

C. H. PAJEAU.
WHEELED TOY.
APPLICATION FILED SEPT. 22, 1919.

1,333,216.

Patented Mar. 9, 1920.

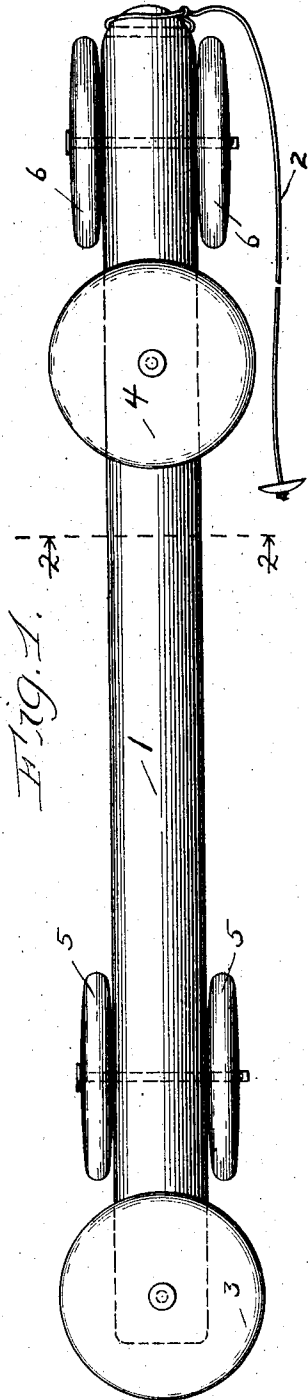


Fig. 1.

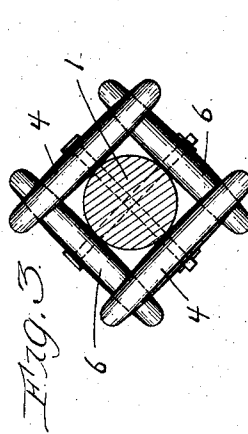


Fig. 3.

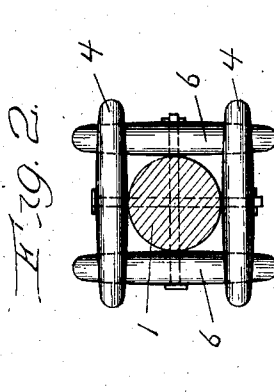


Fig. 2.

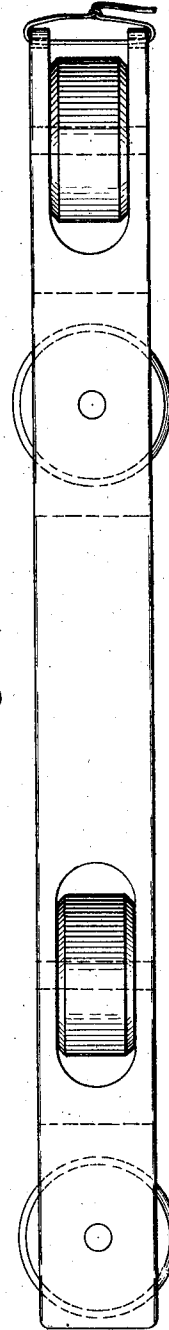


Fig. 4.

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WHEELED TOY.

1,333,216.

Specification of Letters Patent.

Patented Mar. 9, 1920.

Application filed September 22, 1919. Serial No. 325,507.

To all whom it may concern:

Be it known that I, CHARLES HAMILTON PAJEAU, citizen of the United States, residing at Evanston, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Wheeled Toys; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to wheeled toys and in its general objects aims to equip such a toy with wheels arranged so that they will operate interchangeably in any position into which the toy may be tipped, and so disposed that the toy will speedily right itself on other wheels if tipped off those which previously supported it. More particularly, my invention aims to provide a wheeled toy with auxiliary wheels arranged for operating interchangeably with the regular wheels of the toy; to dispose these auxiliary wheels so that they will be operated when the toy is tipped or rotated for a quarter turn about its longitudinal axis, to arrange both sets of wheels so that the inoperative ones will be out of contact with the floor, to provide such an effective spread of the wheels as will afford a high degree of stability for the toy, and to dispose both sets of wheels so that the toy will be comparatively unstable when in any position intermediate between the two positions in which the two sets of wheels are respectively operative.

In playing with toys of this general class, the average child is neither sufficiently careful nor sufficiently experienced to avoid a frequent tipping of the toy on one side or the other, thereby rendering the wheels inoperative and causing parts of the toy to scrape on the floor or to catch on rugs. Consequently, such toys as commonly in use are a frequent source of damage and also cause the child to waste a good deal of its time and patience in righting the toy. To overcome these objections and to increase the enjoyment afforded by such toys, my invention aims to provide a wheeled toy equipped in duplicate with wheels so arranged that the two sets of wheels will operate interchangeably with each other, and to dispose these wheels so that a tipping or rotating of the body of the toy for a quarter turn about its longitudinal axis will transfer the support from one set of wheels to the other. Still further objects will appear from the follow-

ing specification and from the accompanying drawings, in which drawings—

Figure 1 is an elevation of an eight wheel toy embodying my invention.

Fig. 2 is a vertical cross-section of the toy taken along the correspondingly numbered line of Fig. 1.

Fig. 3 is a similar section taken with the toy tipped to the unstable intermediate position.

Fig. 4 is an elevation of the four wheeled toy also embodying my invention.

