United States Patent [19]

Lettieri

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[54] **SPACE AGE MODEL**

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[52] **U.S. Cl.** ..... **272/31 A;** 46/77; 46/243 AV

[51] **Int. Cl.** **A63h 13/20**

[58] **Field of Search** ..... 46/77, 243 AV; 272/31 A

[56] **References Cited**

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Attorney, Agent, or Firm—Victor J. Evans & Co.

[57] **ABSTRACT**

A toy or amusement device that includes a member that resembles the moon or lunar surface, and wherein there is provided members under the control of the operator, the members resembling spacecraft such as a command module and lunar module that can be selectively linked up when the device is properly actuated.

9 Claims, 5 Drawing Figures

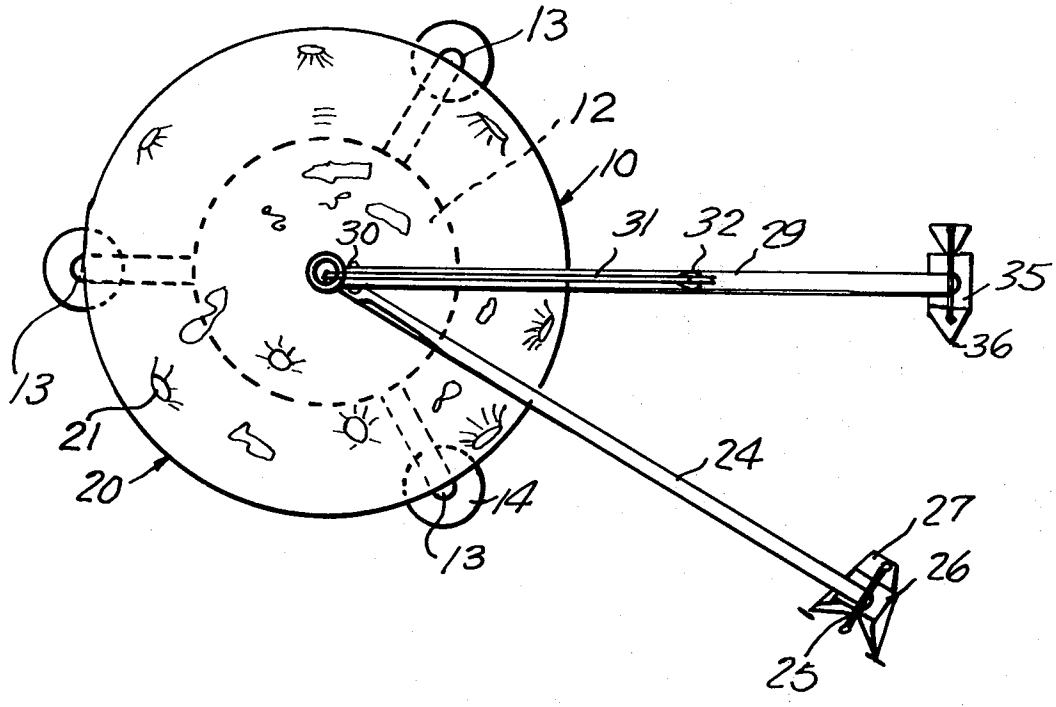


FIG. 1.

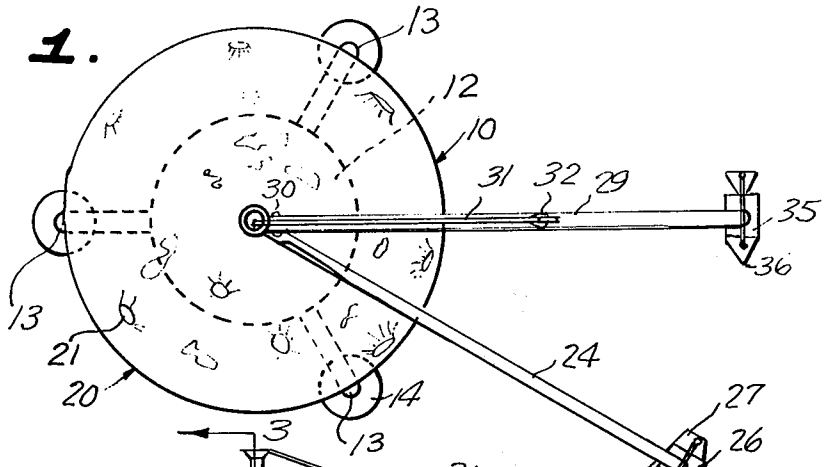

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FIG. 2.

