

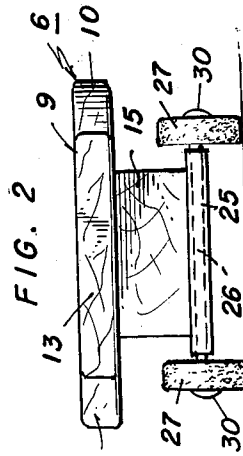
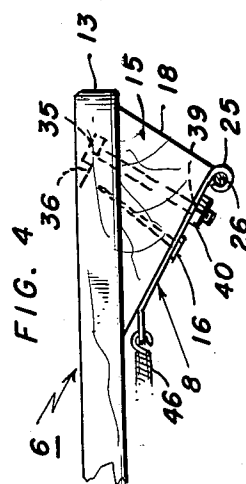
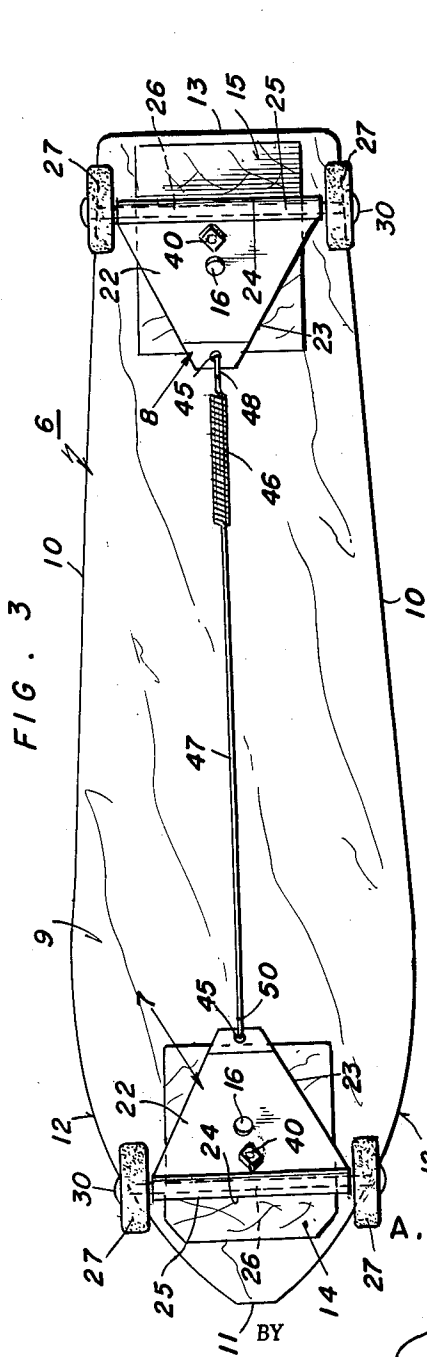
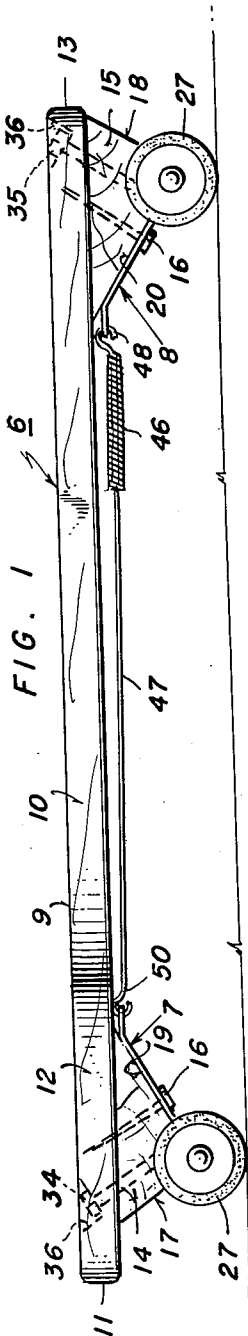
Feb. 27, 1962

