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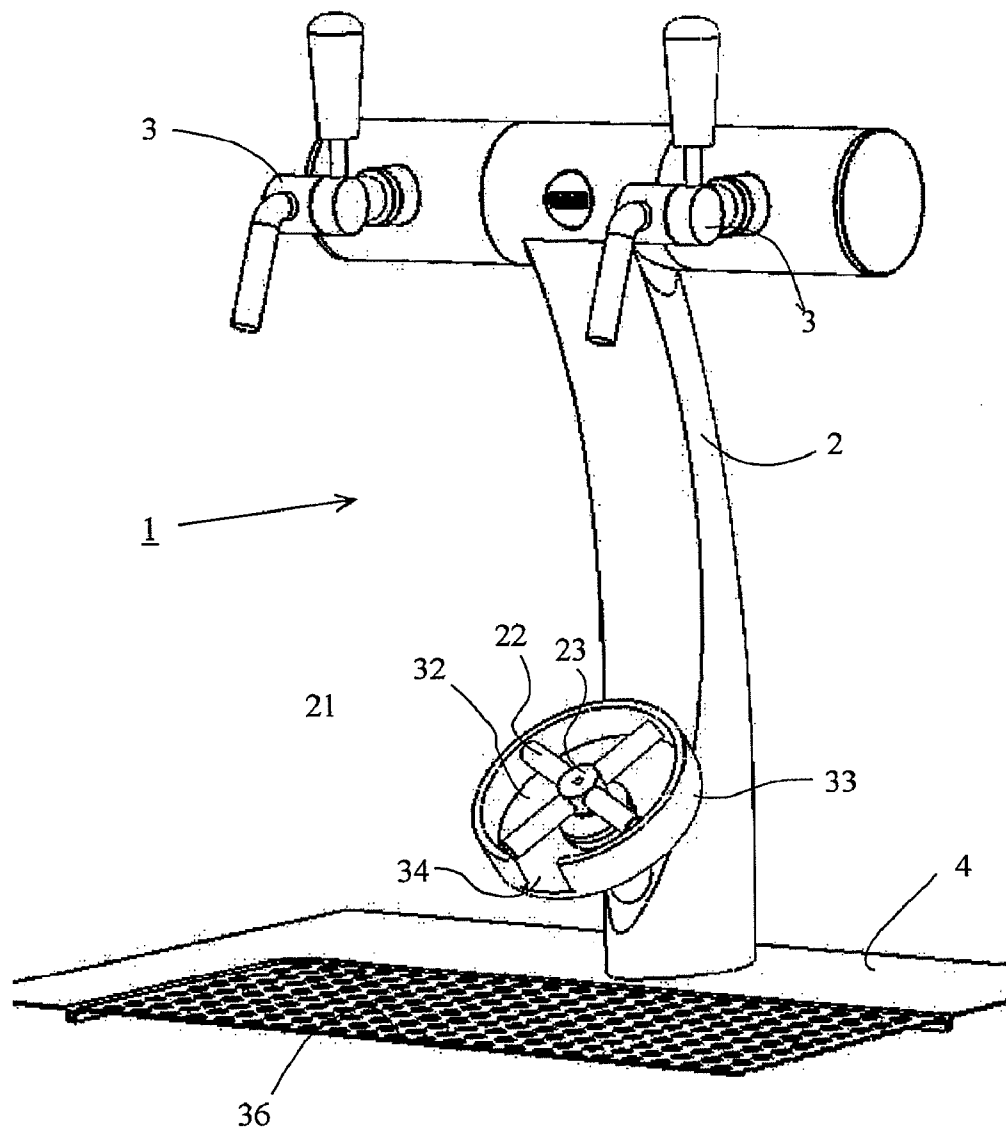
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ATLANTA, GA 30309-3592**(57) **ABSTRACT**

The present invention relates to a faucet having washing means for washing the insides of glasses and the like, which washing means comprise an abutment surface for abutment thereagainst of an open end of a glass, a supply line for supplying washing liquid, a spray nozzle at one end of said supply line for spraying washing liquid being supplied via the supply line into the glass during abutment of said open end against said abutment surface, and a valve in the supply line to be actuated by actuating means for supplying washing liquid to the spray nozzle as desired.

