

April 29, 1947.

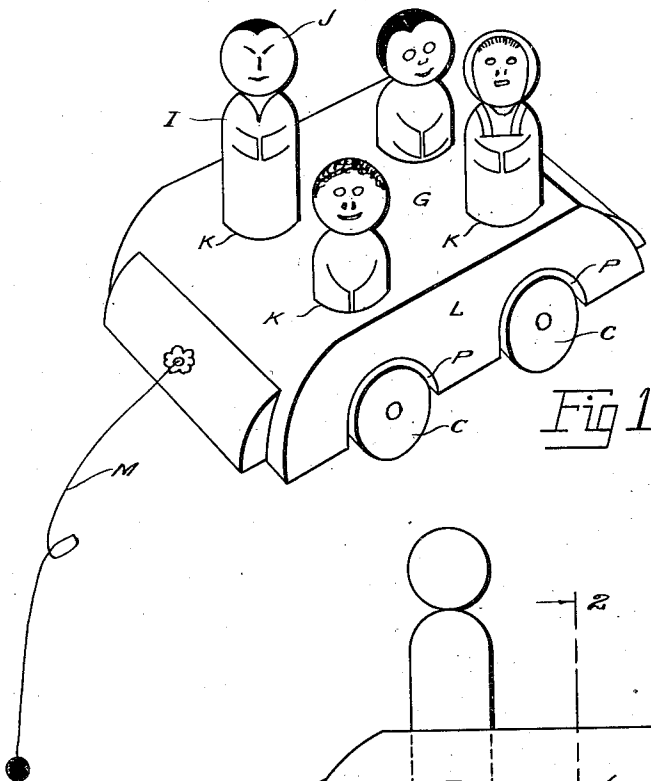
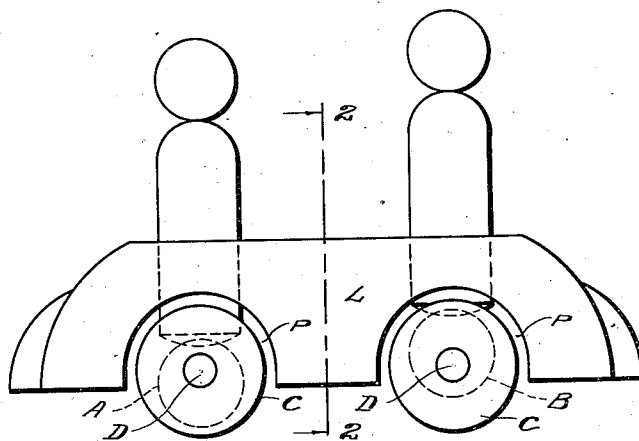
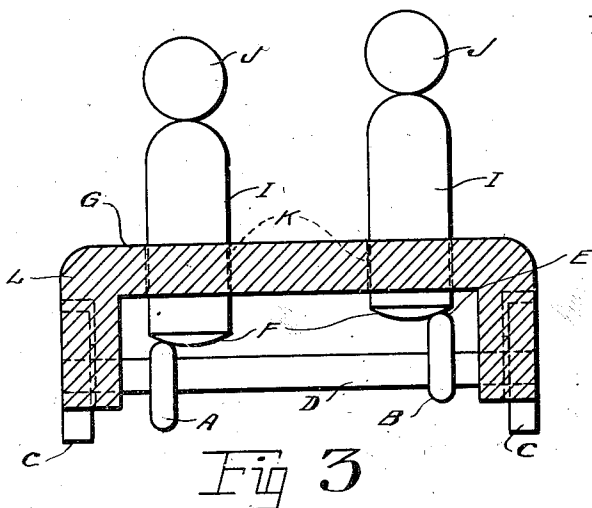
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2,419,872

