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(71) Applicant: **Vaglio Tanet, Lorenza**
37129 Verona (IT)

(72) Inventor: **Erculiani, Federico**
37129, VERONA (IT)

(74) Representative: **Mittler, Enrico**
Viale Lombardia 20
I-20131 Milano (IT)

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(54) **Water toy**

(57) A spray-ejecting amusement device (10), **characterised in that** it is substantially made up of a lower channelling part (11) having a substantially conical or, more generally, flared shape, with the flared end facing downward with a vertical axis, having a lower opening

(12) through which the water that will later be sprayed enters, said channelling element (11) being associated with or forming a single body with at least an ejection sleeve (14), present in the upper constricted portion (13), Figure 1

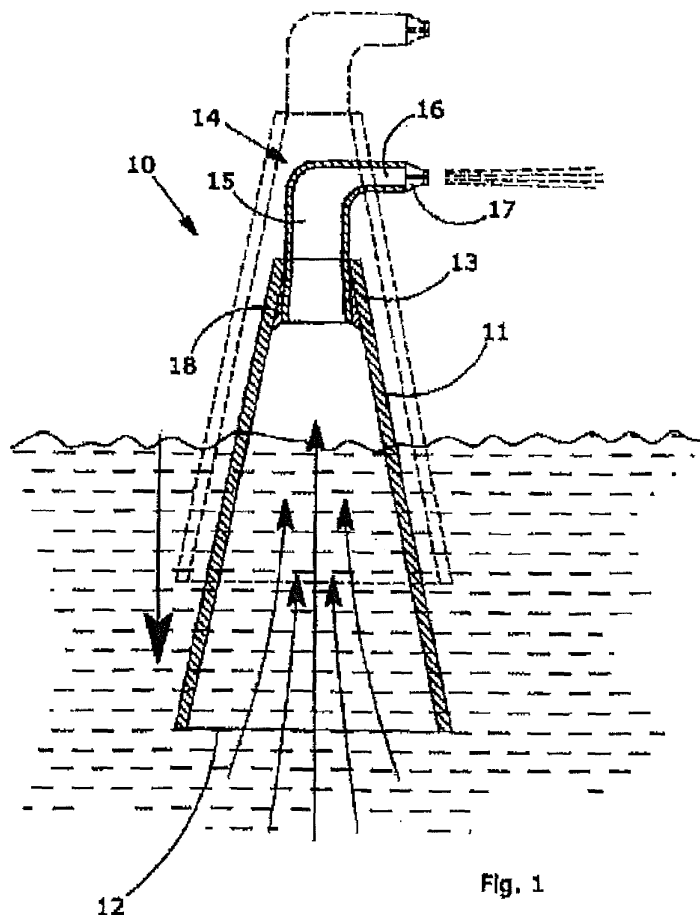


Fig. 1

Description

TECHNICAL FIELD

[0001] The present invention relates to a water toy usable principally in swimming pools or expanses of water and based on the possibility of being made up of a device capable of ejecting sprays of water for amusement purposes.

[0002] More particularly, the present invention relates to a water device or toy which does not have any moving parts and is thus of very simple construction, and which, once submerged in the water with a certain degree of force, produces sprays, also of a certain intensity, in an orthogonal direction relative to the direction of pushing, or if necessary directable in the desired direction.

[0003] The device according to the invention is substantially made up of a part having a cone-shaped or another similar flared configuration, disposed in the lower part, and an upper ejector part substantially consisting of a sleeve of suitable shape, in which the ejection opening is preferably disposed at a 90° angle relative to the axis of pushing into the expanse of water.

[0004] The present invention finds application in the field of games and/or toys and in particular in the sector of water toys usable in the presence of expanses of water such as swimming pools or also in lake, river or seaside zones or the like.

BACKGROUND ART

[0005] It is known that there are many water toys presently available on the market, and such water toys are represented in the main by water guns or similar ejectors of water, whose peculiarity is that of generally being provided with a reservoir or another similar store of water that must be refilled as necessary during use of the device.

