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(54) **JUMP ROPE WITH LIGHTS AND MUSIC**

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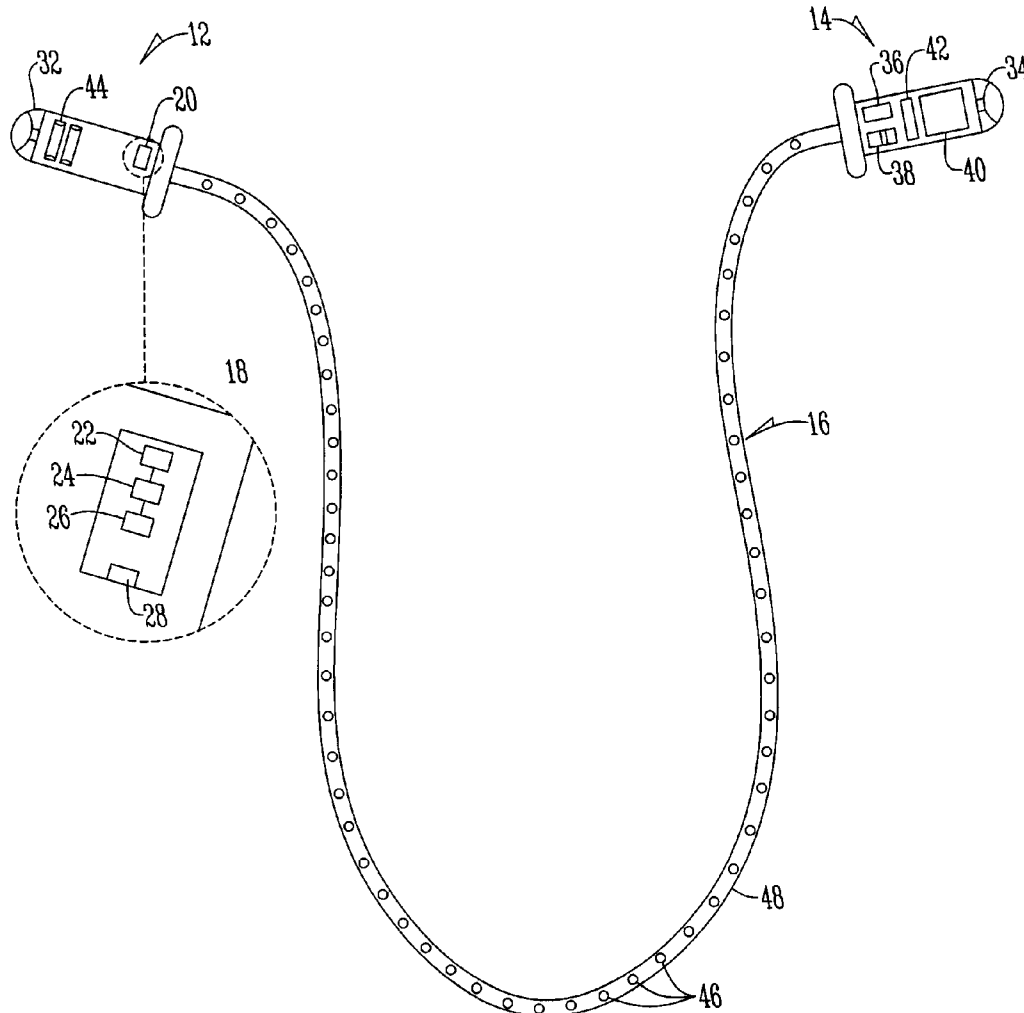
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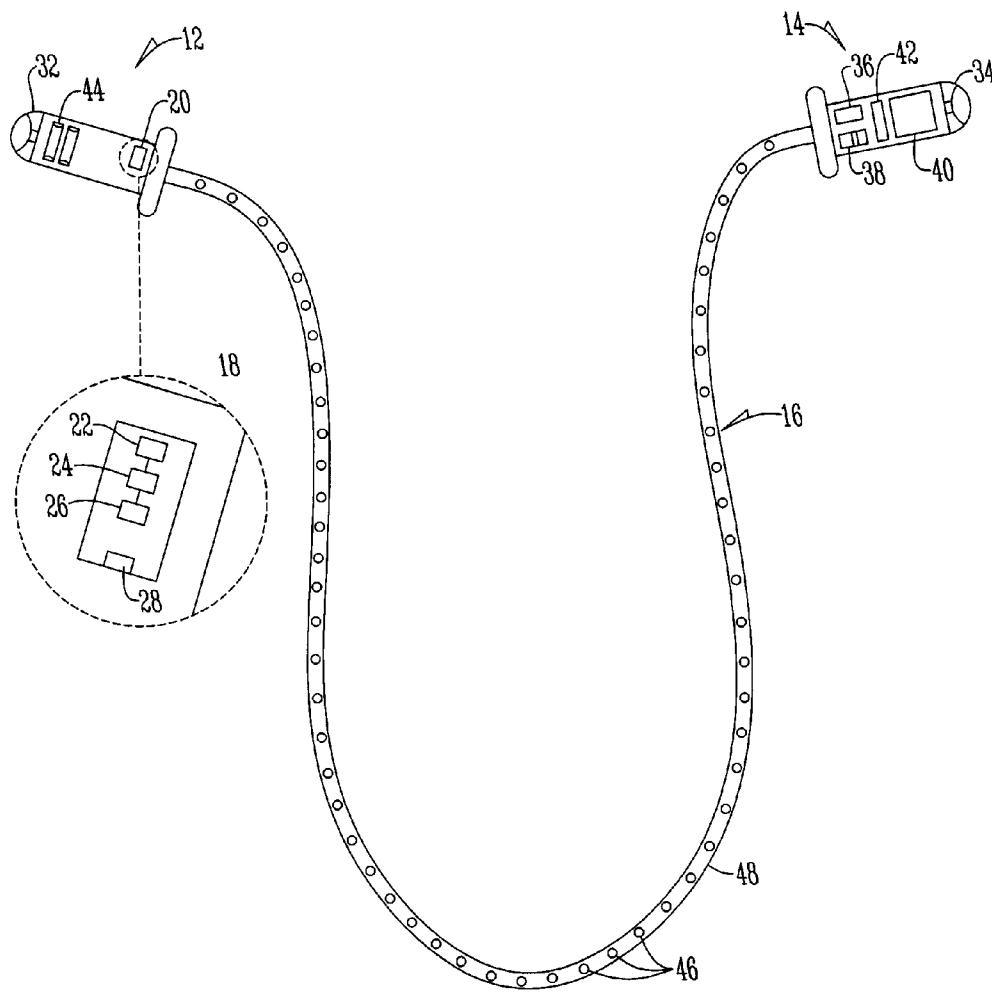
(57) **ABSTRACT**

