July 1, 1930. A. I. LINDEN 1,769,701

TOY VEHICLE

Filed Dec. 4, 1926 3 Sheets-Sheet 1

Fig. 1

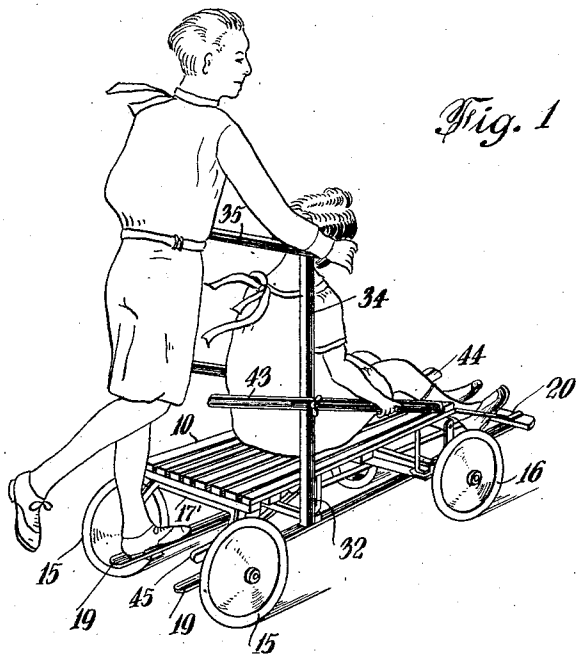
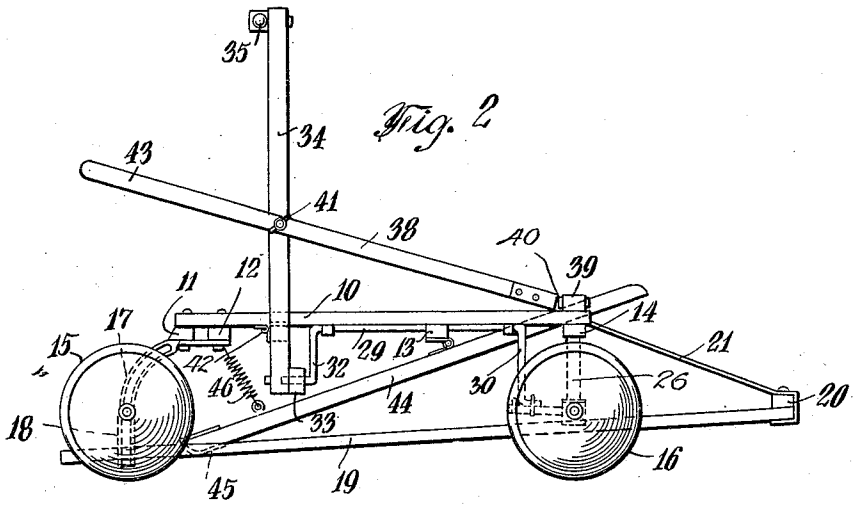