A. C. BOYDEN
CHILD'S COASTER

3,023,022

Filed May 14, 1959

2 Sheets-Sheet 1



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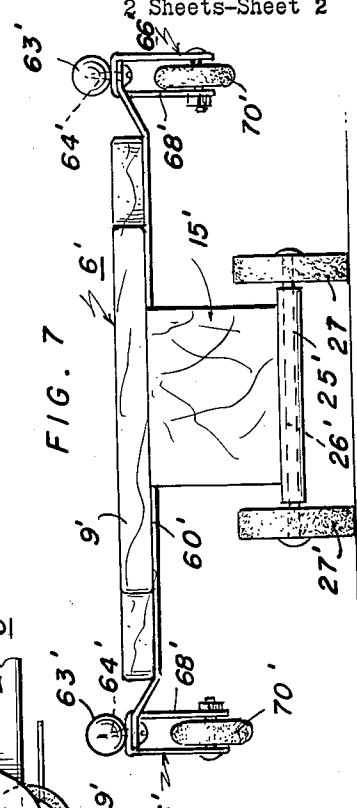
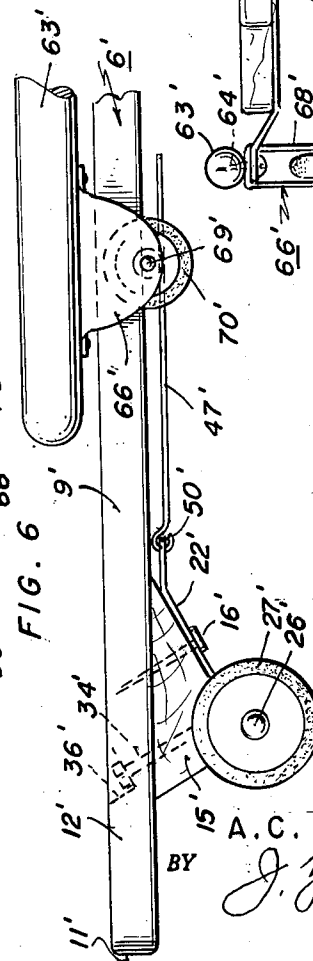
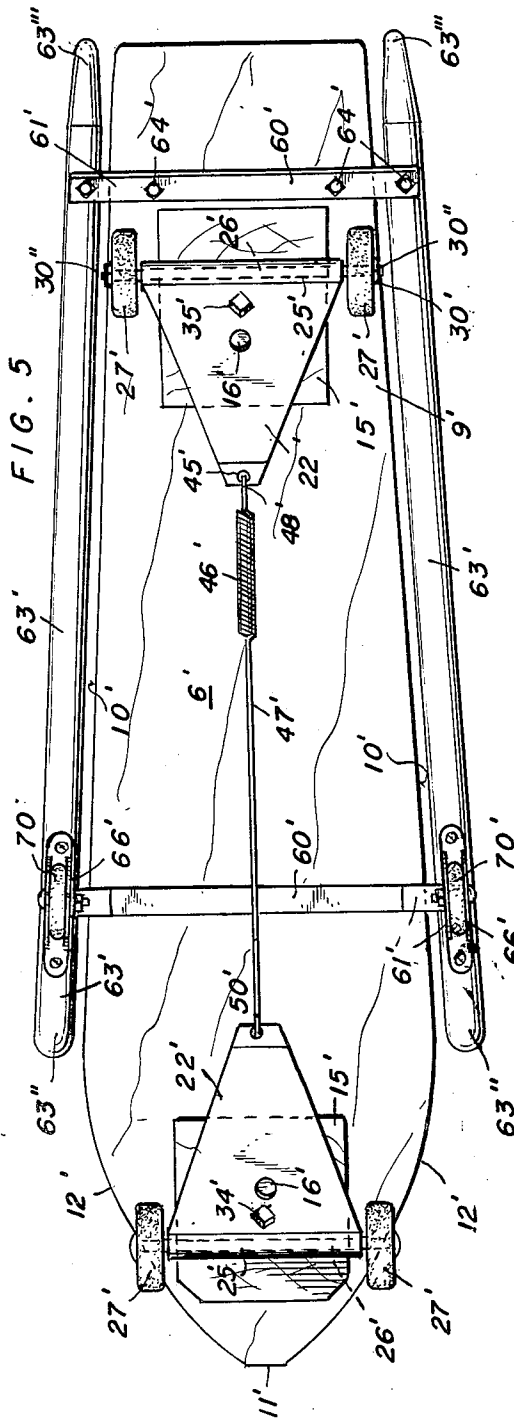
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CHILD'S COASTER

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2 Claims. (Cl. 280-87.04)

The present invention relates to improvements in toys, and more particularly to a child's self steering coaster adapted to be used in a standing position with one or both feet on the coaster platform.

