NOVELTY DEVICE AND METHOD FOR PRODUCING SOUND UPON THE BREAKING OF A BUBBLE

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ABSTRACT

A system and method of activating an electronic device upon the popping of soap film bubble. A handheld novelty assembly is provided that houses the electronic device. A plurality of conductive elements are provided that are exposed on the exterior of the novelty assembly. The electronic device within the novelty assembly is activated when an electrical connection is completed between any of the plurality of conductive elements. Soap film bubbles are created. The soap film bubbles are popped by bringing at least some of said plurality of conductive elements in contact with the soap film bubbles. The soap film bubbles creates an electrical connection between the conductive elements at the bubble contact and pop against the conductive elements.

Related U.S. Application Data

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NOVELTY DEVICE AND METHOD FOR PRODUCING SOUND UPON THE BREAKING OF A BUBBLE

RELATED APPLICATIONS


BACKGROUND OF THE INVENTION

[0002] 1. Field of the Invention

[0003] In general, the present invention relates to amusement devices that are used to generate and pop bubbles. More particularly, the present invention relates to bubble blowing devices and objects that are used to pop bubbles as they float upon the air.

[0004] 2. Description of the Prior Art

[0005] Bubble blowing devices have been popular with children for many generations. In that time, bubble blowing devices have been created in countless designs and styles. As such, the prior art is replete with many different types of bubble blowing devices.

[0006] Most bubbles generated by children are soap film bubbles. With a soap film bubble, the surface tension of the soap film creates the skin of the bubble. As soon as the soap film dries or is punctured, the bubble pops. Accordingly, soap film bubbles have a typical life expectancy of less than ten seconds.

[0007] Bubble blowing devices typically have the same functioning elements. A reservoir is provided for holding soap film. An annular structure is provided to dip into the soap film. A stream of air is then blown through the annular structure, thereby creating bubbles from the soap film.

[0008] Typically, after a bubble is formed, the bubble is left to float freely in the wind. Soap film bubbles quickly pop and are lost. With soap film bubbles, children are amused by creating the bubbles and by trying to catch the bubbles in the short period of time before they naturally pop.

[0009] The present invention is a device that makes playing with soap film bubbles more fun. The present invention contains the bubble making equipment needed by a child to create bubbles. The device also contains an electronic circuit. When a bubble is brought into contact with probes, the electronic circuit generates an audible electronic sound at the precise moment the bubble is popped. It therefore seems that the popping of the bubble directly created the amusing sound.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] For a better understanding of the present invention, reference is made to the following description of exemplary embodiments thereof, considered in conjunction with the accompanying drawings, in which:

[0011] FIG. 1 is a front view of an exemplary embodiment of the present invention;

[0012] FIG. 2 is a cross-sectional view of the embodiment of FIG. 1; and

[0013] FIG. 3 is a schematic of the electronic components contained within the present invention.

SUMMARY OF THE INVENTION

[0014] The present invention is a system and method of activating an electronic device upon the popping of soap film bubble. A handheld novelty assembly is provided that houses the electronic device. A plurality of conductive elements are provided that are exposed on the exterior of the novelty assembly. The electronic device within the novelty assembly is activated when an electrical connection is completed between any of the plurality of conductive elements.

[0015] Soap film bubbles are created. The soap film bubbles are popped by bringing at least some of said plurality of conductive elements in contact with the soap film bubbles. The soap film bubbles creates an electrical connection between the conductive elements at the bubble contact and pop against the conductive elements.

[0016] Once a soap film bubble creates an electrical connection, the electronic device is activated for a predetermined period of time. The electronic device can be a sound generator, light, motor of the like.

DETAILED DESCRIPTION OF THE DRAWINGS

[0017] The present invention is a device that holds bubble blowing supplies and is used to pop bubbles after they are formed. The shape of the present invention device is a matter of design choice and it should be understood that the housing of the device can be shaped in any manner, provided the housing supports the functioning elements that are described below in the exemplary embodiment.

[0018] Referring to FIG. 1, an exemplary embodiment of the present invention device 10 is shown. The device 10 contains a housing 12. At the top of the device 12 are two probes 14, 16 that are used to pop free floating bubbles 20. The probes 14, 16 are part of an internal electronic circuit that will later be explained.