TOY

Filed Dec. 22, 1945

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

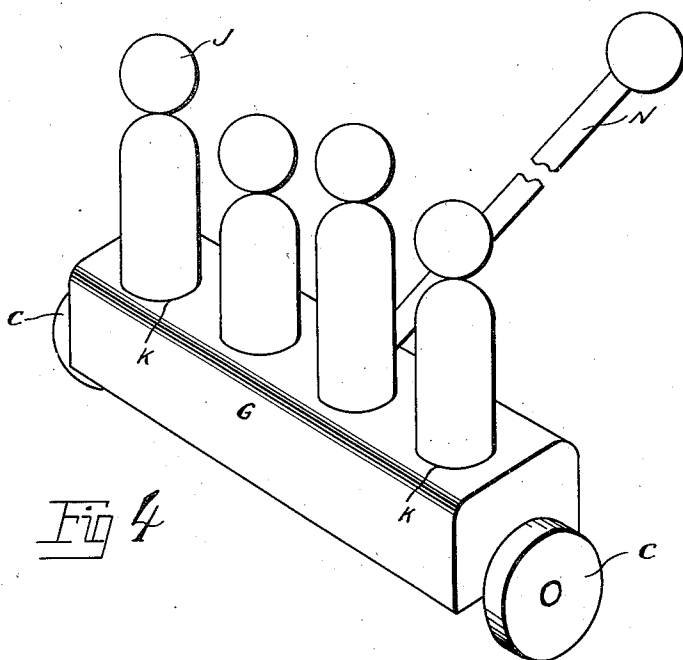


Fig 4

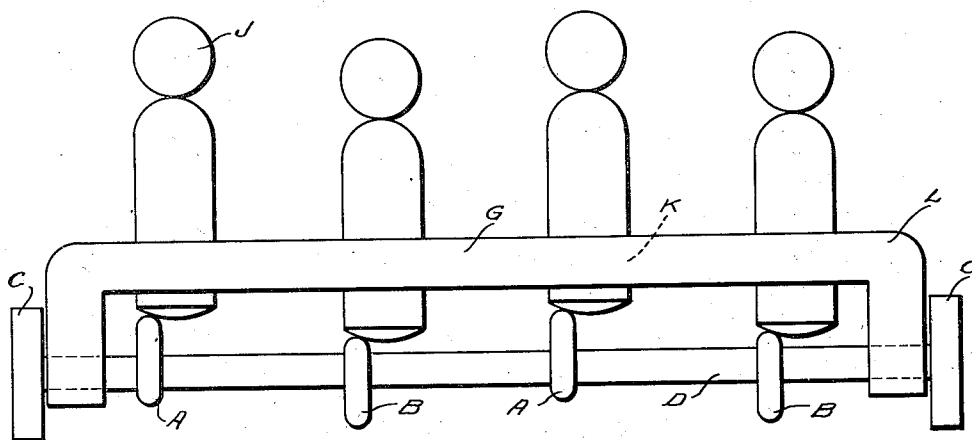


Fig-5

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UNITED STATES PATENT OFFICE

2,419,872

TOY

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Application December 22, 1945, Serial No. 636,740

9 Claims. (Cl. 46-107)

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This invention relates to improvements in wheeled toys and more particularly to push and pull vehicle toys.

One of the objects thereof is to provide a simple, efficient, and inexpensive miniature toy vehicle with an action-simulating arrangement of toy figures.

Another purpose thereof is to provide a wheeled toy with axle actuated means for imparting to surmounted toy figures an automatically impelled bobbing up and down as well as a swivelling or rotating movement.

A further object thereof is to provide a wheeled toy with rows of movable toy figures in connection with which concealed mechanism is arranged with a well-balanced effect, to alternately raise and lower in a staggered relationship of successive movements, these toy figures, whilst also imparting to them a revolving action.

A final object of this invention is to provide a miniature toy vehicle designed to be either pulled or pushed by an infant which present at the top of the vehicle body a series of figure bodies and heads of varied racial complexions, which, as the vehicle is in the course of movement bob up and down in a definite order at the same time as they revolve.

