

Search query (4): [SP]: the present disclosure is directed to containers, and more particularly to the measurement of fluid flow characteristics from a container.background and summary of the disclosure a general object of the present disclosure, in accordance with one aspect of the disclosure, is to provide a method and system to characterize the flow of liquid from a container, for example, to establish the attributes of the pour profile of the container.the present disclosure embodies a number of aspects that can be implemented separately from or in combination with each other.a container test system in accordance with one aspect of the disclosure includes a test chamber including rotatable container carrier, and an assembly for rotating the container between upright and inverted positions. the system also includes sensors to measure the change of the weight of the container as fluid is poured from the container. the system further includes a collection assembly for gathering the liquid that flows from the inverted or partially inverted container. lastly, the system further includes data collection capability to gather and process sensor data in real-time while the system also includes sensors to monitor any external conditions that may affect the test so that the data may be adjusted to compensate for such external conditions.in accordance with another aspect of the disclosure, there is provided a method of determining the pour profile of a container. the method includes positioning the container on a rotatable container carrier, and rotating the container between an upright and an inverted position. the method further includes reading load cells to measure the change in weight of the container during rotation while the fluid contents are poured from the inside of the container, and reading an accelerometer to monitor and detect any outside environmental interference that may influence the results of the test, and adjusting the test results for such outside interference.brief description of the drawingsthe disclosure, together with additional objects, features, advantages and aspects thereof, will be best understood from the following description, the appended claims and the accompanying drawings, in which: fig. 1 is an exploded, perspective view of a fluid flow test apparatus in accordance with an illustrative embodiment of the present disclosure fig. 2 is a front perspective view of a rotatable container carrier assembly and a prime mover assembly of the apparatus of fig. 1 fig. 3 is a front view of apparatus of fig. 2 showing the rotatable container carrier assembly fig. 4 is a top view of apparatus of fig. 3 showing the rotatable container carrier assembly and the prime mover assembly fig. 5 is a left side view of apparatus of fig. 3 showing the rotatable container carrier assembly and the prime mover assembly fig. 6 is a front view of the apparatus of fig. 2 showing the rotatable container carrier assembly in an inverted position fig. 7 is a front perspective view of a rotatable container carrier assembly and a prime mover assembly of the apparatus of fig. 1 fig. 8 is a detail view showing the load plate resting on the load cells fig. 9 is a detail view similar to fig. 8 but showing the load plate lifted off of the load cells fig. 10 is a graph showing the change of weight over time for two containers c1 and c2. apparatus fig. 11 is a schematic drawing of a controller for the apparatus of figs. 1-9.detailed descriptionreferring generally to fig. 1, there is illustrated a fluid flow test apparatus 10 to assess fluid flow characteristics of a container c. in general, the apparatus 10 may include a lower cabinet 11 and an upper cabinet 12 that may comprise a support frame 13 to support portions of the apparatus 10, a rotatable container carrier assembly 14, a prime mover assembly 16, and a collection assembly 18. the support frame 13 may support a number of exterior panels 21 which may be fixed, and a number of doors 23 and 24 which may provide access to the interior of the apparatus. lower doors 23 may be provided on the lower cabinet 11 to provide access to the collection assembly 18, and upper doors 24 may be provided on the upper cabinet 12 to provide access to the rotatable container carrier assembly 14 and the prime mover assembly 16. a touch screen computer 25 may be provided for controlling the operation of the apparatus 10 through the touch screen 25. external computer ports 26 may be provided to interface to an external keyboard and/or mouse as an additional option for controlling the operation of the apparatus. the collection assembly 18 may comprise a trough 27 or other device to receive the contents of the inverted container c, and a trough drain hose 28 having a first end connected to an outlet from the trough 27 and a second end leading to a collection device such as a bucket 30. the trough 27 and the bucket 30 may be supported on a collection assembly frame 31 which may have top support frame members 32 that may support the trough 27 and a lower shelf 33 that may support the bucket 30. a temperature sensor such as a thermocouple 29 may be positioned in the trough 27 where it comes into contact with the fluid steam in the trough 27 to record the temperature of the fluid at the time of testing. other sensors recording environmental conditions such as vibrations, ambient temperature, relative humidity, and barometric pressure may be incorporated in the apparatus as described below to record these conditions at the time of each individual pour test. fig. 1 shows the apparatus 10 in an exploded condition for clarity, but it will be understood that in an operative orientation, the collection assembly 18 may be positioned in the lower cabinet 11, and the bucket 30 and the trough 27 may be in approximate alignment with the lower doors 23 of the lower cabinet 11 for routine access for performing fluid flow tests, and for service and maintenance purposes. in a similar manner, the rotatable container carrier assembly 14 and the prime mover assembly 16 may be supported on frame members (not shown) so as to be in approximate alignment with the upper doors 24 in the upper cabinet 12 in order to provide access to the rotatable container carrier assembly 14 for performing fluid flow tests, and for service and maintenance purposes. figs. 2-7 are detail views of the rotatable container carrier assembly 14 and the prime mover assembly 16. the rotatable container carrier assembly 14 may include a cradle 36 for supporting the container c, a clamp arm 37 that may extend away from the cradle 36, and a movable pressure member 41 mounted on the end of a threaded rod 42 that may be carried by the clamp arm 37. the position of the movable pressure member 41 may be adjusted toward the container c to secure the container c to the cradle 36. the cradle 36 may include a lower support shelf 39 as shown in fig. 5 that supports the container c, and a backrest 40 that may be contoured to receive the outer shape of the container c and to center the container c so that the longitudinal axis a of the container c is in approximate alignment with the axis of rotation b of the rotatable container carrier assembly 14. although the structure for securing the container c to the cradle 36 is shown as a threaded rod 42 that may be tightened against the container c, other securing devices may be employed for example, for example, the container c may be held by a spring loaded grippers, or a vacuum holding device, or a strap or a link belt with a buckle, a tie, or other mechanical, magnetic, or adhesive fastener. the container c has a mouth opening 38.the prime mover assembly 16 may be coupled to the rotatable container carrier assembly 14 in order to rotate the rotatable container carrier assembly 14 about the axis of rotation b. as viewed in fig. 3, the rotatable container carrier assembly 14 may rotate in a counterclockwise direction around the axis b. the prime mover assembly 16 may include a servo motor 43 and a servo reducer 44 with a motor mounting plate 45. the servo motor 43 may be a kollmorgen akm21e-anbnc-00 servo motor and the servo reducer 44 may be a wittenstein 10:1 servo reducer, although other types of motors and reducers may be used. the prime mover assembly 16 may be solely supported by or cantilevered from the motor mounting plate 45, and the motor mounting plate may be mounted on a load plate 50 so that the weight of the prime mover assembly 16, the container carrier assembly 14, and the container c may be borne by the load plate 50. interfaces to and from the prime mover assembly 16 are created by electronic connection of cable assemblies directly in-line with the system control hardware. the servo reducer 44 may have an output shaft 49 that is coupled to the rotatable container carrier assembly 14 by an output shaft coupling 48, best seen in fig. 4.a sensor flag 46 comprising flat rigid material may be coupled to the output shaft 49 of the servo motor 43 and servo reducer 44 and may rotate with the output shaft 49

Results: 23

Search history

Search PN=(WO2015187334) (Results 1)

1:

Search [SP]: fluid flow testing for comparing container pour profiles a fluid flow testing apparatus for measuring the pour profile of a container has
2: a rotatable container carrier and an assembly for rotating the container between a first position allowing fluid to be retained within the container and a second position causing fluid to be poured from the container. sensors for sensing the weight of the container as liquid is poured from the container are provided in order to determine the pour profile of the container. a controller receives input signals from the sensors in order to record the weight of the container over time as liquid is poured from the container as the container is rotated. the change of weight of the container over time establishes a pour profile for the container. (Results 23)

Search [SP]: 1. a fluid flow testing apparatus comprising: a rotatable container carrieran assembly that rotates the container between a first
3: position allowing fluid to be retained within the container and a second position causing fluid to be poured from the containersensors that sense the weight as fluid is poured from the container and,a controller that receives input signals from the sensors to record the change in weight of the container over time as liquid is poured from the container as the container is rotated, wherein the change of weight of the container over time establishes a graphical pour profile for the container, such that graphical pour profiles of different containers are comparable to determine at least one of: which contains pour faster or slower, orwhich containers exhibit more gugging. 2. the apparatus of claim 1 further comprising: load cells for sensing the change of weight of the container comprising the sensors for sensing the weight of the container. 3. the apparatus of claim 1 further comprising: one or more ambient condition sensors to measure and record ambient conditions during the operation of the fluid flow test apparatus. 4. the apparatus of claim 3 further comprising: at least one of a temperature sensor, a barometric pressure sensor, a humidity sensor, or an accelerometer comprise the ambient condition sensors. 5. the apparatus of claim 1 further comprising: a collection assembly to receive fluid poured from the container. 6. the apparatus of claim 5 further comprising: a temperature sensor in the collection assembly for sensing the temperature of fluid poured from the container. 7. the apparatus of claim 1 further comprising: a prime mover comprising a portion of the assembly for rotating the container between a first position and a second position, wherein the prime mover is coupled to the rotatable container carrier. 8. the apparatus of claim 1 further comprising: a load plate for supporting the weight of the container carrier and the carrier and,load cells supporting the load plate, wherein the load cells comprise the sensors for sensing the change of weight of the container and the pouring of fluid from the container. 9. the apparatus of claim 1 further comprising: a sensor flag coupled to the rotatable container carrier and rotating with the carrier and,sensors on the apparatus for sensing the rotation of the sensor flag. 10. a fluid flow testing method comprising: positioning a first container in a rotatable container carrierrotating the first container between a first position allowing fluid to be retained within the first container and a second position causing fluid to be poured from the first containersensing the weight of the first container and,recording a change in weight of the first container over time as liquid is poured from the first container as the first container is rotated in order to establish a first graphical pour profile for the first container,positioning a second container in the rotatable container carrierrotating the second container between the first position allowing fluid to be retained within the second container and the second position causing fluid to be poured from the second containersensing the

weight of the second container recording a change in weight of the second container over time as liquid is poured from the second container as the second container is rotated in order to establish a second graphical pour profile for the second container and comparing the first and second graphical pour profiles to determine at least one of: which container pours faster or slower, or which container exhibits more glugging. 11. the method of claim 10 further comprising: sensing the change of weight of the container in order to sense the pouring of fluid from the container. 12. the method of claim 10 further comprising: measuring and recording ambient conditions during the operation of the fluid flow test apparatus using one or more ambient condition sensors. 13. the method of claim 12 further comprising: measuring at least one of ambient vibrations, the ambient temperature, the barometric pressure, and the humidity in order to measure the ambient conditions. 14. the method of claim 10 further comprising: receiving fluid poured from the container in a collection assembly. 15. the method of claim 14 further comprising: sensing the temperature of fluid poured from the container using a temperature sensor in the collection assembly. 16. the method of claim 10 further comprising: providing a prime mover in the assembly for rotating the container between a first position and a second position, coupling the prime mover to the rotatable container carrier in order to rotate the container between the first and second positions. 17. the method of claim 10 further comprising: supporting the weight of the container carrier and the container on a load plate supporting the load plate on load cells and, sensing the change of weight of the container as fluid is poured from the container using the load cells. 18. the method of claim 10 further comprising: mounting a sensor flag on the rotatable container carrier rotating the sensor flag with the carrier and, sensing the rotation of the sensor flag. (Results 0)

