Sept. 7, 1965 J. GREEN 3,204,369

DEVICE FOR MAKING NOISE BY THE PUNCTURING OF INFLATED BALLOONS

Filed Feb. 14, 1964 2 Sheets-Sheet 1

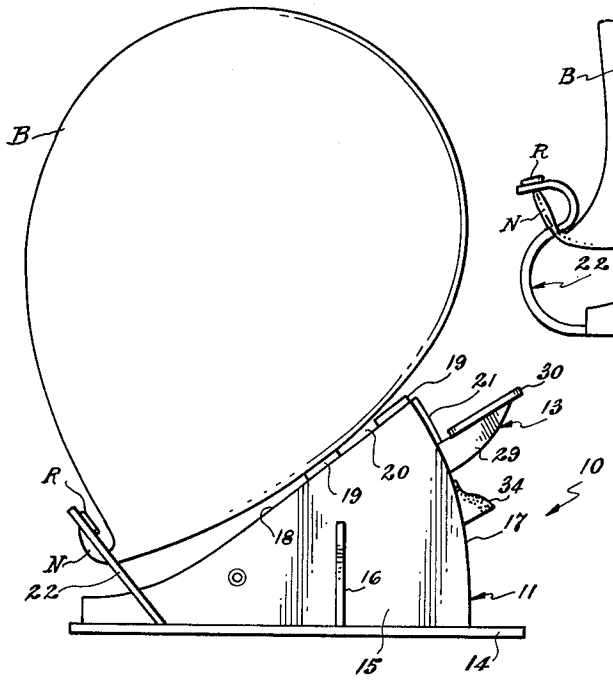


Fig. 1.

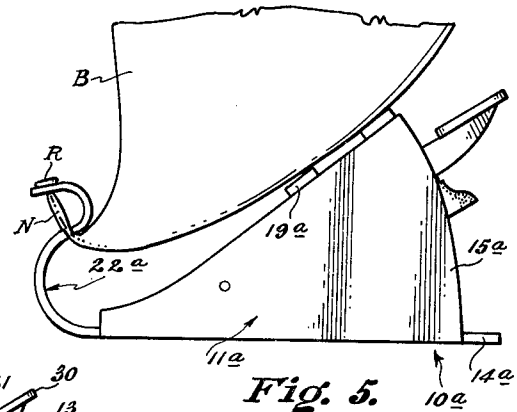


Fig. 5.

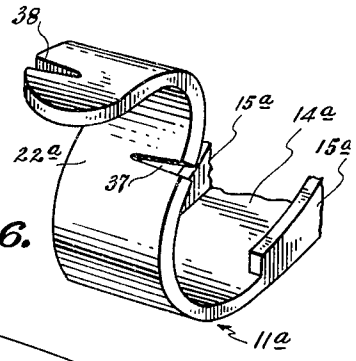


Fig. 6.