In the embodiment of Figs. 1 to 3 inclusive the toy as illustrated includes a body 1 adapted to be drawn by a string 2 and supported by two pairs of wheels 3 and 4 pivoted to the body 1 on horizontal axles extending transversely of the said body. The body of the toy also carries a second set of wheels 5 and 6 pivoted to the body 1 on axles extending vertically and transversely of this body. All eight of the wheels are desirably equivalent in size and each wheel is larger in diameter than the extreme length of the shaft or mounting for the same, so that with the toy in the position of Fig. 1, only the wheels 3 and 4 contact with the floor. Likewise, if the toy is tipped or rotated for ninety degrees about the longitudinal axis of its body, the floor will be engaged only by the auxiliary wheels 5 and 6, while the wheels 1 and 2 as well as the mountings for the same will clear the floor. Consequently, the toy can be set down with either of the sets of wheels engaging the floor and can be pulled along without having any parts of the body or axles scrape on the floor.

For the desired stability, I preferably spread each pair of wheels to a spacing which approximates the diameter of the companion wheels while still leaving a sufficient difference in these dimensions to afford the floor clearance above described. I also desirably space the wheel members of each set so as to afford a wheel base of considerable length, this being easily done by making the wheel base more than three times the diameter of the wheels. With the parts thus proportioned, the ordinary tipping of the toy will simply transfer the support from one set of wheels to the other and the toy may thus be tipped for quarter turns about its longitudinal axis as often as desired and in either direction while still maintaining it equally operative. Furthermore, by spreading each pair of wheels

so that the distance between the outer faces approximates the diameter of the companion wheels, I cause the wheels of the toy to have a quite narrow and effective spread between their bearing points longitudinally of the toy when the toy is tipped for only one-eighth of a turn from any one of its normal positions, or into the position of Fig. 3. That is to say, the adjacent wheel base lines which are simultaneously effective when the toy is tipped to this position are so close to each other that it will require only a slight tilting toward either side to carry the center of gravity of the toy outside of these lines, whereupon the toy rights itself in the position of Fig. 2. Consequently, the toy when in this position will be so unstable that a slight jarring of the same will tip it into the position of Fig. 1 or into a corresponding position at right angles to Fig. 1. When using such a toy, it will therefore be unnecessary for the child to pay any attention whatever to the position of the toy, as no tipping of the same will interfere with its rolling along on some of its wheels, and even if the toy is lifted entirely off the floor or raised and jerked when striking against objects on the floor, the toy will instantly right itself and be in position for continued operation.

However, while I have heretofore described the toy of my invention in a certain desirable embodiment, I do not wish to be limited to the details of construction or arrangement thus disclosed, it being obvious that the same might be modified in many ways without departing from the spirit of my invention. For example, each pair of oppositely disposed wheels as heretofore mentioned might be considered as a single wheel member and the purposes of my invention may be accomplished by employing a single wheel as such a wheel member. In this case, I desirably make the single-piece wheel members relatively wide as shown for example in Fig. 4, so as to insure the desired approaching of the two wheel-base lines when the toy is tilted for only forty-five degrees about its longitudinal axis, but still maintain the same general proportioning of the parts, so that the diameter of each wheel will be greater than the extreme width of the toy in a direction at right angles to the axis of the wheel.

I claim as my invention:

1. A wheeled toy including a body, and two interchangeably operative pairs of wheel members, the members of each pair having a sufficient lateral spread for affording a stable support for the body, the two pairs of wheel members being so disposed that the support is transferred from one to the other whenever the toy is rotated a quarter turn about its longitudinal axes.

2. A wheeled toy including a body, and two sets of interchangeably operative wheels, the wheels of each set being substantially alined with each other and at right angles to the wheels of the other set, and the wheels of each set being adapted to afford a stable support for the body.

3. A wheeled toy having two pairs of interchangeably operative wheels, the wheels of each pair being substantially alined with each other and at right angles to the wheels of the other pair, the wheels of each pair being larger in diameter than the extreme width of the toy in a direction transverse to the face of these wheels.

4. A wheeled toy including a body, two relatively transverse shafts carried thereby, and two wheels respectively mounted on the shafts, the diameter of each wheel being greater than the extreme width of the toy in the direction transverse to the face of the wheel.

5. A wheeled toy having two pairs of interchangeably operative wheel members, the wheel members of each pair being substantially alined with each other and at right angles to those of the other pair, the adjacent wheel base lines of the two pairs of wheel members being nearer to each other than the effective spread of each wheel member.

6. A wheeled toy having interchangeably operative wheels so disposed that the support is transferred from one to the other whenever the toy is rotated a quarter turn about its longitudinal axes, and so that a rotating of the toy for an eighth of a turn from one of the aforesaid positions will afford a relatively unstable position in which the interchangeably operative wheels cooperate in the supporting.

7. A wheeled toy having two sets of wheels so disposed that the wheels of either set will alone afford a relatively stable support for the body of the toy, while the wheels of both sets can cooperate in jointly affording a less stable support for the body of the toy.

8. A wheeled toy having interchangeably operative wheels so disposed that the support is transferred from one to the other whenever the toy is rotated a quarter turn about its longitudinal axes, and so that a rotating of the toy for an eighth of a turn from one of the aforesaid positions will cause the interchangeably operative wheels to cooperate in the supporting and to then maintain the center of gravity of the toy higher than when the support is provided only by one or the other of the interchangeably operative wheels.

Signed at Evanston, Illinois, September 18th, 1919.

CHARLES HAMILTON PAJEAU,