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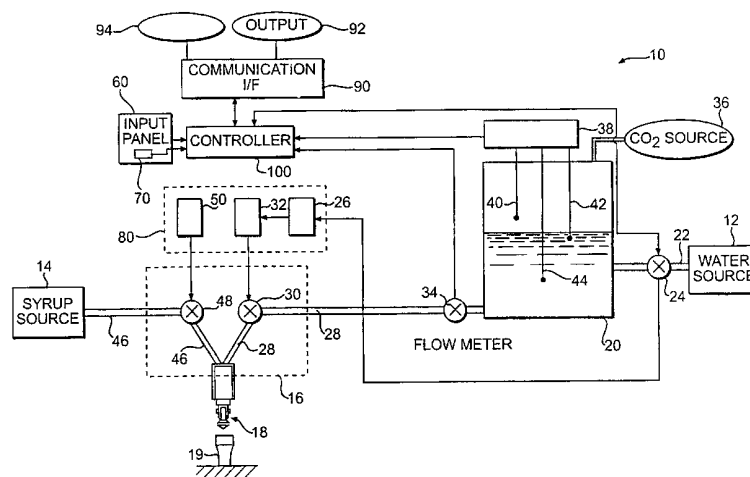
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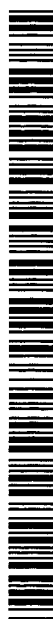
(88) Date of publication of the international search report:
4 April 2002

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.

(54) Title: SELF-MONITORING, INTELLIGENT FOUNTAIN DISPENSER



(57) Abstract: An intelligent fountain dispenser (10) performs automated control and systems diagnostics in real time. The intelligent fountain dispenser (10) includes a controller (100) in electrical communication with a syrup valve (48), a water valve (30), a carbonator valve (24), a water level sensor (38), a flowmeter (34), and an input panel (60). The intelligent fountain dispenser also includes a dispenser housing (16) and a carbonator tank (20). Water and carbon dioxide mix in the carbonator tank to produce carbonated water. The carbonator valve supplies water to the carbonator tank in accordance with instructions received from the controller. The controller also instructs the syrup valve and the water valve in the supply of syrup and carbonated water, respectively, to the dispenser housing. The controller provides the instructions to the valves based on information received from the water level sensor, flowmeter, and input panel. The controller performs systems diagnostics by monitoring the voltage drop across current-sensing resistors (26, 32, 50) associated with each of the valves (24, 30, 48). The controller can also perform system diagnostics based on information supplied by a signature resistor (70) associated with the input panel.



WO 01/83360 A3

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 01/40601

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 B67D1/12 B67D1/00

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)

EP0-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 360 140 A (SENGHAAS KARL A) 1 November 1994 (1994-11-01) column 1, line 51 - line 54 column 2, line 13 - line 17 column 4, line 11 - line 24 column 4, line 67 -column 5, line 7; figure 1	1,15,16
A	--- US 3 991 911 A (DAILEY JOHN HENRY ET AL) 16 November 1976 (1976-11-16) column 29, line 55 - line 68; figure 1 -----	1

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 referring 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.
- "&" document member of the same patent family

Date of the actual completion of the international search

28 August 2001

Date of mailing of the international search report

13. 12. 2001

Name and mailing address of the ISA

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 01/40601

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1, 15

Remark on Protest

- The additional search fees were accompanied by the applicant's protest.
- No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1, 15

An automated fountain dispenser comprising means to relay an alert signal to an outlet.

2. Claims: 3, 18

An automated fountain dispenser characterized in that a distinct signature resistor is used to determine the particular configuration of a removably attached consumer interface.

3. Claims: 6,11,22

An automated fountain dispenser comprising a flowmeter in fluid communication with a carbonator tank.

INTERNATIONAL SEARCH REPORT

Information on patent family members

Internatic Application No
PCT/US 01/40601

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5360140	A	01-11-1994 CA 2005766 A1	16-06-1990
US 3991911	A	16-11-1976 CA 1012106 A1	14-06-1977