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(54) Spinning top

(57) A spinning top includes a shell (1) and a spinning mechanism (2) disposed in the shell (1). The shell (1) is formed at two opposite ends with internal first and second receiving seats (14,15) and external first and second recesses (16,17). The first recess is communicable with the first receiving seat via a communicating hole (18). The spinning mechanism includes a hollow shaft (21) movably connected at two ends to the first and second receiving seats (14,15), a writing element (22) fitted in the hollow shaft (21) to expose a tip from the first recess (17) via the communicating hole (18), and a gear (23) mounted on the hollow shaft corresponding to two through holes (121) provided on the shell. A long toothed member (3) may be extended through the two through holes (121) on the shell (1) to mesh with the gear (23), and pulling of the toothed member (3) out of the shell would cause the shell to spin about the tip of the writing element.

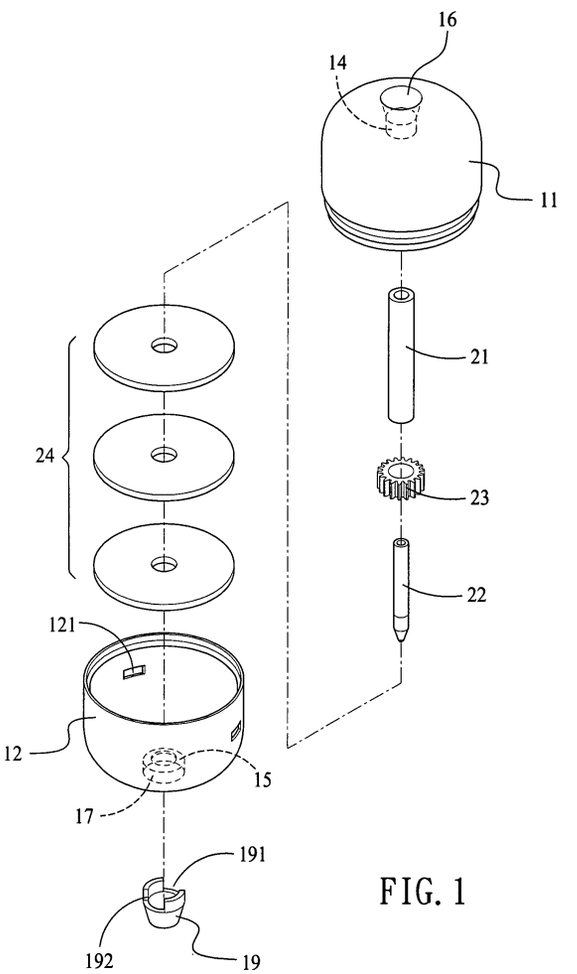

FIG. 1

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Description

FIELD OF THE INVENTION

[0001] The present invention relates to a spinning top, and more particularly to a spinning top that serves not only as an interesting toy, but also a pen for writing.

BACKGROUND OF THE INVENTION

[0002] A conventional top usually has a conic body around which a cord can be wound. To spin the top, a user has to throw out the top while pulling the cord wound around the conic body. Since it requires skill to play the conventional top, there are many differently structured tops developed by toy manufacturers in an attempt to eliminate the cord for spinning the top. These new tops can be easily spun using a long toothed member or a control mechanism. However, these new tops are useless when they are not used to play. It is therefore tried by the inventor to develop a top that serves not only as an interesting toy, but also a pen for writing.

SUMMARY OF THE INVENTION

[0003] A primary object of the present invention is to provide a spinning top that serves not only as an interesting toy, but also a pen for writing.

[0004] To achieve the above and other objects, the spinning top of the present invention includes a shell and a spinning mechanism disposed in the shell. The shell is formed at two opposite ends with internal first and second receiving seats and external first and second recesses. The first recess is communicable with the first receiving seat via a communicating hole. The spinning mechanism includes a hollow shaft movably connected at two ends to the first and second receiving seats, a writing element fitted in the hollow shaft to expose a tip from the first recess via the communicating hole, a gear mounted on the hollow shaft corresponding to two through holes provided on the shell, and a plurality of weights mounted on the hollow shaft to produce a downward gravity. A long toothed member may be extended through the two through holes on the shell to mesh with the gear, and pulling of the toothed member out of the shell would cause the shell to spin about the tip of the writing element.

