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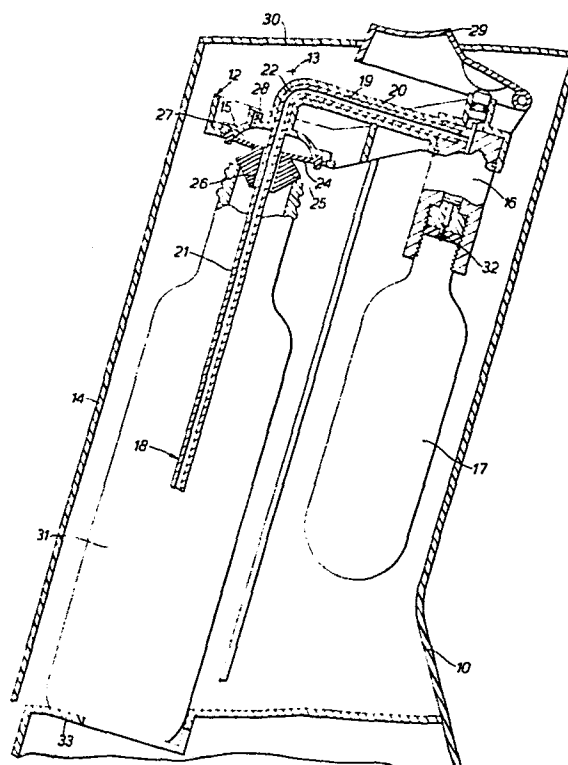
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54 **Appliance for making an aerated beverage.**

57 An appliance for making an aerated beverage in which the nozzle (18) for introducing carbon dioxide into a bottle (31) of water includes a first portion (19) which is moulded into a support member (12) carrying a connection (16) for a container (17) of pressurized liquid carbon dioxide and a second portion (21) which extends downwardly into the bottle of water.



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DESCRIPTION"APPLIANCE FOR MAKING AN AERATED BEVERAGE"

The present invention relates to an appliance for making an aerated beverage.

Conventionally, an appliance of this type can consist of a casing, in which is enclosed or mounted a
5 container of pressurized liquid carbon dioxide. Connected to this container, by a manually operated valve, is an elongate nozzle which is either permanently angled downwardly and forwardly or is pivotable between such
10 position and a vertical position. A bottle, which is partly filled with water, is moved upwardly relative to the nozzle, so that the nozzle is immersed in the water, with the nozzle in the inclined position. The bottle is held in place with its neck against the stopper at the top of the nozzle, usually after pivoting the
15 nozzle to the vertical position. The appliance usually also includes a shatter-proof housing which surrounds the bottle, when it is in position around the nozzle.

A manually operated valve is actuated one or more times and the carbon dioxide gas is thus introduced
20 into the water. A safety valve is provided which releases any excess pressure which may occur in the bottle which may thereafter be removed from the appliance and its contents are either used in this form, as soda water, or a concentrate flavouring syrup is added to obtain an aerated
25 beverage, such as lemonade, tonic water or cola etc.

Such a construction is relatively complex and expensive to manufacture particularly with regard to the mounting of the nozzle on a support member. The support member usually has to have ducts formed therein or a
30 separate flexible tube provided to introduce the carbon

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dioxide gas from the container thereof.

It is now proposed, according to the present invention, to provide an appliance for making an aerated beverage, said appliance comprising a casing, a support member formed of plastics material and mounted on said casing, a connection carried by said support member for mounting a container of pressurized liquid carbon dioxide, a shatter-proof housing for a bottle of water carried by said support member, a nozzle communicating with said connection and extending from said support member downwardly within said housing, a stopper for engaging in the neck of a bottle and, means for supporting the bottle in said housing so that the stopper is engaged therein, the nozzle being in the form of a metal tube having a first portion moulded into the support member and communicating with said connection, and a second portion forming the part extending downwardly within said housing.

With such a structure, the fact that the nozzle is moulded into the support greatly simplifies the manufacture and avoids the necessity of providing any connection between the part which extends downwardly within the housing and the duct leading to the connection for the container of liquid carbon dioxide.

Advantageously the support member is pivotally mounted on the casing, the pivotal connection between the casing and the support member causing the shatter-proof housing, the nozzle, the stopper and the container of pressurized liquid carbon dioxide all to pivot therewith relative to the casing, as a pivotal assembly, from a first position in which the bottle can be introduced into or removed from the housing and a second position in which the means for supporting the bottle engage the bottle to prevent its removal. Such a construction can be made significantly less expensively since it can

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consist of only a few components.

Preferably the second portion of the nozzle is at an angle, advantageously a right angle, to the first portion thereof. The casing and the means for supporting
5 the bottle in the housing may be arranged so that the bottle is inclined rearwardly, towards its top, in the second position. This facilitates the introducing of the bottle into the housing.

As well as the first portion of the nozzle
10 being moulded into the support member, the connection for the container of carbon dioxide may also be moulded in. This connection is preferably in the form of a valve member and can be actuated by a manually operable lever. The lever is preferably of relatively short length and is
15 so positioned, near the rear of the top of the housing, that when the assembly mentioned above is pivoted in the first position, a portion of the housing overlies the operating lever, so that this cannot be actuated with the assembly in this first position.