[0019] An on/off switch 22 is disposed on the exterior of the housing 12. When the on/off switch 22 is manually depressed by a person holding the housing 12, the internal electronic circuit is activated. The internal electronic circuit creates an audible sound each time the two probes 14, 16 simultaneously touch a bubble 20. Since the probes 14, 16 have a tendency to pop bubbles they touch, the internal electronic circuit creates an audible sound seemingly at the moment the bubble 20 pops. It therefore provides the appearance that the popping of the bubble 20 directly created the audible sound.

[0020] A speaker 24 is exposed on the exterior of the housing 12. When the two probes 14, 16 touch a bubble, the audible sound generated by the internal electronic circuit is broadcast aloud by the speaker 24. The sound generated can be a “pop” sound, or an abstract sound like a dog barking. The sound selected is a matter of design choice, but should be amusing to a child. In this manner, a child will be motivated to pop bubbles as the means of producing the generated sounds.

[0021] Referring now to FIG. 2, it can be seen that the housing 12 of the device 10 also houses the supplies needed
to create the bubbles. Bubble making supplies traditionally include a container of liquid material 26 is provided. The liquid is soap water or another surface tension bubble making composition. The soap water is preferably mixed with electrolytes, such as potassium chloride or sodium chloride to increase the electrical conductivity of the bubbles. A wand 28 is also provided. The wand 28 defines an annular opening through which a person can blow and air and create a bubble from the liquid material 26.

[0022] The housing 12 of the present invention device is shaped to selectively receive and retain the bubble making supplies. The bubble making supplies remain held within the housing 12 until a user decides to remove the bubble making supplies to make bubbles.

[0023] A storage chamber 29 is provided in the bottom of the housing 12. The storage chamber 29 is sized to receive the various bubble making supplies. The bubble making supplies can be retained within the storage chamber 29 using many known mechanical fastening techniques. However, it is preferred that the bubble making supplies be held within the handle storage chamber 29 using a friction fit. In this manner, a child can easily remove and replace the bubble making supplies without having to manipulate doors, latches, or other retention features.

[0024] From FIG. 2, it can be seen that the probes that extends from the housing lead to a common electronic circuit 30. Referring now to FIG. 3, the components of the electronic circuit 30 can be described. The electronic circuit 30 includes at least one battery 32 for providing the power required for operation. A first lead 34 of the battery 32 leads solely to one of the probes 14. The second lead 36 from the battery leads to the remaining circuitry and eventually, the second probe 16. Consequently, the only way that a circuit can be completed is to create an electrical interconnection between the two probes 14, 16.

[0025] When a bubble contacts both probes 14, 16, electricity can momentarily run through the surface film of the bubble 20 and complete a circuit between the two probes 14, 16. However, the probes 14, 16 typically pop any bubble 20 they contact. Consequently, the circuit completed between the two probes 14, 16 only lasts for a fraction of a second.

[0026] Due to the very short period that the probes 14, 16 are electrically interconnected by a bubble 20, the probes 14, 16 themselves are not used to directly enable the generation of an audible sound. If electric flow through the probes 14, 16 was used to directly generate sound, the sound generated would be of such a short duration, that the sound may be unperceivable.

[0027] An activation circuit 40 is used activate a sound generator 42 when the probes 14, 16 touch a bubble 20. The activation circuit 40 is a circuit that activates the sound generator 42 upon receipt of a momentary trigger signal. When a bubble 20 touches the two probes 14, 16, a brief completion of a circuit is produced. This brief completion of a circuit can be used as a trigger signal. The trigger signal is received by the activation circuit 40. The activation circuit 40 then activates the sound generator 42 for a period of time long enough for the sound generator 42 to complete at least one broadcast cycle.

[0028] It will be recognized by a circuit designer that numerous circuits can be produced that will serve as the before-described activation circuit 40. For instance, the trigger signal can be used to discharge a capacitor or activate a transistor. Any such activation circuit can be adapted for use as part of the present invention.

[0029] Once the activation circuit 40 activates the sound generator 42, the sound generator produces a sound signal. The sound signal is received by the speaker 24 and is audibly broadcast.

[0030] In operation, a child will remove the bubble making materials from the housing 12 (FIG. 2) and will blow bubbles 20. The child will then try to pop the bubbles 20 by touching the bubbles 20 with the probes 14, 16. If a bubble 20 does touch both probes 14, 16, the sound generator 42 will activate and will broadcast an audible sound.