[0006] Such water toys, made mostly from plastic material by hot injection, comprise, precisely, a water reservoir drawn from by means of a pump actuated by the trigger of the device.

[0007] Said amusement devices, even in the simplest models, have mechanical actuating parts that entail a certain degree of difficulty in production and wear easily, which leads to them being damaged in a short time, especially considering that these are plastic materials which are used by children, who are often unmindful of the fragility of the components, and will thus be liable to break easily.

DESCRIPTION OF THE INVENTION

[0008] The present invention has an object to provide a water toy that is able to eliminate or at least reduce the above-mentioned drawbacks through the use of a device of very simple construction and assembly, since it involves two components, and which is simultaneously

very effective from a usage standpoint.

[0009] The invention has a further object to provide a water toy that is very simple to make and equally simple and safe to use, so that it can be produced at little expense and with possible significant results, also on a large scale.

[0010] This is achieved by means of a water toy whose characteristics are described in the main claim.

[0011] The dependent claims of the solution in question describe advantageous embodiments of the invention.

[0012] The device according to the invention is thus substantially made up of a lower part substantially having a conical or, more generally, flared shape, with a vertical axis, and having the flared end facing downward, in the upper part whereof there is applied a sleeve, generally elbow shaped with an angle preferably, but not necessarily, of 90°.

[0013] The toy thus made, whose configuration may differ according to the construction methods and the result of the spray one wishes to obtain, allows sprays to be ejected through the horizontal part of the sleeve, while downward pressure is exerted in the expanse of water in which the toy is submerged in a vertical direction.

[0014] The water collected by the flared opening of the device itself is concentrated toward the narrower upper part, thus exploiting the Venturi effect, by virtue of which the velocity of a fluid increases in the presence of constrictions.

ILLUSTRATION OF THE DRAWINGS

[0015] Other characteristics and advantages of the invention will become apparent upon reading the following description of an embodiment of the invention, provided by way of a non-restrictive example with the aid of the drawings illustrated in the appended tables, in which:

- figure 1 represents a schematic view of the spray-ejecting device according to the invention.

DESCRIPTION OF AN EMBODIMENT OF THE INVENTION

[0016] With reference to the appended figures, the spray-ejecting amusement device according to the invention, indicated as a whole with the number 10, is substantially made up of a lower channelling part 11 with a substantially conical or, more generally, flared shape and having the flared end turned downward.

[0017] With reference firstly to the appended figure, the lower channelling part 11 is cone shaped, with a substantially vertical axis, and has a lower opening 12 through which the water that will later be sprayed enters.

[0018] The upper portion of the cone-shaped body has a constricted opening 13, according to a particular conical configuration of the device, and in said opening there is inserted a sleeve-like element 14 made up of a vertical

tubular part 15 and a horizontal part 16, joined so as to form an elbow.

[0019] On the end of said sleeve 14 there may be present an ejection opening 17, which serves as a spray element, made separately and fixed thereto, or else making up a single body with the sleeve itself, according to the construction methods.

[0020] The sleeve 14 is fixed in various ways onto the end of the part 13 of the channel 11, or else inserted into it, and tightness may be ensured by using watertight adhesive materials.

[0021] The embodiments of the spray toy may be numerous and different.

[0022] For example, it is envisaged that the sprayer can be made with an articulated and/or flexible sleeve if necessary, in order to vary the direction of the spray, considering that the cone-shaped channel must be kept perpendicular to the surface of the water.

[0023] Analogously, the ejection opening of the sprayer can be made in various shapes and sizes, also based on the range, and the discharge of the jet can be made to be single, double or multiple, also in order to spray at a wide angle, even 180° or more.

[0024] Besides being conical, the flared configuration of the body of the channel 11 can be of a pyramidal, polyhedral or cylindrical type or of any other shape deemed suitable for the same purpose.

[0025] Furthermore, the channel may be made in a foldable, bellows or accordion like form, or also in a telescopic form.

[0026] It is moreover envisaged that materials which are hygienic also for children, also of a transparent, perforated type or the like, may be used to make the spray toy.

