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(54) **Title**: CARTRIDGE FOR USE IN DRINK DISPENSERS

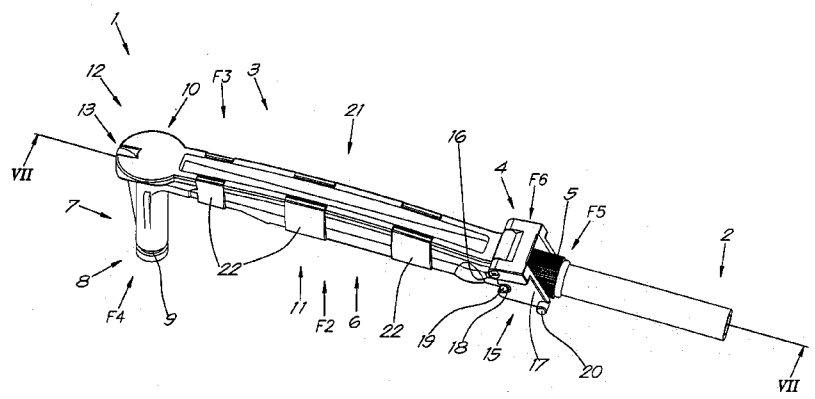


Fig. 1

(57) **Abstract**: Cartridge (1) for application in draft equipments, which connects; a drink keg and a draft tap and which has been composed by a fixed form part (3) and a connected hose (2), whereof the fixed form part comprises a straight body (6) with an internal channel (24) and a connector (7), whereby the body of the cartridge contains multiple parts but with minimum two parts which split up the body and the channel into two longitudinal parts (10,11) with in between a seal, and which are mutual connected by clamping means (22) which are produced to be disassembled in such a way that the earlier mentioned parts of the body can be disassembled an re-assembled.

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CARTRIDGE FOR USE IN DRINK DISPENSERS

The actual invention is a cartridge, to be applied into a draft installation.

More specifically, its application is on smaller draft equipments for domestic use, where small kegs or barrels under pressure, mostly filled with carbonised drinks, for example beer, are applied and in which the cartridge has the function of a transmission channel for pumping the drinks between keg and draft tap. These draft appliances can posses a cooling unit to cool down the drinks inside the keg as well as in the draft equipment which is operated by the use.

It's obvious that these draft equipment are different from the classic draft equipments which are applied in the hotel and catering industry for drafting beer, for example by the size of the kegs, the fact that these larger kegs need an external pressure- and CO2-regulation, and the length between keg and tap are much longer.

A cartridge for application in draft applications as in this invention, consists of a hard-body part which contains at one end a connector to connect the cartridge on the keg, and to operate the supply valve, but also consists of a flexible hose pipe which is at one side connected to the hard-body part of which other end can be closed off by the draft tap. The hard-body connection between the 2 parts contains a inner channel for the flow of the drinks.

The US 2008/0023501 describes a comparable draft appliance and a cartridge for to be used in this appliance.
A disadvantage is the plastic material in which the product was made, which is less strong and less durable.

Another disadvantage is that the cartridge for use in draft equipments can not be cleaned, which makes it non-re-usable. Because of Hygienic reasons that cartridge was designed and produced as a disposable part which has to be replaced when a new keg is connected.

This product is environmental unfriendly as well creates higher costs.

An additional disadvantage of this set up is the required additional logistics: with each keg also a cartridge has to be provided. That for the supplier of the drinks has to have a stock on cartridges and he has to provide one with each keg. Hereby exists the risk that the cartridge gets damaged or lost during transport, which creates the necessary problems for the end user in order to get the necessary replacements parts.

The current invention has the goal to solve at least one of the earlier listed and other disadvantages.

That for the preferred design of the current invention covers a cartridge to be applied in draft equipments with a storage capacity for a drink keg and a draft tap, which its cartridge functions as the liquid pipe between the drink keg and the raft tap, and which cartridge has been composed

by a hard-body part which mainly is a straight part with an internal channel and a crosswise connected coupling for the earlier mentioned connection onto the keg, and where the hard-body designed assembly contains several parts which split up the body into 2 longitudinal parts, being a first and a second part, from which the second part has been provided with the earlier mentioned coupling, and which both 2 parts are connected by clamping means which are designed to be able to disassembled to come to a design concept in which the 2 earlier described parts of the assembly can be assembled and disassembled.

This cartridge for use in draft appliances according to the invention covers the same functionality as the know cartridges:

- Connection to the drink keg
- Opening a valve on the drink container
- Connection to the draft tap
- Restricting the flow
- Adjusting the optimal foaming performances

A huge advantage of the cartridge in the design of this invention for use in domestic draft equipment is the re-useable design.

That for the cartridge has been designed to be disassembled. The disassembled parts can be cleaned and assembled, by which the cartridge, after cleaning, can be installed again in the draft equipment and draft appliances.

The hard-body part of the cartridge is designed as such a way that the assembly can resist internal pressure of 5 bar.

It's not required anymore to supply with each drink keg a new cartridge.

Another advantage is that the need to supply with each keg a new cartridge has been eliminated.

These advantages lead to an additional advantage, which is the cost reduction.

The cartridge has been designed in such way that disassembly and assembly is very easy and user-friendly.

Beside the mechanical design, the parts are also designed in that way that they allow an easy, total and efficient cleaning, as well at the inside of the parts as on the outside.

An advantage of this is that the cleaning can be done in the dishwashing machine.

As a perfect cleaning of the inner side of the hose is hard to perform, it's advisable to keep the hose as a disposable part.

The cartridge can be sold separately from the keg, as well as along other distribution channels then those of the keg.

Together with the cartridge, a number of hoses can be delivered with.

Also possible is to sell separately one single or a number of hoses as a separate saleable product.

The number of parts on the assembly are as limited as possible by which, in preference, the number of loose parts is limited till two parts, so that disassembling for cleaning or other means contains a minimum risk on loss of parts and loss of time on assembling.

The invention is also related to a variant version of a cartridge for use in draft appliances with a storage of a beverage keg and a draft tap, which cartridge has the function of a connector between the beverage keg and a hose to connect with the draft tap, while the hard body part has been composed by a straight body part and a transverse positioned connector to connect with the earlier described element of the keg, while the earlier described element of the cartridge has been composed out of minimum of 2 parts which split up the body into two longitudinal parts, from which a first and a second part exist, from which the second part has been designed with the earlier described connection and which are both attached on each other by clamping means which are designed to be released in that way that earlier described parts of the body are possible to be re-disassembled and re-assembled, and from which the straight body contains a cavity in which a tube-shape designed part can be assembled, which functions as a transport channel for the liquid and which connects at one

side onto the channel into the transversal connector, and which has been designed at its other end by a hose column for connection with the hose.

In this variant the hose but also the tube-shape element is replaced by a simple way, each time when a new keg is installed.

