# United States Patent [19]

**Nagasaka**

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[54] **AMUSEMENT DEVICE**


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[52] **U.S. Cl.** ..... **46/202**

[51] **Int. Cl.** ..... **A63h 11/10**

[58] **Field of Search** ..... 46/16, 17, 22, 25, 46/97, 100, 101, 106, 131, 202, 206, 210



[56] **References Cited**

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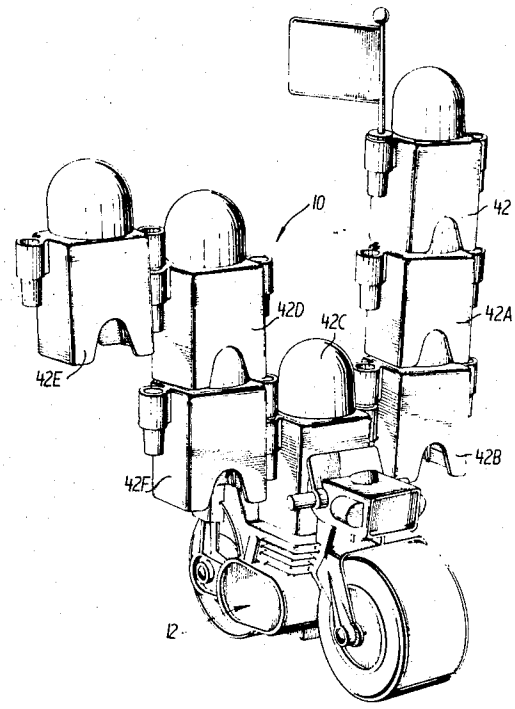
*Primary Examiner*—Louis G. Mancene
*Assistant Examiner*—J. Q. Lever
*Attorney*—Harry John Staas et al.



[57] **ABSTRACT**

An amusement device featuring a moving vehicle provided with projections to which figurines may be attached in varying formations to amuse the child, each of the figurines including sidewalls spaced apart defining a cavity, the sidewalls terminating downwardly in an opening and upwardly in a top member, the top member of each figurine and each of the vehicle projections being complementary in configuration with respect to the opening of each figurine permitting each of the projections to be inserted within each of the openings at the bottom of the figurines and the top portions of each of the figurines to be inserted within the openings within the bottoms of each of the figurines so as to extend within the cavities of the figurines, the figurines further being provided with arms extending outwardly from the sidewalls, each of the arms including a female portion and a male portion complementary in configuration thereto permitting the male portion of each of the figurines to be inserted within the female portion of an adjacent figurine in such manner that the figurines may be stacked sideways.


