Dec. 30, 1924. 1,521,573

P. MYERS

WHEELED TOY

Filed Sept. 17, 1923 2 Sheets-Sheet 1

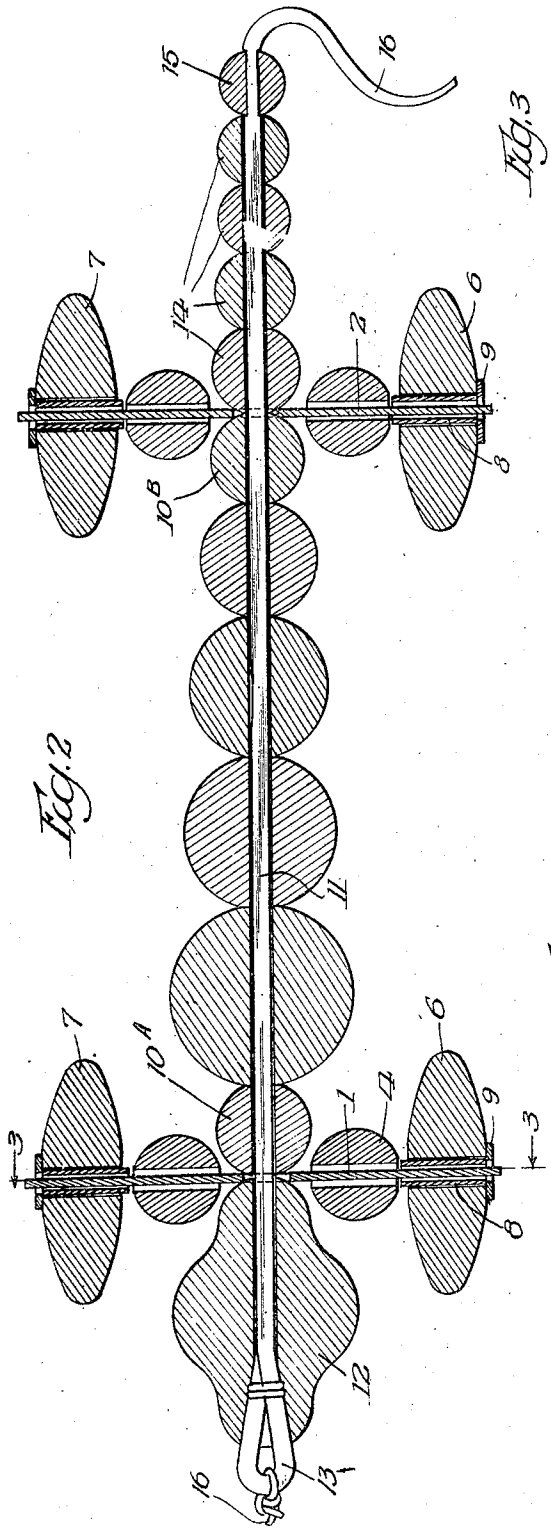


Fig. 2

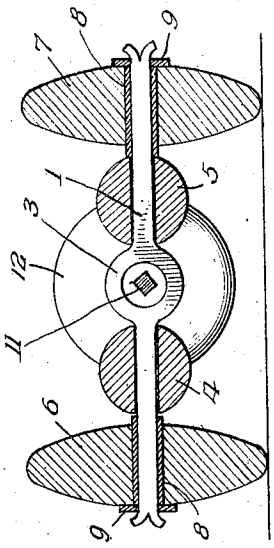


Fig. 3

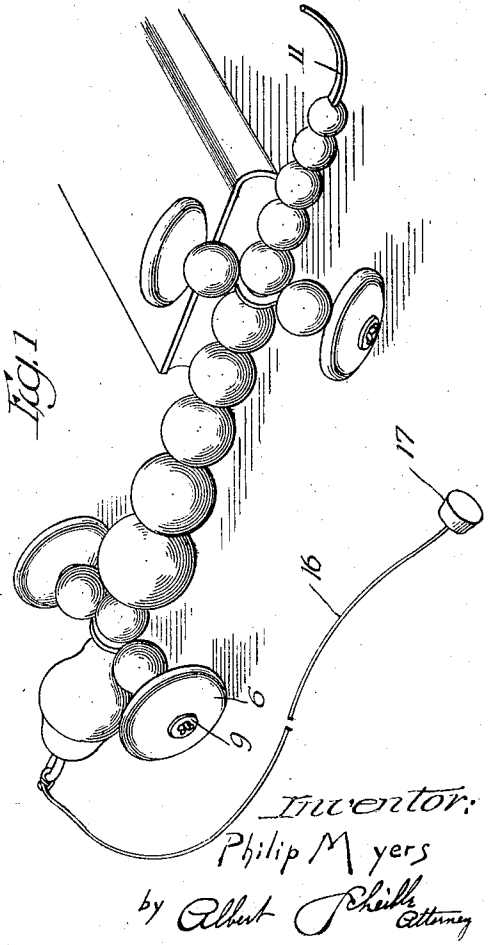


Fig. 1

Inventor:
Philip Myers