Fig. 2



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Fig. 3

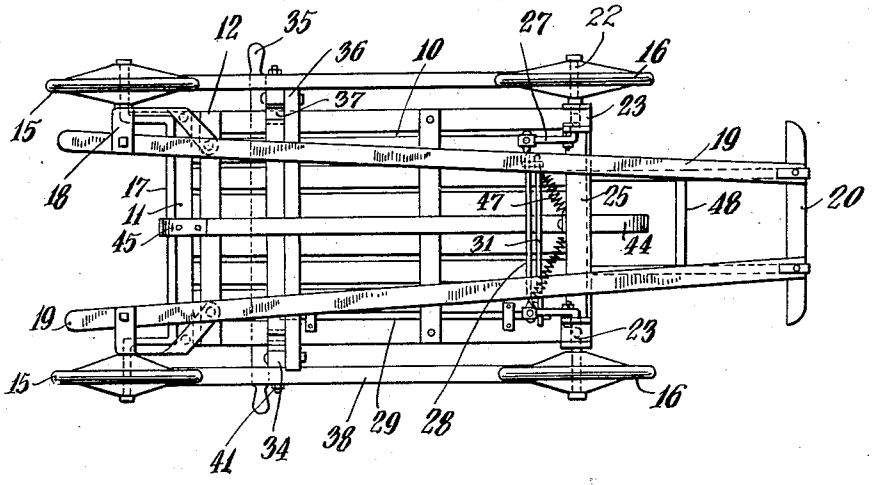
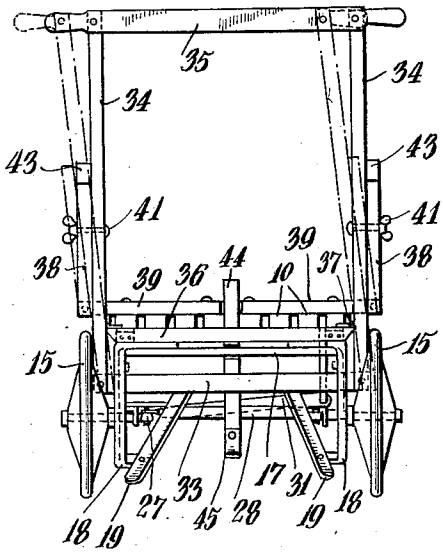


Fig. 4



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TOY VEHICLE

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Fig. 6

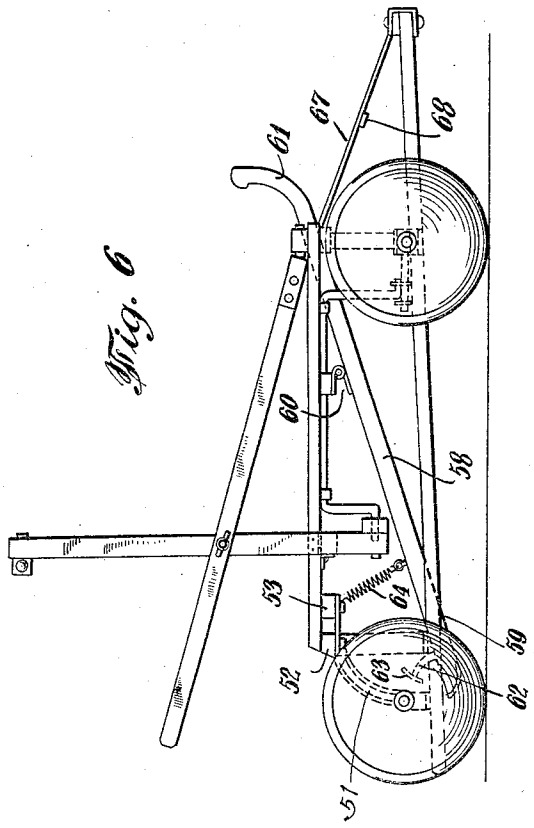


Fig. 7

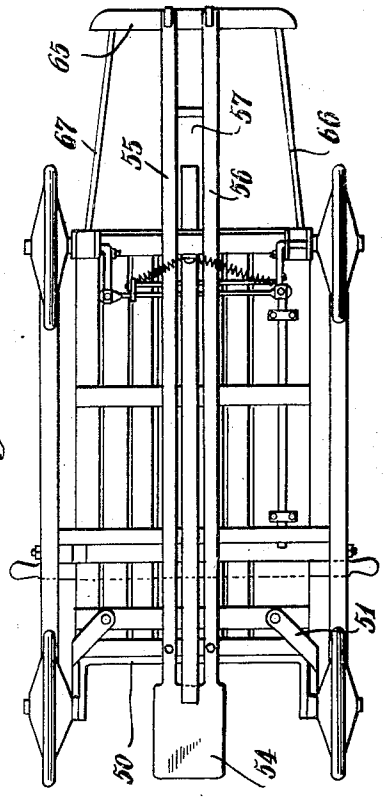
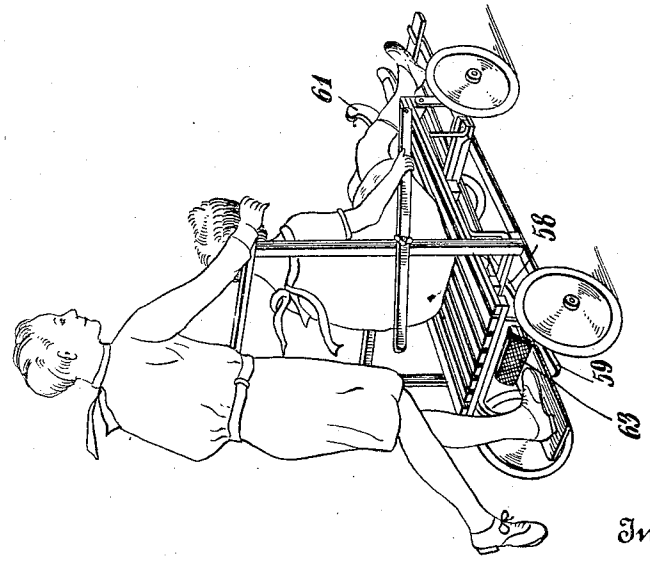