**10 Claims, 8 Drawing Figures**



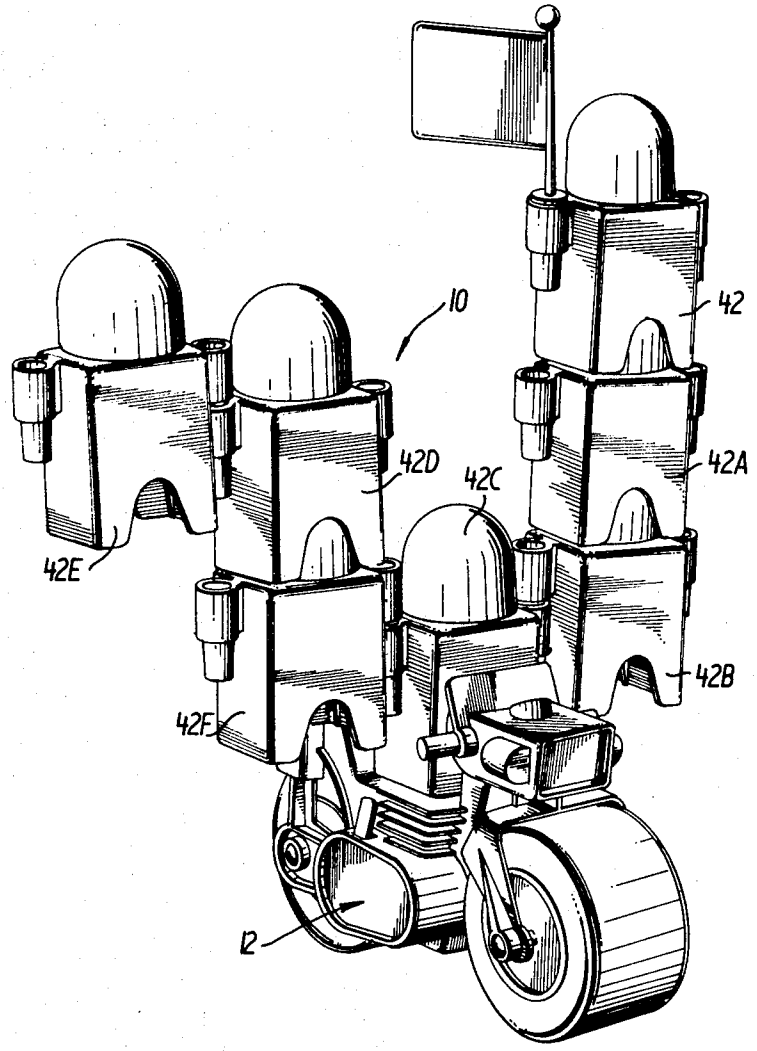
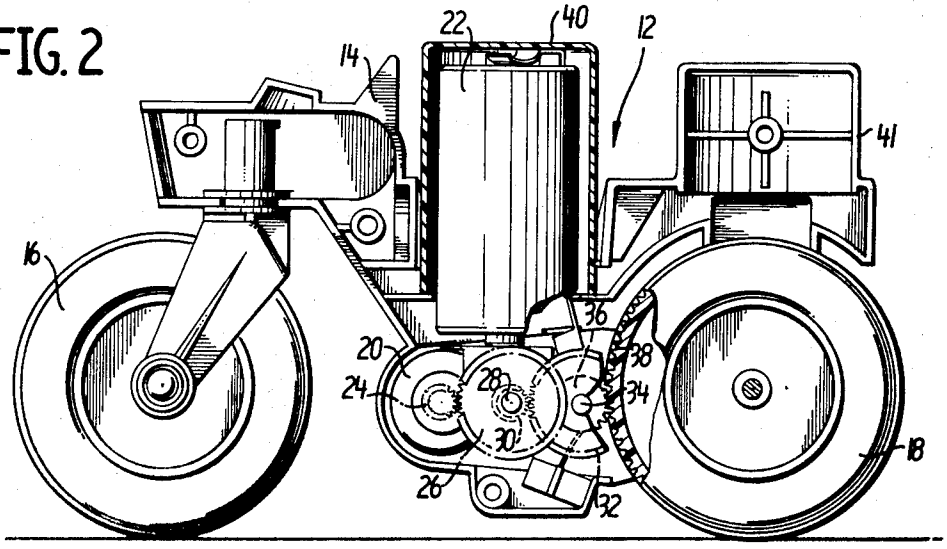