An advantage is also that, by the design of the body which is constructed by parts which can easily be disassembled, the body can easily be cleaned. That way the most important parts can be re-used. This creates the same advantages as the earlier described variant.

With the insight to lighten up the properties of the invention, hereby are given, as example but without any limiting restriction, some preferred designs of a cartridge according the invention for application in draft equipment, referring to the attached drawing, in which:

Figure 1 schematic and in perspective a cartridge according to the invention:

Figure 2 and 3 the parts which are marked in figure 1 by F2 and F3, and this respectively from another point of view;

Figure 4 a view on the nose part, view by arrow F4 in figure 1;

Part 6 of the cartridge 1 has been designed by 2 longitudinal parts, respectively a first part 10 and a

second part 11, which split part 6 in the length and on which the transversal connector part 7 is positioned on the end 12 of the second part 11.

The two parts 10 and 11 are with each other connected by a hinge at the end 12 by means of hinge 13 which is composed by a hook 14 which is installed on the second part 11, and which hooks on into the opening 14A which is installed on the first part 10.

At the end 4 the two longitudinal parts 10 and 11 are sticked together by a closing lid 15 which functions as a hinge and has been installed on the first longitudinal part 10 of the body 6 round an axe 16, which, perpendicular on the longitudinal direction of the body nr 6, has been installed into this first part 10. The longitudinal part 10, the closing lid and the axe 16 constitute in the preferred design of the current invention one part which can not be disassembled in a usual, normal way.

This closing lid 15 has been designed with 2 sides 17 which, in the shown closed position of closing lid 15, are shown at both sides of part 6 and which both are designed with an incision in the shape of a hook as shown in part 18 which can work together with the sidewise protruding notch 19 which has been designed on the second longitudinal part 11. On the closing lid 15 are protruding notches 20 designed which are applied in the general known way to position cartridge 1 into the appliance.

Into the central part 21 of the body 6, at both sides of the longitudinal part 10, wings 22 haven been designed which are positioned at both sides of the second longitudinal part 11.

The wings 22 have been designed with a margin, with in preferred design which covers a convex circle segment from which the centre is in the middle position of hinge 13 of the 2 longitudinal part 10 and 11.
These margins work together with the complementary touching element 23 which has been designed at both sides of the other element 11, and which has been designed with concave designed circle segments.

The fixed formed part 3 has been designed with an internal channel 24 which goes along through body 6 and the transverse connected part 7.

This channel 24 is mainly cut by the 2 longitudinal parts 10 and 11, in that way that, as shown in figures 2 and 3, both of the parts 10 and 11 are designed with a gutter shaped channel into the, towards each other directed, body dividing surfaces 25 and 26, respectively 27 and 28 which form together channel 24.

At the free end 8 of the transverse directed connector piece 7, into the entrance of channel 24, a nose 30 has been installed, from which a possible design is shown in figure 4. The nose 30 has been designed by a pod 31 in which a central, in the same direction of the body 6,

conical ending element 32 has been designed with a diameter smaller then the inner diameter of the pod 31.

At the end 4 where tube 2 has been connected with hard-body part3, the second longitudinal part 11 has been designed with a swelling 33 where channel 24 is running trough and which functions as a bridge from the gutter shaped channel part 28 into the second longitudinal part 11.

This swelling 33 has been designed with a mounting up surface which is part of the dividing surface 25 which works together with the complementary mounting up surface which is part of dividing surface 24 of the first longitudinal part 10.

Swelling part 33 has been designed with a hose column 34 which functions as the extension of channel 24 in this swelling part 33.

On the hose column 34 has been designed an external thread 35. Additional also minimum one rib shaped ring 36 all around the column has been designed which is positioned transverse on the longitudinal direction of the hose column 34.

As shown in figure 5 the hose 2 and the connection to the hose column 34 have been designed with a first colar 36a which functions as end stop for pod 5 and the second colar 36b on a distance from collar 36a, according to the length of pod 5.

The Hose 2 can be designed with ribs 37 according to the length direction of the hose 2, which fit into the grooves 38 on the inner side of the pod 5.

Between the longitudinal parts 10 and 11 has been designed a sealing 44. To insure an efficient closing functionality, this seal 44 has been fixed into a gutter 39 along the complete surrounding of the longitudinal part 11 in the dividing surface 26, which means that it's also designed into the mounting up part of this dividing surface 26, all in that way that seal 44 encloses completely the gutter shaped channel part 28. The other longitudinal part 10 has been designed with a corresponding rib 40 on the dividing surface 25 which pushed, in an assembled position of body 6, on seal 44 in the gutter 39.

Longitudinal part 10 has been designed with fitting wholes 41 which as lined up with the fitting pins 42 on the longitudinal part 11.

The hose 2 is, in the preferred design of the current invention, produced in silicone rubber, but the invention asks for protection for the different materials which can be applied here for.

The fixed body part 3 is, in the preferred design of the current invention, made from metal, but the invention asks for protection for the different materials which can be applied. Just as much as the parts are made in metal, the fixed body parts in metal can be covered by a coating or cladding.

The function of the cartridge 1 for use in draft appliances according to the invention is very simple and as follows.

Assume a cartridge 1 according to the invention in assembled position, starting from two loose parts.

The pod 5 is being pushed over a new hose 2 till over the second collar 36b and till it touches the second collar 36a, by which the pod 5 is caught between these two collars 36a and 36b, to prevent a longitudinal shift off. Hereby the ribs 37 on hose 2, which run in the longitudinal direction of this hose 2, are fitted into the grooves 38 which are designed on the inner side of pod 5.

This assembly makes sure that, during assembling the hose-with-pod 2-5 over the hose column 34, the hose 2 will turn together with pod 5 when this hose-with-pod 2-5 over the external thread 35 is being screwed.

The external thread 35 on the hose column 34 makes this assembly operation more easy, while the ring shaped rib 36 guarantees a leakage free connection.

The hook 14 which has been designed on the longitudinal part 11 of the end 12 of the transverse connector piece 7, is meant to be hooked into the eye 14A of the First longitudinal part 10, in order to create in that way hinge 13. These two parts 10 and 11 are to be turned towards eachother by rotating around hinge 13. Hereby part 10 and

11 are dimensioned in that way that they form in the assembled way a clamped unit.

During this rotation the fitting wholes 41 and the fitting pins 42 will position in each other, and make sure for a correct alignment of the parts 10 and 11 towards each other.

During this rotation seal 44, which is fixed on gutter 39 of the longitudinal part 11, will be compressed by the according positioned rib 40 on the other longitudinal part 10.

When the two longitudinal parts 10 and 11 are pushed onto each other, the closing lid 15 can be closed by rotation around axe 16.

Hereby the hook shaped parts 18 in the closing lid 15 will hook into the sidewise protruding notches 19, which are designed on the second longitudinal part 11, and which ensure an efficient sealing.

