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(71) Applicant: **ACQUA MINERALE SAN BENEDETTO S.p.A.**
I-30037 Scorze' (Prov. of Venezia) (IT)

(72) Inventor: **Zoppas, Enrico**
31015 Conegliano (Prov. fo Treviso) (IT)

(74) Representative: **Modiano, Guido, Dr.-Ing. et al**
Modiano & Associati SpA
Via Meravigli, 16
20123 Milano (IT)

(54) Plastic bottle, particularly for beverages, that can be squeezed to dispense its contents

(57) A plastic bottle, particularly for containing beverages, that can be squeezed in order to dispense its contents and comprises a neck (10) with an open end (11), a shoulder (12), a body (13) and a bottom (14), which are blended together in succession. The body (13), in its extension from the shoulder (12) toward the bottom (14), has a first portion (15) that has a circular transverse cross-section, a second portion (16) that has a predominantly elliptical cross-section, and a third portion (17) that has a circular cross-section having substantially the same diameter as that of the first portion. The predominantly elliptical shape of the cross-section of the second portion (16) is such that the major axis (18) of the ellipse in the vicinity of the first portion (15) is arranged at right angles to the major axis (19) of the ellipse in the vicinity of the third portion (17).

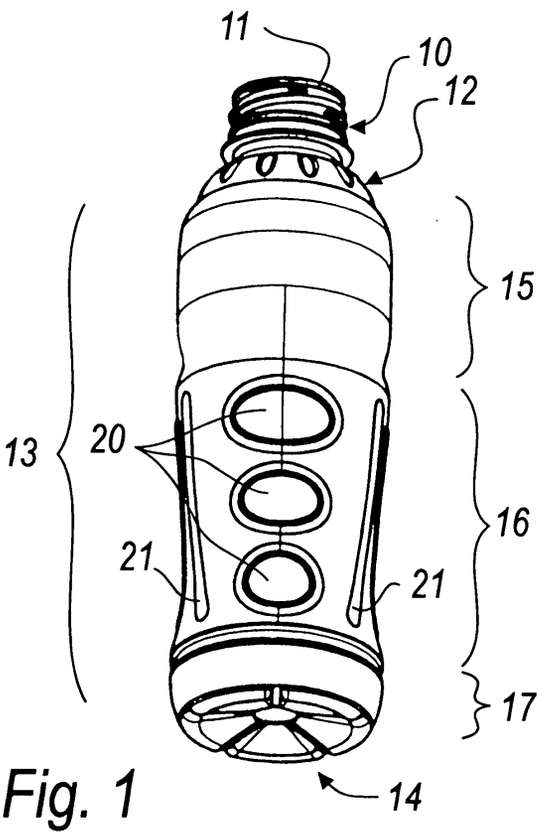

Fig. 1

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Description

[0001] The present invention relates to a plastic bottle particularly for beverages that can be squeezed in order to dispense its contents.

[0002] It is known that bottles containing products packaged after being sterilized have recently become available in the beverage market.

[0003] The bottles, normally made of polyethylene, are filled and then sealed and capped.

[0004] Normally, for these bottles the product is dispensed by squeezing the wall of their body, and the amount of dispensed product is controlled by the consumer by means of the degree of pressure applied to the wall.

[0005] It is therefore fundamental for the consumer to have a good grip on the bottle in order to be able to dispense the contents in the best possible manner, controlling the quantity thereof dispensed at each squeeze.

[0006] The aim of the present invention is to provide a plastic bottle, particularly for beverages, that can be squeezed in order to dispense its contents and combines characteristics of good grip for the consumer and has a shape that allows filling without subsequent deformations or distortions with reduced thicknesses.

[0007] Within this aim, an object of the present invention is to provide a plastic bottle whose production costs are competitive.

[0008] Another object of the present invention is to provide a plastic bottle that can be manufactured with known systems and technologies.