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Dec. 6, 2006 (NL) 1033004



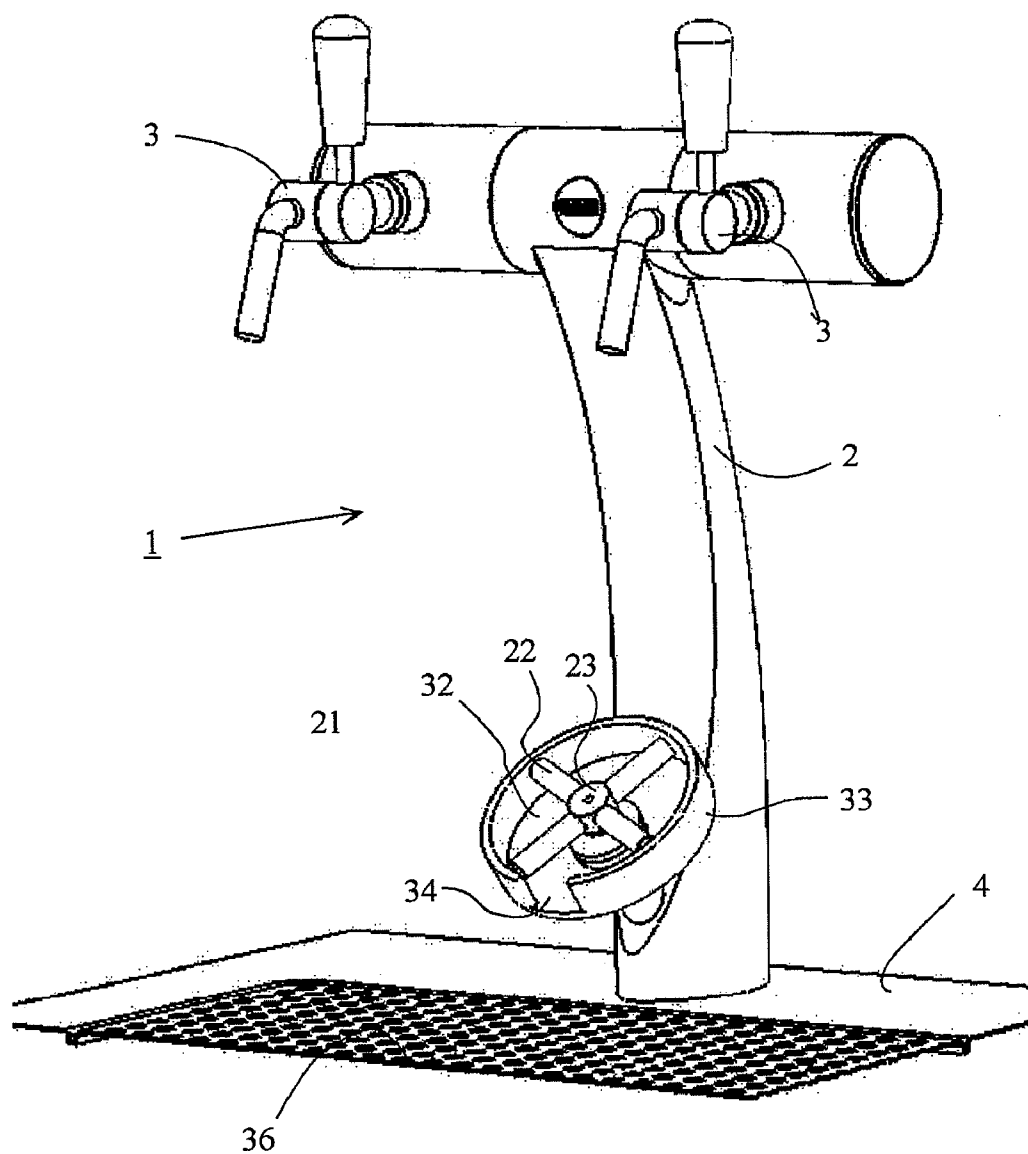


Fig. 1

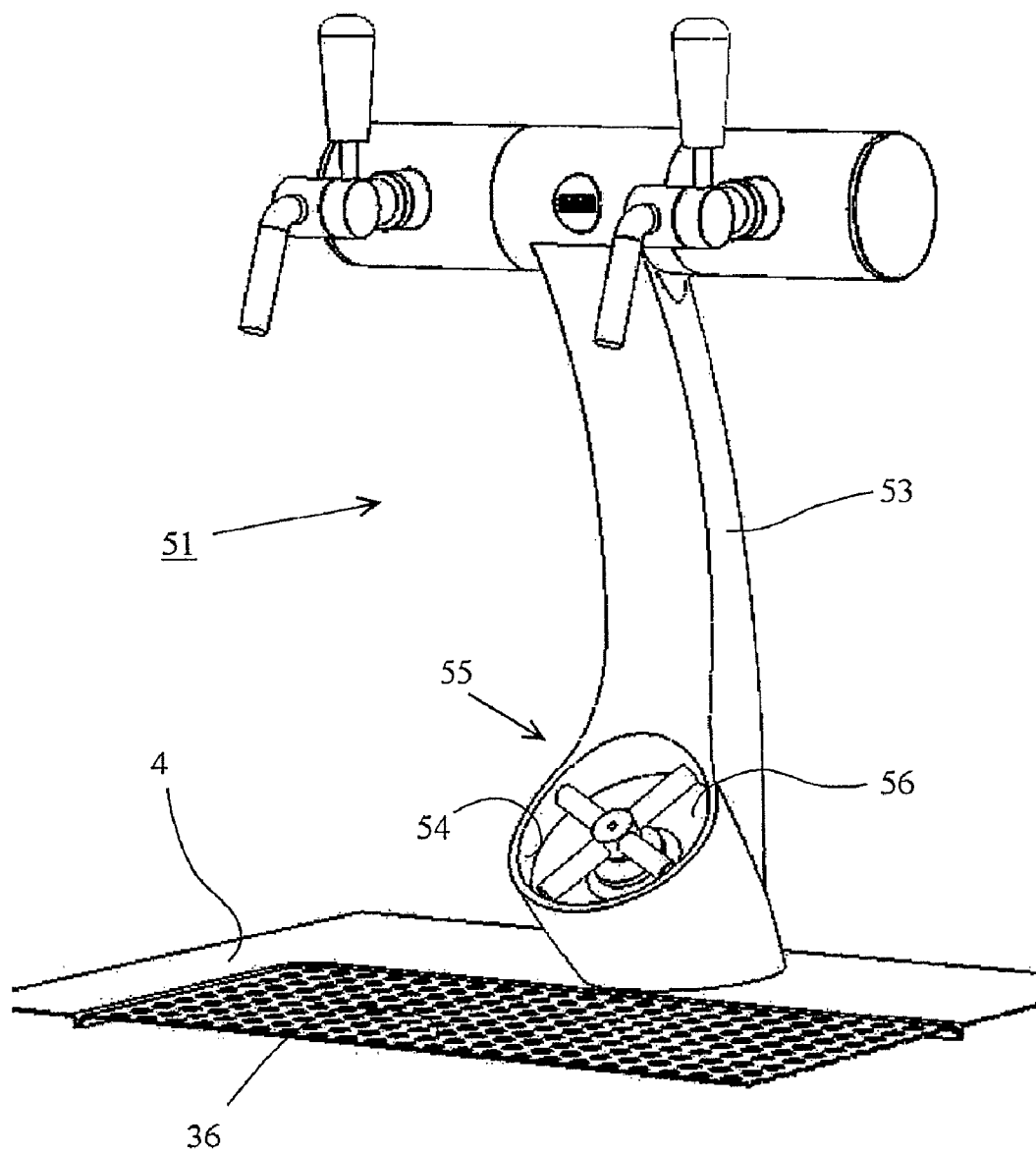


Fig. 3

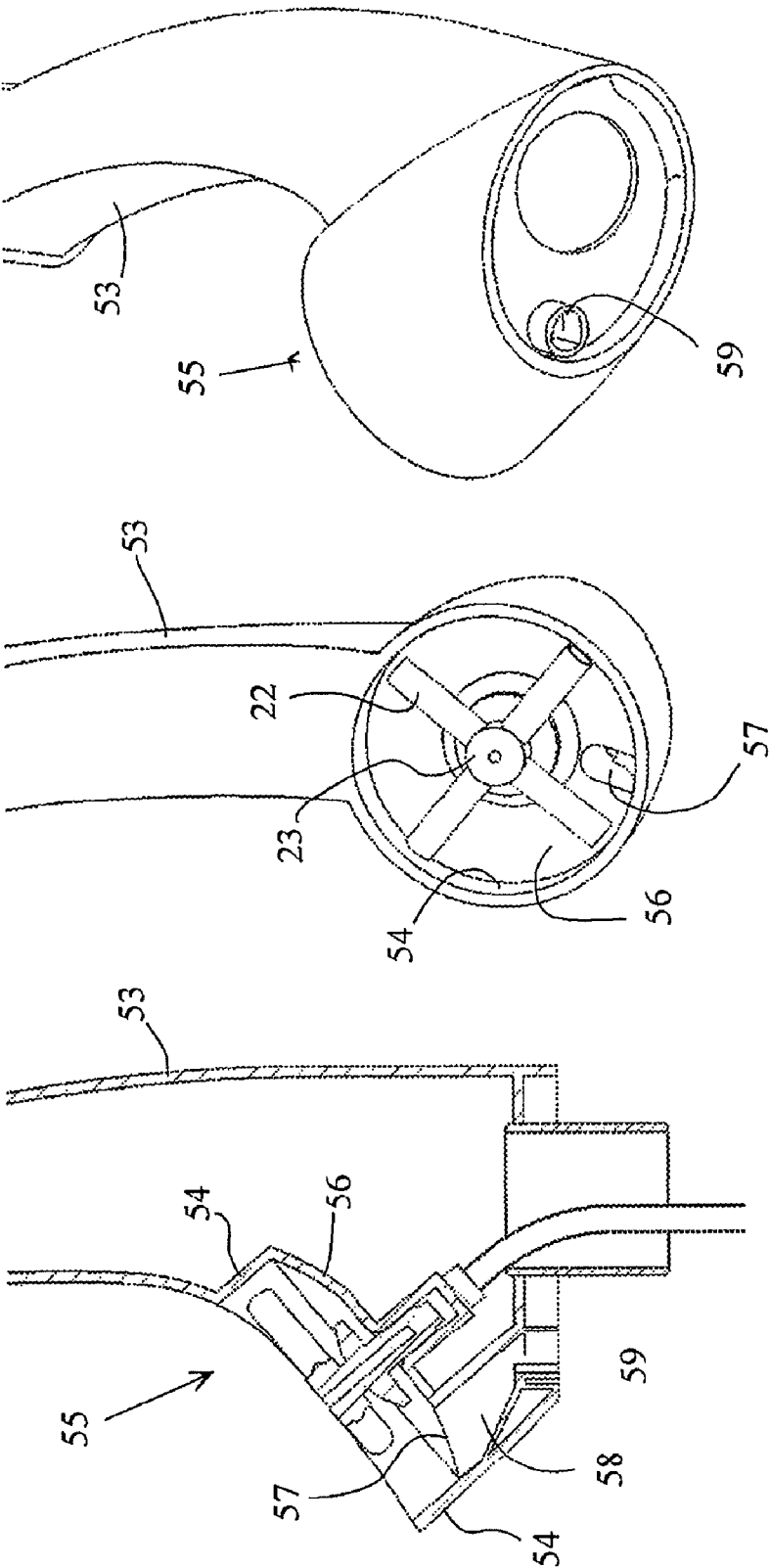


Fig. 4c

Fig. 4b

Fig. 4a

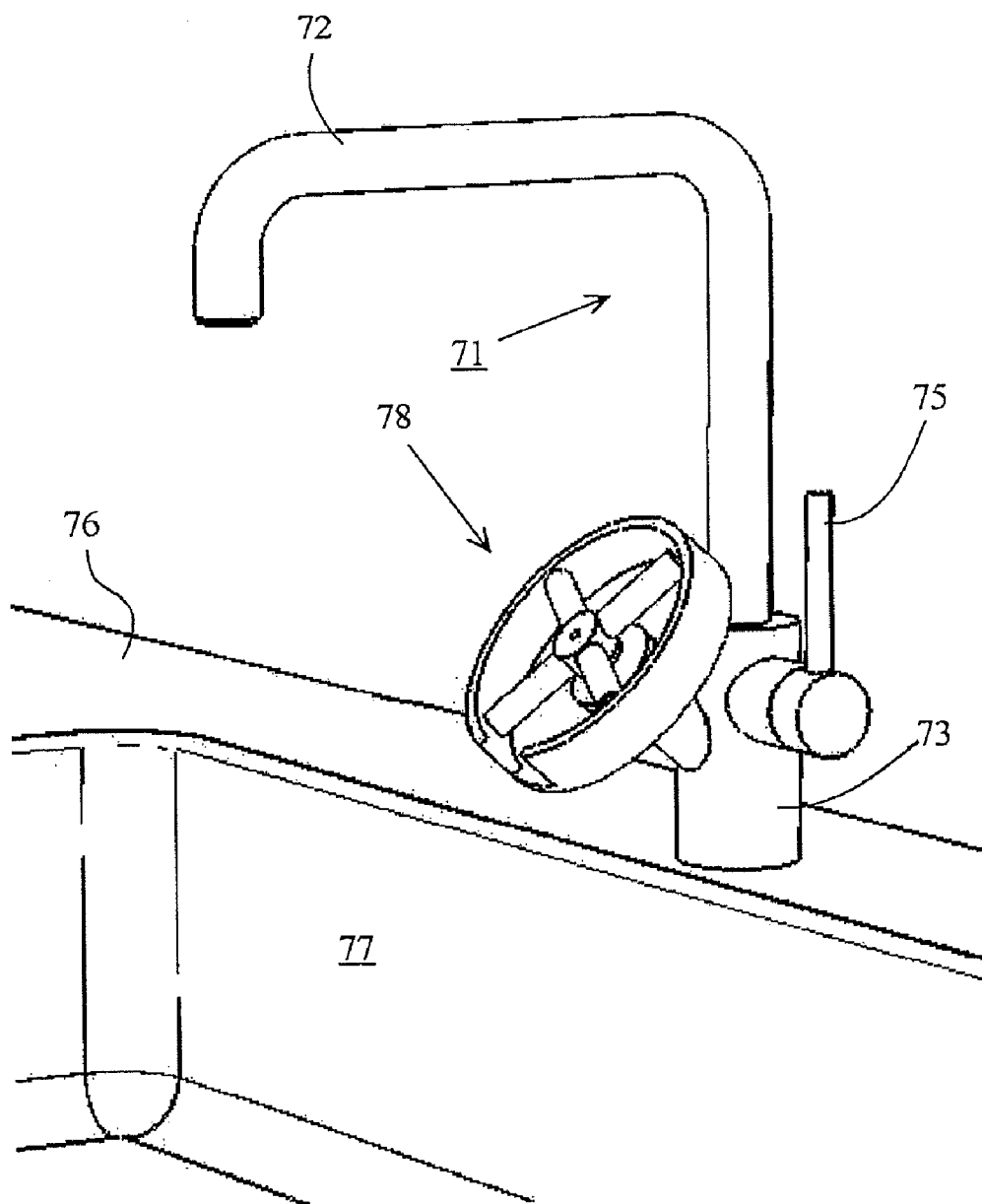


Fig. 5

FAUCET

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims the benefit of priority under the Paris Convention of Netherlands Patent Application No. 1033004 filed Dec. 6, 2006, which is relied on and incorporated herein by reference.

DESCRIPTION

[0002] The present invention relates to a faucet. The invention in particular relates to water faucets, in particular kitchen faucets used on a kitchen worktop, and to faucets of the draft tower type used in beer tapping or soft drink dispensing systems as may be used in catering establishments, but increasingly also in private homes.

[0003] In catering establishments washing devices are furthermore known for washing (rinsing) glassware. The known washing device, also called glass washer, is connected to a water conduit in a sink, in such a manner that the glass washer is positioned above the sink. Washing water thus flows into the sink after washing. The glass washer comprises a metal pipe bent at right angles, which is connected to the aforesaid water conduit with a horizontal part thereof and which extends vertically upwards at the opposite end. Said end is provided with a stop surface defined by four pins arranged crosswise, in the centre of which