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F. R. HIGLEY

2,440,747

WHEELED TOY

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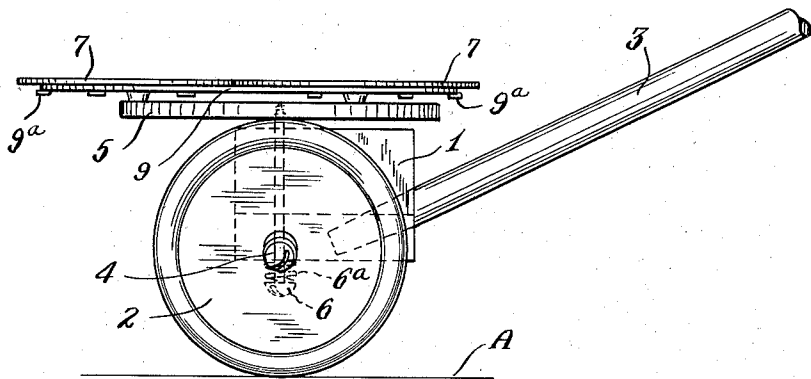


FIG. 1

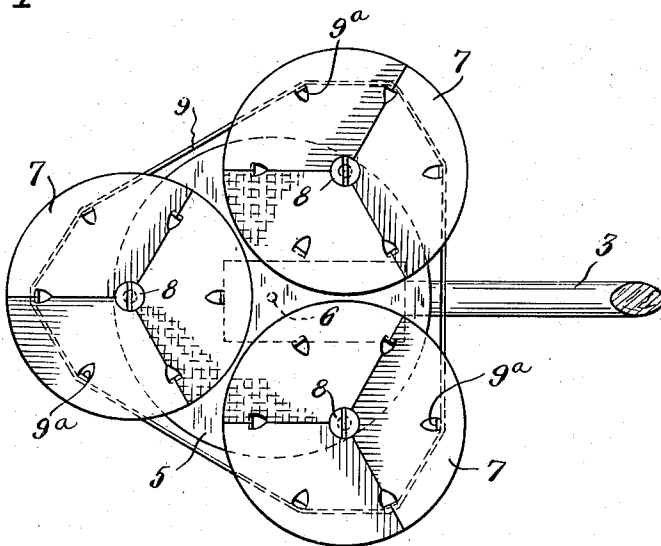


FIG. 2

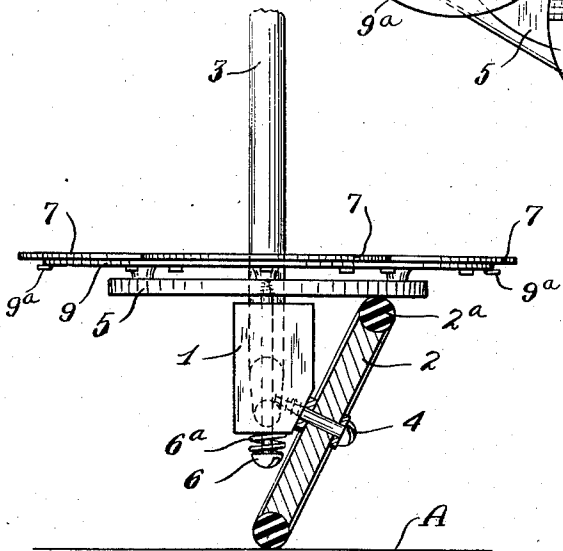


FIG. 3

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UNITED STATES PATENT OFFICE

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WHEELED TOY

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6 Claims. (Cl. 46-204)

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This invention relates to toys and more particularly to wheeled toys having chromatic effect and adapted to be pushed or pulled on floor or sidewalk.

Objects of this invention are to provide such a toy wherein a symmetrical color pattern is displayed changeable at the will of the operator by the simple expedient of changing the rate of travel of the toy.

An important object is to so bias the chromatic units of the device that the most effective color patterns will be displayed, as will appear.

Other objects are to provide such a toy inexpensively, in the simplest assembly of the fewest number of parts, yet rugged and adapted for easy juvenile operation.

Further objects of the invention will be apparent from the following description taken in connection with the accompanying drawings wherein

Figs. 1, 2 and 3 illustrate an embodiment of the invention constructed of wood and metal, in side, plan and front elevation respectively.

1 is a base mounted upon a wheel 2, the base 1 having a suitable push-pull handle, the shank portion 3 only of which handle appears in the drawing. As illustrated, the principle parts being of wood, the screw 4 by which the wheel and base are interconnected, is disposed at an angle such that the bearing of the wheel on the surface A over which the toy is to be operated, will be in the plane of the shank 3; and preferably also the line of the shank is directed well below the center of the wheel so as to provide somewhat of a caster effect in operation.

