

FORMULARIO ÚNICO DE SOLICITUD DE PATENTE
PCT
ENTRADA EN FASE NACIONAL

1) SOLICITUD DE:			
☐ Patente de invención		☐ Patente de Modelo de Utilidad	
☐ Capítulo I.		☒ Capítulo II.	
2) SOLICITANTE (71)	Nombre: HEINEKEN TECHNICAL SERVICES B.V. Dirección: P.O. Box 510 NL-2380 BB Zoeterwoude, The Netherlands Nacionalidad o domicilio: Zoeterwoude, The Netherlands Lugar de constitución: Zoeterwoude, The Netherlands		IDENTIFICACIÓN C.C. ☐ NIT: ☐ C.E. ☐ OTRO ☐ NÚMERO Cual
	Teléfono: Fax: E. Mail:		
3) REPRESENTANTE APODERADO	Nombre: DILIA MARÍA RODRÍGUEZ D'ALEMAN Dirección: Carrera 11 N°. 93-43 Of. 404 Santafé de Bogotá D.C. Teléfono: 6350835 Fax: 6350824 E. Mail: clarkemodet@clarkemodet.com.co		IDENTIFICACIÓN C.C. ☒ NIT: ☐ C.E. ☐ OTRO ☐ NÚMERO: 41.654.882 TP: 20824 CSJ
4) INVENTOR (ES) (72)	Nombre: 1. VAN DER KLAUW, Guido Petrus Johannes; 2. BAX, Bart Jan; 3. VAN DUUREN, Marius Costiaan Dirección: 1. Elzenhof 28, NL-2382 EV Zoeterwoude, The Netherlands; 2. Molenstraat 11a NL-2513 BH Den Haag The Netherlands; 3. Limes 80 NL-3176 TE Poortugaal, The Netherlands Nacionalidad o Domicilio: Todos los anteriores, Alemanes		
5) PCT (88) Solicitud Internacional No. PCT/NL01/00423 Fecha: MAYO 31, 2001 Publicación Internacional No. WO 01/92142 Fecha: Diciembre 6, 2001			
6) Título (54) MONTAJE DE DISPENSADOR DE BEBIDA Y RECIPIENTE PARA BEBIDA Y LÍNEA DE SUMINISTRO DE BEBIDA			
7) Clasificación Internacional (51) B67D 1/06, 1/14			
8) PRIORIDAD		33) País de Origen	(32) Fecha
SI ☒ NO ☐		The Netherlands	Mayo 31, 2000
			(31) Número de Solicitud 1015368
9) Comprobante de pago N°. 02-80,114 Fecha: Noviembre 28, 2002			
Instrucciones para el diligenciamiento del presente formulario. Ver reverso de esta página			



2

Industria y Comercio

SUPERINTENDENCIA

SUPERINDUSTRIA Y COMERCIO
Radicación : 02100601 00000000 Folios: 104
Fecha (UND): 2002-11-29 17:03:41
Trámite : 011 PCT-PATENT 379 FASE NACI 411 PRESENTAC
Dependencia: 2020 DIVISION DE NUEVAS CREACIONES

NIT : 800176089-2

RECIBO OFICIAL DE CAJA : 02 - 80,114
FECHA : NOVIEMBRE 28 DE 2002

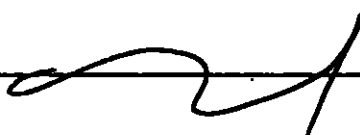
***** CONSIGNACION *****

DEPOSITANTE	TIPO PAGO	BANCO	CUENTA	No. PAGO	FECHA PAGO	Vr. PAGO
CLARKE NODET Y CO. COLOMBIA	CONSIGNACION	BANCO POPULAR	050-00110-6	4801710	28/11/2002	3,366,000.00

***** CONCEPTO *****

CANT.	RENTISTICO	CONCEPTO	TOTAL CONCEPTO
1	50005-01-01	SOLICITUDES	
1		TRAMITES DE SOL. DE PATENTE DE IN	378,000.00
		TOTAL :	\$ 378,000.00

SON: TRESCIENTOS SETENTA Y OCHO MIL PESOS

RESPONSABLE : 

RECIBO DE CAJA APLICADO AL EXPEDIENTE No. _____

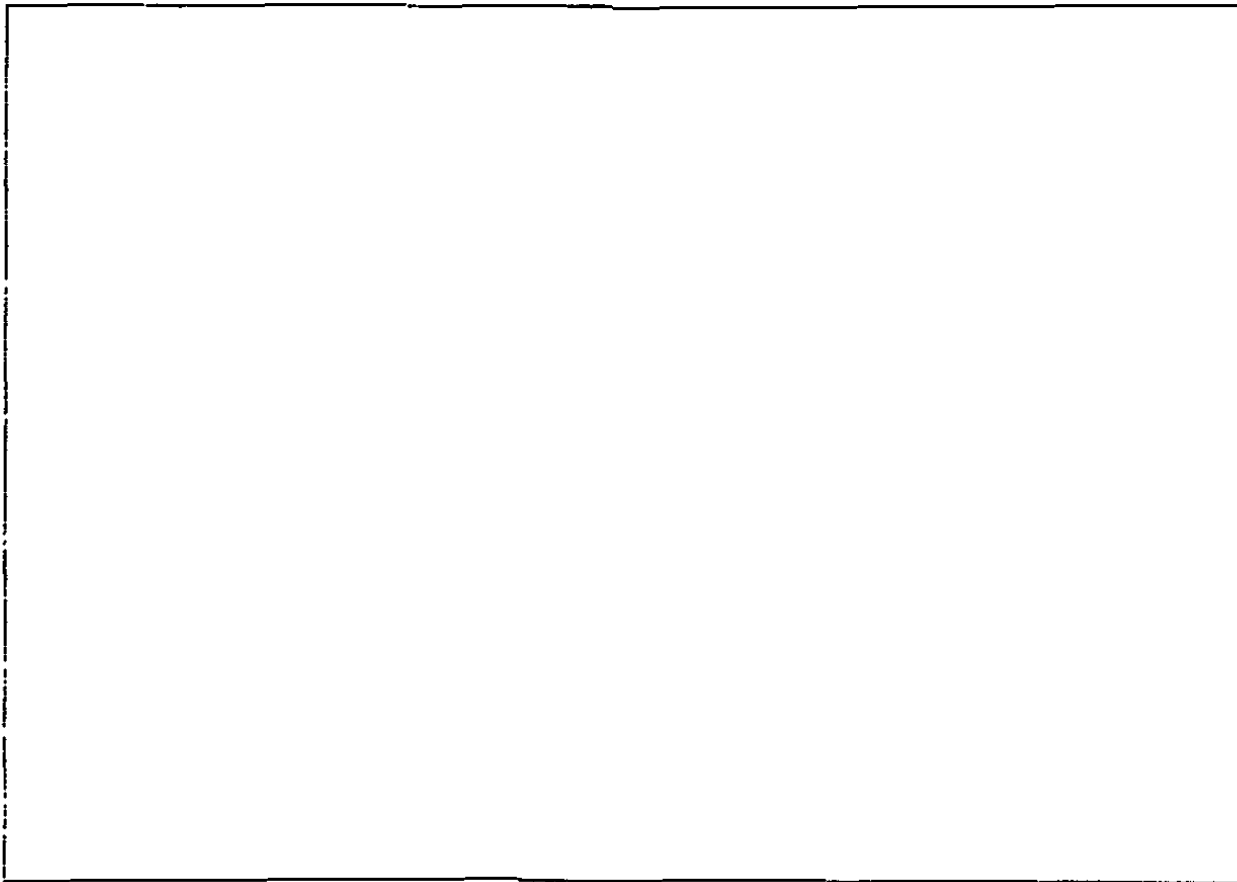
Carrera 13 No. 27-00 Pisos 5, 7 y 10
Conmutador 382 0840
Fax 350 5220
E-mail: info@sic.gov.co
www.sic.gov.co
Bogotá, D.C., Colombia

10)

ANEXOS

- ☒ Comprobante de pago de la tasa de presentación de la solicitud
- ☐ Comprobante de pago por reivindicación de prioridad
- ☐ Documento que acredita la existencia y representación legal cuando el solicitante sea persona Jurídica
- ☐ Poderes, si fuera el caso
- ☐ Documento de cesión del inventor al solicitante o a su causante
- ☐ Declaraciones
- ☒ Copia de la solicitud Internacional. (Resumen, descripción, reivindicación, Dibujos).
- ☐ Traducción de la solicitud internacional al castellano. (Resumen, descripción, reivindicación, Dibujos)
- ☐ Copia del examen preliminar efectuado por la IPEA
- ☐ De ser el caso, copia del contrato de acceso
- ☐ De ser el caso, documento que acredite la licencia o autorización de uso de conocimientos tradicionales de las comunidades indígenas
- ☐ De ser el caso, certificado de depósito del material biológico
- ☐ Arte final 12 x 12 y 6 x 6 cm
- ☐ De ser el caso, información sobre otras solicitudes de patente o títulos obtenidos en el extranjero por el mismo titular o su causante, relacionados parcial o totalmente con la invención de esta solicitud.
- ☐ Otros

11) FIGURA CARACTERÍSTICA:



12) Solicitud concesión de la patente,

NOMBRE: DILIA RODRÍGUEZ D'ALEMAN

FIRMA:


C.C. 41.654.882 de Bogotá TP 20824 CSJ

p-465

Instrucciones para el diligenciamiento del presente formulario. Ver reverso de esta pagina

4
The demand must be filed directly with the competent International Preliminary Examining Authority or, if two or more Authorities are competent, with the one chosen by the applicant. The full name or two-letter code of that Authority may be indicated by the applicant on the line below:

IPEA/ RP

PCT

CHAPTER II

DEMAND

under Article 31 of the Patent Cooperation Treaty:
The undersigned requests that the international application specified below be the subject of international preliminary examination according to the Patent Cooperation Treaty and hereby elects all eligible States (except where otherwise indicated).

For International Preliminary Examining Authority use only		
Identification of IPEA		Date of receipt of DÉMAND
Box No. I IDENTIFICATION OF THE INTERNATIONAL APPLICATION		Applicant's or agent's file reference BO 43466 Bot
International application No. PCT/NL01/00423	International filing date (day/month/year) 31 May 2001 (31.05.01)	(Earliest) Priority date (day/month/year) 31 May 2000 (31.05.00)
Title of invention Drink dispenser assembly and container for drink and drink dispensing line		
Box No. II APPLICANT(S)		
Name and address: (Family name followed by given name: for a legal entity, full official designation. The address must include postal code and name of country.) Heineken Technical Services B.V. P.O. Box 510 NL-2380 BB Zoeterwoude The Netherlands		Telephone No.
		Facsimile No.
		Teleprinter No.
		Applicant's registration No. with the Office
State (that is, country) of nationality: The Netherlands (NL)		State (that is, country) of residence: The Netherlands (NL)
Name and address: (Family name followed by given name: for a legal entity, full official designation. The address must include postal code and name of country.) Van der Klaauw, Guido Petrus Johannes Elzenhof 28 NL-2382 EV Zoeterwoude The Netherlands		
State (that is, country) of nationality: The Netherlands (NL)		State (that is, country) of residence: The Netherlands (NL)
Name and address: (Family name followed by given name: for a legal entity, full official designation. The address must include postal code and name of country.) Bax, Bart Jan Molenstraat 11a NL-2513 BH Den Haag The Netherlands		
State (that is, country) of nationality: The Netherlands (NL)		State (that is, country) of residence: The Netherlands (NL)
☒ Further applicants are indicated on a continuation sheet.		

Sheet No. ...

BCT-010190423 No.

Continuation of Box No. II APPLICANT(S)

If none of the following sub-boxes is used, this sheet should not be included in the demand.

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)

Van Duuren, Marius Corstiaan

Limes 80

NL-3176 TE Poortugaal

The Netherlands

The Netherlands (NL) nationality:

The Netherlands (NL) place:

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)

State (that is, country) of nationality:

State (that is, country) of residence:

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)

State (that is, country) of nationality:

State (that is, country) of residence:

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)

State (that is, country) of nationality:

State (that is, country) of residence:

☐

Further applicants are indicated on another continuation sheet.

Box No. III AGENT OR COMMON REPRESENTATIVE: OR ADDRESS FOR CORRESPONDENCE

The following person is ☒ agent ☐ common representative
 and ☒ has been appointed earlier and represents the applicant(s) also for international preliminary examination.
☐ is hereby appointed and any earlier appointment of (an) agent(s)/common representative is hereby revoked.
☐ is hereby appointed, specifically for the procedure before the International Preliminary Examining Authority, in addition to the agent(s)/common representative appointed earlier.

Name and address: (Family name followed by given name; for a legal entity, full official designation.
 The address must include postal code and name of country.)

Jorritsma, Ruurd et al.
 Nederlandsch Octrooibureau
 Scheveningseweg 82 (P.O. Box 29720)
 2502 LS The Hague
 The Netherlands

Telephone No.

+31-70-352 75 00

Facsimile No.

+31-70-352 75 28

Telephone No.

Agent's registration No. with the Office

☐ Address for correspondence: Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.

Box No. IV BASIS FOR INTERNATIONAL PRELIMINARY EXAMINATION**Statement concerning amendments:***

1. The applicant wishes the international preliminary examination to start on the basis of:
 - ☒ the international application as originally filed
 - the description ☐ as originally filed
☐ as amended under Article 34
 - the claims ☐ as originally filed
☐ as amended under Article 19 (together with any accompanying statement)
☐ as amended under Article 34
 - the drawings ☐ as originally filed
☐ as amended under Article 34
 2. ☐ The applicant wishes any amendment to the claims under Article 19 to be considered as reversed.
 3. ☐ The applicant wishes the start of the international preliminary examination to be postponed until the expiration of 20 months from the priority date unless the International Preliminary Examining Authority receives a copy of any amendments made under Article 19 or a notice from the applicant that he does not wish to make such amendments (Rule 69.1(d)). (This check-box may be marked only where the time limit under Article 19 has not yet expired.)
- * Where no check-box is marked, international preliminary examination will start on the basis of the international application as originally filed or, where a copy of amendments to the claims under Article 19 and/or amendments of the international application under Article 34 are received by the International Preliminary Examining Authority before it has begun to draw up a written opinion or the international preliminary examination report, as so amended.

Language for the purposes of international preliminary examination:

- ☐ which is the language in which the international application was filed.
- ☐ which is the language of a translation furnished for the purposes of international search.
- ☐ which is the language of publication of the international application.
- ☐ which is the language of the translation (to be) furnished for the purposes of international preliminary examination.

Box No. V ELECTION OF STATES

The applicant hereby elects all eligible States (that is, all States which have been designated and which are bound by Chapter II of the PCT)

excluding the following States which the applicant wishes not to elect:

Box No. VI CHECK LIST

The demand is accompanied by the following elements, in the language referred to in Box No. IV, for the purposes of international preliminary examination:

- | | | |
|--|---|--------|
| 1. translation of international application | : | sheets |
| 2. amendments under Article 34 | : | sheets |
| 3. copy (or, where required, translation) of amendments under Article 19 | : | sheets |
| 4. copy (or, where required, translation) of statement under Article 19 | : | sheets |
| 5. letter | : | sheets |
| 6. other (specify) | : | sheets |

For International Preliminary
Examining Authority use only

received not received

☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐

The demand is also accompanied by the item(s) marked below:

- | | |
|--|--|
| 1. ☒ fee calculation sheet | 5. ☐ statement explaining lack of signature |
| 2. ☐ original separate power of attorney | 6. ☐ sequence listing in computer readable form |
| 3. ☐ original general power of attorney | 7. ☐ other (specify): |
| 4. ☐ copy of general power of attorney; reference number, if any: | |

Box No. VII SIGNATURE OF APPLICANT, AGENT OR COMMON REPRESENTATIVE

Next to each signature, indicate the name of the person signing and the capacity in which the person signs (if such capacity is not obvious from reading the demand).


Nederlandsche Octrooibureau

R. Jorritsma

For International Preliminary Examining Authority use only

1. Date of actual receipt of DEMAND:

2. Adjusted date of receipt of demand due to CORRECTIONS under Rule 60.1(b):

3. ☐ The date of receipt of the demand is AFTER the expiration of 19 months from the priority date and item 4 or 5 below, does not apply.

☐ The applicant has been informed accordingly.

4. ☐ The date of receipt of the demand is WITHIN the period of 19 months from the priority date as extended by virtue of Rule 80.5.

5. ☐ Although the date of receipt of the demand is after the expiration of 19 months from the priority date, the delay in arrival is EXCUSED pursuant to Rule 82.

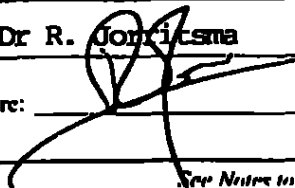
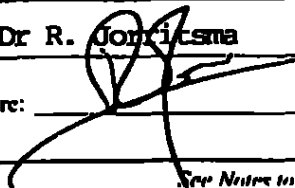
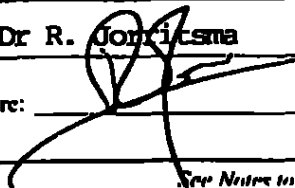
For International Bureau use only

Demand received from IPEA on:

PCT

FEE CALCULATION SHEET

Annex to the Demand

<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 50%; padding: 2px;">International application No. PCT/NL01/00423</td><td style="width: 50%; padding: 2px;">For International Preliminary Examining Authority use only</td></tr><tr><td style="padding: 2px;">Applicant's or agent's file reference BO 43466 Bot</td><td style="padding: 2px;">Date stamp of the IPEA</td></tr></table>	International application No. PCT/NL01/00423	For International Preliminary Examining Authority use only	Applicant's or agent's file reference BO 43466 Bot	Date stamp of the IPEA																					
International application No. PCT/NL01/00423	For International Preliminary Examining Authority use only																								
Applicant's or agent's file reference BO 43466 Bot	Date stamp of the IPEA																								
Applicant Heineken Technical Services B.V.																									
CALCULATION OF PRESCRIBED FEES <table style="width: 100%;"><tr><td style="width: 50%;">1. Preliminary examination fee</td><td style="width: 20%; text-align: center;">EUR 1533</td><td style="width: 10%; text-align: center;">P</td><td style="width: 20%;"></td></tr><tr><td colspan="4"> </td></tr><tr><td>2. Handling fee (<i>Applicants from certain States are entitled to a reduction of 75% of the handling fee. Where the applicant is (or all applicants are) so entitled, the amount to be entered at H is 25% of the handling fee.</i>)</td><td style="text-align: center;">EUR 148</td><td style="text-align: center;">H</td><td></td></tr><tr><td colspan="4"> </td></tr><tr><td>3. Total of prescribed fees Add the amounts entered at P and H and enter total in the TOTAL box</td><td style="text-align: center;">EUR 1681</td><td></td><td></td></tr><tr><td></td><td style="text-align: center;">TOTAL</td><td></td><td></td></tr></table>		1. Preliminary examination fee	EUR 1533	P						2. Handling fee (<i>Applicants from certain States are entitled to a reduction of 75% of the handling fee. Where the applicant is (or all applicants are) so entitled, the amount to be entered at H is 25% of the handling fee.</i>)	EUR 148	H						3. Total of prescribed fees Add the amounts entered at P and H and enter total in the TOTAL box	EUR 1681				TOTAL		
1. Preliminary examination fee	EUR 1533	P																							
2. Handling fee (<i>Applicants from certain States are entitled to a reduction of 75% of the handling fee. Where the applicant is (or all applicants are) so entitled, the amount to be entered at H is 25% of the handling fee.</i>)	EUR 148	H																							
3. Total of prescribed fees Add the amounts entered at P and H and enter total in the TOTAL box	EUR 1681																								
	TOTAL																								
MODE OF PAYMENT <table style="width: 100%;"><tr><td>☒ authorization to charge deposit account with the IPEA (see below)</td><td>☐ cash</td></tr><tr><td>☐ cheque</td><td>☐ revenue stamps</td></tr><tr><td>☐ postal money order</td><td>☐ coupons</td></tr><tr><td>☐ bank draft</td><td>☐ other (specify):</td></tr></table>		☒ authorization to charge deposit account with the IPEA (see below)	☐ cash	☐ cheque	☐ revenue stamps	☐ postal money order	☐ coupons	☐ bank draft	☐ other (specify):																
☒ authorization to charge deposit account with the IPEA (see below)	☐ cash																								
☐ cheque	☐ revenue stamps																								
☐ postal money order	☐ coupons																								
☐ bank draft	☐ other (specify):																								
AUTHORIZATION TO CHARGE (OR CREDIT) DEPOSIT ACCOUNT <i>(This mode of payment may not be available at all IPEAs)</i> <table style="width: 100%;"><tr><td style="width: 50%; vertical-align: top;">☒ Authorization to charge the total fees indicated above. ☒ <i>(This check-box may be marked only if the conditions for deposit accounts of the IPEA so permit)</i> Authorization to charge any deficiency or credit any overpayment in the total fees indicated above.</td><td style="width: 50%; vertical-align: top;"> IPEA/ <u>EP</u> Deposit Account No.: <u>28 09 0001</u> Date: <u>28 December 2001</u> Name: <u>Dr R. Jorritsma</u> Signature:  </td></tr></table>		☒ Authorization to charge the total fees indicated above. ☒ <i>(This check-box may be marked only if the conditions for deposit accounts of the IPEA so permit)</i> Authorization to charge any deficiency or credit any overpayment in the total fees indicated above.	IPEA/ <u>EP</u> Deposit Account No.: <u>28 09 0001</u> Date: <u>28 December 2001</u> Name: <u>Dr R. Jorritsma</u> Signature: 																						
☒ Authorization to charge the total fees indicated above. ☒ <i>(This check-box may be marked only if the conditions for deposit accounts of the IPEA so permit)</i> Authorization to charge any deficiency or credit any overpayment in the total fees indicated above.	IPEA/ <u>EP</u> Deposit Account No.: <u>28 09 0001</u> Date: <u>28 December 2001</u> Name: <u>Dr R. Jorritsma</u> Signature: 																								

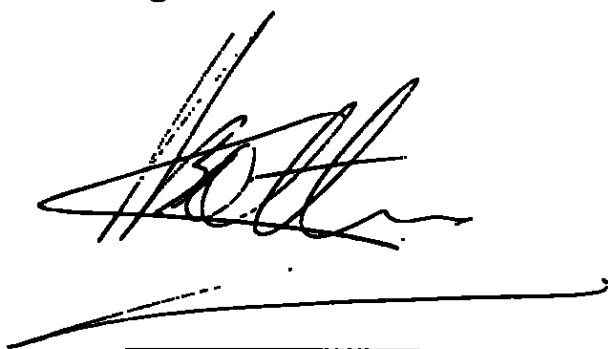
DECLARATION OF ENGLISH TRANSLATION OF PRIORITY DOCUMENT

I, BOTTEMA, Hans J. of The Hague

do hereby certify that I am conversant with the English and Dutch languages and am a competent translator thereof, and I further certify that to the best of my knowledge and belief the following is a true and correct translation made by me of the document in the Dutch language filed for a patent application in the Netherlands under No. 1015368 on 31 May 2000 in the name of Heineken Technical Services B.V. at Zoeterwoude, Netherlands entitled:

"Drink dispenser assembly and container for drink, in particular carbonated drink, and drink dispensing line for use in such an assembly".

Signed this 06 november 2002

A handwritten signature in black ink, appearing to read 'H. Bottema', is written over a horizontal line. The signature is stylized with a large initial 'H' and a long horizontal stroke at the end.

Drink dispenser assembly and container for drink, in particular carbonated drink, and drink dispensing line for use in such an assembly

The invention relates to a drink dispenser assembly comprising: a dispenser device
5 provided with a dispensing head for accommodating a dispensing line, and a container containing drink, in particular carbonated drink, connected during use to the dispensing line which has a coupling element at an outlet end for connection to the dispensing head.

A drink dispenser assembly of this type is disclosed in PCT/NL 99/00454. The known dispenser device comprises a chill chamber in which a pack containing carbonated
10 drink, such as beer, can be placed. The pack containing carbonated drink comprises an outer container made of plastic and an inner, flexible bag with the carbonated drink therein. The flexible bag is connected via a filling and dispensing head to the neck of the outer container. The dispensing head is provided with a first, relatively broad fill channel to which a filling head of a fill line can be connected in order to fill the flexible bag. After
15 filling and removing the filling head from the fill line, the fill channel of the filling and dispensing head is closed by a spring-loaded valve. A second, relatively narrow dispensing channel of the filling and dispensing head is connected to a flexible hose that extends at right angles to the longitudinal direction of the container. Before the container is placed in the chill chamber of the drink dispenser device, the dispensing channel is also closed by a
20 spring-loaded valve. A plastic outlet component at right angles that is provided with a plate displaying a make is fixed to the end of the flexible hose, which outlet component can be placed in a receiver component in the dispensing head of the drink dispenser device. The dispensing head comprises two hingeable parts, which delimit a feed-through channel for the flexible hose, and a shut-off valve connected to a tap handle. The shut-off valve
25 comprises a spring-loaded clamping mechanism that by operation of the tap handle is able to squeeze shut the flexible hose in the feed-through channel and is able to release it.

After the flexible hose has been placed in the feed-through channel the dispensing head is closed and the tap handle is placed in the closed position. A cover on the dispenser device can then be closed and pressure means, such as a compressor, can be connected to
30 the container to feed a pressure medium into the space between the wall of the outer container and the flexible bag. On closing the cover of the chill chamber in the dispenser device, the dispensing channel of the filling and dispensing head is opened, so that the contents of the flexible bag are driven into the flexible hose. The flexible hose is released

by opening the tap handle and assumes its free, undeformed cross-section and the carbonated drink is dispensed from the dispensing head under pressure. The known dispenser device is also provided with a cooler, such as a Peltier element, for cooling the drink.

5 The known device has the disadvantage that controlled dispensing through the flexible hose is possible to only a limited extent and that dispensing is dependent on the flexible characteristics of the hose. If the drink is carbonated drink, such as beer, this can lead to undesired frothing.

10 If the tap handle is not closed when the container containing drink is placed in the dispenser device, undesired dispensing of drink can take place with the known dispenser device. Furthermore, drink will also be able to leak from the dispensing line when the empty container is removed from the dispenser device. The dispensing head and other components of the dispensing device can be soiled as a result. Consequently the known device has to be cleaned relatively frequently. Moreover, as a result of the contamination
15 the life of the drink can be shortened.

Finally, after dispensing a quantity of drink, after closing the tap handle drink can still leak for a prolonged period from that part of the flexible hose that is located downstream of the shut-off valve.

20 One aim of the invention is to provide a drink dispenser assembly, as well as a container and a dispensing line of the abovementioned type, with which these problems are solved.

A further aim of the invention is to provide a drink dispenser assembly that requires very little maintenance, requires little cleaning and provides a hygienic environment with a relatively long life for the drink.

25 To this end the drink dispenser assembly according to the invention is characterised in that the coupling element comprises a shut-off valve that can be closed when placing the outlet end of the dispensing line into the dispensing head and, respectively, removing the outlet end of the dispensing line from the dispensing head.

30 Because the coupling element of the dispensing line, which can be placed in an unambiguous position in the dispensing head, is provided with a shut-off valve, controlled dispensing of the drink can be obtained. Especially if the drink is carbonated drink, such as beer, undesired frothing can be counteracted by this means. Furthermore, in contrast to the known flexible dispensing line, the flow characteristics through the dispensing line

according to the invention can be adjusted by sizing the dimensions and the stroke of the shut-off valve. Tap feel, the flow rate and the type of jet of drink can be accurately adjusted by this means.

5 The drink dispenser device, the container and the dispensing line according to the present invention are suitable for dispensing all types of drink, but are particularly suitable for dispensing carbonated drink, such as beer. In the illustrative embodiments given below reference is made to carbonated drinks by way of example.