One object is to provide a child's toy coaster which can be steered by the child during coasting by shifting his weight laterally while in a standing position to cause the supporting wheels to be steered at the front and rear of the supporting platform.

Another object is to provide a child's toy coaster which may be used by assuming a standing position on the platform and coasting down hill while in an erect position without the use of hands, and which is self steering by merely shifting the weight from one side to the other of a longitudinal central line extending through the platform. The coaster being arranged to travel along a straight line path while the child or occupant assumes a standing position on the wheeled platform with his body in complete equilibrium and balanced equally on opposite sides of the longitudinal platform center line.

Another object is to provide a child's coaster toy which can be inexpensively manufactured and comprises comparatively few parts to complete the structure.

Another object is to provide a child's coaster including a platform of sufficient length to support the child in a standing position and to provide triangular shaped block members located at the front and rear of the platform and provided with pivoted frame members having a wheel supporting axle, and in which the frame members are yieldingly urged toward a dead center line by a common connector spring to maintain the wheels in a position for traveling along a straight line path.

Another object is to provide a child's coaster as above set forth having stabilizing supporting wheels attached to the sides of the platform and supported by a unique outrigger structure.

Another object is to provide a child's foot coaster which is occupant steered and is provided with wheeled frames pivoted to the platform of the coaster in such a manner that rocking movement of the coaster platform on opposite sides of a longitudinal center line of said platform will cause said wheels to be turned in opposite directions by reason of the arrangement of the wheeled frames and the triangular supporting blocks secured to the underside of the platform.

Other objects and advantages of the invention will become apparent during the course of the following description taken with the accompanying drawing wherein:

FIGURE 1 is a side elevational view of the coaster toy embodying the present invention.

FIGURE 2 is an end elevational view of the coaster showing the approximate width of the platform and the supporting wheels arranged thereunder.

FIGURE 3 is a bottom elevational view of the coaster showing the wheeled frames pivoted to the inclined opposed surfaces of the triangular supporting blocks at each end of the coaster platform.

FIGURE 4 is a fragmentary side elevational view of the coaster showing the wheels removed at the rear thereof to illustrate the manner in which the wheeled frames are pivotally attached to a radius bolt extending obliquely through the platform and through the triangular block in parallel relation with one of the sides thereof.

FIGURE 5 is a bottom elevational view of a modified form of the invention showing stabilizer wheels arranged at the sides of the platform.

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FIGURE 6 is a fragmentary side elevational view of the front portion of the modified coaster showing the relative position of the outrigger structures and supporting wheels attached thereto; and;

FIGURE 7 is a front elevational view of the modified form of the invention shown in FIGURE 5 further illustrating the arrangement of the stabilizer wheels and the tubular outrigger structures which provide an abutment for the sides of the child's shoe while coasting.

In the drawing, and more in detail, attention is first directed to FIGURES 1 to 4 inclusive wherein there is shown a child's toy scooter or coaster having a platform generally designated 6 and front and rear wheeled frames likewise generally designated 7 and 8.

The platform 6 includes an elongated member 9 formed of wood or other lightweight material and shaped to provide diverging side edges 10 terminating at the front in a blunt end 11 and connected to the side edges 10 by curved portions 12. The rear portion of the coaster platform 9 is cut to provide a straight edge portion 13.

Secured to the underside of the platform 9 at the front and rear thereof is a pair of triangular blocks 14 and 15 which are secured in place by nails or other fastening elements 16 which are driven through the triangular blocks as shown in FIGURE 1 and are anchored in the underside of the platform 9. The triangular blocks 14 and 15 are formed from a rectangular block of wood or other lightweight material cut diagonally by sawing along the surface which is intended to abut the underside of the platform 9. Thus, wall surfaces 17 and 18 of exactly the same dimensions are formed and inclined wall surfaces 19 and 20 are similarly formed and arranged in opposed relation on the underside of the platform 9.