by Albert Sheills
Attorney

Dec. 30, 1924. 1,521,573

P. MYERS

WHEELED TOY

Filed Sept. 17, 1923 2 Sheets-Sheet 2

Fig. 4

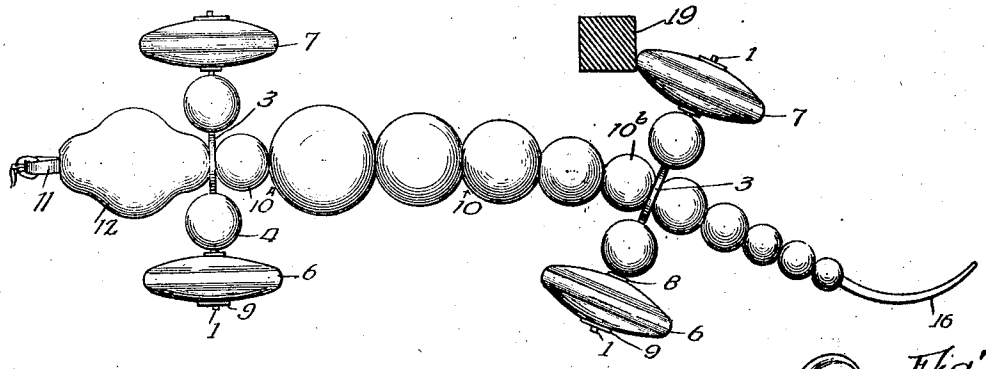


Fig. 5

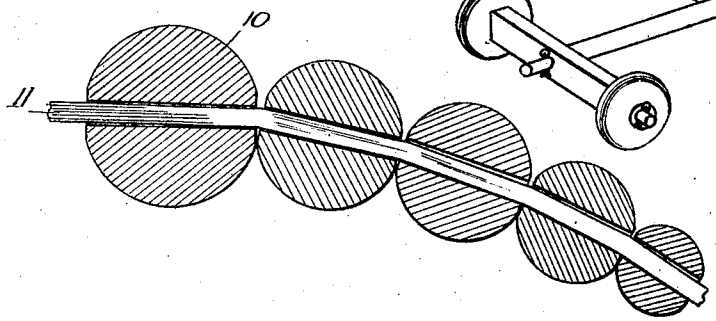
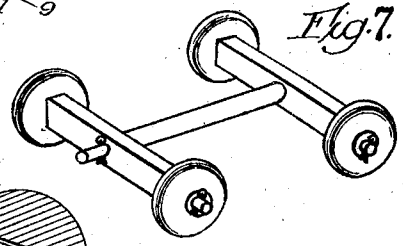


Fig. 7.



