Jan. 1, 1929. 1,697,526

P. A. GIANERA

CHILD'S SCOOTER

Filed Sept. 7, 1927

FIG. 1

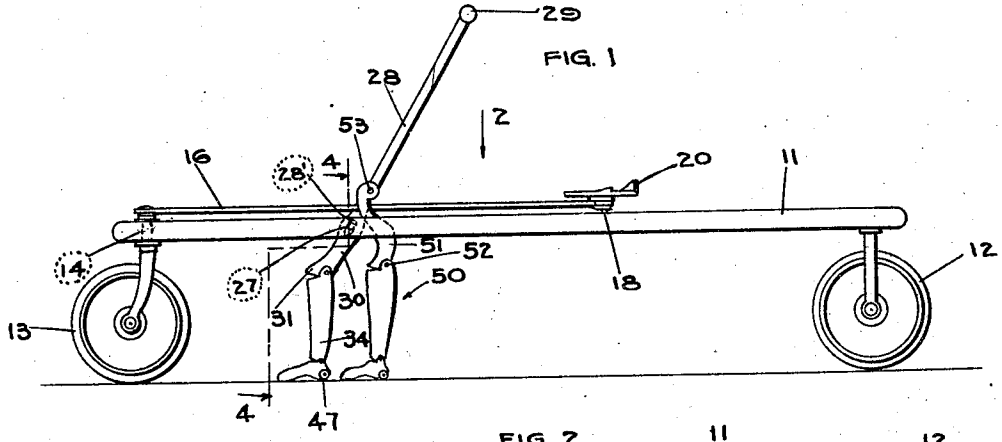


FIG. 2

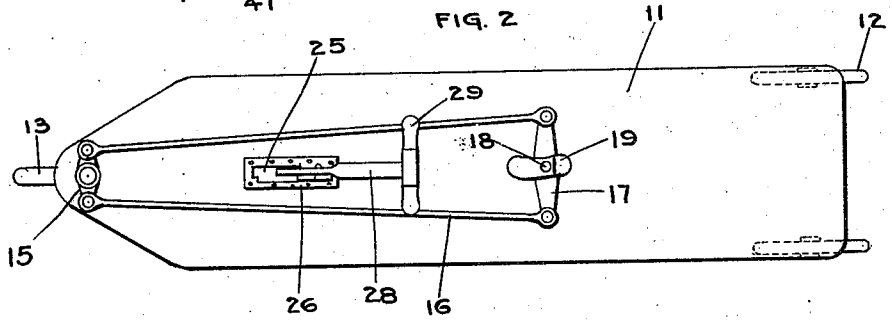


FIG. 3

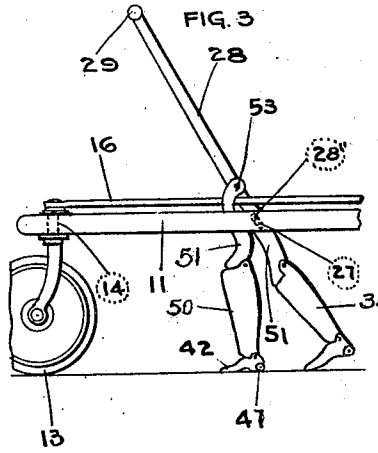


FIG. 5

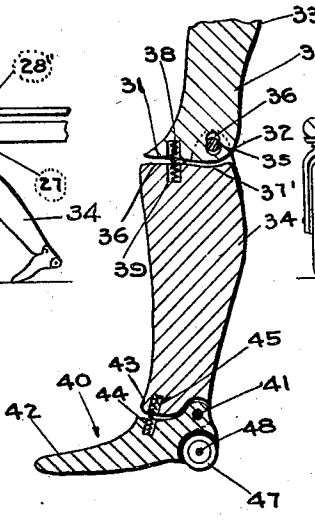
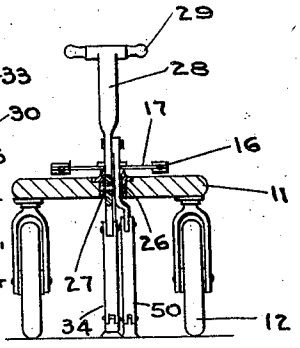


FIG. 4



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UNITED STATES PATENT OFFICE.

PETER A. GIANERA, OF TORRANCE, CALIFORNIA.