10
42
42D
42C
42A
42E
42B
42F
12

FIG. 1

FIG. 2


22
40
12
14
41
16
36
20
38
24
28
34
30
18
26
32

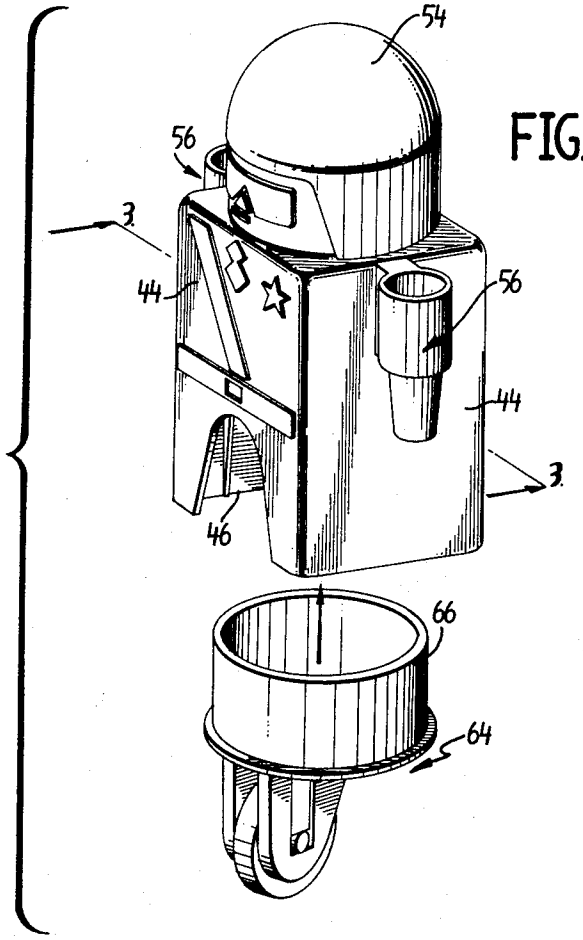



FIG. 5

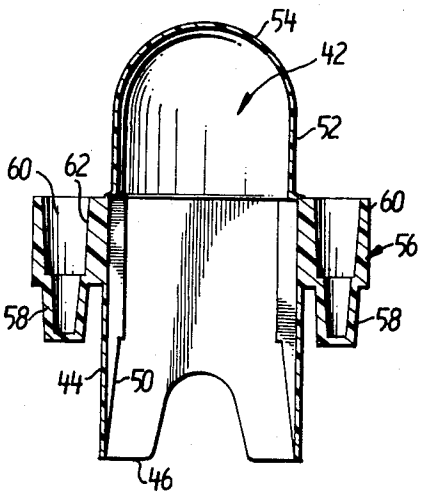



FIG. 3

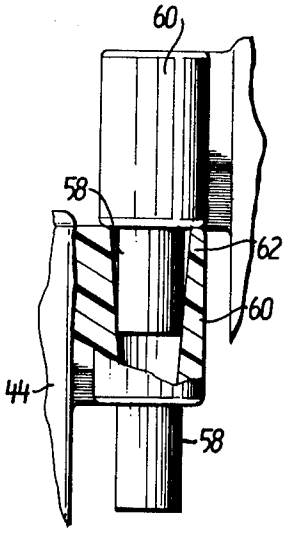



FIG. 4

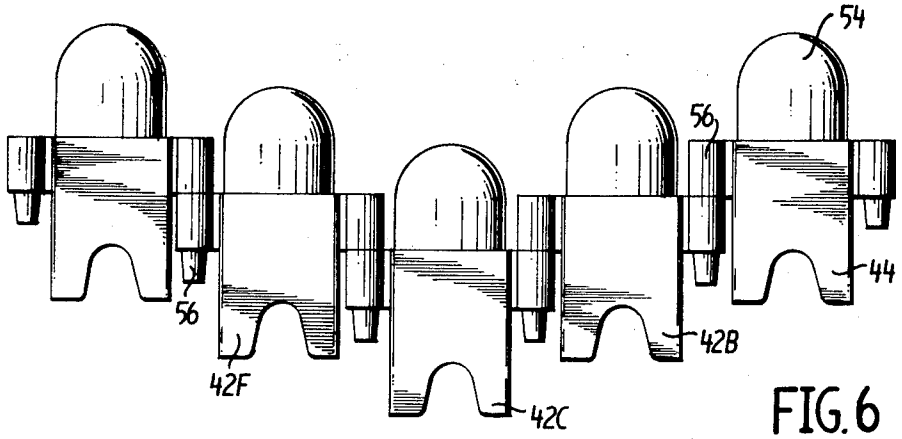



FIG. 6

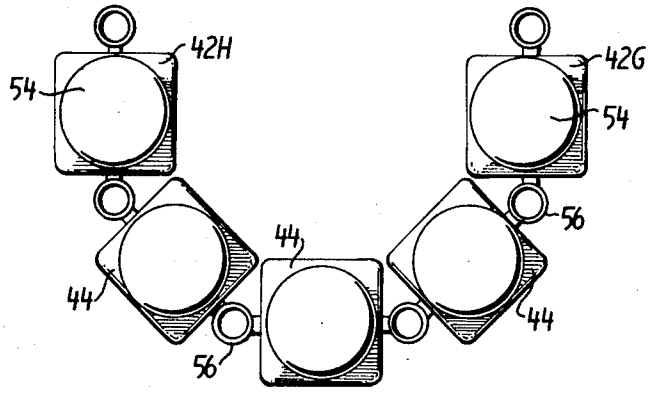



FIG. 7

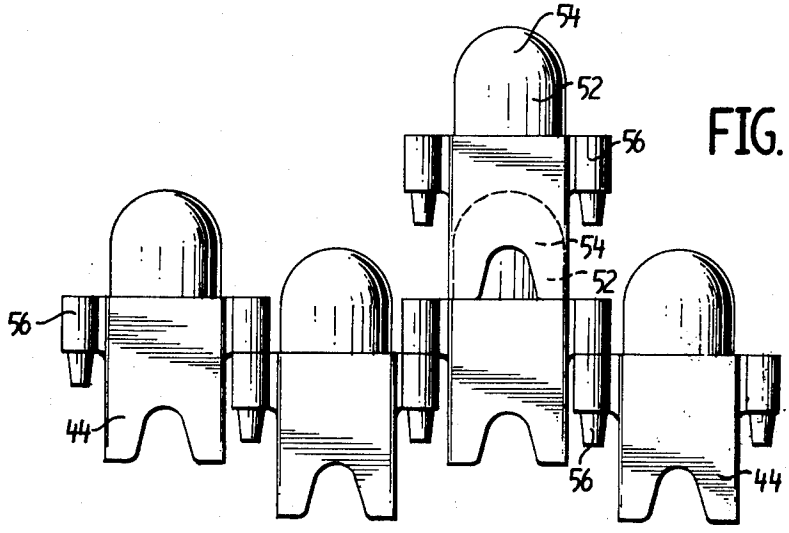



FIG. 8

# AMUSEMENT DEVICE

## BACKGROUND OF THE INVENTION

The present invention relates to the general class of toys in which a movable vehicle is provided with a plurality of dolls, figurines or blocks which may be stacked in various formations to amuse the child.

## SUMMARY OF THE INVENTION

The vehicle is a motor cycle provided with two generally cylindrical projections onto which a series of hollow figurines may be positioned. The figurines are designed to be stacked vertically and horizontally permitting the child to construct a wide variety of formations. The interest of the child is maintained since the overall appearance of the toy may be changed at will. Moreover, by varying the formation of the assembled figurines, the operation of the moving vehicle may be varied permitting, for example, the motor cycle to travel on its rear wheel only or to travel in circles.

## BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view illustrating the toy motor cycle vehicle with the figurines stacked vertically and horizontally in one of a wide variety of possible formations;

FIG. 2 is a side elevational view with a portion of the outer casing of the toy vehicle removed so as to expose the mechanism for operating same;

FIG. 3 is a side elevational view in section illustrating the construction of each figurine;

FIG. 4 is an enlarged cross-sectional view of adjacent arms of adjacent figurines illustrating the interlocking structure permitting the figurines to be stacked horizontally;

FIG. 5 is an exploded perspective view illustrating one of the figurines and a wheel which may be inserted within the cavity of the figurine so as to provide longitudinal stability to the vehicle when the figurines are stacked so as to extend a substantial distance from the toy motor cycle vehicle;

FIG. 6 is a front elevational view illustrating another formation of stacked figurines;

FIG. 7 is a top plan view illustrating still another formation of stacked figurines; and

FIG. 8 is a front elevational view illustrating a still further formation of stacked figurines.