Fig. 5



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UNITED STATES PATENT OFFICE

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TOY VEHICLE

Application filed December 4, 1926. Serial No. 152,615.

This invention relates to improvements in toy vehicles, and more particularly relates to improvements in brakes adapted for use in connection with toy vehicles, coaster wagons, and children's vehicles generally.

The primary object of my invention is to provide in a toy vehicle of the type where two children can ride at the same time, one at the front and one at the rear, a brake of a novel and improved design adapted to be independently operated by either child.

Another object of the invention is to provide a children's vehicle of the type where a child standing on the foot stand at the rear of the vehicle with one foot may use the other foot for pushing the vehicle along the ground, the vehicle being so designed that it may carry a second child as a passenger in front, provided with a brake adapted to be operated independently by either child.

Other objects and advantages of the present invention will more fully appear as the description proceeds and will be set forth and claimed in the appended claims.

The present invention has been partly illustrated and described by me in another application for patent on child's vehicle, filed May 20, 1925, Serial No. 31,477, which has been issued as Patent No. 1,711,418, and the present is an improvement thereon.

In the annexed drawings, I illustrate my invention as applied in connection with children's vehicles of the type where a child standing at the rear of the vehicle propels it by pushing one foot on the ground.

In said drawings,

Fig. 1 is a view in perspective of a child's vehicle embodying my invention;

Fig. 2 is a side elevation thereof;

Fig. 3 is an inverted plan view in elevation of the same;

Fig. 4 is a rear view in elevation of the same;

Fig. 5 is a view in perspective of a similar vehicle in a modified form;

Fig. 6 is a side view in elevation thereof; and

Fig. 7 is an inverted plan view of the same.

The principal feature of the brake forming the object of this invention is the fact that the same is adapted for use in a vehicle designed to accommodate two occupants, one in front and one at the rear; the brake being constructed and mounted on the vehicle in such a manner that its operation may be controlled by either occupant independently of the other.

While the drawings illustrate the improvement in connection with wheeled vehicles it will be obvious that the same can also be applied in connection with other types of vehicles.

The vehicle illustrated in Figs. 1 to 4, comprises a main body portion including a platform or seat which may be made up of a series of longitudinally extending, substantially parallel slats or strips of wood 10 shown rigidly connected at the rear end by a pair of transverse slats 11 and 12, at the intermediate portion by a transverse slat 13, and at the front end by a slat 14. All of these transversely connected slats are preferably beneath the longitudinally extending slats 10.

A pair of rear wheels 15 and a pair of front wheels 16 are provided for the support of this platform or seat. These wheels may be of any desired character, for instance, disk, wire, or wood, and may be provided with ball bearings, tires, and other features commonly employed in wheels for children's vehicles. All of the wheels may be of the same size, but need not necessarily be so, as will be understood.

The rear wheels are shown mounted upon an axle 17 which has its intermediate portion bent upwardly and forwardly out of alignment with the axis of the rear wheels and so as to lie adjacent to the under side of the rear of the platform, the latter being preferably at approximately the height of the upper edges of the wheel.