Search 4: [SP]: the present disclosure is directed to containers, and more particularly to the measurement of fluid flow characteristics from a container. background and summary of the disclosure a general object of the present disclosure, in accordance with one aspect of the disclosure, is to provide a method and system to characterize the flow of liquid from a container, for example, to establish the attributes of the pour profile of the container. the present disclosure embodies a number of aspects that can be implemented separately from or in combination with each other. a container test system in accordance with one aspect of the disclosure includes a test chamber including rotatable container carrier, and an assembly for rotating the container between upright and inverted positions. the system also includes sensors to measure the change of the weight of the container as fluid is poured from the container. the system further includes a collection assembly for gathering the liquid that flows from the inverted or partially inverted container. lastly, the system further includes data collection capability to gather and process sensor data in real-time while the system also includes sensors to monitor any external conditions that may affect the test so that the data may be adjusted to compensate for such external conditions. in accordance with another aspect of the disclosure, there is provided a method of determining the pour profile of a container. the method includes positioning the container on a rotatable container carrier, and rotating the container between an upright and an inverted position. the method further includes reading load cells to measure the change in weight of the container during rotation while the fluid contents are poured from the inside of the container, and reading an accelerometer to monitor and detect any outside environmental interference that may influence the results of the test, and adjusting the test results for such outside interference. brief description of the drawings the disclosure, together with additional objects, features, advantages and aspects thereof, will be best understood from the following description, the appended claims and the accompanying drawings, in which: fig. 1 is an exploded, perspective view of a fluid flow test apparatus in accordance with an illustrative embodiment of the present disclosure fig. 2 is a front perspective view of a rotatable container carrier assembly and a prime mover assembly of the apparatus of fig. 1 fig. 3 is a front view of apparatus of fig. 2 showing the rotatable container carrier assembly fig. 4 is a top view of apparatus of fig. 3 showing the rotatable container carrier assembly and the prime mover assembly fig. 5 is a left side view of apparatus of fig. 3 showing the rotatable container carrier assembly and the prime mover assembly fig. 6 is a front view of the apparatus of fig. 2 showing the rotatable container carrier assembly in an inverted position 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doors 23 and 24 which may provide access to the interior of the apparatus. lower doors 23 may be provided on the lower cabinet 11 to provide access to the collection assembly 18, and upper doors 24 may be provided on the upper cabinet 12 to provide access to the rotatable container carrier assembly 14 and the prime mover assembly 16. a touch screen computer 25 may be provided for controlling the operation of the apparatus 10 through the touch screen 25. external computer ports 26 may be provided to interface to an external keyboard and/or mouse as an additional option for controlling the operation of the apparatus. the collection assembly 18 may comprise a trough 27 or other device to receive the contents of the inverted container c, and a trough drain hose 28 having a first end connected to an outlet from the trough 27 and a second end leading to a collection device such as a bucket 30. the trough 27 and the bucket 30 may be supported on a collection assembly frame 31 which may have top support frame members 32 that may support the trough 27 and a lower shelf 33 that may support the bucket 30. a temperature sensor such as a thermocouple 29 may be positioned in the trough 27 where it comes into contact with the fluid steam in the trough 27 to record the temperature of the fluid at the time of testing. other sensors recording environmental conditions such as vibrations, ambient temperature, relative humidity, and barometric pressure may be incorporated in the apparatus as described below to record these conditions at the time of each individual pour test. fig. 1 shows the apparatus 10 in an exploded condition for clarity, but it will be understood that in an operative orientation, the collection assembly 18 may be positioned in the lower cabinet 11, and the bucket 30 and the trough 27 may be in approximate alignment with the lower doors 23 of the lower cabinet 11 for routine access for performing fluid flow tests, and for service and maintenance purposes. in a similar manner, the rotatable container carrier assembly 14 and the prime mover assembly 16 may be supported on frame members (not shown) so as to be in approximate alignment with the upper doors 24 in the upper cabinet 12 in order to provide access to the rotatable container carrier assembly 14 for performing fluid flow tests, and for service and maintenance purposes. figs. 2-7 are detail views of the rotatable container carrier assembly 14 and the prime mover assembly 16. the rotatable container carrier assembly 14 may include a cradle 36 for supporting the container c, a clamp arm 37 that may extend away from the cradle 36, and a movable pressure member 41 mounted on the end of a threaded rod 42 that may be carried by the clamp arm 37. the position of the movable pressure member 41 may be adjusted toward the container c to secure the container c to the cradle 36. the cradle 36 may include a lower support shelf 39 as shown in fig. 5 that supports the container c, and a backrest 40 that may be contoured to receive the outer shape of the container c and to center the container c so that the longitudinal axis a of the container c is in approximate alignment with the axis of rotation b of the rotatable container carrier assembly 14. although the structure for securing the container c to the cradle 36 is shown as a threaded rod 42 that may be tightened against the container c, other securing devices may be employed for example, for example, the container c may be held by a spring loaded grippers, or a vacuum holding device, or a strap or a link belt with a buckle, a tie, or other mechanical, magnetic, or adhesive fastener. the container c has a mouth opening 38. the prime mover assembly 16 may be coupled to the rotatable container carrier assembly 14 in order to rotate the rotatable container carrier assembly 14 about the axis of rotation b. as viewed in fig. 3, the rotatable container carrier assembly 14 may rotate in a counterclockwise direction around the axis b. the prime mover assembly 16 may include a servo motor 43 and a servo reducer 44 with a motor mounting plate 45. the servo motor 43 may be a kollmorgen akm21e-anbnc-00 servo motor and the servo reducer 44 may be a wittenstein 10:1 servo reducer, although other types of motors and reducers may be used. the prime mover assembly 16 may be solely supported by or cantilevered from the motor mounting plate 45, and the motor mounting plate may be mounted on a load plate 50 so that the weight of the prime mover assembly 16, the container carrier assembly 14, and the container c may be borne by the load plate 50. interfaces to and from the prime mover assembly 16 are created by electronic connection of cable assemblies directly in-line with the system control hardware. the servo reducer 44 may have an output shaft 49 that is coupled to the rotatable container carrier assembly 14 by an output shaft coupling 48, best seen in fig. 4. a sensor flag 46 comprising flat rigid material may be coupled to the output shaft 49 of the servo motor 43 and servo reducer 44 and may rotate with the output shaft 49 (Results 23)

Title: FLUID FLOW TESTING

Abstract: Source: US2015346008A A fluid flow testing apparatus for measuring the you profile of a container has a rotatable container carrier and an assembly for rotating the container between a first position allowing fluid to be retained within the container and a second position causing fluid to be poured from the container. Sensors far sensing the weight of the container as liquid is poured from the container are provided in order to determine the pour profile of the container. A controller receives input signals from the sensors in order to record the weight of the container over time as liquid is poured from the container as the container is rotated. The change of weight of the container over time establishes a pour profile for the container.

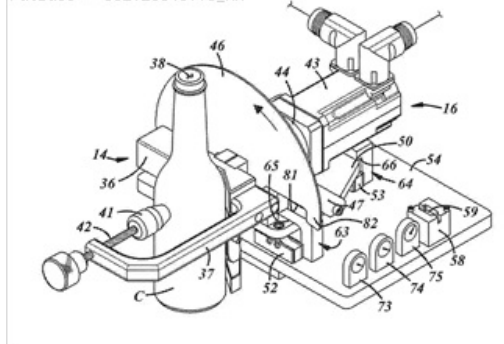
Classifications:

International (IPC 8-9): B67D3/00 G01F1/00 G01F1/78 G01F23/20 G01F9/00 G01G17/06 G01N5/00 (Advanced/Invention); G01F1/00 G01F23/20 (Advanced/Non-invention); B67D3/00 G01F9/00 (Core/Invention); G01F1/00 (Core/Non-invention)

CPC: G01F9/003 G01F1/007 G01F23/20 G01G17/06

US: 73/198

PatBase - US2015346008_AA



Family:

Publication number	Publication date	Application number	Application date
AR100704 AA	20161026	AR2015P101735	20150601
AU2015268827 AA	20151210	AU20150268827	20150514
CA2950746 AA	20161129	CA20152950746	20150514
CL2016003090 A1	20170505	CL20160003090	20161201
CN106796139 A	20170531	CN201580030267	20150514
CO20160006032 A2	20161230	CO20160006032	20161228
EP3152527 A1	20170412	EP20150726808	20150514
ID201710825 A	20171006	ID2016P0008112	20150514
MX2016015448 A1	20170323	MX20160015448	20150514
PE14852016 A1	20170112	PE20160002279	20150514
TH167672 A	20170907	TH20161007192	20150514
TW201602581 A	20160116	TW20150117586	20150601
US2015346008 AA	20151203	US20140294835	20140603
US9581482 BB	20170228	US20140294835	20140603
WO15187334 A1	20151210	WO2015US30832	20150514

Priority:

US20140294835 20140603 WO2015US30832 20150514

Probable Assignee: OWENS BROCKWAY GLASS CONTAINER INC

Assignee(s): (std): OWENS BROCKWAY GLASS CONTAINER INC ; OWENS BROCKWAY GLASS CONTAINER

Assignee(s): SABO DANIEL S ; AMES GERALD L ; GERDEMAN JAMES EDWARD ; HIMMELEIN MARVIN KARL ; KISELA DAVID ; MILLER PETER

Inventor(s): (std): GERALD L AMES ; GERDEMAN JAMES EDWARD ; HIMMELEIN MARVIN KARL ; JAMES EDWARD GERDEMAN ; KISELA DAVID ; MARVIN KARL HIMMELEIN ; MILLER PETER ; PETER MILLER ; SABO DANIEL S ; AMES GERALD L ; DANIEL S SABO ; DAVID KISELA

