiding lever, as taken on line 4—4 of Fig. 1. Fig. 5 is a detail rear end elevation of the central portion of the rear axle, and showing the means for mounting the central rail thereto. And Fig. 6 is a detail sectional view of the central portion of the rear axle, same being taken on the same plane and a short distance forward of that shown in the preceding view.

Similar indices denote like parts throughout the several views.

In order that the construction and the several features of my invention may be better understood and appreciated I will now take up a detailed description thereof, in which I will set forth the same as briefly and as comprehensively as I may.

The body of the device comprises essentially the central rail A, which is simply a channel-iron, having the channel thereof underneath, and having its end portions bent upward at substantially equal angles, with relation to each other, from that of the central or horizontal portion thereof, substantially as shown in Fig. 1. Mounted over the said central portion of the rail A is a platform or carrying surface B. The end portions of the deck or platform B rest in the angles of the angle-irons C and D, front and rear respectively. Said angle-irons C and D being rigidly secured to and extend across the rail A to which they are secured, and the platform B is rigidly secured to each of said angle-irons by the bolts *a*—*a* front, and the bolts *b*—*b* in the rear. Rigidly secured to the front portion of the

platform B, also by said bolts *a*—*a*, is the bracket E which carries the spaced apart and upwardly extending ears *e*—*e*. Pivoted at their lower ends to said ears *e*—*e* are the standards F and F′, same being spaced apart, and whose lengths are slightly more than is the length of the platform B, however their lengths may be varied as desired in order to meet various conditions. The said standards are rigidly connected together, near their central portions, by the tie-bolt *f*. Povited at one end on the tie-bolt *f*, and located between the standards F and F′, is the brace G. The other end of said brace G is adapted to be detachably secured to the forward end portion of the rail A by means of the bolt H which is disposed through an aperture in the rail and having a fly-nut *h* threaded on its lower end. The forward or lower end of the brace G is split or slotted whereby it is adapted to stride said bolt H and it is adapted to be removed or connected thereto without the removal of said bolt. The lower or forward end portion of the said brace G is bent to conform with the curvature or angle of the rail A on which it is adapted to rest, and the extreme end of prongs there are bent back at right-angles to engage the head of the bolt H in order to prevent the brace from becoming inadvertently disengaged without the bolt being loosened to a considerable extent by turning the fly-nut *h*, the upturned ends or lugs formed on said prongs being designated by letters *g*—*g*.

Letter I denotes the extension for the standards, and the body portion thereof fits in between the parallel portions of the standards and it is provided with a flange at each of its corners to extend over the faces of the standards, as shown in Fig. 4, whereby the extension is adapted to slide between and at all times parallel with the standards throughout its length. The extension I is adapted to be rigidly, and detachably, connected to the standards at various points by means of the bolt J, thereby forming a telescoping means for controlling the device. The length of said controlling means is adapted to be changed by means of the apertures *x* formed across through the extension I into which said bolt J may be changed from one to the other as desired. Secured on the upper end of the extension I is the horizontal handle-bar K, forming hand-holds for the operator. Rigidly secured in the channel of the rail A and located near the forward end thereof is the clip 1, through the ears or downwardly extending portions of which is located the pivot-bolt 2.

Numeral 3 denotes the front axle, on the end portions of which the traction wheels L and M are revolubly mounted. Rigidly secured on the front axle 3, and extending parallel therewith, and extending from hub-to-hub of said wheels L and M, is the front bolster 4, same having a central upwardly extending head 5 formed integral therewith. Said head 5 has an upper level or horizontal face, the same as the head 5′ shown in Fig. 6. Disposed through said head 5, parallel with the rail A, is an aperture through which is disposed the pivot-bolt 2.

Numeral 6 denotes a cushion, formed of rubber or the like, same being located in the space between the ends of the clip 1 and the downwardly extending flanges of the rail A, with its upper portion seated against the base of the clip 1, and its lower portion pressing against the upper face of the head 5, in same manner as that in which cushion 6′ is shown in Fig. 6. Rigidly secured in the channel of the rail A, and located near the rear end thereof, is a clip 1′, through the ears or downwardly extending portions of which is located the pivot-bolt 2′.

Numeral 3′ denotes the rear axle, on the end portions of which the traction wheels N and O are revolubly mounted. Rigidly secured on the axle 3′, and located parallel therewith and extending between said wheels, is the rear bolster 4′ which has a central upwardly projecting head 5′, formed integral therewith. Said head 5′ is provided with a level upper face, as shown in Fig. 6. Also disposed through said head 5′, parallel with the rail A, is an aperture through which is disposed the pivot-bolt 2′.