The axle is connected to the platform by means of braces or brackets 18 which are secured to the under side of the transverse slats 11 and 12, and which extend rearwardly and downwardly therefrom. Thus the axes of the wheels are below and in the rear of the end of the platform, while the intermediate portion of the axle is closely adjacent

to and directly beneath the rear end of said platform. This arrangement leaves a free space between the two rear wheels, for a purpose which will be hereinafter pointed out.

The brackets 18 extend below the axes of the rear wheels and at their lower ends are made to support a pair of slats 19 which extend lengthwise of the vehicle beneath the platform. These slats are materially longer than the platform and extend rearwardly beyond the brackets 18 and forwardly beyond the front end of the platform. The two slats are not directly connected at their rear ends, but at their front ends they are connected by a transverse bar 20 which serves as a foot rest for the passenger, as a bumper, and as a reinforcing brace. This foot rest is well in advance of the front end of the seat or platform, and is lower than the latter, and is connected to the front cross-slat 14 by a pair of downwardly and forwardly extending metal straps 21. The slats 19 at their rear ends are sufficiently wide to permit a child to stand thereon with one foot on each slat as a foot rest, or else to stand on one slat and propel the vehicle by pushing on the ground and rearwardly between the two slats. By this arrangement of foot rest, brackets 18 and bent axle 17, there is provided adequate space for the free movement of the propelling foot of the operator.

The front wheels 16 are so mounted that they may be skewed to steer the vehicle. The connection between the front wheels and the front of the platform is illustrated as including a pair of axle sections 22 which are mounted in and rigidly connected to brackets 23. Each bracket is pivotally connected by a bolt 24 so as to turn about a vertical axis. The pivot bolts 24 connect the axle supporting brackets 23 to a transverse metal bar 25 which is rigidly connected to and spaced from the transverse slat 14, by a metal brace 26 having its intermediate portion secured to the under side of the slat 14 and having its end portions bent downwardly and thence inwardly, and rigidly secured to the cross brace 25.

The axle portions 22 have rearwardly extending arms 27 constituting steering knuckles, and these are connected by a cross link 28 pivoted to the rear end of each so that the two wheels will be maintained in parallelism and may be skewed simultaneously.

The mechanism employed for operating the steering knuckles includes a rock shaft 29 journaled upon the under side of one of the slats 10 or between two of them, having its front and rear ends extending downwardly. The depending front end 30 is connected by a drag link 31 to link 28 at a point close to the opposite end of the latter, so that as the rock shaft 29 is oscillated, the drag link 31 will pull or push the connecting link 28 to steer the vehicle. The rear end 32 of the rock shaft extends into a cross bar 33 which pivotally connects the lower ends of two vertical steering bars 34. These latter extend to a considerable distance above the platform and are connected at their upper ends by a transversely extending handle bar 35. The two steering bars 34 intermediate of their upper and lower ends are hinged to the opposite ends of a transverse bar 36. The pintles of the hinges 37 extend lengthwise of the vehicle so that the upper and lower ends of the handle bars 34 have lateral or transverse movement, and when the upper ends of the handles are moved laterally in one direction the lower ends will be moved laterally in the opposite direction to oscillate the rock shaft 29 and skew the wheels in the same direction as that in which the upper ends of the handle bars 34 were moved. Thus the child propelling the vehicle may steer to the left or to the right by swaying his body in the direction in which he desires to turn, thereby moving the handle bars in the direction in which he sways his body. This renders steering somewhat automatic, and increases the stability of the vehicle, as the natural tendency is to lean in the direction toward which the vehicle is to be steered.

The handle bars 34 are held in a substantially vertical plane, that is, the upper ends are prevented from swinging forwardly or rearwardly by diagonal braces 38. These are connected at their front ends to transverse slat sections 39 secured to the upper side of the front end of the platform. The securing means is preferably a simple form of universal joint 40 which will permit a lateral swaying movement of the rear ends of the brackets 38 or will permit these brackets to be dropped down into parallelism with the platform upon the removal of the bolts 41 which connect these braces to the handle bars 34. These parts are disconnected preferably only for shipment or storage.