During this rotation the wings 22, with an edge in the shape of a circle segment and from which the centre point is on the same position with hinge centre 13, will pass at both sides of the first longitudinal part 10 and cooperate there with the complementary touching part 23. Because of the shape of the circle segment a rotation is possible around hinge point 13, but at the same time this shape prevents that the longitudinal parts 10 and 11 on the

central part of the body 21 are being pushed away from each other by internal pressure in channel 28.

The assembly notches 20 will support on positioning the cartridge 1 during installation of this cartridge 1 in the draft equipment. The conical element 32 in nose 30, which has been assembled transverse on connector 12, will open de valve of the keg and allow the drink to exit from the keg along the space between the pod 31 and the conical element 32 of the nose 30 into the channel 24.

During the installation of the cartridge 1 in the draft equipment, the flexible hose is being inserted into the draft pipe. After installation, the tap, in closed position, is squeezing the flexible tube 2 off which results in a leakage free condition. By opening the tap the squeezing operation is cancelled and the drink can flow out under pressure. Practical experience has shown that this cartridge, according to the invention, can easily resist the internal pressure of 5 bar, while still performing leakage free, and while this 5 bar is considerable higher than the common appearing working pressure of the liquid in the keg, which gives a huge safety margin guarantee.

It's obvious that for the assembly several variants can be developed, which of course are also within the domain of this invention.

In that context, for example, it is possible to replace the pod 5 each time after use, of to replace it after multiple time use. It's also possible not to apply any pod 5.

Also an option is not to apply collars 36 and 36a.
Also the ribs 37, which are positioned into the longitudinal direction of hose 2, could be eliminated.

We can apply the same thought on the external thread 35 on the hose column.

The spirit of the invention is to create a leakage free assembly between hose 2 and the form fixed part 3. All known ways to achieve this are within the frame of this invention.

The spirit of this invention is also covers the goal to achieve a leakage free junction all over the total length of the longitudinal parts 10 and 11 which constitute body 6 of cartridge 1. All variants which come to this goal and which belong to similar technical concepts, are considered to be part of the protected domain of this invention.

In that context for example the First and second longitudinal part can be exchanged in order to design a hook 14 and eye 14A. The same is valid for groove 39 and rib 40 which cooperate on seal 44 and similar for the positioning wholes 41 and positioning pins 42.

Seal 44 can also be designed as a loose part and even as e replacement part.

Also the wings 39 which are means to prevent the longitudinal parts to be pressed away from each other due

to high internal pressure in channel 24 can be designed in an other way, for example in the shape of a clamp which can be assembled over or around body 6.

In a alternative design of the invention the hose but also the tube shaped transport channel 43, as show in figure 6, can be replaced each time when a new keg is being installed, or per certain number of new keg installation.

In these designs the form fixed part 3 functions as a positioner for the tube shape body 43, which works as a transport channel for drinks.

The parts of cartridge 1 can be designed according to the preferred design of the current invention, but seal 44 doesn't have to be provided along the complete contour of the longitudinal parts 10 and 11.

Near to the connection with the tube part 43 with the transverse connector 7, a seal has to be provided, for example in the shape of a pod seal which is put over the tube shaped body and which fits in the concerning cavity in body 6.

At the other end the sealing is achieved by the function of the hose column 34 which is performed by tube part 43. The connection between hose 2 and the hose column 34 can be achieved within this variant in all know possible ways to be covered within this invention.

As the tube body 34 catches the internal pressure, the wings 22 on the central part of the body 21 don't have to be foreseen into this variant.

Just as much as assembled element, consisting out of a tube body with connected a hose 2, can be supplied towards the customer.

Figure 10 shows a second variant of cartridge 1 for use in draft equipments with an storage volume for a keg according to the invention.

On this second variant the first longitudinal part 10 has been composed by two parts 45-46, which, in relation to each other, can rotate around an axe 47, perpendicular on the length direction, and on which part 46 near to this axe 47 has been designed with side flanks 48 which, in assembled condition of cartridge 1, are located at both sides of body 6, and which each one has a slot to form a hook part 49 which can act in conjunction with a sidewise protruding notch 50, which has been designed on the second longitudinal part 11.

The functional performance of the cartridge 1 for use in draft equipments according to this variant on the invention is mainly analogue to the functional performance of cartridge 1 according to the first preferred design of the invention.

The second longitudinal part 11 is being hooked by hook 14 into the eye 14A of part 34, after which this part 45 is

being turned over till part 45 touches the second longitudinal part 11, after which also part 46 around hinge 47 is brought till it touches the second longitudinal part 11, whereby the hook locks around notch 50 and the assembly gets fixed by means of the closing lid 15 which is locked in the earlier described way.

Additional means 51 are foreseen to limit the rotation of part 45 and 46 around the axe 47. These means 51 are designed as hooks 52 which hook, during opening till certain angle, behind touching stop parts 53, and prevent further rotation of the parts 45 and 46 around axe 47, while in closed condition there is left a certain space between the hooks 52 and the touching stop notches 53.
Beside the already described advantages, this design creates the additional advantage of an equal clamping along the body as the clamping performance is spread over additional places.

The current invention is not at all limited to as it is in example described, neither limited to as it is shown in the figures, while a cartridge, according to the invention for use in draft equipments can be designed in many shapes and dimensions within the frame of this invention.

Conclusions.

1.- Cartridge (1) for use in draft equipments with storage volume for a drink keg and a draft tap, which cartridge (1)

functions as a liquid pipe between drink keg and draft tap, and which cartridge (1) is composed by a fixed form part (3) for connection on the drink keg and a connected hose (2) for connection on the draft tap, on which the fixed form part (3) is designed by a mainly straight body (6) with an internal channel (24) and a transverse installed connector part (7) for the earlier named connection onto the drink keg, thereby characterized that the earlier named body (6) of the cartridge (1) is designed by multiple parts with minimum two parts which split up the body into two longitudinal parts (10) and (11), respectively a first part (10) and a second part (11), from which the second part (11) has been foreseen with the earlier named connector part (7) and which are mutual connected by clamping means (14, 14a and 15) which are designed to be unfastened in that way that earlier named parts (10) and (11) of the body (6) can be assembled and disassembled from each other.

2.- Cartridge (1) according conclusion 1, thereof characterized that the body (6) is composed by only 2 parts (10) and (11) which can be disassembled.

3.- Cartridge (1) according to conclusion 1 or 2, thereof characterized that the fixed form part (3) is being produced in metal.

4.- Cartridge (1) according one of the conclusions 1 till 3, thereof characterized that on the parts (10) and (11) of the fixed form part (3) has been provided a coating.

5.- Cartridge (1) according to one of the earlier conclusions, thereof characterized that the earlier named hose (2) is produced out of silicone rubber.

6.- cartridge (1) according to one of the earlier conclusions, thereof characterized that between the longitudinal parts (10) and (11) a seal (44) has been foreseen, designed continuously along the complete contour if these parts (10) and (11).