With the above and further objects in view my invention consists in the combination, arrangement, and details of construction disclosed in the drawings and specification and then more particularly pointed out in the appended claims.

In the drawings wherein similar reference characters designate similar parts throughout the respective views:

Figure 1 is a perspective view of one form of my invention,

Figure 2 is a side elevation thereof,

Figure 3 is an end elevation thereof, with end walls removed,

Figure 4 is a perspective view of a modification of my invention, and

Figure 5 is an end elevation of Figure 4.

In the drawings, which are merely illustrative of my invention a wheeled toy is disclosed for a push or pull action upon any plane surface. It comprises a toy vehicle frame consisting of a flat table G having depending oppositely arranged side walls L preferably wider in dimensions than the table. The ends of the frame may, if desired, be closed in any desirable manner. A pair of axles D is provided, each having its ends revolubly mounted in the side walls of the vehicle, and each axle carries a pair of traction wheels C at its ends. The side walls L may have

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suitable recesses P cut away to snugly receive in imbedded relation the traction wheels C, as illustrated in Figures 1 and 3.

The table G extends in a horizontal plane across between the side parallel walls L and is formed with rows of cylindrical holes K serving as guides for toy figure bodies. These toy figure bodies are legless, consisting each of a head J and a plug-shaped elongated cylindrical body I. It is essential that, in a plane at right angles to the axes of these cylindrical bodies I, at their lowermost ends F, these figure bodies be formed with smooth globular surfaces, being in effect cylindrical convex portions with cylindrical peripheries. These figure bodies are designed to rotate snugly in the cylindrical holes K and at the same time to bob up and down intermittently so as to project partly above and partly below the table at all times whether at rest or in movement. The heads J of these figures, in keeping with the idea of promoting physical attractiveness, may be painted to simulate children of diverse races such as Caucasian, Mongolian, Negro and Malay races.

Means is provided for simultaneously supporting and actuating the movement of the legless toy figure bodies. Simplicity and inexpensiveness of design is attained which also furthers the idea of balancing and counter-balancing the bobbing of successive figures. To this end I fix upon the axles D eccentric friction disks A and B with relatively high and low points presented for engagement with the toy figure bodies so that their low points are out of phase. Each of these friction disks has a periphery which is smoothly obtuse in cross-section, well rounded out as are the lowermost ends F of the plug-like figure bodies.

It will be seen that the convex peripheries of the eccentric friction disks engage the outer cylindrical edges of the plug bodies at F; these plug body surfaces are thus caused to have a miter-gear driven relationship with respect to the friction disks, furnishing the horizontally turning wheel component thereof, whereas the friction disks provide the vertical wheel component. A smooth frictionless drive is had for the plug-bodies I, whereby they are revolved continuously as the vehicle body is impelled along the floor by the infant who pulls at the string M attached to one end of the miniature vehicle. As the toy figures thus revolve they also move up and down intermittently due to the eccentric lobes of the friction disks alternately presenting high and

low points for engagement with the convex surfaces at the lower ends of the toy figures.

In Figures 4 and 5 is illustrated a modification of my invention where the miniature toy vehicle simulates a lawn mower in action due to providing an inverted U-shaped frame with top G and ends L with a push handle or rod N.

The construction, arrangement and shape of the parts are otherwise exactly as set forth hereinbefore in the particular that the eccentric friction disks are arranged in successive alternating pairs A and B for actuating in rotation and reciprocation the particular single row of toy figure bodies shown. I do not intend to confine myself to the exact details of construction save as pointed out in the appended claims.

What I claim and wish to secure by Letters Patent is:

1. A wheeled toy consisting of a hollow vehicle body having opposing side walls, axles having ends mounted in said side walls and carrying traction wheels, the top of the vehicle body being formed with a plurality of openings, figures snugly reciprocable in said openings in a vertical plane, and means controlled by said axles for actuating said figures as they impart a rotating movement to them.