To facilitate such shipment and storage the bar 36 is not rigidly secured to the under side of the platform but is connected thereto by hinges 42 which have their pintles extending transversely of the vehicle. Thus upon the removal of bolts 41 the braces 38 may be dropped down onto the platform and the upper ends of the handle bars may be swung downwardly and forwardly to bring these bars substantaially into parallelism with the platform. This swinging movement automatically disconnects the transverse bar 33 from the end of the rock shaft, as this end merely projects into a socket in the bar.

The braces 38 fulfill an additional and important function in that they constitute side bars or arms which the passenger may grasp, and in that they prevent any load which may be carried on the vehicle from slipping laterally off the platform. Furthermore the child riding on the platform may grasp these braces

and move them laterally to steer the vehicle if the vehicle is not being propelled by another child standing at the rear. Also the braces 38 are preferably extended rearwardly beyond the steering handle bars 34 so that the rear ends 43 of these braces constitute handle bars which the child may grasp in pushing the vehicle if he does not care to operate it by standing with one foot on the foot rest 19. Also the child pushing the vehicle may pull downwardly and rearwardly on the rear ends of the handle bars 43 to lift the front wheels over an obstruction or on to the curb, or he may lift the rear end of the handle bars 43 to raise the rear end of the vehicle.

The brake means illustrated, to which the present invention more specifically refers, includes a lever 44 which is hinged or pivoted intermediate of its ends to the transverse slat 13. The rear end of the lever comes between and slightly in advance of the rear wheels, and is provided with a shoe 45, while the front end extends between two of the slats 10 above the transverse slat 14, and projects above and beyond the front end of the platform. The child propelling the vehicle may easily place one foot on to the shoe 45 and press it down onto the ground so as to cause it to act as a brake, or the child sitting on the platform with his feet on the foot rest 20 will have the front end of the brake lever 44 approximately between his knees, so that he may grasp it and pull upwardly so as to force the brake shoe 45 against the ground. He may bring his full strength to bear on the brake lever as he may brace himself against the front foot rest or bumper 20 while pulling upwardly and rearwardly on the brake lever. The brake lever is normally held with the brake out of contact with the ground. Any suitable means may be employed for this purpose, as for instance a spring 46.

It will be noted that by virtue of this arrangement, the vehicle or coaster wagon may be used by one child sitting on the platform with the braking and steering levers conveniently positioned for operation, or else it may be operated by one child standing on the foot stand formed by the rear ends of slats 19.

It will be noted that these foot stands are preferably below the axis of the rear wheels and may be somewhat in advance of this axis, so that the vehicle does not have any tendency to turn over backwardly. The child standing on the foot stand may also operate the steering and braking mechanisms. Brake shoe 45 may be of cast or wrought metal and may be of any shape or design suitable to offer the desired resistance when pressed against the ground.

In Figs. 5 to 7, I illustrate a vehicle of substantially the same design as the one just described, provided with a foot stand of different construction and a brake accordingly modified for use in connection therewith.

The essential feature of the vehicle illustrated, is that the same is provided with a central foot rest only instead of the two side foot rests 19, previously illustrated. Like in the previous case, the rear wheels are mounted upon an axle 50, having its intermediate portion bent upwardly and forwardly out of alignment with the axis of the rear wheels so as to lie adjacent to the underside of the rear of the platform, which latter is preferably at approximately the height of the upper edges of the wheels.

For connecting the axle to the platform, I provide braces or brackets 51, which are secured to the underside of the transverse slats 52, 53, and which extend rearwardly and downwardly therefrom. Like in the previous case this arrangement leaves a free space between the two rear wheels permitting the use of one or the other foot of the child standing on the foot stand for the purpose of propelling the vehicle.