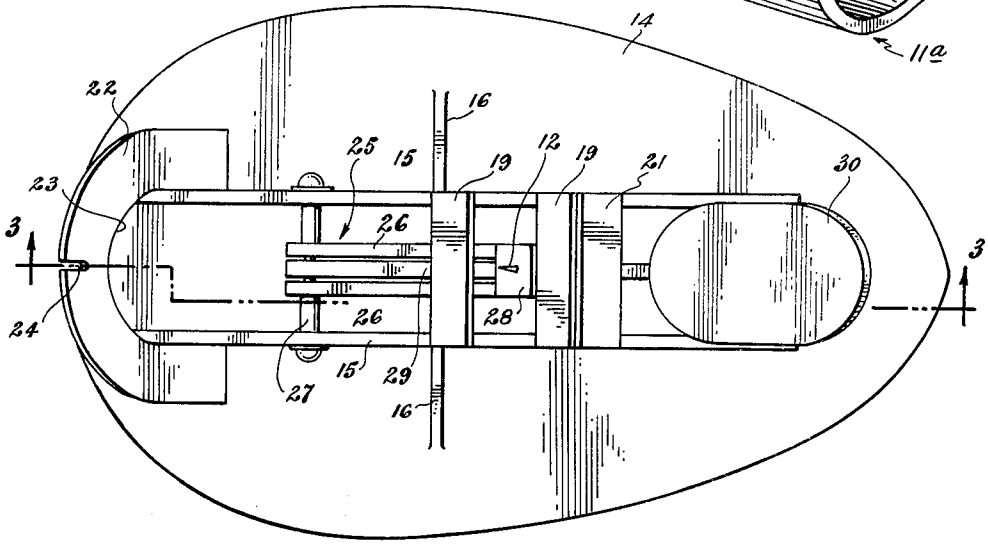


Fig. 2.

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DEVICE FOR MAKING NOISE BY THE PUNCTURING OF INFLATED BALLOONS

Filed Feb. 14, 1964 2 Sheets-Sheet 2

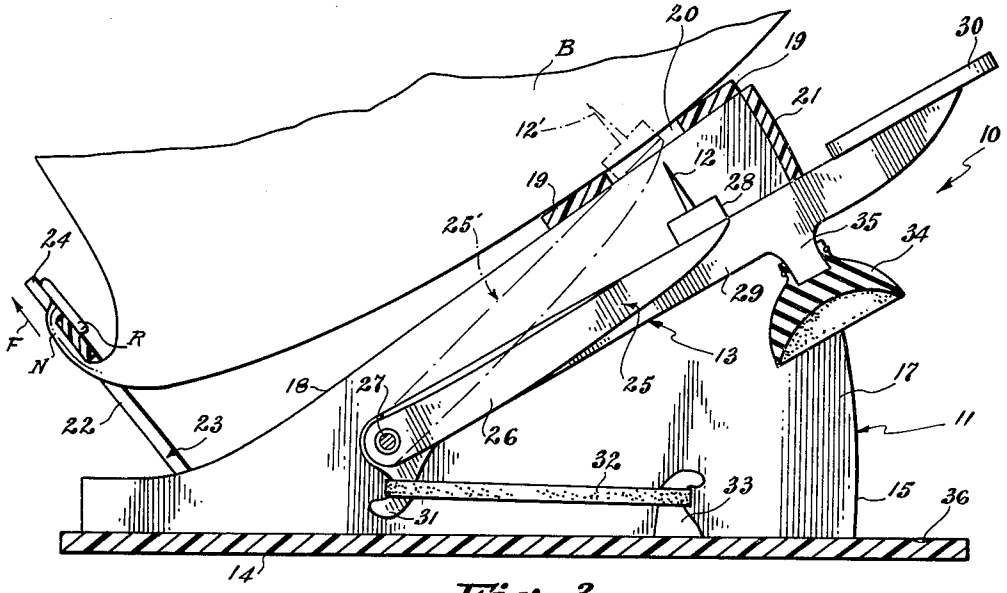


Fig. 3.