7.- Cartridge (1) according to one of the earlier conclusions, thereof characterized that the mentioned seal (44) between the longitudinal parts (10) and (11) has been fixed in a gutter (39) in one of the parts (10) or (11), while the other part (11) or (10) has been foreseen by a corresponding rib (40) which in assembled position of the body (6) pushed on the seal (44) in the gutter (39).

8.- Cartridge (1) according to one of the earlier conclusions, thereof characterized that the mentioned connector (7) has been provided with an internal channel which connects on the internal channel (24) in the body (6) of the fixed form part (3) and on which at the end (8) of this internal channel a central nose (30) has been attached which is designed to open a valve of the drink keg, whereby this nose (30) is designed as a pod (31) in which a

central, into the direction of the body, conical ending element (32) has been provided from which the diameter is smaller than the inner diameter of the pod (31).

9.- Cartridge (1) according to one of the earlier conclusions, thereof characterized that at the side of the connection onto the drink keg a groove (9) has been designed in the transverse connector piece (7) to assemble a seal ring into.

10.- Cartridge (1) according to one of the earlier conclusions, thereof characterized that one of the longitudinal parts (10) or (11) of the body (3), at the end (12) where the converse connector piece (7) has been designed, has been provided with a hook (14) and the other longitudinal part (11) or (10) of the body (3) at the end (12) has been provided with an eye (14a) and whereby this hook (14) and this eye (14a) in such way mutual attach that they function as a hinge (13) around which these parts (10) and (11) can rotate and are dimensioned in such a way that when turned towards each other, the two parts (10) and (11) can be assembled in a clamping way towards each other.

11.- Cartridge (1) according to one of the earlier conclusions, thereof characterized that the dividing surfaces (25) and (26) of the longitudinal parts (10) and (11) of the body (6) are provided with aligned fitting pins (42) and fitting wholes (41).

12.- Cartridge (1) according to one of the earlier conclusions, thereof characterized that the fixed form part (3) has been provided with a locking in the shape of a

closing lid (15) which has been mounted, to function as a hinge, on the first of the longitudinal parts (10) of the body (6) around an axe (16) which is directed perpendicular on the length direction of the body (6) and which has been provided with two side flanks (17) which, in closed condition of the closing lid (15), are positioned along both sides of the body (6) and which are designed with a slot to form the hook shaped part (18) which acts in conjunction with the sidewise protruding notch (19) of the lock which has been designed on the second longitudinal part (11).

13.- Cartridge (1) according to one of the earlier conclusions, thereof characterized that the lock has been dimensioned in such a way that in closing performance of locking lid (15) both longitudinal parts (10) and (11) of the body (6) are pushed together under clamping condition.

14.- Cartridge (1) according to one of the earlier conclusions, thereof characterized that in one central part (21) of the body (6) means (22) are provided which prevent that on this position the longitudinal parts (10) and (11)are pressed away from each other due to internal pressure into the channel (24).

15.- Cartridge (1) according to conclusion 14 and provided with a hinge (13) as described in conclusion 10, thereof characterized that these means are constituted by wings (22) which are designed at both sides of one longitudinal part (10) or (11) and which, in assembled and locked position, extend over both sides of the other longitudinal

part (11) or (10) and which are provided with a side in the shape of a circle segment from which the centre point coincides with the centre of the joint of hinge (13) of the two longitudinal parts (10) and (11) and which side can work together with the complementary touching part (23) which has been provided at both sides of the other longitudinal part (11) or (10).

16.- Cartridge (1) according to one of the earlier conclusions, thereof characterized that the fixed form part (3) has been designed to resist internal pressure of minimum 5 bar.

17.- Cartridge (1) according to one of the earlier conclusions, thereof characterized that the hose (2) is being connected by sliding it over the hose column (34) which is part of one of the longitudinal parts (10) or (11) of the body (6) and which is the extension of the channel (24).

18.- Cartridge (1) according conclusion 17, thereby characterized that on the earlier mentioned hose column (34) an external thread has been provided, as well on at least one place a ring shaped rib (36) which is positioned transverse on the length direction of the hose column (34).

19.- Cartridge (1) according to conclusion 17 or 18, thereby characterized that near to the mentioned hose column (34) an additional pod (5) around the hose (2) is being installed.

20.- Cartridge (1) according to conclusion 19, thereby characterized the hose (2) near to the pod (5) has been provided with external collars (36) and (36a).

21.- Cartridge (1) according to one of the conclusions 17 till 20, thereby characterized that the hose column (34) is attached on the swollen end (33) of the longitudinal part (10) or (11) and that this swollen part (33)is overbridging the channel (24) and connects to a non overbridged part along a slanting and increasing side.

22.- Cartridge (1) according to conclusion 21, thereby characterized that the seal (44) is designed over the bridged part of the channel (24).

23. Cartridge (1) according to one of the earlier conclusions, thereof characterized that the first longitudinal part (10) is composed by two parts (45-46), which in relation to each other can rotate around an axe (47) transverse on the longitudinal direction, and where one part (45 or 46) nearby this axe (47) is designed with flanks (48) which, in assembled position of the cartridge (1), are positioned along both sides of the body (6) and which both are designed with a slot in the context of formation of hook shaped part (49) which can act in conjunction with the sidewise protruding notch (50) which has been designed on the second longitudinal part (11).

24. Cartridge (1) according conclusion 25, thereof characterized that additional means (51) are provided which

limit the rotation of the parts (45 and 46) around the axe (47).

25. - Cartridge (1) for use in draft equipments with a storage volume for a drink keg and a draft tap, which cartridge (1) constitutes a connection between the drink keg and the draft tap and which cartridge (1) has been composed by a form fixed part (3) for connection with the drink keg and a hose (2) for connection with the draft tap, whereby the fixed form part (3) exists out of a mainly straight body (6) and a transverse installed connector (7) for the earlier mentioned connection on the drink keg, thereof characterized that the earlier mentioned body (6) of the cartridge (1) is composed by multiple parts with minimum two parts (10) and (11) which split up the body (3) into two longitudinal parts (10) and (11), respectively a first part (10) and (11) and a second part (11), from which the second part (11)has been provided with the earlier mentioned connector (7) and which are mutual assembled by clamping means (14-14a), (15) which can be disassembled from each other in such a way that the earlier mentioned parts (10) and (11) of the body (6) can be assembled and disassembled and whereby the straight body (6) contains a cavity into which a tube shaped part (43) can be assembled which functions a channel for drink transport, and which connects by one end on the channel in the transverse connector (7) and which has been designed on the other end by a hose column (34) for connection with the hose (2).

