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(54) **ELECTRONIC TOY WITH SYNCHORNIZED SOUND AND LIGHTING SYSTEM THAT UTILIZES PROJECTILES AND METHOD OF USE**

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(57) **ABSTRACT**  
An electronic toy with synchronized sound and lighting system that utilizes projectiles, and method, including a base, a projectile, pre-recorded sounds, a speaker, LED lights, and various circuitry. The invention can be programmed to operate in standby mode at all times, and will power-on when the user locks the projectile into the locking unit. The invention is programmed to initiate synchronized sequences of lights and sounds based on the user's locking and loading of a projectile into the invention, rather than through the use of unnecessary buttons or an on/off switch.

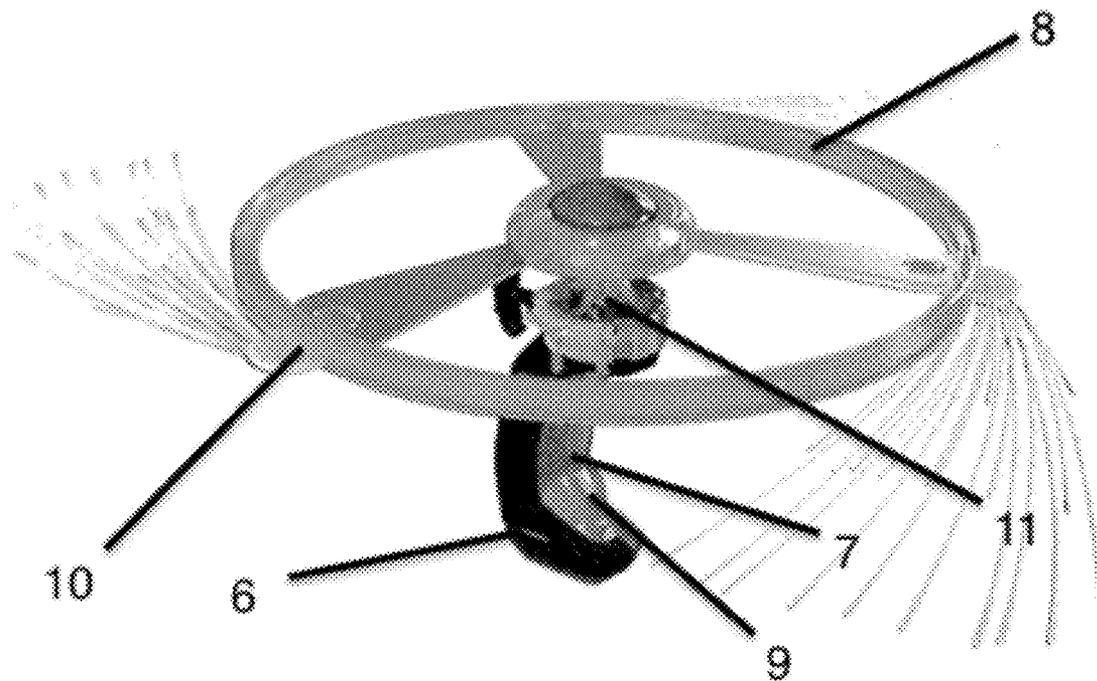


FIG. 1

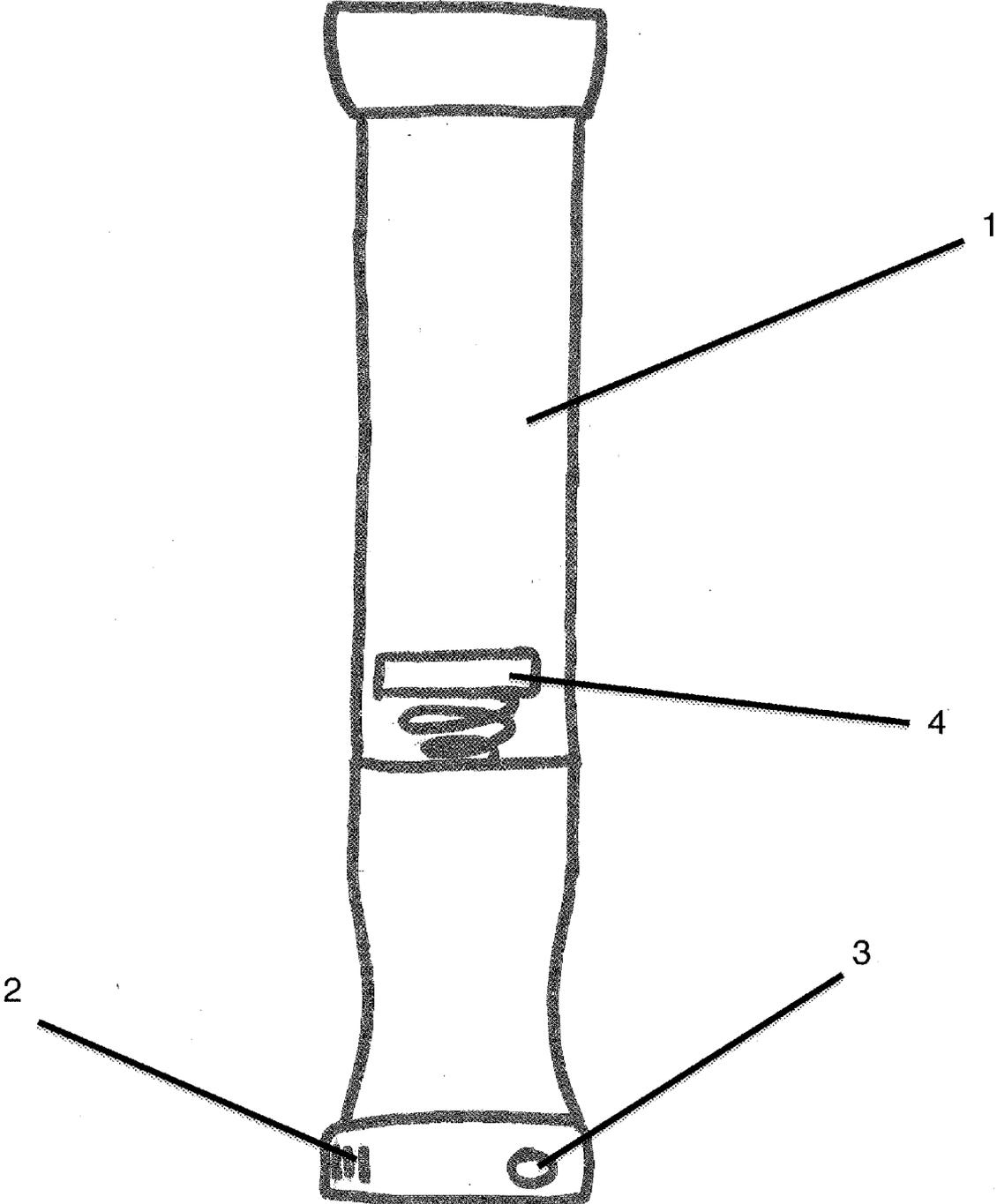


FIG. 2

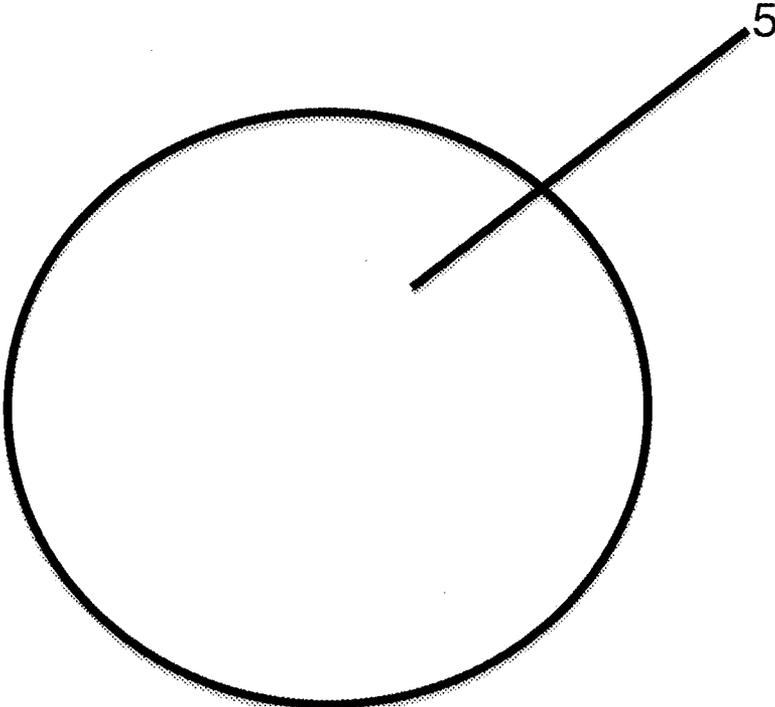
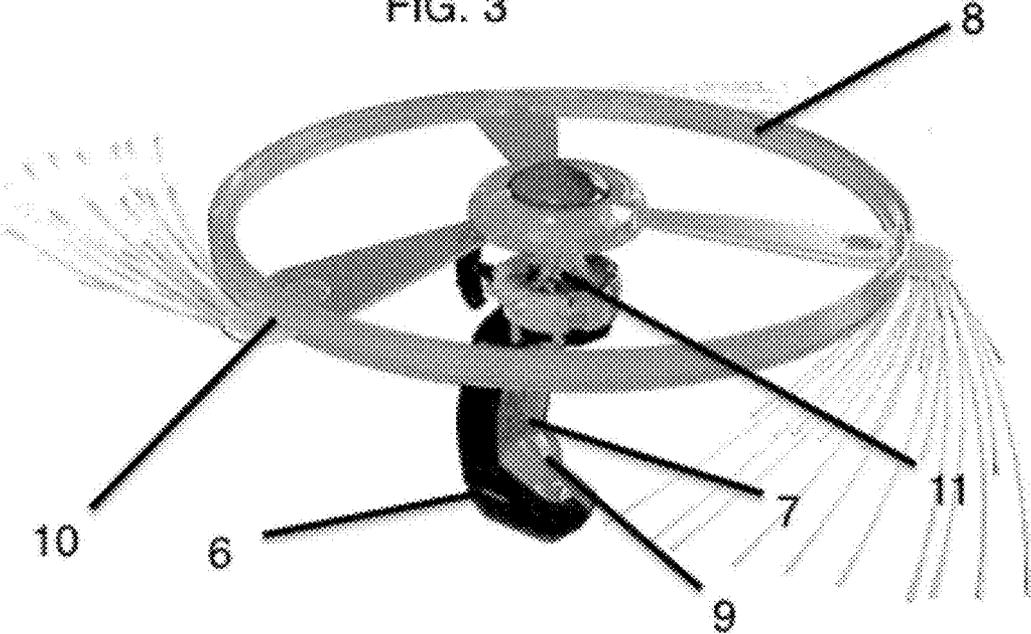