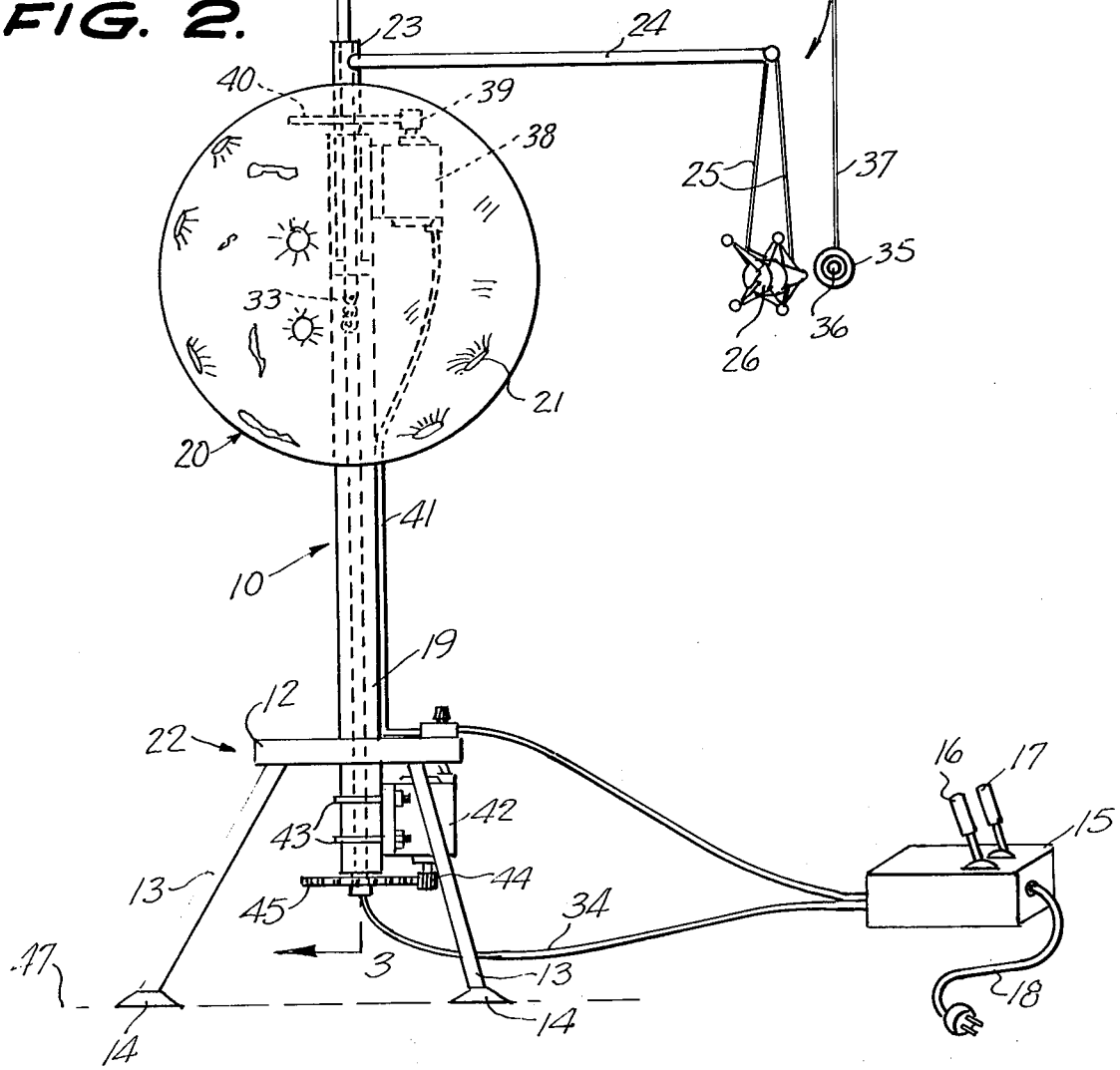

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FIG. 3.