CHILD'S SCOOTER.

Application filed September 7, 1927. Serial No. 218,033.

My invention applies to a child's scooter and may be adapted for a toy wagon or the like.

An object of my invention is the construction of a propelling mechanism suitable for a child's scooter, toy wagon or other similar vehicle in which a direct shove or thrust is made against the ground by the rocking of a lever, this lever being reciprocated in a front and rear direction.

Another object of my invention is to connect leg and foot like devices to the rocking lever, these being arranged to articulate so that on the rocking movement of the lever, the articulated leg like device will thrust the vehicle forward and then be elevated and carried forward for the next movement.

Another object of my invention is to connect a pair of articulated leg like devices having articulated feet like structures connected thereto so that with the pair of leg like structures these will operate alternately, one on the forward rocking of the lever and the other on the pull-back or rearward movement.

Another object of my invention is steering the scooter or vehicle by means of a steering arm having a foot rest so that a child in standing up may place one foot on this rest and steer the vehicle while working the hand lever.

My invention is illustrated in the accompanying drawings, in which:

Figure 1 is a side elevation showing the lever in its rearwardmost position.

Figure 2 is a plan taken in the direction of the arrow 2 of Fig. 1.

Figure 3 is a part side elevation similar to Fig. 1 showing the hand lever in its extreme forward position.

Figure 4 is a vertical transverse section on the line 4—4 of Fig. 1 in the direction of the arrows.

Figure 5 is a vertical section through one of the articulated legs and feet.

In constructing the scooter I have a platform 11 with rear wheels 12 connected thereto and with a front steering wheel 13 which has a steering column 14 extending upwardly above the platform. A cross bar 15 is connected to the steering column and has links 16 connected thereto which lead rearwardly to a cross bar 17 mounted on the vertical pivot 18. This cross bar has a foot rest 19 with raised edges 20 to engage the foot. By this construction a child may steer the vehicle.

The propeller arrangement requires a slot 25 in the platform, this slot preferably having a metallic frame 26 fitted therein with a pivot pin 27 through the frame, and an operating lever 28 mounted on such pivot, there being a slot 28′ in the lever. The lever has a hand grip 29 at the top.

The base of the lever 30 has a substantially squared end 31 which merges by a curve 32 at the back into the rear part 33 of the lever. A leg 34 is pivotally connected to the lower end of the lever by a pivot pin 35, this pin operating in a slot 36 to allow a certain amount of play. The upper end of the leg is substantially squared to the axis of the leg as indicated at 36, and has a slight hollow portion 37 to accommodate the curved part 32 in its rocking movement. A tension spring 38 is fitted in sockets 39 in the leg, the lower part of the lever functioning as hereunder mentioned.

A foot 40 is pivotally connected to the bottom of the leg by a pivot pin 41, this being located adjacent the rear portion of the leg. The toe 42 of the foot extends forward of the front portion 43 of the leg, and there is a tension spring 44 fitted in sockets 45 in the bottom of the leg and the top of the foot structure. A small wheel 47 is mounted on an axle 48 in the rear or heel portion of the foot. The leg and foot structure above described functions on the forward thrust of the handle part of the lever.

A second leg 50 is of substantially the same detail construction so far as the leg and foot structure is concerned, but this is connected to a curved link 51 at the upper end by a pivot pin 52, this having a slotted connection between the link and the upper part of the leg. This link is pivotally connected to the operating lever 28 at 53 which is above the pivot 27 connecting the lever to the body of the vehicle. It is to be understood that the two legs are mounted side by side so that they can swing past each other in the movement.

The manner of operation and functioning of the propelling mechanism is substantially as follows:

As illustrated, the scooter construction is intended for a child to stand on the platform 11 and steer the scooter with one foot in the foot rest 19. When the operating lever

28 is thrust forward at its upper end, as the lever is brought more into a vertical position, there is a downward thrust on the forward foot which is directly connected to the end of the lever. In a further rocking movement, the under surface 31 of the end of the lever and the surface 36 at the upper part of the leg contact and transmit a pressure to the foot, the upper part of the foot and the lower part of the leg engaging, and the further rocking of the lever causing the toe part of the foot to press against the ground and thrust the vehicle in a forward direction by a movement as shown in Fig. 1 to that of Fig. 3.