A carrier 5 which may be of the disk shape illustrated is rotatably mounted upon the base 1 as by an upright spindle 6 bearing in the latter and extending therethrough. Preferably the spindle 6 is centered as illustrated in the plane of the handle shank 3 and of the traction bearing of the wheel 2.

The carrier 5 is of sufficient transverse dimension to overhang the wheel 2 to be driven thereby as through friction bearing on the top thereof; to insure such drive, the wheel 2 may have the rubber tire 2a and the spindle 6 may have a spring 6a.

A plurality of chromatic units 7, three being shown, which may be in the form of metal disks, are mounted in symmetrical concentric disposition on the carrier 5 for rotation about their individual axes, as by the screws 8. The units 7 are similarly colored, each bearing three colors disposed in a 120° segment. As indicated in the drawings the colors are the primary ones, red,

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yellow and blue, and the description hereinafter will apply thereto as such, but it will be understood that another set of colors, such as red, white and blue, could be employed if preferred.

At any rate, the colored units 7 are similarly indexed or oriented with respect to the rotating axis of the carrier 5, about which their individual axes are symmetrically disposed. Means are provided for maintaining symmetrical orientation of the units 7 while permitting them adjustment about their axes. As here shown such means comprises a rubber band 9 disposed as a belt about tabs 9a arranged to provide generally annular flange effect on the units.

In operation, the toy being pushed or pulled over the floor or pavement, the carrier 5 is driven by the wheel 2, carrying the units 7, the units whirling about the common axis, that of the carrier 5, and producing a color pattern symmetrical thereabout. The units being symmetrically oriented with the common axis, the pattern which they present includes always a central area of one color with an annular border thereabout of another color, one of the colors of the pattern always being a primary one and the other a secondary color complementary thereto. In the position of the units shown, the pattern will comprise a large center of yellow and smaller border of purple; it being notable that the outline of the center color area is approximately a hexagon so that there is a relatively sharp delineation in the pattern between the center and border colors.

Were the disks shifted upon their individual axes 60° clockwise from the illustrated positions, the pattern produced would comprise a larger center, of orange, and a narrower border of blue, the one shading into the other through a relatively wide annular zone.

Since the plurality of units, interconnected by the belt 9 are not constrained from movement on their individual axes, either acceleration or deceleration of the toy in its travel will cause adjustment of the units on their axes, because of their inertia, resolved into a tendency to lag or lead, as the case may be; so that the pattern will thereby be automatically changed. When the toy is stopped after travel, inertia of the units 7 will provide a live and colorful effect lingering after the annular pattern is no longer apparent.

It may be noted that, there being but six tabs 9a provided per unit 7, and these being oriented relative to the face color patterns of the units as indicated, and there being three units employed, there is a tendency in the assembly to always maintain one of the primary colors either inner-

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most or outermost of the common axis; so that in effect the patterns in operation while variable, have yieldable bias for the best advantage.

Having thus described my invention, I claim:

1. A toy of the class described comprising a wheeled base, carrier means mounted on said base in rotatably driven relation with wheel means thereof, and a plurality of chromatic units mounted on said carrier about its axis for adjustment upon their individual axes by inertia, whereby during travelling operation of the toy, said units will present a concentric color pattern changeable responsive to change in rate of travel.

2. A toy of the class described comprising a base, carrier means rotatably mounted on said base, a wheel for said base arranged to have ground bearing substantially in line with the carrier axis and driving engagement with said carrier beside said axis; handle means for said base disposed in the plane of said axis, and a plurality of chromatic units mounted on said carrier about its axis for adjustment upon their individual axes by inertia responsive to change in rate of travel of the toy.

3. A toy of the class described comprising a wheeled base, carrier means rotatably mounted on said base in driven relation with wheel means thereof, and a plurality of chromatic units mounted on said carrier about its axis for adjustment upon their individual axes by inertia during operation of the toy, said units having similar face patterns, similarly indexed relative to said carrier axis, and means interconnecting said units for maintaining their indexed relation while permitting said adjustment.

4. In a chromatic device, a carrier mounted for rotation at varying speed; a plurality of chromatic units mounted on said carrier about its axis for

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adjustment about individual axes by inertia, said units having similar face patterns similarly indexed, and means for yieldably biasing said units toward a preferred set of adjusted indexed positions, while permitting said adjustment.

5. In a chromatic device, a carrier mounted for rotation at variable speed, three chromatic disc units mounted on said carrier in symmetric disposition about its axis for adjustment about their individual axes, by inertia, each unit bearing three colors similarly disposed in three equal sector areas, similarly indexed relative to said carrier axis, and means for maintaining the indexed relation of said units while permitting their said adjustment.

6. In a chromatic device having rotatably mounted carrier means and a plurality of chromatic units mounted thereon about the axis thereof for adjustment about their individual axes by their own inertia: means for causing said units to cooperatively present a single unified pattern continuous in annular character but of changing color combinations, and comprising means for driving said carrier means continuously in one direction with alternate acceleration and deceleration.

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