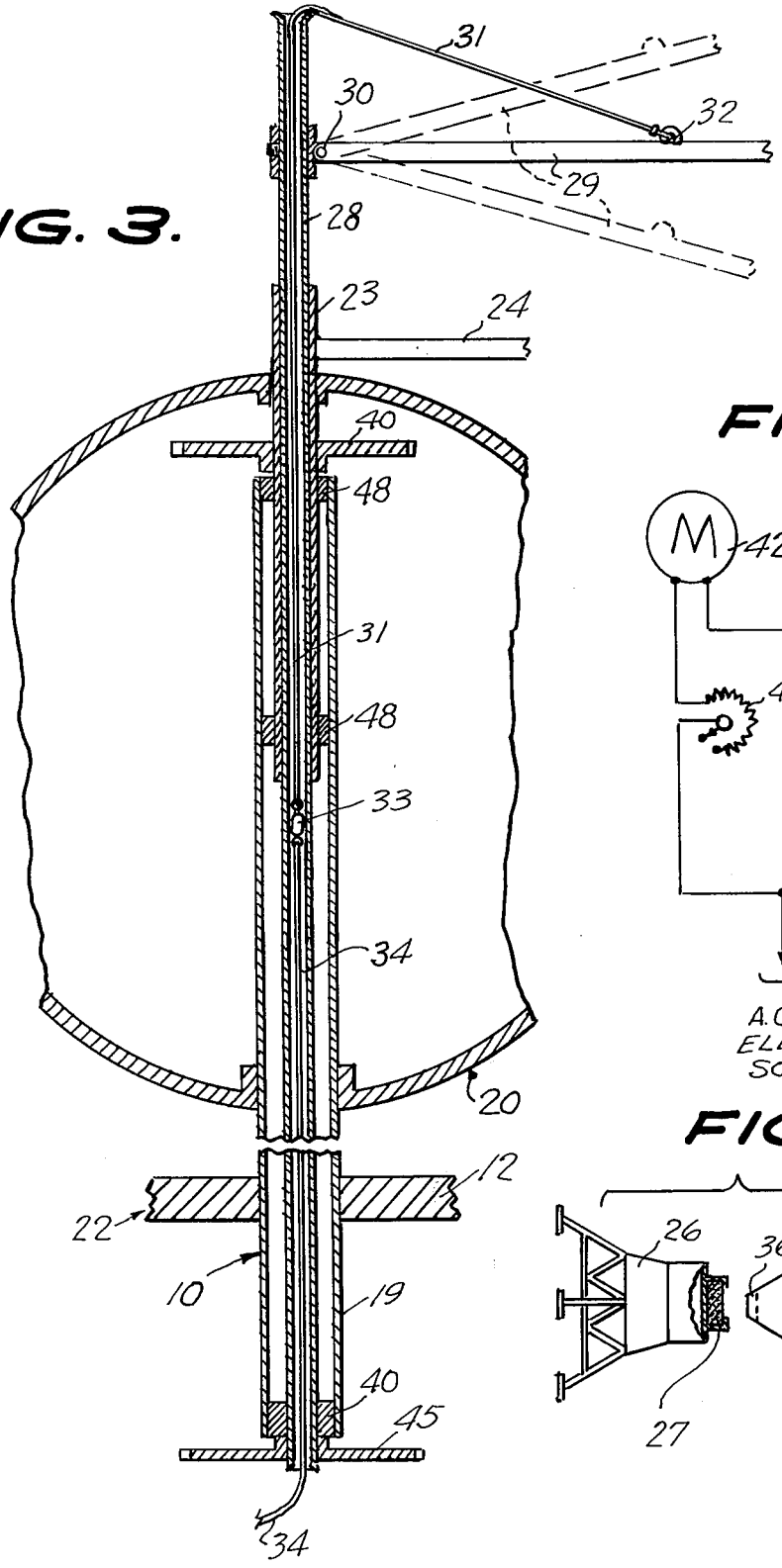


FIG. 4.

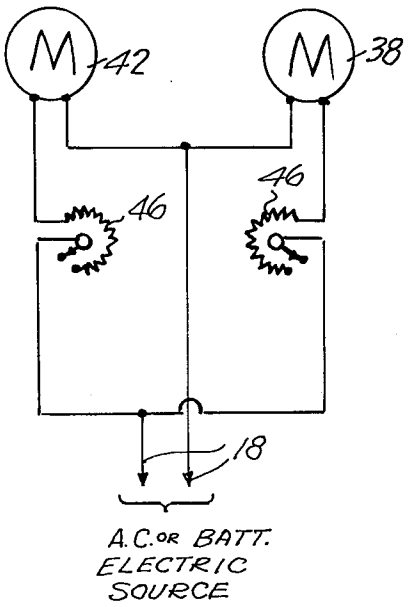
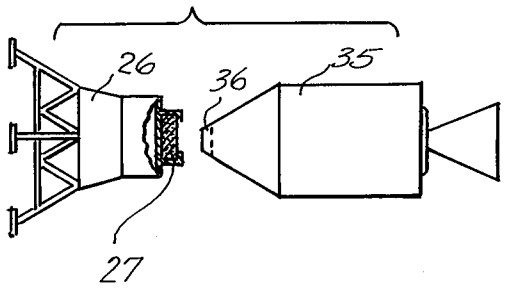


FIG. 5.