The present invention is a jump rope having a pair of opposing handles connected to a rope portion which extends there between. The rope portion has a plurality of lights which flash and change color intermittently during use. At least one of the handles has a processor and memory which are connected to a speaker and a microphone for recording, playing and amplifying music or sounds.

**Related U.S. Application Data**

(60) Provisional application No. 61/638,570, filed on Apr. 26, 2012.





Figure

**JUMP ROPE WITH LIGHTS AND MUSIC**

**CROSS REFERENCE TO RELATED APPLICATION**

[0001] This application claims the benefit of U.S. Provisional Application No. 61/638,570 filed Apr. 26, 2012.

**FIELD OF THE INVENTION**

[0002] This invention relates to a jump rope. More specifically, and without limitation, this invention relates to a jump rope having light and music capabilities.

**BACKGROUND OF INVENTION**

[0003] Jump ropes are known in the art. Conventional jump ropes consist of a rope portion strung between a pair of handles connected at each end. In use, the user holds the handles as they swing the rope portion around the user's body. With each iteration, as the rope portion nears the user's feet, the user jumps to keep the rope portion swinging around the user's body.

[0004] While conventional jump ropes serve as an effective form of exercise and entertainment, especially for younger children, there are deficiencies in the art. Namely, with the adoption of electronics into children's toys, conventional jump ropes now appear bland and unappealing to many children. In addition, conventional jump ropes are not interactive and therefore they are less engaging than they could be.

[0005] Thus, it is a primary object of the present invention to provide a jump rope with lights.

[0006] Another object of the present invention is to provide a jump rope that has musical capabilities.

[0007] Yet another object of the present invention is to provide a jump rope that is entertaining and fun to use.

[0008] Another object of the present invention is to provide a jump rope that includes electronics.