The wheeled frames 7 and 8 are identical in construction and include a triangular plate 22 having angular sides 23 and 24. The angular side 24 is bent as at 25 to form a tubular portion adapted to receive an axle 26 for the supporting wheels 27. The ends of the axle 26 may be upset as at 30 or provided with fastener elements such as nuts and the like to retain the wheels 27 in position and against displacement. The wheels 27 are similar to skate wheels and are of a diameter substantially approximating the diameter of conventional roller skate wheels.

The wheeled frames 7 and 8 are pivotally attached to their corresponding bolster blocks 17 and 18 by means of screws 34 and 35 which have their headed portions received in countersinks 36 in the platform 9 with their lower end projecting through an oblique passageway in the triangular blocks 17 and 18, and extending from the inclined surfaces 19 and 20. The bolts or machine screws 34 and 35 are of a length to pass through the bores in the triangular block and also extend through a bore 39 formed in the wheeled frame plates 22. An anchor nut 40 is threaded on the free ends of the bolts 34 and 35 to hold the wheeled frames 7 and 8 in position and in facial contact with the oblique surfaces 19 and 20 of the triangular blocks 17 and 18, but permit turning of said wheeled frames about the axis of the bolts 34 and 35. Each of the wheeled frames 7 and 8 is provided with an opening 45 for receiving the hooked ends of a retention member including a coil spring 46 having an elongated portion 47. The coil spring 46 is provided with a hooked end 48 which is received in one of the openings 45 and preferably of the rearmost wheeled frame 8 while the attenuated portion 47 terminates in a hooked end 50 which is received in the opening 45 of the front wheeled frame 7. Thus, the wheeled frames 7 and 8 are yieldingly held in a position to maintain the axles 26 of the roller wheels 27 in true transverse and parallel relation with respect to the platform 6. That is to say, that the axles are maintained in a direction transverse to the platform but in parallel relation one to the other.

In operation, the child stands upon the platform in a position of equilibrium and may coast down hill while in a standing position. While traveling along horizontal surfaces the child may balance himself on one foot and propel the coaster by pushing rearwardly on the surface with the other foot. When it is desired to turn to the right or left the child merely shifts his weight from one side to the other depending upon the direction of turning desired on opposite sides of the platform longitudinal center line. Thus, if it is desired to turn toward the right, he merely shifts his weight from a balanced position toward the right side of the platform and for making left turns the procedure is reversed. This can be accomplished by a very slight movement of the child's foot by rocking the foot sideways from the ankle joint and by reason of the inclined opposed surfaces 19 and 20 which support the wheeled frames 7 and 8 the self steering can be nicely controlled with a minimum of bending action of the child's foot to shift the weight from one side to the other of the longitudinal center line of the platform. When it is desired to stop the child may support himself on one foot and place his other foot on the ground surface.

In the modified form of the invention the coaster structure is the same as before and includes a longitudinal platform 6' formed of a board or the like 9' and terminating in a blunt point 11'. The divergent side edges 10' are curved at their forward portions as at 12' and merge with the blunt edge portion 11'.

Triangular blocks 15' are secured to the underside of the platform 9 by nails or threaded fasteners (not shown) and the triangular coaster trucks or frames 22' are pivoted to the triangular blocks 15' by means of bolts 34' and 35'. As before, the triangular coaster truck plates 22' are curled to form axle housings for the axles 26' having wheels 27' held in place by threaded fasteners 30' threaded on portions 30'' on the ends of the axles 26'. The coil spring 46' is provided with a hooked end 48' which is received in an opening 45' in the rear triangular truck plate 21', while the attenuated portion 47' of the spring is provided on its free end with a hook 50' received in the opening 45' of the front triangular coaster truck frame plate 22'.

Secured to the underside of the elongated platform 6' is a pair of spaced transversely extending frame bars 60' the ends of which extend beyond the edges 10' of the platform and are angularly bent upwardly as at 61' and terminate in horizontal portions 62'.