SPACE AGE MODEL

BACKGROUND OF THE INVENTION

Field of the Invention

The present invention relates to toys or amusement devices, and more particularly to a toy that resembles spacecraft in orbit around the moon.

SUMMARY OF THE INVENTION

A toy or amusement device that resembles the movement of spacecraft about the moon and wherein the operator can control the movement of the lunar module and command module to cause these members to link up in a realistic manner simulating the actual movement of lunar and command modules in space.

The primary object of the invention is to provide a toy or amusement device that resembles actual flights by astronauts or the like in space so that users of the toy can cause movement of the parts in such a manner that docking and linking up of members such as a command module and lunar module can be controlled from a remote location such as a control box under the control of the children or other users of the toy.

Still another object of the present invention is to provide such a spacecraft toy that is rugged in structure and efficient in operation and which is relatively simple and inexpensive to manufacture and operate.

Other objects and advantages will become apparent in the following specification, when considered in the light of the attached drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a top plan view of the spacecraft toy of the present invention;

FIG. **2** is a side elevational view of the present invention;

FIG. **3** is a vertical enlarged sectional view taken on the line **3—3** of FIG. **2**;

FIG. **4** is a schematic wiring diagram illustrating the present invention; and

FIG. **5** is an enlarged elevational view, with parts broken away and in section, illustrating the magnetic means in the command module and lunar module.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring in detail to the drawings, the numeral **10** indicates the spacecraft toy of the present invention that is shown to comprise a suitable base indicated by the numeral **22**, FIG. **2**, and the base **22** may include a horizontally disposed platform **12** that is supported on legs **13**, and mounted on the lower ends of the legs **13** are elements **14** that provide feet and the elements **14** may be in the form of suction cups to help maintain the device stabilized.

The numeral **15** indicates a control box that can be arranged at a suitable distance from the toy, and the control box **15** includes manually operable levers **16** and **17**. The control box **15** may be connected to a suitable source of electrical energy by means of the line **18**, or the control box **15** may be battery operated. The numeral **19** indicates a vertically disposed support member or post that extends through the platform **12** as shown in FIG. **3**, for example, and mounted on the support member **19** is a spherical member **20** that has a configuration to resemble the moon, and the outer surface of the spherical member **20** may be suitably constructed as at **21**, FIG. **2**, to simulate the surface of the moon.

The numeral **23** indicates a first shaft that extends into the upper portion of the post or support member **19**, and the shaft **23** has a cylindrical arm **24** affixed thereto. Lines **25** are connected to the outer end of the arm **24**, and the lines **25** serve to support a command module **26**. As shown in FIG. **5**, the command module **26** may have a permanent magnet **27** therein for a purpose to be later described.

The numeral **28** indicates a second shaft that extends through the first shaft **23**, and a cylindrical arm **29** is hingedly or pivotally connected to the shaft **28** as at **30**, FIG. **3**. The numeral **31** indicates a thread or line that extends through the second shaft **28**, and an end of the thread **31** is connected as at **32** to the arm **29**. The numeral **33** indicates a swivel connection between the thread **31** and a corresponding thread **34**, and the purpose of the swivel **33** is to prevent the parts from becoming twisted during rotation or movement of the device. The numeral **35** indicates a lunar module that has a tip **36** thereon for coaction with the magnetic member **27** of the command module **26** so that the parts can be made to link up when the toy is being used. The lunar module **35** is supported from the outer end of the arm **29** by means of a line **37**.

There is further provided a means for rotating the command and lunar modules as shown in the drawings. For example, a motor **38** may be provided for driving a small gear **39** that has its teeth meshing with the teeth of a gear member **40** that is mounted on the shaft **23**, and the motor **38** may be connected into the electrical circuit by means of a wire or conductor **41**.

Similarly, a small motor **42** may be fastened to the lower end of the post **19** as at **43**, and the motor **42** can drive a small gear **44** which in turn drives a gear **45** on the lower end of the shaft **28**. As shown in FIG. **4**, suitable rheostats or transformer elements **46** can be provided for controlling the speed of rotation of the parts. The line **34** can be actuated to actuate the line or thread **31** whereby the lunar module **35** can be raised or lowered until the user causes the lunar module to be in the same plane as the command module **26** whereby the coacting magnetic portions **27** and **36** can be made to cause the command module and lunar module to link up in a manner resembling the actual operation of spacecraft in orbit around the moon member **20**.