[0009] These and other objects, features, or advantages of the present invention will become apparent from the specification and the claims.

**SUMMARY OF THE INVENTION**

[0010] The present invention is a jump rope having a pair of opposing handles connected to a rope portion which extends there between. The rope portion has a plurality of lights which flash and change color intermittently during use. At least one of the handles has a processor and memory which are connected to a speaker and a microphone for recording, playing and amplifying music or sounds.

**BRIEF DESCRIPTION OF THE DRAWINGS**

[0011] FIG. 1 is a plan view of an interactive jump rope.

**DETAILED DESCRIPTION OF THE INVENTION**

[0012] With reference to the drawings, a jump rope 10 includes a first handle 12 connected to a second handle 14 by a rope portion 16 which extends therebetween. Contained within one of the handles 12 is a processing module 18. Alternatively, the processing module 18 is contained in a separate device and is connected to at least one of the handles through a first dock 20 such as a USB port, a headphone jack, or the like.

[0013] Processing module 18 includes processor 22, memory 24, instructions or software 26 and a second dock 28.

Connected to the processing module 18 are auxiliary devices 30 that include a speaker 32, a microphone 34, a sensor 36, a switch 38, a display 40, an input device 42 and a power source 44. The auxiliary devices 30 are connected to the processing module 18 either wirelessly or electronically and are mounted on or in at least one of the handles 12, 14, or in close proximity to handles 12, 14.

[0014] Jump rope 10 also contains a plurality of lights 46 which are connected to or in close proximity to rope portion 16. Lights 46 include any light emitting device including a conventional light bulb, a light emitting diode (LED), or any other device which emits light or energy when activated. Preferably jump rope 10 has a continuous string of lights 46 extending across rope portion 16 first handle 12 to second handle 14. Lights 46 are covered by protective covering 48, which protects lights 46 from damage during use. Protective covering 48 is at least partially transparent in the areas around lights 46. In addition, handles 12, 14 may also include one or more lights 46.

[0015] More specifically, first dock 20 and second dock 28 include any dock, port, plug-in arrangement or receptacle such as a USB port, a headphone jack, or the like. First and second docks 20, 28 serve to electrically or wirelessly connect jump rope 10, processing module 18 and/or auxiliary devices 30 to one another device for the purpose of transferring or loading information onto memory 24, (such as songs or videos), and to transfer energy to charge power source 44.

[0016] Processor 22 is any electronic circuit which processes information and executes compute programs to control the device such as CPU (central processing unit), a microprocessor, a data processor, or the like. Memory 24 is any form of memory such as flash memory, a hard drive, or the like which stores information including software 26.

[0017] Speaker 32 is any sound emitting device such as a loudspeaker as is commonly found in radios or the like that converts an electrical signal into sound. Microphone 34 is any device which receives sound and converts it into an electrical signal. While speaker 32 and microphone 34 are described as independent devices, in one arrangement speaker 32 and microphone 34 are also contemplated to be a single device with dual functions (i.e. recording sound as well as emitting sound). In a preferred arrangement speaker 32 is positioned in the first handle 12 in the end opposite rope portion 16, whereas microphone 34 is positioned in the second handle 14 in the end opposite the rope portion 16.

[0018] Sensor 36 is any form of a sensor or detector that measures a physical quantity and converts it into a signal. Sensor 36 senses whether the jump rope 10 is in motion, signaling an active or in-use state. Alternatively, sensor 36 senses whether jump rope 10 is not in use therefor signaling a sleep state. Sensor 36 also senses the position of the rope portion 16 when in use; whether it is at the top of the rotation, the bottom of the rotation, the front of the rotation, the back of the rotation, or any other point there between. This information is used by processor 22 to make visual displays by activating lights 46. Sensor 36 also senses the number of rotations, the speed of the rotation and any other information regarding the use of jump rope 10.

[0019] Switch 38 is any electrical component that closes or opens an electrical circuit. Switch 38 is in one arrangement a conventional on/off switch controlled by the user, which when closed activates interactive jump rope 10; when opened deactivates jump rope 10. Alternatively, as is described above, sensor 36 acts as switch 38, when the device is in motion/use

sensor 36 activates the device; when the device is not in motion/use sensor 36 deactivates the device. Preferably switch 38 is connected to or positioned within a handle 12, 14.