10 Furthermore, the shut-off valve can be closed when placing the pack containing carbonated drink in the dispenser device, so that leakage of carbonated drink is prevented even if the tap handle is in the open position. The shut-off valve is closed when the empty or partially empty pack is removed from the dispenser device and leakage of drink, present in the flexible dispensing line, from the dispensing line is prevented. As a result a favourable microbiological environment is maintained and the need for frequent cleaning of the dispenser device decreases. Finally, as a result of the use of the shut-off valve in the
15 dispensing line a relatively simple filling and dispensing head can suffice for the container containing carbonated drink, which filling and dispensing head is provided with a dispensing channel with a simple closure, for example a breakable seal that is opened after placing the pack in the dispenser device and can no longer be resealed.

The dispensing line can be of rigid construction, but can also be telescopic or at least
20 partially of flexible construction. The latter is preferred since this facilitates the positioning of the shut-off valve in the dispensing head. It is preferable to make the dispensing line of flexible plastic so that this constitutes a disposable or semi-disposable line that is thrown away after it has been used once or a number of times.

The dispensing line can be permanently connected to the container containing
25 carbonated drink, but can also be provided with a coupling for detachable connection to the container.

The shut-off valve can be a normally closed shut-off valve, such as a slit valve in the flexible hose, that can be opened by compression by the tap handle, a separate plastic shut-off valve with a closed equilibrium position, a spring-loaded (ball) valve or an
30 electromagnetic valve. The shut-off valve can, however, also comprise a tap or valve known per se and can be provided with an operating element by means of which it can be opened and closed by a user after it has been placed in the dispensing head.

Preferably, however, the shut-off valve is not provided with an operating element for

the user, but the dispensing head comprises an operating element, joined to the handle or knob, by means of which the shut-off valve can be detachably connected, so that the shut-off valve itself can have small dimensions. This has the advantage that the shut-off valve is not only of lightweight construction and has a small number of components, so that it can easily be made as a disposable item for once-only use, but that it can also easily be accommodated, stored and transported in the pack, it being possible, for example, to accommodate the dispensing line in the coiled state on top of or beneath the base of the pack containing carbonated drink.

Furthermore, as a result of the relatively small dimensions of the shut-off valve, which preferably has a cylindrical cross-section which is not much larger than the external diameter of the dispensing line, said shut-off valve can easily be fed through an - optionally cooled - guide tube of a drink dispenser device of a type that is described in Patent Application number ### bearing the title "Tap device and container therefor, as well as method for the production thereof", which was filed on 31 May 2000 in the name of the Applicant. In such a dispenser assembly with guide tube, the compartment for accommodating the pack containing carbonated drink comprises a refrigerator located beneath a bar, the flexible dispensing line extending from the refrigerator to the pump, which carries the dispensing head. When connecting a new pack and associated dispensing line, which in this case can have a length of 1 metre or more, the shut-off valve at the end of the flexible dispensing line can easily be pushed through the guide tube to the dispensing head.

The operating element of the dispensing head can comprise a fork in which the shut-off valve can be fitted. The shut-off valve is provided with coupling means, for example in the form of a flange or a groove, which can be detachably connected to the fork.

In one embodiment the shut-off valve comprises a first sleeve and a second sleeve, which is concentric with respect to the first sleeve, which first sleeve is provided with an inlet to an upstream part of the dispensing line and an outlet, the second sleeve being provided with an inlet which interacts with the outlet of the first sleeve and with an outlet, coupling means being arranged on one of the sleeves which can be moved by the coupling means between a flow position, in which the outlet of the first sleeve is in fluid communication with the inlet of the second sleeve, and a shut-off position in which the outlet of the first sleeve is closed off by the second sleeve.

The dispensing line is opened and closed by relative rotation, translation, or a

combination thereof, of the sleeves by the operating element of the shut-off valve. A simple shut-off valve that is reliable in operation comprises sleeves that can be moved with respect to one another in the direction of the dispensing line. With such an "in line" shut-off valve the pressure of the carbonated drink can provide an additional closing force, a simple operating element can be used in the dispensing head for an accurately adjustable stroke, which can easily be adjusted for a tap handle, and the size of the shut-off valve can remain small.

By using a "can" shut-off valve that can be opened and closed in the axial direction of the dispensing line, which shut-off valve is pushed into its closed position by the pressure of the carbonated drink, a simple, compact shut-off valve that is reliable in operation is formed which is suitable for once-only use and which can easily be fitted in the dispensing head and can easily be removed therefrom.

The dispensing head can have a base section into which the shut-off valve can be placed. The shut-off valve can be provided with a protective cap which interacts with the base section, such that the shut-off valve is enclosed between the base section and the protective cap and is not accessible to the user during use.

The dispensing head is preferably divided into two halves which are hingeable with respect to one another and which delimit a feed-through channel in which the dispensing line can be placed.

Preferably, the hingeable halves are provided with a locking mechanism that can be released only when the shut-off valve is closed.

The outlet end of the dispensing line that is located downstream of the shut-off valve can consist of a relatively rigid plastic section with a peripheral groove or flange which interacts with a complementary flange or groove in the dispensing head for accurate positioning of the end of the dispensing line. If a cooling medium is fed through the dispensing head, as described in Patent Application no. ##### filed on 31 May 2000 in the name of the Applicant, the dispensing head is closed off by the dispensing line such that it is at least partially fluid-tight at the point where the dispensing line emerges from the dispensing head.

The outlet end of the dispensing line can be provided with a plate with, for example, the tradename of the drink thereon. This plate can be fitted in a chamber in the dispensing head, which chamber is provided with a window through which the plate is visible to the user. By this means the content of the pack containing carbonated drink that has been

placed in the dispenser device can easily be established.

Finally, in one embodiment the shut-off valve is provided with a vent which is closed when the shut-off valve is open and which connects the outlet end of the shut-off valve to the environment when the shut-off valve is closed. By this means, a vacuum arising after
5 dispensing drink and then closing the shut-off valve is released and all drink downstream of the closed shut-off valve will be dispensed rapidly from the outlet end of the dispensing line without significant subsequent dripping.

A few embodiments of a drink dispenser assembly according to the invention will be explained in more detail with reference to the appended, non-limiting drawing, in which:

10 Fig. 1 shows a diagrammatic cross-section of a first embodiment of a drink dispenser assembly according to the invention, suitable in particular for use by the consumer at home,

Fig. 2 shows a diagrammatic cross-section of a second embodiment of a drink dispenser assembly according to the invention, suitable in particular for use in catering establishments,

15 Figs 3, 4 and 5 show, respectively, a longitudinal section, a cross-section and an exploded view of a dispensing head and dispensing line of the drink dispenser assembly according to Fig. 2,

Figs 6a and 6b show a longitudinal section of, respectively, the outlet end of the dispensing line and of the shut-off valve in the closed position,

20 Figs 7a and 7b show a longitudinal section of, respectively, the outlet end of the dispensing line and of the shut-off valve in the flow position,

Figs 8a - 8d show longitudinal sections of a number of alternative embodiments of the shut-off valve according to the invention, and

25 Fig. 9 and Fig. 10 show a perspective view and a cross-section of the outlet end of the dispensing line and of the dispensing head of the drink dispenser assembly according to Fig. 1 in, respectively, the disassembled state and the assembled state.

Figure 1 shows a drink dispenser assembly 1 provided with dispenser device 2 with a chill chamber 3 that can be closed off by means of a cover 4. A pack 5 containing carbonated drink is placed in the chill chamber 3. In the embodiments described below the
30 carbonated drink is beer that is contained in a flexible bag 6 of the pack 5 under an excess pressure of between 0 and 3 bar, for example 1 to 1.5 bar (the equilibrium pressure of CO₂ above beer). The pack can, however, also contain other carbonated drinks, such as non-alcoholic drinks, under pressures which in general are between 0 and 5 bar excess pressure.

The flexible bag 6 is accommodated in an outer, rigid container 7 of the pack 5 and close to a neck is fixed to a flat lip 9 of a filling and dispensing head 10 so as to provide a seal. The filling and dispensing head 10 has an air channel 11 that can be connected to a pressure line 12 in the cover 4, which pressure line is connected to a compressor 13.

5 Instead of a compressor it is also possible to use a different pressure medium, such as a pre-compressed gas, for example compressed air or pressurised CO₂ that is supplied from a separate cylinder. On closing the cover 4, a spring-loaded valve 14 of the filling and dispensing head 10 is moved downwards so that an outlet 15 is exposed and an air channel in the head 10 to the space 16 between the flexible bag 6 and the rigid container 7 is

10 opened, which air channel is in communication with the pressure line 12.

A flexible dispensing line 17 is connected to the filling and dispensing head 10 and when the pack 5 is placed in the chill chamber 3 is connected to a dispensing head 18. The dispensing line 17 has a shut-off valve 19 close to an outlet end, which shut-off valve 19 is removably fitted in the dispensing head 18 and is in a normally closed position. When the

15 pack 5 is placed in the dispenser device 2 and the cover 3 is closed, as a result of which the compressor 13 is activated, the shut-off valve 19 is closed and, as a consequence of the pressure built up in the gap 16 by the compressor 13, the beer is driven out of the flexible bag into the flexible line 17, against the shut-off valve 19. By operating a handle 20, the shut-off valve 19, which is an integral part of the dispensing line 17, can be opened and the

20 beer can be tapped from the bag 6. When the pack 5 has been emptied, or if another drink pack is placed in the dispenser device when the pack is still partly full, the container 7 and the flexible dispensing line 17 with the closed shut-off valve 19, which are connected thereto, are removed from the chill chamber 3. The container 7 of the empty pack 5, which, for example, can be made of plastic such as PET or ABS, can be re-used, whilst the

25 flexible bag 6, the filling and dispensing head 10 and the flexible line 17 with the shut-off valve 19 can have been made for once-only use and thrown away or recycled after use. For further details of the drink dispenser device 2 reference is made to International Patent Application PCT/NL 99/00454 in the name of the Applicant, the contents of which are incorporated herein by reference.

30 Fig. 2 shows an embodiment of a drink dispenser device 25 that is suitable in particular for use in catering establishments. The dispenser device 25 comprises a chill compartment, or refrigerator, 26 with a container 27 containing a carbonated drink therein. The container 27 can comprise a double-walled pack with a rigid outer casing with a

flexible bag therein, as shown in Fig. 1, but can also comprise a metal container, such as a stainless steel beer keg known per se. The capacity of the container 27 can vary from a few litres up to 50 litres or more. A compressor or CO₂ cartridge 36 is connected to the container 27. Furthermore, instead of a compressor or CO₂ cartridge, a cartridge containing carbon and CO₂ can be placed in the container 27 to generate the desired pressure, as described in International Patent Application PCT/NL/99/00144. The container 27 is connected via a flexible plastic dispensing line 28 to a dispensing head 29. The dispensing head 29 is part of a beerpull 30 that is fixed to the counter of a bar 31. A shut-off valve 32 according to the present invention is fitted on the outlet end of the flexible line 28, which shut-off valve 32 can be opened and closed by means of handle 33 at the end of the beerpull 30.

A cooling element, that is not indicated in more detail, is accommodated inside the refrigerator 26, which cooling element cools the air in the refrigerator down to, for example, 5 °C - 10 °C. By means of a fan 34, warm air from the hollow beerpull 30 is drawn back into the refrigerator 26. Via a guide tube 35, in which the flexible dispensing line 28 is accommodated and which opens into the dispensing head 29, cold air is fed from the refrigerator 26 through the guide tube 35 over the dispensing line 28 as a result of the vacuum thus produced in the dispensing head 29. The drink is cooled to, for example, 8 °C by this means. The device described above is described in more detail in Netherlands Patent Application no. ##### filed on 31 May 2000 in the name of the Applicant and entitled "Tap device and container therefor, as well as method for the production thereof".

Figure 3 shows a longitudinal section of the dispensing head 29 according to Fig. 2. The handle 33 is joined to the housing 43 such that it can rotate about a shaft 40 and engages via a spring 57 and projection 57' on operating element 45 for opening and closing the shut-off valve 32. The free stroke of the handle 33 can be adjusted by positioning projection 57' with respect to the control element 45. In the position shown in Fig. 3 the projection 57' engages directly on the operating element 45, so that the shut-off valve 32 is opened and closed by a small movement of the handle 33. Exchanging the projection 57' for a projection 57' located further to the right compared with the projection in Fig. 3 will allow the handle 33 to make a greater free stroke before engaging on the operating element 45. By this means, complete opening and closing of shut-off valve 32 can be obtained with a large stroke, such as 90°, of the handle 33. The stroke of the handle 33 can be adjusted between the relatively small stroke (for example 10°) as shown in Fig. 3, and a relatively

large stroke, such as 90°, by simply changing the projection 57'.

By means of the spring 57 a certain movement of the handle 33 is possible without this leading to movement of the operating element 45 and the play is eliminated from the rotation of the handle about shaft 40.

5 An outlet end 41 of the flexible dispensing line 28, which is guided along a curved path by the dispensing head 29, is enclosed in the seat 42 of the dispensing head. The outlet end 41, made of rigid plastic, is provided with a peripheral groove 52 into which a rim 53 of the seat 42 of the dispensing head 29 drops to provide rigid enclosure of the outlet end 41.

10 The dispensing head 29 comprises a fixed lower section of the housing 43 to which a cover 44 is hingeably joined between a closed position and an open position, in which the outlet end 41 and the shut-off valve 32 of the line 28 can be placed in the dispensing head 29.

15 The operating element 45 comprises an essentially horizontal arm 46 that is joined by a first end to a pin 48 such that it can pivot. The flexible dispensing line 28 is placed via a guide 49, attached to the top of the operating element 45, in a curved path in contact with a curved end 46' of the operating element 45.

20 Coupling means of the shut-off valve 32, which, for example, are formed by a flange 51 on a slideable sleeve 61, are connected to a coupling element at the end of the curved end 46' of the arm 46. The coupling element can suitably be constructed as a fork 63 which engages behind the flange 51 of the shut-off valve 32.

25 Fig. 4 shows the shaft 40 fixed to the handle 33 for moving the operating element 45. The shaft 40 is provided at one end with a spring pawl 47 which has a tooth 38' running at right angles to the shaft 40 at its end. The hingeable cover 44 of the dispensing head 29 has a complementary tooth 38 which engages with the tooth of the spring pawl 47. When the handle 33 is in the upright position, in which the shut-off valve 32 is closed, a releasing cam 39, which likewise is connected to the shaft 40, is positioned such that spring pawl 47 can be depressed, the tooth 38' dropping into the accommodating cavity in the releasing cam 39. This position is shown in Fig. 4, so that when shut-off valve 32 is closed and
30 handle 33 is in the upright position the cover 44 of the lower section of the housing 43 can be released and is able to hinge open about hinge pin 60.

As can be seen from Fig. 5, the shank 51' of handle 33 is accommodated within a recess in the wall of two concentric annular sleeves 55, 56. By rotation of the sleeve 56

about its axis with respect to the sleeve 55, or by completely omitting sleeve 56, it is possible to adjust the stroke of the handle 33 between, for example, 90° and 10° by, respectively, allowing the openings in the walls of the rings 55, 56 to be in line or moving them into a mutually offset position.

5 A stop 58 has been formed on the top of the operating element 45, against which stop the shut-off valve 32 comes into contact, on introducing the dispensing line 28 into the dispensing head 29 via the guide tube 35 shown in Fig. 2, and pushing the shut-off valve 32 through too far to beyond the dispensing head 29 is prevented.

10 Furthermore, Fig. 5 shows a spring element 51" that is connected to the cover 44 in order to move the cover into the upright position on operating the spring pawl 47 and unlocking the cover 44.

It can clearly be seen from Fig. 5 that the end 46' of the operating element 45 is in the shape of a curved saddle that guides the flexible line 28 without kinking or sharp bends from a horizontal into an essentially vertical position, which saddle terminates in a fork 63
15 into which the flange 51 of the internal sleeve 61 of the shut-off valve 32 can be placed. A separate clamping spring 62 is fitted as a separate component in the seat 42 in order to position the shut-off valve 32 such that it is clamped with respect to the seat 42 when the cover is open, so that the cover 44 can be closed. With this arrangement the rim 53 on the seat 42 and the peripheral groove 52 of the outlet end 41 form a relatively air-tight closure,
20 as a result of which drawing in of air past the outlet end 41 into the cooled beerpull 30 is counteracted.

The closed shut-off valve 32 prevents beer from leaking into the guide tube 35 when introducing and when withdrawing the dispensing line 28, which as a result of its rigidity is able to push the shut-off valve 32 and the outlet end 41 through the guide tube 35. After all,
25 the inner sleeve 61 is placed in its extended position when introducing shut-off valve 32 into the fork 63 or removing it from the fork 63, so that the shut-off valve 32 is closed. As a result of the use of the dispensing head 29 in cooperation with the flexible dispensing hose 28 which is provided with shut-off valve 32 close to the outlet end 41 rapid and easy positioning of the dispensing line 28 can take place so that an empty vessel of carbonated
30 drink can easily be replaced by a full vessel. Because the entire dispensing line 28 is also replaced during this operation, frequent cleaning of the dispensing line is no longer required, which has the effect of saving a great deal of time and costs, especially when tapping beer.

Fig. 6a shows the plastic outlet end 41 of the flexible dispensing hose 28, provided with the shut-off valve 32 according to the present invention. As can be seen from Fig. 6b, the outlet end 41 comprises an external sleeve 70 in which an interior closing projection 71 is accommodated. The closing projection 71 is provided with lateral passageways 72 through which the carbonated drink is able to pass from an upstream channel section 73 of the shut-off valve to a downstream outlet section 74. An internal sleeve 75, to which the flexible dispensing line 28 is welded, is accommodated in the outer sleeve 70 such that it is slideable around the projection 71. The outlet 73' of the inner sleeve 75 has a sealing wall 76 with a height corresponding to the height of the projection 71.

In the position shown in Fig. 6b the sealing wall 76 of the outlet 73' of the inner sleeve 75 is in contact with the projection 71 such that a seal is produced. In the shut-off position shown in Fig. 6b openings 77 in the wall of the intermediate sleeve 78, which carries the projection 71, are exposed so that the downstream outlet channel 74 is vented via the openings 77 around the top rim of the outer sleeve 70 (see the arrows indicated diagrammatically) so that a vacuum is not able to build up in the outlet channel 74. When a shut-off valve 32 is closed, such a vacuum gives rise to long-term after-leakage of the carbonated drink from the outlet channel 74, which is undesirable. This is prevented by the vent openings 77 according to the invention. In the position shown, the sealing effect of the sleeve 75 is increased by the pressure of the carbonated drink, which presses the sleeve 75 into the closed position.

A sealing cap 80 with a rounded point is fitted on the outlet end 41 to prevent the shut-off valve 32 becoming soiled when inserting the dispensing line 28 into the dispensing head 29 and to achieve smoother guiding of the shut-off valve 32 through the guide tube 35. The protective cap 80 is removed from the outlet end 41 before the outlet end 41 is placed in the seat 42.

Figs 7a and 7b show the shut-off valve 32 in its open position, an end face 81 of the internal sleeve 75 being in contact with a bottom face of intermediate sleeve 78. In the position shown, the upstream channel section 73 is in fluid communication with the downstream outlet channel 74 of the shut-off valve 32. Because the front end of the sealing wall 76 of the internal sleeve 75 is in contact with the intermediate sleeve 78 such that a seal is produced, carbonated drink is prevented from being able to pass to the vent openings 77 when the shut-off valve 32 is in the open position. The height of the sealing wall 76 is sized such that the vent openings 77 are completely shut off at the point in time

when part of the wall 76 is still in contact with the projection 71 and therefore no beer is yet able to issue through the outlet 72.

5 The internal sleeve 75 is provided at its end with a flange 79 that can be accommodated in the fork 63 of the operating element 45. With this arrangement the external sleeve 70 is firmly clamped in the dispensing head via the peripheral groove 52 and the play for axial movement of the internal sleeve 75 by means of the flange 79 is provided by the flexible nature of the line 28 which is able to give sufficiently to make a stroke of a few millimetres, such as approximately 4 millimetres, by the internal sleeve 75 possible.

10 Figs 8a to 8d show various alternatives of the shut-off valve 32 according to the present invention, the same reference numerals as in Figures 6 and 7 being used for identical components.

Fig. 8a shows an embodiment in which the outlet 72 is located in a central constriction in the external sleeve 70. The internal sleeve 75, with the flexible line 28 fixed thereto, is placed inside the external sleeve such that it can be moved and has a sealing projection 71 at its end, which sealing projection 71 can be placed into sealing contact inside the outlet 72 by drawing back the internal sleeve 75.

Fig. 8b shows an embodiment with which the external sleeve 70 is provided with a sealing projection 71 and with an outlet 72, around which projection an outlet 73' in the internal sleeve 75 can be positioned to produce a seal. With this arrangement the wall of the outlet 73' engages, such that a seal is produced, on the projection 71 that is arranged in the external sleeve 70 in a fixed position and the outlet 72 is closed off by a side wall section of the inner sleeve 75.

Fig. 8c shows an embodiment with which a projection 71 is arranged on the inside of the external sleeve 70, around which projection 71 side wall sections of the internal sleeve 75 are located which extend beyond the projection 71 in the downstream direction. The front wall sections can be positioned around the projection 71 to produce a seal by drawing back the internal sleeve.

Fig. 8d shows an embodiment which is the mechanical reverse of the embodiment according to Fig. 8b, sealing projection 71 being arranged on the internal sleeve 75 and a stationary outlet 72, which can be closed off by the projection 71, being made in the external sleeve 70.

Embodiments with which the internal sleeve 75 and the external sleeve 70 are

provided with inlets and outlets that can be positioned such that they close off one another or in a flow position by turning relative to one another are also possible.

Figs 9 and 10 show an embodiment of a dispensing head 90 and dispensing line 101 for use in a dispenser device as shown in Fig. 1. The dispensing head 90 comprises base section 91 with the handle 93 fixed thereto. The base section 91 is provided with a bore 96 and a receptacle tube 92 for receiving a right-angle outlet end 103 of the flexible dispensing line 101. The base section 91 is also provided with a receptacle component 97 for accommodating the flexible dispensing line 101 and the shut-off valve 102 and with a control element or guide 98 that can be slid along the receptacle component 97 in the axial direction and is connected to the handle 93 for operating the shut-off valve 102 of the dispensing line 101. The guide 98 can be constructed in the same way as the fork 63 that is shown in Fig. 5 and engages on the flange 105 of the inner sleeve 107 of the shut-off valve 102 in Fig. 10.

The dispensing head 90 is furthermore provided with a top section 95 that is joined to base section 91 such that it can be hinged about a hinge pin 96'. The top section 95 comprises a chamber 99 for accommodating a plate 104 at the end of dispensing line 101. The plate 104 of a dispensing line 101 fitted in the dispensing head 90 is visible via an opening or window 100, so that the contents of the drink dispenser device can be established. The window 100 can have a curved and thus magnifying shape.

Fig. 10 shows the assembled dispensing head and the disassembled flexible dispensing line 101 with, at the end, a shut-off valve 102 of the type shown in Figures 6a to 8d. The shut-off valve 102 is connected to the outlet end 103 that is at right angles to the shut-off valve 102 and is fitted in the bore 96 of the dispensing head 90. Furthermore, the plate 104 at the outlet end 103 is provided with visual symbols in order to be able to establish the type of carbonated drink when the plate 104 is fitted in the chamber 99 of the dispensing head. By this means an accurately defined position of the outlet end 106 is guaranteed after the top section 95 has been hinged shut, so that favourable tapping characteristics are obtained.

Fig. 11 shows a preferred embodiment of a beverage dispensing system with a cooling chamber 110 and a beverage container 112 situated within the cooling chamber. In the lid 111 of the cooling chamber an air valve 114 is located which is connected to an air inlet at the top of the container 112. The air valve 114 in the lid 111 is connected to a compressor to provide pressurization of the contents of the container 112 such as beer,

which is comprised in a flexible and compressible bag. By introducing air between the wall of the container 112 and the bag, beer can be dispensed from central tube 120 through flexible tube 113 via dispensing valve 115 and out through the outflow nozzle 116. Once the lid 111 is closed, the air valve 114 is connected to the container 112 and closing valve 130 is pressed in a downward direction such that the tube 120 is open and a free flow of pressurized beverage through tube 120 and flexible tube 113 is achieved. In the closed position of the cooling chamber 110, such as shown in Fig. 11, the user can dispense the contents from the container 112 through the outflow nozzle 116 by operating the handle 119. Rotation of handle 119 will cause cam surface 122 connected to the rotational axis of handle 119 to displace carrier 124 against the spring force of biasing spring 125.

Fig. 12 shows the handle 119 and the operating mechanism connected thereto for opening and closing of the valve 115 in detail. Clearly, rotation of the handle 119 to open the valve 115 will first meet resistance from the projection 127 against the cam surface. After overcoming a "dead point", the projection 127 can easily slide along the curved trajectory towards the downward position, so that the handle 119 can be easily placed into the horizontal position as shown in Fig. 13. A firm grip is felt by the user by the force exerted by spring 125. At the end position, shown in Fig. 13, the projection 127 falls into a hollow part 128 of the cam surface such that a firm stop of the tap handle in the open position is achieved. Upon rotation of the handle 119 from the horizontal position shown in Fig. 13 back into the vertical position shown in Fig. 12, the spring force of spring 125 acts to quickly and with relatively little effort flip back the handle 119 and cause a sudden cut-off of beer flow, hence preventing dripping and foaming. The projection 126 on cam 122 will arrest the handle 119 into its properly defined right position.

Claims

- 5 1. Drink dispenser assembly (1, 25) comprising: a dispenser device (2, 37) provided with a dispensing head (18, 29) for accommodating a dispensing line (17, 28), and a container (7, 27) containing drink, in particular carbonated drink, connected during use to the dispensing line (17, 28) which has a coupling element at an outlet end for connection to the dispensing head (18, 29), characterised in that the coupling element comprises a shut-off valve (19, 32) that can be closed when placing the outlet end of the dispensing line (17, 28) into the dispensing head (18, 29) and, respectively, removing the outlet end of the dispensing line (17, 28) from the dispensing head (18, 29).
- 10 2. Drink dispenser assembly (1, 25) according to Claim 1, characterised in that the dispensing line (17, 28) is at least partially flexible.
- 15 3. Drink dispenser assembly (1, 25) according to Claim 1 or 2, wherein the dispensing head (18, 29) is provided with a knob or handle (20, 33), characterised in that the dispensing head (18, 29) has an operating element (45, 98) which is connected to the knob or handle and by means of which the shut-off valve (19, 32, 102) can be detachably connected, for opening and closing the shut-off valve by moving the knob or handle (20, 33).
- 20 4. Drink dispenser assembly (1, 25) according to Claim 3, characterised in that the shut-off valve (19, 32) is provided with coupling means (51, 79, 105) for detachable connection to the operating element (45, 98).
- 25 5. Drink dispenser assembly (1, 25) according to one of the preceding claims, characterised in that the shut-off valve (32) comprises a first sleeve (75) and a second sleeve (70), which is concentric with respect to the first sleeve (75), which first sleeve is provided with an inlet (73) to an upstream part of the dispensing line (28) and an outlet (73'), the second sleeve (70) being provided with an inlet (72) which interacts with the outlet (73') of the first sleeve (75) and with an outlet (74), coupling means (79) being
- 30

arranged on one of the sleeves (75) which can be moved by the coupling means between a flow position, in which the outlet (73') of the first sleeve (75) is in fluid communication with the inlet (72) of the second sleeve (70), and a shut-off position in which the outlet (73') of the first sleeve (75) is closed off by the second sleeve (70).

5

6. Drink dispenser assembly (1, 25) according to Claim 5, characterised in that one of the sleeves (70) has an interior projection (71), the sleeves (70, 75) being movable by the operating element (46, 98) with respect to one another in order to bring the projection (71) into sealing engagement on the inlet or outlet (73') of the other sleeve (75).

10

7. Drink dispenser assembly (1, 25) according to Claim 5 or 6, characterised in that the coupling means comprise a flange (50, 79, 105) or a peripheral groove, the operating element (45, 98) comprising an accommodating component (63) that is connected to the knob or handle (20, 33) and can be moved in the axial direction of the sleeves (70, 75), for engagement on the flange (50, 79, 105) or on the peripheral groove.