## DESCRIPTION OF THE PREFERRED EMBODIMENT

The composite toy motor cycle vehicle and stacked figurines is generally designated by the reference numeral **10** in FIG. **1**. The vehicle **12**, as illustrated in detail in FIG. **2**, consists of a chassis **14** within which are suitably mounted front and rear wheels **16** and **18**, respectively. The reference numeral **20** designates a miniature electric motor suitably powered by battery **22**. The shaft of the motor **20** terminates in a gear wheel **24** which meshes with and drives the gear wheel **26** suitably mounted for rotation about a shaft **28** journaled within the chassis **14**. The gear wheel **26** is further provided with a smaller gear wheel **30** which meshes with and drives a gear wheel **32** mounted for rotation with the shaft **34**. The shaft **34** additionally includes a gear wheel **36** mounted to rotate therewith which meshes with the teeth **38** formed as an integral part of the rear wheel **18**. As will be apparent, as the motor **20** is energized by the battery **22** through conventional wiring, not shown, the gear wheel **24** mounted at the end of the shaft of the motor **20** drives the gear wheel **26** which rotates the smaller gear wheel **30** which, in turn, meshes with and drives the gear wheel **32** which, in turn, rotates the shaft **34** to which the gear wheel **36** is attached. The rotating gear wheel **36** meshes with the teeth **38** of the rear wheel **18** rotating same so as to propel the toy motor cycle vehicle **12** along a surface.



The battery **22** is enclosed within a casing **40** which may be removed by rotation, when necessary to replace the source of electrical energy. The casing **40** and the member **41** are cylindrical in configuration serving as projections over which the figurines may be positioned.

The figurines are designated generally by reference numeral **42**, and, as illustrated in FIGS. **3** and **5**, comprise four sidewalls **44** defining therebetween a cavity being generally square in cross section. The bottoms of the sidewalls define an opening **46**. Formed as a part of the sidewalls **44** are webs **50** which, as seen in FIG. **3**, are tapered to progressively extend further into the cavity defined between the sidewalls **44**. The figurines **44** further include a top comprising a wall **52** generally circular in cross section and terminating upwardly in a generally hemispherical tip **54**.

As will now be apparent, the bottom of each of the figurines **42** may be inserted over the top portion of each of the figurines **42**. As the bottom of a figurine **42** is pressed downwardly over the top of an adjacent figurine **42**, the wall **52** of the top is pressed tightly into engagement with the tapered web **50** of the bottom of the adjacent figurine **42**. Thus, and as illustrated in FIG. **1**, the figurines **42**, **42A** and **42B** may be stacked vertically. In similar manner, the figurines **42** may be fitted over the battery casing **40** or the other projection **41** of the toy vehicle **10**, such as illustrated in FIG. **1** wherein the figurine **42C** is positioned on the battery housing **40**.

Horizontal stacking of the figurines **42** is permitted by the interlocking arms **56** illustrated in detail in FIGS. **3** and **4**. Two of the sidewalls **44** are provided with the interlocking arms **56** which comprise male and female portions **58** and **60**, respectively. The inner surfaces of the female portion **60** include tapered sidewalls **62** permitting the generally cylindrical male portion **58** of the adjacent figurines **42** to be inserted therein in progressively tighter fitting relationship. As illustrated in FIG. **1**, the interlocking arms **56** permit adjacent figurines **42D** and **42E** to be stacked horizontally.

Additional support to the moving composite **10** of the toy motor cycle **12** and the formation of figurines **42** may be provided by the wheel generally designated by reference numeral **64** in FIG. **5**. As will be apparent, the upper generally cylindrical portion **66** of the wheel **64** is designed to be wedged within the bottom of the figurines **42**.