[0020] Display 40 is any output device for the presentation of information to the user. Display 40 includes a plurality of lights, an LCD (liquid crystal display), an arrangement of LEDs (light emitting diodes), an electroluminescent display (ELD), a plasma display (PDP), a touch screen or the like. Display 40 displays information to the user regarding the status of the device 10, the information contained in memory 24, the mode of use, or any other information regarding device 10.

[0021] Input device 42 is any mechanism used to control jump rope 10 so that it operates in the manner desired by the user. Input device 42 includes a touch screen, a touch pad, a keyboard, a mouse, an arrangement of buttons or switches, or the like.

[0022] Power source 44 preferably includes at least one battery if not a plurality of batteries. However any other form of a power source is herein contemplated such as a solar panel, a motor/generator, or the like. In a preferred embodiment, power source 44 is a plurality of removable and replaceable batteries which are positioned within a handle 12, 14. Alternatively, power source 44 is contained within processing module 18.

[0023] In operation, a user installs batteries into power source 44 or charges power source 44 by connecting to first dock 20. Once powered, the user activates the jump rope 10 by switching the switch 38 into the "on" position which powers the auxiliary devices 30. Alternatively, sensor 36 senses movement of the device 10 which automatically activates jump rope 10.

[0024] In one mode of operation, the user holds a handle 12, 14 in each hand and swings the rope portion 16 around their body, jumping each time the rope portion 16 approaches their feet. During the rotation, lights 46 of rope portion 16 either illuminate continuously on or they flash and/or change color.

[0025] In this arrangement lights 46 flash in multiple modes of operation. In one mode, lights 46 flash at set timed intervals controlled by processor 22. In another mode, lights 46 flash depending on the speed of use of the device 10. That is, lights 46 flash each time the rope portion 16 hits the ground, reaches the top of the rotation, reaches the back of the rotation, reaches the front of the rotation, or any position there between or any combination thereof. In this arrangement, sensor 36 senses the position of rope portion 16 and processor 22 activates or deactivates lights 46. Through input device 42 and display 40 the user selects the mode of operation, that is whether the lights 40 flash intermittently, randomly, each time the rope portion 16 hits the ground, etc.

[0026] The same arrangement applies to changing colors. That is, the user selects the mode of operation for the lights 46

to change color, such as each time the rope portion 16 hits the ground the lights 46 change color, or the lights 46 change color at a set time interval, etc. In this way, jump rope 10 provides an exciting jump rope that makes a beautiful and interesting display as the user jumps rope.

[0027] In another mode of operation, the user selects a record mode through display 40 using input device 42. In this mode, the user speaks or sings into microphone 34. This sound is recorded into memory 24 which the user then plays back through speaker 32.

[0028] In another mode of operation, the user selects a repeat mode through display 40 using control device 38. In this mode, the user sings or speaks into microphone 34. This sound is immediately repeated and amplified through speaker 32.

[0029] In another mode of operation, the interactive jump rope 10 connects to a computing device (such as an Apple® ipod®, a smart phone, a hand held device, a conventional computer or any other computing device) either through a wired or wireless connection through first dock 20. Once connected, the user transmits information such music or videos which are recorded into memory 24. Next, through display 40 using input device 42 the user plays this information. The audio portions are played through speaker 32 and video portions are played through display 40. In one arrangement, the processing module 18 is wholly replaced by the stand alone computing device, such as an Apple® iPod®, a smart phone, a hand held device, a conventional computer or any other computing device.

[0030] From the above discussion it will be appreciated that the interactive jump rope presented offers many advantages over the prior art. Namely, the interactive jump rope provides a toy that is more interactive, interesting and appealing than conventional jump ropes due to its interactive features.

[0031] It will be appreciated by those skilled in the art that other various modifications could be made to the device without parting from the spirit and scope of this invention. All such modifications and changes fall within the scope of the claims and are intended to be covered thereby.

I claim:

1. A jump rope, comprising:

- a first handle connected to a second handle by an elongated rope portion;
- a processing module contained within the first handle;
- a plurality of lights connected to the elongated rope portion; and
- a sensor connected to the processing module that detects when the jump rope is in use and sends a signal to the processing module which activates the lights.

2. The jump rope of claim 1 further comprising more than one auxiliary device connected to the processing module.

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