



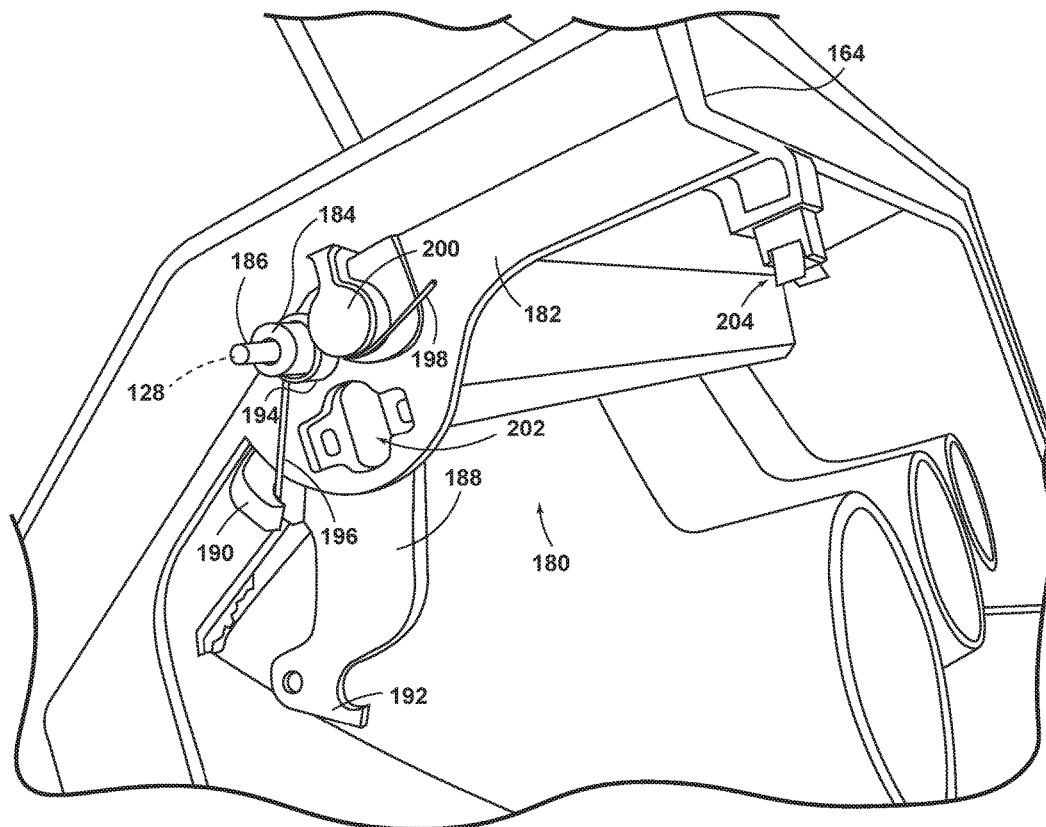
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(19) **United States**(12) **Patent Application Publication**
BIXBY et al.(10) **Pub. No.: US 2017/0183806 A1**(43) **Pub. Date: Jun. 29, 2017**(54) **DETERGENT DISPENSER FOR A LAUNDRY
TREATING APPLIANCE***D06F 39/00* (2006.01)*D06F 39/08* (2006.01)*D06F 39/04* (2006.01)(71) Applicant: **WHIRLPOOL CORPORATION,**
BENTON HARBOR, MI (US)(52) **U.S. Cl.**CPC *D06F 39/02* (2013.01); *D06F 39/083*(2013.01); *D06F 39/04* (2013.01); *D06F**39/008* (2013.01); *D06F 37/30* (2013.01);*D06F 39/005* (2013.01); *D06F 2212/02*(2013.01); *D06F 2204/082* (2013.01); *D06F**2204/04* (2013.01)(72) Inventors: **SETH E. BIXBY**, STEVENSVILLE,
MI (US); **ROMMY MARIANA**
BUENO, GUADALUPE (MX);
ANDREW C. KUBASIAK, SAINT
JOSEPH, MI (US); **NDJEKA K.**
LUHAHI, GRAND RAPIDS, MI (US);
SAYER J. MURPHY, SAINT
JOSEPH, MI (US)