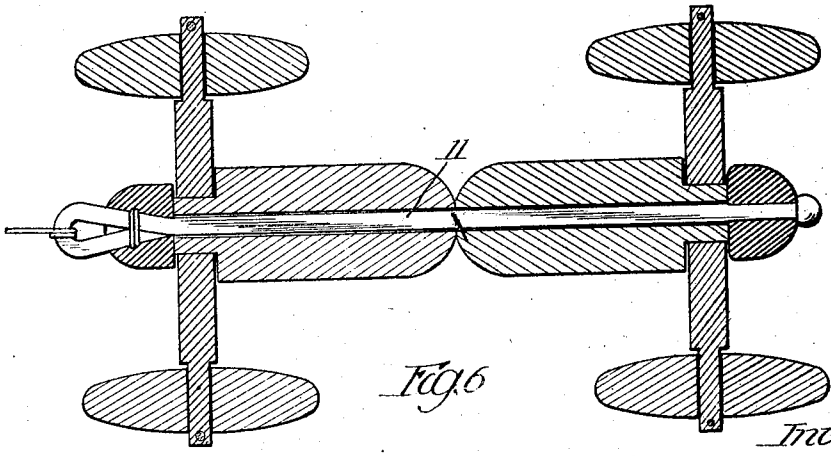


Fig. 6

Inventor:

Philip Myers

by Albert Scheible Attorney

Patented Dec. 30, 1924. 1,521,573

UNITED STATES PATENT OFFICE.

PHILIP MYERS, OF GLENVIEW, ILLINOIS.

WHEELED TOY.

Application filed September 17, 1923. Serial No. 663,077.

To all whom it may concern:

Be it known that I, PHILIP MYERS, a citizen of the United States, residing at Glenview, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in a Wheeled Toy; 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 of the general class adapted to be drawn along the floor by a child. With such vehicles as heretofore offered on the market in a large variety of forms, the pleasure of the child using the same is often interrupted by his having the vehicle tipped over on its side, or by getting some one of the wheels caught on adjacent furniture. With a small child, such an occurrence not only interrupts his play and leads to his crying over the mishap, but also often necessitates the assistance of some older person to right or extricate the toy. Consequently, toys of this kind have not heretofore afforded the uninterrupted enjoyment of a child having no supervision for his play.

My present invention aims to overcome this handicap by providing a construction for a toy vehicle which will cause the vehicle to right itself automatically after encountering any obstacle in its path which would upset a wheeled toy of ordinary construction; also, to provide a construction which will cause the toy vehicle to extricate itself automatically when one of its wheels catches on a table leg, chair leg or the like. Furthermore, my invention provides a wheeled toy construction which will automatically permit the toy vehicle to vary its shape while being drawn about, which will be inexpensive in construction and which will readily lend itself to the production of toy vehicles of novel configuration. Still further and also more detailed objects will appear from the following specification and from the accompanying drawings, in which—

Fig. 1 is a perspective view of a wheeled toy embodying my invention, showing this as it appears when one of its rear wheels is riding over a book on the floor.

Fig. 2 is an enlarged horizontal section through the same toy, taken along the axes of the two wheel axles.

Fig. 3 is a transverse vertical section taken along the line 3—3 of Fig. 2.

Fig. 4 is a plan view showing how the toy vehicle can extricate itself after one of its rear wheels has caught on a table leg or chair leg in the path of this wheel.

Fig. 5 is an enlarged section through a portion of Fig. 4, showing how the perforate members strung upon the elastic cord roll on each other and elongate the cord.

Fig. 6 is a horizontal section similar to Fig. 2 but showing a simplified embodiment of my invention.

Fig. 7 is a plan view of another simplified embodiment.

In the embodiment of Figs. 1 to 5 inclusive, the toy of my invention comprises a pair of wheel-carrying axles spaced by an elastic reach which permits these axles to be moved out of their normal parallel relation to each other, each of the wheel shafts being rotatable about the adjacent portion of the reach as an axis. The reach proper, or the member which extends longitudinally of the vehicle and which connects the two wheel-carrying axles, desirably consists of a number of consecutively disposed elements which are movable with respect to each other and which normally space the wheel axles from each other by a fixed distance. For this purpose, I desirably employ a series of perforated elements, such a wooden beads, and a flexible member extending through these perforated elements and normally holding the two wheel axles respectively against the two end elements of the series. I also desirably employ this same flexible element as a support for another member which extends in front of the forward wheel shaft to form a tongue for the vehicle. If the tongue and reach portions simulate parts of an animal in configuration, I may likewise employ the flexible member as means for supporting a rearwardly projecting extension of the reach in simulation of the tail of this animal, as shown in Figs. 1 and 4.

