

(19)



Europäisches Patentamt

European Patent Office

Office européen des brevets



(11)

EP 0 454 785 B1

(12)

EUROPEAN PATENT SPECIFICATION

(45) Date of publication and mention
of the grant of the patent:

26.03.1997 Bulletin 1997/13

(21) Application number: **90903128.8**

(22) Date of filing: **18.12.1989**

(51) Int. Cl.⁶: **A63F 9/00**

(86) International application number:
PCT/US89/05839

(87) International publication number:
WO 90/07961 (26.07.1990 Gazette 1990/17)

(54) **GAME AND BALL WITH WATER-RELEASING DEVICE**

SPIEL UND BALL MIT WASSERSPENDER

JEU ET BALLE A DISPOSITIF DE LIBERATION D'EAU

(84) Designated Contracting States:
AT BE CH DE ES FR GB IT LI LU NL SE

(30) Priority: **23.01.1989 US 299225**

(43) Date of publication of application:
06.11.1991 Bulletin 1991/45

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Description

BACKGROUND OF THE INVENTION

Field of Invention

This invention relates to a toy having a ball shape with a timed water release mechanism.

Brief Statement of the Prior Art

U.S. patent 3,795,400 discloses a game in which an inflated balloon is placed in a retainer having a cup with a weight shelf that has a balloon piercing pin positioned above the balloon. The shelf is held above the balloon by a coil spring, and the players in the game successively place weights on the shelf which cause it to move towards the balloon, until the cumulative weights are sufficient to cause the pin to burst the balloon, disqualifying the player whose weight burst the balloon.

Several different activity toys involving water play resulting in wetting of the players are currently on the market. One in particular is marketed by Mattel Toys and is called WETHEAD. This product involves a hat-like device that a player wears and comprises a water container on a hat having a release valve permitting the water to empty onto the wearer's head. Only one of eight removable rods releases the water valve. The other seven placebo rods are identical and the player wearing the hat must select and remove a rod. This toy does not involve timing, tossing, or ball play. The water containing element is a hat which is not disposable and is refilled and reused during the play.

Other water products that have been offered to children include sprinkler based toys, such as WATER WIGGLER, and WET BANANA. These toys attach to a garden hose and provide a constant flowing film of water on a surface which children run or slide through. These toys do not provide an element of surprise or challenge.

Parker Brothers, a game manufacturer, is currently marketing a product called HOT POTATO. This consists of a cloth covered foam "potato" that young children toss back and forth between each other. Inside the potato is an electronic sound generating device that signals the end of the play session. The player holding the potato at the end of the session must take a card spelling part of the toy's name. This product does not involve water, is not a ball, and provides no action "penalty" such as a soaking of the player.

BRIEF STATEMENT OF THE INVENTION

The toy having a ball shape of the present invention is defined over the prior art devices, as known from US-A-3 795 400, by the characterizing features of appended claim 1. Accordingly, the invention comprises a ball having a foraminous outer shell with an inner membrane which forms an interior closure within the

outer shell and with a timer and a release mechanism operative to open the inner membrane and release its contents after the time on the timer expires. The contents spill through the foraminous outer shell, wetting the player who is handling or catching the ball at the moment of release. For this purpose, the inner membrane forms an interior closure which is charged with water at commencement of play. The timer is activated and the ball is used in a game in which it is tossed between participants who seek to avoid becoming wet when the timer releases the water from the interior closure of the ball.

Further advantageous embodiments of the invention are set out in the dependent claims 2-7.