The foot stand in this case consists of a central rearwardly extending board 54, which is integral with or mounted on two longitudinal slats 55, 56, extending underneath the platform of the vehicle, and beyond to the front thereof. Said two slats are in this case close to the center of the vehicle and are separated by a relatively narrow space 57, longitudinally extending between the slats ahead of board 54.

Clearance space 57 may be utilized for the passage of the brake beam or lever 58, the operation of which is quite similar to that of the brake previously described. The rear end 59 of the brake lever 58 passes between slats 55, 56 and reaches a point underneath board 54. The lever is pivoted underneath the platform of the vehicle at an intermediate point 60, and its front portion 61 projects upwardly to the front of the platform to a point within convenient reach of the child sitting on said platform.

The rear end of said brake lever is provided with a stem 62 projecting upwardly through and above the slats, and said stem carries a pedal 63, which preferably extends transversely on both sides of the slats, and which can be used by the child standing on the board for operating the brake lever.

Like in the previous case, the brake lever is normally held in its inoperative position by a spring 64 attached to the brake lever at one end and to the underside of the platform at the other. The front end of the brake lever, may be turned upwardly if desired, as shown, in order to provide a better grip for the child sitting on the platform.

The two slats 55, 56, as stated, extend beyond the front of the platform and at their forward ends are preferably provided with a transversal board 65, extending laterally

therefrom, providing a convenient foot rest for the child sitting on the platform. The structure thus obtained is furthermore reinforced by two braces or straps 66, 67, connecting the ends of foot rest 65 to the front part of the platform. If desired, braces 66, 67, may also be connected by an additional bar 68 as shown in Fig. 6 said bar serving as a foot rest and brace for small children who cannot reach cross member 65.

From the foregoing it will be observed that I provide a brake of a novel and improved construction which may be controlled either from the front or from the rear of the vehicle and which is simple, inexpensive and effective. The possibility of both front and rear control of the brake is a very important feature in a device of the character to which this invention belongs, because very frequently a child may be riding alone on the vehicle either at the front or at the rear; for instance a child can very conveniently sit on the platform in front when coasting downhill there being no necessity of propelling the vehicle in this case; on the other hand, the necessity of braking the vehicle exists in all cases.

The inventive idea may, of course, be applied in connection with vehicles of various types and descriptions, with or without wheels, therefore, the drawings will be understood as being intended for illustrative purposes only and not in a limiting sense. Accordingly, I reserve myself the right to carry my invention into practice in any way or manner which may enter fairly into the scope of the appended claims.

I claim:

1. A child's vehicle including a platform at the front and a foot stand at the rear, and a brake lever pivoted at a point intermediate of its ends underneath said platform, having its front end projecting above the platform adjacent the front end thereof, said lever being operable either by a child seated on the platform forcing the front end of said lever upwardly, or by a child standing on said foot stand, by pressing the rear end of said lever downwardly, for the purpose of exerting a braking action by forcing the rear end of said lever against the ground.

2. A child's vehicle including a platform, a foot support at the rear thereof extending lengthwise of and underneath said platform to the front thereof, and a brake lever pivoted at a point intermediate of its ends underneath said platform, said lever having its front end projecting above the platform adjacent the front end thereof, and having its rear end projecting through and underneath said foot support, said brake lever being operable either by a child seated on said platform or by a child standing on said foot support.

3. A child's vehicle including a platform, a foot support at the rear thereof extending lengthwise of and underneath said platform to the front thereof, and a brake lever pivoted at a point intermediate of its ends underneath said platform, said lever having its front end projecting above the platform, adjacent the front end thereof, and having its rear end projecting through and underneath said foot support, said brake lever being operable either by a child seated on said platform or by a child standing on said foot support, and a spring normally maintaining the rear end of said lever detached from the ground.

4. A child's vehicle including a platform, a brake lever pivoted intermediate of its ends to said platform intermediate the ends of the latter, a foot support in the rear of said platform and a foot rest at the front of said plaform, said brake lever having the front end thereof adapted to be grasped by a child sitting on the platform with his foot on the foot rest and the rear end of said lever being adapted to be stepped upon by a child standing upon said foot support.

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