Furthermore, I desirably employ an elastic, such as a soft rubber cord for the flexible member which carries these reach, tongue and tail portions, and I preferably assemble the perforated elements on this elastic when the latter is under tension, so that the resiliency of the elastic will tend to maintain at least the portion between the

two wheel axles substantially straight and will automatically aline the series of perforate elements after they have been moved out of alinement by the encountering of any obstacle in the path of the vehicle. Moreover, I desirably arrange the wheel shafts and the adjacent perforate elements so that each shaft will be pivoted freely upon these adjacent elements and will be kept by the latter from direct engagement with the elastic cord.

Illustrative of such a construction, the drawings show a vehicle having two wheel shafts 1 and 2, each of which has its central portion enlarged to form a ring 3. This ring spaces two beads 4 and 5 respectively slipped upon the shaft from opposite ends of the latter and these beads in turn space the wheels 6 and 7 from the ring portion 3, each of the wheels being desirably sleeved upon a metal bushing 8 slipped over the adjacent end of the shaft, and being desirably retained on the shaft by slipping a metal washer 9 on the adjacent end and then expanding the tip of the shaft as shown in Fig. 3.

Interposed between the two wheel shafts are a series of perforated beads 10, all of which are strung loosely upon a soft rubber cord 11, the cord being desirably smaller in diameter than the bore of the ring portions 3 of each wheel shaft. At the front of the vehicle, the cord 11 is also shown as extending loosely through the main portion of the bore of a head piece 12 and the cord has its forward end doubled back upon itself into a loop 13 wedged in the forward end of the said bore.

At the rear end of the vehicle, the rubber cord 11 is shown as extending loosely through a series of beads 14 and as being tightly wedged in the tail end bead 15, this wedging action being readily secured by sliding the tail end bead over the elastic cord when the latter is stretched to such an extent as to reduce its diameter considerably and then releasing the tension on the cord.

In assembling the beads and the wheel shafts, the elastic cord 11 is placed under tension, so that the length of the part of this cord between the forward bead 12 and rear bead 15 is considerably greater than the normal length of that portion of the elastic. Owing to this stretching of the cord, its tension automatically normally holds the consecutive beads in tightly abutting relation, while its flexibility permits the consecutive beads to roll upon each other as shown in Figs. 4 and 5, thereby allowing the reach of the vehicle to be disposed in the form of a curve and hence permitting the vehicle to extricate itself whenever one of its wheels encounters an obstacle, such as the leg of a chair or table, as shown for example in Fig. 4. That is to say, if one of the rear wheels catches on the leg 19 of a chair or table, the continued forward pulling of the vehicle by the usual cord 16, which is here shown as having a knob 17 secured to its forward end, will cause the reach portion of the bead series and of the rubber cord to be flexed until the wheel engaging such an obstacle can extricate itself, after which the elasticity of the rubber cord automatically straightens the reach.

By forming the ring portion 3 of each wheel axle with a bore of ample size, I cause the two beads at opposite sides of this shaft to extend into the bore of the ring into direct engagement with each other, so that they will combine in affording a pivotal mounting for the axle with respect to the reach of the vehicle. In doing so, these adjacent beads also prevent the metal ring portion 3 from contacting directly with the elastic cord and hence avoid the possibility of having the metal wheel axle cut the cord. Owing to the pivotal mounting thus afforded for the axles, each of these is independently rotatable about the axis of the reach of the vehicle. Consequently, if any wheel of the vehicle encounters an object of limited height on the floor, it can ride over the same by correspondingly tipping the shaft carrying this wheel without tilting the vehicle as a whole and hence without upsetting the latter, as shown for example in Fig. 1. So also, if the vehicle is lifted or tossed on the floor from any angle, the independent rotatability of the wheel axles with respect to the reach connecting the same will cause each axle to swing automatically into its normal horizontal position whenever one wheel on this axle encounters the floor, so that the toy vehicle even when handled roughly and without the exercise of any judgment will still keep its wheels in proper operative disposition. Consequently, the pleasure of the child in using such a toy is uninterrupted and no attention or aid on the part of any older person is required even for a young child when amusing himself with a toy vehicle as above disclosed.