FIG. 3



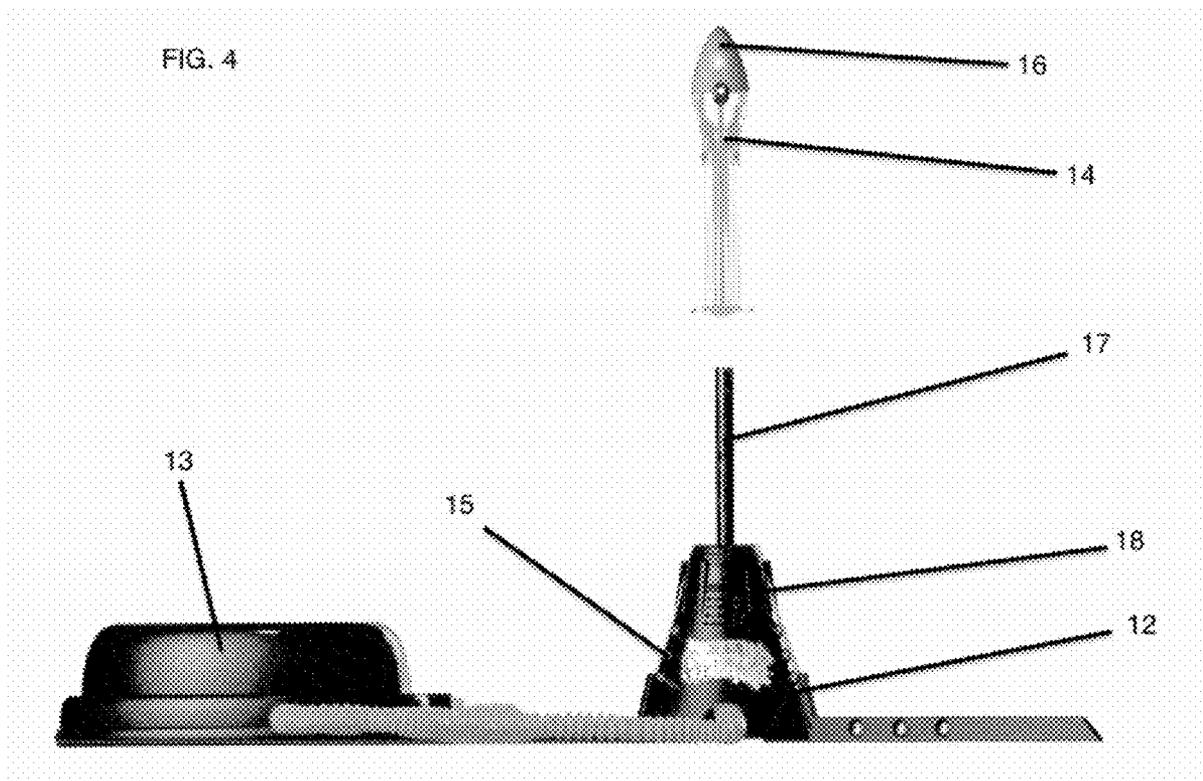


FIG. 5