15

8. Drink dispenser assembly (1, 25) according to Claim 7, characterised in that the accommodating component (63) has an open cavity on one side in which the inner or the outer sleeve (70, 75) can be enclosed.

20

9. Drink dispenser assembly (1, 25) according to one of Claims 4 to 8, with reference to Claim 3, characterised in that the dispensing head (29, 90) has a base section (43, 91), that is connected to the knob or handle (33, 93) and to the operating element (45, 98), and a second section (44, 95) provided with an accommodating cavity, which second section (44, 95) is movably connected to the base section (43, 91), between an open position, in which the operating element (45, 98) is released to connect the shut-off valve (19, 32) to the operating element (45, 98), and a closed position, in which the shut-off valve (45, 98) is at least partially located within the accommodating cavity of the second section (44, 95).

25

10. Drink dispenser assembly (1, 25) according to Claim 9, characterised in that the dispensing head (29) is provided with locking means (39, 47) which are able to release the second section (44) only when the shut-off valve (32) has been placed in a closed position.

30

11. Drink dispenser assembly (1, 25) according to Claim 9 or 10, characterised in that the second section (44) can be moved about a hinge pin (60, 94) that is located transversely to the longitudinal direction of the dispensing line (28), or parallel thereto.
- 5 12. Drink dispenser assembly (1, 25) according to one of the preceding claims, characterised in that the dispensing line (28) is provided with an outlet section (41, 103) located downstream of the shut-off valve (19, 32).
- 10 13. Drink dispenser assembly (1, 25), characterised in that the outlet section (103) is at right angles to the dispensing line (28).
- 15 14. Drink dispenser assembly (1, 25) according to Claim 12 or 13, characterised in that the outlet end (41, 103) is provided with an external peripheral groove (52) or ridge that can be connected to a complementary ridge (53) or cavity on/in the interior of an outlet (42) of the dispensing head (18, 29).
- 20 15. Drink dispenser assembly (1, 25) according to one of the preceding claims, characterised in that the outlet end (103) of the dispensing line (101) is provided with a plate (104), the dispensing head (90) being provided with a chamber (99) for accommodating the plate and with a window (100), located parallel to the plate (101), for displaying at least part of the plate.
- 25 16. Drink dispenser assembly (1, 25) according to one of the preceding claims, characterised in that the operating element (45) comprises a guide with an essentially horizontal arm (46), a first end (47) of which can be moved about a pivot pin (48), a curved arm (46') having a fork (63) at one end for coupling to the shut-off valve (19, 32) being located at a second end of the arm (46), which end is located some distance away from the pivot pin, and transversely thereto.
- 30 17. Drink dispenser assembly (1, 25) according to Claim 16, characterised in that the operating element (45) comprises a positioning element (49) beneath which the dispensing line (28) can be fitted for guiding the dispensing line along the curved arm (46').

18. Drink dispenser assembly (1, 25) according to one of the preceding claims, characterised in that the dispenser device is provided with pressure means (13, 36), which can be connected to the container (7, 27), for feeding a pressure medium to the container (7, 27), and with cooling means (34) for cooling a container (7, 27) placed in the
5 compartment (3, 26).

19. Drink dispenser assembly (1, 25) according to one of the preceding claims, characterised in that the shut-off valve (14, 32) is provided with a vent (77) which is in fluid communication with an outlet (74) of the shut-off valve (19, 32) when the shut-off
10 valve is in the closed position.

20. Drink dispenser assembly (1, 25) according to Claim 1 or 2, characterised in that the shut-off valve is electromagnetic, the dispensing head being provided with an electromagnetic operating element.
15

21. Drink dispenser device (2, 37) comprising a dispensing head (18, 29) with a handle or knob (20, 33) and an operating element (45, 98) connected to the handle or knob, characterised in that the operating element (45, 98) comprises an accommodating component (63) for detachably connecting to a shut-off valve (19, 32) that is connected to a
20 dispensing line of a container for drink, preferably carbonated drink, which accommodating component can be moved by operation of the handle or knob in order to open and close the shut-off valve.

22. Drink dispenser device (2, 37) according to Claim 21, characterised in that the accommodating component (63) can be moved in an accommodating channel for the
25 dispensing line, in the longitudinal direction of the accommodating channel.

23. Drink dispenser device (2, 37) according to Claim 22, characterised in that the accommodating component (63) comprises an accommodating cavity open on one side.
30

24. Drink dispenser device (2, 37) according to Claim 21 or 22, characterised in that the operating element (45) comprises a guide with an essentially horizontal arm (46) that can be moved by a first end (47) about a pivot pin (48), a curved arm (46') with a fork (63) at

one end being located at a second end of the arm, which second end is located some distance away from the pivot pin, and transversely thereto.

25. Drink dispenser device (2, 37) according to one of Claims 21 to 24, characterised in
5 that the dispensing head (29, 90) has a base section (43, 91), that is connected to the handle or knob (33, 93) and to the operating element (45, 98), and a second section (44, 95) provided with an accommodating cavity, which second section is movably connected to the base section, between an open position, in which the operating element (45, 98) is released to connect the shut-off valve to the operating element, and a closed position, in which the
10 shut-off valve (19, 32) is at least partially located within the accommodating cavity.

26. Drink dispenser device (2, 37) according to Claim 25, characterised in that the dispensing head (29) is provided with locking means (39, 47) which are able to release the second section (44) only when the shut-off valve (19, 32) has been placed in a closed
15 position.

27. Drink dispenser device (2, 37) according to Claim 25 or 26, characterised in that the second section (44, 95) can be moved about a hinge pin (60, 96') that is located transversely to the longitudinal direction of the dispensing line, or parallel thereto.
20

28. Drink dispenser device (2, 37) according to one of Claims 21 to 27, characterised in that the dispensing head is provided with a chamber (99) for accommodating a plate (101) and with a window (100), located parallel to the plate, for displaying at least part of the plate.
25

29. Drink dispenser device (2, 37) according to Claim 24, characterised in that the operating element (45) comprises a positioning element (49) beneath which the dispensing line (28) can be fitted for guiding the dispensing line along the curved arm (46').

30. Drink dispenser device (2, 37) according to one of Claims 21 to 29, characterised in that the device comprises a compartment (3, 26), provided with cooling means (34), for accommodating a container (7, 27), as well as pressure means (13, 36) for feeding a pressure medium to a container placed in the compartment.

31. Drink dispenser device (2, 37) according to one of Claims 21 to 30, characterised in that the dispensing head (18, 29) is provided with an electromagnetic operating element.

5 32. Container (7, 27) provided with a drink, in particular carbonated drink, having a dispensing line (17, 28) which is connected to or can be connected to the container and has a coupling element close to one end for connection to a dispensing head of a drink dispenser device, characterised in that the coupling element comprises a shut-off valve (19, 32) which can be closed when placing the end of the dispensing line (28) into the
10 dispensing head (18, 29) and, respectively, removing the end of the dispensing line (28) from the dispensing head (18, 29).

33. Container (7, 27) according to Claim 32, provided with a relatively rigid outer jacket (7) and an interior flexible bag (6) containing the carbonated drink, which bag is connected
15 to a first shut-off element (10) that comprises a connecting element that is connected to the dispensing line (17, 28) that is at least partially of flexible construction.

34. Container (7, 27) according to Claim 33, wherein the outer jacket (7) is provided with a connection opening for connection to pressure means (13, 36) for feeding a pressure
20 medium to the space (76) between the flexible bag (6) and the outer jacket (7).

35. Container (7, 27) according to Claim 32, 33 or 34, characterised in that the shut-off valve (19, 32) comprises a first sleeve (75) and a second sleeve (70), which is concentric with respect to the first sleeve, which first sleeve is provided with an inlet (73) to an
25 upstream part of the dispensing line (28) and an outlet (73'), the second sleeve (70) being provided with an inlet (72) which interacts with the outlet (73') of the first sleeve (75) and with an outlet (74), coupling means (79) being arranged on one of the sleeves (75) which can be moved by the coupling means between a flow position, in which the outlet (73') of the first sleeve (75) is in fluid communication with the inlet (72) of the second sleeve (70),
30 and a shut-off position in which the outlet (73') of the first sleeve (75) is closed off by the second sleeve (70).

36. Container (7, 27) according to Claim 35, characterised in that the coupling means

comprise a flange (79) or a peripheral groove for engagement on an operating element (45, 98) of the drink dispenser device that comprises an accommodating component (63) that is connected to a knob or handle (20, 33) and can be moved in the axial direction of the sleeves (70, 75), for engagement on the flange (79) or on the peripheral groove.

5

37. Container (7, 27) according to one of Claims 32 to 35, characterised in that the shut-off valve (19, 32) is provided with a vent (77) which is in fluid communication with an outlet (74) of the shut-off valve (19, 32) when the shut-off valve is in the closed position.

10 38. Container (7, 27) according to one of Claims 32 to 37, characterised in that the shut-off valve is electromagnetic, the dispensing head being provided with an electromagnetic operating element.

15 39. Container (7, 27) according to Claim 35, characterised in that the coupling means comprise a flange (51, 79) or a peripheral groove on one of the sleeves (70, 75).

40. Container (7, 27) according to one of Claims 32 to 39, characterised in that the dispensing line (17, 28) is provided at the outlet end with a relatively rigid tube section (41) with the shut-off valve (19, 32) connected thereto.

20

41. Container (7, 27) according to Claim 40, with reference to Claim 35 or 36, characterised in that the tube section forms the outer sleeve (70) of the shut-off valve (19, 32).

25 42. Container (7, 27) according to Claim 40 or 41, characterised in that the tube section (41) is provided with a ridge or groove (52) on an outer surface.

43. Container (7, 27) according to Claim 40, 41 or 42, characterised in that a plate (104) is attached to the outlet end of the dispensing line.

30

44. Dispensing line (17, 28, 101) for use in a container according to one of Claims 32 to 43, provided with a shut-off valve (19, 32) with coupling means (51, 79) for detachable connection to an operating element of a dispensing head.

45. Dispensing line (17, 28, 101) according to Claim 44, characterised in that the dispensing line is at least partially flexible.

5 46. Dispensing line (17, 28, 101) according to Claim 44 or 45, characterised in that the shut-off valve (19, 32) comprises a first sleeve (75) and a second sleeve (70), which is concentric with respect to the first sleeve, which first sleeve is provided with an inlet (73) to an upstream part of the dispensing line (28) and an outlet (73'), the second sleeve (70) being provided with an inlet (72) which interacts with the outlet (73') of the first sleeve
10 (75) and with an outlet (74), coupling means (79) being arranged on one of the sleeves (75) which can be moved by the coupling means between a flow position, in which the outlet (73') of the first sleeve (75) is in fluid communication with the inlet (72) of the second sleeve (70), and a shut-off position in which the outlet (73') of the first sleeve (75) is closed off by the second sleeve (70).

15

47. Dispensing line (17, 28, 101) according to Claim 46, characterised in that one of the sleeves (70) has an interior projection (71) and can be moved axially with respect to the other sleeve (75) by means of the operating element in order to engage on the inlet or outlet (73') of the other sleeve so as to provide a seal.

20

48. Dispensing line (17, 28, 101) according to Claim 44, 45, 46 or 47, characterised in that the shut-off valve (19, 32) is provided with a vent (77) which is in fluid communication with an outlet (74) of the shut-off valve (19, 32) when the shut-off valve is in the closed position.

25

49. Dispensing line (17, 28, 101) according to one of Claims 44 to 48, characterised in that the shut-off valve (19, 32) is provided with coupling means (51, 79) for connection to the dispensing head.

30

50. Dispensing line (17, 28, 101) according to one of Claims 44 to 49, characterised in that the dispensing line is provided at the outlet end with a relatively rigid tube section with the shut-off valve (19, 32) connected thereto.

51. Dispensing line (17, 28, 101) according to Claim 50, with reference to Claim 46 or 47, characterised in that the tube section (41) forms the outer sleeve (70) of the shut-off valve (19, 32).
- 5 52. Dispensing line (17, 28, 101) according to Claim 50 or 51, characterised in that the tube section (41) is provided with a ridge or groove (52) on an outer surface.

Abstract

The invention relates to a drink dispenser assembly (1, 25) comprising: a dispenser device (2, 37) provided with a dispensing head (18, 29) for accommodating a dispensing
5 line (17, 28), and a container (7, 27) containing drink, in particular carbonated drink, connected during use to the dispensing line (17, 28) which has a coupling element at an outlet end for connection to the dispensing head (18, 29). The drink dispenser assembly is characterised in that the coupling element comprises a shut-off valve (19, 32) that can be
10 closed when placing the outlet end of the dispensing line (17, 28) into the dispensing head (18, 29) and, respectively, removing the outlet end of the dispensing line (17, 28) from the dispensing head (18, 29).

Fig. 1

PATENT COOPERATION TREATY

34

From the RECEIVING OFFICE

To: Mr. R. Jorritsma
NEDERLANDSCH OCTROOIBUREAU
Scheveningsweg 82
2517 KZ Den Haag

PCT

NOTIFICATION OF THE INTERNATIONAL
APPLICATION NUMBER AND OF THE
INTERNATIONAL FILING DATE

(PCT Rule 20.5(c))

Date of mailing (day/month/year)

07 June 2001 (07.06.01)

Applicant's or agent's file reference

BO 43466

IMPORTANT NOTIFICATION

International application No.

PCT/NL01/00423

International filing date (day/month/year)

31 May 2001 (31.05.01)

Priority date (day/month/year)

31 May 2000 (31.05.00)

Applicant

Heineken Technical Services B.V. et al

Title of the invention

Drink dispenser assembly and container for drink, in particular carbonated drink, and drink dispensing line for use in such an assembly

1. The applicant is hereby notified that the international application has been accorded the international application number and the international filing date indicated above.

2. The applicant is further notified that the record copy of the international application:

☒ was transmitted to the International Bureau on 08 June 2001 (08.06.01)

☐ has not yet been transmitted to the International Bureau for the reason indicated below and a copy of this notification has been sent to the International Bureau *:

☐ because the necessary national security clearance has not yet been obtained.

☐ because (reason to be specified):

* The international Bureau monitors the transmittal of the record copy by the receiving Office and will notify the applicant (with Form PCT/IB/301) of its receipt. Should the record copy not have been received by the expiration of 14 months from the priority date, the International Bureau will notify the applicant (Rule 22.1(c))

Name and mailing address of the receiving Office

Bureau voor de Industriële Eigendom
P.O. Box 5820
2280 HV Rijswijk
The Netherlands

Facsimile No. +31703986507

Authorized officer

A. Visser

Telephone No. +31703986471

PCT

REQUEST

The undersigned requests that the present international application be processed according to the Patent Cooperation Treaty.

For receiving Office use only

35

International Application No.

International Filing Date

Name of receiving Office and "PCT International Application"

Applicant's or agent's file reference
(if desired) (12 characters maximum) BO 43466

Box No. I TITLE OF INVENTION

Drink dispenser assembly and container for drink, in particular carbonated drink, and drink dispensing line for use in such an assembly

Box No. II APPLICANT

☐ This person is also inventor

Name and address: (Family name followed by given names; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence (if no State of residence is indicated below.)

Heineken Technical Services B.V.
P.O. Box 510
NL-2380 BB ZOETERWOUDE
The Netherlands

Telephone No.

Facsimile No.

Teleprinter No.

Applicant's registration No. with the Office

State (that is, country) of nationality:
The Netherlands (NL)State (that is, country) of residence:
The Netherlands (NL)This person is applicant
for the purposes of:☐ all designated
States☒ all designated States except
the United States of America☐ the United States
of America only☐ the States indicated in
the Supplemental Box

Box No. III FURTHER APPLICANT(S) AND/OR (FURTHER) INVENTOR(S)

Name and address: (Family name followed by given names; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence (if no State of residence is indicated below.)

VAN DER KLAUW, Guido Petrus Johannes
Elzenhof 28
NL-2382 EV ZOETERWOUDE
The Netherlands

This person is:

☐ applicant only☒ applicant and inventor☐ inventor only (if this check-box
is marked, do not fill in below.)

Applicant's registration No. with the Office

State (that is, country) of nationality:
The Netherlands (NL)State (that is, country) of residence:
The Netherlands (NL)This person is applicant
for the purposes of:☐ all designated
States☐ all designated States except
the United States of America☒ the United States
of America only☐ the States indicated in
the Supplemental Box☐ Further applicants and/or (further) inventors are indicated on a continuation sheet.

Box No. IV AGENT OR COMMON REPRESENTATIVE; OR ADDRESS FOR CORRESPONDENCE

The person identified below is hereby/has been appointed to act on behalf
of the applicant(s) before the competent International Authorities as:

☒ agent☐ common
representative

Name and address: (Family name followed by given names; for a legal entity, full official designation. The address must include postal code and name of country.)

JORRITSMA, Ruurd et al
Nederlandsch Octrooibureau
Scheveningseweg 82, P.O. Box 29720
NL-2502 LS THE HAGUE
THE NETHERLANDS

Telephone No.

(0031) 70 3527500

Facsimile No.

(0031) 70 3527528

Teleprinter No.

Agent's registration No. with the Office

☐ Address for correspondence: Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.

Continuation of Box No. III FURTHER APPLICANT(S) AND/OR (FURTHER) INVENTOR(S) <i>If none of the following sub-boxes is used, this sheet should not be included in the request.</i>	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this box is the applicant's State (that is, country) of residence (if no State of residence is indicated below.) BAX, Bart Jan Molenstraat 11a NL-2513 BH DEN HAAG The Netherlands	This person is: ☐ applicant only ☒ applicant and inventor ☐ inventor only (if this check-box is marked, do not fill in below.) Applicant's registration No. with the Office
State (that is, country) of nationality: The Netherlands (NL)	State (that is, country) of residence: The Netherlands (NL)
This person is applicant for the purposes of: ☐ all designated States ☐ all designated States except the United States of America ☒ the United States of America only ☐ the States indicated in the Supplemental Box	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this box is the applicant's State (that is, country) of residence (if no State of residence is indicated below.) VAN DUUREN, Marius Corstiaan Limes 80 NL-3176 TE POORTUGAAL The Netherlands	This person is: ☐ applicant only ☒ applicant and inventor ☐ inventor only (if this check-box is marked, do not fill in below.) Applicant's registration No. with the Office
State (that is, country) of nationality: The Netherlands (NL)	State (that is, country) of residence: The Netherlands (NL)
This person is applicant for the purposes of: ☐ all designated States ☐ all designated States except the United States of America ☒ the United States of America only ☐ the States indicated in the Supplemental Box	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this box is the applicant's State (that is, country) of residence (if no State of residence is indicated below.) 	This person is: ☐ applicant only ☐ applicant and inventor ☐ inventor only (if this check-box is marked, do not fill in below.) Applicant's registration No. with the Office
State (that is, country) of nationality: 	State (that is, country) of residence:
This person is applicant for the purposes of: ☐ all designated States ☐ all designated States except the United States of America ☐ the United States of America only ☐ the States indicated in the Supplemental Box	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this box is the applicant's State (that is, country) of residence (if no State of residence is indicated below.) 	This person is: ☐ applicant only ☐ applicant and inventor ☐ inventor only (if this check-box is marked, do not fill in below.) Applicant's registration No. with the Office
State (that is, country) of nationality: 	State (that is, country) of residence:
This person is applicant for the purposes of: ☐ all designated States ☐ all designated States except the United States of America ☐ the United States of America only ☐ the States indicated in the Supplemental Box	
☐ Further applicants and/or (further) inventors are indicated on another continuation sheet.	

Box No. V DESIGNATION OF STATES

Mark the applicable check-boxes below; at least one must be marked.

The following designations are hereby made under Rule 4.9(a):

Regional Patent

- ☐ **AP** ARIPO Patent: GH Ghana, GM Gambia, KE Kenya, LS Lesotho, MW Malawi, MZ Mozambique, SD Sudan, SL Sierra Leone, SZ Swaziland, TZ United Republic of Tanzania, UG Uganda, ZW Zimbabwe, and any other State which is a Contracting State of the Harare Protocol and of the PCT
- ☐ **EA** Eurasian Patent: AM Armenia, AZ Azerbaijan, BY Belarus, KG Kyrgyzstan, KZ Kazakhstan, MD Republic of Moldova, RU Russian Federation, TJ Tajikistan, TM Turkmenistan, and any other State which is a Contracting State of the Eurasian Patent Convention and of the PCT
- ☐ **EP** European Patent: AT Austria, BE Belgium, CH & LI Switzerland and Liechtenstein, CY Cyprus, DE Germany, DK Denmark, ES Spain, FI Finland, FR France, GB United Kingdom, GR Greece, IE Ireland, IT Italy, LU Luxembourg, MC Monaco, NL Netherlands, PT Portugal, SE Sweden, TR Turkey, and any other State which is a Contracting State of the European Patent Convention and of the PCT
- ☐ **OA** OAPI Patent: BF Burkina Faso, BJ Benin, CF Central African Republic, CG Congo, CI Côte d'Ivoire, CM Cameroon, GA Gabon, GN Guinea, GW Guinea-Bissau, ML Mali, MR Mauritania, NE Niger, SN Senegal, TD Chad, TG Togo, and any other State which is a member State of OAPI and a Contracting State of the PCT (if other kind of protection or treatment desired, specify on dotted line)

National Patent (if other kind of protection or treatment desired, specify on dotted line):

- | | | |
|--|---|---|
| ☐ AE United Arab Emirates | ☐ GE Georgia | ☐ MW Malawi |
| ☐ AG Antigua and Barbuda | ☐ GH Ghana | ☐ MX Mexico |
| ☐ AL Albania | ☐ GM Gambia | ☐ MZ Mozambique |
| ☐ AM Armenia | ☐ HR Croatia | ☐ NO Norway |
| ☐ AT Austria | ☐ HU Hungary | ☐ NZ New Zealand |
| ☐ AU Australia | ☐ ID Indonesia | ☐ PL Poland |
| ☐ AZ Azerbaijan | ☐ IL Israel | ☐ PT Portugal |
| ☐ BA Bosnia and Herzegovina | ☐ IN India | ☐ RO Romania |
| | ☐ IS Iceland | ☐ RU Russian Federation |
| ☐ BB Barbados | ☐ JP Japan | |
| ☐ BG Bulgaria | ☐ KE Kenya | ☐ SD Sudan |
| ☐ BR Brazil | ☐ KG Kyrgyzstan | ☐ SE Sweden |
| ☐ BY Belarus | ☐ KP Democratic People's Republic of Korea | ☐ SG Singapore |
| ☐ BZ Belize | ☐ KR Republic of Korea | ☐ SI Slovenia |
| ☐ CA Canada | ☐ KZ Kazakhstan | ☐ SK Slovakia |
| ☐ CH & LI Switzerland and Liechtenstein | ☐ LC Saint Lucia | ☐ SL Sierra Leone |
| ☐ CN China | ☐ LK Sri Lanka | ☐ TJ Tajikistan |
| ☐ CO Colombia | ☐ LR Liberia | ☐ TM Turkmenistan |
| ☐ CR Costa Rica | ☐ LS Lesotho | ☐ TR Turkey |
| ☐ CU Cuba | ☐ LT Lithuania | ☐ TT Trinidad and Tobago |
| ☐ CZ Czech Republic | ☐ LU Luxembourg | |
| ☐ DE Germany | ☐ LV Latvia | ☐ TZ United Republic of Tanzania |
| ☐ DK Denmark | ☐ MA Morocco | ☐ UA Ukraine |
| ☐ DM Dominica | ☐ MD Republic of Moldova | ☐ UG Uganda |
| ☐ DZ Algeria | | ☐ US United States of America |
| ☐ EE Estonia | ☐ MG Madagascar | ☐ UZ Uzbekistan |
| ☐ ES Spain | ☐ MK The former Yugoslav Republic of Macedonia | ☐ VN Viet Nam |
| ☐ FI Finland | ☐ MN Mongolia | ☐ YU Yugoslavia |
| ☐ GB United Kingdom | | ☐ ZA South Africa |
| ☐ GD Grenada | | ☐ ZW Zimbabwe |

Check-boxes below reserved for designating States which have become party to the PCT after issuance of this sheet:

- | | | |
|--|--------------------------|--------------------------|
| ☐ EC... Ecuador | ☐ | ☐ |
| ☐ | ☐ | ☐ |

Precautionary Designation Statement: In addition to the designations made above, the applicant also makes under Rule 4.9(b) all other designations which would be permitted under the PCT except any designation(s) indicated in the Supplemental Box as being excluded from the scope of this statement. The applicant declares that those additional designations are subject to confirmation and that any designation which is not confirmed before the expiration of 15 months from the priority date is to be regarded as withdrawn by the applicant at the expiration of that time limit. (Confirmation (including fees) must reach the receiving Office within the 15-month time limit.)

Box No. VI PRIORITY CLAIM				
The priority of the following earlier application(s) is hereby claimed:				
Filing date of earlier application (day/month/year)	Number of earlier application	Where earlier application is:		
		national application: country	regional application* regional Office	international application: receiving Office
item (1) 31.05.2000	1015368	The Netherlands		
item (2)				
item (3)				
item (4)				
item (5)				
☐ Further priority claims are indicated in the Supplemental Box.				
The receiving Office is requested to prepare and transmit to the International Bureau a certified copy of the earlier application(s) (only if the earlier application was filed with the Office which for the purposes of this international application is the receiving Office) identified above as:				
☐ all items ☒ item (1) ☐ item (2) ☐ item (3) ☐ item (4) ☐ item (5) ☐ other, see Supplemental Box				
* Where the earlier application is an ARIPO application, indicate at least one country party to the Paris Convention for the Protection of Industrial Property or one Member of the World Trade Organization for which that earlier application was filed (Rule 4.10(b)(ii)):				
.....				
Box No. VII INTERNATIONAL SEARCHING AUTHORITY				
Choice of International Searching Authority (ISA) (if two or more International Searching Authorities are competent to carry out the international search, indicate the Authority chosen; the two-letter code may be used):				
ISA / .EPO.....				
Request to use results of earlier search; reference to that search (if an earlier search has been carried out by or requested from the International Searching Authority):				
Date (day/month/year)	Number	Country (or regional Office)		
24.11.2000	SN 35520 NL	The Netherlands		
Box No. VIII DECLARATIONS				
The following declarations are contained in Boxes Nos. VIII (i) to (v) (mark the applicable check-boxes below and indicate in the right column the number of each type of declaration):				Number of declarations
☐ Box No. VIII (i)	Declaration as to the identity of the inventor			:
☐ Box No. VIII (ii)	Declaration as to the applicant's entitlement, as at the international filing date, to apply for and be granted a patent			:
☐ Box No. VIII (iii)	Declaration as to the applicant's entitlement, as at the international filing date, to claim the priority of the earlier application			:
☐ Box No. VIII (iv)	Declaration of inventorship (only for the purpose of the designation of the United States of America)			:
☐ Box No. VIII (v)	Declaration as to non-prejudicial disclosures or exceptions to lack of novelty			:

Box No. IX CHECK LIST; LANGUAGE OF FILING

This international application contains:

(a) the following number of sheets in paper form:

request (including declaration sheet) : 5
description (excluding sequence listing part) : 14
claims : 9
abstract : 1
drawings : 11

Sub-total number of sheets : 40

sequence listing part of description (actual number of sheets if filed in paper form, whether or not also filed in computer readable form; see (b) below) :

Total number of sheets : 40

(b) sequence listing part of description filed in computer readable form

(i) ☐ only (under Section 801(a)(1))

(ii) ☐ in addition to being filed in paper form (under Section 801(a)(1))

Type and number of carriers (diskette, CD-ROM, CD-R or other) on which the sequence listing part is contained (additional copies to be indicated under item 9(i), in right column):

This international application is accompanied by the following item(s) (mark the applicable check-boxes below and indicate in right column the number of each item):

1. ☒ fee calculation sheet : 1
2. ☐ original separate power of attorney :
3. ☐ original general power of attorney :
4. ☐ copy of general power of attorney, reference number, if any: :
5. ☐ statement explaining lack of signature :
6. ☐ priority document(s) identified in Box No. VI as item(s): :
7. ☐ translation of international application into (language): :
8. ☐ separate indications concerning deposited microorganism or other biological material :
9. ☐ sequence listing in computer readable form (indicate also type and number of carriers (diskette, CD-ROM, CD-R or other)) :
(i) ☐ copy submitted for the purposes of international search under Rule 13ter only (and not as part of the international application) :
(ii) ☐ (only where check-box (b)(i) or (b)(ii) is marked in left column) additional copies including, where applicable, the copy for the purposes of international search under Rule 13ter :
(iii) ☐ together with relevant statement as to the identity of the copy or copies with the sequence listing part mentioned in left column :
10. ☒ other (specify): copy search report : 1

Figure of the drawings which should accompany the abstract: 1

Language of filing of the international application: English

Box No. X SIGNATURE OF APPLICANT, AGENT OR COMMON REPRESENTATIVE

Next to each signature, indicate the name of the person signing and the capacity in which the person signs (if such capacity is not obvious from reading the request).