[0027] Finally, but no less importantly, it is envisaged that in the internal part of the cone-shaped channel 11 there will be applied auxiliary channelling fins, serving to improve the velocity of the flow of water toward the ejector.

[0028] To use the ejector described, it is sufficient to submerge the lower edge of the channel beneath the surface of the water and then exert pressure or repeated pressure downward with the hands, so that the water will be channelled inside and increase its speed by virtue of the Venturi effect, since, as previously said, the velocity of a fluid increases in the presence of constrictions.

[0029] To make pressing the channel into the water easier, it is also envisaged to use external gripping elements such as handles, gripping edges or the like.

[0030] According to further embodiments, it is also envisaged that around the flared part of the channel there may be applied or fixed in various ways a life ring buoy or the like, suitable to act as a floating element and if necessary a gripping element, or vice versa.

[0031] Furthermore, it is envisaged that the ejector element described may be applied to further inflatable or floating elements or accessories in general.

[0032] The body of the channelling element can be

made of inflatable and/or foldable material according to need.

[0033] A further embodiment envisages the use of an external extension or extensions, in addition to the gripping handles, where present.

[0034] The invention has been described above with reference to a preferred embodiment thereof. However, it is clear that the invention lends itself to numerous variants which fall within the scope thereof, in the realm of technical equivalents.

Claims

1. A spray-ejecting amusement device (10) **characterised in that** it is substantially made up of a lower channelling part (11) having a substantially conical or, more generally, flared shape, with the flared end facing downward with a vertical axis, having a lower opening (12) through which the water that will later be sprayed enters, said channelling element (11) being associated or forming a single body with at least one ejection sleeve (14), present in the upper constricted portion (13).
2. The spray-ejecting amusement device (10) according to the preceding claim, **characterised in that**, according to one embodiment, said sleeve (14) is made up of a vertical tubular part (15) and a horizontal part (16), joined so as to form an elbow.
3. The spray-ejecting amusement device (10) according to one of the preceding claims, **characterised in that** on the end of said sleeve (14) there may be present an ejection opening (17), which serves as a spray element, made separately and fixed thereto, or else forming a single body with the sleeve itself, according to the construction methods.
4. The spray-ejecting amusement device (10) according to one of the preceding claims, **characterised in that** said sleeve (14) is fixed in various ways onto the end of the part (13) of the channel (11), or also inserted into it, and tightness may be assured by using watertight adhesive materials.
5. The spray-ejecting amusement device (10) according to one of the preceding claims, wherein it is envisaged that the sprayer may be made if necessary with an articulated and/or flexible sleeve (14) in order to vary the direction of the spray, considering that the cone-shaped channel must be kept perpendicular to the surface of the water.
6. The spray-ejecting amusement device (10) according to one of the preceding claims, **characterised in that** the ejection opening of the sprayer can be made in various shapes and sizes, also based on

the range, and the discharge of the jet can be made to be single, double or multiple, also in order to spray at a wide angle, even 180° or more.