[0009] This aim and these and other objects that will become better apparent hereinafter are achieved by a plastic bottle, particularly for beverages, that can be squeezed in order to dispense its contents, comprising a neck with an open end, a shoulder, a body and a bottom which are blended together in succession, characterized in that said body, in its extension from the shoulder toward the bottom, has a first portion that has a circular transverse cross-section, a second portion that has a predominantly elliptical cross-section, and a third portion that has a circular cross-section having substantially the same diameter as that of said first portion.

[0010] Advantageously, the predominantly elliptical shape of the cross-section of the second portion is such that the major axis of the ellipse in the vicinity of the first portion lies at right angles to the major axis of the ellipse in the vicinity of the third portion.

[0011] Conveniently, grip concavities for the fingers of one hand are arranged in mutually opposite positions in said second portion.

[0012] Further characteristics and advantages of the present invention will become better apparent from the following detailed description of a preferred but not exclusive embodiment thereof, illustrated by way of nonlimiting example in the accompanying drawings, wherein:

Figure 1 is a first perspective view of a bottle according to the invention;

Figure 2 is a second perspective view of a bottle according to the invention;

Figure 3 is a first side view of the bottle;

Figure 4 is a second side view of the bottle, taken at right angles to Figure 3;

Figure 5 is a sectional view, taken along the line V-V of Figure 3;

Figure 6 is a sectional view, taken along the line VI-VI of Figure 3;

Figure 7 is a bottom plan view of the bottle.

[0013] With reference to the figures, a plastic bottle, particularly for beverages, that can be squeezed to dispense its contents comprises a neck 10 with an open end 11 for a cap (not shown), a shoulder 12, a body 13, and a bottom 14, which are blended together in succession.

[0014] According to the invention, the body 13, in its extension from the shoulder 12 toward the bottom 14, has a first portion 15 that has a circular transverse cross section, a second portion 16 that has a predominantly elliptical cross section, and a third portion 17 that has a circular cross section and having a diameter substantially equal to the diameter of the first portion 15.

[0015] In particular, the predominantly elliptical shape of the cross-section of the second portion 16 is such that the major axis 18 of the ellipse in the vicinity of the first portion 15 is arranged at right angles to the major axis 19 of the ellipse in the vicinity of the third portion 17.

[0016] This variation causes the second portion 16 to be circular at the center in order to blend the two ellipses.

[0017] Conveniently, grip concavities 20 for the fingers of one hand are arranged in the second portion 16 in mutually opposite positions.

[0018] Convex ridges 21 run longitudinally on the second portion 16 in the spaces that are not occupied by the concavities 20.

[0019] In practice it has been found that the invention thus described has achieved the intended aim and objects.

[0020] The described bottle, made of plastic material such as polyethylene, can in fact be squeezed in order to dispense its contents and combines, by way of the particular shape of its body 13, characteristics of excellent grip for the consumer and structural strength against tensions such as to allow filling without subsequent deformations or distortions, without having to resort to high wall thicknesses.

[0021] The good grip that can be provided on the body 13 allows optimum control of the quantity dispensed by squeezing.

[0022] From the manufacturing standpoint, the bottle can be manufactured with known systems and technologies and its costs are competitive.

[0023] In practice, the materials employed, so long as they are compatible with the specific use, as well as the

dimensions, may be any according to requirements and to the state of the art.

[0024] The disclosures in Italian Utility Model Application No. PD2002U000075 from which this application claims priority are incorporated herein by reference.

[0025] Where technical features mentioned in any claim are followed by reference signs, those reference signs have been included for the sole purpose of increasing the intelligibility of the claims and accordingly such reference signs do not have any limiting effect on the interpretation of each element identified by way of example by such reference signs.

Claims

1. A plastic bottle, particularly for beverages, that can be squeezed in order to dispense its contents, comprising a neck (10) with an open end (11), a shoulder (12), a body (13) and a bottom (14) which are blended together in succession, **characterized in that** said body (13), in its extension from the shoulder (12) toward the bottom (14), has a first portion (15) that has a circular transverse cross-section, a second portion (16) that has a predominantly elliptical cross-section, and a third portion (17) that has a circular cross-section having substantially the same diameter as that of said first portion, the predominantly elliptical shape of the cross-section of said second portion (16) being such that the major axis (18) of the ellipse in the vicinity of said first portion (15) is arranged at right angles to the major axis (19) of the ellipse in the vicinity of said third portion (17).