JORRITSMA, Ruurd

Nederlandsch Octrooibureau, The Hague 31 May 2001

For receiving Office use only		2. Drawings: ☐ received: ☐ not received:
1. Date of actual receipt of the purported international application:		
3. Corrected date of actual receipt due to later but timely received papers or drawings completing the purported international application:		
4. Date of timely receipt of the required corrections under PCT Article 11(2):		
5. International Searching Authority (if two or more are competent): ISA /	6. ☐ Transmittal of search copy delayed until search fee is paid	

For International Bureau use only	
Date of receipt of the record copy by the International Bureau:	

PCT

FEE CALCULATION SHEET

Annex to the Request

For receiving Office use only

International Application No.

Date stamp of the receiving Office

Applicant's or agent's
file reference

BO 43466

Applicant

Heineken Technical Services B.V.

CALCULATION OF PRESCRIBED FEES

1. TRANSMITTAL FEE	110	T
2. SEARCH FEE	2082	S
International search to be carried out by <u>EPO</u> (If two or more International Searching Authorities are competent to carry out the international search, indicate the name of the Authority which is chosen to carry out the international search.)		
3. INTERNATIONAL FEE		
Basic Fee		
Where item (b) of Box No. IX applies, enter Sub-total number of sheets } 40 Where item (b) of Box No. IX does not apply, enter Total number of sheets }		
b1 first 30 sheets	901	b1
b2 $\frac{10}{\text{number of sheets in excess of 30}} \times \frac{19}{\text{fee per sheet}}$	190	b2
b3 additional component (only if sequence listing part of description is filed in computer readable form under Section 801(a)(ii), or both in that form and on paper, under Section 801(a)(iii): $400 \times \frac{\text{fee per sheet}}{\text{number of designation fees payable (maximum 4)}}$		
Add amounts entered at b1, b2 and b3 and enter total at B	1091	B
Designation Fee		
The international application contains <u>all</u> designations.		
$\frac{6}{\text{number of designation fees payable (maximum 4)}} \times \frac{193}{\text{amount of designation fee}}$	1158	D
Add amounts entered at B and D and enter total at I	2249	I
(Applicants from certain States are entitled to a reduction of 75% of the international fee. Where the applicant is (for all applications are) as entitled, the total to be entered at I is 25% of the sum of the amounts entered at B and D.)		
4. FEE FOR PRIORITY DOCUMENT (if applicable)		P
5. TOTAL FEES PAYABLE	4441	
Add amounts entered at T, S, I and P, and enter total in the TOTAL box	TOTAL	

☐ The designation fees are not paid at this time.

MODE OF PAYMENT

- ☒ authorization to charge deposit account (see below) ☐ postal money order ☐ cash ☐ coupons
☐ cheque ☐ bank draft ☐ revenue stamps ☐ other (specify):

AUTHORIZATION TO CHARGE (OR CREDIT) DEPOSIT ACCOUNT

(This mode of payment may not be available at all receiving Offices)

- ☒ Authorization to charge the total fees indicated above.
☒ (This check-box may be marked only if the conditions for deposit accounts of the receiving Office are permitted) Authorization to charge any deficiency or credit any overpayment in the total fees indicated above.
☒ Authorization to charge the fee for priority document.

Receiving Office: RO/ NL
Deposit Account No.: 1530
Date: 31 May 2001
Name: BOT, David Simon Maria
Signature: [Signature]

PATENT COOPERATION TREATY

From the INTERNATIONAL BUREAU

PCT

NOTIFICATION OF RECEIPT OF
RECORD COPY(PCT Rule 24.3b)
Nederlandsch Octrooibureau
Nederl.

INGEK. 13 JUL 2001

Parent: Bawerken

To:

JORRITSMA, Ruurd
Nederlandsch Octrooibureau
Scheveningsweg 82
P.O. Box 29720
NL-2502 LS The Hague
PAYS-BAS

Date of mailing (day/month/year) 04 July 2001 (04.07.01)	IMPORTANT NOTIFICATION
Applicant's or agent's file reference BO 43466	International application No. PCT/NL01/00423

The applicant is hereby notified that the International Bureau has received the record copy of the international application as detailed below.

Name(s) of the applicant(s) and State(s) for which they are applicants:

HEINEKEN TECHNICAL SERVICES B.V. (for all designated States except US)

VAN DER KLAUW, Guido, Petrus, Johannes et al (for US)

International filing date : 31 May 2001 (31.05.01)

Priority date(s) claimed : 31 May 2000 (31.05.00)

Date of receipt of the record copy
by the International Bureau : 25 June 2001 (25.06.01)

List of designated Offices :

AP : GH,GM,KE,LS,MW,MZ,SD,SL,SZ,TZ,UG,ZW

EA : AM,AZ,BY,KG,KZ,MD,RU,TJ,TM

EP : AT,BE,CH,CY,DE,DK,ES,FI,FR,GB,GR,IE,IT,LU,MC,NL,PT,SE,TR

OA : BF,BJ,CF,CG,CI,CM,GA,GN,GW,ML,MR,NE,SN,TD,TG

National : AE,AG,AL,AM,AT,AU,AZ,BA,BB,BG,BR,BY,BZ,CA,CH,CN,CO,CR,CU,CZ,DE,DK,DM,DZ,

EC,EE,ES,FI,GB,GD,GE,GH,GM,HR,HU,ID,IL,IN,IS,JP,KE,KG,KP,KR,KZ,LC,LK,LR,LS,LT,LU,

LV,MA,MD,MG,MK,MN,MW,MX,MZ,NO,NZ,PL,PT,RO,RU,SD,SE,SG,SI,SK,SL,TJ,TM,TR,TT,TZ,UA,

UG,US,UZ,VN,YU,ZA,ZW

ATTENTION

The applicant should carefully check the data appearing in this Notification. In case of any discrepancy between these data and the indications in the international application, the applicant should immediately inform the International Bureau.

In addition, the applicant's attention is drawn to the information contained in the Annex, relating to:

- ☒ time limits for entry into the national phase
- ☐ confirmation of precautionary designations
- ☒ requirements regarding priority documents

A copy of this Notification is being sent to the receiving Office and to the International Searching Authority.

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. (41-22) 740.14.35	Authorized officer: I. Britel Telephone No. (41-22) 338.83.38
--	---

INFORMATION ON TIME LIMITS FOR ENTERING THE NATIONAL PHASE

The applicant is reminded that the "national phase" must be entered before each of the designated Offices indicated in the Notification of Receipt of Record Copy (Form PCT/IB/301) by paying national fees and furnishing translations, as prescribed by the applicable national laws.

The time limit for performing these procedural acts is 20 MONTHS from the priority date or, for those designated States which the applicant elects in a demand for international preliminary examination or in a later election, 30 MONTHS from the priority date, provided that the election is made before the expiration of 19 months from the priority date. Some designated (or elected) Offices have fixed time limits which expire even later than 20 or 30 months from the priority date. In other Offices an extension of time or grace period, in some cases upon payment of an additional fee, is available.

In addition to these procedural acts, the applicant may also have to comply with other special requirements applicable in certain Offices. It is the applicant's responsibility to ensure that the necessary steps to enter the national phase are taken in a timely fashion. Most designated Offices do not issue reminders to applicants in connection with the entry into the national phase.

For detailed information about the procedural acts to be performed to enter the national phase before each designated Office, the applicable time limits and possible extensions of time or grace periods, and any other requirements, see the relevant Chapters of Volume II of the PCT Applicant's Guide. Information about the requirements for filing a demand for international preliminary examination is set out in Chapter IX of Volume I of the PCT Applicant's Guide.

GR and ES became bound by PCT Chapter II on 7 September 1996 and 8 September 1997, respectively, and may, therefore, be elected in a demand or a later election filed on or after 7 September 1996 and 8 September 1997, respectively, regardless of the filing date of the international application. (See second paragraph above.)

Note that only an applicant who is a national or resident of a PCT Contracting State which is bound by Chapter II has the right to file a demand for international preliminary examination.

CONFIRMATION OF PRECAUTIONARY DESIGNATIONS

This notification lists only specific designations made under Rule 4.9(a) in the request. It is important to check that these designations are correct. Errors in designations can be corrected where precautionary designations have been made under Rule 4.9(b). The applicant is hereby reminded that any precautionary designations may be confirmed according to Rule 4.9(a) before the expiration of 15 months from the priority date. If it is not confirmed, it will automatically be regarded as withdrawn by the applicant. There will be no reminder and no invitation. Confirmation of a designation consists of the filing of a notice specifying the designated State concerned (with an indication of the kind of protection or treatment desired) and the payment of the designation and confirmation fees. Confirmation must reach the receiving Office within the 15-month time limit.

REQUIREMENTS REGARDING PRIORITY DOCUMENTS

For applicants who have not yet complied with the requirements regarding priority documents, the following is recalled.

Where the priority of an earlier national, regional or international application is claimed, the applicant must submit a copy of the said earlier application, certified by the authority with which it was filed ("the priority document"), to the receiving Office (which will transmit it to the International Bureau) or directly to the International Bureau, before the expiration of 18 months from the priority date, provided that any such priority document may still be submitted to the International Bureau before that date of international publication of the international application, in which case that document will be considered to have been received by the International Bureau on the last day of the 18-month time limit (Rule 17.1(a)).

Where the priority document is issued by the receiving Office, the applicant may, instead of submitting the priority document, request the receiving Office to prepare and transmit the priority document to the International Bureau. Such request must be made before the expiration of the 18-month time limit and may be subjected by the receiving Office to the payment of a fee (Rule 17.1(b)).

If the priority document concerned is not submitted to the International Bureau or if the request to the receiving Office to prepare and transmit the priority document has not been made (and the corresponding fee, if any, paid) within the applicable time limit indicated under the preceding paragraphs, any designated State may disregard the priority claim, provided that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity to furnish the priority document within a time limit which is reasonable under the circumstances.

Where several priorities are claimed, the priority date to be considered for the purposes of computing the 18-month time limit is the filing date of the earliest application whose priority is claimed.

PATENT COOPERATION TREATY

43

PCT

From the INTERNATIONAL BUREAU

NOTIFICATION CONCERNING
SUBMISSION OR TRANSMITTAL
OF PRIORITY DOCUMENT

(PCT Administrative Instructions, Section 411)

To:

JORRITSMA, Ruurd
Nederlandsch Octrooibureau
Scheveningseweg 82
P.O. Box 25320
NL-2502 LS The Hague
PAYS-BAS

INGEK. - 7 SEP 2001

Paraat Bewerken

Date of mailing (day/month/year) 30 August 2001 (30.08.01)	IMPORTANT NOTIFICATION Applicant's or agent's file reference BO 43466
International application No. PCT/NL01/00423	
International publication date (day/month/year) Not yet published	International filing date (day/month/year) 31 May 2001 (31.05.01) Priority date (day/month/year) 31 May 2000 (31.05.00)
Applicant HEINEKEN TECHNICAL SERVICES B.V. et al	

1. The applicant is hereby notified of the date of receipt (except where the letters "NR" appear in the right-hand column) by the International Bureau of the priority document(s) relating to the earlier application(s) indicated below. Unless otherwise indicated by an asterisk appearing next to a date of receipt, or by the letters "NR", in the right-hand column, the priority document concerned was submitted or transmitted to the International Bureau in compliance with Rule 17.1(a) or (b).
2. This updates and replaces any previously issued notification concerning submission or transmittal of priority documents.
3. An asterisk(*) appearing next to a date of receipt, in the right-hand column, denotes a priority document submitted or transmitted to the International Bureau but not in compliance with Rule 17.1(a) or (b). In such a case, the attention of the applicant is directed to Rule 17.1(c) which provides that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity, upon entry into the national phase, to furnish the priority document within a time limit which is reasonable under the circumstances.
4. The letters "NR" appearing in the right-hand column denote a priority document which was not received by the International Bureau or which the applicant did not request the receiving Office to prepare and transmit to the International Bureau, as provided by Rule 17.1(a) or (b), respectively. In such a case, the attention of the applicant is directed to Rule 17.1(c) which provides that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity, upon entry into the national phase, to furnish the priority document within a time limit which is reasonable under the circumstances.

Priority date	Priority application No.	Country or regional Office or PCT receiving Office	Date of receipt of priority document
31 May 2000 (31.05.00)	1015368	NL	03 July 2001 (03.07.01)

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. (41-22) 740.14.35	Authorized officer Taieb AKREMI Telephone No. (41-22) 338.83.38
--	---

PATENT COOPERATION TREATY

PCT

NOTICE INFORMING THE APPLICANT OF THE
COMMUNICATION OF THE INTERNATIONAL
APPLICATION TO THE DESIGNATED OFFICES

(PCT Rule 47.1(c), first sentence)

Date of mailing (day/month/year) 06 December 2001 (06.12.01)		To: JORRITSMA, Ruud Nederlandsch Octrooibureau Scheveningsweg 82 P.O. Box 29720 NL-2502 LS The Hague PAYS-BAS	
Applicant's or agent's file reference BO 43486			
International application No. PCT/NL01/00423		International filing date (day/month/year) 31 May 2001 (31.05.01)	Priority date (day/month/year) 31 May 2000 (31.05.00)
Applicant HEINEKEN TECHNICAL SERVICES B.V. et al			

1. Notice is hereby given that the International Bureau has communicated, as provided in Article 20, the international application to the following designated Offices on the date indicated above as the date of mailing of this notice:
KP, KR, US

In accordance with Rule 47.1(c), third sentence, those Offices will accept the present notice as conclusive evidence that the communication of the international application has duly taken place on the date of mailing indicated above and no copy of the international application is required to be furnished by the applicant to the designated Office(s).

2. The following designated Offices have waived the requirement for such a communication at this time:

AE, AG, AL, AM, AP, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EA, EC, EE, EP, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OA, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG,

The communication will be made to those Offices only upon their request. Furthermore, those Offices do not require the applicant to furnish a copy of the international application (Rule 49.1(a-bis)).

3. Enclosed with this notice is a copy of the international application as published by the International Bureau on 06 December 2001 (06.12.01) under No. WO 01/92142

REMINDER REGARDING CHAPTER II (Article 31(2)(a) and Rule 54.2)

If the applicant wishes to postpone entry into the national phase until 30 months (or later in some Offices) from the priority date, a demand for international preliminary examination must be filed with the competent International Preliminary Examining Authority before the expiration of 18 months from the priority date.

It is the applicant's sole responsibility to monitor the 18-month time limit.

Note that only an applicant who is a national or resident of a PCT Contracting State which is bound by Chapter II has the right to file a demand for international preliminary examination (at present, all PCT Contracting States are bound by Chapter II).

REMINDER REGARDING ENTRY INTO THE NATIONAL PHASE (Article 22 or 39(1))

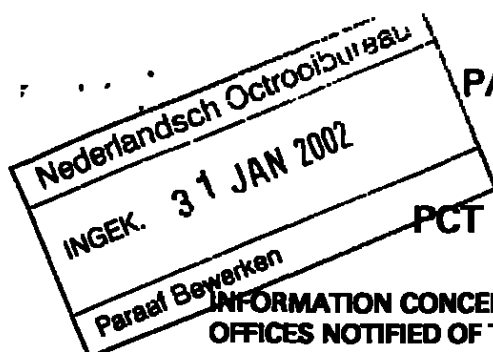
If the applicant wishes to proceed with the international application in the national phase, he must, within 20 months or 30 months, or later in some Offices, perform the acts referred to therein before each designated or elected Office.

For further important information on the time limits and acts to be performed for entering the national phase, see the Annex to Form PCT/IB/301 (Notification of Receipt of Record Copy) and the PCT Applicant's Guide, Volume II.

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. (41-22) 740.14.35	Authorized officer J. Zahra Telephone No. (41-22) 338.91.11
--	---

PATENT COOPERATION TREATY

45


**INFORMATION CONCERNING ELECTED
OFFICES NOTIFIED OF THEIR ELECTION**

(PCT Rule 61.3)

From the INTERNATIONAL BUREAU

To:

JORRITSMA, Ruurd
Nederlandsch Octrooibureau
Scheveningsweg 82
P.O. Box 29720
NL-2502 LS The Hague
PAYS-BAS

Date of mailing (day/month/year) 24 January 2002 (24.01.02)		
Applicant's or agent's file reference BO 43466		IMPORTANT INFORMATION
International application No. PCT/NL01/00423	International filing date (day/month/year) 31 May 2001 (31.05.01)	
Priority date (day/month/year) 31 May 2000 (31.05.00)		
Applicant HEINEKEN TECHNICAL SERVICES B.V. et al		

1. The applicant is hereby informed that the International Bureau has, according to Article 31(7), notified each of the following Offices of its election:

EP : AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR
National : AU, BG, CA, CN, CZ, DE, GB, IL, JP, KP, KR, MN, NO, NZ, PL, RO, RU, SE, SK, US

2. The following Offices have waived the requirement for the notification of their election; the notification will be sent to them by the International Bureau only upon their request:

AP : GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW
EA : AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
OA : BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
National : AE, AG, AL, AM, AT, AZ, BA, BB, BR, BY, BZ, CH, CO, CR, CU, DK, DM, DZ, EC, EE, ES, FI, GD, GE, GH, GM, HR, HU, ID, IN, IS, KE, KG, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MW, MX, MZ, PT, SD, SG, SI, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW

3. The applicant is reminded that he must enter the "national phase" before the expiration of 30 months from the priority date before each of the Offices listed above. This must be done by paying the national fee(s) and furnishing, if prescribed, a translation of the international application (Article 38(1)(a)), as well as, where applicable, by furnishing a translation of any annexes of the international preliminary examination report (Article 38(3)(b) and Rule 74.1).

Some offices have fixed time limits expiring later than the above-mentioned time limit. For detailed information about the applicable time limits and the acts to be performed upon entry into the national phase before a particular Office, see Volume II of the PCT Applicant's Guide.

The entry into the European regional phase is postponed until 31 months from the priority date for all States designated for the purposes of obtaining a European patent.

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. (41-22) 740.14.35	Authorized officer: Zakaria EL KH DARY Telephone No. (41-22) 338.83.38
--	--

Form PCT/IB/332 (September 1997)

4818412

PATENT COOPERATION TREATY

From the

INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

preliminary examination report

rapporteur aan client:

termijn omzetting in reg. III, 1659:

24-10-02

30-11-02

PCT

46

To:

Jorritama, Ruurd
NEDERLANDSCH OCTROOIBUREAU
Scheveningsweg 82
P.O. Box 29720
NL-2502 LS The Hague
PAYS-BAS

26 SEP 2002

NOTIFICATION OF TRANSMITTAL OF
THE INTERNATIONAL PRELIMINARY
EXAMINATION REPORT
(PCT Rule 71.1)

Date of mailing
(day/month/year)

24.09.2002

Applicant's or agent's file reference

BO 43486

IMPORTANT NOTIFICATION

International application No.

PCT/NL01/00423

International filing date (day/month/year)

31/05/2001

Priority date (day/month/year)

31/05/2000

Applicant

HEINEKEN TECHNICAL SERVICES B.V. ET AL.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

For the purpose of deciding whether the claimed invention is patentable or not, the elected Offices may apply criteria additional to or different from the criteria on which the international preliminary examination report is based (see Articles 27(5), 33(5)). Additional criteria may include e.g. exemptions from patentability and the requirements of enabling disclosure and of clarity and support of claims.

Name and mailing address of the IPEA



European Patent Office
D-80298 Munich
Tel. +49 89 2399 - 0 Tx: 523856 epmu d
Fax: +49 89 2399 - 4465

Authorized officer

Heimann, C

Tel. +49 89 2399-2391



Form PCT/IPEA/416 (July 1992)

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference BO 43488	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/NL01/00423	International filing date (day/month/year) 31/05/2001	Priority date (day/month/year) 31/05/2000
International Patent Classification (IPC) or national classification and IPC B67D1/08		
Applicant HEINEKEN TECHNICAL SERVICES B.V. ET AL.		
1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36. 2. This REPORT consists of a total of 8 sheets, including this cover sheet. ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 807 of the Administrative instructions under the PCT). These annexes consist of a total of 9 sheets.		
3. This report contains indications relating to the following items: - I ☒ Basis of the report - II ☐ Priority - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability - IV ☐ Lack of unity of invention - V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement - VI ☐ Certain documents cited - VII ☐ Certain defects in the international application - VIII ☐ Certain observations on the international application		
Date of submission of the demand 28/12/2001	Date of completion of this report 24.09.2002	
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2369 - 0 Tx: 523658 epmu d Fax: +49 89 2369 - 4465	Authorized officer Martín Gonzalez, G Telephone No. +49 89 2369 2154 	

**INTERNATIONAL PRELIMINARY
EXAMINATION REP RT**

International application No. PCT/NL01/00423

I. Basis of the report

1. With regard to the elements of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, pages:

1-14 as originally filed

Claims, No.:

1-51 as received on 31/07/2002 with letter of 30/07/2002

Drawings, sheets:

1/11-11/11 as originally filed

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:

- ☐ the drawings, sheets:
5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):
- (Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	1-43
	No:	Claims	44,45,47-49
Inventive step (IS)	Yes:	Claims	1-43
	No:	Claims	44-51
Industrial applicability (IA)	Yes:	Claims	1-51
	No:	Claims	

2. Citations and explanations
see separate sheet

Re Item V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. CLAIMS 1-20

The document D1 (=WO 00 03944 A) is regarded as being the closest prior art to the subject-matter of claim 1, and discloses a

- ... drink dispenser assembly comprising: a dispenser device provided with a dispensing head for accommodating a dispensing line and a container containing a carbonated drink connected during use to the dispensing line which has a coupling element at an outlet end for connection to the dispensing head

The problem to be solved by the present invention may therefore be regarded as the provision of a drink dispenser assembly of the type of D1 which requires little maintenance and cleaning.

Solution. The coupling element of the claimed assembly comprises a shut-off valve that can be closed while placing the outlet end of the dispensing line into the dispensing head and, respectively, when removing the outlet end of the dispensing line from the dispensing head.

Thanks to this arrangement, the eventual spilling of liquid contained in the dispensing line during container replacement operations is reduced or avoided.

Document D2 (= EP-A-0 246 052) describes dispenser assemblies for concentrates or syrup, not for carbonated beverages. Document D3 (= US-A-5 560 522) does not mention any dispenser device, only a container and dispensing line for motor oil and the like. D4 (= GB-A-2 176 766) teaches a dispenser head provided with shut-off valves and a coupling element to a dispensing line and container. The coupling element of D4 does not include the shut-off valve. It is a fixed part of the dispenser head instead.

Therefore the dispensing line cannot be maintained closed by the shut-off valve during container replacement.

Claim 1 is therefore novel and inventive and has industrial applicability in the sense of

Article 33(2)(3)(4) PCT.

Claims 2-20 concern particular embodiments of the assembly defined in claim 1 and as such also meet the requirements of Article 33 (2)(3)(4) PCT.

2. CLAIMS 21-31

The document D1 (=WO 00 03944 A) is regarded as being the closest prior art to the subject-matter of **claim 21**, and discloses a

drink dispenser device comprising a dispensing head with a handle or knob and an operating element connected to the handle or knob

The problem to be solved by the present invention may therefore be regarded as the provision of a drink dispenser device of the type of D1 suitable for a carbonated drink which requires little maintenance and cleaning.

Solution. The operating element of the claimed device comprises an accommodating component for detachably connecting to a shut-off valve that is connected to a dispensing line of a container for a carbonated drink, which accommodating component can be moved by operation of the handle or knob in order to open and close the shut-off valve.

Thanks to this arrangement, a dispensing line having a shut-off valve can be used and the eventual spilling of liquid contained in the dispensing line during container replacement operations is reduced or avoided.

Document D2 (= EP-A-0 246 052) describes dispenser assemblies for concentrates or syrup, not for carbonated beverages. Document D3 (= US-A-5 560 522) does not mention any dispenser device, only a container and dispensing line for motor oil and the like. D4 (= GB-A-2 176 766) teaches a dispenser head provided with shut-off valves and a coupling element to a dispensing line and container. The coupling element of D4 does not include the shut-off valve. It is a fixed part of the dispenser head instead. Therefore the dispensing line cannot be maintained closed by the shut-off valve during container replacement.

Document D2 (= EP-A-0 246 052) describes dispenser assemblies for concentrates or syrup, not suitable for carbonated beverages. Document D3 (= US-A-5 560 522) does not mention any dispenser device, only a container and dispensing line for motor oil and the like. D4 (= GB-A-2 176 766) teaches a dispenser head provided with shut-off valves and a coupling element to a dispensing line and container. The coupling element of D4 does not include the shut-off valve. It is a fixed part of the dispenser head instead. Therefore the dispensing line cannot be maintained closed by the shut-off valve during container replacement.

Claim 21 is therefore novel and inventive and has industrial applicability in the sense of Article 33(2)(3)(4) PCT.

Claims 22-31 concern particular embodiments of the device defined in claim 21 and as such also meet the requirements of Article 33 (2)(3)(4) PCT.

3. CLAIMS 32-43

The document D1 (=WO 00 03944 A) is regarded as being the closest prior art to the subject-matter of claim 32, and discloses a

container provided with a carbonated drink, having a dispensing line which is connected to or can be connected to the container and has a coupling element close to one end for connection to a dispensing head of a drink dispenser device.

The problem to be solved by the present invention may therefore be regarded as the provision of a container of the type of D1 which can be used in a drink dispenser assembly requiring little maintenance and cleaning.

Solution. The coupling element of the claimed container comprises a shut-off valve which can be closed while placing the end of the dispensing line into the dispensing head and, respectively, removing the end of the dispensing line from the dispensing head.

Thanks to this arrangement, the eventual spilling of liquid contained in the dispensing line during container replacement operations is reduced or avoided.

Document D2 (= EP-A-0 246 052) describes dispenser assemblies for concentrates or syrup, not suitable for carbonated beverages. Document D3 (= US-A-5 580 522) does not mention any dispenser device, only a container and dispensing line for motor oil and the like. D4 (= GB-A-2 176 766) teaches a dispenser head provided with shut-off valves and a coupling element to a dispensing line and container. The coupling element of D4 does not include the shut-off valve. It is a fixed part of the dispenser head instead. Therefore the dispensing line cannot be maintained closed by the shut-off valve during container replacement.

Claim 32 is therefore novel and inventive and has industrial applicability in the sense of Article 33(2)(3)(4) PCT.

Claims 33-43 concern particular embodiments of the container defined in claim 32 and as such also meet the requirements of Article 33 (2)(3)(4) PCT.