Indice 6′ denotes a cushion, formed of rubber or the like, same being located in the space between the ends or ears of the clip 1′ and the downwardly extending flanges of the rail A, with its upper portion seated against the base of the clip 1′ and its lower portion pressing against the upper face of the head 5, as shown in Fig. 6.

With the above described construction it is evident that several important results are obtained, to which I desire to call particular attention: The coaster being assembled, as in Fig. 1, the operator has only to place one of his feet on the carrying-surface or deck B, then by treading with his other foot alternately upon the ground and then lifted and carried forward, the coaster may be propelled with considerable speed, and even up hill and over rough ground. When on a decline the operator may have both of his feet upon the deck and allow the vehicle to travel forward by gravity or of its own momentum.

The steering of the vehicle is accomplished by simply tilting the deck either to the right or the left, which may be done by moving the handle-bar to the right or the left, thereby causing the deck to tilt or slope in the direction one desires to turn. The steering may also be accomplished by simply inclining one's weight either to the right

or the left, thereby causing the vehicle to turn in the direction to which one's weight is directed. The tilting of the deck results in turning the axles to oppositely disposed angles with relation to the rail A, for instance: by tipping the deck to the right the forward axle will turn to the right, thereby advancing wheel L and retarding, relatively, wheel M; and at the same time the rear axle will turn to the left, thereby advancing, relatively, the wheel O and retarding wheel N, thereby causing both sets of wheels to contribute to the turning,—causing the front wheels to be directed forward and to the right while the rear wheels are at the same time directed forward and to the left, that is with relation to the line of travel taken by the vehicle. Of course if the deck be tilted to the left then all of said movements will be the reverse of that above stated, thereby causing the vehicle to turn to the left. Another important feature accomplished is that the carrying surface or deck is comparatively narrow and it is located near the ground-line *z*, thereby enabling the device to be easily mounted by the operator, and allowing him to make long and unobstructed strides at the sides of the vehicle. Still another important feature is that of folding, and that of adjusting the height of the means for controlling the direction of travel, as, for instance: the brace G may be detached from the bolt H and then folded back between the standards, and then the standards may be turned back to the position indicated by the dotted line in Fig. 1, which will allow for the device to be easily carried under one's arm or to be packed or stored in a small compass of space; and also by lowering the extension I, changing the bolt J to one or the other of the holes *x*, the handle-bar may be lowered as required. And, finally, it should be noted that by reason of the cushions 6 and 6′, together with the novel means for pivoting the rail A, that the carrying-surface or deck is caused to normally assume a level or horizontal position, thereby causing the vehicle to normally assume a direct line of travel. I also desire it to be understood that I am not to be limited to the exact details of construction herein described, but latitude is given thereto within the scope of the claims hereunto appended.

Having now fully shown and described my invention and the best means for its construction to me known at this time, what I claim and desire to secure by Letters Patent of the United States, is—

1. A coaster vehicle having a horizontal deck located below the bearings of the carrying wheels, a central rail on the central portion of which said deck is mounted, said rail being formed with upwardly inclined end portions, an axle pivoted to each end portion of the rail, a carrying wheel mounted on each end of said axles, means for normally retaining said axles at right-angles to said rail and parallel to each other, a standard attached to the forward portion of the vehicle, and a handle-bar carried by the standard.

2. A coaster vehicle having a deck or carrying surface for supporting a load, a single central rail on the central portion of which said deck is mounted, said rail being formed with upwardly curved end portions, an axle centrally pivoted to each end portion of the rail, a traction-wheel mounted on each end of said axles, means for normally retaining said axles at right-angles to said rail, and a standard attached to the forward portion of the vehicle.

3. A coaster vehicle having a deck or carrying surface for supporting a load, a single central rail on the central portion of which said deck is mounted, said rail being formed with upwardly curved end portions, an axle centrally pivoted to each end portion of the rail, a ground wheel mounted on each end of said axles, means for normally retaining said axles at right-angles to the rail but allowing them to be turned in directions opposite to each other as the deck is tipped laterally, a standard connected to the forward portion of the vehicle, and means whereby said standard may be folded back parallel with deck.

4. A coaster vehicle having a deck or carrying surface, a single central rail on the central portion of which said deck is mounted, said rail being formed with upwardly turned end portions, an axle centrally pivoted to each end portion of the rail, a ground wheel mounted on each end of said axles, means for normally retaining the axles at right angles to the rail and parallel with each other, means whereby the vehicle may be guided by causing said axles to turn in directions opposite to each other, a standard, means whereby the standard may be folded, and means for changing the length of the standard.

In testimony whereof I have hereunto subscribed my name to this specification in the presence of two subscribing witnesses.

HARRY F. HENLEY.

Witnesses:
ROBERT W. RANDLE,
R. E. RANDLE.