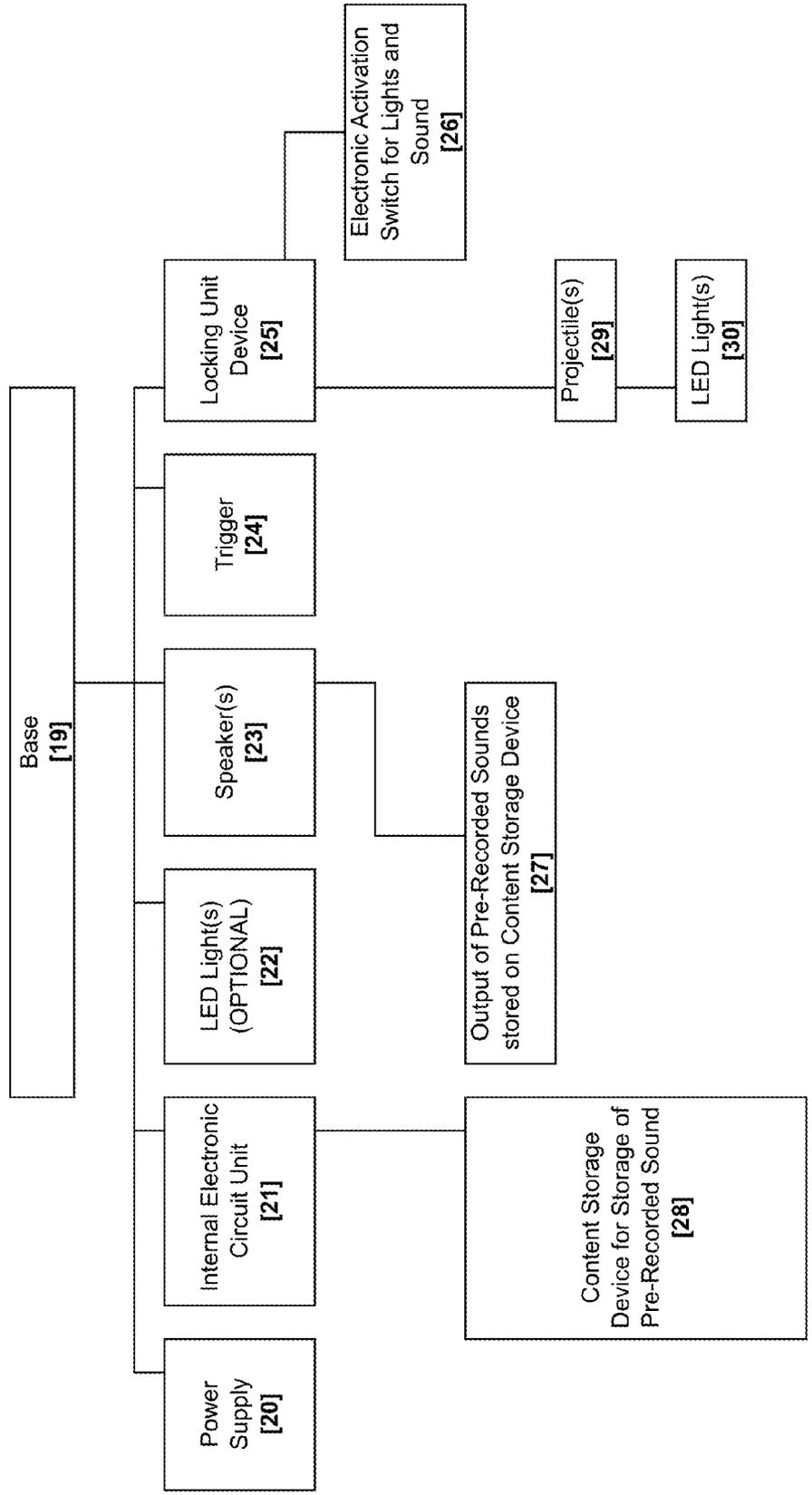
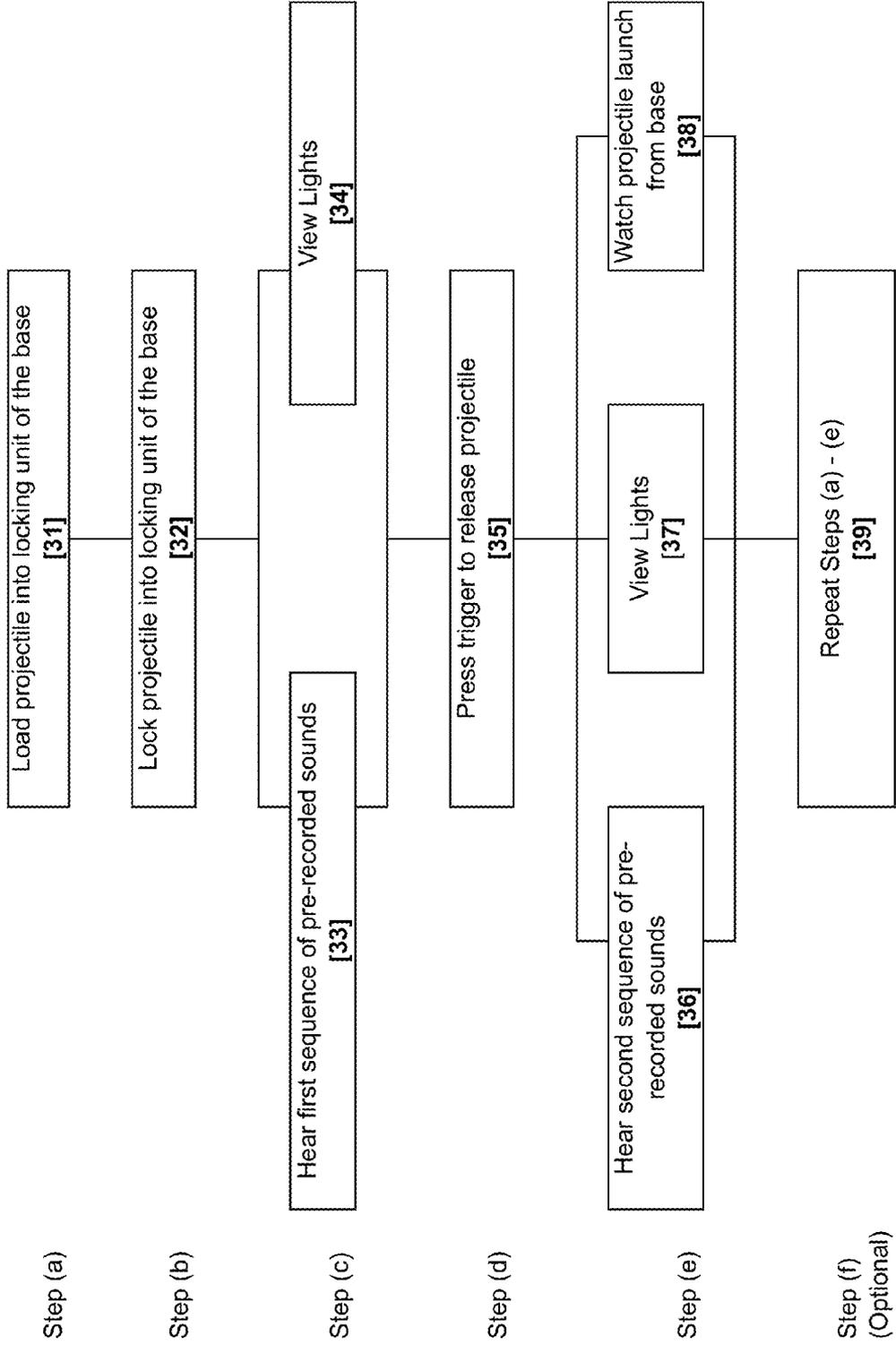