4 CLAIMS 44-51

The subject-matter of claim 44 of the present application is not new (Article 33(2) PCT) for the following reasons. Document D3 discloses a (see figs. 5-9)

an at least partially flexible 115 disposable dispensing line 10' for dispensing carbonated beverage, provided with a shut-off valve 114 with a coupling element 72 for detachable connection to an operating element of a dispensing head, wherein the coupling element 72 comprises a substantially rigid tubular outflow member 20,22',68' to be positioned in the dispensing head, the shut-off valve 114 comprising a closure member 16" that can be displaced relative to the tubular outflow member 20 by the operating element to open or close the outflow member (see open/closed position in fig. 7/fig. 8) without substantially reducing the diameter of the flexible dispensing line, wherein the shut-off valve 114 comprises a first sleeve 16" and a second sleeve 20,22',68', which is concentric with respect to the first sleeve 16", which first sleeve is provided with an inlet 118 to an upstream part of the dispensing line 115 and an outlet 44, the second sleeve 20,22',68' being provided with an inlet (lower opening of sleeve 20 in fig. 7) which interacts with the outlet 44 of the first sleeve 20 and which is coaxial therewith, and with an outlet, the coupling element 72 being arranged on one of the sleeves

44

20,22',68' which can be moved by the operating element between a flow position (fig.7), in which the outlet 44 of the first sleeve 16" is in fluid communication with the inlet of the second sleeve 20,22',68', and a shut-off position (fig.8) in which the outlet 44 of the first sleeve 16" is closed off by the second sleeve 20,22',68'.

Although D3 does not teach the use of the dispensing line 10' described therein for detachable connection to an operating element of a dispensing head, said shut-off valve is suitable for that use. Therefore the dispensing line of D3 deprives claim 44 of novelty. Similarly, the dispensing line 115 is suitable for a carbonated beverage and is suitable for use in a container according to one of claims 32 to 43 of the present application.

The further features of claims 45, 47, 48 and 49 are already disclosed in D3. Therefore said claims are not new (Article 33(2) PCT).

The additional features of the dependent claims 46, 50 and 51 relate to diverse modifications of the known dispensing line described in D3 which are obvious to the man skilled in the art. Therefore, dependent claims 46, 50 and 51 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step.

Claims

1. Drink dispenser assembly (1, 25) comprising: a dispenser device (2, 37) provided with a dispensing head (18, 29) for accommodating a dispensing line (17, 28), and a
5 container (7, 27) containing carbonated drink, connected during use to the dispensing line (17, 28) which has a coupling element at an outlet end for connection to the dispensing head (18, 29), characterised in that the coupling element comprises a shut-off valve (19, 32) that can be closed while placing the outlet end of the dispensing line (17, 28) into the
10 dispensing head (18, 29) and, respectively, removing the outlet end of the dispensing line (17, 28) from the dispensing head (18, 29).
2. Drink dispenser assembly (1, 25) according to Claim 1, characterised in that the dispensing line (17, 28) is at least partially flexible.
- 15 3. Drink dispenser assembly (1, 25) according to Claim 1 or 2, wherein the dispensing head (18, 29) is provided with a knob or handle (20, 33), characterised in that the dispensing head (18, 29) has an operating element (45, 98) which is connected to the knob or handle and by means of which the shut-off valve (19, 32, 102) can be detachably
20 connected, for opening and closing the shut-off valve by moving the knob or handle (20, 33).
4. Drink dispenser assembly (1, 25) according to Claim 3, characterised in that the shut-off valve (19, 32) is provided with coupling means (51, 79, 105) for detachable connection to the operating element (45, 98).
25
5. Drink dispenser assembly (1, 25) according to one of the preceding claims, characterised in that the shut-off valve (32) comprises a first sleeve (75) and a second sleeve (70), which is concentric with respect to the first sleeve (75), which first sleeve is provided with an inlet (73) to an upstream part of the dispensing line (28) and an outlet
30 (73'), the second sleeve (70) being provided with an inlet (72) which interacts with the outlet (73') of the first sleeve (75) and with an outlet (74), coupling means (79) being arranged on one of the sleeves (75) which can be moved by the coupling means between a flow position, in which the outlet (73') of the first sleeve (75) is in fluid communication

AMENDED SHEET

with the inlet (72) of the second sleeve (70), and a shut-off position in which the outlet (73') of the first sleeve (75) is closed off by the second sleeve (70).

56

5 6. Drink dispenser assembly (1, 25) according to Claim 5, characterised in that one of the sleeves (70) has an interior projection (71), the sleeves (70, 75) being movable by the operating element (46, 98) with respect to one another in order to bring the projection (71) into sealing engagement on the inlet or outlet (73') of the other sleeve (75).

10 7. Drink dispenser assembly (1, 25) according to Claim 5 or 6, characterised in that the coupling means comprise a flange (50, 79, 105) or a peripheral groove, the operating element (45, 98) comprising an accommodating component (63) that is connected to the knob or handle (20, 33) and can be moved in the axial direction of the sleeves (70, 75), for engagement on the flange (50, 79, 105) or on the peripheral groove.

15 8. Drink dispenser assembly (1, 25) according to Claim 7, characterised in that the accommodating component (63) has an open cavity on one side in which the inner or the outer sleeve (70, 75) can be enclosed.

20 9. Drink dispenser assembly (1, 25) according to one of Claims 4 to 8, with reference to Claim 3, characterised in that the dispensing head (29, 90) has a base section (43, 91), that is connected to the knob or handle (33, 93) and to the operating element (45, 98), and a second section (44, 95) provided with an accommodating cavity, which second section (44, 95) is movably connected to the base section (43, 91), between an open position, in which the operating element (45, 98) is released to connect the shut-off valve (19, 32) to the operating element (45, 98), and a closed position, in which the shut-off valve (45, 98) is at least partially located within the accommodating cavity of the second section (44, 95).

30 10. Drink dispenser assembly (1, 25) according to Claim 9, characterised in that the dispensing head (29) is provided with locking means (39, 47) which are able to release the second section (44) only when the shut-off valve (32) has been placed in a closed position.

11. Drink dispenser assembly (1, 25) according to Claim 9 or 10, characterised in that the second section (44) can be moved about a hinge pin (60, 94) that is located transversely to

AMENDED SHEET

the longitudinal direction of the dispensing line (28), or parallel thereto.

12. Drink dispenser assembly (1, 25) according to one of the preceding claims, characterised in that the dispensing line (28) is provided with an outlet section (41, 103) located downstream of the shut-off valve (19, 32).

13. Drink dispenser assembly (1, 25) according to one of the preceding claims, characterised in that the outlet section (103) is at right angles to the dispensing line (28).

14. Drink dispenser assembly (1, 25) according to Claim 12 or 13, characterised in that the outlet end (41, 103) is provided with an external peripheral groove (52) or ridge that can be connected to a complementary ridge (53) or cavity on/in the interior of an outlet (42) of the dispensing head (18, 29).

15. Drink dispenser assembly (1, 25) according to one of the preceding claims, characterised in that the outlet end (103) of the dispensing line (101) is provided with a plate (104), the dispensing head (90) being provided with a chamber (99) for accommodating the plate and with a window (100), located parallel to the plate (101), for displaying at least part of the plate.

20

16. Drink dispenser assembly (1, 25) according to one of the preceding claims, characterised in that the operating element (45) comprises a guide with an essentially horizontal arm (46), a first end (47) of which can be moved about a pivot pin (48), a curved arm (46') having a fork (63) at one end for coupling to the shut-off valve (19, 32) being located at a second end of the arm (46), which end is located some distance away from the pivot pin, and transversely thereto.

17. Drink dispenser assembly (1, 25) according to Claim 16, characterised in that the operating element (45) comprises a positioning element (49) beneath which the dispensing line (28) can be fitted for guiding the dispensing line along the curved arm (46').

18. Drink dispenser assembly (1, 25) according to one of the preceding claims, characterised in that the dispenser device is provided with pressure means (13, 36), which

AMENDED SHEET

58

4

can be connected to the container (7, 27), for feeding a pressure medium to the container (7, 27), and with cooling means (34) for cooling a container (7, 27) placed in the compartment (3, 26).

- 5 19. Drink dispenser assembly (1, 25) according to one of the preceding claims, characterised in that the shut-off valve (14, 32) is provided with a vent (77) which is in fluid communication with an outlet (74) of the shut-off valve (19, 32) when the shut-off valve is in the closed position.
- 10 20. Drink dispenser assembly (1, 25) according to Claim 1 or 2, characterised in that the shut-off valve is electromagnetic, the dispensing head being provided with an electromagnetic operating element.
- 15 21. Drink dispenser device (2, 37) comprising a dispensing head (18, 29) with a handle or knob (20, 33) and an operating element (45, 98) connected to the handle or knob, characterised in that the operating element (45, 98) comprises an accommodating component (63) for detachably connecting to a shut-off valve (19, 32) that is connected to a dispensing line of a container for carbonated drink, which accommodating component can be moved by operation of the handle or knob in order to open and close the shut-off valve.
- 20 22. Drink dispenser device (2, 37) according to Claim 21, characterised in that the accommodating component (63) can be moved in an accommodating channel for the dispensing line, in the longitudinal direction of the accommodating channel.
- 25 23. Drink dispenser device (2, 37) according to Claim 22, characterised in that the accommodating component (63) comprises an accommodating cavity open on one side.
- 30 24. Drink dispenser device (2, 37) according to Claim 21 or 22, characterised in that the operating element (45) comprises a guide with an essentially horizontal arm (46) that can be moved by a first end (47) about a pivot pin (48), a curved arm (46') with a fork (63) at one end being located at a second end of the arm, which second end is located some distance away from the pivot pin, and transversely thereto.

AMENDED SHEET

25. Drink dispenser device (2, 37) according to one of Claims 21 to 24, characterised in that the dispensing head (29, 90) has a base section (43, 91), that is connected to the handle or knob (33, 93) and to the operating element (45, 98), and a second section (44, 95) provided with an accommodating cavity, which second section is movably connected to the base section, between an open position, in which the operating element (45, 98) is released to connect the shut-off valve to the operating element, and a closed position, in which the shut-off valve (19, 32) is at least partially located within the accommodating cavity.

26. Drink dispenser device (2, 37) according to Claim 25, characterised in that the dispensing head (29) is provided with locking means (39, 47) which are able to release the second section (44) only when the shut-off valve (19, 32) has been placed in a closed position.

27. Drink dispenser device (2, 37) according to Claim 25 or 26, characterised in that the second section (44, 95) can be moved about a hinge pin (60, 96') that is located transversely to the longitudinal direction of the dispensing line, or parallel thereto.

28. Drink dispenser device (2, 37) according to one of Claims 21 to 27, characterised in that the dispensing head is provided with a chamber (99) for accommodating a plate (101) and with a window (100), located parallel to the plate, for displaying at least part of the plate.

29. Drink dispenser device (2, 37) according to Claim 24, characterised in that the operating element (45) comprises a positioning element (49) beneath which the dispensing line (28) can be fitted for guiding the dispensing line along the curved arm (46').

30. Drink dispenser device (2, 37) according to one of Claims 21 to 29, characterised in that the device comprises a compartment (3, 26), provided with cooling means (34), for accommodating a container (7, 27), as well as pressure means (13, 36) for feeding a pressure medium to a container placed in the compartment.

31. Drink dispenser device (2, 37) according to one of Claims 21 to 30, characterised in that the dispensing head (18, 29) is provided with an electromagnetic operating element.

AMENDED SHEET

32. Container (7, 27) provided with a carbonated drink, having a dispensing line (17, 28) which is connected to or can be connected to the container and has a coupling element close to one end for connection to a dispensing head of a drink dispenser device, characterised in that the coupling element comprises a shut-off valve (19, 32) which can be closed while placing the end of the dispensing line (28) into the dispensing head (18, 29) and, respectively, removing the end of the dispensing line (28) from the dispensing head (18, 29).
33. Container (7, 27) according to Claim 32, provided with a relatively rigid outer jacket (7) and an interior flexible bag (6) containing the carbonated drink, which bag is connected to a first shut-off element (10) that comprises a connecting element that is connected to the dispensing line (17, 28) that is at least partially of flexible construction.
34. Container (7, 27) according to Claim 33, wherein the outer jacket (7) is provided with a connection opening for connection to pressure means (13, 36) for feeding a pressure medium to the space (76) between the flexible bag (6) and the outer jacket (7).
35. Container (7, 27) according to Claim 32, 33 or 34, characterised in that the shut-off valve (19, 32) comprises a first sleeve (75) and a second sleeve (70), which is concentric with respect to the first sleeve, which first sleeve is provided with an inlet (73) to an upstream part of the dispensing line (28) and an outlet (73'), the second sleeve (70) being provided with an inlet (72) which interacts with the outlet (73') of the first sleeve (75) and with an outlet (74), coupling means (79) being arranged on one of the sleeves (75) which can be moved by the coupling means between a flow position, in which the outlet (73') of the first sleeve (75) is in fluid communication with the inlet (72) of the second sleeve (70), and a shut-off position in which the outlet (73') of the first sleeve (75) is closed off by the second sleeve (70).
36. Container (7, 27) according to Claim 35, characterised in that the coupling means comprise a flange (79) or a peripheral groove for engagement on an operating element (45, 98) of the drink dispenser device that comprises an accommodating component (63) that is connected to a knob or handle (20, 33) and can be moved in the axial direction of the

AMENDED SHEET

sleeves (70, 75), for engagement on the flange (79) or on the peripheral groove.

37. Container (7, 27) according to one of Claims 32 to 35, characterised in that the shut-off valve (19, 32) is provided with a vent (77) which is in fluid communication with an outlet (74) of the shut-off valve (19, 32) when the shut-off valve is in the closed position.

38. Container (7, 27) according to one of Claims 32 to 37, characterised in that the shut-off valve is electromagnetic, the dispensing head being provided with an electromagnetic operating element.

10

39. Container (7, 27) according to Claim 35, characterised in that the coupling means comprise a flange (51, 79) or a peripheral groove on one of the sleeves (70, 75).

40. Container (7, 27) according to one of Claims 32 to 39, characterised in that the dispensing line (17, 28) is provided at the outlet end with a relatively rigid tube section (41) with the shut-off valve (19, 32) connected thereto.

41. Container (7, 27) according to Claim 40, with reference to Claim 35 or 36, characterised in that the tube section forms the outer sleeve (70) of the shut-off valve (19, 32).

42. Container (7, 27) according to Claim 40 or 41, characterised in that the tube section (41) is provided with a ridge or groove (52) on an outer surface.

43. Container (7, 27) according to Claim 40, 41 or 42, characterised in that a plate (104) is attached to the outlet end of the dispensing line.

44. An at least partially flexible disposable dispensing line (17, 28, 101) for dispensing carbonated beverage, provided with a shut-off valve (19, 32) with a coupling element (51, 79) for detachable connection to an operating element (45, 98) of a dispensing head, characterised in that the coupling element comprises a substantially rigid tubular outflow member (41) to be positioned in the dispensing head, the shut-off valve comprising a closure member that can be displaced relative to the tubular outflow member by the

AMENDED SHEET

operating element (45,98) to open or close the outflow member (41) without substantially reducing the diameter of the flexible dispensing line, wherein the shut-off valve (19, 32) comprises a first sleeve (75) and a second sleeve (70), which is concentric with respect to the first sleeve, which first sleeve is provided with an inlet (73) to an upstream part of the dispensing line (28) and an outlet (73'), the second sleeve (70) being provided with an inlet (72) which interacts with the outlet (73') of the first sleeve (75) and which is coaxial therewith, and with an outlet (74), the coupling element (79) being arranged on one of the sleeves (75) which can be moved by the operating element between a flow position, in which the outlet (73') of the first sleeve (75) is in fluid communication with the inlet (72) of the second sleeve (70), and a shut-off position in which the outlet (73') of the first sleeve (75) is closed off by the second sleeve (70).

45. Disposable dispensing line (17, 28, 101) for dispensing a carbonated beverage, provided with a shut-off valve (19, 32) with a coupling element (51, 79) for detachable connection to an operating element of a dispensing head, wherein the flexible dispensing line part is of such a length to extend through an elongate hollow member on which the dispensing head is placed.

46. Dispensing line (17, 28, 101) according to Claim 44 or 45, characterised in that one of the sleeves (70) has an interior projection (71) and can be moved axially with respect to the other sleeve (75) by means of the operating element in order to engage on the inlet or outlet (73') of the other sleeve so as to provide a seal.

47. Dispensing line (17, 28, 101) according to Claim 44, 45 or 46, characterised in that the shut-off valve (19, 32) is provided with a vent (77) which is in fluid communication with an outlet (74) of the shut-off valve (19, 32) when the shut-off valve is in the closed position.

48. Dispensing line (17, 28, 101) according to one of Claims 44 to 47, characterised in that the shut-off valve (19, 32) is provided with coupling means (51, 79) for connection to the dispensing head.

AMENDED SHEET

49. Dispensing line (17, 28, 101) according to one of Claims 44 to 48, characterised in that the dispensing line is provided at the outlet end with a relatively rigid tube section with the shut-off valve (19, 32) connected thereto.
- 5 50. Dispensing line (17, 28, 101) according to Claim 49, with reference to Claim 46 or 47, characterised in that the tube section (41) forms the outer sleeve (70) of the shut-off valve (19, 32).
- 10 51. Dispensing line (17, 28, 101) according to Claim 49 or 50, characterised in that the tube section (41) is provided with a ridge or groove (52) on an outer surface.

AMENDED SHEET

INGEK. 18 JAN 2002

64

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

PCT

To:

Jorritsma, Ruurd
NEDERLANDSCH OCTROOIBUREAU
Scheveningseweg 82
P.O. Box 29720
NL-2502 LS The Hague
PAYS-BAS

NOTIFICATION OF RECEIPT
OF DEMAND BY COMPETENT INTERNATIONAL
PRELIMINARY EXAMINING AUTHORITY

(PCT Rules 59.3(e) and 61.1(b), first sentence
and Administrative Instructions, Section 601(a))

Date of mailing
(day/month/year)

16.01.02

Applicant's or agent's file reference
BO 43466

IMPORTANT NOTIFICATION

International application No.

PCT/NL 01/ 00423

International filing date (day/month/year)

31/05/2001

Priority date (day/month/year)

31/05/2000

Applicant

HEINEKEN TECHNICAL SERVICES B.V. ET AL.

1. The applicant is hereby notified that this International Preliminary Examining Authority considers the following date as the date of receipt of the demand for international preliminary examination of the international application:

28/12/2001

2. This date of receipt is:

- ☒ the actual date of receipt of the demand by this Authority (Rule 61.1(b)).
☐ the actual date of receipt of the demand on behalf of this Authority (Rule 59.3(e)).
☐ the date on which this Authority has, in response to the invitation to correct defects in the demand (Form PCT/IPEA/404), received the required corrections.

3. ☐ **ATTENTION:** That date of receipt is **AFTER** the expiration of 19 months from the priority date. Consequently, the election(s) made in the demand does (do) not have the effect of postponing the entry into the national phase until 30 months from the priority date (or later in some Offices) (Article 39(1)). Therefore, the acts for entry into the national phase must be performed within 20 months from the priority date (or later in some Offices) (Article 22). For details, see the PCT Applicant's Guide, Volume II.

- ☐ (If applicable) This notification confirms the information given by telephone, facsimile transmission or in person on:

4. Only where paragraph 3 applies, a copy of this notification has been sent to the International Bureau.

Name and mailing address of the IPEA/

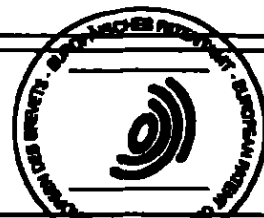


European Patent Office
D-80298 Munich
Tel. (+49-89) 2399-0, Tx: 523656 epmu d
Fax: (+49-89) 2399-4465

Authorized officer

MARRA E

Tel. (+49-89) 2399-7235



(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
6 December 2001 (06.12.2001)

PCT

(10) International Publication Number
WO 01/92142 A1

(51) International Patent Classification⁷: B67D 1/06, 1/14

(21) International Application Number: PCT/NL01/00423

(22) International Filing Date: 31 May 2001 (31.05.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
1015368 31 May 2000 (31.05.2000) NL

(71) Applicant (for all designated States except US):
HEINEKEN TECHNICAL SERVICES B.V. (NL/NL);
P.O. Box 510, NL-2380 BB Zoeterwoude (NL).

28, NL-2382 RV Zoeterwoude (NL). BAX, Bart, Jan
(NL/NL); Molenstraat 11a, NL-2513 BH Den Haag (NL).
VAN DUUREN, Marius, Cornelius (NL/NL); Limes 80,
NL-3176 TE Poortugaal (NL).

(74) Agent: JORRITSMA, Ruard; Nederlandsch Octrooi-
bureau, Scheepvaarsweg 82, P.O. Box 29720, NL-2502 LS
The Hague (NL).

(81) Designated States (national): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CQ, CR, CU,
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK,
SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA,
ZW.

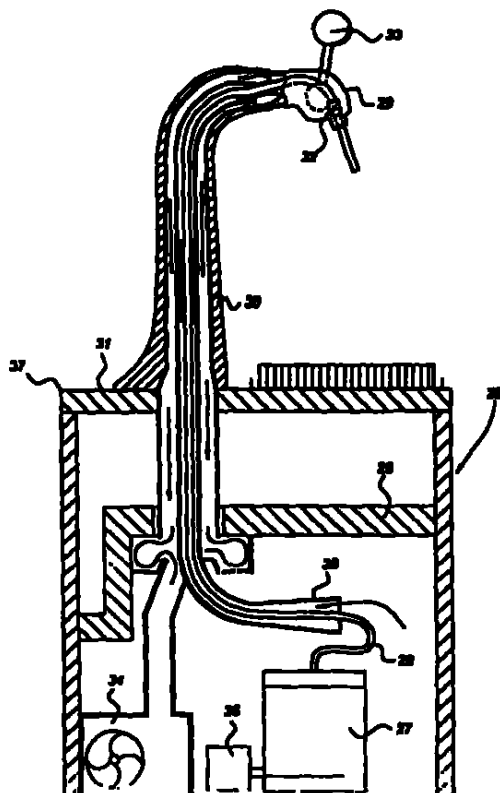
(72) Inventors; and

(75) Inventors/Applicants (for US only): VAN DER
KLAUW, Guido, Petrus, Johannes (NL/NL); Elzenhof

(84) Designated States (regional): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SI, SZ, TZ, UG, ZW), Eurasian
patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European

(Continued on next page)

(54) Title: DRINK DISPENSER ASSEMBLY AND CONTAINER FOR DRINK AND DRINK DISPENSING LINE



(57) Abstract: The invention relates to a drink dispenser assembly (1, 25) comprising: a dispenser device (2, 37) provided with a dispensing head (18, 29) for accommodating a dispensing line (17, 28), and a container (7, 27) containing drink, in particular carbonated drink, connected during use to the dispensing line (17, 28) which has a coupling element at an outlet end for connection to the dispensing head (18, 29). The drink dispenser assembly is characterised in that the coupling element comprises a shut-off valve (19, 32) that can be closed when placing the outlet end of the dispensing line (17, 28) into the dispensing head (18, 29) and, respectively, removing the outlet end of the dispensing line (17, 28) from the dispensing head (18, 29).

WO 01/92142 A1

WO 01/92142 A1



66

patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Published:

— with international search report

DRINK DISPENSER ASSEMBLY AND CONTAINER FOR DRINK AND DRINK DISPENSING LINE

The invention relates to a drink dispenser assembly comprising: a dispenser device
5 provided with a dispensing head for accommodating a dispensing line, and a container
containing drink, in particular carbonated drink, connected during use to the dispensing
line which has a coupling element at an outlet end for connection to the dispensing head.

A drink dispenser assembly of this type is disclosed in PCT/NL 99/00454. The
known dispenser device comprises a chill chamber in which a pack containing carbonated
10 drink, such as beer, can be placed. The pack containing carbonated drink comprises an
outer container made of plastic and an inner, flexible bag with the carbonated drink therein.
The flexible bag is connected via a filling and dispensing head to the neck of the outer
container. The dispensing head is provided with a first, relatively broad fill channel to
which a filling head of a fill line can be connected in order to fill the flexible bag. After
15 filling and removing the filling head from the fill line, the fill channel of the filling and
dispensing head is closed by a spring-loaded valve. A second, relatively narrow dispensing
channel of the filling and dispensing head is connected to a flexible hose that extends at
right angles to the longitudinal direction of the container. Before the container is placed in
the chill chamber of the drink dispenser device, the dispensing channel is also closed by a
20 spring-loaded valve. A plastic outlet component at right angles that is provided with a plate
displaying a mark is fixed to the end of the flexible hose, which outlet component can be
placed in a receiver component in the dispensing head of the drink dispenser device. The
dispensing head comprises two hingeable parts, which delimit a feed-through channel for
the flexible hose, and a shut-off valve connected to a tap handle. The shut-off valve
25 comprises a spring-loaded clamping mechanism that by operation of the tap handle is able
to squeeze shut the flexible hose in the feed-through channel and is able to release it.

After the flexible hose has been placed in the feed-through channel the dispensing
head is closed and the tap handle is placed in the closed position. A cover on the dispenser
device can then be closed and pressure means, such as a compressor, can be connected to
30 the container to feed a pressure medium into the space between the wall of the outer
container and the flexible bag. On closing the cover of the chill chamber in the dispenser
device, the dispensing channel of the filling and dispensing head is opened, so that the
contents of the flexible bag are driven into the flexible hose. The flexible hose is released

by opening the tap handle and assumes its free, undeformed cross-section and the carbonated drink is dispensed from the dispensing head under pressure. The known dispenser device is also provided with a cooler, such as a Peltier element, for cooling the drink.

5 The known device has the disadvantage that controlled dispensing through the flexible hose is possible to only a limited extent and that dispensing is dependent on the flexible characteristics of the hose. If the drink is carbonated drink, such as beer, this can lead to undesired frothing.

10 If the tap handle is not closed when the container containing drink is placed in the dispenser device, undesired dispensing of drink can take place with the known dispenser device. Furthermore, drink will also be able to leak from the dispensing line when the empty container is removed from the dispenser device. The dispensing head and other components of the dispensing device can be soiled as a result. Consequently the known device has to be cleaned relatively frequently. Moreover, as a result of the contamination
15 the life of the drink can be shortened.

Finally, after dispensing a quantity of drink, after closing the tap handle drink can still leak for a prolonged period from that part of the flexible hose that is located downstream of the shut-off valve.

20 One aim of the invention is to provide a drink dispenser assembly, as well as a container and a dispensing line of the abovementioned type, with which these problems are solved.

A further aim of the invention is to provide a drink dispenser assembly that requires very little maintenance, requires little cleaning and provides a hygienic environment with a relatively long life for the drink.

25 To this end the drink dispenser assembly according to the invention is characterised in that the coupling element comprises a shut-off valve that can be closed when placing the outlet end of the dispensing line into the dispensing head and, respectively, removing the outlet end of the dispensing line from the dispensing head.

30 Because the coupling element of the dispensing line, which can be placed in an unambiguous position in the dispensing head, is provided with a shut-off valve, controlled dispensing of the drink can be obtained. Especially if the drink is carbonated drink, such as beer, undesired frothing can be counteracted by this means. Furthermore, in contrast to the known flexible dispensing line, the flow characteristics through the dispensing line

according to the invention can be adjusted by sizing the dimensions and the stroke of the shut-off valve. Tap feel, the flow rate and the type of jet of drink can be accurately adjusted by this means.

The drink dispenser device, the container and the dispensing line according to the present invention are suitable for dispensing all types of drink, but are particularly suitable for dispensing carbonated drink, such as beer. In the illustrative embodiments given below reference is made to carbonated drinks by way of example.

Furthermore, the shut-off valve can be closed when placing the pack containing carbonated drink in the dispenser device, so that leakage of carbonated drink is prevented even if the tap handle is in the open position. The shut-off valve is closed when the empty or partially empty pack is removed from the dispenser device and leakage of drink, present in the flexible dispensing line, from the dispensing line is prevented. As a result a favourable microbiological environment is maintained and the need for frequent cleaning of the dispenser device decreases. Finally, as a result of the use of the shut-off valve in the dispensing line a relatively simple filling and dispensing head can suffice for the container containing carbonated drink, which filling and dispensing head is provided with a dispensing channel with a simple closure, for example a breakable seal that is opened after placing the pack in the dispenser device and can no longer be rescaled.