However, while I have heretofore described my invention in a form in which the body of the vehicle resembles an animal and is composed mainly of spherical beads, I do not wish to be limited to any particular configuration of the various parts, nor do I wish to be limited to the various details of construction and arrangement as above described. Obviously, these might be varied in many ways without departing either from the spirit of my invention or from the appended claims. For example, Fig. 6 shows a section through a simplified embodiment in which the reach of the vehicle is composed of two tubes presenting convexed ends towards each other and each extending through one of the wheel-carrying axles.

Fig. 7 shows a still more simplified form in which a single-piece reach 20 extends through medial perforations in the two wheel-carrying axles 1 and 2, the reach being kept by spring cotters 21 from sliding lengthwise of the axles.

I claim as my invention—

1. A toy vehicle having two wheel-carrying axles and a reach extending through both thereof and spacing the axles, both axles being pivoted upon the reach so as to be freely and completely rotatable about the axis of the reach.

2. A toy vehicle comprising a resilient and normally straight reach and two normally parallel wheel-carrying axles connected by the reach and both rotatable about the latter as an axis, the resiliency of the reach being such as to permit the axles to move out of their normal parallel relation.

3. A toy vehicle comprising a pair of normally parallel wheel-carrying axles, and a resilient member extending transversely through both axles medially of the latter to form a reach and a tongue, both axles being pivoted upon the reach so as to be freely rotatable about the reach as an axis.

4. A toy vehicle comprising a stem extending longitudinally of the vehicle and a plurality of wheel-carrying axles pivoted upon the stem for rotation about the stem as an axis, the portion of the stem between the axles being flexible and having inherent resiliency tending to maintain the same straight.

5. A toy vehicle comprising a stem member consisting of beads strung upon a flexible element, a pair of axles each having a medial portion provided with a perforation through which the flexible element freely extends, and a pair of wheels mounted on each axle, each axle having its perforated medial portion disposed between two adjacent beads.

6. A toy vehicle comprising a stem member consisting of beads strung upon a flexible element, a pair of wheel-carrying axles each having a medial portion provided with a perforation through which the flexible element freely extends, and a pair of wheels mounted on each axle, each axle having its perforated medial portion disposed between two of the beads and having its said medial perforation of such a size as to permit the two beads between which the axle is disposed to contact with each other so as to space the flexible member from the bore of the perforation.

7. A toy wheeled vehicle comprising a pair of spaced and wheel-carrying axles each having a medial perforation transverse thereof, an elastic flexible member extending through the said perforations, and a plurality of spacer members strung upon the flexible member between the two axles, the normal length of the flexible member between the two axles being less than the joint length of the spacer members.

8. A toy vehicle comprising a pair of wheel-carrying axles, an elastic cord connecting the medial portions of the two axles, and spacer elements strung upon the elastic cord between the two axles and having a joint length greater than the normal length of the portion of the elastic cord between the two axles.

9. A toy vehicle comprising a pair of wheel-carrying axles, an elastic cord connecting the medial portions of the two axles, and spacer elements strung upon the elastic cord between the two axles and having a joint length greater than the normal length of the portion of the elastic cord between the two axles, the spacer elements presenting convex surfaces towards each other.

10. A toy vehicle comprising a pair of wheel-carrying axles, an elastic cord connecting the medial portions of the two axles, and spacer elements strung upon the elastic cord between the two axles and having a joint length greater than the normal length of the portion of the elastic cord between the two axles, the spacer elements disposed between the axles having bores greater in diameter than the elastic cord.

11. A toy vehicle comprising a pair of wheel-carrying axles each having a transverse perforation, an elastic member extending through both perforations, and perforate members strung upon the elastic member, the perforate members including spacer members disposed between the two axles and other members disposed respectively ahead of the front axle and behind the rear axle, the elastic member being secured to the endmost of the perforate members.

12. A toy vehicle comprising a pair of wheel-carrying axles each having a transverse perforation, an elastic member extending through both perforations, and perforate members strung upon the elastic member, the perforate members including spacer members disposed between the two axles and other members disposed respectively ahead of the front axle and behind the rear axle, the elastic member being secured to the endmost of the perforate members and projecting beyond the rearmost perforate member to form a tail for the vehicle.

Signed at Chicago, Illinois, Sept. 13th, 1923.

PHILIP MYERS.