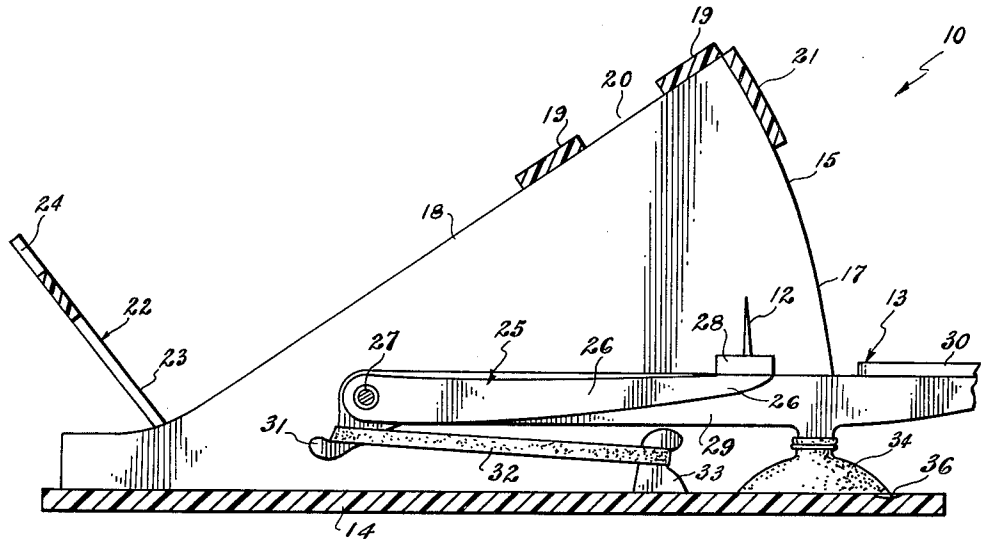


Fig. 4.

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DEVICE FOR MAKING NOISE BY THE PUNCTURING OF INFLATED BALLOONS

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8 Claims. (Cl. 46—88)

This invention relates generally to a noise-maker, and more particularly is directed to the provision of a completely safe noise-maker suitable as a substitute for firecrackers and the like which rely on the explosive report from the detonation of powder.

A particular object of this invention is to provide a device which makes noise by the puncturing of inflated balloons, thereby to positively avoid any possibility of injuries to the user of the device or to bystanders.

A further object is to provide a noise-maker of the described character which, after being set for operation, provides a variable delay before the puncturing of the inflated balloon and the consequent explosive report, thereby to simulate the variable or indeterminant delay usually experienced between the igniting of the fuse of a firecracker and the detonation thereof.

Still another object is to provide a device for making noise by the puncturing of balloons, which device is constructed and arranged to avoid the premature puncturing of an inflated balloon when the device is being prepared or set for operation.

In accordance with an aspect of this invention, a device for making noise by the puncturing of inflated balloons comprises a base having means for holding or gripping the nozzle of an inflated balloon and for urging the latter against a support surface on the base, a pointed element mounted on the base for movement relative to the latter between a position where the element is withdrawn or remote from the support surface and an operative position where the pointed element projects beyond the support surface for puncturing a balloon held against the latter, thereby producing an explosive report, actuating means operative to drive the pointed element toward its operative position, and self-releaseable means for temporarily arresting operation of the actuating means thereby to delay the movement of the pointed element to its operative, balloon puncturing position.

The above, and other objects, features and advantages of the invention, will be apparent in the following detailed description of illustrative embodiments thereof which is to be read in connection with the accompanying drawings forming a part hereof, and wherein:

FIG. 1 is a side elevational view of a device embodying this invention and being shown with an inflated balloon held thereon for puncturing by the device so as to produce an explosive report;

FIG. 2 is an enlarged, top plan view of the device of FIG. 1;

FIG. 3 is a sectional view taken along the line 3—3 on FIG. 2, and showing the device in its normal or rest condition;

FIG. 4 is a view similar to that of FIG. 3, but showing the device in its set or cocked condition;

FIG. 5 is a view similar to that of FIG. 1, but showing another embodiment of the invention; and

FIG. 6 is a fragmentary perspective view of the means included in the device of FIG. 5 for holding the balloon to be punctured.

Referring to the drawings in detail, it will be seen that the illustrated device **10** embodying this invention has, as its major components, a base or body **11** adapted to hold an inflated balloon B (FIGS. 1 and 3); a pointed element or pin **12** mounted on the base **11** for movement

relative to the latter between a position (FIG. 4), where the pointed element is remote or withdrawn from the inflated balloon B held on the base, and an operative position, as shown in broken lines at **12'** on FIG. 3, where the pointed element punctures the balloon held on the base and thereby produces an explosive report; and an actuating mechanism **13** operative to drive the pointed element toward its operative position.