BRIEF DESCRIPTIONS OF THE DRAWINGS

The invention will be described with reference to the FIGURES of which:

FIGURE 1 is an exploded perspective view of the ball;
FIGURE 2 is an elevational view of the ball partially disassembled and in partial cross-section;
FIGURE 3 is a perspective view of the timer and liquid release mechanism;
FIGURE 4 is an inverted view of the timer and water release mechanism of the toy of FIGURE 1;
FIGURE 5 is an elevational view of an alternative toy of the invention partially disassembled and in partial cross-section;
FIGURE 6 is a perspective view of the timer and water release mechanism of the toy of FIGURE 5;
FIGURE 7 is a perspective view of a safety interlock for the toy of FIGURE 6;

DESCRIPTION OF PREFERRED EMBODIMENT

Referring now to FIGURE 1, the invention comprises a ball 10 including an outer foraminous shell 12 that is preferably having two hemispherical half shells 14 and 16, each of which has a plurality of through apertures in the form of elongated slots 20 at equally spaced angular increments about their circumference. Opposite ends of 13 and 15 the assembled shell are flatted, and the flat of the upper hemispherical half shell 14 is perforated with a plurality of circular aperture 17. The two hemispherical half shells are received together at their circular bases 19 and 21 which are on the equator of the spherical ball 10. Suitable means are provided to retain the assembly of the two half shells 14 and 16. Various assembly means can be used, including threaded engagement or an interlocking slot and key engagement. The latter is preferred and is illustrated with one hemispherical half shell 14 bearing a plurality of raised keys 22 spaced about its inner wall which coact with mating offset grooves 24 that are spaced about the upstanding inner cylindrical wall 26 of the opposite hemispherical half shell 16. Each offset groove 24 has a

long base slot 28 and a shorter entrance slot 30, thereby permitting an interlocking assembly and disassembly of the hemispherical half shells. Centrally disposed within the outer shell 12 formed by assembly of the hemispherical half shells is a balloon 32 formed of a thin membrane, preferably of plastic, and most preferably of an elastomer. An example of a suitable balloon is a rubber latex balloon. The balloon 32 forms an interior closure within the outer shell 12, and this enclosure has a port, open end 34, which can be used for filling the balloon and then can be sealed with a tie 35 in a customary manner.

Referring now to FIGURE 2, there is shown an elevational sectional view of the ball. As previously mentioned, the two half shells 14 and 16 are aligned and assembled together at their bases and half shell 16 has a cylindrical wall 26 that is received within the other hemispherical half shell 14. The upper half shell 14 has a cylindrical inner wall 23 which presses against balloon 32 and stabilizes the balloon (see FIGURE 1) within the assembled shell. Received within half shell 16 is a timer and release subassembly 36 which has a subassembly housing 40 forming an interior chamber 42 which is covered by a support platform 44 which faces inwardly of the assembled outer shell 12. The platform 44 serves to support the balloon 32. Received within the housing of the timer and release mechanism is a spring-driven motor 48, which has a winding shaft 50 with a key, disc 46, to wind the spring of the motor. The drive motor 48 has an output shaft 52 which extends from the subassembly housing 40 and which supports cam 54 which has a single lobe 58.

The timer and release mechanism is also illustrated in FIGURES 3 and 4. As shown in FIGURE 3, the platform 44 has an aperture 56, in the form of a slot which receives cam 54 so that the single lobe 58 of the cam extends through the slot as the cam is rotated.

Referring now FIGURE 4, the motor and release subassembly is inverted from its position in FIGURE 3, showing the circular winding disc 46 which preferably has a single raised rib 60 which aids gripping of the disc 46.

As apparent from FIGURE 3, the cam is mounted adjacent the slot 56 so that its single lobe 58 will extend through the slot 56 and above the platform 44. The release means is a membrane rupturing member which comprises an abrasive layer 62 on the lobe 58 of the cam 54. Suitable abrasive layers include coatings of abrasives, e.g., a coating of sandpaper or alumina grit. As the cam is rotated, this abrasive layer 62 will rub against the membrane of balloon 32, tearing the membrane and thus rupturing the balloon to release its contents.