20 Preferably the appliance is used with a disposable cylinder or cartridge of carbon dioxide which is simply screwed into the connection which has a part piercing a hole in the membrane of the capsule.

25 In order that the present invention may more readily be understood, the following description is given, merely by way of example, reference being made to the accompanying drawing in which the sole figure is a schematic side elevation, in section, of one
30 embodiment of appliance according to the invention.

The appliance illustrated in the drawing includes a casing 10 formed of a plastics material which, as seen in the drawing, has its front on the left side and its rear on the right. As can be seen the casing
35 slopes generally backwardly and upwardly. Pivotally

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mounted within the casing is a support member indicated by the general reference numeral 12. This is pivotal on the housing approximately at a pivot point 13 and has mounted thereon a transparent plastics material shatter-proof housing 14, a stopper mounting part 15, a connection 16 for a cylinder or capsule 17 of pressurized liquid carbon dioxide and a nozzle indicated by the general reference numeral 18.

As can be seen from the drawing, the nozzle 18 includes a first part 19 which is moulded into the upper portion 20 of the support member 12 together with a second portion 21 which is arranged, approximately at a right angle, and extends generally downwardly and somewhat forwardly. It will be seen that the nozzle 18 consists of the two parts 19 and 21 which are formed as a metal tube with a smooth bend 22, this metal tube being mounted, together with the connection 16 in a mould when the support member 12 is itself moulded.

The part 15 of the support member is used to mount a rubber like diaphragm 24 which itself carries a stopper 25 having a conical lower surface, the stopper 25 having an internal bore 26 which provides a clearance with the second nozzle portion 21. This clearance communicates with a small chamber 27 above the diaphragm, the area of the diaphragm being greater than the projected area of the conical lower surface of the stopper. The chamber 27 is communicable via a connection 28 with a safety pressure relief valve (not shown).

It will be seen that the connection 16 comprises a valve which is operable by a lever 29 which extends through an opening in the upper wall 30 of the housing 14. A depression of the lever 29 unseats the valve so that carbon dioxide can flow from the container 17 via the nozzle 18, 19, 21 into a bottle 31 which is filled to about three quarters full with water. The bottle will

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be mounted wholly within the housing 14 so that should there be any shattering of the bottle due to a fault therein, a user will be unaffected.

5 It will be appreciated that the pivot is so disposed that when the housing is pivoted backwardly the top wall 30 overlies the lever 29 preventing this from being operated.

10 The capsule 17 is preferably a disposable one having a membrane in the top which is punctured by a knife edge 32 within the connection valve 16.

This valve is preferably connected to the first portion 19 of the nozzle using the Locktite (Registered Trade Mark) arrangement to ensure a good seal therebetween.

15 In use, the bottle is introduced as indicated, and the shatter-proof housing is then returned to the position shown in the drawing with the bottle supported on a lower surface 33. When the lever 29 is depressed gas under pressure flows via the nozzle into the water in the
20 bottle and is dissolved therein. Some of the gas will rise and will pressurize the neck of the bottle and will pass up through the clearance 26 into the chamber 27 whereupon the diaphragm 24 will be urged downwardly to force the stopper 25 into the neck of the bottle thereby
25 forming a seal. Continued actuation of the lever 29 will cause the amount of carbon dioxide dissolved to increase until the pressure within the chamber 27 reaches a preset value which is detected by the safety pressure valve (not shown) which will then release the pressure with a
30 suitable audible indication whereupon the lever 29 can be released. The assembly is then pivoted outwardly and the bottle removed and flavouring added, if desired.

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CLAIMS

1. An appliance for making an aerated beverage, said appliance comprising a casing (10), a support member (12) formed of plastics material and mounted on said casing, a connection (16) carried by said support member for mounting a container (17) of pressurized liquid carbon dioxide, a shatter-proof housing (14) for a bottle (31) of water carried by said support member, a nozzle (18) communicating with said connection and extending from said support member downwardly within said housing, a stopper (25) for engaging in the neck of a bottle and means (33) for supporting the bottle in said housing so that the stopper is engaged therein, characterised in that the nozzle (18) is in the form of a metal tube having a first portion (19) moulded into the support member (12) and communicating with said connection (16) and a second portion (21) forming the part extending downwardly within said housing.

2. An appliance according to claim 1, characterised in that the second portion (21) of the nozzle is at an angle to the first portion (19) thereof.

3. An appliance according to claim 2, characterised in that said second portion (21) of the nozzle is approximately at right angles to the first portion thereof.

4. An appliance according to claim 1, 2 or 3, characterised in that the said connection (16) for mounting a container of pressurized liquid carbon dioxide is moulded into the support member.