2. A wheeled toy comprising a vehicle body consisting of a top part formed with rows of holes and oppositely arranged depending side walls, axles having ends revolubly mounted in said side walls, traction wheels on said axles, toy figures having plug-shaped bodies slidably reciprocable in said holes, and means carried by said axles engageable with said plug-like bodies to simultaneously rotate and reciprocate them.

3. A device as described comprising a toy vehicle body consisting of a top formed with a series of holes, and oppositely arranged depending walls, axles terminally mounted in said walls, traction wheels on said axles for rotating the latter, a series of legless toy figures having plug-shaped bodies slidably guided in said holes, rotary rests for said plug-shaped bodies so shaped and arranged that as they turn they reciprocate and revolve said plug-shaped bodies at the same time, said rotary rests being actuated by said axles.

4. A device as described consisting of a toy vehicle body having a hollow interior, traction wheels carried by said body, the top of said body having a plurality of guide holes, a series of legless toy figures having plug-shaped rounded bodies slidably and snugly movable in said guide holes, means frictionally engaging each of said toy figure bodies for simultaneously supporting and revolving them, and means, controlled by said traction wheels for actuating the first means.

5. In a device as described, a frame having a horizontal member formed with a series of spaced holes, toy figures having plug-shaped elongated bodies slidably guided for vertical movement in said holes, and having rounded smooth convex bottom portions, a shaft operatively mounted below said toy figure bodies, means for rotating said shaft, and friction disks on said shaft being convex in cross-section engaging the convex bot-

tom portions of said toy figures peripherally thereof to provide a friction drive for the latter whereby they may be revolved.

6. A device as described consisting of a table formed with a series of holes, a shaft rotatably supported below the table, a series of eccentric disks, whose peripheries are convex in cross-section, fixed for rotation upon said shaft, and a plurality of toy figures having elongated plug-shaped bodies projecting above and below said table, being guided in said holes and resting upon said eccentric disks, the lower ends of said plug-shaped bodies being convexly cylindrical, peripherally engaging the convex peripheries of said eccentrics, whereby as the shaft rotates said eccentric disks raise and lower said figure bodies, rotating them at the same time.

7. A wheeled toy comprising a body frame consisting of a horizontal table and side walls, an axle mounted in the side walls, traction wheels on said axle for rotating the latter, a series of spaced apart eccentric friction disks fixed on said axle having peripheries which are convex in cross-section, and legless toy figures each including a head and an elongated plug-like body slidably disposed for vertical movement in said table and supported movably by said friction disks, the lower ends of said figure bodies having globular smooth surfaces peripherally engaging the convex peripheries of said eccentric friction disks by which they are caused to rotate and, at the same time, rise and fall intermittently.

8. A toy vehicle consisting of an inverted U-shaped body having end walls and a raised top portion horizontally disposed between the end walls, a series of figure bodies having elongated plug-like parts slidably guided in said top portion so as to project above and below the latter, an axle having its ends mounted in said end walls, wheels on said axle and a plurality of spaced apart friction eccentric disks having peripheries which are convex in cross-section, the several disks having staggered high points, the lower ends of said figure bodies resting movably upon their outermost edges upon said friction disks and presenting for engagement therewith smooth globular surfaces, and a pusher rod connected to said vehicle body as a means of actuating said axle and friction disks.

9. In combination a vehicle horizontal frame having a series of cylindrical holes, oppositely arranged axles supported from said frame, oppositely arranged eccentric friction disks carried by each axle in registration with certain of said holes, having convex peripheries, a string for impelling said vehicle in movement, a pair of toy figures having cylindrically elongated bodies for snugly sliding as well as rotating in certain of said holes and also having convexly cylindrical to bottom surfaces disposed at right angles to their vertical axes, shaped so as to have a miter-gear action with said friction disks upon which they rest edge-wise and by whose convex peripheries they are elevatingly and rotatably actuated.

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