BRIEF DESCRIPTION OF THE DRAWINGS

[0005] The structure and the technical means adopted by the present invention to achieve the above and other objects can be best understood by referring to the following detailed description of the preferred embodiments and the accompanying drawings, wherein

Fig. 1 is an exploded perspective view of a spinning top according to the present invention;

Fig. 2 is an assembled perspective view of Fig. 1;

Fig. 3 is an assembled sectional view of the spinning pin of Fig. 2;

Fig. 4 shows the manner of playing the spinning top of the present invention;

Fig. 5 shows the manner of using the spinning top of the present invention as a pen; and

Fig. 6 shows a plurality of the spinning tops of the present invention are serially connected for use as a pen.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0006] Please refer to Figs. 1 to 3 that are exploded perspective, assembled perspective, and assembled sectional views, respectively, of a spinning top according to the present invention. As shown, the spinning top includes a shell 1 and a spinning mechanism 2 disposed in the shell 1.

[0007] The shell 1 consists of an upper shell 11 and a lower shell 12 to define a receiving space 13 therein. The upper and the lower shell 11, 12 are formed at respective outer end with an internal receiving seat 14, 15, and an external recess 16, 17 located at an outer side of the receiving seat 14, 15. The recess 17 of the lower shell 12 is communicable with the receiving seat 15 via a communicating hole 18, which has a diameter smaller an inner diameter of the receiving seat 15. The recess 17 is provided along an inner periphery thereof with spaced projections 171. A cap 19 having cuts 191 spaced along an open end thereof to provide more than one connecting section 192 is detachably connected to the recess 17 of the lower shell 12 via engagement of the cuts 191 with the projections 171. Moreover, the lower shell 12 is provided at predetermined positions with two through holes 121.

[0008] The spinning mechanism 2 is disposed in the receiving space 13 of the shell 1 and includes a hollow shaft 21, a writing element 22 fitted in the hollow shaft 21, a gear 23 fixedly mounted on the hollow shaft 21, and a plurality of weights 24 mounted on the hollow shaft 21 below the gear 23 to produce a downward gravity. The hollow shaft 21 has two ends separately movably received in the internal receiving seats 14, 15, and the writing element 22 fitted in the hollow shaft 21 has a writing tip extended through the communicating hole 18 to expose from the recess 17. The cap 19 connected to the recess 17 is adapted to protect the tip of the writing element 22. The gear 23 is mounted on the hollow shaft 21 at a height corresponding to the through holes 121 on the lower shell 12.

[0009] Please refer to Fig. 4. A long toothed member 3 may be horizontally extended through the two through

holes 121 on the lower shell 12 to mesh with the gear 23. When the toothed member 3 is horizontally pulled out of the lower shell 12, the gear 23 is rotated and brings the movable hollow shaft 21 to rotate in the receiving seats 14, 15 at the same time. With a rotating force produced on the hollow shaft 21 by horizontally pulling the toothed member 3 and the downward gravity produced by the weights 24 mounted on the hollow shaft 21 below the gear 23, the tip of the writing element 22 is adapted to apply a downward force on a bearing surface, such as a floor, a desktop, etc. That is, when the spinning mechanism 2 is actuated by pulling the toothed member 3 out of the through holes 121 on the lower shell 12, the whole shell 1 is caused to spin about the tip of the writing element 22 for a prolonged time.

[0010] The spinning top of the present invention may also be used in other manners. As can be seen in Fig. 5, a user may hold the shell 1 and use the tip of the writing element 22 exposed from the recess 17 of the lower shell 12 to write. Alternatively, a plurality of the spinning tops may be serially connected to one another by inserting the cap 19 connected to the recess 17 of a first shell 1 into the recess 16 of a second shell 1, as shown in Fig. 6. The number of the spinning tops to be serially connected completely depends on the user's need or preference. Therefore, the spinning top of the present invention serves not only as an interesting toy, but also a pen for writing.