FIG. 6



**ELECTRONIC TOY WITH SYNCHORNIZED  
SOUND AND LIGHTING SYSTEM THAT  
UTILIZES PROJECTILES AND METHOD OF  
USE**

THE FIELD OF INVENTION

**[0001]** The present invention relates generally to toys. More specifically, the present invention relates to child-friendly toys, and an electronic toy with synchronized sound and lighting system that utilizes projectiles and method of use. Use of the present invention is for children, teens and adults alike.

BACKGROUND OF THE INVENTION

**[0002]** Traditional fireworks are utilized in many cultures for, among other things, aesthetic, religious and entertainment purposes. Although people of all ages enjoy a fireworks display, traditional fireworks are not suitable for use by children. Due to the explosive pyrotechnic nature of, and the inherent danger associated with, traditional fireworks, fireworks may only be purchased by adults and are only suitable for use by adults. Although children are able to enjoy the explosion of shape, light, and sound created by fireworks as they are lit and propelled into the sky or lit and set in motion on the ground, children are not allowed by law to own or use fireworks. Additionally, traditional fireworks are illegal for use and/or sale in many states of the United States. Thus, it is desirable for families with children to have a safe alternative to traditional fireworks so the entire family, including children, may actively participate in creating a fireworks display that mimics the display and sounds of a traditional firework.

**[0003]** The present invention and method relate to a grouping of toys that combine lights, sound, electronics, power sources, and other mechanisms that allow a user to control the product in order to produce various combinations of lights and sounds, all of which mimic a traditional firework display. Currently, there are already toys in the marketplace that have achieved the purpose of producing child-safe alternatives to traditional fireworks. One purpose of the present invention is to improve upon the experience, for the user(s) and the viewer (s), generated by use of the products currently available in the marketplace.

**[0004]** Products currently in the marketplace require that the user manually turn the product on and/or off in order to operate the light and sound portions of the device. Additionally, current products in the marketplace require that you press specific buttons in order to activate the light and sounds once the device has been turned on. The requisite turning on/off of the device and pressing specific buttons in order to activate short bursts of light and sound in the prior art does not allow the user to fully enjoy the faux-fireworks display as the user is wasting time and energy attempting to press the necessary buttons in order to achieve the desired light and sound of the product's display. Products currently on the marketplace utilize a limited amount of LED lighting, which results in the toys not being fully illuminated and, thus, not fully mimicking the lighting display of a traditional fireworks display.

SUMMARY OF THE INVENTION

**[0005]** It is an object of the present invention to improve upon, overcome, or at least reduce, the lacking qualities of the aforementioned prior art. The present invention's innovative

lighting and sound system provides an experience that more closely mimics a traditional fireworks display than that of the prior art by utilizing various switches and trigger devices, which synchronize the sound and lights of the invention with the movements/actions of the user. By allowing the user's movements/actions to dictate the sounds and lights emitted from the invention, the user is no longer required to locate various buttons and/or switches to trigger the sound and light portions of the product and manually press such buttons. Additionally, by allowing the user to activate the device by locking the projectile object into the base of the product, the turning the product on/off by locating and manually operating the on/off switch is removed from the process. As a result of not utilizing specific buttons for light and sound activation, and not utilizing an on/off switch to activate the entire device, the user benefits by being able to spend more time enjoying the light and sound experience of the invention without taking part in unnecessary steps.