In the illustrated device **10**, the base **11**, which is preferably molded or otherwise formed of a rigid plastic material, includes a bottom wall **14** and a pair of laterally spaced apart, parallel side plates **15** extending vertically upward from bottom wall **14** at opposite sides of the longitudinal center line of the latter, and being braced by outwardly directed ears or wings **16** (FIGS. 1 and 2). The two side plates **15** are substantially pie-shaped so as to have arcuate edges **17**, at one end, and top edges **18** sloping downwardly toward the other end. Cross members **19** extend between top edges **18** of side plates **15** adjacent the taller ends of the latter, and such cross members are spaced apart to define a gap **20** therebetween. A further cross member **21** extends between side plates **15** of the base at the upper portions of end edges **17**.

In order to hold the inflated balloon B on the base **11**, the latter further includes a yoke-like or horseshoe-shaped member **22** extending upwardly from bottom wall **14** adjacent the short ends of side plates **15**. The horseshoe-shaped member **22** has its legs or ends disposed outwardly with respect to side plates **15**, as is apparent in FIG. 2, and lies in a plane inclined relative to the bottom wall **14** in the direction opposed to the inclination of the top edges **18** of side plates **15**, as is apparent in FIGS. 1, 3 and 4. The horseshoe-shaped member **22** defines an opening **23** and further is formed with a centrally located slot **24** opening at the outer edge of member **22**.

After the balloon B has been inflated, its nozzle N is passed, from above, through opening **23** of the horseshoe-shaped member **22** and then drawn outwardly and upwardly and engaged in the slot **24** with the rim or bead R at the edge or mouth of the nozzle N resting against the upper surface of member **22** to prevent inadvertent withdrawal from the slot **24**. By reason of the constriction of the nozzle N within the slot **24**, the escape of air from the inflated balloon is prevented. Further, the nozzle N of the inflated balloon is tensioned longitudinally, that is, pulled in the direction of the arrow F (FIG. 3) below the plane of member **22**, whereby the balloon is made to rock about the edge of the opening **23** and has its inflated body urged against the cross members **19** which thereby define a support surface on the base **11**.

The pointed element or pin **12** is carried by an arm structure **25** made up of a pair of parallel, laterally spaced apart arms **26** which are swingably mounted, adjacent one end, on a pivot pin **27** extending between, and supported by side plates **15**. The arms **26** extend from pivot pin **27** radially toward the arcuate edges **17** of side plates **15**, and the free ends of arms **26** are joined by a cross bar **28** from which the pointed element or pin **12** projects upwardly. The arm structure **25** is swingable between the position shown on FIG. 4, to which it is urged by gravity, and the position shown in broken lines at **25'** on FIG. 3, and the arms **26** thereof are dimensioned so that, when the arm structure is in such position **25'**, the cross bar **28** thereof can extend into the gap **20** between cross members **19**, with the lower cross member **19** being engaged by the upper edges of arms **26** to act as a stop limiting the upward swinging movement of the arm structure.

The actuating mechanism **13** includes a lever **29** disposed between arms **26** and arm structure **25**, and being also swingably mounted, at one end, on the pivot pin **27**. The lever **29** extends radially from pivot pin **27** under

the cross bar **28** of arm structure **25** and projects beyond the arcuate edges **17** of side plate **15**. The outer or projecting end of lever **29** has a plate **30** secured thereon so as to constitute a handle by which the lever **29** may be depressed. The inner or pivoted end of lever **29** is formed with a depending hook-shaped lug **31** (FIGS. 3 and 4), and a tension spring **32**, for example, in the form of a rubber band, as shown, has its opposite ends connected to the lug **31** and to a hook-shaped ear **33** projecting upwardly from the bottom wall **14** of base **11** between side plates **15** of the latter. Thus, spring **32** yieldably urges lever **29** to swing upwardly to the position shown on FIG. 3 where the upper edge of lever **29** engages the bottom edge of cross member **21** of the base which thereby acts as a stop for limiting upward swinging of lever **29**. The cross member **21** is dimensioned so that, when lever **29** engages against its lower edge and the cross bar **28** of arm structure **25** rests on lever **29**, as shown on FIG. 3, the pointed element **12** is withdrawn, or disposed below the support surface for the balloon B defined by the cross members **19**. Thus, during mounting of the inflated balloon on the base **11**, as described above, there is no danger that the inflated balloon will be inadvertently punctured by the pointed element or pin **12**.