During this action the second or rear leg 50 is partly lifted as the lever 28 comes into a vertical position, so that the toe is slightly elevated above the ground, this being facilitated by the tension springs connecting the link 51 and the upper part of the leg and the lower part of the leg and the foot. The wheel 47, however, if it touches the ground, may roll and thus lessen the resistance to movement of the leg in its forward motion.

When this second leg is in the position shown in Fig. 3 with the lever 28 rocked forwardly, the second foot is planted substantially firmly on the ground and on the reverse pull of the lever from front to rear, the type of connection between the lower end of the link and the upper part of the leg, which is the same as that between the lower part of the lever and the upper part of the first leg and also the engagement of the lower part of the second leg and the second foot, causes a shoving or thrusting action against the ground, thereby again propelling the vehicle forward on the rearward movement of the second leg.

During this rearward movement of the second leg, the first described leg shown at the rear in Fig. 3 is slightly elevated from the ground, the tension springs drawing forwardly on the toe part of the foot. This leg and the foot is then carried to the forward position as shown in Fig. 1 when the cycle of operation may be repeated.

In constructing my device the leg portions and the feet may be shaped to simulate a human leg and foot, and if desired, the foot portion may be made, to a certain extent, resilient, by being made of rubber or rubber covered, in order to allow a slight bending, and also to secure a good traction hold on the ground. With the construction illustrated, should the foot on its forward movement touch the ground, the roller 47 will prevent undue friction and resistance.

It will therefore be seen that in the operation of my scooter, the propelling is done by an action simulating walking.

Various changes may be made in the principles of my invention without departing from the spirit thereof, as set forth in the description, drawings and claims.

I claim:

1. A toy vehicle having a platform with a slot, a lever pivotally mounted in said slot and having a leg structure connected at the lower end of the lever by an articulated joint, the said joint being formed by a pin and slot connection, and a foot structure pivotally connected to the leg structure.

2. A toy vehicle, as claimed in claim 1, a link pivotally connected to the operating lever above the pivot in the slot, a second leg connected to the link by a pin and slot connection, and a second foot connected to the second leg by a pivot pin connection.

3. A toy vehicle having a pivotally mounted operating lever, a leg pivotally connected to the lower end of the lever at the rear portion of such lower end, the forward lower surface of the lever and the forward upper surface of the leg being adapted to contact in a propelling operation, a foot pivotally connected to the leg at the rear portion, the lower portion of the leg and the upper portion of the foot having surfaces adapted to contact in the propelling operation.

4. A toy vehicle, as claimed in claim 3, the lower end of the lever and the upper end of the leg having a spring forming a tension connection.

5. A toy vehicle, as claimed in claim 3, the lower end of the leg and the upper part of the foot having a spring forming a tension connection.

6. A toy vehicle, as claimed in claim 3, the lower part of the lever and the upper part of the leg having sockets therein with a tension spring inserted in said sockets, and the lower part of the leg and the upper part of the foot having sockets with a tension spring therein.

7. A toy vehicle having a pivotally mounted operating lever, a link connected to the lever above the pivotal connection, a leg pivotally connected to the link, the pivot being at the rear part of the leg and the link, the upper front surface of the leg and the lower surface of the link being adapted to contact in a propelling operation, a foot pivotally connected to the leg by a pivot at the rear part thereof, the upper surface of the foot and the lower surface of the leg being adapted to contact in the propelling operation.

8. A toy vehicle, as claimed in claim 7, the link and the leg having sockets with tension springs therein, and the lower part of the leg and the upper part of the foot having sockets with a tension spring therein.

9. A toy vehicle having a pivotally mounted operating lever, a leg structure having an articulated connection to the lower end of the lever, and a foot structure having an articulated connection to the leg struc-

ture, a link connected to the lever above the pivotal point, a leg connected to the link and a foot connected to the leg, the connection of the leg to the link and the foot to the leg being articulated the feet being adapted to propel the vehicle by contact with the ground on a rocking movement of the lever.

10. A toy vehicle having a pivotally mounted operating lever, a foot and leg structure connected to the lower end of the lever, the foot being connected to the leg by an articulated joint, and a roller in the heel of the foot portion, a link connected to the lever above the pivotal point, a leg connected to the link, a foot connected to the leg by an articulated joint, and a roller in the heel portion of the foot.

In testimony whereof I have signed my name to this specification.

PETER A. GIANERA.