**[0006]** According to the invention, there is provided a system of circuitry, switches, LED lights, and speakers, all of which are embedded into various parts and/or mechanisms of the product. The switch and circuitry is located within the locking unit of the base, and is activated when the user locks the projectile into the locking unit of the base. As soon as the projectile is locked into place, the switch is connected (activated), which triggers an internal electronic circuit unit (which comprises at least one wire, chip or other content storage device, circuit board, power supply) and wire attached to the speaker(s) located in the base to emit a first sequence of pre-recorded sound, which in the present embodiment includes the sound of a match being lit followed by the sound of a whistle. Such first sequence of pre-recorded sound continues to play until the user releases the projectile from the base by pressing the trigger. As soon as the projectile is released from the base by pressing the trigger, or other type of release switch, the electronics activation switch described above, which is between the projectile and the base, is reactivated and/or deactivated, which triggers the speaker(s) in the base to emit a second sequence of pre-recorded sound, which in the present embodiment includes the sound of an explosion, and is programmed to cease emitting after a preset certain period of time.

**[0007]** The invention is an electronic toy with synchronized sound and lighting systems that utilize projectiles, comprising of a base, a power supply; a locking unit and associated circuitry unit, LED light(s), a Trigger or other switch, Projectile(s), a speaker(s), electronic components having at least one component that holds content such as pre-recorded sounds, which in this embodiment are including but not limited to, the sound of a match stick being lit, the sound of a match stick lit and burning, the sound of a firework explosion, and the sound of a firework shooting into the sky. The electronic toy with synchronized sound and lighting systems that utilize projectiles can have LED lights embedded into the projectile(s). The electronic toy with synchronized sound and lighting systems that utilize projectiles can have LED lights embedded into the base. The electronic toy with synchronized sound and lighting systems that utilize projectiles can have at least one speaker, which can be located in the base. The electronic toy with synchronized sound and lighting systems that utilize projectiles can have at least one LED light embedded into the projectile itself and this projectile can be the shape of a ball, such LED light(s) within the projectile can be activated on or off through a separate motion detection elec-

tronic switch located within the projectile and connected to such light(s) through electronic curly unit with power supply or can be activated by the trigger switch described above when the projectile is released from the base. The electronic toy with synchronized sound and lighting systems that utilize projectiles can have LED lights are embedded into the rim of the projectile and the projectile can be in the shape of a disc. The electronic toy with synchronized sound and lighting systems that utilize projectiles can have LED lights embedded into the sides of the projectile. The projectile can be in the shape of a rocket. The electronic toy with synchronized sound and lighting systems that utilize projectiles can also have the base shaped liked a tube when the projectile is in the shape of a ball. The electronic toy with synchronized sound and lighting systems that utilize projectiles can have the base shaped to mimic a gun handle when the projectile is in the shape of a disc. The electronic toy with synchronized sound and lighting systems that utilize projectiles can have the base shaped to sit flat on floor when the projectile is in the shape of a rocket, which can be facing up to toward the sky. A method of use of the electronic toy with synchronized sound and lighting systems that utilize projectiles, may be comprised of the steps of: (a) loading a projectile into the locking unit of the base (attaching projectile to base via a locking unit device with at least most of the parts located attached to base (could be all parts), and/or opposite connector can be located on projectile); (b) locking a projectile into the locking unit of the base which also activates the sound and lights electronics system of the devise as described above; (c) hearing the first sequence of pre-recorded sounds and viewing lights; (d) pressing a trigger or other switch to release projectile(s) which also activates the sound and lights electronics system of the devise as described above; (e) hearing the second sequence of pre-recorded sounds, viewing lights, and watching projectile launch from base; (f) (optional step) repeat steps (a) through (e). The loading and locking of the projectile into the base depresses a switch located in the base, which triggers one of the pre-recorded sounds to emit from the speaker located in the base. The pre-recorded sound that emits from the speaker when the projectile is loaded and locked into the base continues to emit from the speaker until the user releases the projectile from the base. The pressing of a trigger button releases, and launches the projectile from the base, which may trigger a different pre-recorded sound. The invention may be programmed to operate in standby mode, which can be the mode at all times, and when in this mode will power-on when the user locks the projectile.

#### BRIEF DESCRIPTION OF THE DRAWINGS

**[0008]** An electronic toy with synchronized sound and lighting system that utilizes projectiles, and method of use will now be described by way of example with reference to the accompanying drawings in which:

**[0009]** FIG. 1 is a side view of an electronic toy that utilizes projectiles with the projectiles in the shape of a ball.

**[0010]** FIG. 2 is a side view of a projectile in the shape of a ball.

**[0011]** FIG. 3 is a side view of an electronic toy that utilizes projectiles with the projectiles in the shape of a disc.

**[0012]** FIG. 4 is a side view of an electronic toy that utilizes projectiles with the projectiles in the shape of a rocket.

**[0013]** FIG. 5 is a flowchart detailing the components of the present invention.

**[0014]** FIG. 6 is a flowchart detailing the steps of the method of use of the present invention by a user.

#### DESCRIPTION OF THE PREFERRED EMBODIMENT

**[0015]** In the following detailed description of the preferred embodiment, reference is made to the accompanying drawings that form a part hereof, and in which is shown, by way of illustration, a specific embodiment in which the invention may be practiced. It is to be understood that other embodiments may be utilized and structural changes may be made without departing from the scope of the present invention.