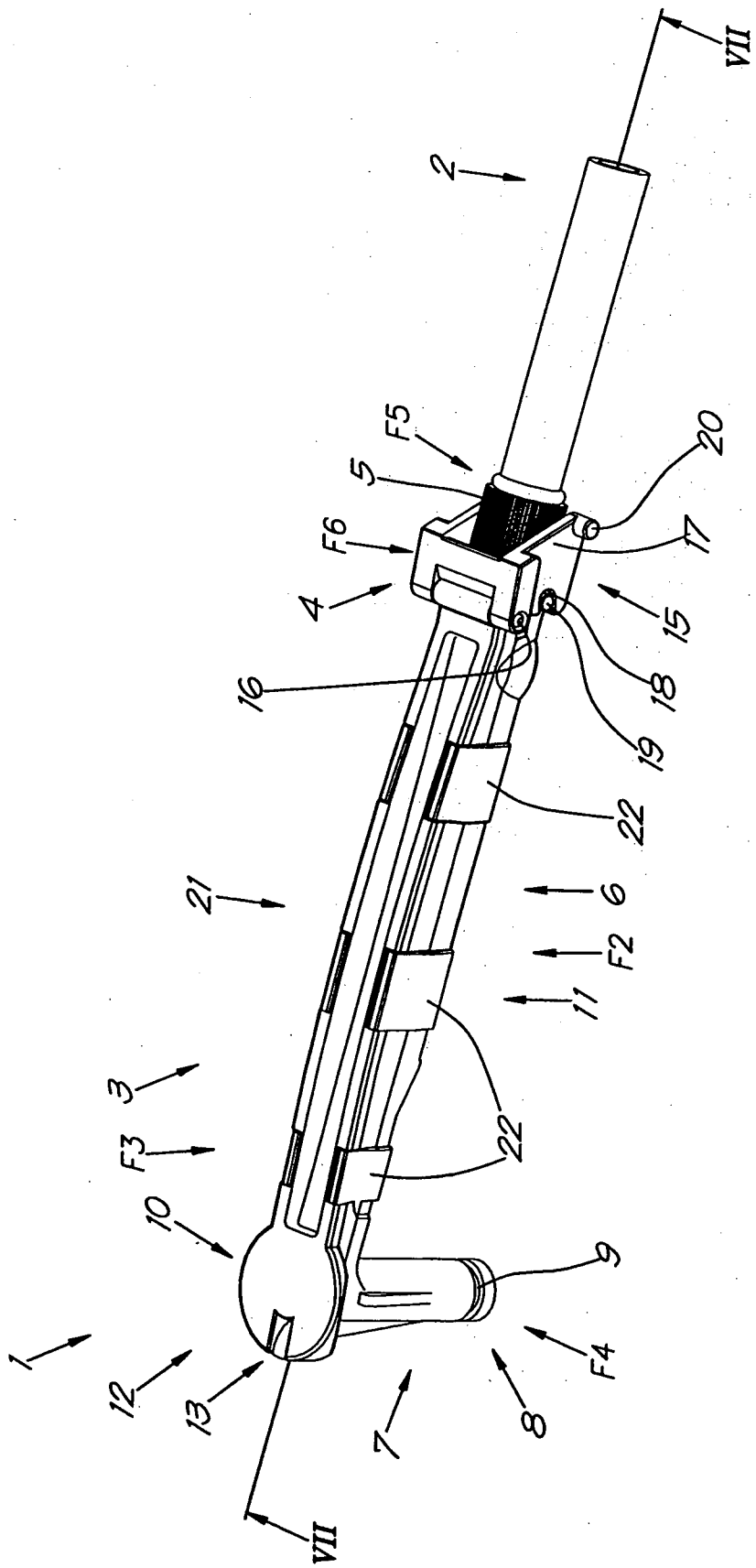

VII
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F5
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F6
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6
F2
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3
F3
22
10
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7
8
F4
VII