The dispensing line can be of rigid construction, but can also be telescopic or at least partially of flexible construction. The latter is preferred since this facilitates the positioning of the shut-off valve in the dispensing head. It is preferable to make the dispensing line of flexible plastic so that this constitutes a disposable or semi-disposable line that is thrown away after it has been used once or a number of times.

The dispensing line can be permanently connected to the container containing carbonated drink, but can also be provided with a coupling for detachable connection to the container.

The shut-off valve can be a normally closed shut-off valve, such as a slit valve in the flexible hose, that can be opened by compression by the tap handle, a separate plastic shut-off valve with a closed equilibrium position, a spring-loaded (ball) valve or an electromagnetic valve. The shut-off valve can, however, also comprise a tap or valve known per se and can be provided with an operating element by means of which it can be opened and closed by a user after it has been placed in the dispensing head.

Preferably, however, the shut-off valve is not provided with an operating element for

70

the user, but the dispensing head comprises an operating element, joined to the handle or knob, by means of which the shut-off valve can be detachably connected, so that the shut-off valve itself can have small dimensions. This has the advantage that the shut-off valve is not only of lightweight construction and has a small number of components, so that it can easily be made as a disposable item for once-only use, but that it can also easily be accommodated, stored and transported in the pack, it being possible, for example, to accommodate the dispensing line in the coiled state on top of or beneath the base of the pack containing carbonated drink.

Furthermore, as a result of the relatively small dimensions of the shut-off valve, which preferably has a cylindrical cross-section which is not much larger than the external diameter of the dispensing line, said shut-off valve can easily be fed through an - optionally cooled - guide tube of a drink dispenser device of a type that is described in Patent Application number 1015359 bearing the title "Tap device and container therefor, as well as method for the production thereof", which was filed on 31 May 2000 in the name of the Applicant. In such a dispenser assembly with guide tube, the compartment for accommodating the pack containing carbonated drink comprises a refrigerator located beneath a bar, the flexible dispensing line extending from the refrigerator to the pump, which carries the dispensing head. When connecting a new pack and associated dispensing line, which in this case can have a length of 1 metre or more, the shut-off valve at the end of the flexible dispensing line can easily be pushed through the guide tube to the dispensing head.

The operating element of the dispensing head can comprise a fork in which the shut-off valve can be fitted. The shut-off valve is provided with coupling means, for example in the form of a flange or a groove, which can be detachably connected to the fork.

In one embodiment the shut-off valve comprises a first sleeve and a second sleeve, which is concentric with respect to the first sleeve, which first sleeve is provided with an inlet to an upstream part of the dispensing line and an outlet, the second sleeve being provided with an inlet which interacts with the outlet of the first sleeve and with an outlet, coupling means being arranged on one of the sleeves which can be moved by the coupling means between a flow position, in which the outlet of the first sleeve is in fluid communication with the inlet of the second sleeve, and a shut-off position in which the outlet of the first sleeve is closed off by the second sleeve.

The dispensing line is opened and closed by relative rotation, translation, or a

combination thereof, of the sleeves by the operating element of the shut-off valve. A simple shut-off valve that is reliable in operation comprises sleeves that can be moved with respect to one another in the direction of the dispensing line. With such an "in line" shut-off valve the pressure of the carbonated drink can provide an additional closing force, a
5 simple operating element can be used in the dispensing head for an accurately adjustable stroke, which can easily be adjusted for a tap handle, and the size of the shut-off valve can remain small.

By using a "can" shut-off valve that can be opened and closed in the axial direction of the dispensing line, which shut-off valve is pushed into its closed position by the
10 pressure of the carbonated drink, a simple, compact shut-off valve that is reliable in operation is formed which is suitable for once-only use and which can easily be fitted in the dispensing head and can easily be removed therefrom.

The dispensing head can have a base section into which the shut-off valve can be placed. The shut-off valve can be provided with a protective cap which interacts with the
15 base section, such that the shut-off valve is enclosed between the base section and the protective cap and is not accessible to the user during use.

The dispensing head is preferably divided into two halves which are hingeable with respect to one another and which delimit a feed-through channel in which the dispensing line can be placed.

20 Preferably, the hingeable halves are provided with a locking mechanism that can be released only when the shut-off valve is closed.

The outlet end of the dispensing line that is located downstream of the shut-off valve can consist of a relatively rigid plastic section with a peripheral groove or flange which interacts with a complementary flange or groove in the dispensing head for accurate
25 positioning of the end of the dispensing line. If a cooling medium is fed through the dispensing head, as described in Patent Application no. 1015359 filed on 31 May 2000 in the name of the Applicant, the dispensing head is closed off by the dispensing line such that it is at least partially fluid-tight at the point where the dispensing line emerges from the dispensing head.

30 "The outlet end of the dispensing line can be provided with a plate with, for example, the tradename of the drink thereon. This plate can be fitted in a chamber in the dispensing head, which chamber is provided with a window through which the plate is visible to the user. By this means the content of the pack containing carbonated drink that has been

placed in the dispenser device can easily be established.

Finally, in one embodiment the shut-off valve is provided with a vent which is closed when the shut-off valve is open and which connects the outlet end of the shut-off valve to the environment when the shut-off valve is closed. By this means, a vacuum arising after
5 dispensing drink and then closing the shut-off valve is released and all drink downstream of the closed shut-off valve will be dispensed rapidly from the outlet end of the dispensing line without significant subsequent dripping.

A few embodiments of a drink dispenser assembly according to the invention will be explained in more detail with reference to the appended, non-limiting drawing, in which:

10 Fig. 1 shows a diagrammatic cross-section of a first embodiment of a drink dispenser assembly according to the invention, suitable in particular for use by the consumer at home,

Fig. 2 shows a diagrammatic cross-section of a second embodiment of a drink dispenser assembly according to the invention, suitable in particular for use in catering establishments,

15 Figs 3, 4 and 5 show, respectively, a longitudinal section, a cross-section and an exploded view of a dispensing head and dispensing line of the drink dispenser assembly according to Fig. 2,

Figs 6a and 6b show a longitudinal section of, respectively, the outlet end of the dispensing line and of the shut-off valve in the closed position,

20 Figs 7a and 7b show a longitudinal section of, respectively, the outlet end of the dispensing line and of the shut-off valve in the flow position,

Figs 8a - 8d show longitudinal sections of a number of alternative embodiments of the shut-off valve according to the invention;

25 Fig. 9 and Fig. 10 show a perspective view and a cross-section of the outlet end of the dispensing line and of the dispensing head of the drink dispenser assembly according to Fig. 1 in, respectively, the disassembled state and the assembled state;

Fig. 11 shows a cross-sectional view of the upper part of a preferred drink dispenser assembly according to the invention; and

30 Fig. 12 and 13 show enlarged details of the dispensing head of Fig. 11 in the closed and open state, respectively.

Figure 1 shows a drink dispenser assembly 1 provided with dispenser device 2 with a chill chamber 3 that can be closed off by means of a cover 4. A pack 5 containing carbonated drink is placed in the chill chamber 3. In the embodiments described below the

carbonated drink is beer that is contained in a flexible bag 6 of the pack 5 under an excess pressure of between 0 and 3 bar, for example 1 to 1.5 bar (the equilibrium pressure of CO₂ above beer). The pack can, however, also contain other carbonated drinks, such as non-alcoholic drinks, under pressures which in general are between 0 and 5 bar excess pressure.

5 The flexible bag 6 is accommodated in an outer, rigid container 7 of the pack 5 and close to a neck is fixed to a flat lip 9 of a filling and dispensing head 10 so as to provide a seal. The filling and dispensing head 10 has an air channel 11 that can be connected to a pressure line 12 in the cover 4, which pressure line is connected to a compressor 13. Instead of a compressor it is also possible to use a different pressure medium, such as a
10 pre-compressed gas, for example compressed air or pressurised CO₂ that is supplied from a separate cylinder. On closing the cover 4, a spring-loaded valve 14 of the filling and dispensing head 10 is moved downwards so that an outlet 15 is exposed and an air channel in the head 10 to the space 16 between the flexible bag 6 and the rigid container 7 is opened, which air channel is in communication with the pressure line 12.

15 A flexible dispensing line 17 is connected to the filling and dispensing head 10 and when the pack 5 is placed in the chill chamber 3 is connected to a dispensing head 18. The dispensing line 17 has a shut-off valve 19 close to an outlet end, which shut-off valve 19 is removably fitted in the dispensing head 18 and is in a normally closed position. When the pack 5 is placed in the dispenser device 2 and the cover 3 is closed, as a result of which the
20 compressor 13 is activated, the shut-off valve 19 is closed and, as a consequence of the pressure built up in the gap 16 by the compressor 13, the beer is driven out of the flexible bag into the flexible line 17, against the shut-off valve 19. By operating a handle 20, the shut-off valve 19, which is an integral part of the dispensing line 17, can be opened and the beer can be tapped from the bag 6. When the pack 5 has been emptied, or if another drink
25 pack is placed in the dispenser device when the pack is still partly full, the container 7 and the flexible dispensing line 17 with the closed shut-off valve 19, which are connected thereto, are removed from the chill chamber 3. The container 7 of the empty pack 5, which, for example, can be made of plastic such as PET or ABS, can be re-used, whilst the flexible bag 6, the filling and dispensing head 10 and the flexible line 17 with the shut-off
30 valve 19 can have been made for once-only use and thrown away or recycled after use. For further details of the drink dispenser device 2 reference is made to International Patent Application PCT/NL 99/00454 in the name of the Applicant, the contents of which are incorporated herein by reference.

74

Fig. 2 shows an embodiment of a drink dispenser device 25 that is suitable in particular for use in catering establishments. The dispenser device 25 comprises a chill compartment, or refrigerator, 26 with a container 27 containing a carbonated drink therein. The container 27 can comprise a double-walled pack with a rigid outer casing with a flexible bag therein, as shown in Fig. 1, but can also comprise a metal container, such as a stainless steel beer keg known per se. The capacity of the container 27 can vary from a few litres up to 50 litres or more. A compressor or CO₂ cartridge 36 is connected to the container 27. Furthermore, instead of a compressor or CO₂ cartridge, a cartridge containing carbon and CO₂ can be placed in the container 27 to generate the desired pressure, as described in International Patent Application PCT/NL/99/00144. The container 27 is connected via a flexible plastic dispensing line 28 to a dispensing head 29. The dispensing head 29 is part of a beerpull 30 that is fixed to the counter of a bar 31. A shut-off valve 32 according to the present invention is fitted on the outlet end of the flexible line 28, which shut-off valve 32 can be opened and closed by means of handle 33 at the end of the beerpull 30.

A cooling element, that is not indicated in more detail, is accommodated inside the refrigerator 26, which cooling element cools the air in the refrigerator down to, for example, 5 °C - 10 °C. By means of a fan 34, warm air from the hollow beerpull 30 is drawn back into the refrigerator 26. Via a guide tube 35, in which the flexible dispensing line 28 is accommodated and which opens into the dispensing head 29, cold air is fed from the refrigerator 26 through the guide tube 35 over the dispensing line 28 as a result of the vacuum thus produced in the dispensing head 29. The drink is cooled to, for example, 8 °C by this means. The device described above is described in more detail in Netherlands Patent Application no. 1015359 filed on 31 May 2000 in the name of the Applicant and entitled "Tap device and container therefor, as well as method for the production thereof".

Figure 3 shows a longitudinal section of the dispensing head 29 according to Fig. 2. The handle 33 is joined to the housing 43 such that it can rotate about a shaft 40 and engages via a spring 57 and projection 57' on operating element 45 for opening and closing the shut-off valve 32. The free stroke of the handle 33 can be adjusted by positioning projection 57' with respect to the control element 45. In the position shown in Fig. 3 the projection 57' engages directly on the operating element 45, so that the shut-off valve 32 is opened and closed by a small movement of the handle 33. Exchanging the projection 57' for a projection 57' located further to the right compared with the projection in Fig. 3 will

75

allow the handle 33 to make a greater free stroke before engaging on the operating element 45. By this means, complete opening and closing of shut-off valve 32 can be obtained with a large stroke, such as 90°, of the handle 33. The stroke of the handle 33 can be adjusted between the relatively small stroke (for example 10°) as shown in Fig. 3, and a relatively large stroke, such as 90°, by simply changing the projection 57'.

By means of the spring 57 a certain movement of the handle 33 is possible without this leading to movement of the operating element 45 and the play is eliminated from the rotation of the handle about shaft 40.

An outlet end 41 of the flexible dispensing line 28, which is guided along a curved path by the dispensing head 29, is enclosed in the seat 42 of the dispensing head. The outlet end 41, made of rigid plastic, is provided with a peripheral groove 52 into which a rim 53 of the seat 42 of the dispensing head 29 drops to provide rigid enclosure of the outlet end 41.

The dispensing head 29 comprises a fixed lower section of the housing 43 to which a cover 44 is hingeably joined between a closed position and an open position, in which the outlet end 41 and the shut-off valve 32 of the line 28 can be placed in the dispensing head 29.

The operating element 45 comprises an essentially horizontal arm 46 that is joined by a first end to a pin 48 such that it can pivot. The flexible dispensing line 28 is placed via a guide 49, attached to the top of the operating element 45, in a curved path in contact with a curved end 46' of the operating element 45.

Coupling means of the shut-off valve 32, which, for example, are formed by a flange 51 on a slideable sleeve 61, are connected to a coupling element at the end of the curved end 46' of the arm 46. The coupling element can suitably be constructed as a fork 63 which engages behind the flange 51 of the shut-off valve 32.

Fig. 4 shows the shaft 40 fixed to the handle 33 for moving the operating element 45. The shaft 40 is provided at one end with a spring pawl 47 which has a tooth 38' running at right angles to the shaft 40 at its end. The hingeable cover 44 of the dispensing head 29 has a complementary tooth 38 which engages with the tooth of the spring pawl 47. When the handle 33 is in the upright position, in which the shut-off valve 32 is closed, a releasing cam 39, which likewise is connected to the shaft 40, is positioned such that spring pawl 47 can be depressed, the tooth 38' dropping into the accommodating cavity in the releasing cam 39. This position is shown in Fig. 4, so that when shut-off valve 32 is closed and

76.
handle 33 is in the upright position the cover 44 of the lower section of the housing 43 can be released and is able to hinge open about hinge pin 60.

As can be seen from Fig. 5, the shank 51' of handle 33 is accommodated within a recess in the wall of two concentric annular sleeves 55, 56. By rotation of the sleeve 56 about its axis with respect to the sleeve 55, or by completely omitting sleeve 56, it is possible to adjust the stroke of the handle 33 between, for example, 90° and 10° by, respectively, allowing the openings in the walls of the rings 55, 56 to be in line or moving them into a mutually offset position.

A stop 58 has been formed on the top of the operating element 45, against which stop the shut-off valve 32 comes into contact, on introducing the dispensing line 28 into the dispensing head 29 via the guide tube 35 shown in Fig. 2, and pushing the shut-off valve 32 through too far to beyond the dispensing head 29 is prevented.

Furthermore, Fig. 5 shows a spring element 51" that is connected to the cover 44 in order to move the cover into the upright position on operating the spring pawl 47 and unlocking the cover 44.

It can clearly be seen from Fig. 5 that the end 46' of the operating element 45 is in the shape of a curved saddle that guides the flexible line 28 without kinking or sharp bends from a horizontal into an essentially vertical position, which saddle terminates in a fork 63 into which the flange 51 of the internal sleeve 61 of the shut-off valve 32 can be placed. A separate clamping spring 62 is fitted as a separate component in the seat 42 in order to position the shut-off valve 32 such that it is clamped with respect to the seat 42 when the cover is open, so that the cover 44 can be closed. With this arrangement the rim 53 on the seat 42 and the peripheral groove 52 of the outlet end 41 form a relatively air-tight closure, as a result of which drawing in of air past the outlet end 41 into the cooled beerpull 30 is counteracted.

The closed shut-off valve 32 prevents beer from leaking into the guide tube 35 when introducing and when withdrawing the dispensing line 28, which as a result of its rigidity is able to push the shut-off valve 32 and the outlet end 41 through the guide tube 35. After all, the inner sleeve 61 is placed in its extended position when introducing shut-off valve 32 into the fork 63 or removing it from the fork 63, so that the shut-off valve 32 is closed. As a result of the use of the dispensing head 29 in cooperation with the flexible dispensing hose 28 which is provided with shut-off valve 32 close to the outlet end 41 rapid and easy positioning of the dispensing line 28 can take place so that an empty vessel of carbonated

77

drink can easily be replaced by a full vessel. Because the entire dispensing line 28 is also replaced during this operation, frequent cleaning of the dispensing line is no longer required, which has the effect of saving a great deal of time and costs, especially when tapping beer.

5 Fig. 6a shows the plastic outlet end 41 of the flexible dispensing hose 28, provided with the shut-off valve 32 according to the present invention. As can be seen from Fig. 6b, the outlet end 41 comprises an external sleeve 70 in which an interior closing projection 71 is accommodated. The closing projection 71 is provided with lateral passageways 72 through which the carbonated drink is able to pass from an upstream channel section 73 of the shut-off valve to a downstream outlet section 74. An internal sleeve 75, to which the flexible dispensing line 28 is welded, is accommodated in the outer sleeve 70 such that it is slideable around the projection 71. The outlet 73' of the inner sleeve 75 has a sealing wall 76 with a height corresponding to the height of the projection 71.

10 In the position shown in Fig. 6b the sealing wall 76 of the outlet 73' of the inner sleeve 75 is in contact with the projection 71 such that a seal is produced. In the shut-off position shown in Fig. 6b openings 77 in the wall of the intermediate sleeve 78, which carries the projection 71, are exposed so that the downstream outlet channel 74 is vented via the openings 77 around the top rim of the outer sleeve 70 (see the arrows indicated diagrammatically) so that a vacuum is not able to build up in the outlet channel 74. When a shut-off valve 32 is closed, such a vacuum gives rise to long-term after-leakage of the carbonated drink from the outlet channel 74, which is undesirable. This is prevented by the vent openings 77 according to the invention. In the position shown, the sealing effect of the sleeve 75 is increased by the pressure of the carbonated drink, which presses the sleeve 75 into the closed position.

20 A sealing cap 80 with a rounded point is fitted on the outlet end 41 to prevent the shut-off valve 32 becoming soiled when inserting the dispensing line 28 into the dispensing head 29 and to achieve smoother guiding of the shut-off valve 32 through the guide tube 35. The protective cap 80 is removed from the outlet end 41 before the outlet end 41 is placed in the seat 42.

25 Figs 7a and 7b show the shut-off valve 32 in its open position, an end face 81 of the internal sleeve 75 being in contact with a bottom face of intermediate sleeve 78. In the position shown, the upstream channel section 73 is in fluid communication with the downstream outlet channel 74 of the shut-off valve 32. Because the front end of the sealing

wall 76 of the internal sleeve 75 is in contact with the intermediate sleeve 78 such that a seal is produced, carbonated drink is prevented from being able to pass to the vent openings 77 when the shut-off valve 32 is in the open position. The height of the sealing wall 76 is sized such that the vent openings 77 are completely shut off at the point in time when part of the wall 76 is still in contact with the projection 71 and therefore no beer is yet able to issue through the outlet 72.

The internal sleeve 75 is provided at its end with a flange 79 that can be accommodated in the fork 63 of the operating element 45. With this arrangement the external sleeve 70 is firmly clamped in the dispensing head via the peripheral groove 52 and the play for axial movement of the internal sleeve 75 by means of the flange 79 is provided by the flexible nature of the line 28 which is able to give sufficiently to make a stroke of a few millimetres, such as approximately 4 millimetres, by the internal sleeve 75 possible.

Figs 8a to 8d show various alternatives of the shut-off valve 32 according to the present invention, the same reference numerals as in Figures 6 and 7 being used for identical components.

Fig. 8a shows an embodiment in which the outlet 72 is located in a central constriction in the external sleeve 70. The internal sleeve 75, with the flexible line 28 fixed thereto, is placed inside the external sleeve such that it can be moved and has a sealing projection 71 at its end, which sealing projection 71 can be placed into sealing contact inside the outlet 72 by drawing back the internal sleeve 75.

Fig. 8b shows an embodiment with which the external sleeve 70 is provided with a sealing projection 71 and with an outlet 72, around which projection an outlet 73' in the internal sleeve 75 can be positioned to produce a seal. With this arrangement the wall of the outlet 73' engages, such that a seal is produced, on the projection 71 that is arranged in the external sleeve 70 in a fixed position and the outlet 72 is closed off by a side wall section of the inner sleeve 75.

Fig. 8c shows an embodiment with which a projection 71 is arranged on the inside of the external sleeve 70, around which projection 71 side wall sections of the internal sleeve 75 are located which extend beyond the projection 71 in the downstream direction. The front wall sections can be positioned around the projection 71 to produce a seal by drawing back the internal sleeve.

Fig. 8d shows an embodiment which is the mechanical reverse of the embodiment

79
according to Fig. 8b, sealing projection 71 being arranged on the internal sleeve 75 and a stationary outlet 72, which can be closed off by the projection 71, being made in the external sleeve 70.

Embodiments with which the internal sleeve 75 and the external sleeve 70 are provided with inlets and outlets that can be positioned such that they close off one another or in a flow position by turning relative to one another are also possible.

Figs 9 and 10 show an embodiment of a dispensing head 90 and dispensing line 101 for use in a dispenser device as shown in Fig. 1. The dispensing head 90 comprises base section 91 with the handle 93 fixed thereto. The base section 91 is provided with a bore 96 and a receptacle tube 92 for receiving a right-angle outlet end 103 of the flexible dispensing line 101. The base section 91 is also provided with a receptacle component 97 for accommodating the flexible dispensing line 101 and the shut-off valve 102 and with a control element or guide 98 that can be slid along the receptacle component 97 in the axial direction and is connected to the handle 93 for operating the shut-off valve 102 of the dispensing line 101. The guide 98 can be constructed in the same way as the fork 63 that is shown in Fig. 5 and engages on the flange 105 of the inner sleeve 107 of the shut-off valve 102 in Fig. 10.

The dispensing head 90 is furthermore provided with a top section 95 that is joined to base section 91 such that it can be hinged about a hinge pin 96'. The top section 95 comprises a chamber 99 for accommodating a plate 104 at the end of dispensing line 101. The plate 104 of a dispensing line 101 fitted in the dispensing head 90 is visible via an opening or window 100, so that the contents of the drink dispenser device can be established. The window 100 can have a curved and thus magnifying shape.

Fig. 10 shows the assembled dispensing head and the disassembled flexible dispensing line 101 with, at the end, a shut-off valve 102 of the type shown in Figures 6a to 8d. The shut-off valve 102 is connected to the outlet end 103 that is at right angles to the shut-off valve 102 and is fitted in the bore 96 of the dispensing head 90. Furthermore, the plate 104 at the outlet end 103 is provided with visual symbols in order to be able to establish the type of carbonated drink when the plate 104 is fitted in the chamber 99 of the dispensing head. By this means an accurately defined position of the outlet end 106 is guaranteed after the top section 95 has been hinged shut, so that favourable tapping characteristics are obtained.

Fig. 11 shows a preferred embodiment of a beverage dispensing system with a

cooling chamber 110 and a beverage container 112 situated within the cooling chamber. In the lid 111 of the cooling chamber an air valve 114 is located which is connected to an air inlet at the top of the container 112. The air valve 114 in the lid 111 is connected to a compressor to provide pressurization of the contents of the container 112 such as beer, which is comprised in a flexible and compressible bag. By introducing air between the wall of the container 112 and the bag, beer can be dispensed from central tube 120 through flexible tube 113 via dispensing valve 115 and out through the outflow nozzle 116. Once the lid 111 is closed, the air valve 114 is connected to the container 112 and closing valve 130 is pressed in a downward direction such that the tube 120 is open and a free flow of pressurized beverage through tube 120 and flexible tube 113 is achieved. In the closed position of the cooling chamber 110, such as shown in Fig. 11, the user can dispense the contents from the container 112 through the outflow nozzle 116 by operating the handle 119. Rotation of handle 119 will cause cam surface 122 connected to the rotational axis of handle 119 to displace carrier 124 against the spring force of biasing spring 125.

Fig. 12 shows the handle 119 and the operating mechanism connected thereto for opening and closing of the valve 115 in detail. Clearly, rotation of the handle 119 to open the valve 115 will first meet resistance from the projection 127 against the cam surface. After overcoming a "dead point", the projection 127 can easily slide along the curved trajectory towards the downward position, so that the handle 119 can be easily placed into the horizontal position as shown in Fig. 13. A firm grip is felt by the user by the force exerted by spring 125. At the end position, shown in Fig. 13, the projection 127 falls into a hollow part 128 of the cam surface such that a firm stop of the tap handle in the open position is achieved. Upon rotation of the handle 119 from the horizontal position shown in Fig. 13 back into the vertical position shown in Fig. 12, the spring force of spring 125 acts to quickly and with relatively little effort flip back the handle 119 and cause a sudden cut-off of beer flow, hence preventing dripping and foaming. The projection 126 on cam 122 will arrest the handle 119 into its properly defined right position.

Claims

- 5 1. Drink dispenser assembly (1, 25) comprising: a dispenser device (2, 37) provided with a dispensing head (18, 29) for accommodating a dispensing line (17, 28), and a container (7, 27) containing drink, in particular carbonated drink, connected during use to the dispensing line (17, 28) which has a coupling element at an outlet end for connection to the dispensing head (18, 29), characterised in that the coupling element comprises a shut-
- 10 off valve (19, 32) that can be closed when placing the outlet end of the dispensing line (17, 28) into the dispensing head (18, 29) and, respectively, removing the outlet end of the dispensing line (17, 28) from the dispensing head (18, 29).
2. Drink dispenser assembly (1, 25) according to Claim 1, characterised in that the
- 15 dispensing line (17, 28) is at least partially flexible.
3. Drink dispenser assembly (1, 25) according to Claim 1 or 2, wherein the dispensing head (18, 29) is provided with a knob or handle (20, 33), characterised in that the dispensing head (18, 29) has an operating element (45, 98) which is connected to the knob
- 20 or handle and by means of which the shut-off valve (19, 32, 102) can be detachably connected, for opening and closing the shut-off valve by moving the knob or handle (20, 33).
4. Drink dispenser assembly (1, 25) according to Claim 3, characterised in that the shut-
- 25 off valve (19, 32) is provided with coupling means (51, 79, 105) for detachable connection to the operating element (45, 98).
5. Drink dispenser assembly (1, 25) according to one of the preceding claims, characterised in that the shut-off valve (32) comprises a first sleeve (75) and a second
- 30 sleeve (70), which is concentric with respect to the first sleeve (75), which first sleeve is provided with an inlet (73) to an upstream part of the dispensing line (28) and an outlet (73'), the second sleeve (70) being provided with an inlet (72) which interacts with the outlet (73') of the first sleeve (75) and with an outlet (74), coupling means (79) being

arranged on one of the sleeves (75) which can be moved by the coupling means between a flow position, in which the outlet (73') of the first sleeve (75) is in fluid communication with the inlet (72) of the second sleeve (70), and a shut-off position in which the outlet (73') of the first sleeve (75) is closed off by the second sleeve (70).

5

6. Drink dispenser assembly (1, 25) according to Claim 5, characterised in that one of the sleeves (70) has an interior projection (71), the sleeves (70, 75) being movable by the operating element (46, 98) with respect to one another in order to bring the projection (71) into sealing engagement on the inlet or outlet (73') of the other sleeve (75).

10

7. Drink dispenser assembly (1, 25) according to Claim 5 or 6, characterised in that the coupling means comprise a flange (50, 79, 105) or a peripheral groove, the operating element (45, 98) comprising an accommodating component (63) that is connected to the knob or handle (20, 33) and can be moved in the axial direction of the sleeves (70, 75), for engagement on the flange (50, 79, 105) or on the peripheral groove.

15

8. Drink dispenser assembly (1, 25) according to Claim 7, characterised in that the accommodating component (63) has an open cavity on one side in which the inner or the outer sleeve (70, 75) can be enclosed.