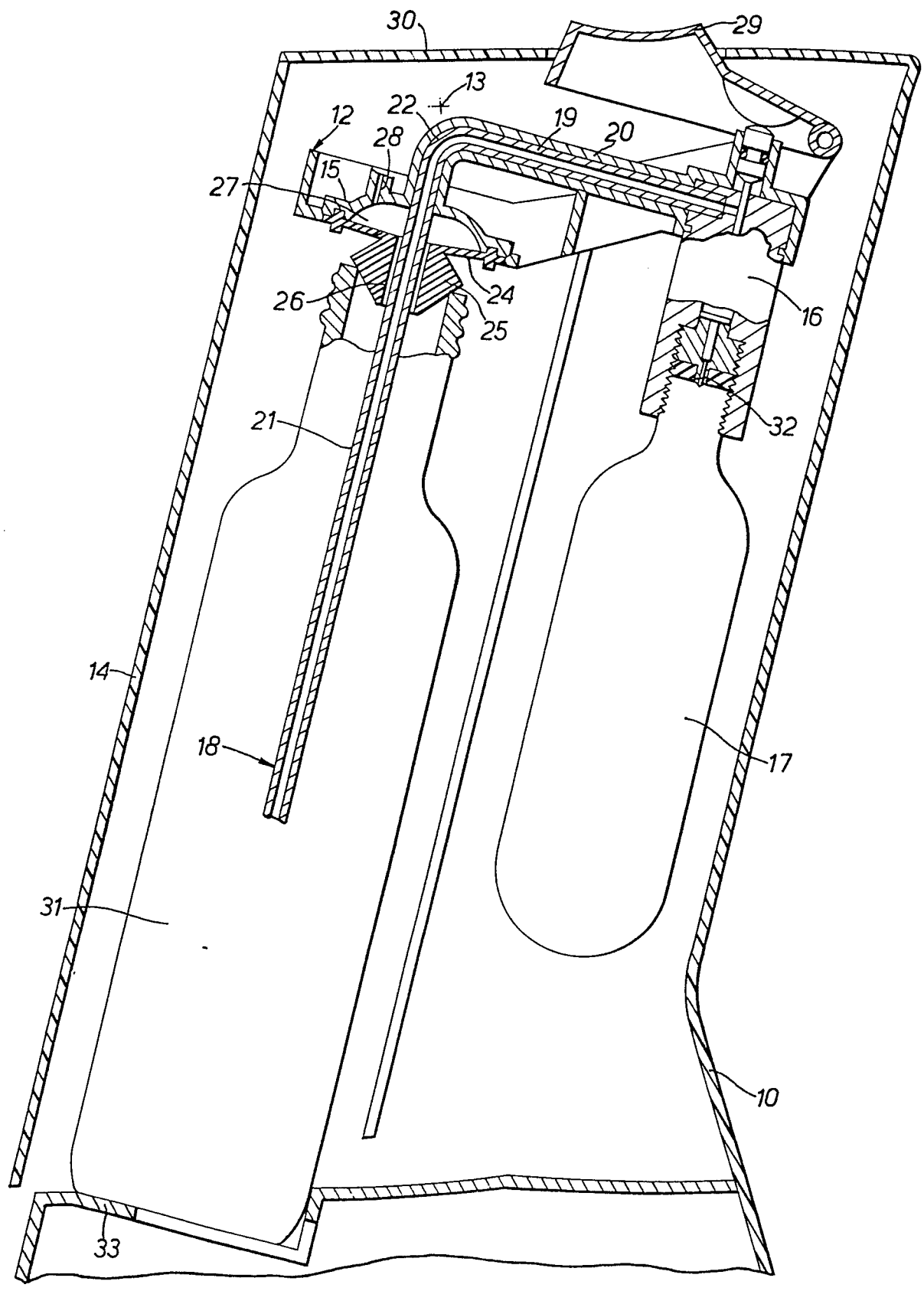
5. An appliance according to any preceding claim, characterised in that the support member (12) is pivotally mounted on the casing (10), the pivotal connection (13) between the casing and the support member

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causing the shatter-proof housing (14), the nozzle (18), the stopper (25) and the container (17) of pressurized liquid carbon dioxide all to pivot therewith relative to the casing (10), as a pivotal assembly, from a first position in which the bottle (31) can be introduced into or removed from the housing and a second position in which the means (33) for supporting the bottle engage the bottle to prevent its removal.

6. An appliance according to claim 5, characterised in that the casing (10) and the means (33) for supporting the bottle in the housing are arranged so that the bottle is inclined rearwardly, towards its top, in said second position.

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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. 3)
A	--- GB-A-2 026 882 (THORN SVENSKA) * figure 1 *	1-5	B 01 F 3/04 A 23 L 2/26
A	--- GB-A-2 039 227 (THORN SVENSKA) * figure 1 *	1-5	
A	--- GB-A-2 046 112 (THORN SVENSKA) * figure 2 *	1,2,4,5	
A	--- US-A-3 953 550 (G.H. GILBEY) * figure 2 *	1,2,4,5	
A	--- WO-A-8 101 945 (SODASTREAM) * figure 1 * & GB - A - 2068757 -----		TECHNICAL FIELDS SEARCHED (Int. Cl. 3) A 23 L 2/26 A 23 L 2/38 B 01 F 3/04
The present search report has been drawn up for all claims			
Place of search BERLIN		Date of completion of the search 11-10-1982	Examiner KUEHN P
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			