Referring now to FIGURE 5, there is illustrated an alternative embodiment of the invention. The outer shell 10 and the inner membrane container (not shown), are the same as previously described with reference to FIGURES 1 and 2. The timer and release mechanism 36 are also contained in a subassembly housing 40 and

the motor 48 has a winding disc 46, all as previously described. In this embodiment, however, the release mechanism includes a pin member 64 which is slidably received in a cylindrical well 66 which depends from the underside 68 of the platform 44. The platform 44 has a single central aperture 70 (see FIGURE 6) through which the pin 72 of the pin member 64 can extend. The pin member 64 rides on the surface of the cam 55 and is biased against the cam 55 by a coil spring 74 which is received over the pin member 64. The pin member 64 is thus biased into a retracted position and is moved into its extended position shown in FIGURE 6 by the cam 55 with its single lobe 57.

Preferably a safety interlock is provided to prevent the pin 72 from extending through the aperture 70 when the two hemispherical half shells are disassembled. As shown in FIGURES 5 and 7, a slide member 76 is positioned in the base slot 28 of one of the grooves 24 so that it is forced downwardly when the mating key 22 of the other half shell enters the base slot. The lower end 75 of the slide member 76 rests on lever 77 which is pivotally mounted by pin 70, and is spring biased against the downward movement of slide member 76 by a compression spring 81. The opposite end of lever 77 extends through a window 83 in the side wall of the motor housing and engages a drive gear 85 of the motor, thus locking the motor and cam 55 against rotation. When the two halves of the outer shell 10 are assembled, slide member 76 depresses lever 77 and releases gear 85, permitting rotation of cam 55.

The game comprises two or more participants, preferably several, to play catch with the toy ball. The objective of the game is to avoid getting wet when the timing mechanism releases the inner chamber and ruptures the inner chamber to release the water. As the timer winds down the ball is thrown between players who must catch the ball to avoid being disqualified. When a player catches the ball or is holding the ball and the inner member is ruptured, the water will discharge, wetting the player who is then disqualified from the game.

The invention has been described with reference to the illustrated and presently preferred embodiment. It is not intended that the invention be unduly limited by this disclosure of the presently preferred embodiment. Instead, it is intended that the invention be defined, by the means, and their obvious equivalents, set forth in the following claims:

Claims

1. A toy having a ball shape with:

an enclosure (32) filled with water and having opening means at a wall surface location;
a wall opening means (58, 64) with a mechanism (36) positioned in operative engagement therewith to activate said wall opening means,

characterized in that:

said toy has an outer foraminous shell (12) totally free of any external appendages, said mechanism is a timer mechanism (48) including randomly selectable time setting means (46) whereby the duration of time interval between setting of said time setting means and activation of said wall opening means can be preset.

2. The toy of claim 1 wherein said enclosure is formed of a frangible wall element adjacent said wall surface location, and said wall opening means comprises frangible wall rupturing means (48, 64) operative to rupture said frangible wall element.
3. The toy of claim 2 wherein said ball shape is spherical.
4. The toy of claim 2 wherein said timer mechanism is a motor driven rotary means (55) having a cam surface (57) which is operative to urge said rupturing means (64) through said frangible wall.
5. The toy of claim 4 wherein said frangible wall enclosure is an elastic toy balloon (32).
6. The toy of claim 5 wherein said frangible wall rupturing means is a pin (72) carried on a slidable cam follower member (64), and including a spring (74) biasing said pin out of engagement with said toy balloon.
7. The toy of claim 5 wherein said frangible wall rupturing means comprises abrasive means (62) carried on said cam surface (58) and operative to abrade the surface of said toy balloon.

Patentansprüche

1. Ein ballförmiges Spielzeug, welches folgendes aufweist:
eine Umhüllung (32) gefüllt mit Wasser und mit Öffnungsmitteln an einer Wandoberflächenstelle; Wandöffnungsmittel (58, 64) mit einem Mechanismus (36) positioniert in Betriebseingriff damit, um die Wandöffnungsmittel zu aktivieren, dadurch gekennzeichnet, daß:
das Spielzeug einen äußeren mit Öffnungen versehenen Mantel (12) aufweist, der von jedweden äußeren anhängenden Mitteln vollständig frei ist, wobei der Mechanismus ein Zeitsteuermechanismus (48) ist, der zufallsmäßig auswählbare Zeiteinstellmittel (46) aufweist, wodurch die Dauer des Zeitintervalls zwischen dem Einstellen der Zeiteinstellmittel und der Aktivierung der Wandöffnungsmittel voreingestellt werden kann.