[0031] In the shown embodiments, the device 19 is illustrated with two separate and distinct probes 14, 16. It should be understood that such a configuration is merely exemplary. The probes can be disposed at the tip of a single projection. For example, the bubble breaking device can be configured as a wand. The probes would be two conductive strips at the tip of the wand. Accordingly, when the tip of the wand touched a bubble, a momentary electrical interconnection would be made. The device would then activate as previously described.

[0032] In the exemplary embodiment of the invention, the contact with a bubble creates an audible noise. Such an activation is merely exemplary. It will be understood that upon the breaking of a bubble, any electronic device can be activated. Such electronic devices include, but are not limited to, lights, motors, displays, solenoids and logic circuits.

[0033] If will be understood that the shown embodiment of the present invention is merely exemplary and that a person skilled in the art can make many variation to the shown embodiment. For instance, the housing of the device can have many shapes. Similarly the probes extending from the housing can have many shapes. The bubble making materials also can be separate from the housing and need not be held by the housing. All such variations, modifications and alternate embodiments are intended to be included within the scope of the present invention.

What is claimed is:
1. A method of activating an electronic device, said method comprising the steps of:
   providing a plurality of conductive elements that are electrically interconnected with said electronic device;
   activating said electronic device when an electrical connection is completed between any of said plurality of conductive elements;
   providing soap film bubbles; and
   bringing at least some of said plurality of conductive elements in contact with soap film bubbles, wherein said soap film bubbles creates said electrical connection between any of said plurality of conductive elements that are touch simultaneously by said soap film bubble.
2. The method according to claim 1, wherein said plurality of conductive elements are disposed upon at least one probe.
3. The method according to claim 2, wherein said step of bringing at least some of said plurality of conductive elements in contact with soap film bubbles, includes prodding
said soap film bubbles with said at least one probe in an attempt to break said soap film bubbles.  

4. The method according to claim 2, wherein said step of providing a plurality of conductive elements that are electrically interconnected with said electronic device, includes proving a handheld housing that contains said electronic device, wherein said at least one probe protrudes from said handheld housing.  

5. The method according to claim 1, wherein said electrical device produces sound when activated.  

6. The method according to claim 1, wherein said electrical device is selected from a group consisting of sound generators, lights, motors, displays, solenoids and logic circuits.  

7. The method according to claim 1, wherein said step of activating said electronic device includes providing an activation circuit that is triggered when at least some of said plurality of conductive elements are in contact with soap film bubbles.  

8. The method according to claim 7, further including the step of having said activation circuit activate said electronic device for a predetermined period of time once said activation circuit is triggered.  

9. The method according to claim 4, wherein said step of providing soap film bubbles, includes providing a bubble wand and bubble soap within said handheld housing.  

10. A method of popping soap film bubbles, comprising the steps of:  

providing a handheld device having a housing and at least one probe that extends outwardly from said housing, wherein said at least one probe supports a plurality of exposed conductive elements;  

providing an electronic device within said housing that activates when a circuit is completed between any two of said exposed conductive elements;  

bringing said at least one probe into contact with said soap film bubbles wherein said at least one probe pops said soap film bubbles and said soap film bubbles momentarily complete a circuit between said exposed conductive elements, wherein activating said electronic device.  

11. The method according to claim 10, wherein said electrical device produces sound when activated.  

12. The method according to claim 10, wherein said electrical device is selected from a group consisting of sound generators, lights, motors, displays, solenoids and logic circuits.  

13. The method according to claim 10, wherein said electronic device includes providing an activation circuit that is triggered when at least some of said plurality of conductive elements are in contact with soap film bubbles.  

14. The method according to claim 13, further including the step of having said activation circuit activate said electronic device for a predetermined period of time once said activation circuit is triggered.  

15. The method according to claim 10, further including the step of providing a bubble wand and bubble soap within said handheld housing.  

16. A novelty device, comprising:  

a housing containing an electronic device;  

a plurality of contact elements that are external of said housing and are coupled to said electronic device, wherein said electronic device is activated when an electrical connection is created between any of said plurality of contact elements;  

a bubble blowing wand retained within said housing; and  

a supply of bubble blowing liquid retained within said housing.  

17. The device according to claim 16, further including an activation circuit that activates said electronic device for a predetermined period of time once an electrical connection is created between any of said plurality of contact elements.