In operating the device **10**, the lever **29** is depressed from the position of FIG. 3 to that of FIG. 4 by pressing downwardly on the handle **30** after the placement of an inflated balloon on the base. Such downward movement of lever **29** is followed by the arm structure **25** which has its cross bar **28** merely resting on the lever. When lever **29** is released, spring **32** effects its rapid upward swinging, so that the arm structure **25** and its pointed element **12** are also driven upwardly. When lever **29** engages cross member **21** of the base, and thus cannot move any further in the upward direction, the inertia of arm structure **25** causes the latter to swing further upward to its operative position indicated at **25'** on FIG. 3, whereby its pointed element punctures the inflated balloon B held against the cross members **19**.

In accordance with this invention, the device **10** is further provided with self-releasable means for temporarily preventing operation of the actuating mechanism **13** after the latter has been set or cocked by depression of its lever **29** to the position of FIG. 4, thereby providing a variable or indeterminate delay between the setting of the device **10** and the puncturing of the balloon for simulating the suspense-inducing delay usually experienced between the igniting of the fuse of a firecracker and its detonation.

In the illustrated embodiment of this invention, the self-releasable means for temporarily arresting or preventing operation of the actuating mechanism **13** merely consists of a rubber or other resilient suction cup **34** secured on a projection **35** depending from lever **29** so as to be engageable with bottom wall **14** of base **11** when lever **29** is depressed, as shown on FIG. 4. Thus, suction cup **34** temporarily adheres to bottom wall **14** and holds lever **29** against upward swinging movement by spring **32**. In order to accelerate the release of the suction within cup **34**, the top surface of the latter may be provided with a fine scratch **36** positioned so as to extend from the outside to the inside of the edge of cup **34** and thereby permit bleeding of air from the atmosphere into the interior of the suction cup when the latter is engaged with bottom wall **14**. It will be obvious that other releasably adherent means may be substituted for the suction cup **34** to provide the desired delay in operation of the device following the setting or cocking of its actuating mechanism **13**.

Referring now to FIGS. 5 and 6, it will be seen that, in a preferred embodiment of this invention that is otherwise generally similar to that described above, the noise-making device **10*a*** has a base or body **11*a*** provided with a member **22*a*** for holding the inflated balloon thereon. The member **22*a*** is formed as a curved extension of the bottom wall **14*a*** which projects beyond the side plates **15*a***. The curved extension or member **22*a*** is generally S-shaped

and has spaced slots **37** and **38** opening laterally at the opposite sides thereof (FIG. 6).

As shown particularly on FIG. 6, slot **37** is positioned in the lower portion of S-shaped member **22*a***, that is, in the portion that is concave toward the side plates **15*a***, while slot **38** is disposed near the free end of member **22*a*** so as to be located above slot **37**, as shown.

After the balloon B has been inflated, its nozzle N is engaged in slot **37** and then drawn upwardly and engaged in slot **38** with the rim or bead R at the edge or mouth of the nozzle N resting against the upper surface of the free end portion of member **22*a*** to prevent inadvertent withdrawal from slot **38**. The constriction of nozzle N in slots **37** and **38** prevents the escape of air from the balloon, and the nozzle is tensioned longitudinally from slot **37** toward slot **38** and thereby made to rock relative to member **22*a*** in the direction for urging the inflated body of the balloon against the cross members **19*a*** which connect side plates **15*a*** and define a support surface on base **11*a*** (FIG. 5).