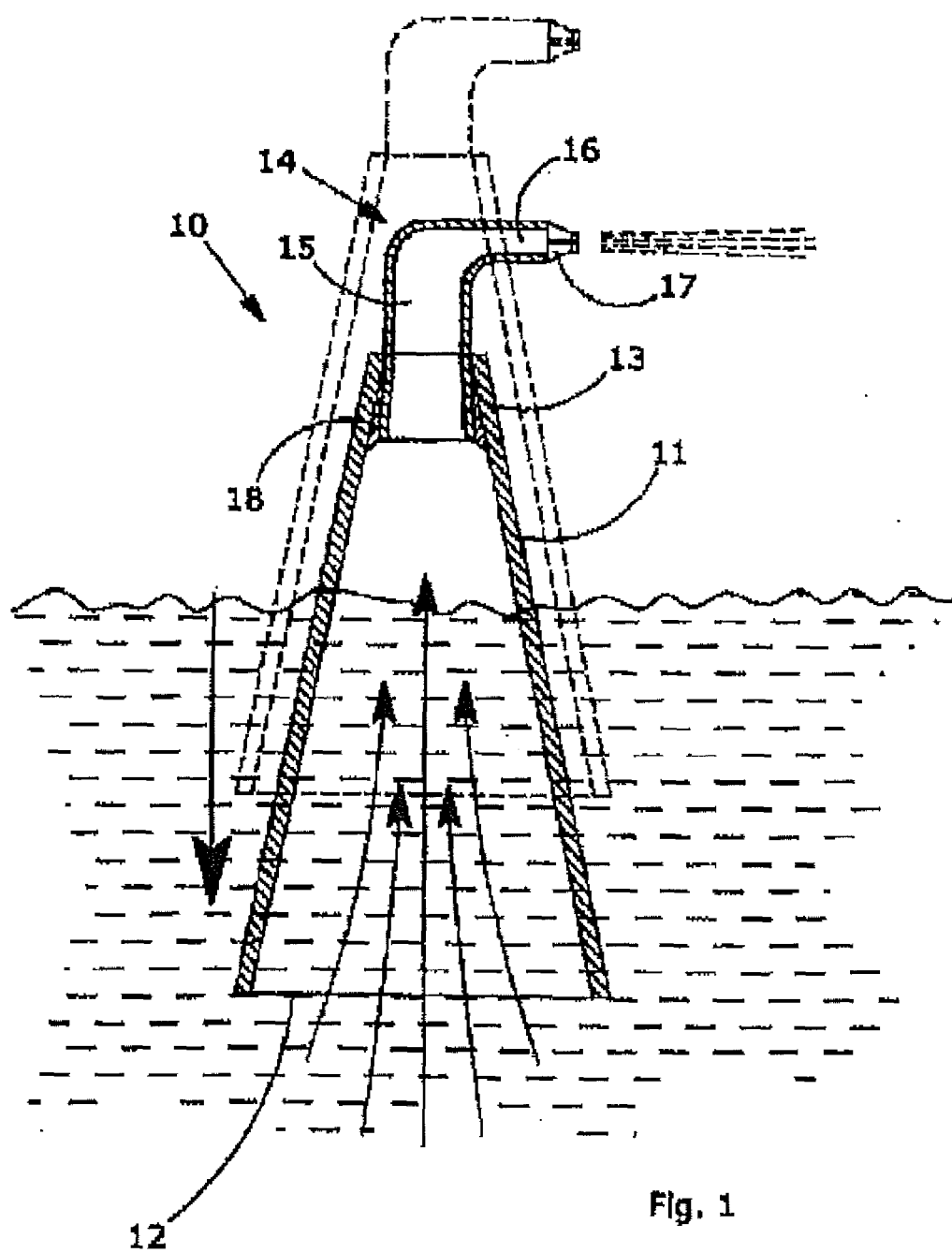
7. The spray-ejecting amusement device (10) according to one of the preceding claims, **characterised in that**, besides being conical, the flared configuration of the body of the channel (11) may be of a pyramidal, polyhedral or cylindrical type or in any other shape deemed suitable for the same purpose, and **in that** the channel (11) can be made in a foldable or bellows or accordion like form, or also in a telescopic form. 5 10
8. The spray-ejecting amusement device (10) according to one of the preceding claims, **characterised in that** materials which are hygienic also for children, also of a transparent, perforated type or the like, or also of an inflatable or floating type or the like, are used to make the spray toy. 15 20
9. The spray-ejecting amusement device (10) according to one of the preceding claims, **characterised in that** in the internal part of the cone-shaped channel (11) there are applied auxiliary channelling fins serving to improve the velocity of the flow of water toward the ejector. 25
10. The spray-ejecting amusement device (10) according to one of the preceding claims, wherein it is envisaged that in order to make pressing the channel into the water easier, use will be made of external gripping elements such as handles, gripping edges or the like, which may also be inflatable, like a life ring buoy or the like. 30 35

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EUROPEAN SEARCH REPORT

Application Number
EP 09 17 5150

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			A63B B05B A63H
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 29 March 2010	Examiner Shmonin, Vladimir
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
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EP 09 17 5150

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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