Connecting the projecting ends 61' of the transverse frame bars 65' are tubular outrigger members 63' formed of aluminum or a similar lightweight metal and said outrigger bars 63' are secured to the projecting ends 61' by threaded fasteners 64' which extend through openings in the projections 61' and are anchored in the outrigger bars 63' as shown in FIGURE 7. The bars 63' provide sole edge engaging guides for the shoe of the person or child riding on the coaster and are intended to center the shoes of the child so that one foot is in front of the other.

Secured to the projecting ends 61' of the transverse frame bars 60' at the front portion of the coaster is a pair of U-shaped brackets 66' which have spaced parallel depending legs 68' provided in their lower portion with aligned openings for receiving an axle bolt 69'. Outrigger wheels 70' are mounted on the axles 69' and are disposed between the depending arms 68'. The wheel supporting brackets 66' are provided with an opening 71' for receiving the projections 61' and the transverse portion of the bracket 66' is sandwiched between the projections 61' and the outrigger bars 63' in such a manner as to be held in secure position by the threaded members 64' which may be in the form of wood or machine screws depending upon the structural material used for the outrigger bars 63' as shown in FIGURE 7 in which

the left hand portion of the figure illustrates the structure in section.

The front ends of the outrigger bars 63' may be rounded as at 63'' while the rear ends may be tapered as shown at 63''' to resemble the shape of a jet tail pipe.

In use, the coaster is operated similar to the one described in FIGURES 1 to 4 inclusive but the operator standing upon the platform 9' will be stabilized in the event of overbalancing by the outrigger wheels 70' which are arranged with their axes above the axis of the front axle 26' so that a wide range of tilting action of the platform 9' may be had before the stabilizer wheels 70' contactually engage the ground surface.

The coaster shown in FIGURES 1 to 7 inclusive is operated solely by the feet of the child without the use of hands to assist in steering, and the child may become skilled in the operation of the device by assuming a position of equilibrium on the platform while standing and merely shifting his weight by turning his ankles to the right or left about the ankle joint to steer the coaster in the desired direction.

It is to be understood that the forms of the invention herewith shown and described are to be taken as preferred embodiments thereof, and that various changes in the shape, size and arrangement of the various parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claims.

The platform 9 shown in FIGURES 1 to 4 inclusive and the platform 9' shown in FIGURES 5 to 7 inclusive should be of a length slightly greater than twice the length of the child's shoe, and preferably of a length of 24 inches or more to accommodate the child's shoes when standing upon the platform with one foot in front of the other and in a position of equilibrium while standing erect.

Having thus described the invention, what I claim is:

1. In a child's coaster adapted to be steered solely by the use of the feet and without hands, comprising an elongated platform of a length to permit the child to stand on the platform with one foot in front of the other, triangular blocks having three sides including a hypotenuse side and opposed right angle sides, said blocks being mounted on the underside of the platform located at the front and rear thereof with the hypotenuse side affixed to the underside of said platform, relatively flat triangular shaped, coaster wheel frame plates pivoted to one of the right angular opposed faces of each of said triangular blocks and supported by substantially the entire area of the surface thereof, coaster wheels supported by said frame plates with their axis along one side of said flat triangular shaped coaster wheel frame plates, a spring member connecting said plates to hold the coaster wheels in position for movement along a straight line path, and outrigger bars attached to the sides of the platform to engage and guide the edges of the child's shoe when standing on the platform with one foot in front of the other, said coaster being adapted to be steered by the shifting of weight from one side to the other of a longitudinal center line extending along said platform.

2. In a child's coaster adapted to be steered solely by the use of the feet and without hands, comprising an elongated platform of a length slightly greater than twice the length of the child's shoe to permit the child to stand on the platform with one foot in front of the other, triangular blocks having three sides including a hypotenuse side and opposed right angle sides, said blocks being mounted on the underside of the platform and located at the front and rear thereof with the hypotenuse side affixed to the underside of the platform, coaster wheel frame plates pivoted to said triangular blocks arranged one on each of the right angular opposed faces thereof and supported by the surface thereof, coaster wheels supported by said frame plates, a spring member connecting said plates to hold the coaster wheels in a straight line one behind the other, outrigger bars along

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the sides of said platform, and stabilizing wheels supported by said bars with their axis of rotation above the axis of the coaster wheels and arranged to extend diagonally at an angle to the center line of said platform.

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