A variety of formations or configurations of the figurines **42** may be achieved. In FIG. **6**, the figurines **42B** and **42F** build outwardly in a generally horizontal direction from the main figurine **42C** which may be mounted on either of the projections **40** and **41** of the vehicle **12**. In FIG. **7**, the figurines **42** are assembled as in FIG. **6** but rotated about their interlocking arms **56** permitting the terminal figurines **42G** and **42H** to extend rearwardly. If it is desired to continue extending the figurines **42** rearwardly of the vehicle **12**, one of the last, trailing figurines **42** may be provided with the

wheel 64 in such manner as to provide additional support, and, indeed, may permit the vehicle 12 to travel solely on its rear wheel 18 as the front wheel 16 extends upwardly in the air. In FIG. 8 is illustrated a still further formation in which both horizontal and vertical stacking is disclosed.

It will be further apparent that all of the figurines 42 may be stacked to one side of the vehicle 12. In such a formation, the vehicle 12 will travel in circles about the wheel 64 positioned within one of the trailing figurines 42. Indeed, virtually an unlimited array of formations is possible with the figurines of the present invention.

I claim:

1. An amusement device, comprising:

a vehicle provided with front and rear wheels, a motor, means operatively connecting one of said wheels and said motor, said vehicle further being provided with a projection, a plurality of blocks, each of said blocks being provided with sidewalls defining a cavity therebetween, the bottoms of said sidewalls defining an opening adjoining said cavity, each of said blocks further including a top portion, said projection of said vehicle and said top portion of each of said blocks being generally complementary in configuration with respect to said cavity of each of said blocks, one of said blocks removably mounted on said vehicle by fitting said projection within said cavity of said one block and permitting the remaining of said blocks to be stacked by inserting said top portion of one of said remaining blocks within said cavity of an adjacent of said remaining blocks.

2. An amusement device as in claim 1, wherein each of said blocks is further provided with at least one arm extending outwardly from one of said sidewalls thereof, said arm being provided with a female portion and a male portion complementary in configuration thereto permitting said male portion of said arm of one of said blocks to be inserted within said female portion of said arm of an adjacent block.

3. An amusement device as in claim 1, said projection of said vehicle being generally circular in cross section while said cavity is generally square in cross section and said top portion being generally circular in cross section terminating upwardly in a generally hemispherical portion.

4. An amusement device as in claim 1, wherein at least one of said sidewalls of said block is provided with a web portion extending progressively further into the interior of said cavity so as to provide a progressively tighter fit.

5. An amusement device as in claim 2, wherein said male portion of said arm is generally cylindrical while said female portion of said arm includes inner surfaces tapered so as to provide a progressively tighter fit.

6. An amusement device as in claim 5, including a rotating wheel terminating upwardly in a generally cylindrical member complementary in configuration to said cavity of each of said blocks permitting said member to be inserted therein.

7. An amusement device as in claim 6, wherein said blocks are figurines.

8. An amusement device, comprising:

a toy vehicle, a first projection extending outwardly from said vehicle, a plurality of blocks, each of said blocks being provided at one end thereof with an opening extending inwardly defining a cavity being generally complementary in configuration with respect to said first projection permitting one of said blocks to be inserted over said first projection, each of said blocks being further provided at the end opposite said opening with a second projection generally complementary in configuration with respect to said cavity such that said second projection of one of said blocks may be inserted within said cavity of an adjacent block, permitting said blocks to be stacked, each of said blocks still further being provided with at least one arm extending outwardly therefrom, said arm being provided with male and female portions complementary in configuration thereto permitting said male portion of said arm of one of said blocks to be inserted within said female portion of said arm of an adjacent block permitting said blocks to be further stacked.

9. An amusement device as in claim 8, wherein said first and second projections are generally circular in cross section while said cavity is generally square in cross section.

10. An amusement device as in claim 8, wherein said toy vehicle is provided with a third projection extending outwardly therefrom, said third projection being generally complementary in configuration with respect to said cavity of each of said blocks permitting one of said blocks to be inserted over said third projection.

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