Fig.1

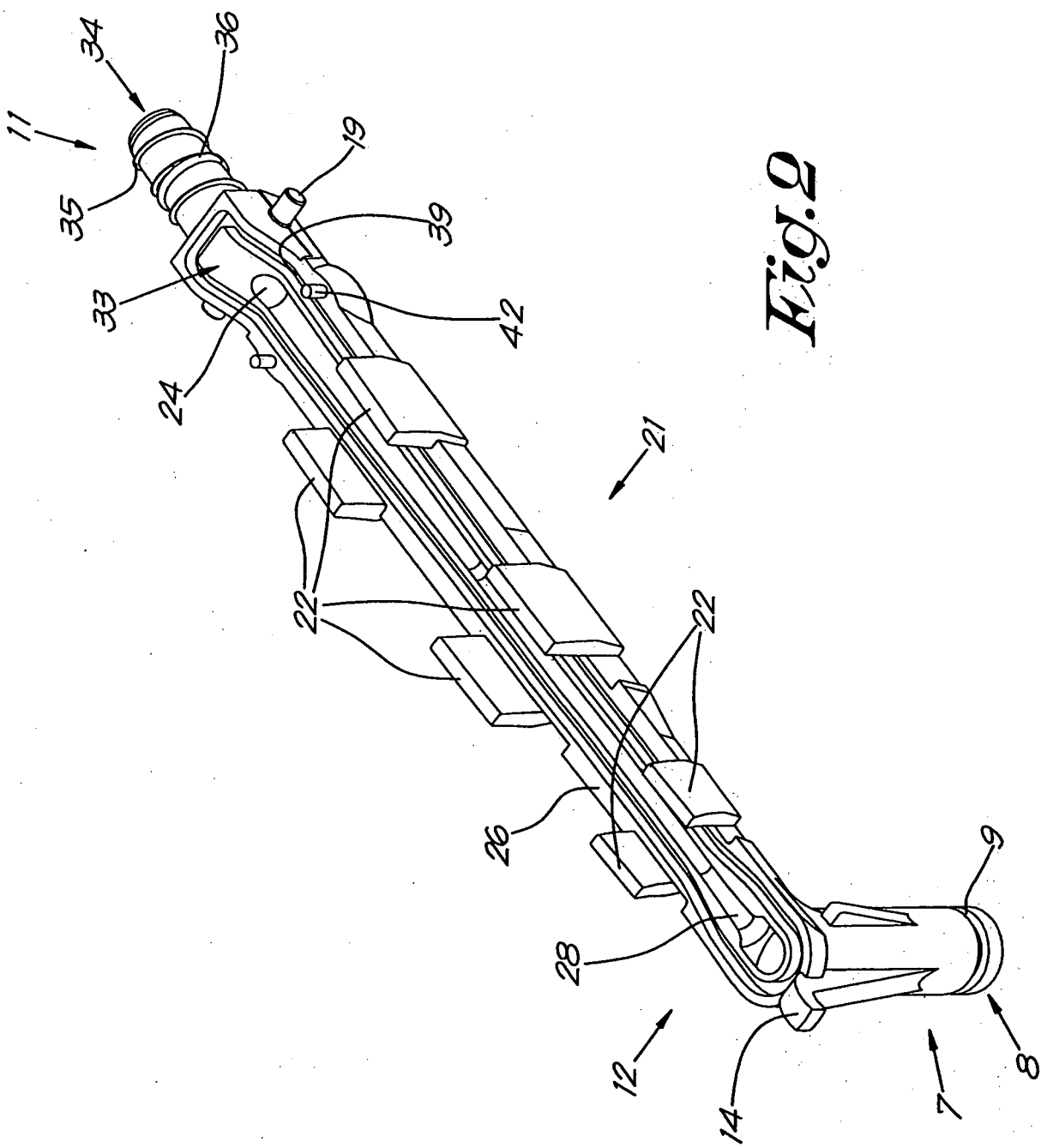


Fig.2

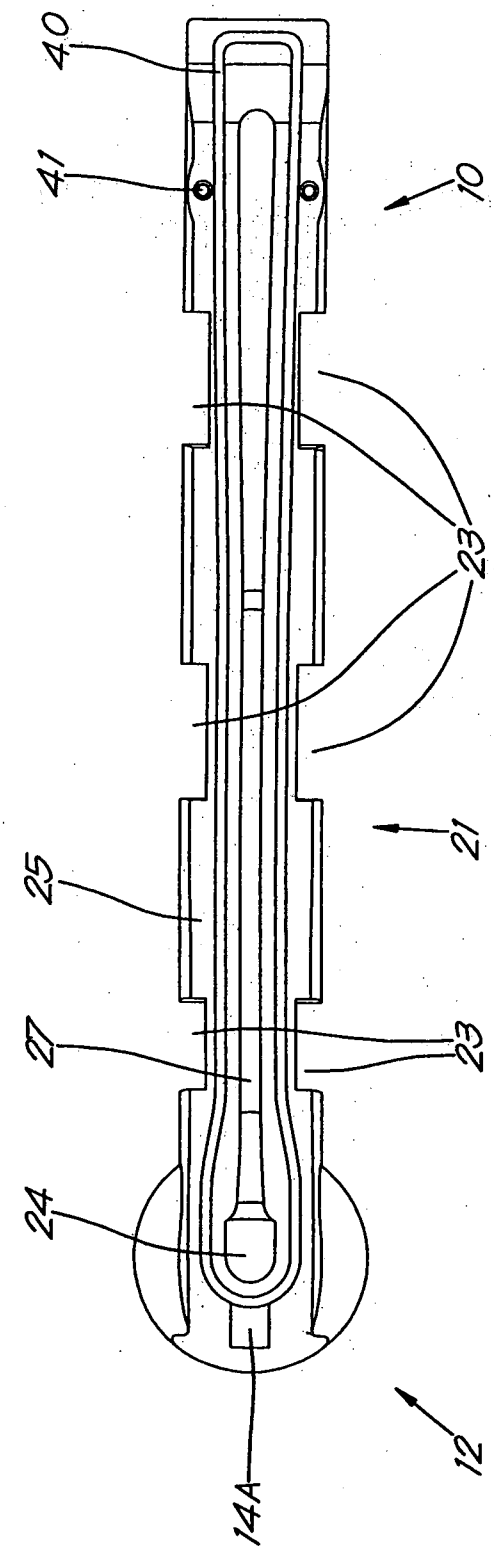


Fig.3

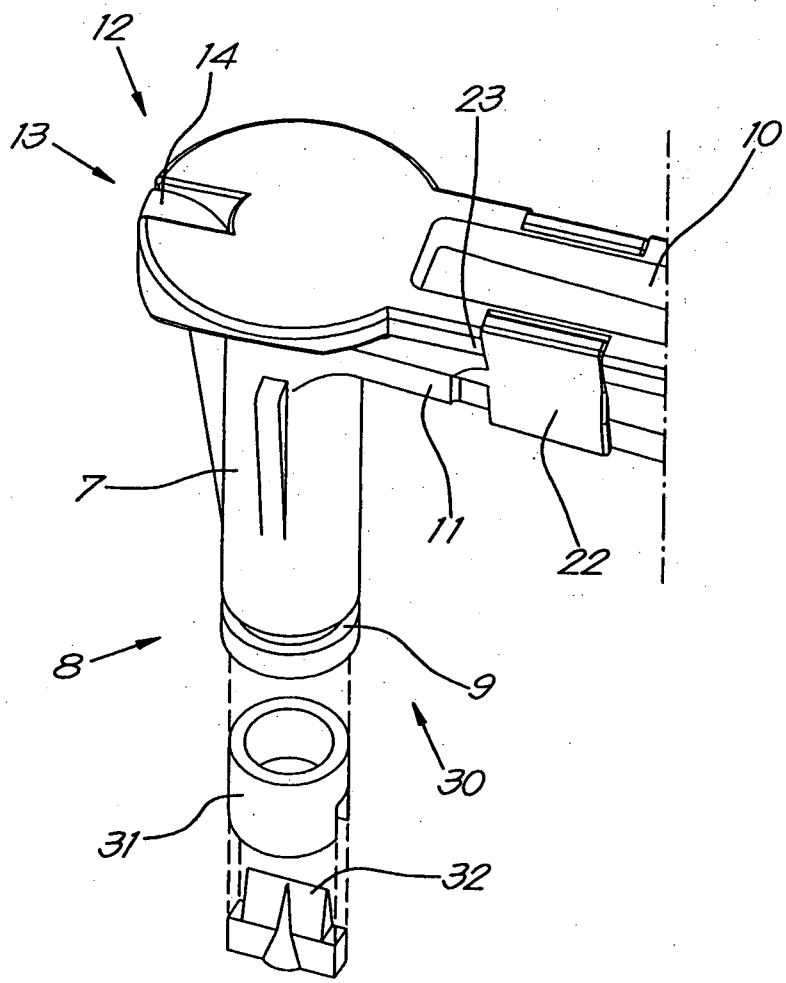

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Fig.4

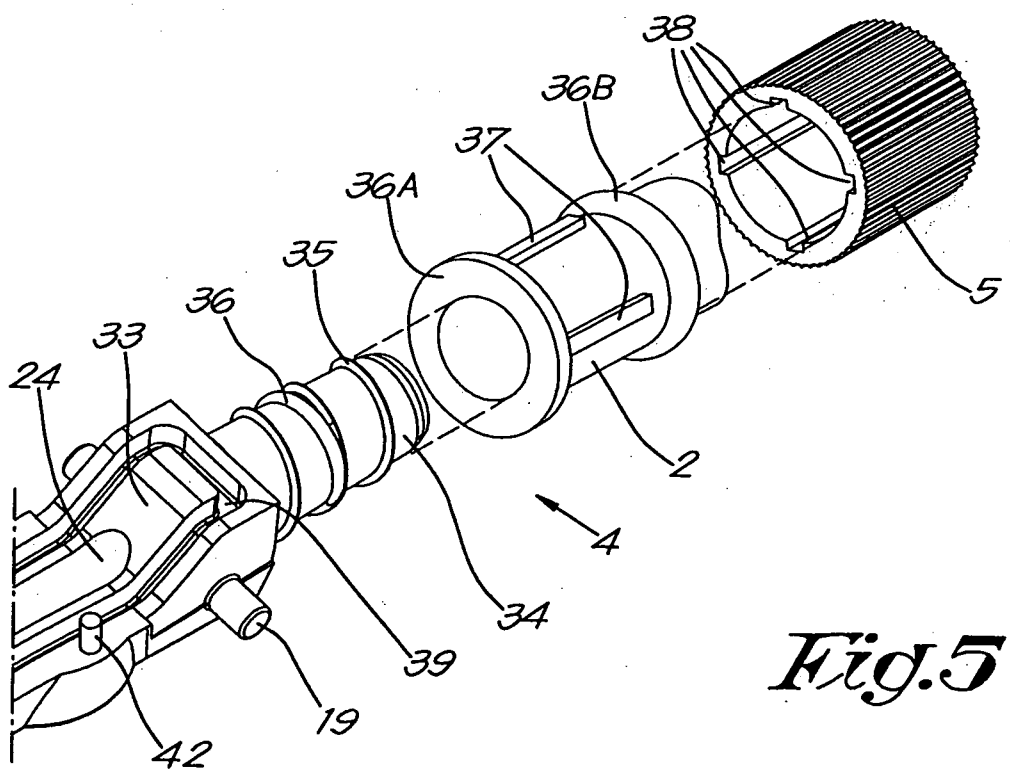

38
36B
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36A
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36
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Fig.5