**[0016]** In the following detailed description of various embodiments of the invention, numerous specific details are set forth in order to provide a thorough understanding of various aspects of one or more embodiments of the invention. However, one or more embodiments of the invention may be practiced without these specific details. In other instances, well-known methods, procedures, and/or components have not been described in detail so as not to unnecessarily obscure aspects of embodiments of the invention. The foregoing description of the preferred embodiment of the invention has been presented for the purposes of illustration and description. While multiple embodiments are disclosed, still other embodiments of the present invention will become apparent to those skilled in the art from the above detailed description, which shows and describes illustrative embodiments of the invention. As will be realized, the invention is capable of modifications in various obvious aspects, all without departing from the spirit and scope of the present invention. Accordingly, the detailed description is to be regarded as illustrative in nature and not restrictive. Also, although not explicitly recited, one or more embodiments of the invention may be practiced in combination or conjunction with one another. Furthermore, the reference or non-reference to a particular embodiment of the invention shall not be interpreted to limit the scope the invention. It is intended that the scope of the invention not be limited by this detailed description.

**[0017]** DESCRIPTION OF THE PREFERRED EMBODIMENT OF AN electronic toy with synchronized sound and lighting system that utilizes projectiles, and method, including a base, a projectile, pre-recorded sounds, a speaker, LED lights, and various circuitry. The invention is programmed to operate in standby mode at all times, and will power-on when the user locks the projectile (shown in FIG. 2 at 5, FIG. 3 at 8, FIG. 4 at 14) into the locking unit (FIG. 1 at 4, FIG. 3 at 11, FIG. 4 at 17).

**[0018]** A view of the side of the electronic toy that utilizes projectiles with the projectiles in the shape of a ball, and its components, is illustrated in FIG. 1. The invention includes a base 1, which resembles an elongated tube, with a speaker 2 and trigger 3 located at the bottom of such base 1. Additionally, the invention includes a locking unit device 4 and associated circuitry, which when suppressed by loading and locking the projectile 5 into the base 1, initiates the lighting mechanisms in the projectile 5, and initiates the first sequence of pre-recorded sounds in the speaker 2. Pressing the trigger 3 both releases the projectile 5, and which also causes a second sequence of pre-recorded sound to emit from the speaker(s) 2.

**[0019]** A view of the side of the projectile shaped like a ball is illustrated in FIG. 2. Such projectile 5 has numerous LED lights embedded within the projectile in order to create an illuminated effect. These lights can be activated through

launch of the projectile to turn on with manual turn on/off. Speakers, associated circuitry, and Sound can be added (not shown here).

**[0020]** A view of the side of the electronic toy that utilizes projectiles in the shape of a disc, and its components, is illustrated in FIG. 3. The invention includes a base 6, which may include LED lights embedded on its sides 9, a projectile 8, which may have LED lights embedded into its rim 10, a speaker (not shown), and a trigger 7. Additionally, the invention includes a locking unit device 11 and associated circuitry, which when activated and/or suppressed by loading and locking the projectile 8 into the base 6, initiates the lighting mechanisms 10 in the projectile 8, and the lighting mechanisms 9 in the base 6, if applicable, and initiates the first sequence of pre-recorded sound in the speaker (not shown). Pressing the trigger 7 releases the projectile 8, which causes a second sequence of pre-recorded sound to emit from the speaker (not shown).

**[0021]** A view of the side of the electronic toy that utilizes projectiles in the shape of a rocket, and its components, is illustrated in FIG. 4. The invention includes a base 12, which may include LED lights embedded into its side 15, a projectile 14, which has LED lights embedded into its top 16, a speaker 18, and a trigger 13. Additionally, the invention includes a locking unit device 17 and associated circuitry, which when suppressed by loading and locking the projectile 14 into the base 12, initiates the lighting mechanisms 16 in the projectile 14, and the lighting mechanisms in the base 15, if applicable, and initiates the first sequence of pre-recorded sounds in the speaker 18. Pressing the trigger 13 releases the projectile 14, which causes a second sequence of pre-recorded sound to emit from the speaker 18.

**[0022]** A flowchart detailing the components of the present invention is illustrated in FIG. 5. The power supply 20, internal electronic circuit unit 21, optional LED light(s) 22, speaker(s) 23, trigger 24, and locking unit device 25, are all a part of, or connected to, the base 19. Attached to internal electronic circuit unit 21 is a content storage device 28, which is used to store the pre-recorded sounds that are emitted from the invention 27. In addition, the locking unit device 25 contains an electronic activation switch 26, which controls the lights and sounds. The projectile 29, which has LED light(s) 30 embedded into it or attached to it, attaches to the base 19 via the locking unit device 25, and is released by pressing the trigger 24.