Claims

1. A spinning top comprising:

a shell defining an internal space, and being formed at two opposite ends with internal first and second receiving seats and external first and second recesses located at an outer side of said first and second receiving seats, respectively; said first recess being communicable with said first receiving seat via a communicating hole, and said shell being provided at predetermined positions with two through holes; and

a spinning mechanism disposed in said internal space of said shell and including a hollow shaft, a writing element fitted in said hollow shaft, a gear mounted on said hollow shaft at a height corresponding to said two through holes on said shell, and a plurality of weights mounted on said hollow shaft below said gear to produce a gravity; said hollow shaft having two ends movably received in said first and second receiving seats, and said writing element having a tip extended through said communicating hole to expose from said first recess.

2. The spinning top as claimed in claim 1, wherein said shell includes an upper and a lower shell.

3. The spinning top as claimed in claim 1, wherein said communicating hole between said first recess and said first receiving seat has a diameter smaller than an inner diameter of said first receiving seat.

4. The spinning top as claimed in claim 1, wherein said first recess is internally provided with spaced projections and has a cap detachably connected thereto.

5. The spinning top as claimed in claim 4, wherein said cap is provided at an open end with spaced cuts to form more than one connecting section, and said cap being detachably connected to said first recess through engagement of said cuts with said projections in the said first recess.

6. The spinning top as claimed in claim 1, wherein said two through holes on said shell allows a long toothed member to extend therethrough to mesh with said gear, so that said gear is rotated when said toothed member is horizontally pulled out of said shell.