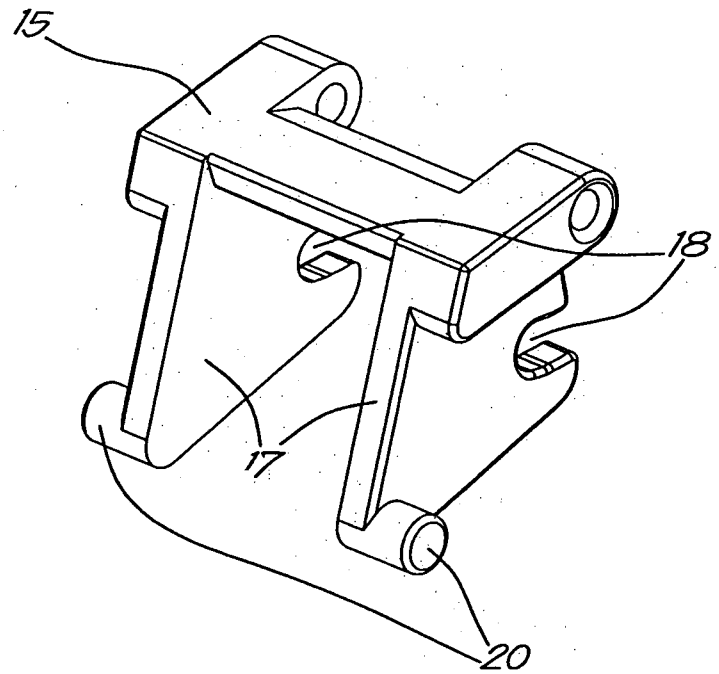


Fig.6

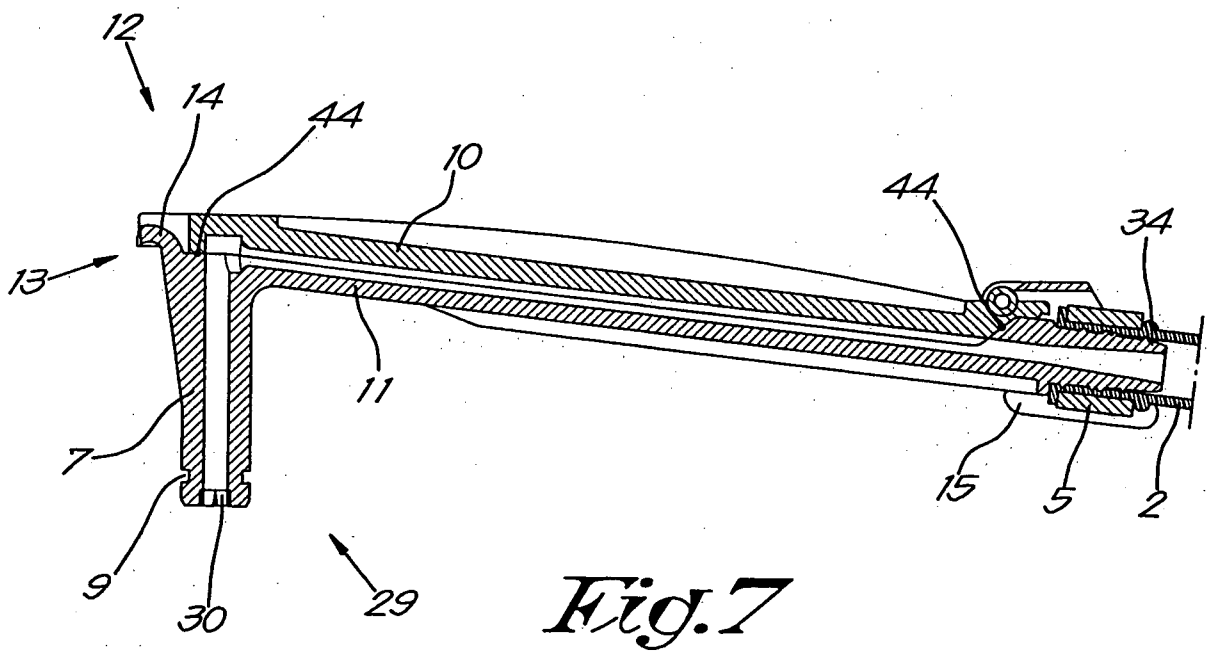


Fig.7

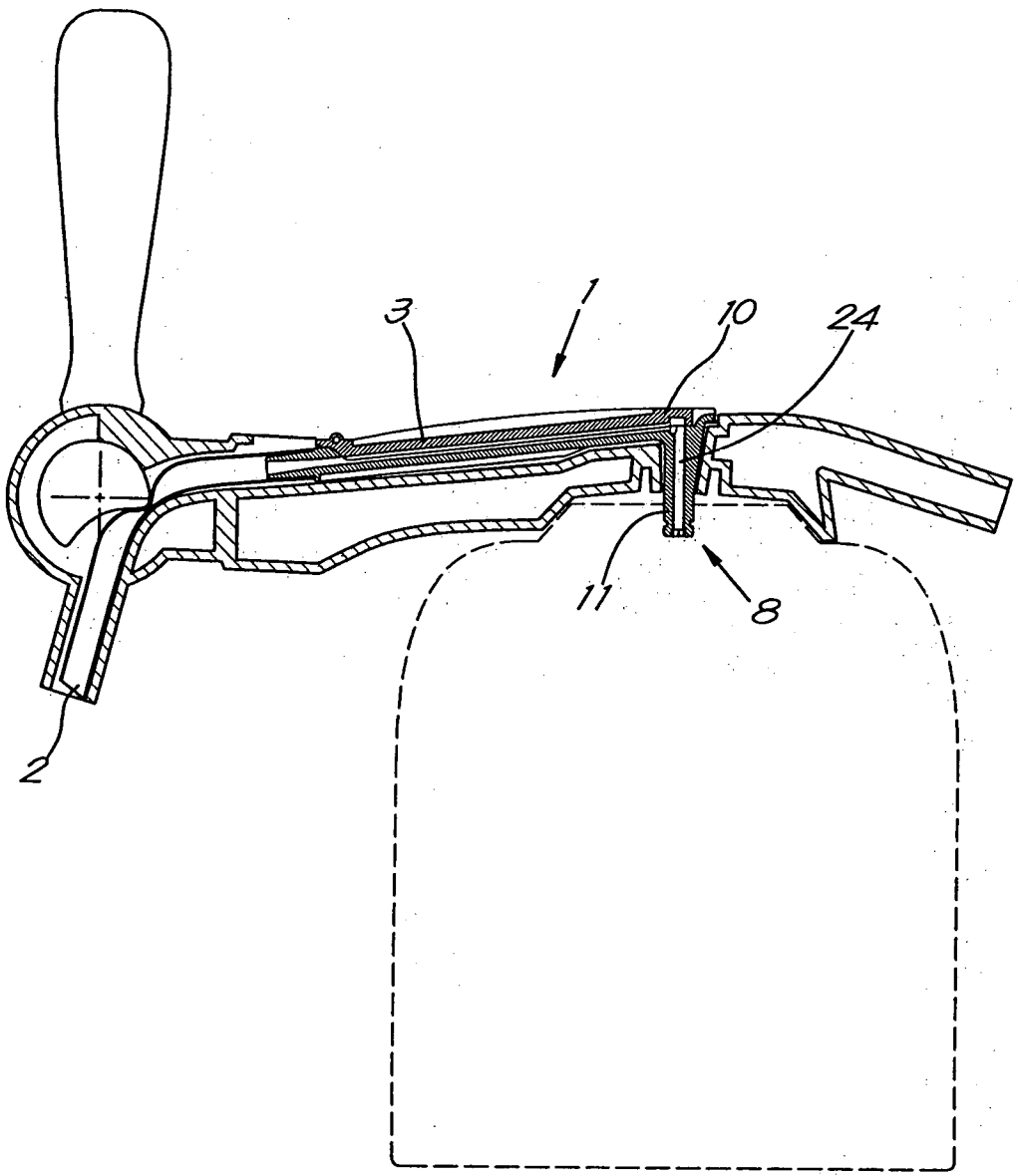


Fig.8

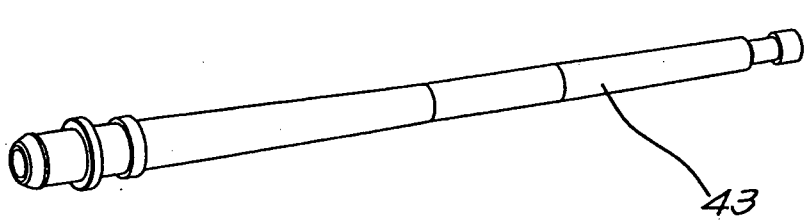


Fig.9

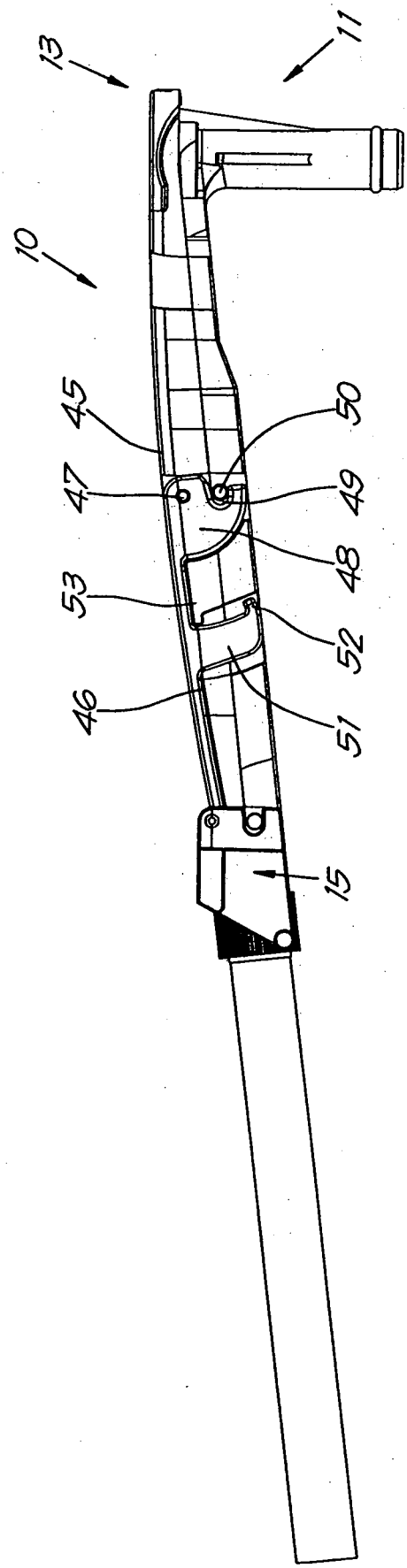


Fig.10

INTERNATIONAL SEARCH REPORT

International application No
PCT/BE2009/000053

A. CLASSIFICATION OF SUBJECT MATTER
INV. B67D1/08
ADD. 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)
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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	WO 2004/050535 A (INTERBREW SA [BE]; WAUTERS ALBERT [BE]; ANDERSON IAN [GB]) 17 June 2004 (2004-06-17) page 7, line 16 - page 8, line 16; figure 12	1-4,8, 10,12-13 5,11
Y	WO 2004/050539 A (INTERBREW SA [BE]; WAUTERS ALBERT [BE]; DONKER HANS [NL]; ANDERSON IAN) 17 June 2004 (2004-06-17) page 10, line 4 - line 5	5
X Y	WO 2006/082486 A (INBEV SA [BE]; ANDERSON IAN [GB]) 10 August 2006 (2006-08-10) page 11, line 27 - page 13, line 2; figures 6,7	1,17-19, 25 11
X	CA 2 579 182 A1 (INBEV SA [BE]) 16 August 2008 (2008-08-16) page 6, line 9 - line 22	1-5

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

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"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

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"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
11 February 2010	18/02/2010

Name and mailing address of the ISA/	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31–70) 340–2040, Fax: (+31–70) 340–3016	Desittere, Michiel

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/BE2009/000053

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