Inventor(s): GERALD AMES L ; DANIEL SABO S

Agent(s): SHELSTON IP PTY LTD; GOWLING WLG CANADA LLP; JOHANSSON AND LANGLOIS LTDA; JUAN PABLO CADENA SARMIENTO; BLUMBACH ZINNGREBE; IR YT WIDJOJO; SMITH SUSAN L

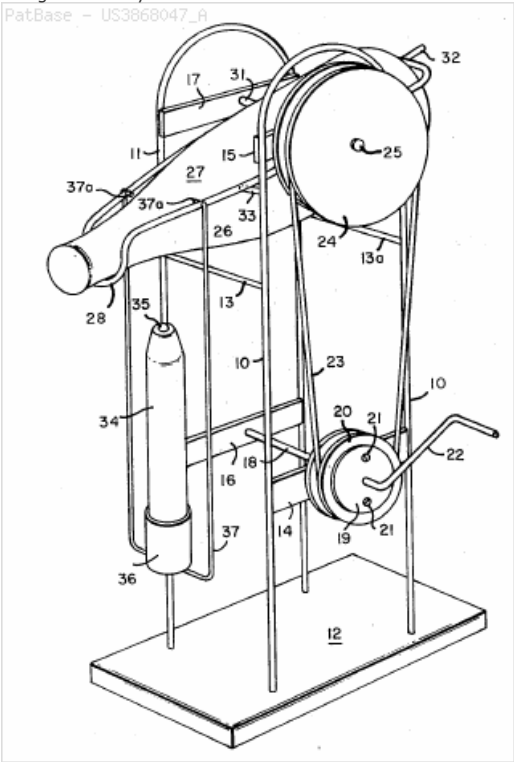
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: Wine decanter

Abstract: Source: US3868047A A device for decanting wine so that practically all of the wine in a bottle may be emptied therefrom without agitating the dregs and other solid matter that normally rests on the bottom in the bottle. In this device the wine bottle is supported substantially in a predetermined position by a cradle that is pivotally supported by a frame. Means is provided for gradually tilting the bottle as wine is decanted therefrom while the operator observes a light positioned below the neck of the bottle to observe if any dregs or other solid matter is being carried by the wine.

Classifications:

International (IPC 8-9): B67C9/00 C12L11/00 (Advanced/Invention)
International (IPC 1-7): B67D5/60 B67D5/64
CPC: A47G23/0241 B67C9/00 C12L11/00
European: A47G23/02B B67C9/00 C12L11/00
US: 222/166 414/421



Family:

Publication number	Publication date	Application number	Application date
US3868047 A	19750225	US19730373519	19730625

Priority:

US19730373519 19730625

Probable Assignee:

BERSANO DONALD

Assignee(s): (std):

BERSANO DONALD

Inventor(s): (std):

BERSANO DONALD

Title: METHOD FOR MEASURING FLUIDITY CHARACTERISTIC OF POWDER AND GRAIN

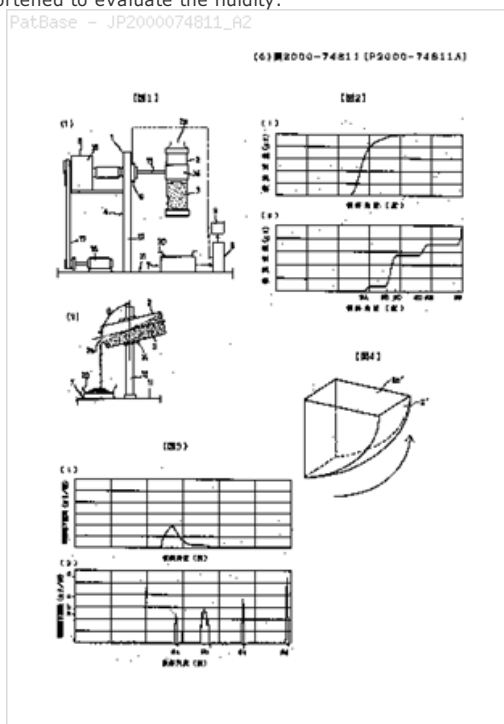
Abstract: Source: JP2000074811A PROBLEM TO BE SOLVED: To quantitatively evaluate the uniformity of fluidity behavior of powder and grain by gradually inclining a holding member for powder and grain, and measuring the time required for falling a fixed quantity of powder and grain through the outflow part. SOLUTION: A support mechanism 4 has a rotating member 13 supported rotatably around a horizontal axis by a strut 12, and a holding member 2 is attachably and detachably provided at the tip of the rotating member 13. The opening of the holding member 2 formed the outflow port 2a of powder and grain 3. The holding member 2 is gradually inclined at a set speed, and the time required for falling a fixed quantity of the powder and grain 3 through the outflow part 2a is measured. This time shows the fluidity property corresponding to the easiness to flow of the powder and grain 3, and the shorter the time is, the better the fluidity is. Since the time required for falling a fixed quantity of the powder and grain 3 through the outflow part 2a can be regulated by changing the speed of gradually inclining the holding member 2, this time can be prevented from being too shortened to evaluate the fluidity.

Classifications:

International (IPC 8-9): G01F3/26 G01N11/00 (Advanced/Invention);
G01F3/00 G01N11/00 (Core/Invention)

International (IPC 1-7): G01F3/26 G01N11/00

PatBase - JP2000074811_A2



Family:

Publication number	Publication date	Application number	Application date
JP2000074811 A2	20000314	JP19980259360	19980827
JP3479456 B2	20031215	JP19980259360	19980827

Priority:

JP19980259360 19980827

Probable Assignee: KAO CORP

Assignee(s): (std): KAO CORP

Inventor(s): (std): FUJINAMI SHIGEAKI ; KATSUTA HIROAKI ; NAKAMAE TAIJI ; NITTA SHUICHI

Title: FLUID CHARACTERISTIC MEASURING METHOD OF GRANULE

Abstract: Source: JP2000171377A PROBLEM TO BE SOLVED: To make evaluable the of granules fluidity by dropping granules held by a holding member having a flow-out part from the flow-out part by gradually increasing the inclination of the holding member, and measuring the inclination when a preset quantity of granules drops. SOLUTION: The direction of a holding member 2 is set in the upward direction capable of holding granules 3 by the holding member 2, and specific quantity of granules 3 is inputted to the holding member 2. The inclination of the holding member 2 is gradually increased by an inclining device 5 so that the granules 3 are dropped from an flow-out part 2a. An inclination measuring device 6 gradually increases the inclination θ of the holding member 2 from 0 to measure integrating dropping weight of the granules 3 in time series to input a measuring result to an operation device 8. A weight measuring device 7 measures the integrated dropping weight of the granules 3 in time series to input a measuring result to an operation device 8 to thereby measure the inclination degree when a preset quantity of granules 3 drops from the flow-out part 2a, the inclination degree shows fluidity of the granules 3, and the fluidity is better as the value becomes smaller.

Classifications:

International (IPC 8-9): G01N11/00 (Advanced/Invention);

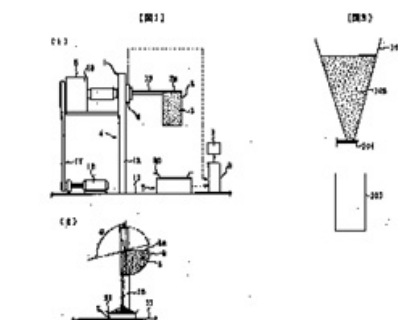
G01N11/00 (Core/Invention)

International (IPC 1-7): G01N11/00

PatBase - JP2000171377_A2

(5) 000-171377 (P2000-171377A)

上図は本発明の一実施形態を示す。図1は、本発明の一実施形態を示す流体特性測定装置の概略図である。図2は、本発明の一実施形態を示す流体特性測定装置の傾斜調整機構の概略図である。図3は、本発明の一実施形態を示す流体特性測定装置の傾斜調整機構の傾斜調整機構の概略図である。図4は、本発明の一実施形態を示す流体特性測定装置の傾斜調整機構の傾斜調整機構の概略図である。図5は、本発明の一実施形態を示す流体特性測定装置の傾斜調整機構の傾斜調整機構の概略図である。図6は、本発明の一実施形態を示す流体特性測定装置の傾斜調整機構の傾斜調整機構の概略図である。図7は、本発明の一実施形態を示す流体特性測定装置の傾斜調整機構の傾斜調整機構の概略図である。図8は、本発明の一実施形態を示す流体特性測定装置の傾斜調整機構の傾斜調整機構の概略図である。



Family:

Publication number	Publication date	Application number	Application date
JP2000171377 A2	20000623	JP19980374973	19981209
JP3485821 B2	20040113	JP19980374973	19981209

Priority:

JP19980374973 19981209

Probable Assignee: KAO CORP

Assignee(s): (std): KAO CORP

Inventor(s): (std): KATSUTA HIROAKI ; NITTA SHUICHI ; YAMASHITA HIROYUKI

Title: APPARATUS FOR THE AUTOMATIC DETERMINATION OF A CONTINUOUS BULK MATERIAL THROUGHPUT BY MEANS OF A CONTINUOUS BALANCE

Abstract: Source: US4944428A PCT No. PCT/EP86/00187 Sec. 371 Date Nov. 6, 1986 Sec. 102(e) Date Nov. 6, 1986 PCT Filed Mar. 27, 1986 PCT Pub. No. WO86/05875 PCT Pub. Date Oct. 9, 1986. An apparatus for the automatic determination of a continuous bulk material throughput through a continuous balance comprises a weighing vessel, an adjustable closure member for adjusting an outlet cross-section of the weighing vessel and an electronic weight difference measuring device. The closure member is connectable to the weighing vessel in the outlet region thereof which is formed as an adjustable wall part and is so arranged that when the closure member is in the open operating position, there is a free mass flow in the weighing vessel. Simultaneously it is ensured that the bulk material flows freely and unhindered from the outlet of the weighing vessel. In the process of the automatic determination of the bulk material throughput while using the apparatus either when maintaining a mass flow in the complete weighing vessel or with the mass flow stopped, a signal corresponding to the weight change in the weighing vessel per unit of time is derived and used for calculating the parameters of state of the bulk material flow.