**[0023]** A flowchart detailing the steps of the method of use of the present invention by a user is illustrated in FIG. 6. Step (a) requires that the user load the projectile into the locking unit of the base 31. Step (b) requires that the user lock the projectile into the locking unit of the base 32. Step (c) requires that the user hear the first sequence of pre-recorded sounds 33, and view the lights 34. Step (d) requires that the user press the trigger to release the projectile from the locking unit and the base 35. Step (e) requires that the user hear the second sequence of pre-recorded sounds 36, view the lights 37, and watch the projectile launch from the base 38. Step (f) is optional and allows the user to repeat steps (a) through (e) 39.

What is claimed:

1. An electronic toy with synchronized sound and lighting systems that utilize projectiles, comprising of at least one of each of the following:

- a. A base;
- b. A power supply;
- c. A locking unit device;

- d. A speaker;
  - e. Internal electronic circuit unit, which comprises at least one wire, chip or other content storage device, circuit board, activation switch located in or connected to said locking device unit, which connects via said wire(s) to said power supply and said speaker;
  - f. LED light(s);
  - g. A Trigger;
  - h. Projectile(s);
  - i. Pre-recorded sounds stored on content storage device, said sounds comprising the sound of a match stick being lit, the sound of a match stick lit and burning, the sound of a firework explosion, and the sound of a firework shooting into the sky;
2. The electronic toy with synchronized sound and lighting systems that utilize projectiles of claim 1, wherein LED lights are embedded into the projectile(s).
3. The electronic toy with synchronized sound and lighting systems that utilize projectiles of claim 1, wherein LED lights are embedded into the base.
4. The electronic toy with synchronized sound and lighting systems that utilize projectiles of claim 1, wherein at least one speaker is located in the base.
5. The electronic toy with synchronized sound and lighting systems that utilize projectiles in claim 2, wherein at least one LED light is embedded into the projectile when the projectile is in the shape of a ball.
6. The electronic toy with synchronized sound and lighting systems that utilize projectiles in claim 2, wherein LED lights are embedded into the rim of the projectile when the projectile is in the shape of a disc.
7. The electronic toy with synchronized sound and lighting systems that utilize projectiles in claim 2, wherein LED lights are embedded into the sides of the projectile when the projectile is in the shape of a rocket.
8. The electronic toy with synchronized sound and lighting systems that utilize projectiles in claim 3, wherein base is shaped liked a tube when the projectile is in the shape of a ball.
9. The electronic toy with synchronized sound and lighting systems that utilize projectiles in claim 3, wherein base is shaped to mimic a gun handle when the projectile is in the shape of a disc.
10. The electronic toy with synchronized sound and lighting systems that utilize projectiles in claim 3, wherein base is shaped to sit flat on floor when the projectile is in the shape of a rocket.
11. The invention in claim 3, wherein the sound and/or lights activation and projectile locking unit is pre-programmed to operate in standby mode, which can be the mode at all times, and when in this mode will power-on when the user locks the projectile.
12. The invention in claim 3, wherein the loading and locking of the said projectile(s) into the base depresses a switch located in the base, which triggers one of the pre-recorded sounds to emit from the speaker located in the base.
13. The invention in claim 12, wherein the pre-recorded sound recording that emits from the speaker when the projectile is loaded and locked into the base continues to emit from the speaker until the user releases the projectile from the base.
14. The invention of claim 13, wherein the pressing of the trigger button releases, and launches the projectile from the base, which triggers a different pre-recorded sound recording than that of claims 12 and 13.

**15.** The electronic toy with synchronized sound and lighting systems that utilize projectiles in claim **2** wherein such LED light(s) within the projectile can be activated on or off through a separate motion detection electronic switch located within the projectile and connected to such light(s) through electronic circuitry unit with power supply or can be activated by the trigger switch described above when the projectile is released from the base.

**16.** A method of use of the electronic toy with synchronized sound and lighting systems that utilize projectiles, comprising the steps:

- (a) loading a projectile into the locking unit of the base;
- (b) locking a projectile into the locking unit of the base;
- (c) hearing the first sequence of pre-recorded sounds and viewing lights
- (d) pressing trigger to release projectile
- (e) hearing the second sequence of pre-recorded sounds, viewing lights, and watching projectile launch from base;
- (f) (optional step) repeat steps (a) through (e).

**17.** The method of use of the electronic toy with synchronized sound and lighting systems that utilize projectiles in

claim **16**, wherein the loading and locking of the projectile into the base depresses a switch located in the base, which triggers one of the pre-recorded sounds to emit from the speaker located in the base.

**18.** The method of use of the electronic toy with synchronized sound and lighting systems that utilize projectiles in claim **16**, wherein the pre-recorded sound that emits from the speaker when the projectile is loaded and locked into the base continues to emit from the speaker until the user releases the projectile from the base.

**19.** The method of use of the electronic toy with synchronized sound and lighting systems that utilize projectiles in claim **16**, wherein the pressing of a trigger button releases, and launches the projectile from the base, which triggers a different pre-recorded sound than that of claims **17** and **18**.

**20.** The method of use of the electronic toy with synchronized sound and lighting systems that utilize projectiles in claim **16**, may be programmed to operate in standby mode, which can be the mode at all times, and when in this mode will power-on when the user locks the projectile.

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