2. Spielzeug nach Anspruch 1, wobei die Umhüllung aus einem zerbrechlichen Wandelement geformt ist, und zwar benachbart zu der Wandoberflächenstellung, wobei die Wandöffnungsmittel Brechmittel (48, 64) für die zerbrechbare Wand aufweisen, und zwar in Betrieb das zerbrechbare Wandelement zerbrechen.
3. Spielzeug nach Anspruch 2, wobei die Ballform kugelförmig ist.
4. Spielzeug nach Anspruch 2, wobei der Zeitsteuermechanismus motorgetriebene Drehmittel (55) sind, die eine Nockenoberfläche (57) aufweisen, die in Betrieb die Brechmittel (64) durch die erwähnte zerbrechbare Wand drücken.
5. Spielzeug nach Anspruch 4, wobei die zerbrechliche Wandumschließung ein elastischer Spielzeugballon (32) ist.
6. Spielzeug nach Anspruch 5, wobei die Brechmittel für die zerbrechliche Wand ein Stift (72) sind, und zwar getragen in einem gleitbaren Nockenfolgerglied (64) und mit einer Feder (74), die den Stift außer Eingriff mit dem Spielzeugballon vorspannt.
7. Spielzeug nach Anspruch 5, wobei die Brechmittel für die zerbrechliche Wand Abrasions- oder Abriebmittel (62) aufweisen, und zwar getragen auf der Nockenoberfläche (58) und betriebsmäßig die Oberfläche des Spielzeugballons dem Abrieb aussetzend.

Revendications

1. Un jouet ayant la forme d'un ballon comportant:
 - une enceinte (32) remplie d'eau et ayant un moyen d'ouverture en un endroit de la surface de la paroi;
 - un dispositif d'ouverture de la paroi (58, 64) comportant un mécanisme (36) positionné en contact de fonctionnement avec celui-ci afin d'actionner ledit dispositif d'ouverture de la paroi,
- caractérisé en ce que:
- ledit jouet possède une enveloppe externe (12) pourvue de petits orifices et totalement dépourvue d'accessoires externes,

ce mécanisme étant un dispositif de minuterie (48) comportant des moyens de réglage du temps (46) de façon aléatoire, de sorte que la durée de l'intervalle de temps entre le réglage desdits moyens de réglage du temps et l'actionnement dudit dispositif d'ouverture de la paroi peut être

réglée au préalable.

2. Le jouet de la revendication 1, dans lequel ladite enceinte est formée d'un élément de paroi frangible adjacent audit endroit de la surface de la paroi et le dispositif d'ouverture de la paroi comporte des moyens de rupture de la paroi frangible (48, 64) susceptible d'être actionnés pour rompre ledit élément de paroi frangible. 5
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3. Le jouet de la revendication 1, dans lequel la forme du ballon est sphérique.
4. Le jouet de la revendication 2, dans lequel ledit mécanisme de minuterie est un dispositif rotatif actionné par moteur (55) comportant une surface de came (57) qui peut être actionnée pour appliquer à force ledit moyen de rupture (64) contre ladite paroi de moindre résistance afin de la traverser. 15
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5. Le jouet de la revendication 4, dans lequel ladite enceinte à paroi de moindre résistance est un ballon jouet élastique (32). 25
6. Le jouet de la revendication 5, dans lequel ledit moyen de rupture de la paroi frangible est une aiguille (72) montée sur un élément suiveur de came (64) monté à glissement, et comportant un ressort (74) sollicitant l'aiguille hors de contact avec ledit ballon jouet. 30
7. Le jouet de la revendication 5, dans lequel ledit moyen de rupture de la paroi de moindre résistance comporte des moyens abrasifs (62) montés sur ladite surface de came (58) et susceptible de fonctionner pour user par frottement la surface dudit ballon jouet. 35

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FIG. 1