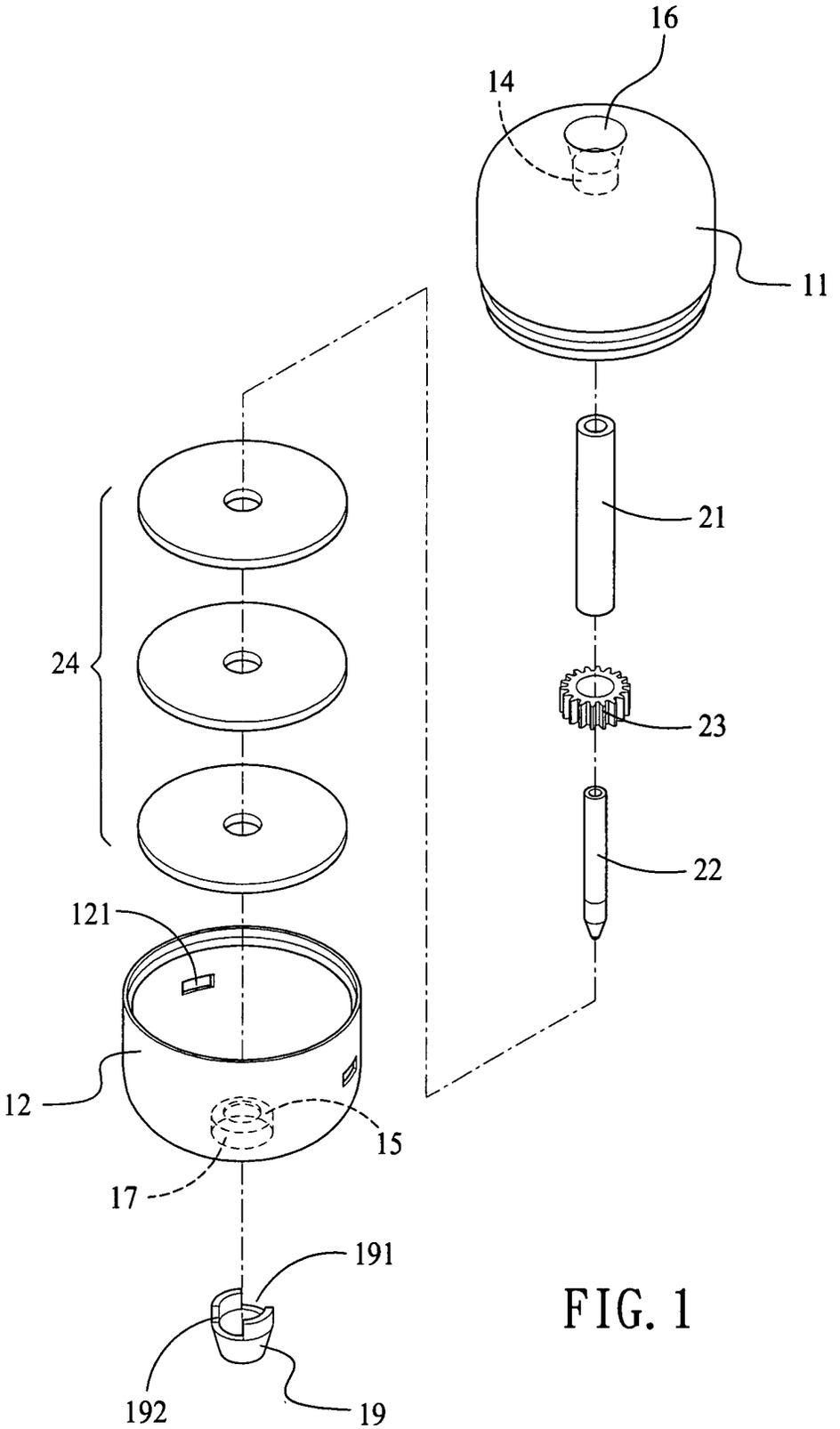

FIG. 1

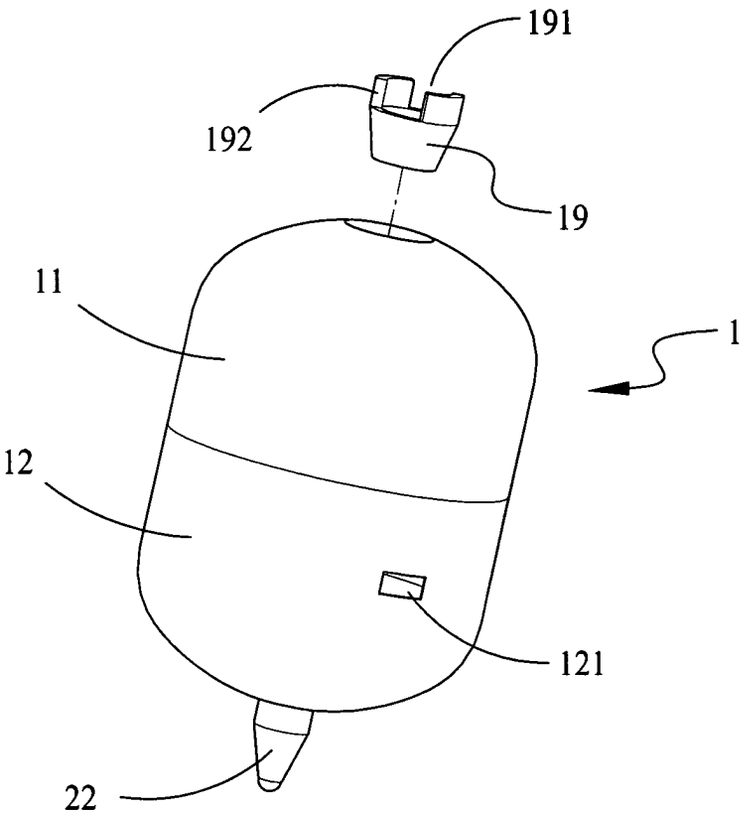

FIG. 2

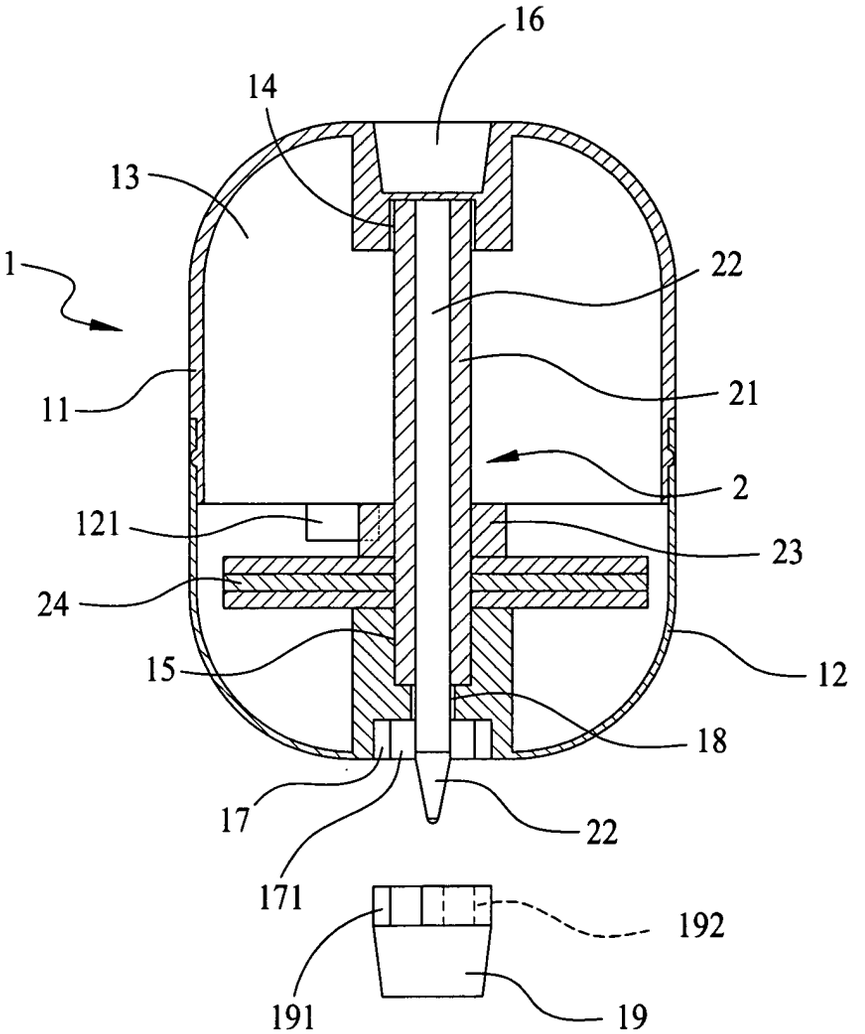

FIG. 3

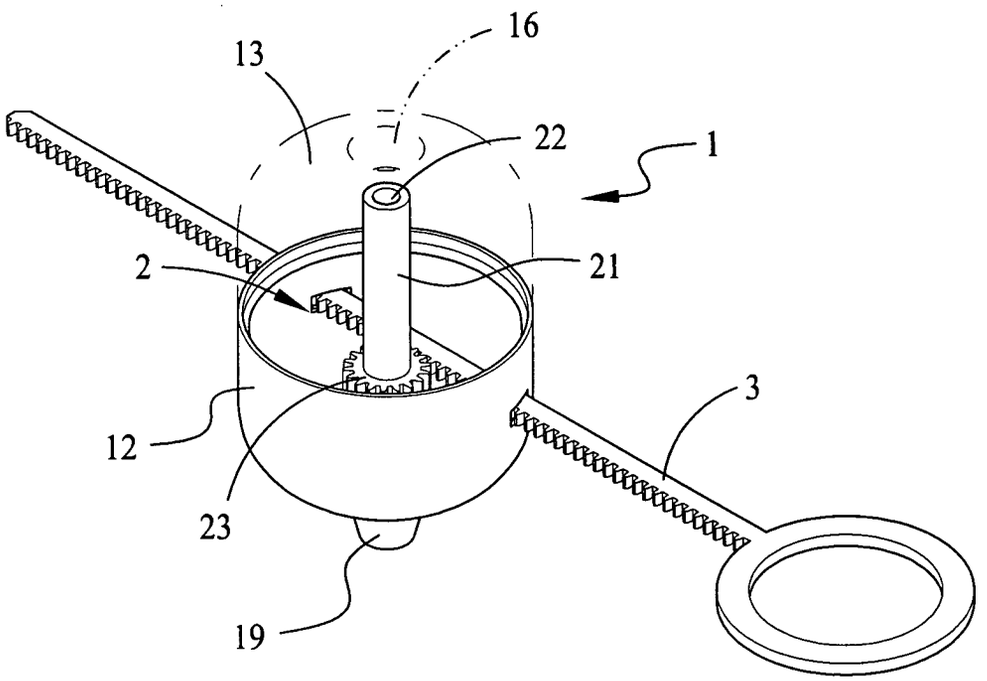

FIG. 4

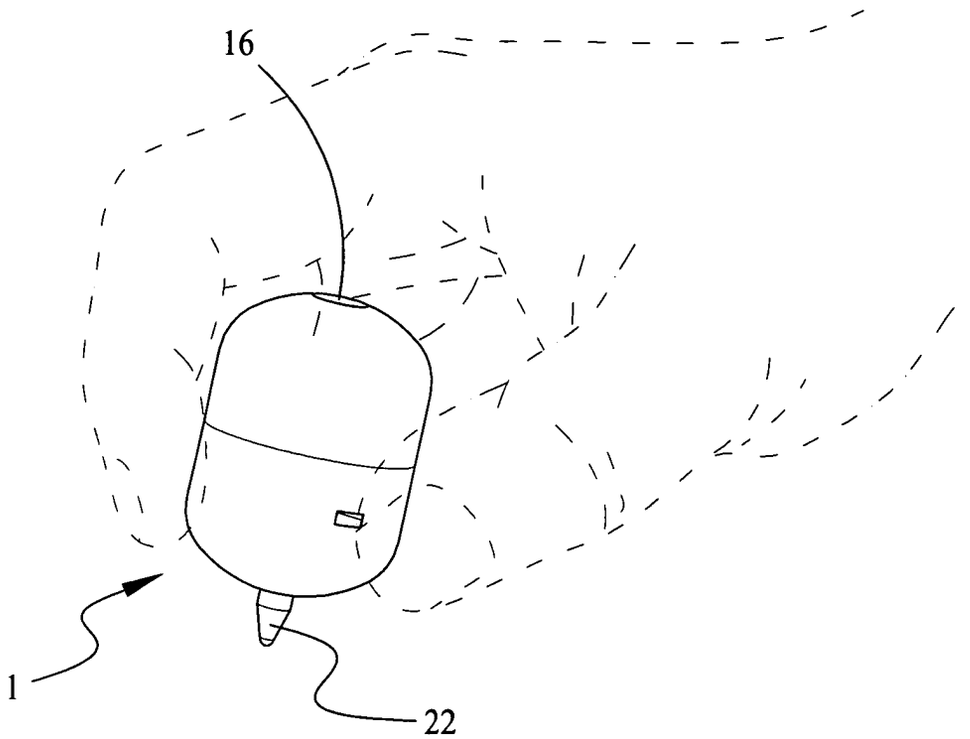

FIG. 5

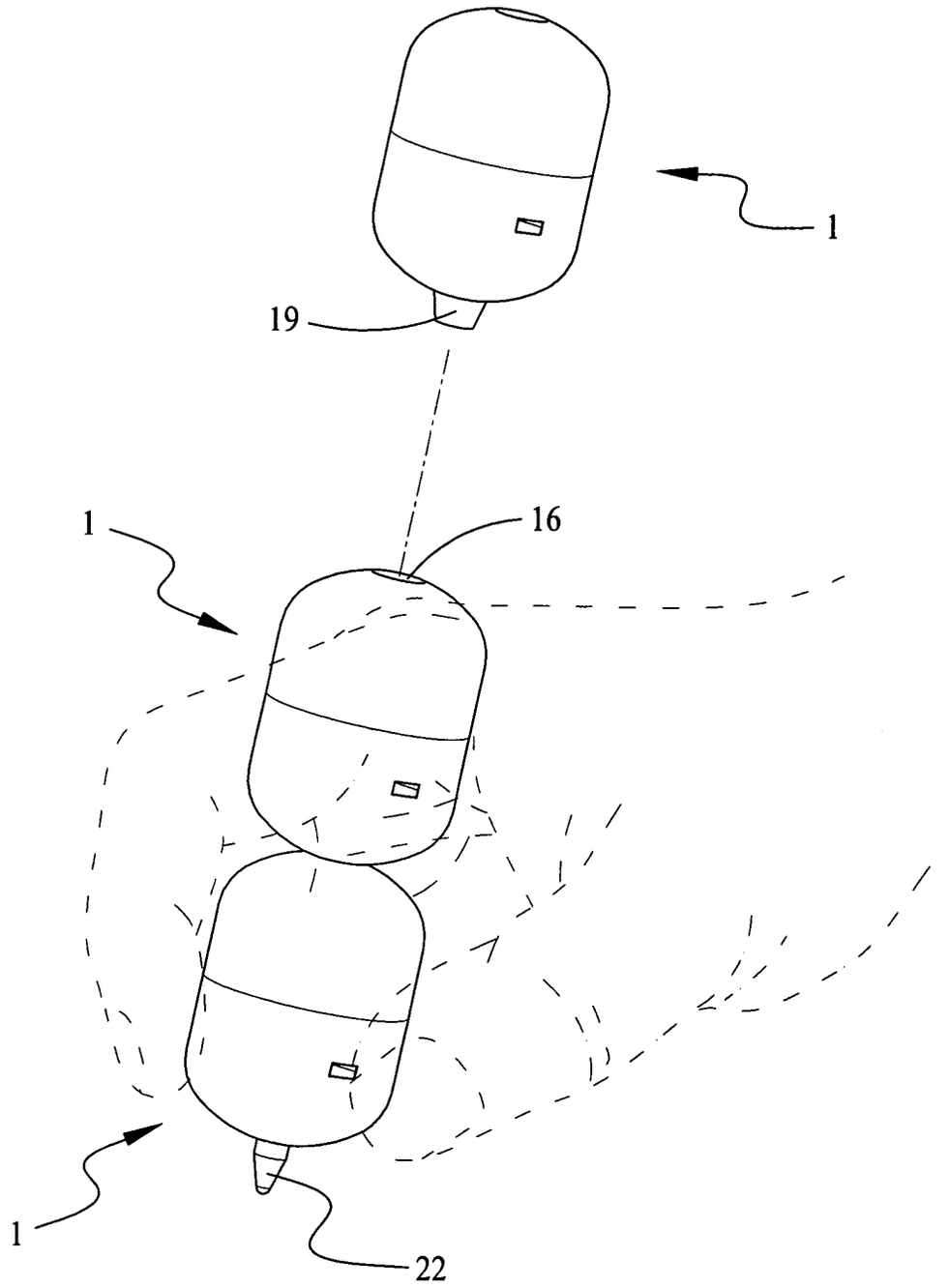

FIG. 6

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EUROPEAN SEARCH REPORT

Application Number
EP 04 00 0140

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
A	US 3 674 271 A (DE GELDER ET AL) 4 July 1972 (1972-07-04) * figures 1,2,1a * * column 2, line 66 - column 3, line 23 *	1	A63H1/06 B43K29/00
A	PATENT ABSTRACTS OF JAPAN vol. 2003, no. 11, 5 November 2003 (2003-11-05) & JP 2003 190648 A (SENTE CREATIONS:KK), 8 July 2003 (2003-07-08) * abstract; figures 2,3 *	1	
A	US 2 618 891 A (PEPIN LAWRENCE H) 25 November 1952 (1952-11-25) * figure 2 * * column 2, line 8 - line 46 *	1	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7) A63H B43K

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	19 May 2004	van Overbeek, K

CATEGORY OF CITED DOCUMENTS

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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 04 00 0140

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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19-05-2004

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 3674271 A	04-07-1972	NONE	
JP 2003190648 A	08-07-2003	NONE	
US 2618891 A	25-11-1952	NONE	

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82