Classifications:

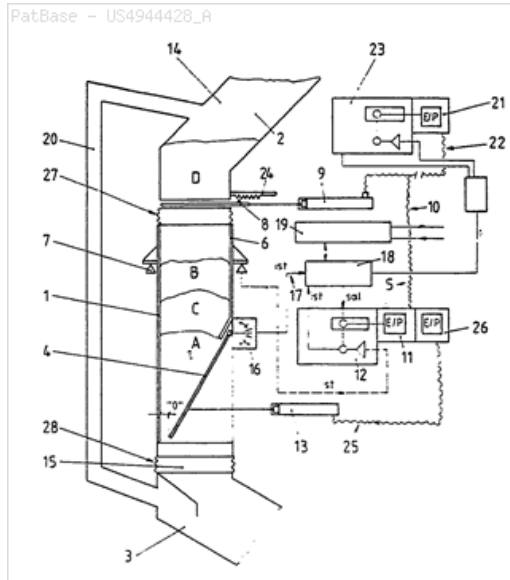
International (IPC 8-9): G01G11/00 G01G11/08 G01G11/14
G01G11/18 G01G13/02 G01G13/18 G01G13/24 (Advanced/Invention);
G01G11/00 G01G13/00 (Core/Invention)

International (IPC 1-7): B67D5/08 G01B13/24 G01G11/00
G01G11/08 G01G11/14 G01G13/02 G01G13/18 G01G13/24
G01G23/42 G01G3/00 G05B13/00

CPC: Y10S177/09 G01G13/18 G01G11/003 G01G11/086 G01G11/18
G01G13/248

European: G01G11/00A G01G11/08C G01G11/18 G01G13/18
G01G13/24E

US: 177/244 177/25.12 177/50 177/66 177/DIG.9 222/1 222/55
222/56 222/58 222/77



Family:

Publication number	Publication date	Application number	Application date
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Priority:

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WO1986EP00187	19860327	US19860948351	19861106	WO1986EP00186	19860401

Probable Assignee: BUEHLER AG

Assignee(s): (std): BILLER AG ; BUEHLER AG ; BUEHLER AG CO ; BUEHLER AG GEB ; BUEHLER GEB AG ; BUEHLER CO AG ; GEBRUDER BUHLER AG ; GMUER BRUNO ; KUEHNEMUND BERND ; GEBRYUDER BYULER AG FA

Assignee(s): GEBRYUDER BYULER AG FIRMA ; GEBRYUDER BYULER FIRMA AG ; GEBRUEDER BUEHLER AG ; BUEHLER UZWIL CH AG GEB ; BUEHLER MASCHF AG ; BUHLER AG GEB ; BUHLER AG ; GEBRUEDER BUEHLER AG UZWIL CH ; BUEHLER AG MASCHINENFABRIK

Inventor(s): (std): BERND KUHNEMUND ; BRUNO GEMURU ; GMUR BERND ; KYUNEMUND BERND ; KUHNEMUND BERND ; KUEHNEMUND BERND ; GMYUR BRUNO ; GMUER BRUNO ; BRUNO GMUER ; BERND KUEHNEMUND ; KUHNEMUND ; BRUNO GMYUR CH ; BRUNO GMUR ; BRUNO ; BERND KYUNEMUND CH ; BERND GMUR ; GMUR BRUNO

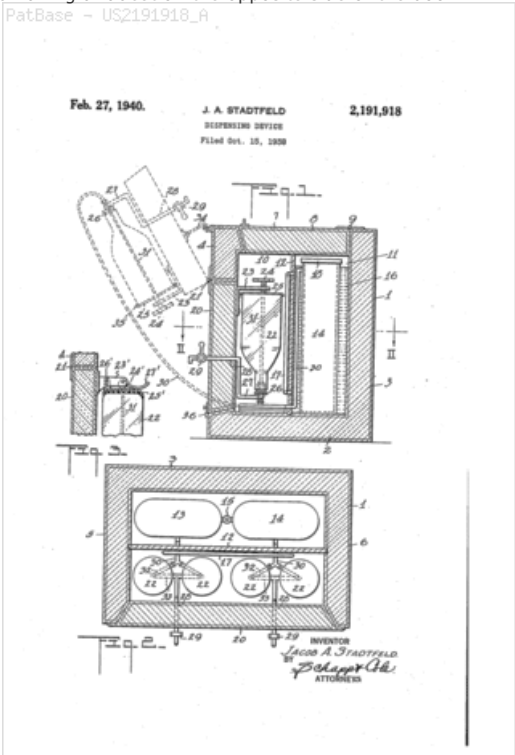
Inventor(s): GMUER BRUNO ST GALLEN CH ; KUEHNEMUND BERND FLAWIL CH

Designated states: AT BE CH DE FR GB IT JP KR LI LU NL SE SU US

Title: DISPENSING DEVICE

Abstract: Source: US2191918A 1. I claim: - I. In combination, a receptacle having a vertical wall and a door in the vertical wall swingable through substantially 180 degrees on a horizontal axis so as to be movable between open and closed positions, a liquid-holding bottle having a discharge end, means for attaching the bottle to the inner face of the door in substantially upright position mth the discharge end of the bottle presented upwardly while the door is open so as to cause the door to reverse the bottle into inverted position with the discharge end of the bottle disposed downwardly when the 'door is closed, a conduit extending from the discharge end of the bottle and having a faucet on the opposite side of the door.

Classifications:
International (ipc 8-9): B67D1/04 B67D1/08 (Advanced/Invention); B67D1/00 (Core/Invention)
International (ipc 1-7): B67D3/00
CPC: B67D1/04 B67D1/0857
European: B67D1/04 B67D1/08D
US: 222/131 222/146.1 222/146.5 222/165 222/173 222/399



Family:

Publication number	Publication date	Application number	Application date
US2191918 A	19400227	US19380235271	19381015

Priority:

US19380235271 19381015

Probable Assignee:

DONALD COLVIN

Assignee(s): (std):

DONALD COLVIN

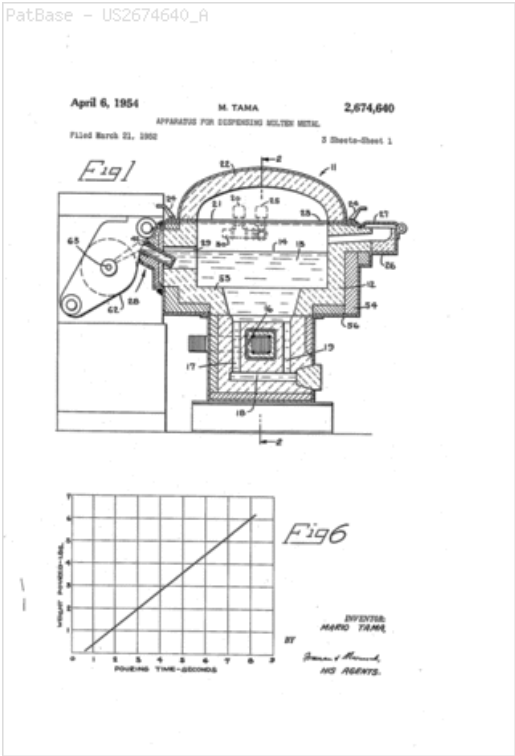
Inventor(s): (std):

STADTFELD JACOB A

Title: APPARATUS FOR DISPENSING MOLTEN METAL

Abstract: Source: US2674640A (Claim 1) 1. An apparatus for intermittently dispensing accurate amounts of molten metals by free flow into molds comprising in combination a refractory-lined container, means to supply heat to the molten metal contained therein, a metallic shell around said container, at least one gas-tight cover above the molten metal surface, means for supplying intermittently gas pressure to the space within the container located above the molten metal surface, a delivery tube having its lower opening below the molten metal surface and having a discharge aperture above said opening and leading to its discharge end into the vicinity of the mold, the axis of said tube being inclined at an acute angle against the horizontal plane; and denning throughout the major portion of its interior an elongated narrow passage extending to and including said discharge aperture, said passage being of substantially uniform cross-section, and said tube having upstream of said passage an orifice of restricted cross-section below the molten metal surface.

Classifications:
International (IPC 8-9): B22D17/30 (Advanced/Invention);
B22D17/30 (Core/Invention)
International (IPC 1-7): B22D39/00
CPC: B22D17/30
European: B22D17/30
US: 164/336 222/595 266/236 373/142



Family:

Publication number	Publication date	Application number	Application date
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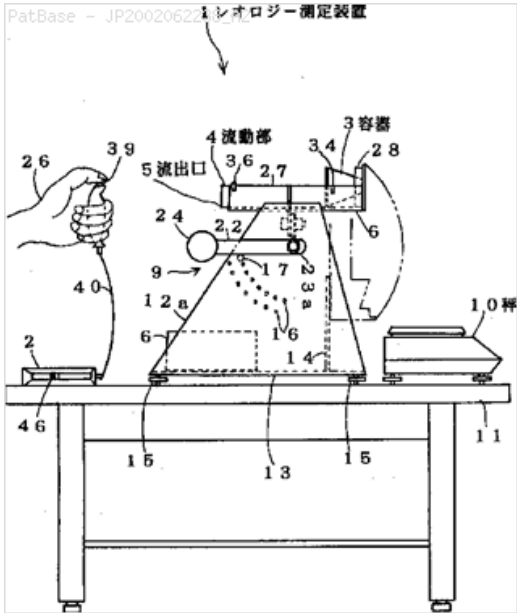
Priority:
US19520277786 19520321

Probable Assignee: AJAX ENGINEERING CORP
Assignee(s): (std): AJAX ENGINEERING CORP
Inventor(s): (std): MARIO TAMA
Inventor(s): TAMA MARIO

Title: RHEOLOGY MEASURING METHOD FOR LIQUID MATERIAL AND DEVICE

Abstract: Source: JP2002062238A PROBLEM TO BE SOLVED: To provide a rheology measuring method and device capable of simply finding a rheology constant of a liquid material, such as fluidity viscosity, a thixotropic property, a flow cutting property, a yield value, or the like.SOLUTION: The rheology constant of a sample is measured in such a way that a container 3 containing the required amount of the sample and a flowing part 4 for fluidizing the sample in the container are fixed to a fixture 7, the container and flowing part are tiltably supported with a container fluidizing part supporting means 8 from the vertical position to a sample flowing position for allowing the sample to flow in the container, tiltably operated with a flowing portion positioning means 9. The sample flowing out of a flowing out port 5 through the flowing part is received with a receiving container 6. The intermediate elapsed time from an tilting starting period of time for tilting the container containing the sample and the flowing part from the vertical position to the sample flowing position to a flow out finishing period of time finishing the flow out of the sample flowing through the flowing part, an integrated elapsed time, and an interval elapsed time when the flow out of the sample is interrupted are measured with a stopwatch 2 with a split time function or a lap time function.

Classifications:
International (IPC 8-9): G01N11/06 (Advanced/Invention);
G01N11/00 (Core/Invention)
International (IPC 1-7): G01N11/06



Family:

Publication number	Publication date	Application number	Application date
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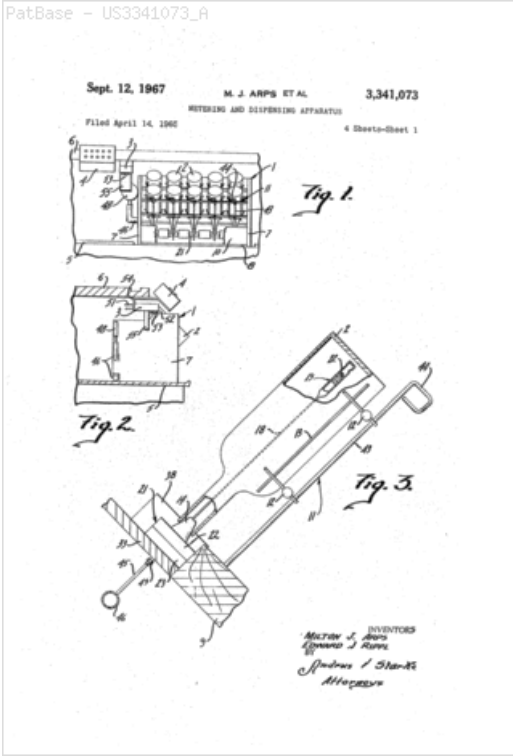
Priority:
JP20000289603 20000818

Probable Assignee: WAKASUGI KANAME
Assignee(s): (std): WAKASUGI KANAME
Inventor(s): (std): WAKASUGI KANAME

Title: METERING AND DISPENSING APPARATUS

Abstract: Source: US3341073A (Claim 1) 1. In an apparatus for metering and dispensing a liquid, a container having an opening and adapted to contain a liquid, gas supply means connected through the opening for supplying a gas under pressure to the interior of the container, liquid discharge means connected through said opening for discharging liquid from the container, a dispensing unit located remotely with respect to the container, conduit means connecting the liquid discharge means and the dispensing unit, valve means disposed in said conduit means for controlling the flow of liquid through said conduit means to the dispensing unit, a reservoir in said conduit means and located between the liquid discharge means and said valve means, liquid sensing means disposed in the reservoir and responsive to the presence of liquid in said reservoir, said liquid sensing means being operably connected to the valve means for preventing the opening of said valve means when the liquid falls beneath said liquid sensing means, a gas vent conduit communicating with the upper portion of the reservoir, and second valve means connected in the gas vent conduit and located outside of the reservoir for venting the gas from said reservoir when a container is installed with the liquid discharge means.

Classifications:
International (IPC 8-9): B67D3/00 (Advanced/Invention);
B67D3/00 (Core/Invention)
CPC: B67D3/00 B67D3/0077
European: 64C43 B67D3/00 B67D3/00R6
US: 222/129.4 222/36 222/400.7 222/641 222/66



Family:

Publication number	Publication date	Application number	Application date
US3341073 A	19670912	US19650447998	19650414

Priority:
US19650447998 19650414

Probable Assignee: ARPS MILTON J
Assignee(s): (std): ARPS MILTON J ; RIPPL EDWARD J
Inventor(s): (std): RIPPL EDWARD J ; ARPS MILTON J

Abstract: Source: US2004099690A Apparatus and methods for emptying containers containing an elastomer are disclosed. The system includes a holding device that receives a container containing the elastomer. Connected to the holding device is a rotation assembly that allows the holding device to be rotated about an axis of rotation for assisting in emptying the container held by the holding device. Additionally, the holding device allows a bag within the container containing elastomer to be secured such that the elastomer may be easily separated from the bag.

International (IPC 8-9): B65B69/00 (Advanced/Invention);
B65B69/00 (Core/Invention)

CPC: B65B69/00

European: B65B69/00

Publication number	Publication date	Application number	Application date
AU2003295476 AA	20040618	AU20030295476	20031114
AU2003295476 AH	20040618	AU20030295476	20031114
US2004099690 AA	20040527	US20020303303	20021125
WO04048209 A2	20040610	WO2003US36139	20031114
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US20020303303 20021125 WO2003US36139 20031114

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NE NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SN SY SZ TD TG TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZM ZW

Title: METHOD AND APPARATUS FOR MASS BASED DISPENSING

Abstract: Source: US2004226961A A method and apparatus for dispensing of a product based on weight as a load cell (22) which supports a structure holding the product (20a) to be dispensed. The weight of the product (20a) that is dispensed is determined by use of a controller (23).

Classifications:

International (ipc 8-9): A47L15/44 B01D11/04 B01D15/04 B01F1/00 B01F15/00 B01F15/04 B01J4/02 B65B3/28 B67D7/08 B67D7/74 B67D7/78 D06F39/02 G01G13/00 G01G17/00 G01G17/04

G05D11/13 (Advanced/Invention);

B01D11/02 B01D11/04 B01D12/00 B01D15/00

C02F1/68 (Advanced/Non-invention);

A47L15/44 B01D11/04 B01F1/00 B01F15/00 B01F15/04 B01J4/02

D06F39/02 (Core/Invention);

C02F1/68 (Core/Non-invention)

International (ipc 1-7): B01F1/00 B01F15/00 B01F15/04 G01G13/00 G05D11/13

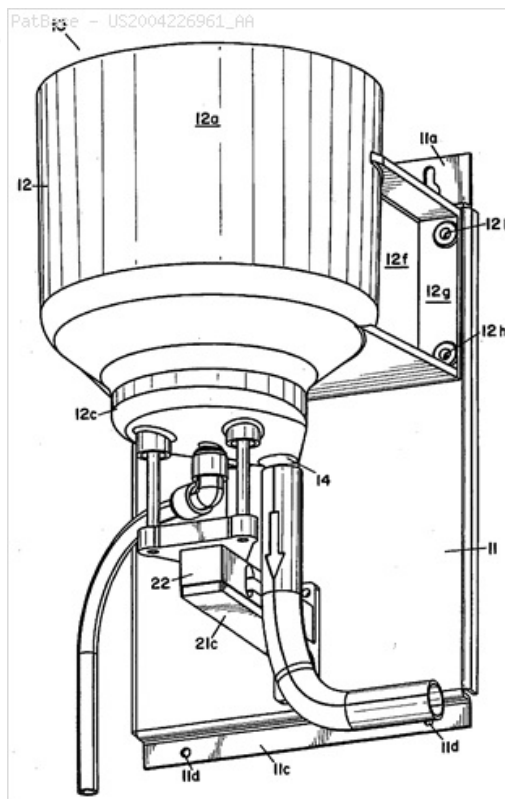
CPC: B01F1/0027 B01F15/00123 B01F15/00194 B01F15/00344

B01F15/0445 C02F1/688 D06F39/02 D06F39/026

European: B01F1/00F2 B01F15/00K B01F15/00K1N B01F15/00K60D

B01F15/04H3 D06F39/02 D06F39/02D M02F1/68P6

US: 222/77 222/77P 422/255 422/257 422/257P 422/261 422/266



Family:

Publication number	Publication date	Application number	Application date
AU2004238339 AA	20041125	AU20040238339	20040511
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WO04101122 A3	20050428	WO2004US14667	20040511

Priority:

BR2004PI09876	20040511	CA20042524049	20040511	CA20042727629	20040511
CA20042727635	20040511	CA20042727608	20040511	CA20042727619	20040511
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Probable Assignee: ECOLAB INC

Assignee(s): (std): BATCHER THOMAS J ; ECOLAB INC ; JOHNSON ROYCE D ; MCCARRICK HENRY J ; MEHUS RICHARD
Assignee(s): MEHUS RICHARD J ; THOMAS JOHN E
Inventor(s): (std): BATCHER THOMAS J ; HENRY J MCCARRICK ; JOHNSON ROYCE D ; MCCARRICK HENRY J ; MEHUS RICHARD ; MEHUS RICHARD J ; MEHUS RICHARD J BATCHER THOMAS ; RICHARD MEHUS ; ROYCE D JOHNSON ; THOMAS J BATCHER ; THOMAS JOHN E
Inventor(s): BATCHER THOMAS ; MEHUS RICHARD J BATCHER THOMAS J MCCARRICK HENRY J ; MCCARRICK HENRY ; JOHN E THOMAS
Agent(s): SPRUSON AND FERGUSON; CASSAN MACLEAN; CASSAN MACLEAN IP AGENCY INC; AOKI ATSUSHI; TSURUTA JUNICHI; SHIMADA TETSURO; NISHIYAMA MASAYA; IPLM GROUP PA; SHUMAKER AND SIEFFERT P A; SHUMAKER AND SIEFFERT PA
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Title: Mechanism and a method for opening a sealed container

Abstract: Source: US2002020464A A system and a method for delivering and metering a fixed volume of liquid, such as a liquid sterilant from a container into a vaporization system. The method for the delivering system includes the steps of sensing a requirement for additional liquid sterilant, determining whether the liquid sterilant to be added is acceptable for use, and delivering the liquid sterilant from a container into an accumulator. The method of metering the liquid sterilant into the vaporization system includes creating a vacuum in a chamber connected to the vaporizer and delivering the liquid sterilant into a vaporizer while continually sensing the flow of the delivery. The metering system maintains a slow, controlled flow in order to achieve efficient vaporization of the liquid sterilant and to provide accurate sensing of the gas/liquid interface.

Classifications:

International (IPC 8-9): A61L2/00 A61L2/16 A61L2/18 A61L2/20 A61L2/24 A61L2/26 A61L9/03 B01D1/00 B01J4/00 B26F1/00 B26F1/18 B65D83/00 B67B7/46 B67B7/52 B67B7/58 B67D3/00 B67D5/00 B67D99/00 G01F11/28 G01F13/00 (Advanced/Invention); A61L2/00 A61L2/16 A61L2/18 A61L2/24 B65D83/00 B67D5/08 B67D5/28 B67D7/08 B67D7/28 G01F13/00 (Advanced/Non-invention); A61L2/00 A61L2/16 A61L2/18 A61L2/20 A61L9/015 B65D83/00 G01F13/00 (Core/Invention)

International (IPC 1-7): A61L2/18 A61L2/20 A61L2/24 A61L2/26 A61L2/26 A61L9/03 B01D1/00 B01D1/00 B65B1/04 B65B3/04 B65B31/00 B65D83/00 B67B7/46 B67B7/52 B67B7/58 B67B7/58 B67C3/00 G01F13/00

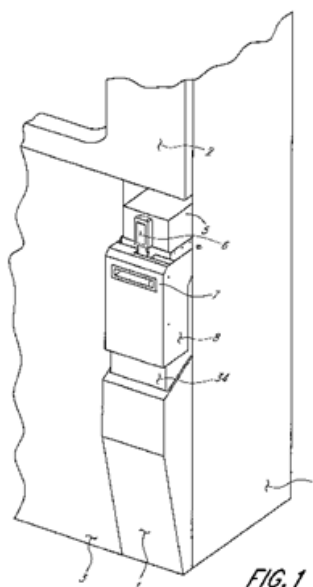
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European: A61L2/18P A61L2/24 G01F11/28 K61L202/122 K61L202/140

US: 141/2 141/285 141/2P 141/319 141/329 141/330 141/363 141/364 141/366 141/5 141/65 141/8 141/83 141/94 422/28 422/298

PatBase - US2002020464_AA

Patent Application Publication Feb. 21, 2002 Sheet 1 of 11 US 2002/020464 A1



Family:

Publication number	Publication date	Application number	Application date
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US2002020464 AA	20020221	US20010846400	20010501
US2002157726 AA	20021031	US20010846401	20010501
US6279622 BA	20010828	US20000499418	20000207
US6390155 BA	20020521	US20010846400	20010501
US6530399 BB	20030311	US20010846401	20010501

Priority:

AU20010018279	20010202	AU20010018297	20010205	AU20040200583	20040213
AU20040200588	20040213	CA20012333826	20010205	CA20012744090	20010205
CA20012810290	20010205	CA20132744090	20130408	CA20112333826	20110711
US20010846400	20010501	US20010846401	20010501	US20000499418	20000207
EP20010301021	20010206	JP20010031461	20010207	EP20100075291	20010206
EP20100075292	20010206				

Probable Assignee: ETHICON INC

Assignee(s): (std): ETHICON INC

Assignee(s): ETHICON INC SOMERVILLE ; FELT CURTIS H ; GUINTO REMIGIO ; KOHLER JAMES P ; KROGH ROSS G ; NGUYEN NICK NGOC

Inventor(s): (std): REMIGIO GUINTO ; NICK NGOC NGUYEN ; NGUYEN NICK NGOC ; KROGH ROSS G ; KOHLER JAMES P ; JAMES B KOHLER ; GUINTO REMIGIO ; GEE LAW ROSS ; FELT CURTIS H ; CURTIS H FELD

Inventor(s): CURTIS H FELT ; GUINTO REMIGIO MISSION VIEJO ; JAMES P KOHLER ; KROGH ROSS G RANCHO SANTO MARGARITA ; NGUYEN NICK NGOC COSTA MESA ; FELT CURTIS H MISSION VIEJO ; GUINTO REMIGIO IRVINE ; KOHLER JAMES P LAGUNA HILLS ; ROSS G KROGH

Agent(s): FREEHILLS PATENT AND TRADE MARK ATTORNEYS; FREEHILLS PATENT ATTORNEYS; FPA PATENT ATTORNEYS PTY LTD; HERBERT SMITH FREEHILLS; OGILVY RENAULT LLP SENCRL SRL; NORTON ROSE CANADA SENCRL SRL LLP; NORTON ROSE OR SENCRL SRL LLP; NORTON ROSE FULBRIGHT CANADA LLP SENCRL SRL; BOEHMERT AND BOEHMERT ANWALTSPARTNERSCHAFT MBB PATENTANWAELTE RECHTSANWAELTE; MUELLER BORE AND PARTNER PATENTANWAELTE PARTG MBB; FISHER ADRIAN JOHN; IZQUIERDO JOSE

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

Title: BULK BAG HANDLING APPARATUS AND METHOD

Abstract: Source: US2005194405A A method and apparatus for handling and discharging bulk bags includes positioning an adapter assembly on a flexible bulk bag having a spout, inverting the bulk bag, and selectively discharging the contents. The adapter includes a rigid annular adapter ring with an annular, radially-outwardly extending flange adapted for being engaged by a surrounding clamp. The bulk bag is secured to the adapter ring by folding the edge of the spout opening over the flange and clamping the edge to the flange. With the adapter assembly installed a bulk bag may be manipulated in the same manner as a rigid drum.

Classifications:

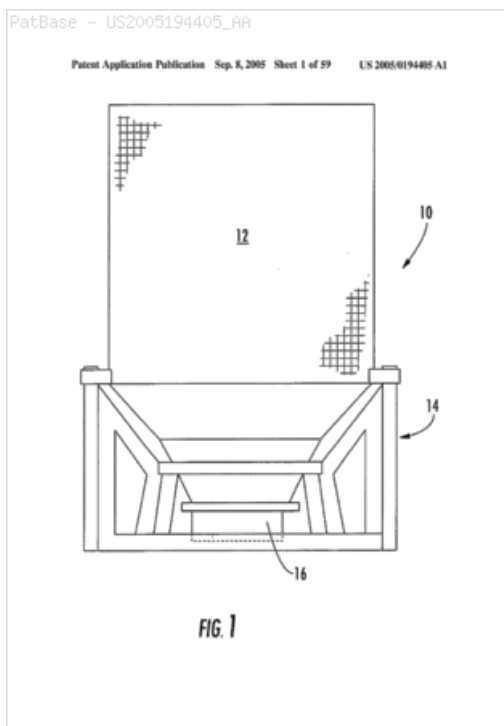
International (IPC 8-9): B65D30/08 B65D35/56 B65D88/26
B67D5/64 B67D7/06 B67D7/84 (Advanced/Invention);
B65D30/08 B67D7/06 (Core/Invention)

International (IPC 1-7): B65D30/08 B67D5/06

CPC: B65B69/0083 B65G65/23 B65B69/0075

European: B65B69/00F1 B65G65/23

US: 222/105 222/105S 222/160 222/181.1 222/181.100P
222/181.100S 222/462 222/462S

**Family:**

Publication number	Publication date	Application number	Application date
US2005194405 AA	20050908	US20040791520	20040302
US2005194406 AA	20050908	US20040937865	20040909
US2008142549 AA	20080619	US20080009416	20080118

Priority:

US20040791520 20040302 US20040937865 20040909 US20080009416 20080118

Probable Assignee: KOSICH MARK MICHAEL

Assignee(s): (std): KOSICH MARK MICHAEL

Assignee(s): KOSICH MARK M

Inventor(s): (std): KOSICH MARK M ; KOSICH MARK MICHAEL

Inventor(s): KOSICH MARK

Agent(s): MARK MICHAEL KOSICH; MARK KOSICH; MARK M KOSICH

Title: MEASURING APPARATUS SYSTEM AND METHOD

Abstract: Source: US2009314101A Disclosed are a method, device and system for determining a flow rate of an excretion stream within an excretion collection assembly. According to some embodiments of the present invention, one of the constituent elements of the collection assembly includes a sensing module which includes an electrical and/or electromechanical component.

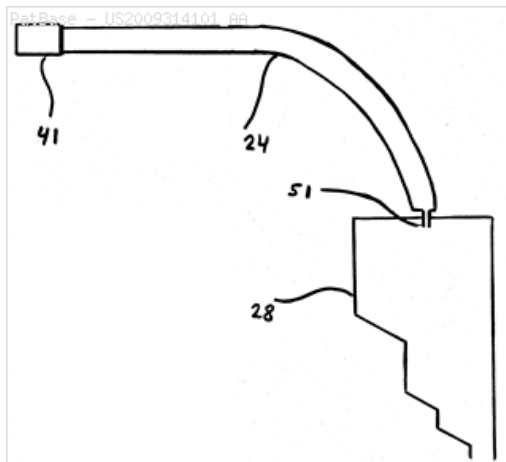
Classifications:

International (IPC 8-9): A61F5/44 G01F1/00 G01F1/56 G01F23/02 G01F23/26 (Advanced/Invention); A61M25/00 (Advanced/Non-invention); G01F1/56 (Core/Invention)

CPC: G01F23/02 A61F5/44 A61M25/0017 G01F1/007 G01F1/56 G01F23/266

European: A61F5/44 G01F1/00C G01F1/56 G01F23/02 G01F23/26B4 K61M25/00H

US: 73/861.08



Family:

Publication number	Publication date	Application number	Application date
US2009314101 AA	20091224	US20090490414	20090624
US2017328760 AA	20171116	US20170666613	20170802
US9752914 BB	20170905	US20090490414	20090624

Priority:

US20080075029P 20080624 US20090490414 20090624 US20170666613 20170802

Probable Assignee: FIZE RESEARCH LTD

Assignee(s): (std): FIZE RES LTD ; LEVINE NOAM

Assignee(s): FIZE RESEARCH LTD

Inventor(s): (std): LEVINE NOAM

Agent(s): PROFESSIONAL PATENT SOLUTIONS; VLADIMIR

Abstract: Source: US2010006999A The present technology relates to a volumetric measurement device and various methods for operation of the device. The device comprises at least one accelerometer for detecting the angle of tilt/tip of a container. The device also comprises at least one fluid property processor capable of providing at least one fluidic property value of a fluid, a flow-rate processor capable of continuously calculating the present flow rate of the fluid when poured from the container, and a volume processor capable of continuously calculating the present volume of the fluid within the container. The flow-rate processor calculates the rate of flow of the fluid poured from the container based on the angle of tilt/tip of the apparatus, the at least one fluid property value, and the present volume of fluid within the container.

International (IPC 8-9): B65D90/00 B67D5/16 G01F1/00 G01F1/68
G01F17/00 G06F19/00 (Advanced/Invention);
G01F1/00 G01F1/68 (Core/Invention)
CPC: G01F1/00 G01F11/00

US: 206/459.1 206/459.100S 222/71 222/71P 702/45 702/45P
702/50 702/55 73/204.11 73/204.110S

Publication number	Publication date	Application number	Application date
US2010006599 AA	20100114	US20080171575	20080711
US2012109542 AA	20120503	US20120346267	20120109
US8116993 BB	20120214	US20080171575	20080711
US8447538 BB	20130521	US20120346267	20120109
WO10005646 A1	20100114	WO2009US45890	20090602

US20080171575 20080711 US20120346267 20120109

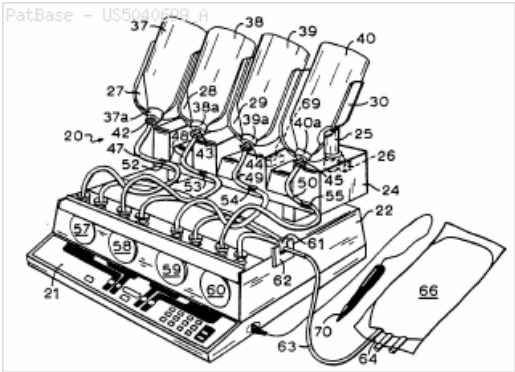
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: FLUID COMPOUNDING METHOD AND APPARATUS

Abstract: Source: US5040699A A fluid compounding method and apparatus including a plurality of peristaltic pumps, the tubing for which, on one end, is connected to individual solution dispensing containers, with the other end being coupled through a manifold to an admixed solution receiving container. Each fluid dispensing station is provided with a load cell, each of which individually monitors the weight of the dispensing solution container. Electronic logic circuitry, including a microprocessor and program in read only memory, it utilized and accessed by an operator via a keyboard, into which the operator enters the desired volume and the specific gravity of each of the solutions being dispensed. The circuitry then converts each of these inputs to a weight factor against which the weight of the receiving container is monitored. To commence operation, the weight of each dispensing container is measured and stored, that is, the load cell for each dispensing station senses the weight of the dispensing container and solution. All pumps are then actuated simultaneously, with the weight of the dispensing container at each station being continuously monitored. The first pump to stop will be the pump for the dispensing solution which requires the least weight or volume, with the other pumps then stoppings, in turn, until the pump which is dispensing the greatest volume finally stops. With all pumps being actuated simultaneously, the total fluid compounding time is significantly reduced.

Classifications:

International (ipc 8-9): A61J3/00 G01G19/32 G01G19/34 (Advanced/Invention); A61J3/00 G01G19/00 (Core/Invention)
International (ipc 1-7): B65B3/28
CPC: G01N2035/00217 A61J3/002 A61J2200/74 G01G19/32 G01G19/346
European: A61J3/00B G01G19/32 G01G19/34C K61J200/74
US: 141/104 141/105 222/1 222/58 222/59



Family:

Publication number	Publication date	Application number	Application date
US5040699 A	19910820	US19890351719	19890515

Priority:

US19890351719 19890515

Probable Assignee:	GANGEMI RONALD J
Assignee(s): (std):	GANGEMI RONALD J
Inventor(s): (std):	GANGEMI RONALD J

Title: MAKE-UP DISPENSE IN A MASS BASED DISPENSING SYSTEM

Abstract: Source: US201107772A A chemical product dispenser dispenses a chemical product having at least one active ingredient during a primary dispense cycle based on time or some other factor. After the chemical product has been dispensed, the dispenser determines the amount of chemical product that was dispensed. The dispenser then determines whether the dispensed amount of chemical product is within a defined threshold of a desired amount. If not, the dispenser proceeds to dispense additional chemical product during one or more make-up dispense cycles until the threshold is satisfied.

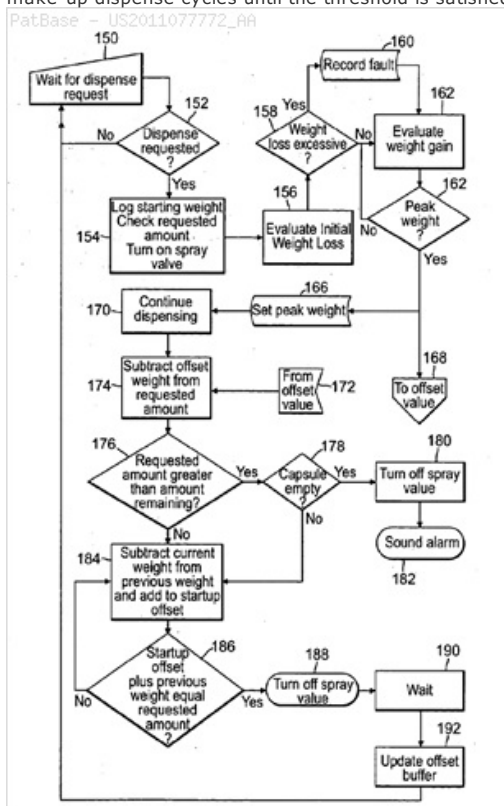
Classifications:

International (IPC 8-9): A47L15/00 A47L15/44 B67D7/02 B67D7/06 B67D7/08 B67D7/14 B67D7/30 B67D7/36 D06F33/02 D06F39/02 G01G13/16 G01G17/06 G06F17/00 (Advanced/Invention); A47L15/44 (Advanced/Non-invention)

CPC: B67D7/02 A47L15/0055 A47L15/4463 A47L2401/023 A47L2501/07 B67D7/0294 B67D7/14 B67D7/36 D06F33/02 D06F39/02 G01G13/16 G01G17/06

European: A47L15/00C10 B67D7/02 B67D7/02G2 B67D7/14 B67D7/36 D06F33/02 D06F39/02 G01G13/16 G01G17/06 K47L15/44F K47L401/02A K47L501/07

US: 1/1 222/58 222/58S 700/240 700/240P 700/244 700/244S

**Family:**

Publication number	Publication date	Application number	Application date
US201107772 AA	20110331	US20090567266	20090925
US9102509 BB	20150811	US20090567266	20090925
WO11036627 A2	20110331	WO20101B54268	20100921
WO11036627 A3	20110811	WO20101B54268	20100921

Priority:

US20090567266 20090925

Probable Assignee: ECOLAB INC

Assignee(s): (std): BUCK CHRISTOPHER A ; ECOLAB INC ; OTTING BLAKE R ; NELSON WESLEY M ; OTTING BLAKE ROBERTS

Inventor(s): (std): BUCK CHRISTOPHER A ; NELSON WESLEY M ; OTTING BLAKE R ; OTTING BLAKE ROBERTS

Agent(s): SHUMAKER AND SIEFFERT PA; SORENSEN ANDREW D

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: IMPACT LOAD PROTECTION FOR MASS-BASED PRODUCT DISPENSERS

Abstract: Source: US2011165034A A chemical product dispenser that controls dispensation of a chemical product based on a change in weight of the chemical product remaining in the dispenser includes an isolation mechanism. The dispenser includes a weight measurement instrument, such as one or more load cells, that measure the weight of the chemical product remaining the dispenser. The isolation mechanism is configured to lift the chemical product from a lowered position in which the weight of the chemical product is fully supported by the load cell(s) to a raised position in which the weight of the chemical product is fully supported by the isolation mechanism. When in the raised position, the dispenser may be loaded with a supply of chemical product with a reduced risk of damage to the weight measurement instrument.

Classifications:

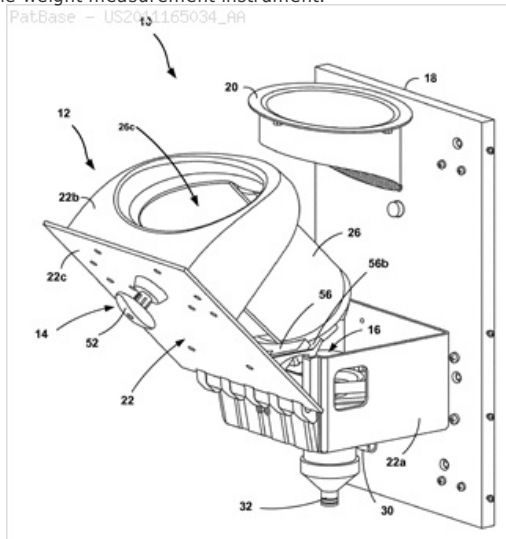
International (IPC 8-9): B01D11/02 B67D7/08

G01G13/00 (Advanced/Invention)

CPC: B67D7/02 B67D7/08

European: B67D7/02 B67D7/08

US: 222/55 222/58 222/58S 222/77 222/77S 422/105 422/107 422/261 422/261P 422/264 422/264S 422/501 422/504 422/509



Family:

Publication number	Publication date	Application number	Application date
US2011165034 AA	20110707	US20100683666	20100107
US8511512 BB	20130820	US20100683666	20100107

Priority:

US20100683666 20100107

Probable Assignee: ECOLAB USA

Assignee(s): (std): ECOLAB USA ; ECOLAB USA INC ; LANZ JOSHUA J ; LIMBACK SCOTT R ; CARLSON BRIAN P

Inventor(s): (std): CARLSON BRIAN P ; LANZ JOSHUA J ; LIMBACK SCOTT R

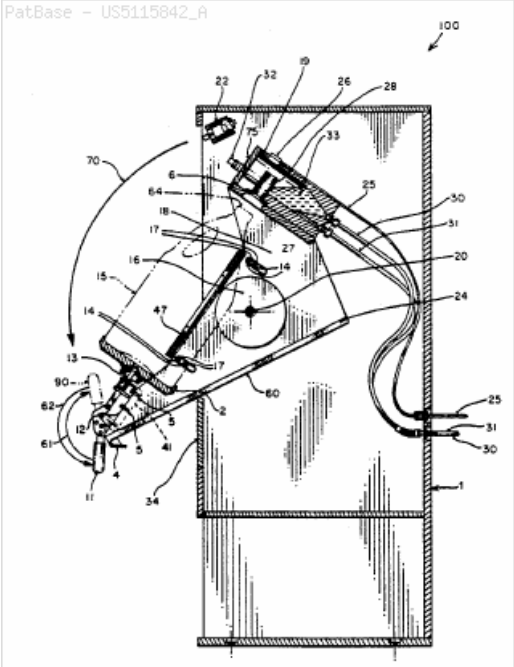
Agent(s): SHUMAKER AND SIEFFERT PA

Title: Apparatus for delivery of a liquid

Abstract: Source: US5115842A An apparatus for delivery of a liquid. The apparatus includes a housing and a cradle for holding a container containing the liquid. The cradle is rotatably coupled to the housing. The cradle is rotatable between a first position and a second position. The apparatus further includes a reservoir for receiving the liquid from the container. The reservoir is coupled to the cradle and rotates with the cradle. The reservoir includes a passageway through which the liquid is able to flow downward for all positions the cradle is permitted to rotate to. The reservoir includes a cylinder for minimizing back flow of the liquid from the reservoir to the container. The reservoir also includes a first orifice for allowing the liquid to pass out of the reservoir, a second orifice for allowing an air bubble in the liquid to return to the reservoir, and a check valve for allowing air to pass into the reservoir. The second orifice is at a location higher than the first orifice for all positions between the first and second positions that the cradle is permitted to rotate to.

Classifications:

International (IPC 8-9): B67C9/00 B67D3/00 (Advanced/Invention);
B67C9/00 B67D3/00 (Core/Invention)
International (IPC 1-7): B65B3/04
CPC: B67C9/00 B67D3/0003
European: B67C9/00 B67D3/00B
US: 141/113 141/286 141/309 141/319 141/363 222/165



Family:

Publication number	Publication date	Application number	Application date
US5115842 A	19920526	US19900575335	19900830

Priority:

US19900575335 19900830

Probable Assignee: INTEL CORP

Assignee(s): (std): INTEL CORP

Inventor(s): (std): CRAFTS DOUGLAS E ; LEONOV MARK A

Title: PIVOTAL REFUELING TRAY FOR A HANDCART

Abstract: Source: US2012139201A A pivotal tray for holding a fuel dispenser and for pivoting the container to dispense the contents thereof. The tray includes a pair of opposing guide rails to accept a container having guide slots formed in opposing sides thereof. The engagement of the guide rails of the tray into the guide slots of the container provide removeable attachment of the container to the tray. The tray can include a front stop against which the container abuts when fully engaged within the tray. The back of the tray can also include a spring-loaded stop that can be depressed downwardly and out of the way when the container is laterally slid into the guide rails of the tray. When released, the spring-loaded stop extends upwardly to form a stop at the back of the container.

Classifications:

International (IPC 8-9): B62B1/00 B62B1/06

B67D7/84 (Advanced/Invention)

CPC: B62B2203/04 B62B2203/70 B62B1/16 B62B2202/00

B62B2203/02 B62B2203/07

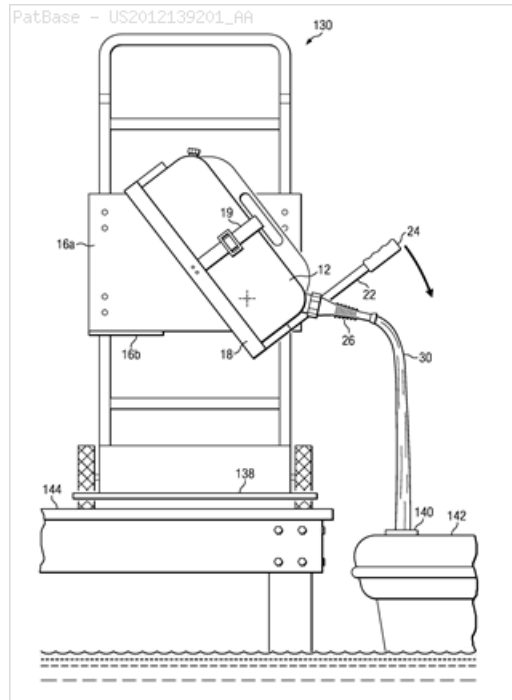
European: B62B1/16 L62B203/04 L62B203/70

US: 222/164 222/164S 280/47.19 280/47.190P 280/47.24

280/47.240S 280/47.26 280/47.27 280/47.3 D23/211.1 D9/516

D9/573

Locarno class: 09/01



Family:

Publication number	Publication date	Application number	Application date
US2012139201 AA	20120607	US20120401578	20120221
US8118318 BA	20120221	US20060595245	20061110
US8550475 BB	20131008	US20120401578	20120221
USD725475 S1	20150331	US20130463310F	20131008
USD748985 S1	20160209	US20150474956F	20150331

Priority:

US20050735943P 20051110
US20130463310F 20131008

US20060595245 20061110
US20150474956F 20150331

US20120401578 20120221

Probable Assignee:

CHAUZA ROGER N

Assignee(s): (std):

CHAUZA ROGER N

Inventor(s): (std):

CHAUZA ROGER N

Agent(s):

ROGER N; ROGER N CHAUZA PC; ROBER N

Title: BEVERAGE DECANTING DEVICE

Abstract: Source: CA2734656A A means and a method by which effervescent beverages in bottles sized for individual consumption may be decanted autonomously, in part or in their entirety, into a drinking glass. A glass support mechanism is provided to which a glass is secured, whereby the glass may be tilted to a predetermined angle to prevent excessive frothing of the beverage it receives. A bottle support mechanism is provided to which a bottle is secured, whereby the bottle may be disposed tilted over said glass at a continually adjustable angle to decant its content while controlling flow rate. Weight and optical sensors are used to continually monitor the level of beverage received in the glass and the thickness of froth, and to detect the occurrence of spillage. An embedded microcontroller is used to programmatically sequence the operation, to process sensory input, and to adjust bottle position in response for an optimal pour.

Classifications:**International (IPC 8-9):** A47F10/06 B67B7/16 B67C9/00 (Advanced/Invention)**CPC:** A47G23/0241 B67D1/1247 B67D1/1272 B67D3/0003 B67D3/0029 B67D3/0051 B67D3/009**European:** A47G23/02B B67D1/12E B67D1/12L2 B67D3/00B B67D3/00H B67D3/00N B67D3/00R8B**Family:**

Publication number	Publication date	Application number	Application date
CA2734656 AA	20120918	CA20112734656	20110318

Priority:

CA20112734656 20110318

Probable Assignee: KAUFMAN JEFFREY**Assignee(s):** (std): KAUFMAN JEFFREY ; PORASZKA TOMASZ**Inventor(s):** (std): KAUFMAN JEFFREY ; PORASZKA TOMASZ**Agent(s):** NA

Title: Material weighing and bucket charging apparatus

Abstract: Source: US4281729A A tiltable hopper is supported on force transducers and has a chute which closes one end of the hopper in the raised position and bridges a space between the hopper and a material receiving bucket. Weight computing, recording and displaying means are coupled to the force transducers.

Classifications:

International (IPC 8-9): G01G13/22 G01G13/28 (Advanced/Invention);

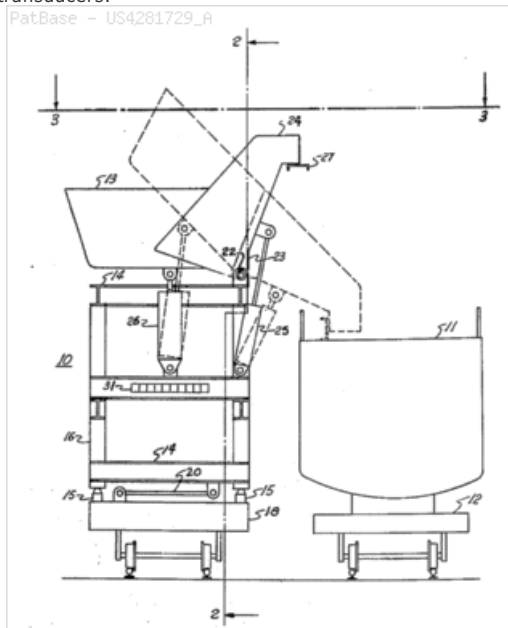
G01G13/00 (Core/Invention)

International (IPC 1-7): B67D5/64 G01G19/08 G01G23/00

CPC: G01G13/22 G01G13/28

European: G01G13/22 G01G13/28

US: 177/139 177/162 222/166



Family:

Publication number	Publication date	Application number	Application date
US4281729 A	19810804	US19790068913	19790823

Priority:

US19790068913 19790823

Probable Assignee:

FARLEY JAMES E

Assignee(s): (std):

FARLEY JAMES E ; SCARBOROUGH IRVIN R

Inventor(s): (std):

FARLEY JAMES E ; SCARBOROUGH IRVIN R

Title: FEEDING SYSTEM FOR CONSTANT PRODUCT FLOW

Abstract: Source: US3578094A (Claim 1) 1. 1. A feeding system for establishing uniform product flow comprising a supply hopper for storage and feeding of product, a primary vibratory feeder for receipt of said product from said hopper, weighing means to control the flow of product to said primary feeder in response to the weight of said product therein, means to restrict the flow of said product to form a wedge-shaped body of product along said primary feeder to assure thin layer flow of product therefrom, said wedge-shaped body including multilayer product to provide substantial weight independent of the product in said hopper, a secondary vibratory feeder for receipt of said thin layer flow of product from said primary feeder in multirow orientation, and means to cause said product to be fed from said multirow orientation tending toward the formation of a single-row stream in said secondary feeder, whereby regulation of said product is evenly distributed throughout the system and equal product in flight from the system at any

Classifications:

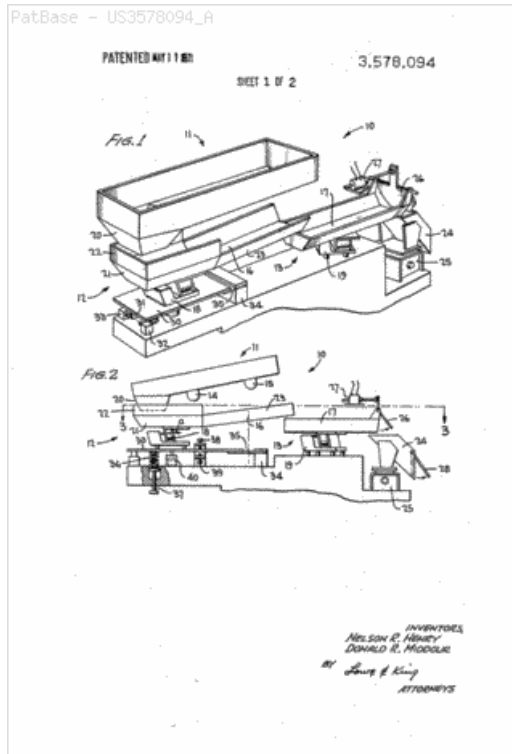
International (IPC 8-9): G01G21/00 (Advanced/Invention)

International (IPC 1-7): G01G11/00 G01G13/16

CPC: G01G21/00

European: G01G21/00

US: 177/108 177/119 198/443 198/444 198/447 198/609 222/55



Family:

Publication number	Publication date	Application number	Application date
US3578094 A	19710511	US19680759567	19680913

Priority:

US19680759567 19680913

Probable Assignee: WOODMAN CO

Assignee(s): (std): WOODMAN CO

Assignee(s): WOODMAN CO INC THE ; FLEET NATIONAL BANK ; KLIKLOK A CORP OF DE CORP ; KLIKLOK CORP

Inventor(s): (std): MIDDOUR DONALD R ; HENRY NELSON R

Inventor(s): NELSON R HENRY ; DONALD R MIDDOUR