Although illustrative embodiments of the invention have been described in detail herein with reference to the accompanying drawings, it is to be understood that the invention is not limited to those precise embodiments, and that various changes and modifications may be effected therein by one skilled in the art without departing from the scope or spirit of the invention, except as defined in the appended claims.

What is claimed is:

1. A device for making noise by the puncturing of inflated balloons, comprising

a body having a surface and means for holding an inflated balloon on said body against said surface,

a pointed element,

means mounting said pointed element on said body for movement relative to the latter between a position where said element is withdrawn from said surface and an operative position where said element projects beyond said surface for puncturing a balloon held against the latter and thereby producing an explosive report,

actuating means operative to drive said element toward said operative position, and

releasable means for temporarily arresting operation of said actuating means.

2. A device for making noise by the puncturing of inflated balloons, comprising

a body having a surface and means for holding an inflated balloon on said body against said surface,

a pointed element,

means mounting said pointed element on said body for movement relative to the latter between a position where said element is withdrawn from said surface and an operative position where said element projects beyond said surface for puncturing a balloon held against the latter and thereby producing an explosive report,

actuating means operative to drive said pointed element from the first mentioned position to said operative position, and

manually set, self-releasable means temporarily holding said actuating means against operation thereof, thereby to delay the movement of said pointed element to its operative, balloon puncturing position.

3. A noise-making device comprising

an inflated balloon,

a body having means thereon for holding said inflated balloon,

a pointed element,

means mounting said pointed element on said body for movement relative to the latter between a first position remote from said balloon and an operative position where said pointed element engages the balloon for puncturing the latter and thereby producing an explosive report,

actuating means operative to drive said pointed element from said first position to said operative position of the pointed element, and

manually set, self-releasable means temporarily holding said actuating means against operation of the latter, thereby to delay the puncturing of said balloon.

4. A device for making noise by the puncturing of balloons comprising

a base having a generally upwardly facing surface and means on said base for holding an inflated balloon and urging the latter against said surface,

an arm structure pivotally mounted on said base and carrying a pointed element for movement of the latter between a lowered position, where said element is remote from said surface to avoid contact with a balloon against the latter, and an operative position, where said pointed element projects upwardly beyond said surface, thereby to puncture a balloon held against the surface and produce an explosive report,

a lever mounted on said base for pivotal movement parallel to said arm structure, said lever being engageable with said arm structure from beneath the latter to move the arm structure in the direction toward said operative position of the pointed element,

spring means urging said lever to pivot in the upward direction, and

means operative to temporarily hold said lever in a depressed position and being released by the force of said spring means, whereupon the latter drives said lever upwardly to act against said arm structure and thereby effect movement of the pointed element to said operative position.

5. A device as in claim 4;

wherein said means on the base for holding an inflated balloon includes a yoke-like member extending at an angle with respect to said surface, said yoke-like member defining an opening through which the nozzle of an inflated balloon can be extended, and said yoke-like member further having a slot opening at the

periphery thereof to retain the nozzle of the balloon after passage through said opening and thereby prevent escape of air from the balloon before puncturing of the latter.

6. A device as in claim 4;

wherein said means operative to temporarily hold the lever in the depressed position includes a suction cup mounted on said lever and engageable with said base in said depressed position, and means permitting the leaking of air into said suction cup following engagement of the latter with the base.

7. A device as in claim 4;

further comprising means on said base arresting the upward movement of said lever by said spring means at a location where said arm structure engaged by the lever is below said operative position so that final movement of said arm structure to said operative position occurs independently of movement of said lever.

8. A device as in claim 4;

wherein said base includes a bottom, a pair of parallel, spaced apart side walls extending upwardly from said bottom and cross-members extending between the upper portions of said side walls and defining said surface of the base; and

wherein said arm structure and lever are movable between said side walls on a common pivot, said arm structure being contained within the edges of said side walls and said lever projecting beyond the latter and having an exposed handle by which the lever can be manually displaced to said depressed position.

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RICHARD C. PINKHAM, *Primary Examiner.*