a spray nozzle is provided. The known glass washer further comprises a valve which can be opened by depressing the stop surface, which is done by pressing glassware against said stop surface, after which washing liquid is passed to the spray nozzle via the pipe, from which spray nozzle the washing liquid is subsequently sprayed into the inside of the glassware in question so as to wash it. In particular the metal pipe bent at right angles of the known glass washer forms an awkward object in the sink, which interferes with the carrying out of operations in or above the sink.

[0004] It is also known to use glass washers which are flush-mounted in a drip tray.

[0005] The object of the present invention is to widen the field of applications or enhance the ease of operation of faucets and washing devices. The faucet according to the invention is characterised in that it is provided with washing means for washing the insides of glasses and the like, comprising an abutment surface for abutment thereagainst of the open end of a glass, a supply line for supplying washing liquid, a spray nozzle at one end of said supply line for spraying washing liquid being supplied via the supply line into the glass from the spray nozzle during abutment of said open end against said abutment surface, and a valve in the supply line to be actuated by actuating means for supplying washing liquid to the spray nozzle as desired. Thus, the functionality of the faucet is significantly enhanced, which may be a major advantage in particular in catering and kitchen environments, where specific provisions required for a faucet may in principle also be used for the washing means, whilst in addition the amount of space taken up can remain within bounds. A major advantage is the fact that a glass or the like can be washed at the same position and directly prior to filling the glass either with tap water, or with a beverage, such as beer or a soft drink.

[0006] The washing means preferably comprise a container on the side of the abutment surface that is remote from the glass when the glass is being washed, which container

functions to receive washing liquid that was previously sprayed into the glass, as well as an outlet opening in the container for discharging washing liquid from the container. The container advantageously makes it possible to correctly discharge washing liquid in a specific direction via the outlet opening, with the area surrounding the device only getting wet to a limited extent, if at all. This extends the installation possibilities of the faucet in practice, so that said possibilities are no longer limited to placement directly above a sink or the like.

[0007] Quite preferably, the container forms part of a base of the faucet. It is precisely the base of the faucet that suitably provides space for placing the container.

[0008] The outlet opening may preferably be provided in a bottom of the container, in which case a discharge line connected to the outlet opening may extend through a base of the faucet, if desired, so that the means for discharging the washing liquid will be hidden from view as much as possible. It may also be advantageous for hygienic reasons to arrange the discharge of washing liquid in this manner.

[0009] Alternatively, the outlet opening may be provided in a wall of the container, in which case the discharge of washing liquid can take place via the worktop on which the faucet according to the invention is used.

[0010] The receiving of the washing water in the container can take place in a suitable manner in particular if at least a part of an upright wall forming part of the container is spaced from the circumference of the abutment surface by a distance of maximally 25 mm, more preferably maximally 10 mm, and/or that at least a part of a bottom forming part of the container is spaced from the abutment surface by a distance of maximally 40 mm, more preferably maximally 25 mm, at least while the glass is being washed, whilst the overall dimensions of the container and the device according to the invention can remain within bounds, so that the device according to the invention will only take up a limited amount of space.

[0011] In order to have an upright wall of the container properly join the outer circumference of a glass to be washed on the side of the open end thereof, it is preferable if at least a part of an upright wall that forms part of the container is circular in shape so as to minimize the amount of splash water that escapes between the glass and the upright wall.

[0012] Within this context it is furthermore preferable if the radius of said circular shape ranges between 40 mm and 100 mm, more preferably between 60 mm and 90 mm. Thus it is possible to wash most common-sized glasses, with a minimum dimension of 40 mm applying in particular for use in a kitchen.

[0013] It may be very advantageous for ergonomic reasons if the abutment surface is oriented at an inclined angle. This preferred embodiment makes it possible to wash a glass whilst the person involved presses the glass in question down at an angle away from himself or herself against the abutment surface. From a practical viewpoint, the present preferred embodiment can be used advantageously in particular if a container according to a previously discussed preferred embodiment for receiving washing liquid is used in the present invention. If such a container were not used, there is a risk that the washing liquid will be sprayed back from the washed glass in an uncontrolled manner.

[0014] The washing liquid can in particular be discharged in an orderly manner, without drops of washing liquid being undesirably formed in the area around the device during

washing, if according to another preferred embodiment the abutment surface extends within the height of an at least partially circumferential wall of the container, at least while the glass is being washed. The circumferential wall can join the glass to be washed at the location of the open end, as it were, so that there will be no space through which washing liquid can escape in lateral direction.

[0015] The discharge of the washing liquid can in any case take place in a controlled manner if the device comprises a discharge line that is connected to the outlet opening.

[0016] If a base according to a previously discussed preferred embodiment is used, such a discharge line preferably extends through said base, so that the discharge line will be hidden from view.

[0017] To reduce the number of bores in a worktop, it is preferable if the base of the faucet is provided with a common lead-through channel for leading through a tap line to an outflow opening of the faucet and for leading through the supply line. The tap line may be a water conduit connected to the water supply system, therefore, in particular if the device according to the invention is used with kitchen faucets, but may also be a conduit for beer or soft drinks or the like.

[0018] In particular for use in the catering industry, the faucet according to the invention preferably comprises a coolant line which extends around or at least in the immediate vicinity of the supply line. Thus, the washing liquid can be cooled until just before the moment of washing, so that also the glass being washed will be cooled, preferably to the same temperature as that of the beverage during tapping. As a result, the beverage with which the glass is filled after being washed will have a lower temperature than in the situation in which the washing liquid is not cooled, which will make the consumer appreciate drinking the beverage even more.

[0019] The coolant line preferably extends also around a tap line for the faucet. Thus, no additional provisions are required for cooling the washing water in particular when tapping beverages.

[0020] Alternatively, or in combination therewith, it may also be advantageous if the supply line extends through a cooling unit. If the cooling unit which is also used for cooling liquid in tap lines, as is already known, is used for this purpose, no additional provisions will be needed for cooling the washing water.

[0021] Consequently, the tap line preferably extends through the cooling unit as well. As an aside it is noted that the cooling of washing water according to the above-described preferred embodiments is also advantageous when using washing devices according to the prior art.

[0022] The invention also relates to a combination of a worktop and a faucet device according to the invention as described in the foregoing, wherein the outlet opening opens above a recessed part of the worktop, which recessed part is provided with a further outlet opening extending through the worktop for discharging liquid from the upper side of the worktop to the bottom side of the worktop.

[0023] In particular in the case of water faucets in kitchens it is furthermore preferable in that regard if said recessed part is a sink in the worktop, in which case said further outlet opening is formed by the drain holes (which are known per se) that are already present in the sinks.

[0024] The invention will be explained in more detail hereinafter by means of a description of a number of preferred embodiments of the vices and combinations according to the invention with reference to the following figures:

[0025] FIG. 1 is a perspective view of a first preferred embodiment of a draft tower according to the invention;

[0026] FIG. 2 is a vertical longitudinal sectional view of a lower part of the draft column forming part of the draft tower shown in FIG. 1;

[0027] FIG. 3 is a perspective view of a second preferred embodiment of a draft tower according to the present invention;

[0028] FIGS. 4a, 4b and 4c are a vertical longitudinal sectional view, a perspective top plan view and a perspective bottom plan view, respectively, of a lower part of the draft column forming part of the draft tower shown in FIG. 3; and

[0029] FIG. 5 is a perspective view of a third preferred embodiment of a water faucet according to the invention.

[0030] FIG. 1 shows a draft tower 1 according to the invention. The draft tower 1 comprises a base configured as a column 2 and two tapping devices 3. The draft tower 1 is supported on the worktop 4 with the bottom side of the column 2 (see also FIG. 2) and is secured to the worktop 4 by means of a locking nut 5. The column 2 comprises a lead-through bushing 6, which extends coaxially with the locking nut 5 through a bore in the worktop 4. A coolant supply line 7, a coolant return line 8 and a beer line 9 extend through the lead-through bushing 6. The beer in the beer line 9 is cooled up to the location of the tapping devices 3 by means of the coolant supply line 7. The exact configuration of the draft tower 1, at least insofar as described so far, is not relevant within the framework of the present invention. Merely by way of example, reference is made to draft towers as described in, for example, Dutch patent NL 1021469.

[0031] The draft tower 1 is different from existing draft towers in that the draft tower 1 is provided with a washing device 21. The washing device 21 comprises a cross-shaped abutment member 22, which defines a circular abutment surface at the upper side of the cross-shaped abutment member 22. Said abutment surface has a diameter equal to the diameter of the cross shape of the abutment member 22. In the centre of the cross shape of the abutment member, the washing device 21 comprises a spray nozzle body 23 connected to the abutment member, which is provided with an internal spray channel 24 that opens into a spray nozzle. The spray nozzle body 23 comprises a cylindrical end 27 provided with a valve 26 (only schematically shown). Said cylindrical end 27 extends within the upper end of a supply line 28, which is connected, through the wall of the column 2, to a flexible supply line 29 for supplying washing liquid to the spray channel 24 in the spray nozzle body 23. The pressure in the supply line 29 will keep the valve 26 in the closed position as long as no pressure is exerted on the abutment member 22, so that the supply of washing liquid from the supply line 29 to the spray channel 24 is blocked. However, when a pressure is exerted on the abutment member 22 in the pressure direction 25 by pressing the open end of a glass against said abutment member, the valve 26 (only shown schematically) will open, so that washing liquid will be sprayed into the glass in question from the spray channel 24. The above principle is already known per se to those skilled in the art and need not be explained in more detail herein, therefore.

[0032] The supply line 28 also forms a base for the washing device 21, whose lower end is accommodated in a recess 29 in the wall of the column 2. The shape of said recess 29 corresponds to that of the base 28. The orientation of the recess has been selected so that the abutment surface defined by the abutment member 22 includes an angle of about 45 degrees

with the vertical and is thus directed towards the user, as it were, which is advantageous for ergonomic reasons. The washing device 21, or more specifically the base 28 thereof, is connected to the column 2 by means of a locking nut 30.

[0033] The washing device 21 further comprises an at least substantially cup-shaped container 31 which joins the upper end of the base 28, which container comprises a slightly concave bottom 32 and an upright wall 33 which joins the circumference of the bottom 32. The height of said wall 33 has been selected so that the abutment surface is fully accommodated within the space defined by the circumferential wall 33, at least when the abutment member 22 is being pressed down in the pressure direction 25. At the lowermost point, the circular wall 33 is interrupted, thereby creating an outflow opening 34 at that location. Said outflow opening 34 is located above a recessed part 35 in the worktop 4, where a drip tray 36 is provided. It is known to those skilled in the art that such drip trays 36 are frequently used with draft towers in locally recessed parts 35 in worktops 4. What is not shown in the figures is that an outlet opening is provided in the worktop 4, more specifically in the recessed part 35 thereof, for discharging liquid from the upper side of the worktop 4 to the bottom side thereof.

[0034] The spacing between the ends of the abutment member 22 and the inner side of the upright wall 33 is 10 mm, whilst the spacing between the abutment surface and the bottom 32 is about 10 mm during the time the abutment member 22 is maximally depressed.

[0035] When using the washing device 21 that forms part of the draft tower 1, a user will press a glass against the abutment member 22 with the open end of the glass directed towards the washing device, so that said abutment member will move in the pressure direction 25 against the pressure in the supply line 29, so that the valve 26 will open and washing water will be supplied to the spray channel 24 from the supply line 29 and be sprayed into the glass in question in order to thus wash said glass. Most of the washing water will flow from the glass into the container 31 under the influence of the force of gravity. The abutment surface will extend below the uppermost level of the wall 33 in that situation. From the container 31, said washing liquid will flow out of the container 31 via the outlet opening 34 and into the recessed part 35 via holes in the drip tray 36, from where it will be further discharged through the worktop 4.

[0036] FIGS. 3-4c relate to another embodiment of a draft tower 51 according to the invention. The difference between the draft tower 51 and the draft tower 1 is in particular the configuration of the associated washing device, which is indicated at 52 for the draft tower 51. Instead of being configured as a separate element, such as the container 31, the container associated with the washing device 52 is fully integrated in the column 53 of the draft tower 51, as it were. It stands to reason that the column 53 is to that end configured differently than the column 2, at least at the bottom end thereof. In addition to that, it has been decided not to form an outflow opening in the upright wall 54 of the container 55 in the washing device 51 but to form said outflow opening in the bottom 56. The outflow opening 57 in question at the lowermost level of the bottom 56 is clearly shown in particular in FIGS. 4a and 4b. The outflow opening 57 forms the upper end of a discharge channel 58 through the interior of the column 53. Said discharge channel 58 terminates at the connecting sleeve 59 near the bottom side of the column 53, where a (flexible) discharge line (not shown) can be connected to the

discharge channel, which discharge line extends through the worktop 4 via a bore. Alternatively, such a discharge line may also extend through the lead-through bushing 6.

[0037] The operation of the draft tower 51, or more specifically of the washing device 52 thereof, is quite comparable to that of the draft tower 1 and the washing device 21, at least for the user. What is different, however, is that it is not the existing outlet in the worktop 4 that is used for discharging the used washing liquid, but that said discharge takes place internally within the column 53.

[0038] The embodiments of the invention that have been discussed so far will be used in particular in catering establishments. The embodiments of the invention that will be discussed hereinafter will more likely be used in kitchen environments.

[0039] FIG. 5 shows a water faucet 71 comprising a spout 72 which can pivot to the left and to the right with respect to the fixed base 73, and an operating handle 65 provided on the fixed base 73. Via the fixed base 73, the water faucet 71 is fixed to a kitchen worktop 76 with a sink 77. Water faucets as described above are quite well-known, of course. The water faucet 71 is different from the known water faucets, however, in that the water faucet 71 is provided with a washing device 78, which is mounted to the fixed base 73. The washing device 78 is quite comparable to the washing device 21 and need not be explained in more detail herein, therefore. As is apparent from FIG. 5, the outflow opening 79 of the washing device 78 opens above the sink 77.

[0040] Having thus described exemplary embodiments of the present invention, it should be noted by those skilled in the art that the within disclosures are exemplary only and that various other alternatives, adaptations, and modifications may be made within the scope of the present invention. Accordingly, the present invention is not limited to the specific embodiments as illustrated herein, but is only limited by the following claims.

1. A faucet characterised by washing means for washing the insides of glasses and the like, comprising an abutment surface for abutment thereagainst of an open end of a glass, a supply line for supplying washing liquid, a spray nozzle at one end of said supply line for spraying washing liquid being supplied via the supply line into the glass from the spray nozzle during abutment of said open end against said abutment surface, and a valve in the supply line to be actuated by actuating means for supplying washing liquid to the spray nozzle as desired.

2. A faucet according to claim 1, characterised in that the washing means comprise a container on the side of the abutment surface that is remote from the glass when the glass is being washed, which container functions to receive washing liquid that was previously sprayed into the glass, as well as an outlet opening formed in said container for discharging washing liquid from the container.

3. A faucet according to claim 2, characterised in that the container forms part of a base of the faucet.

4. A faucet according to claim 2, characterised in that the outlet opening is provided in a bottom of the container.

5. A faucet according to claim 2, characterised in that the outlet opening is provided in a wall of the container.

6. A faucet according to claim 2, characterised in that at least a part of an upright wall that forms part of the container is spaced from the circumference of the abutment surface by a distance of maximally 25 mm.

7. A faucet according to claim 2, characterised in that at least a part of a bottom that forms part of the container is spaced from the abutment surface by a distance of maximally 40 mm while a glass is being washed.

8. A faucet according to claim 2, characterised in that at least a part of an upright wall forming part of the container is circular in shape.

9. A faucet according to claim 8, characterised in that the radius of said circular shape ranges between 40 mm and 100 mm.

10. A faucet according to claim 1, characterised in that the abutment surface is oriented at an inclined angle.

11. A faucet according to claim 1, characterised in that the abutment surface extends within the height of an at least partially circumferential wall of the container while the glass is being washed.

12. A faucet according to claim 2, characterised by a discharge line which is connected to the outlet opening.

13. A faucet according to claim 12, characterised in that said discharge line extends through the base.

14. A faucet according to claim 13, characterised by a common lead-through channel for leading through a tap line to an outflow opening of the faucet and for leading through the supply line.

15. A faucet according to claim 1, characterised by a coolant line which extends around the supply line and a tap line for the faucet.

16. A faucet according to claim 1, characterised in that the supply line and further preferably a tap line extends through a cooling unit.

17. A faucet construction comprising a worktop and a faucet, the faucet comprising washing means for washing the insides of items, comprising an abutment surface for abutment thereagainst of an open end of the item, a supply line for supplying washing liquid, a spray nozzle at one end of said supply line for spraying washing liquid being supplied via the supply line into the item from the spray nozzle during abutment of said open end against said abutment surface, and a valve in the supply line to be actuated by actuating means for supplying washing liquid to the spray nozzle as desired;

wherein the washing means comprise a container on the side of the abutment surface that is remote from the item when the item is being washed, which container functions to receive washing liquid that was previously sprayed into the item, as well as an outlet opening formed in said container for discharging washing liquid from the container;

wherein the outlet opening opens above a recessed part of the work top, and the recessed part is provided with a further outlet opening extending through the work top for discharging liquid from the upper side of the work top to the bottom side of the work top.

18. A construction according to claim 17, characterised in that said recessed part is a sink in the work top.

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