2. The bottle according to claim 1, **characterized in that** grip concavities (20) for the fingers of one hand are arranged in said second portion (16) in mutually opposite positions with respect to a central axis of the bottle.

3. The bottle according to claim 2, **characterized in that** convex ridges (21) run longitudinally in said second portion (16) in the spaces left free by said concavities (20).

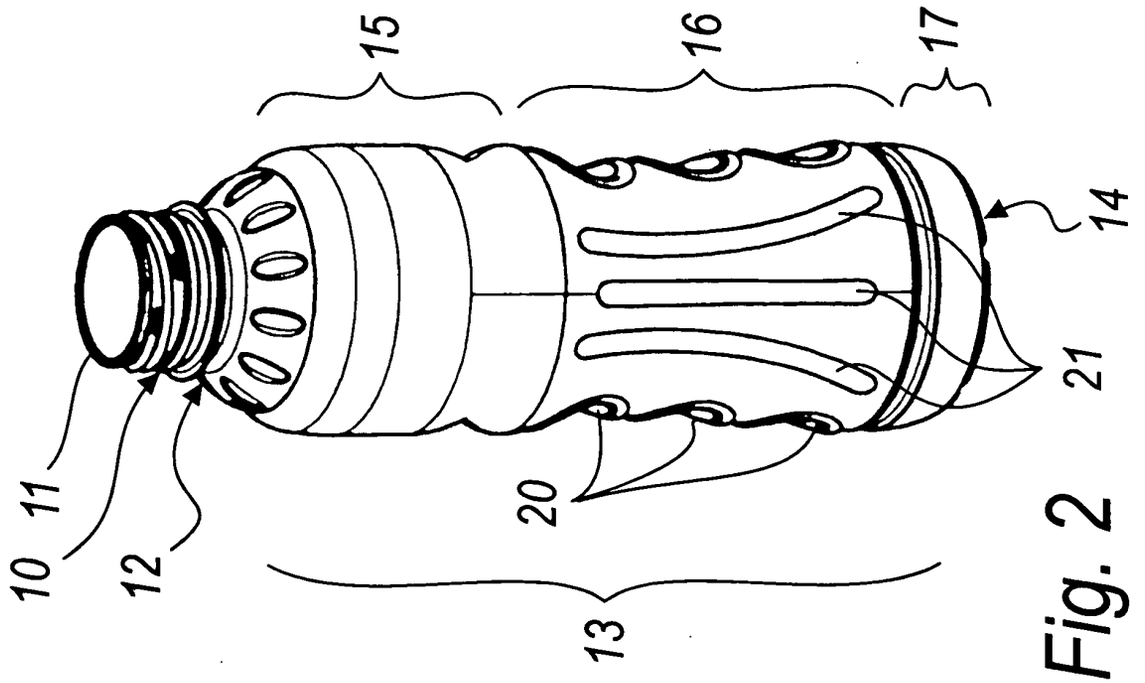

Fig. 2

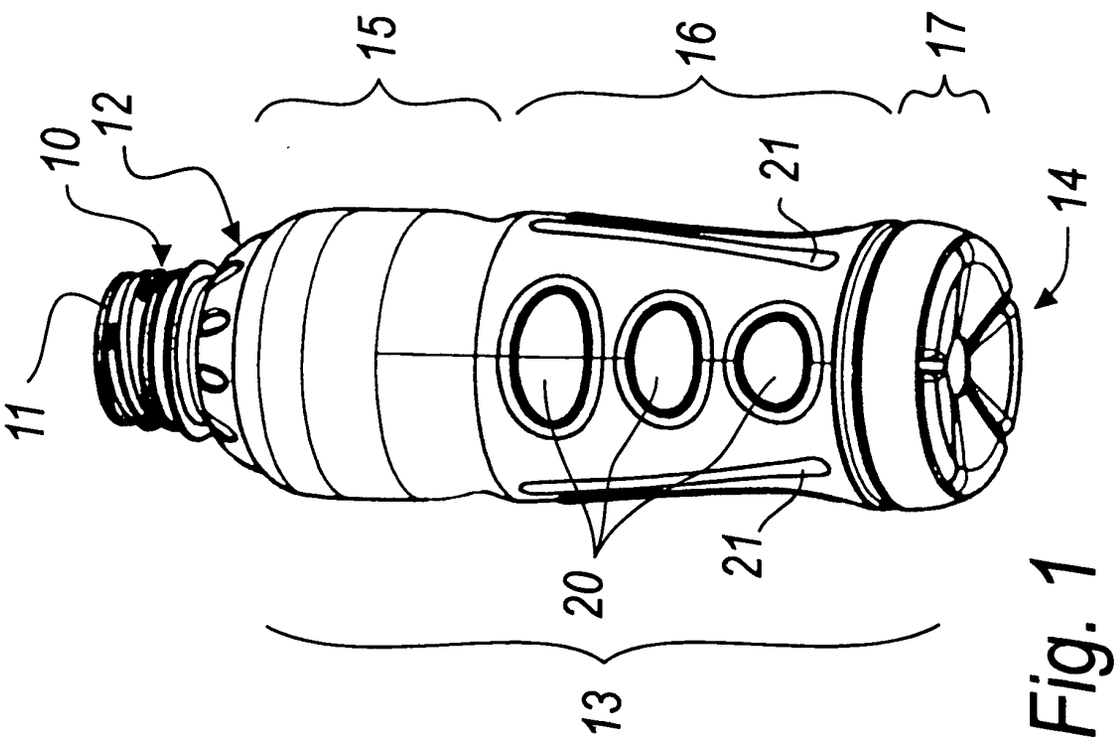

Fig. 1

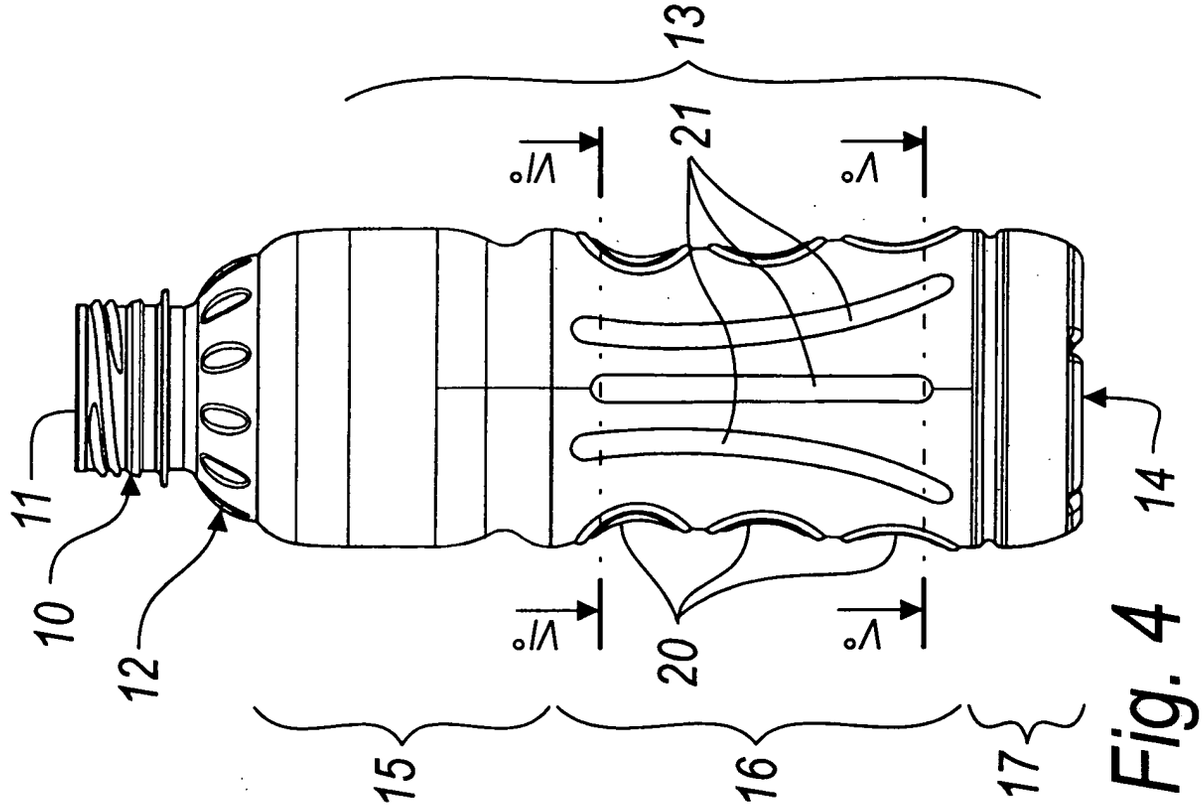

Fig. 4

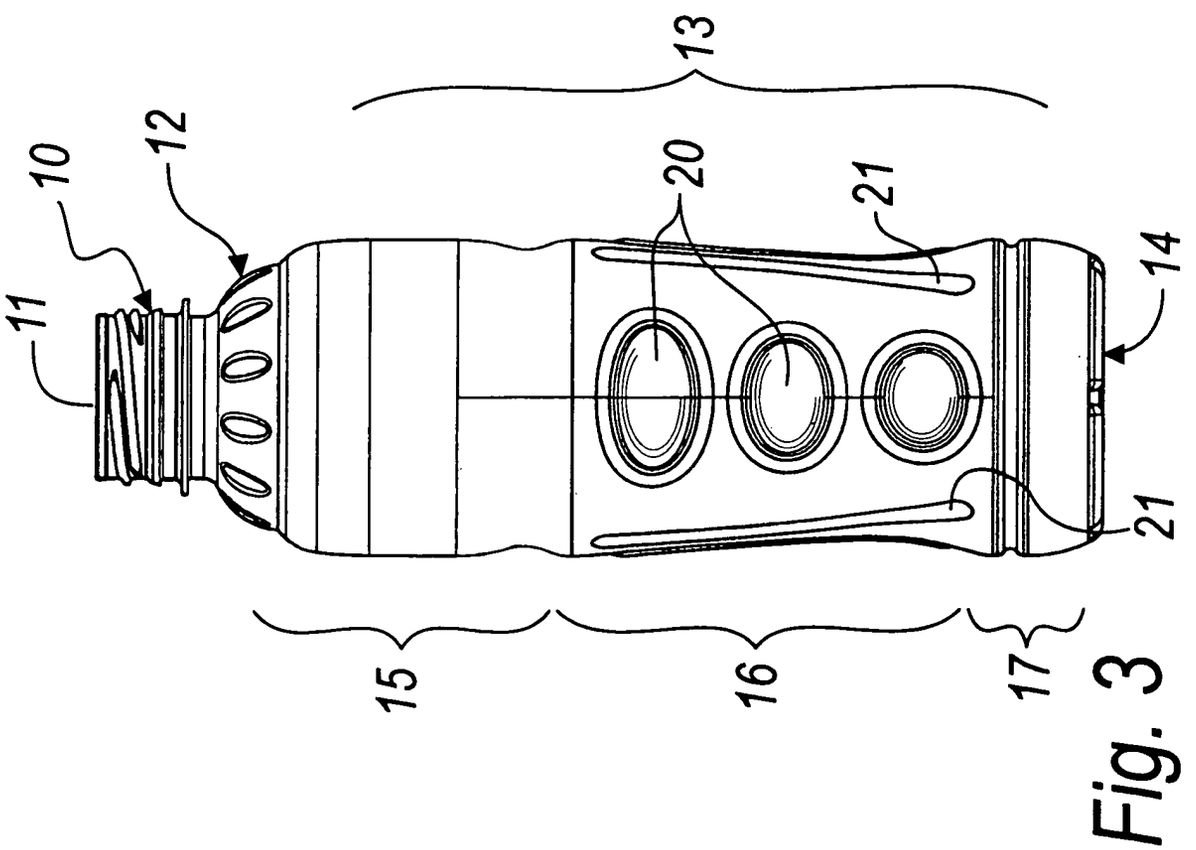

Fig. 3

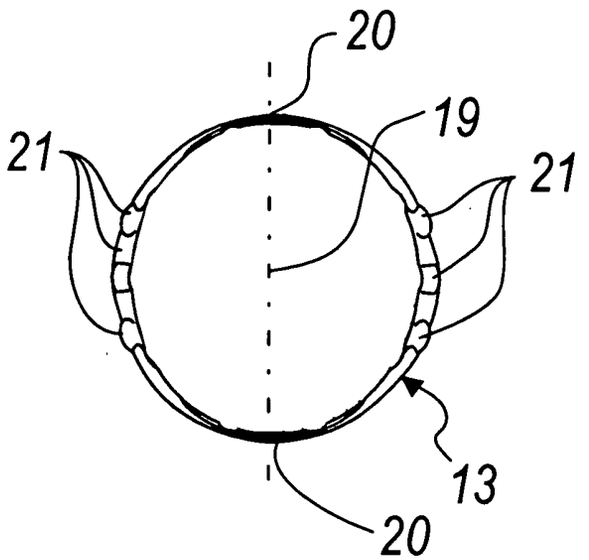

Fig. 5

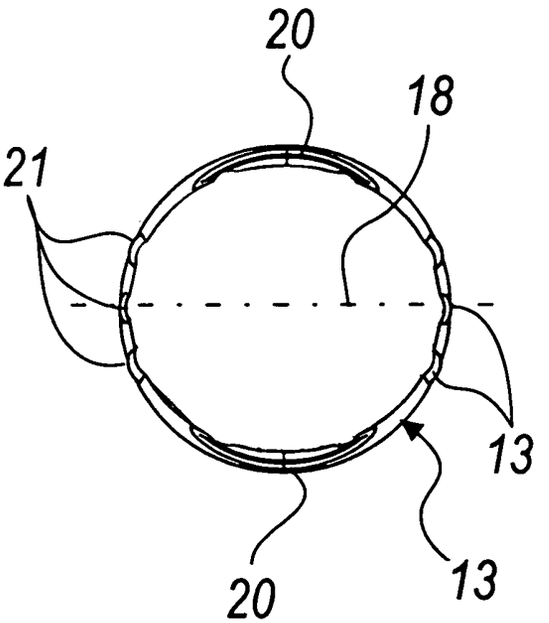

Fig. 6