20

9. Drink dispenser assembly (1, 25) according to one of Claims 4 to 8, with reference to Claim 3, characterised in that the dispensing head (29, 90) has a base section (43, 91), that is connected to the knob or handle (33, 93) and to the operating element (45, 98), and a second section (44, 95) provided with an accommodating cavity, which second section (44, 95) is movably connected to the base section (43, 91), between an open position, in which the operating element (45, 98) is released to connect the shut-off valve (19, 32) to the operating element (45, 98), and a closed position, in which the shut-off valve (45, 98) is at least partially located within the accommodating cavity of the second section (44, 95).

25

30

10. Drink dispenser assembly (1, 25) according to Claim 9, characterised in that the dispensing head (29) is provided with locking means (39, 47) which are able to release the second section (44) only when the shut-off valve (32) has been placed in a closed position.

11. Drink dispenser assembly (1, 25) according to Claim 9 or 10, characterised in that the second section (44) can be moved about a hinge pin (60, 94) that is located transversely to the longitudinal direction of the dispensing line (28), or parallel thereto.
- 5 12. Drink dispenser assembly (1, 25) according to one of the preceding claims, characterised in that the dispensing line (28) is provided with an outlet section (41, 103) located downstream of the shut-off valve (19, 32).
- 10 13. Drink dispenser assembly (1, 25), characterised in that the outlet section (103) is at right angles to the dispensing line (28).
14. Drink dispenser assembly (1, 25) according to Claim 12 or 13, characterised in that the outlet end (41, 103) is provided with an external peripheral groove (52) or ridge that can be connected to a complementary ridge (53) or cavity on/in the interior of an outlet
15 (42) of the dispensing head (18, 29).
15. Drink dispenser assembly (1, 25) according to one of the preceding claims, characterised in that the outlet end (103) of the dispensing line (101) is provided with a plate (104), the dispensing head (90) being provided with a chamber (99) for
20 accommodating the plate and with a window (100), located parallel to the plate (101), for displaying at least part of the plate.
16. Drink dispenser assembly (1, 25) according to one of the preceding claims, characterised in that the operating element (45) comprises a guide with an essentially
25 horizontal arm (46), a first end (47) of which can be moved about a pivot pin (48), a curved arm (46') having a fork (63) at one end for coupling to the shut-off valve (19, 32) being located at a second end of the arm (46), which end is located some distance away from the pivot pin, and transversely thereto.
- 30 17. Drink dispenser assembly (1, 25) according to Claim 16, characterised in that the operating element (45) comprises a positioning element (49) beneath which the dispensing line (28) can be fitted for guiding the dispensing line along the curved arm (46').

18. Drink dispenser assembly (1, 25) according to one of the preceding claims, characterised in that the dispenser device is provided with pressure means (13, 36), which can be connected to the container (7, 27), for feeding a pressure medium to the container (7, 27), and with cooling means (34) for cooling a container (7, 27) placed in the compartment (3, 26).

19. Drink dispenser assembly (1, 25) according to one of the preceding claims, characterised in that the shut-off valve (14, 32) is provided with a vent (77) which is in fluid communication with an outlet (74) of the shut-off valve (19, 32) when the shut-off valve is in the closed position.

20. Drink dispenser assembly (1, 25) according to Claim 1 or 2, characterised in that the shut-off valve is electromagnetic, the dispensing head being provided with an electromagnetic operating element.

21. Drink dispenser device (2, 37) comprising a dispensing head (18, 29) with a handle or knob (20, 33) and an operating element (45, 98) connected to the handle or knob, characterised in that the operating element (45, 98) comprises an accommodating component (63) for detachably connecting to a shut-off valve (19, 32) that is connected to a dispensing line of a container for drink, preferably carbonated drink, which accommodating component can be moved by operation of the handle or knob in order to open and close the shut-off valve.

22. Drink dispenser device (2, 37) according to Claim 21, characterised in that the accommodating component (63) can be moved in an accommodating channel for the dispensing line, in the longitudinal direction of the accommodating channel.

23. Drink dispenser device (2, 37) according to Claim 22, characterised in that the accommodating component (63) comprises an accommodating cavity open on one side.

24. Drink dispenser device (2, 37) according to Claim 21 or 22, characterised in that the operating element (45) comprises a guide with an essentially horizontal arm (46) that can be moved by a first end (47) about a pivot pin (48), a curved arm (46') with a fork (63) at

85

one end being located at a second end of the arm, which second end is located some distance away from the pivot pin, and transversely thereto.

25. Drink dispenser device (2, 37) according to one of Claims 21 to 24, characterised in
5 that the dispensing head (29, 90) has a base section (43, 91), that is connected to the handle or knob (33, 93) and to the operating element (45, 98), and a second section (44, 95) provided with an accommodating cavity, which second section is movably connected to the base section, between an open position, in which the operating element (45, 98) is released
10 to connect the shut-off valve to the operating element, and a closed position, in which the shut-off valve (19, 32) is at least partially located within the accommodating cavity.

26. Drink dispenser device (2, 37) according to Claim 25, characterised in that the
dispensing head (29) is provided with locking means (39, 47) which are able to release the
15 second section (44) only when the shut-off valve (19, 32) has been placed in a closed position.

27. Drink dispenser device (2, 37) according to Claim 25 or 26, characterised in that the
second section (44, 95) can be moved about a hinge pin (60, 96') that is located
20 transversely to the longitudinal direction of the dispensing line, or parallel thereto.

28. Drink dispenser device (2, 37) according to one of Claims 21 to 27, characterised in
that the dispensing head is provided with a chamber (99) for accommodating a plate (101)
and with a window (100), located parallel to the plate, for displaying at least part of the
plate.
25

29. Drink dispenser device (2, 37) according to Claim 24, characterised in that the
operating element (45) comprises a positioning element (49) beneath which the dispensing
line (28) can be fitted for guiding the dispensing line along the curved arm (46').

30. Drink dispenser device (2, 37) according to one of Claims 21 to 29, characterised in
that the device comprises a compartment (3, 26), provided with cooling means (34), for
accommodating a container (7, 27), as well as pressure means (13, 36) for feeding a
pressure medium to a container placed in the compartment.

86

31. Drink dispenser device (2, 37) according to one of Claims 21 to 30, characterised in that the dispensing head (18, 29) is provided with an electromagnetic operating element.
- 5 32. Container (7, 27) provided with a drink, in particular carbonated drink, having a dispensing line (17, 28) which is connected to or can be connected to the container and has a coupling element close to one end for connection to a dispensing head of a drink dispenser device, characterised in that the coupling element comprises a shut-off valve (19, 32) which can be closed when placing the end of the dispensing line (28) into the
10 dispensing head (18, 29) and, respectively, removing the end of the dispensing line (28) from the dispensing head (18, 29).
33. Container (7, 27) according to Claim 32, provided with a relatively rigid outer jacket (7) and an interior flexible bag (6) containing the carbonated drink, which bag is connected
15 to a first shut-off element (10) that comprises a connecting element that is connected to the dispensing line (17, 28) that is at least partially of flexible construction.
34. Container (7, 27) according to Claim 33, wherein the outer jacket (7) is provided with a connection opening for connection to pressure means (13, 36) for feeding a pressure
20 medium to the space (76) between the flexible bag (6) and the outer jacket (7).
35. Container (7, 27) according to Claim 32, 33 or 34, characterised in that the shut-off valve (19, 32) comprises a first sleeve (75) and a second sleeve (70), which is concentric with respect to the first sleeve, which first sleeve is provided with an inlet (73) to an
25 upstream part of the dispensing line (28) and an outlet (73'), the second sleeve (70) being provided with an inlet (72) which interacts with the outlet (73') of the first sleeve (75) and with an outlet (74), coupling means (79) being arranged on one of the sleeves (75) which can be moved by the coupling means between a flow position, in which the outlet (73') of the first sleeve (75) is in fluid communication with the inlet (72) of the second sleeve (70),
30 and a shut-off position in which the outlet (73') of the first sleeve (75) is closed off by the second sleeve (70).
36. Container (7, 27) according to Claim 35, characterised in that the coupling means

97

comprise a flange (79) or a peripheral groove for engagement on an operating element (45, 98) of the drink dispenser device that comprises an accommodating component (63) that is connected to a knob or handle (20, 33) and can be moved in the axial direction of the sleeves (70, 75), for engagement on the flange (79) or on the peripheral groove.

5

37. Container (7, 27) according to one of Claims 32 to 35, characterised in that the shut-off valve (19, 32) is provided with a vent (77) which is in fluid communication with an outlet (74) of the shut-off valve (19, 32) when the shut-off valve is in the closed position.

10 38. Container (7, 27) according to one of Claims 32 to 37, characterised in that the shut-off valve is electromagnetic, the dispensing head being provided with an electromagnetic operating element.

15 39. Container (7, 27) according to Claim 35, characterised in that the coupling means comprise a flange (51, 79) or a peripheral groove on one of the sleeves (70, 75).

40. Container (7, 27) according to one of Claims 32 to 39, characterised in that the dispensing line (17, 28) is provided at the outlet end with a relatively rigid tube section (41) with the shut-off valve (19, 32) connected thereto.

20

41. Container (7, 27) according to Claim 40, with reference to Claim 35 or 36, characterised in that the tube section forms the outer sleeve (70) of the shut-off valve (19, 32).

25 42. Container (7, 27) according to Claim 40 or 41, characterised in that the tube section (41) is provided with a ridge or groove (52) on an outer surface.

43. Container (7, 27) according to Claim 40, 41 or 42, characterised in that a plate (104) is attached to the outlet end of the dispensing line.

30

44. Dispensing line (17, 28, 101) for use in a container according to one of Claims 32 to 43, provided with a shut-off valve (19, 32) with coupling means (51, 79) for detachable connection to an operating element of a dispensing head.

45. Dispensing line (17, 28, 101) according to Claim 44, characterised in that the dispensing line is at least partially flexible.

5 46. Dispensing line (17, 28, 101) according to Claim 44 or 45, characterised in that the shut-off valve (19, 32) comprises a first sleeve (75) and a second sleeve (70), which is concentric with respect to the first sleeve, which first sleeve is provided with an inlet (73) to an upstream part of the dispensing line (28) and an outlet (73'), the second sleeve (70) being provided with an inlet (72) which interacts with the outlet (73') of the first sleeve
10 (75) and with an outlet (74), coupling means (79) being arranged on one of the sleeves (75) which can be moved by the coupling means between a flow position, in which the outlet (73') of the first sleeve (75) is in fluid communication with the inlet (72) of the second sleeve (70), and a shut-off position in which the outlet (73') of the first sleeve (75) is closed off by the second sleeve (70).

15 47. Dispensing line (17, 28, 101) according to Claim 46, characterised in that one of the sleeves (70) has an interior projection (71) and can be moved axially with respect to the other sleeve (75) by means of the operating element in order to engage on the inlet or outlet (73') of the other sleeve so as to provide a seal.

20 48. Dispensing line (17, 28, 101) according to Claim 44, 45, 46 or 47, characterised in that the shut-off valve (19, 32) is provided with a vent (77) which is in fluid communication with an outlet (74) of the shut-off valve (19, 32) when the shut-off valve is in the closed position.

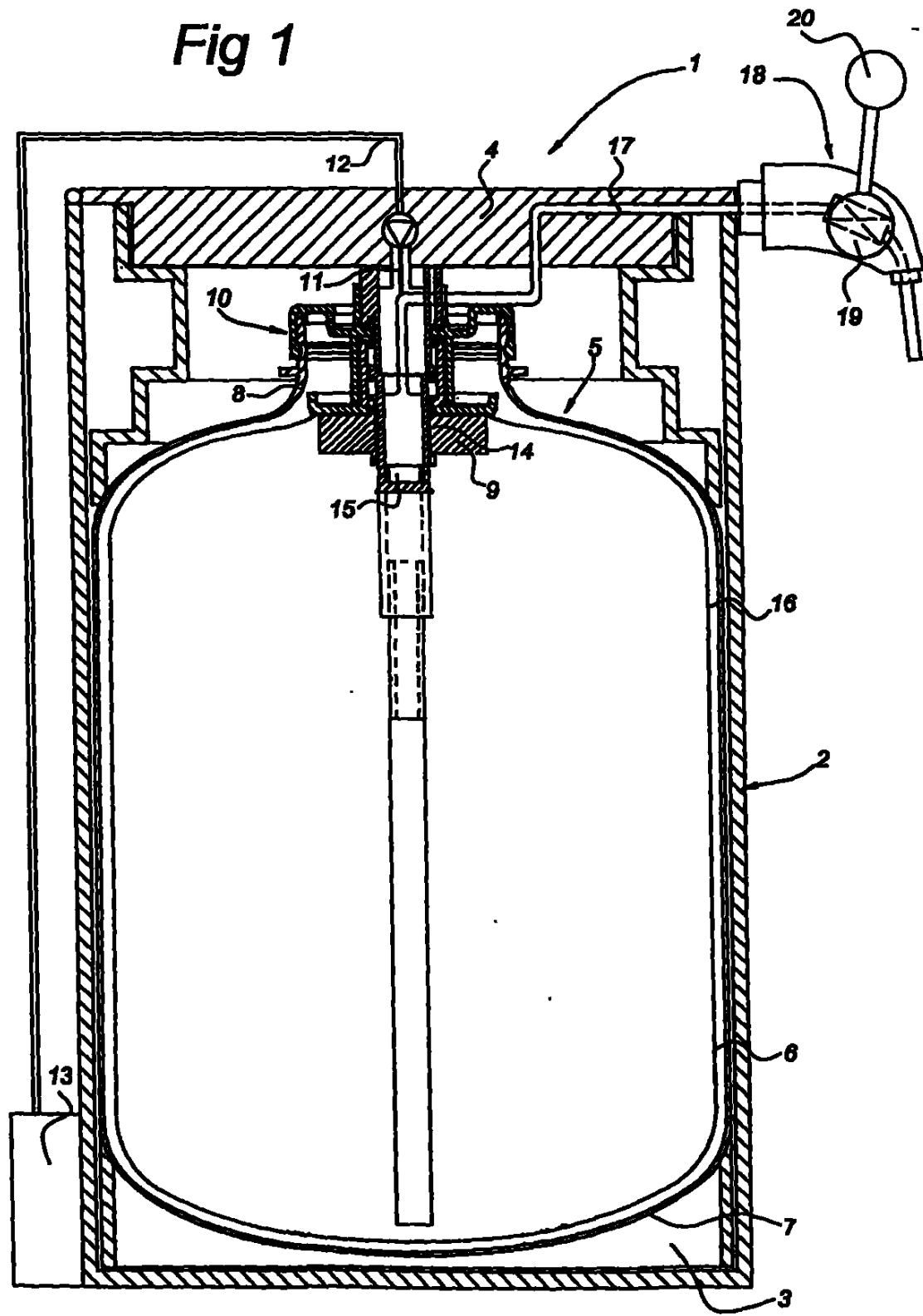
25 49. Dispensing line (17, 28, 101) according to one of Claims 44 to 48, characterised in that the shut-off valve (19, 32) is provided with coupling means (51, 79) for connection to the dispensing head.

30 50. Dispensing line (17, 28, 101) according to one of Claims 44 to 49, characterised in that the dispensing line is provided at the outlet end with a relatively rigid tube section with the shut-off valve (19, 32) connected thereto.

- 89
51. Dispensing line (17, 28, 101) according to Claim 50, with reference to Claim 46 or 47, characterised in that the tube section (41) forms the outer sleeve (70) of the shut-off valve (19, 32).
- 5 52. Dispensing line (17, 28, 101) according to Claim 50 or 51, characterised in that the tube section (41) is provided with a ridge or groove (52) on an outer surface.

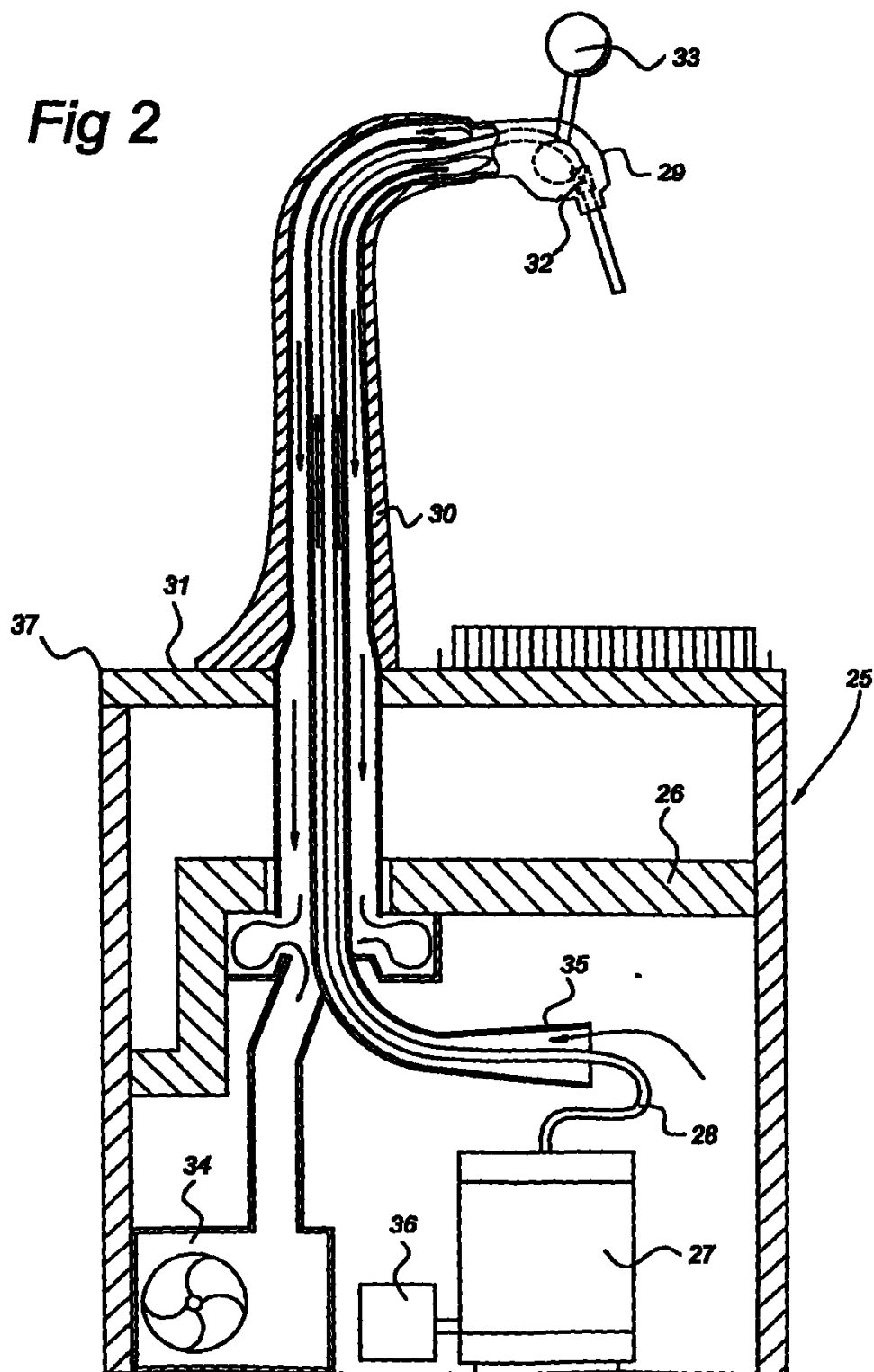
1/1

Fig 1



2/11

Fig 2



3/11

Fig 3

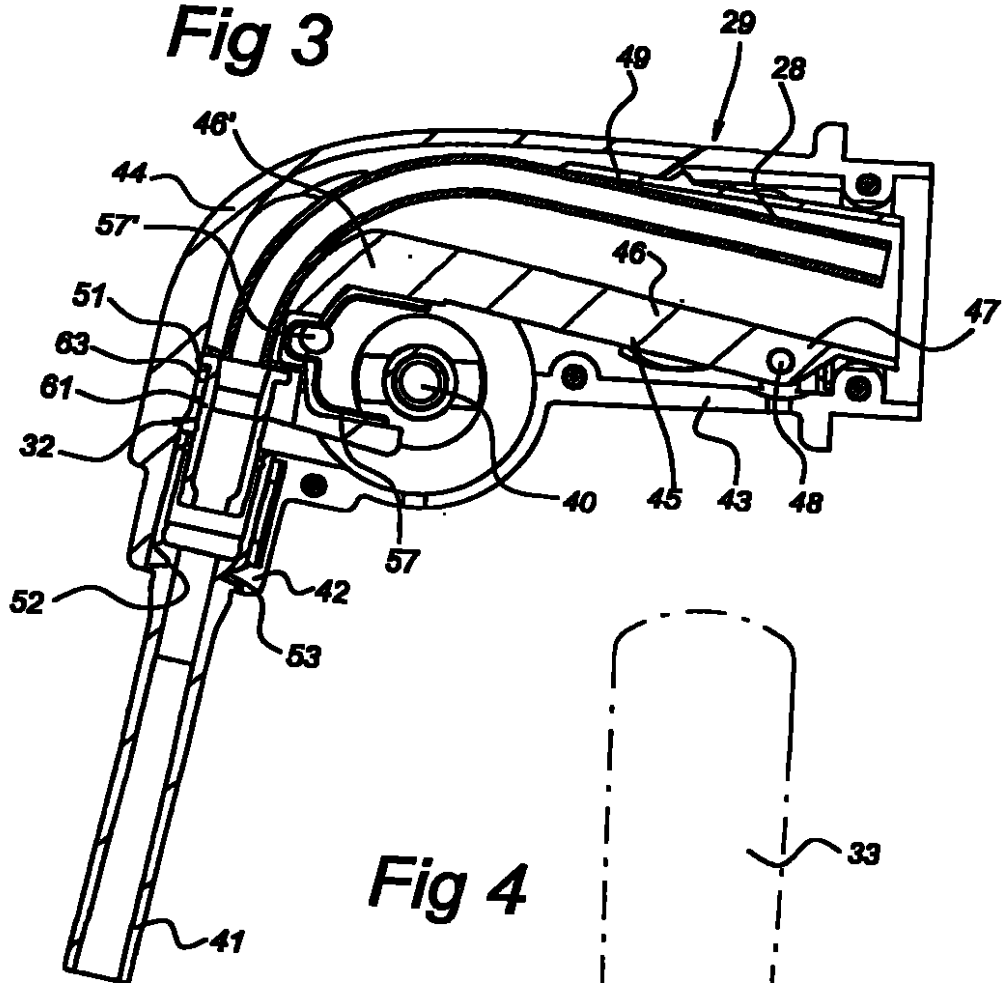
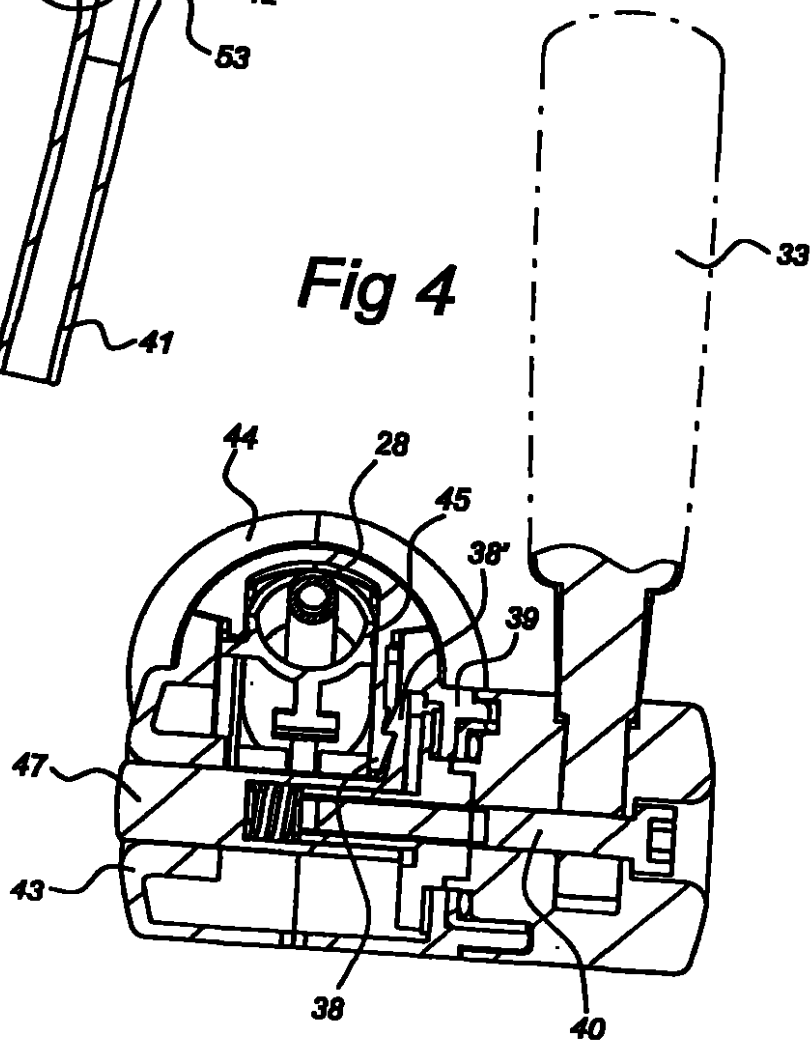