In FIG. **2**, the numeral **47** indicates the floor surface, table top or other area or surface on which the toy **10** of the present invention is supported. In FIG. **3**, the numeral **48** indicates bushings or bearings that may be provided for maintaining the parts in their proper aligned position.

From the foregoing, it will be seen that there has been provided a toy that can be used in such a manner to simulate or resemble movement of spacecraft in orbit around the moon, and in use with the parts arranged as shown in the drawings, the levers **16** and **17** on the control box **15** can be suitably manually actuated in order to cause rotation of the shafts **23** and **28** due to the provision of the motors **38** and **42** with their corresponding parts such as the previously described ears. At the same time, the user can apply tension or relax pressure on the thread or line **31** and **34** so as to selectively raise the arm **29** about its pivot **30** whereby the lunar module **35** can be raised or lowered relative to the command module **26**. It will be seen that when

the lunar module **35** and command module **26** are in the same plane, and when the lunar module **35** and command module **26** are close enough together, the coacting magnetic elements **27** and **36** will cause the command module **26** and lunar module **35** to link up due to magnetic attraction whereby the user can accomplish the desired goal or purpose.

The parts can be made of any suitable material and in different shapes or sizes as desired or required.

It will be understood that the parts are adapted to be made in an attractive manner resembling actual objects in space. For example, the moon member **20** is adapted to have its outer surface **21** provided with indentations or raised portions **21** resembling craters and mountains or other surfaces on the moon. Simlarly, the members **26** and **35** are adapted to have a configuration that resembles the actual spacecraft or command module and lunar module that are placed in orbit around the moon.

In operation, the body member or post **19** houses two shafts **23** and **28** which turn one inside the other. Each shaft **23** and **28** has an electric motor geared to turn both shafts separately. The motors are run from a transformer or rheostat so as to give these motors speed control. The shaft **23** is started and set at the desired speed with the command module **26** hanging from its arm **24** thus allowing it to rotate around the moon **20.** The shaft **28** with its arm **29** that has the lunar module **35** can be started and controlled by the operator to chase the command module around the moon. By increasing or decreasing his speed, he can link up with the command ship which will automatically come together, if he is on the right plane. In the nose of one module such as the module **26,** there is a small magnet **27** that will grab the element **36** if the operator is operating the toy as a good astronaut. The thread **31** on the arm **29** controls the up and down movement of the moon module **35,** and this thread runs through the shaft body to the control box. In the center of the shaft body attached to the thread is a swivel **33** that prevents the thread from twisting.

The control box **15** may be placed a few feet away from the toy in order to permit the toy to be controlled from a distance.

The motors may either be controlled by a **110** volt system, or the toy can be controlled with inexpensive battery operated rheostats.

Having thus described the preferred embodiment of the invention it should be understood that numerous structural modifications and adaptations may be resorted to without departing from the spirit of the invention.

What is claimed is:

1. In a spacecraft toy, a base, a vertically disposed hollow post connected to said base, a spherical member mounted on said post, a first hollow shaft mounted in the upper portion of said post and projecting upwardly beyond the top thereof, a second shaft extending through said first shaft and through said post, a first cylindrical arm having its inner end affixed to said first shaft, flexible lines depending from the outer end of said first arm, a first spacecraft element connected to said lines; a second cylindrical arm hingedly connected to said second shaft, a flexible line depending from said second arm and having a spacecraft element connected thereto for selective engagement with the first spacecraft element, a thread connected to said second arm and extending through said second shaft, means for actuating said thread for raising and lowering said second arm, and means for rotating said shafts.

2. A device as claimed in claim **1,** wherein the spherical member resembles a moon having a lunar surface thereon.

3. A device as claimed in claim **2,** wherein the spacecraft elements resemble a command module and a lunar module.

4. A device as claimed in claim **3,** wherein the means for rotating the shafts comprise motors, and gear means driven by said motors and operatively connected to said shafts.

5. A device as claimed in claim **4,** and further including means for selectively linking the command module and lunar module together when they are in the same plane.

6. A device as claimed in claim **1,** wherein the last named means comprises a magnet in one of the spacecraft elements.

7. A device as claimed in claim **6,** and further including a manually operable control box.

8. A device as claimed in claim **7,** wherein the control box is connected to an external source of electrical energy.

9. A device as claimed in claim **7,** wherein the control box is energized by batteries.

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