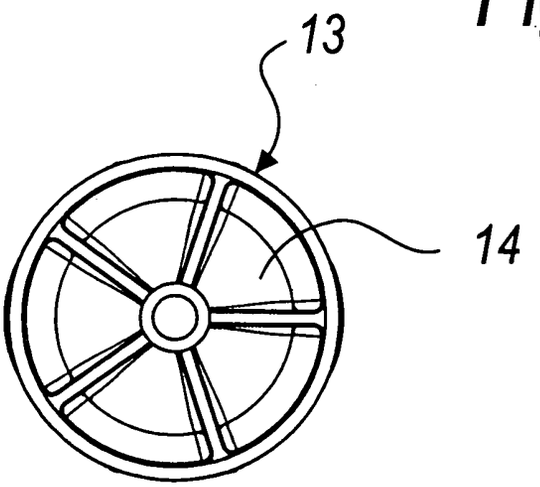

Fig. 7

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EUROPEAN SEARCH REPORT

Application Number
EP 03 02 3185

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
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A	US 5 472 105 A (KRISHNAKUMAR SUPPAYAN M ET AL) 5 December 1995 (1995-12-05) * abstract; figures *	2	
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			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			B65D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	26 February 2004	SERRANO GALARRAGA, J

CATEGORY OF CITED DOCUMENTS

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26-02-2004

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