Fig 4



4/11

Fig 5

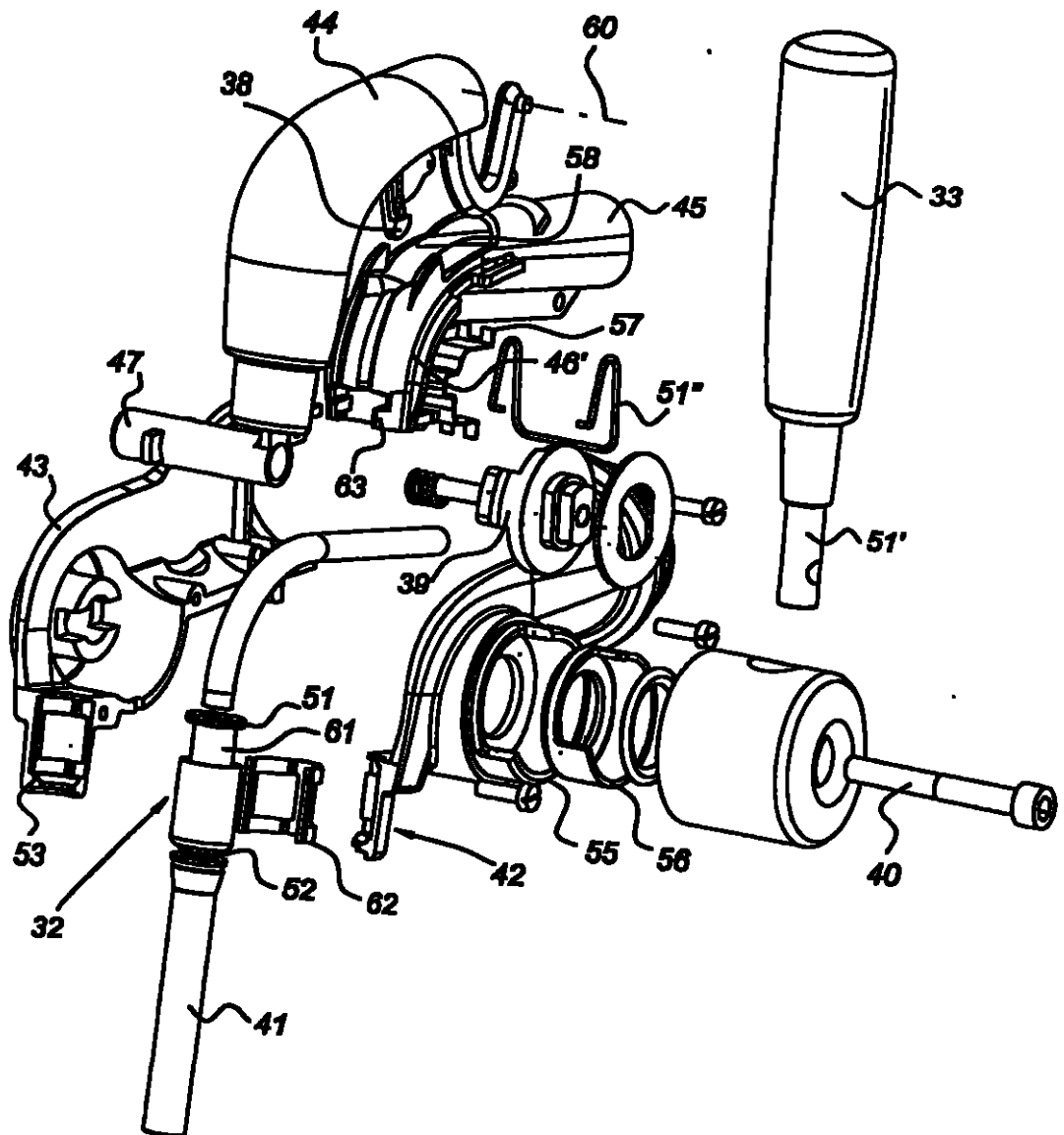


Fig 6a

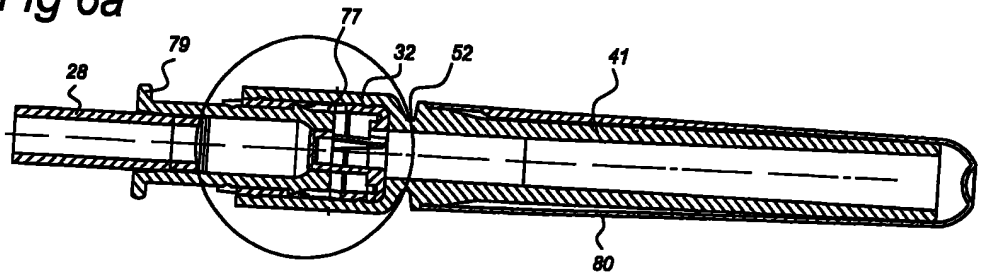


Fig 6b

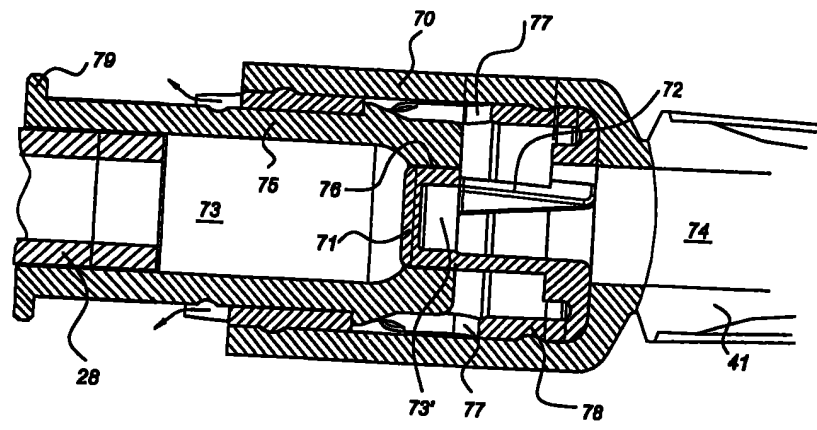


Fig 7a

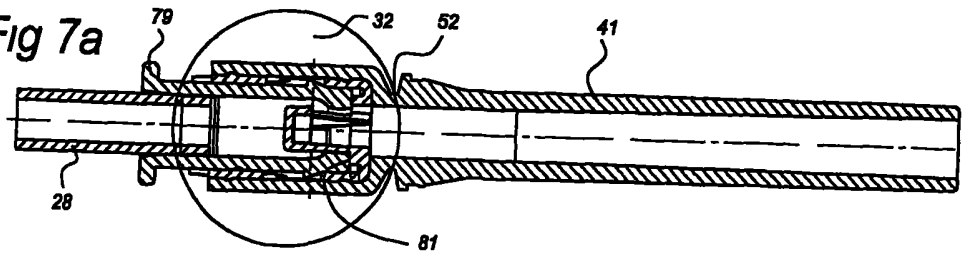
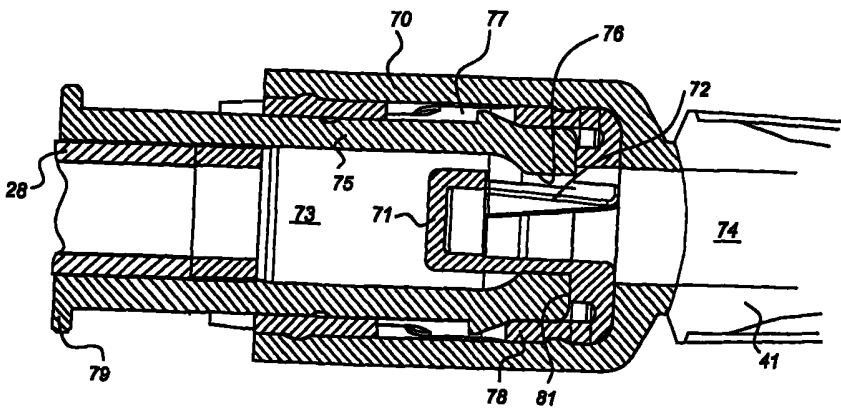


Fig 7b



7/11

Fig 8a

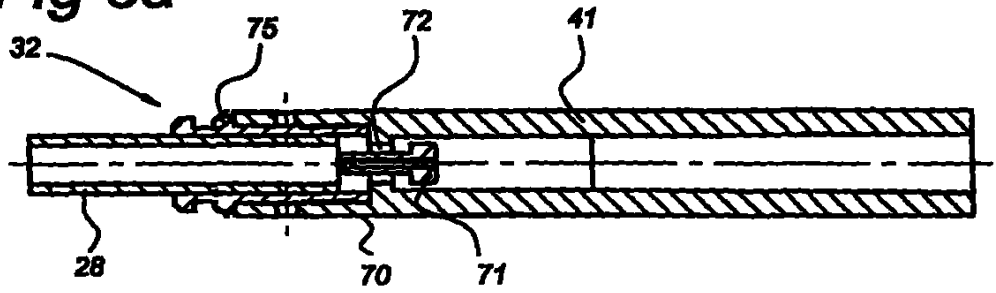


Fig 8b

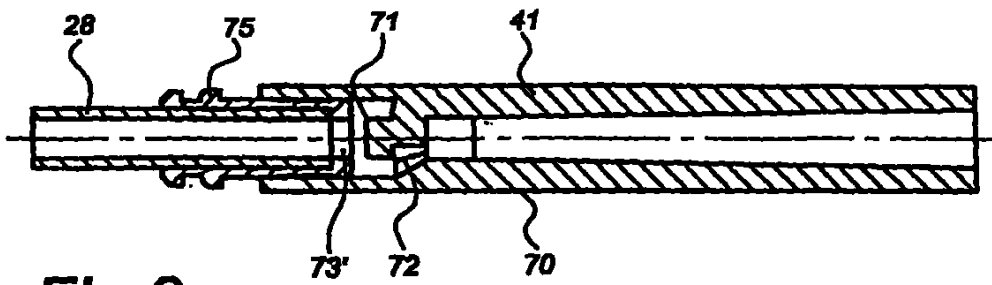


Fig 8c

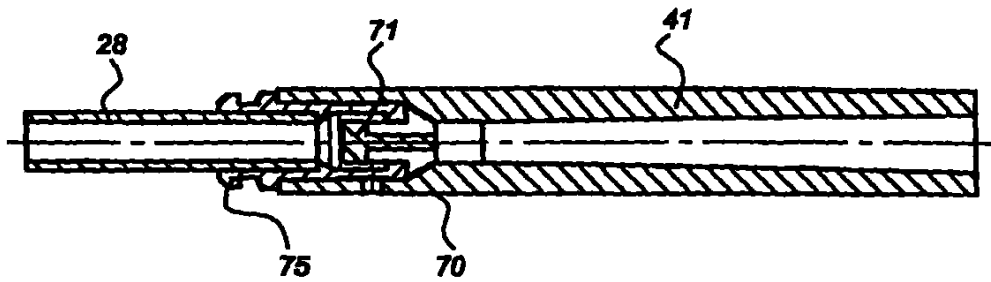


Fig 8d

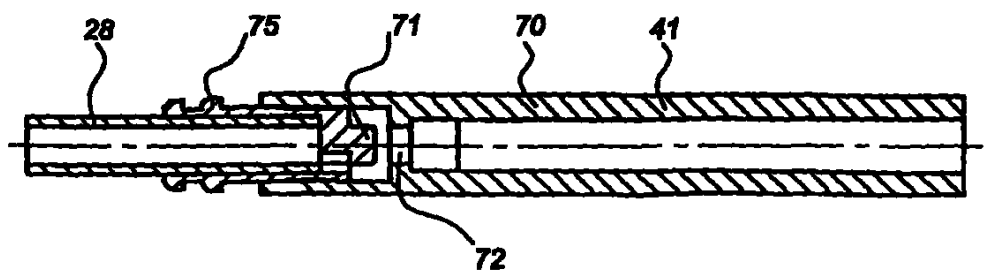
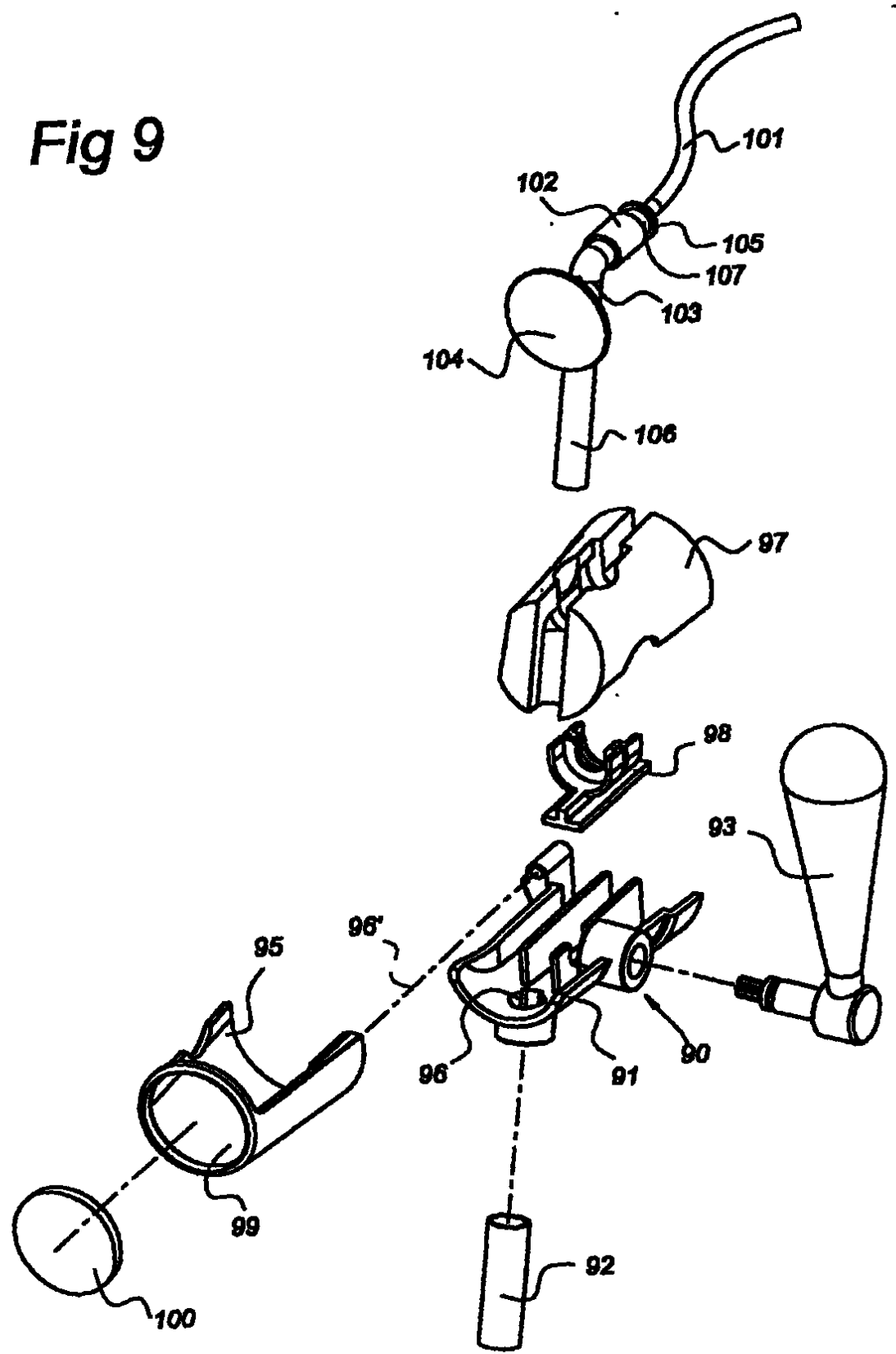


Fig 9



9/11

Fig 10

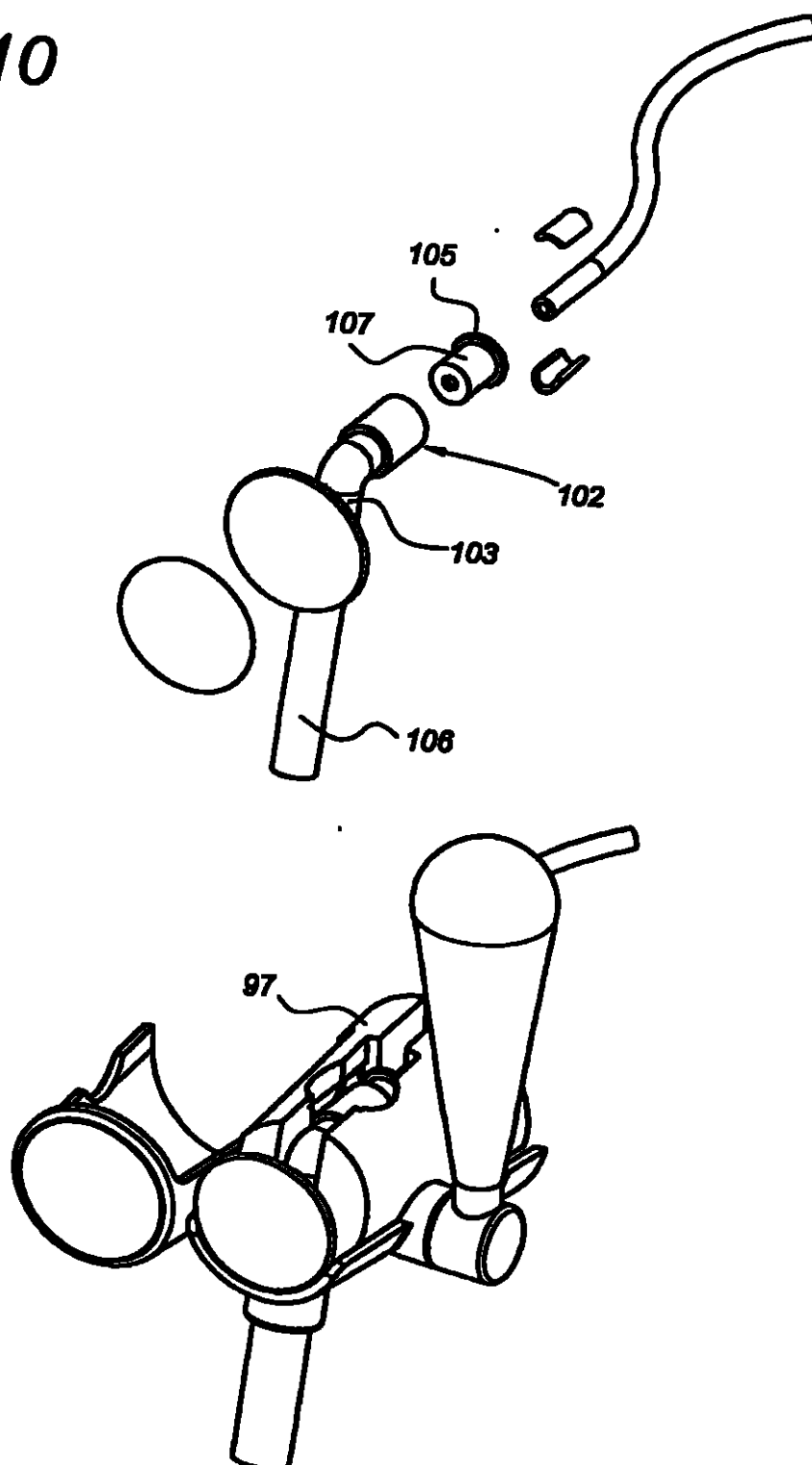
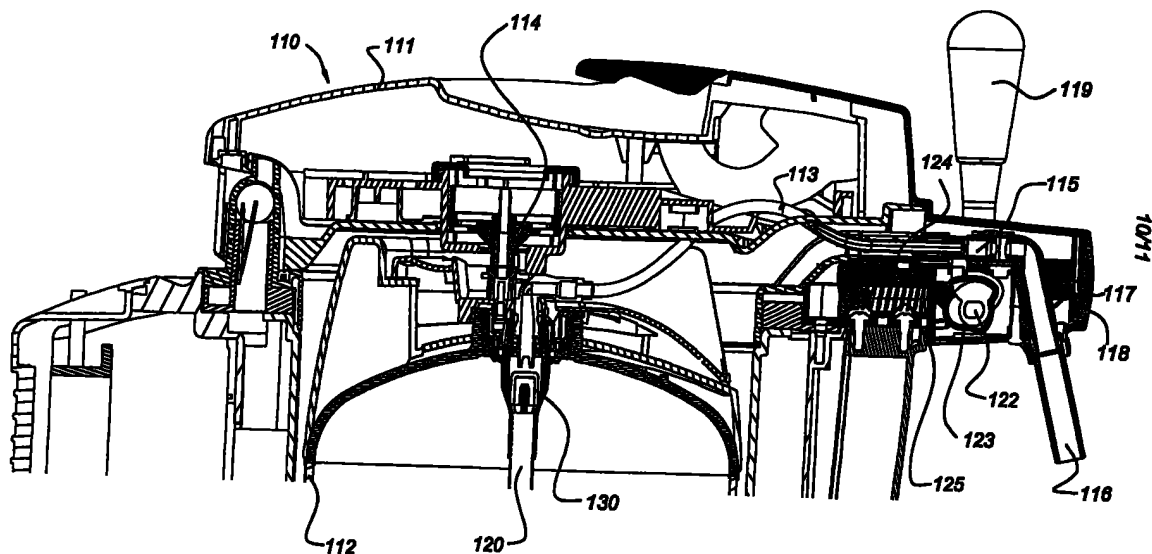


Fig 11



11/11

Fig 12

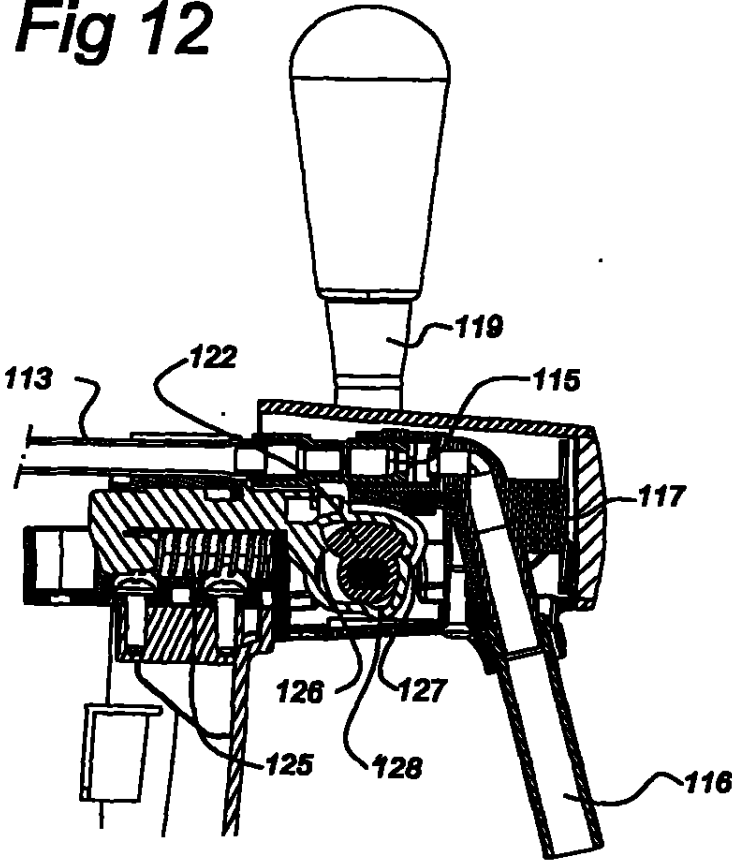
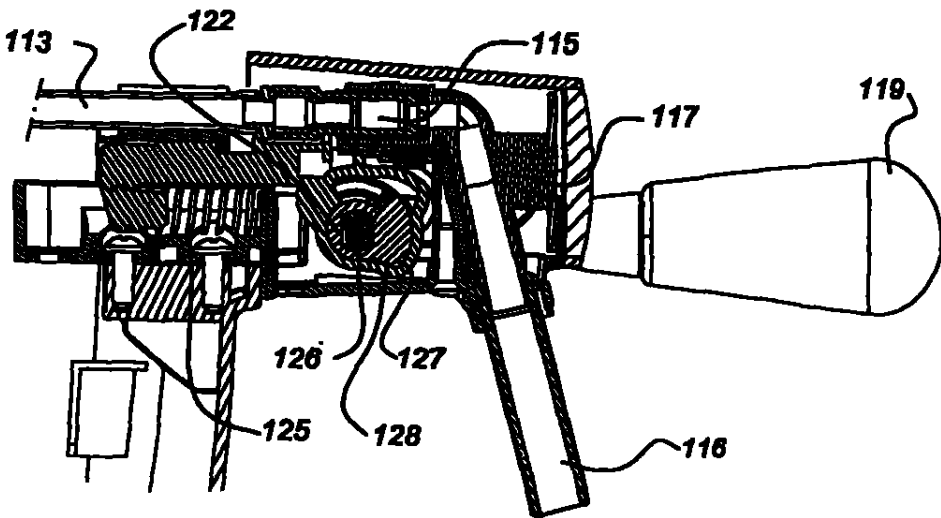


Fig 13



INTERNATIONAL SEARCH REPORT

 Int. Application No.
PCT/NL 01/00423

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 B67D1/06 B67D1/14

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 B67D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	68 2 176 766 A (BASS PLC) 7 January 1987 (1987-01-07) page 3, line 3 - line 10	1, 4, 12, 13, 20, 32, 38, 44
Y	page 3, line 44 - line 56; figure 1	2, 33, 34, 40, 45, 49, 50
Y	WO 00 03944 A (TIMP PIET HEIN WILLEM ; BAAL PATRICK MICHAEL VAN (NL); HEINEKEN TEC) 27 January 2000 (2000-01-27) cited in the application page 17, line 5 - line 14 page 26, line 27 - line 29; figures 1, 4 -/-	2, 33, 34, 40, 45, 49, 50

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document relating to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- "Z" document member of the same patent family

Date of the actual completion of the international search

16 July 2001

Date of mailing of the international search report

02/08/2001

Name and mailing address of the ISA

 European Patent Office, P.O. Box 5816 Patentamt 2
 NL - 2280 HV Rijswijk
 Tel. (+31-70) 340-2040, Tx. 31 851 epo nl,
 Fax: (+31-70) 340-3018

Authorized officer

Wartenhorst, F

INTERNATIONAL SEARCH REPORT

Int. Application No.
PCT/NL 01/00423

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 0 246 052 A (CADBURY SCHWEPPE LTD) 19 November 1987 (1987-11-19) page 6, line 17 -page 7, line 13 page 18, line 25 - line 31; figures 2-4, 17-24	1, 21, 32, 44
A	US 5 560 522 A (CLARK ROBERT D) 1 October 1996 (1996-10-01) abstract; figures 5, 7, 8	1, 21, 32, 44
A	US 5 058 780 A (PLESTER GEORGE ET AL) 22 October 1991 (1991-10-22) abstract; figures 1A, 9, 11	1, 21, 32

INTERNATIONAL SEARCH REPORT

Information on patent family members

Int. Application No.

PCT/NL 01/00423

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
GB 2176766 A	07-01-1987	GB 2147274 A, B	09-05-1985
WO 0003944 A	27-01-2000	NL 1009654 C	19-01-2000
		AU 5070799 A	07-02-2000
		BR 9912105 A	02-05-2001
		EP 1097104 A	09-05-2001
		NL 1012546 C	24-01-2000
		NL 1014081 C	19-06-2000
		NL 1014081 A	08-02-2000
		NO 20010192 A	12-03-2001
EP 0246052 A	19-11-1987	AU 7299187 A	26-11-1987
US 5560522 A	01-10-1996	NONE	
US 5058780 A	22-10-1991	AT 92891 T	15-08-1993
		AT 97636 T	15-12-1993
		AT 145985 T	15-12-1996
		AU 644100 B	02-12-1993
		AU 6316890 A	28-03-1991
		AU 641180 B	16-09-1993
		AU 6317690 A	28-03-1991
		AU 634827 B	04-03-1993
		AU 6426990 A	18-04-1991
		BR 9006922 A	24-12-1991
		CA 2025905 A, C	23-03-1991
		CA 2025906 A, C	23-03-1991
		CA 2042061 A, C	23-03-1991
		DD 297616 A	16-01-1992
		DE 59002294 D	16-09-1993
		DE 59003590 D	05-01-1994
		DE 69029320 D	16-01-1997
		DE 69029320 T	07-05-1997
		DK 418926 T	15-11-1993
		DK 418927 T	25-04-1994
		EP 0418926 A	27-03-1991
		EP 0418927 A	27-03-1991
		EP 0445264 A	11-09-1991
		ES 2043211 T	16-12-1993
		ES 2046639 T	01-02-1994
		JP 2076336 C	25-07-1996
		JP 3226490 A	07-10-1991
		JP 7100518 B	01-11-1995
		JP 2610604 B	14-05-1997
		JP 3212398 A	17-09-1991
		JP 8033317 B	29-03-1996
		JP 3505379 T	21-11-1991
		NO 911909 A	19-07-1991
		PH 26933 A	03-12-1992
		WO 9104465 A	04-04-1991
		US 5154319 A	13-10-1992
		US 5234134 A	10-08-1993
		ZA 9007562 A	30-10-1991
		ZA 9007563 A	30-10-1991

REQUISITOS NECESARIOS PARA PRESENTACION Y AGILIZACION DEL
TRAMITE

	USUARIO	RADICADOR
PATENTE DE INVENCION		
MODELO DE UTILIDAD		
- Indicación de que se solicita la concesión de una patente.		()
- Datos de identificación del solicitante o de la persona que se presenta la solicitud.		()
- Descripción de la invención.		()
- Dibujos de ser estos pertinentes.		()
- Comprobante de Pago de las tasas establecidas.		()
COMPLETA ()	INCOMPLETA ()	()
DISEÑO INDUSTRIAL ()		
- Indicación de que se solicita el registro de Diseño Industrial	()	()
- Datos de identificación del solicitante o de la persona que presenta la solicitud.	()	()
- Representación gráfica y fotográfica del Diseño Industrial o muestra del Material que incorpora el diseño.	()	()
- Comprobante de pago de las tasas establecidas	()	()
COMPLETA ()	INCOMPLETA ()	()
ESQUEMA DE TRAZADO ()		
- Indicación de que solicita el registro de un Esquema de trazado.	()	()
- Datos de identificación del solicitante o de la persona que presenta La solicitud.	()	()
- Representación gráfica del esquema de trazado	()	()
- Comprobante de pago de las tasas establecidas.	()	()
COMPLETA ()	INCOMPLETA ()	()

Firma Responsable: INDICA-POSSE

Fecha: