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(54) Abstract Title
Beverage dispenser

(57) A beverage dispenser comprising a dispenser being operable to dispense a beverage via at least one outlet 14 accessible externally of the dispenser body is described. The at least one outlet 14 is supported with respect to the dispenser body 2 such that its position relative to the body can be set by a user at different vertical heights at which dispensing is to take place. The dispenser may have two outlets 14 supported with respect to the dispenser body such as to be at different vertical heights so that the user can select the vertical height at which dispensing is to take place by selection of the respective outlet.

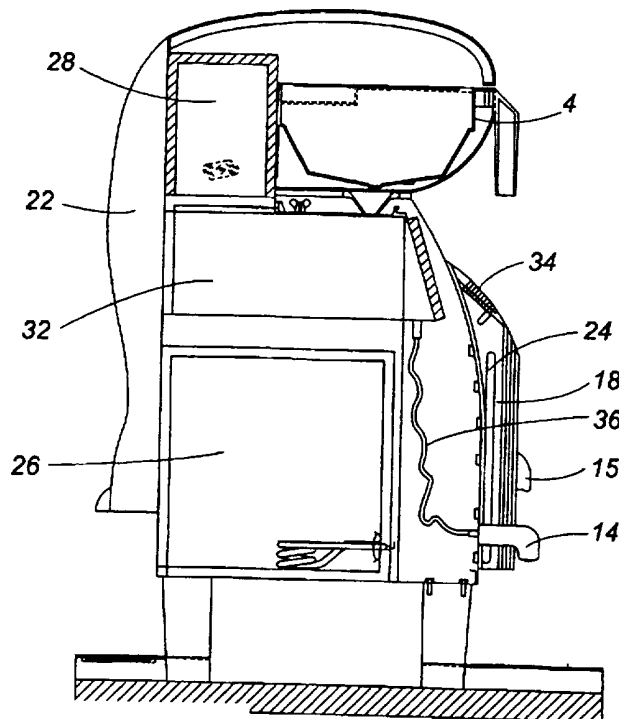


FIG. 3

FIG. 1

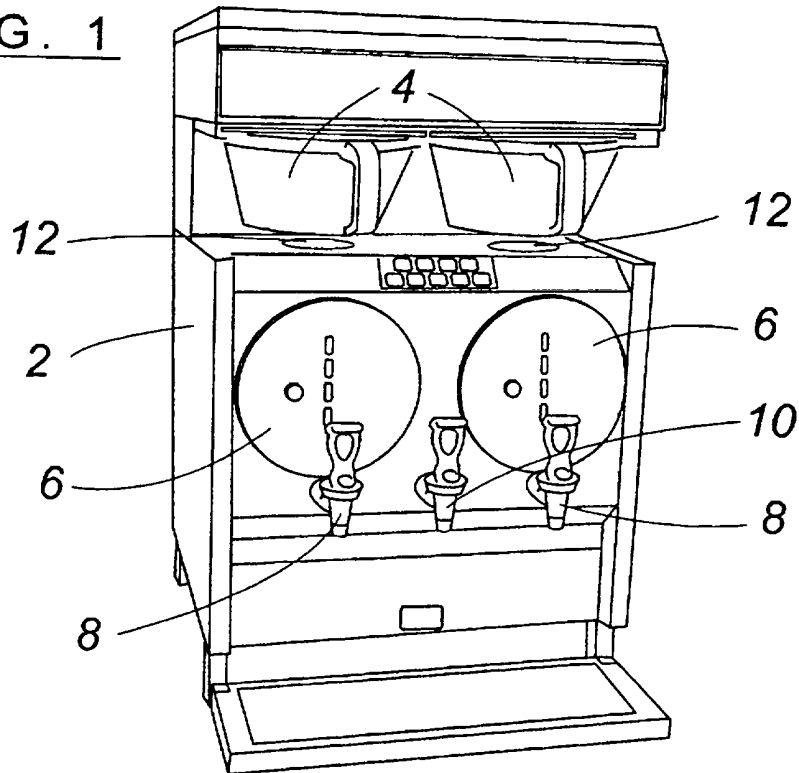
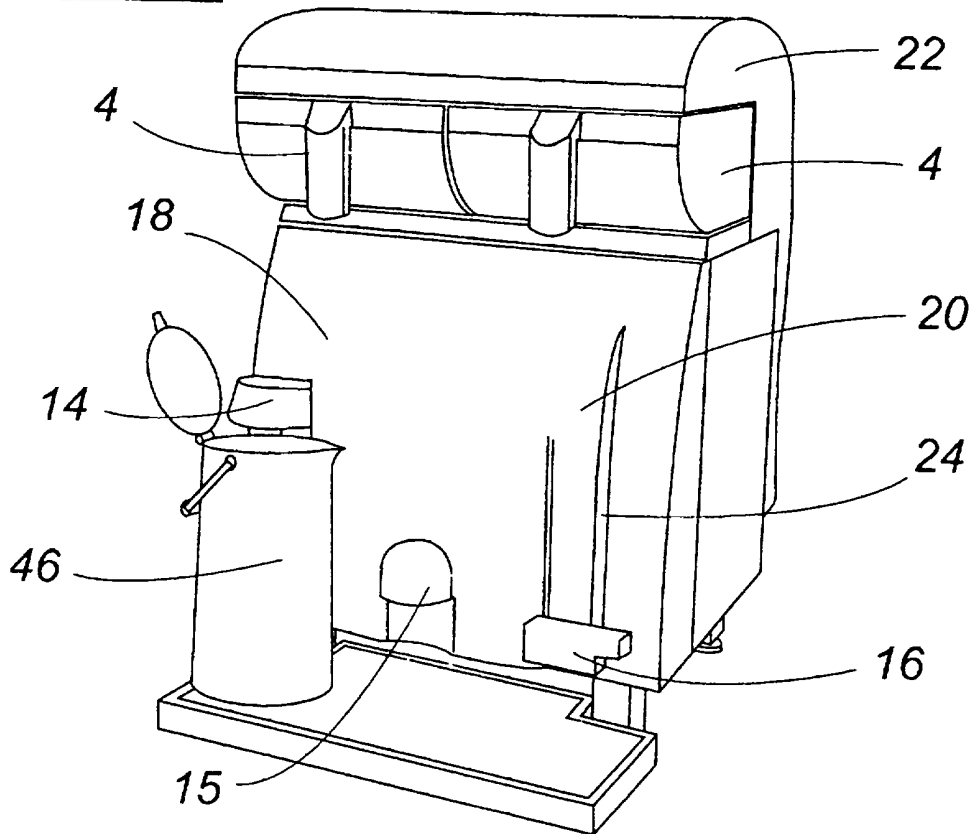


FIG. 2



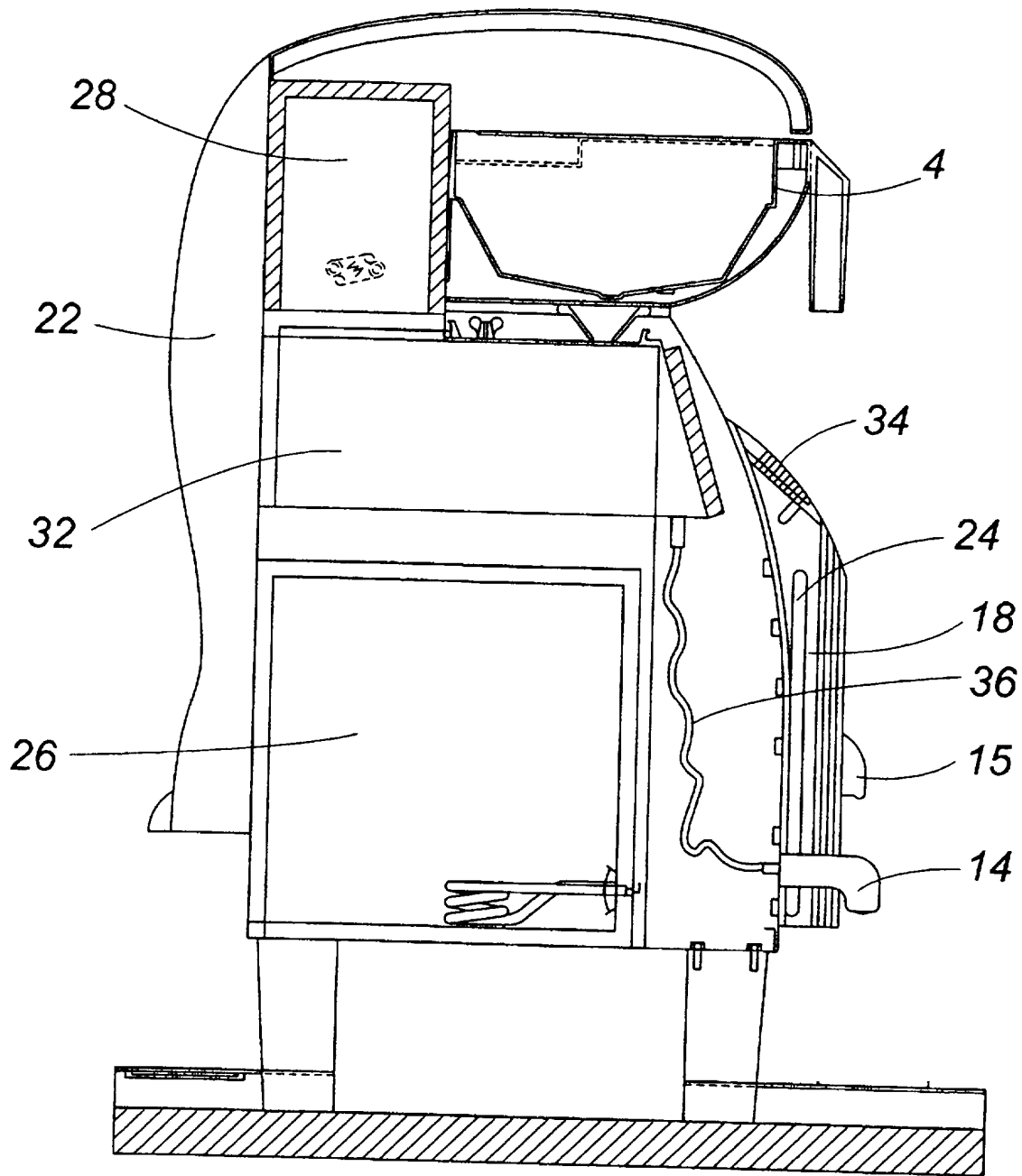


FIG. 3

FIG. 4

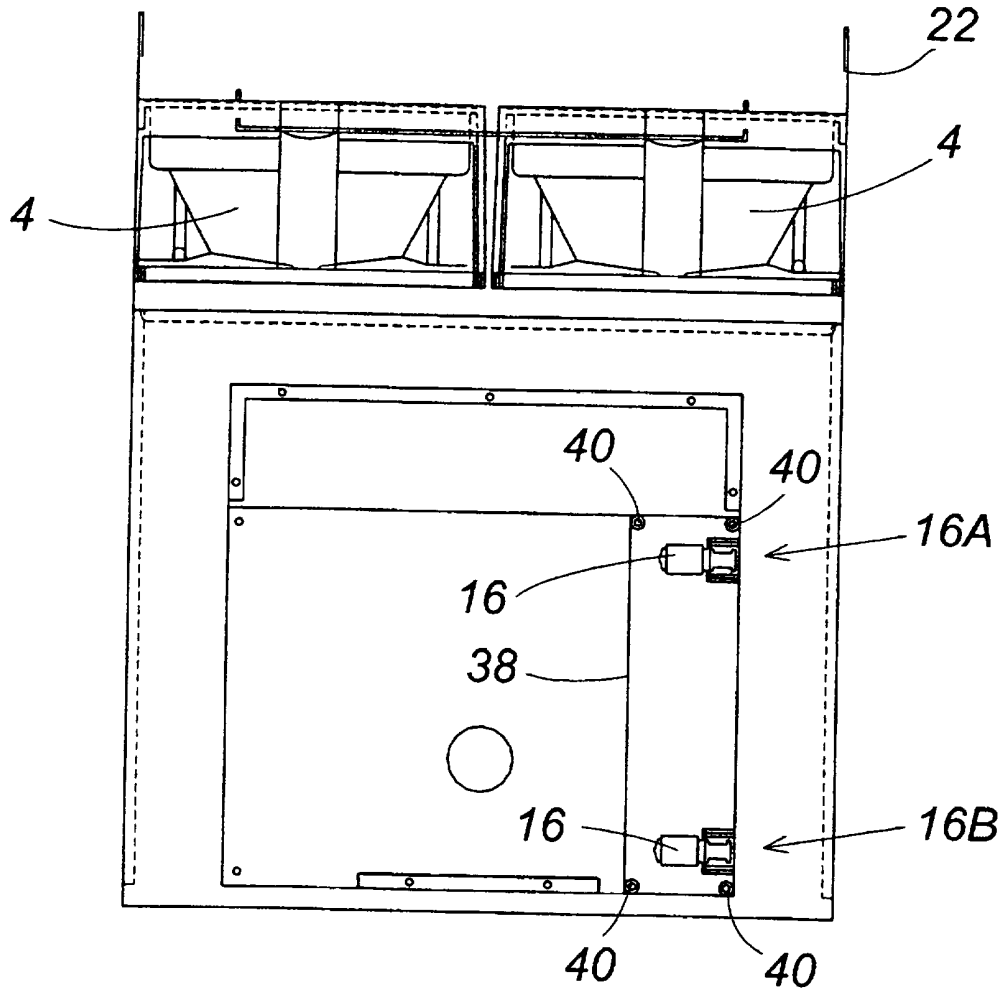
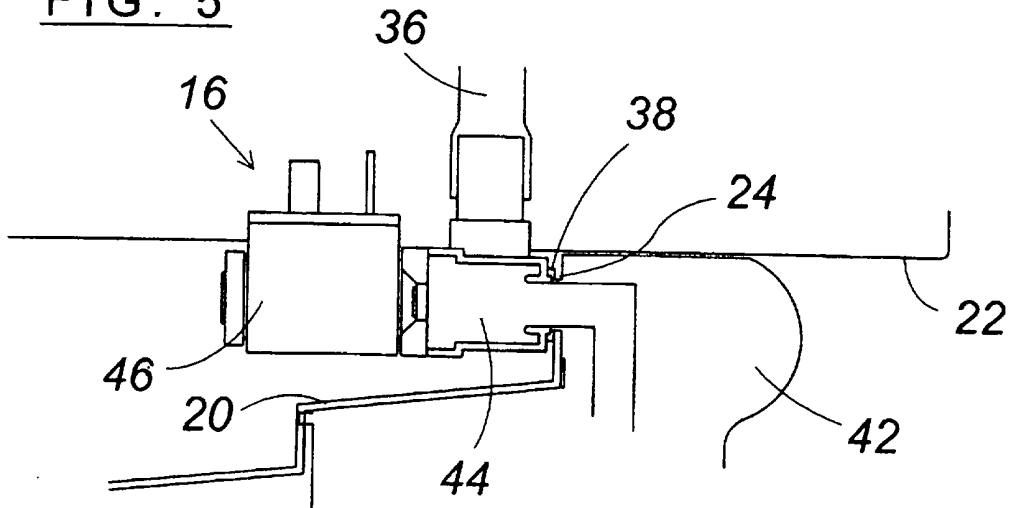


FIG. 5



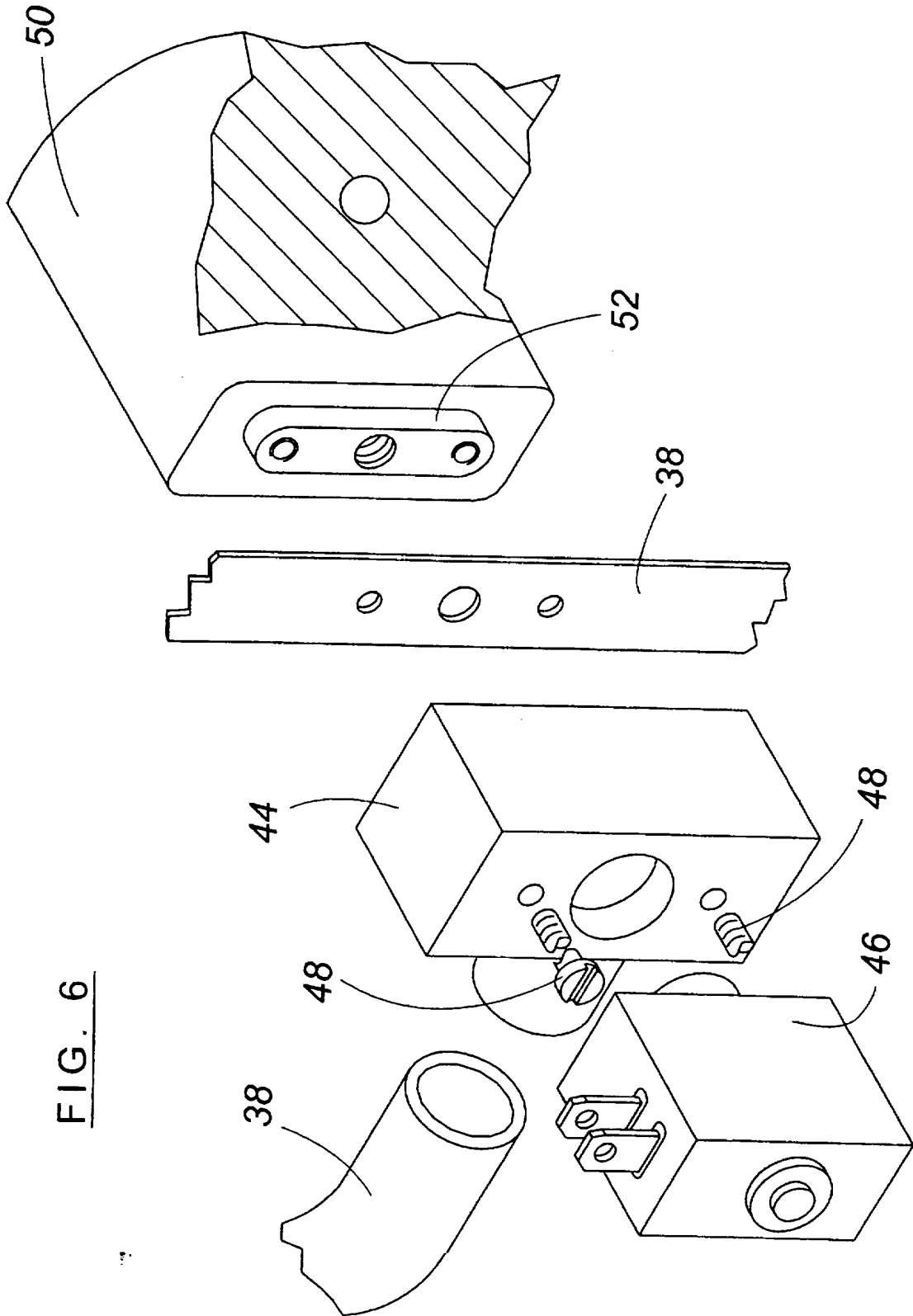


FIG. 6

BEVERAGE DISPENSER

The present invention relates to a beverage dispenser. More particularly, it relates to a dispenser used to provide hot beverages such as tea or coffee.

In a known coffee brewer, the brewed coffee is dispensed from storage urns via respective taps, each provided at the same height above the base of the brewer. If coffee is to be dispensed into a container of similar height to the taps, then the container can simply be placed below the tap. However, if the height of the container is significantly different to that of the taps, it has to be tilted if it is too tall, or held in the hand or rested on a raised platform if it is too short, in order to avoid splashing or spillage of coffee.

To overcome this problem, the present invention provides a beverage dispenser comprising at least one outlet supported on the body of the dispenser, the dispenser being operable to selectively dispense a beverage via the at least one outlet at two or more different heights relative to its body. A plurality of outlets may accordingly be provided at different heights. Thus, the dispenser can conveniently dispense into a much broader height range of containers.

In a preferred embodiment, the at least one outlet is supported on the body of the dispenser such that its height relative thereto is selectively variable. The at least one outlet may be movable between a finite number of predetermined positions or an infinite number of positions within a range. Accordingly, the same outlet can be used to dispense beverages conveniently and safely into a wide height range of containers. Beverages may be fed to the at least one outlet via a flexible tube.

The at least one outlet may be movable along a slot formed in the body of the dispenser, the slot being closed either side

or the at least one outlet by a band connected thereto. The outlet is thereby guided between different heights whilst the band serves to minimize the ingress of dust into the body of the dispenser. In a preferred arrangement, beverages are fed to the at least one outlet via a valve, the band providing a seal between the valve and the at least one outlet. The band may be in the form of a closed loop, so it can be readily mounted within the dispenser.

As the dispenser of the invention can be used to fill containers of different heights, which are therefore likely to have different capacities, the dispenser may be operable to dispense a range of predetermined volumes of beverage. In such a configuration, beverages are preferably fed to the at least one outlet via a solenoid valve.

A prior arrangement and an embodiment of the invention will now be described by way of example and with reference to the accompanying drawings wherein:

Figure 1 is a perspective view of a prior beverage dispenser;

Figure 2 is a perspective view of a beverage dispenser according to the present invention;

Figure 3 is a sectional side view of the dispenser of Figure 2;

Figure 4 is a sectional front view of the dispenser of Figure 2;

Figure 5 is a sectional plan view of a tap of the dispenser of Figure 2; and

Figure 6 is an exploded perspective view of the tap of Figure 5.

The known beverage dispenser shown in Figure 1 comprises a housing 2 supporting two removable filter pans 4 for holding ground coffee or tea leaves, for example, within filter papers. It also includes two beverages storage urns 6 and three fixed

toggle-type taps 8 and 10.

When the dispenser is initially activated, water is heated in hot water tanks (not shown) within the housing 2 of the dispenser. Water from one of these tanks is fed directly to a tap 10. When preparation of a hot beverage is required, a predetermined volume of hot water is fed from the other tank via a filter pan 4, into the respective storage urn 6. The beverage passes from the filter pan to the urn via a hole (not shown) in the base of the filter pan 4 and an aperture 12 in the housing. The beverage can then be dispensed from the urn 6 via the respective tap 8, which is connected directly to the urn.

Figure 2 illustrates a beverage dispenser in accordance with the invention, comprising two moveable taps 14 and 16. The taps are slidably mounted on vertical tracks 18 and 20, respectively, provided on the front of the housing 22. Beverages are fed to each tap 14, 16 via a vertical slot 24 (only one shown in Figure 2) in the side of the respective track 18, 20. Hot water may be dispensed from a fixed outlet 15.

As shown in Figure 3, the dispenser of Figure 2 includes two hot water tanks 26 (only one shown) to heat water for use in beverage preparation, a smaller hot water tank 28 for supplying hot water to the outlet 15, and two beverage storage tanks 32 (only one shown). The dispenser is operable by a user via the control panel 34.

In a similar manner to the prior dispenser of Figure 1, that of Figure 2 prepares a beverage by passing heated water from tank 26, through a respective filter pan 4 and into a respective storage tank 32. However, in the configuration of Figure 3, taps 14 and 16 are connected to storage tank 32 by respective flexible tubes 36 (only one shown). The taps 14 and 16 may be manually operable to dispense a prepared beverage. Preferably, (as discussed below) they instead include an electrically operated solenoid valve, operable in accordance with commands entered by

a user via the control panel 34.

As illustrated in Figure 4, the tap 16 is supported by a band 38 (only one tap configuration is shown for clarity). The tap is moveable between a raised position 16A and a lowered position 16B according to the user's requirements, and is retained at a given height by the band 38. In Figure 4, a continuous band 38 is shown which is supported by pulleys 40. Alternatively, the tap 16 may be supported by a length of band having each end wound onto a reel. The band 38 also serves to close the slot 24 around the tap 16, thus minimizing the ingress of dust and other extraneous matter through the slot into the housing 22.

As shown in Figures 5 and 6, the band 38 also provides a seal between the tap outlet 42 and the solenoid valve 44, which comprises an energising coil 46. Fixing screws 48 fasten the solenoid 44 to the tap outlet 42, clamping band 38 therebetween. A projection 52 provided on the tap outlet 42 is shaped so as to slide along slot 24 in the dispenser housing 22.

As illustrated in Figure 2, the dispenser can be arranged to fill a relatively tall container, such as a flask 46, with a tap in a raised position, or a low container, such as a cup, with a tap in a lowered position. The dispenser may also be configured such that the user can request dispensation of a particular volume of beverage from a tap using control panel 34, the volume requested corresponding to the size of the particular container to be filled.

CLAIMS

- 1 A beverage dispenser comprising at least one outlet supported on the body of the dispenser, the dispenser being operable to selectively dispense a beverage via the at least one outlet at two or more different heights relative to its body.
- 2 A dispenser of Claim 1 wherein the at least one outlet is supported on the body of the dispenser such that its height relative thereto is selectively variable.
- 3 A dispenser of Claim 2 wherein beverages are fed to the at least one outlet via a flexible tube.
- 4 A dispenser of Claim 2 or Claim 3 wherein the at least one outlet is movable along a slot formed in the body of the dispenser, the slot being closed either side of the at least one outlet by a band connected thereto.
- 5 A dispenser of Claim 4 wherein beverages are fed to the at least one outlet via a valve, the band providing a seal between the valve and the at least one outlet.
- 6 A dispenser of Claim 4 or Claim 5 wherein the band is in the form of a closed loop.
- 7 A dispenser of any preceding claim wherein the dispenser is operable to dispense a range of predetermined volumes of beverage.
- 8 A dispenser of Claim 7 wherein beverages are fed to the at least one outlet via a solenoid valve.
- 9 A beverage dispenser substantially as described herein with reference to Figures 2 to 6 of the accompanying drawings.

Amendments to the claims have been filed as follows

1. A beverage dispenser comprising a dispenser body, the dispenser body being operable to dispense a beverage via at least one outlet accessible externally of the dispenser body, wherein the at least one outlet is supported with respect to the dispenser body such that its position relative the body can be set by a user to select from at least two different vertical heights that at which dispensing is to take place.

2. A beverage dispenser comprising a dispenser body, the dispenser being operable to selectively dispense a beverage via at least two outlets accessible externally of a dispenser body, wherein the outlets are supported with respect to the dispenser body such that they are at different vertical heights so that a user can select the height at which dispensing is to take place by selection of the respective outlet.

3. A beverage dispenser as claimed in Claim 2 wherein the position of at least one of the outlets relative to the body can be set by a user to select from at last two different vertical heights that at which dispensing is to take place from the at least one outlet.

4. A dispenser as claimed in either Claim 1 or Claim 3 wherein the beverage is fed to the at least one outlet

via a flexible tube.

5. A dispenser as claimed in any one of Claims 1, 3 or 4 wherein the at least one outlet is movable along a substantially vertical slot formed in the body of the dispenser.

6. A dispenser as claimed in any one of Claims 1, 3, 4 or 5 wherein the at least one outlet is carried on a lift mechanism provided internally of the dispenser body.

7. A dispenser as claimed in Claim 6 when dependent on Claim 5 wherein the lift mechanism is a movable band which covers the slot above and below the at least one outlet.

8. A dispenser as claimed in any preceding Claim wherein dispensing is controlled by a solenoid valve at each outlet.

9. A dispenser as claimed in any preceding Claim whereas the dispenser is operable to dispense at least one predetermined volume of beverage at each outlet.

10. A dispenser substantially as hereinbefore described and illustrated in the accompanying drawings.



Application No: GB 9802537.2
Claims searched: 1-9

Examiner: Steve Waller
Date of search: 28 May 1998

**Patents Act 1977
Search Report under Section 17**

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:
UK Cl (Ed.P): B8N NB, NC, NG, NJJ; B8T TFDK
Int Cl (Ed.6): B65D 25/50; B67D 1/00, 1/06
Other: ONLINE: WPI

Documents considered to be relevant:

| Category | Identity of document and relevant passage | Relevant to claims |
|----------|--|--------------------|
| X | GB 1 545 298 (Johnson) See figures 1 and 2 | 1,2,3 |

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| X | Document indicating lack of novelty or inventive step | A | Document indicating technological background and/or state of the art. |
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