(57)

ABSTRACT(21) Appl. No.: **14/980,064**(22) Filed: **Dec. 28, 2015****Publication Classification**(51) **Int. Cl.***D06F 39/02* (2006.01)*D06F 37/30* (2006.01)

A laundry treating appliance includes a detergent dispenser with a door pivotably mounted relative to the detergent dispenser for movement between an open position where an opening in the detergent dispenser is exposed and a closed position where the opening in the detergent dispenser is covered. A damper provides controlled movement of the door between the closed and open positions.



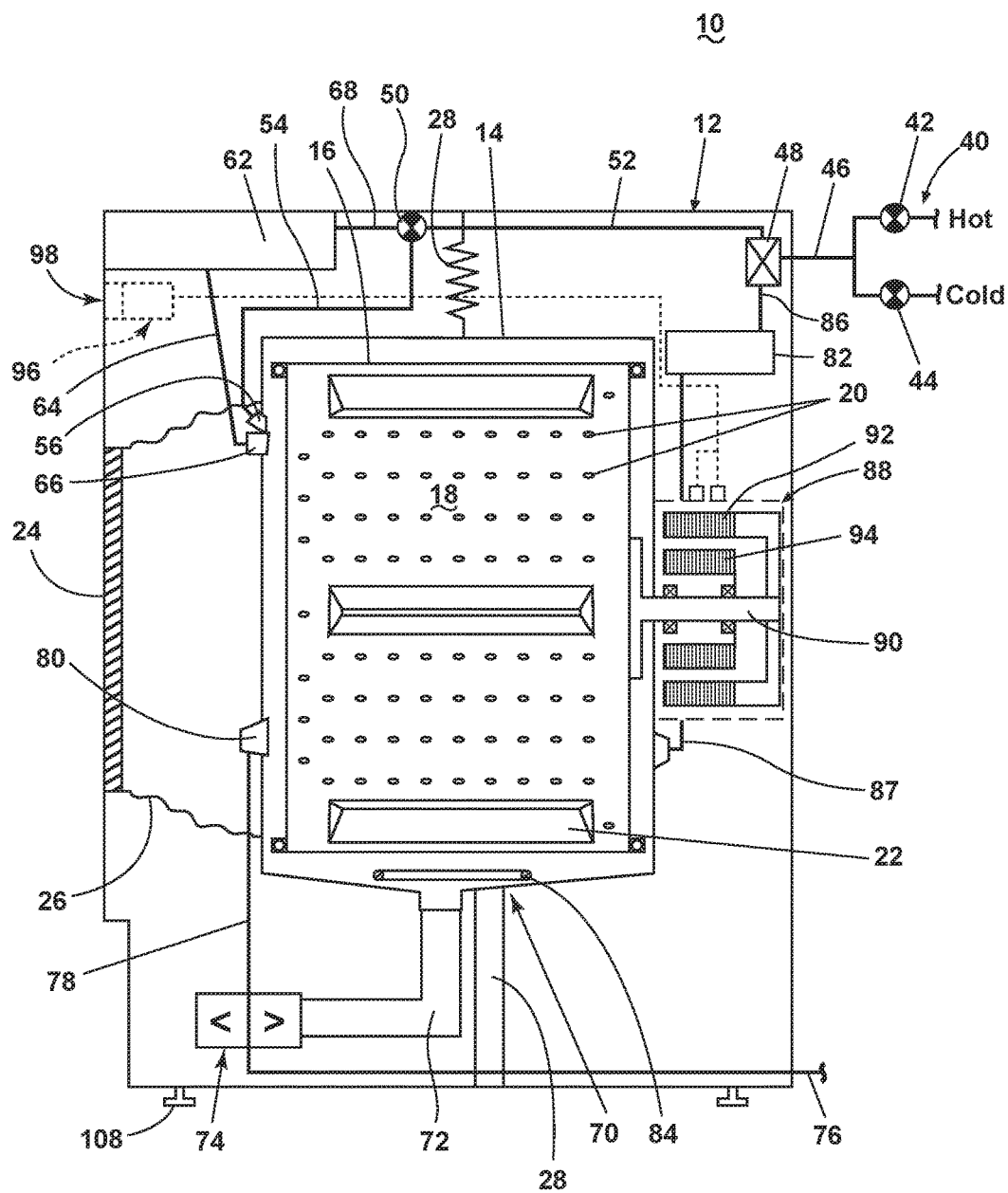


FIG. 1

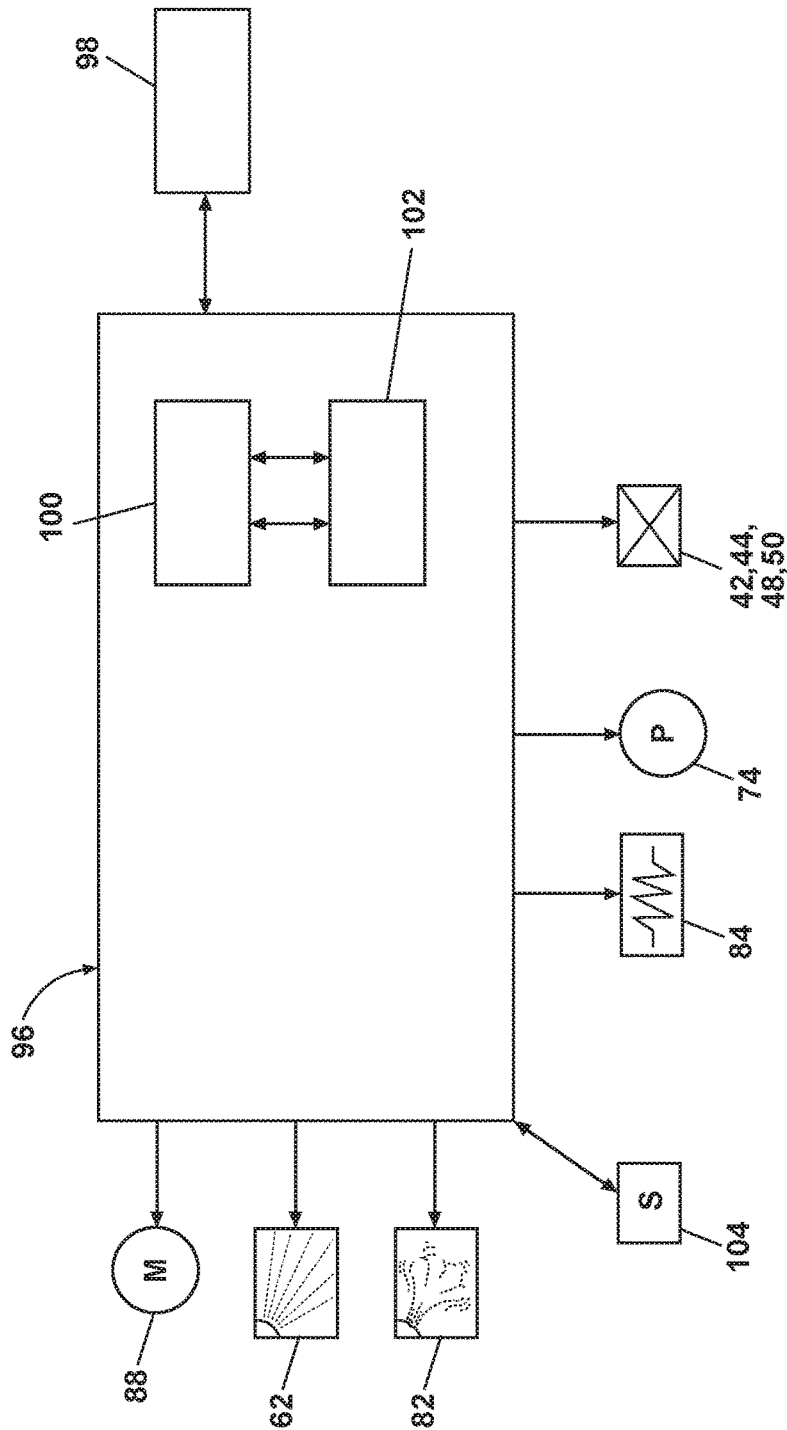
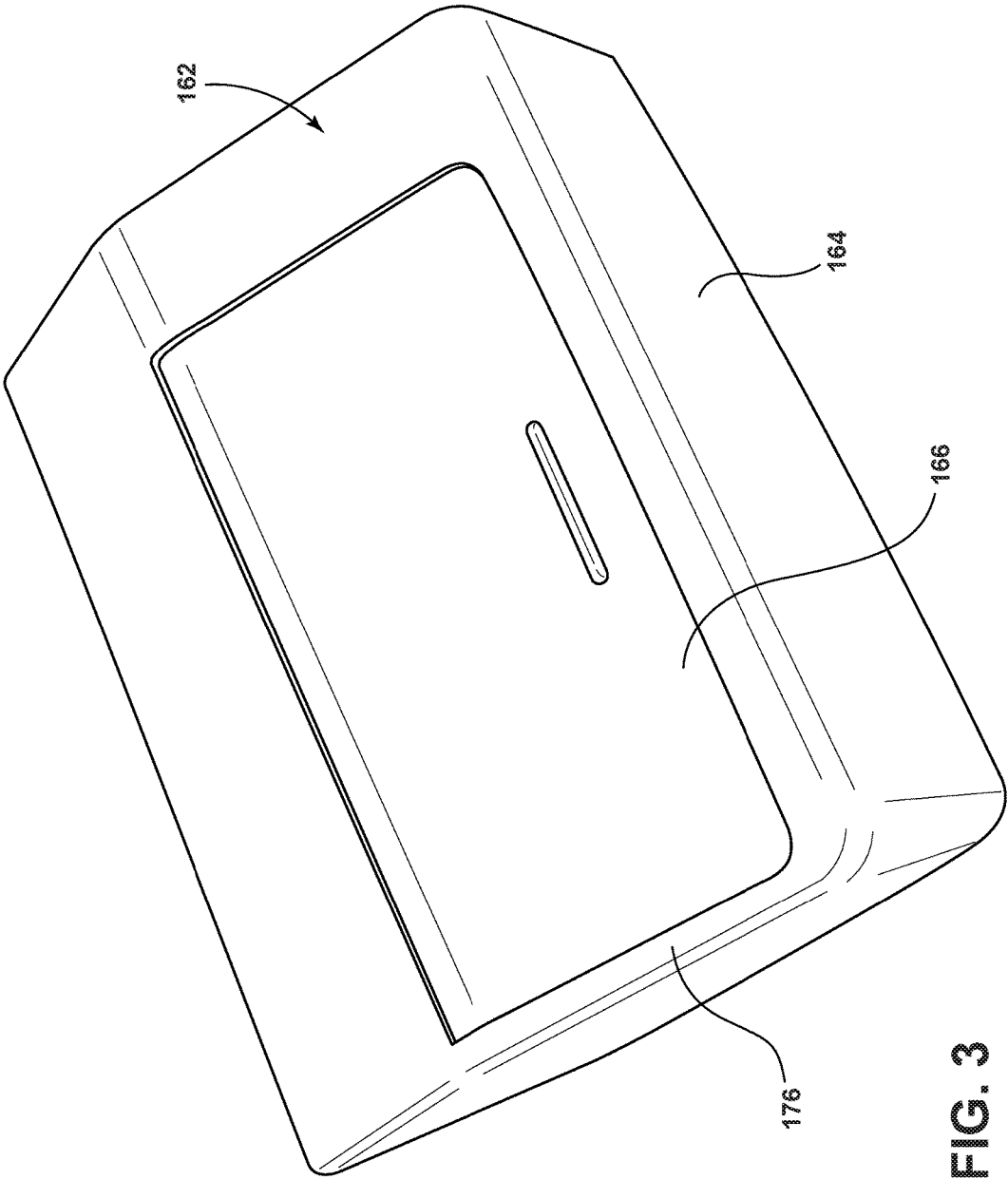


FIG. 2



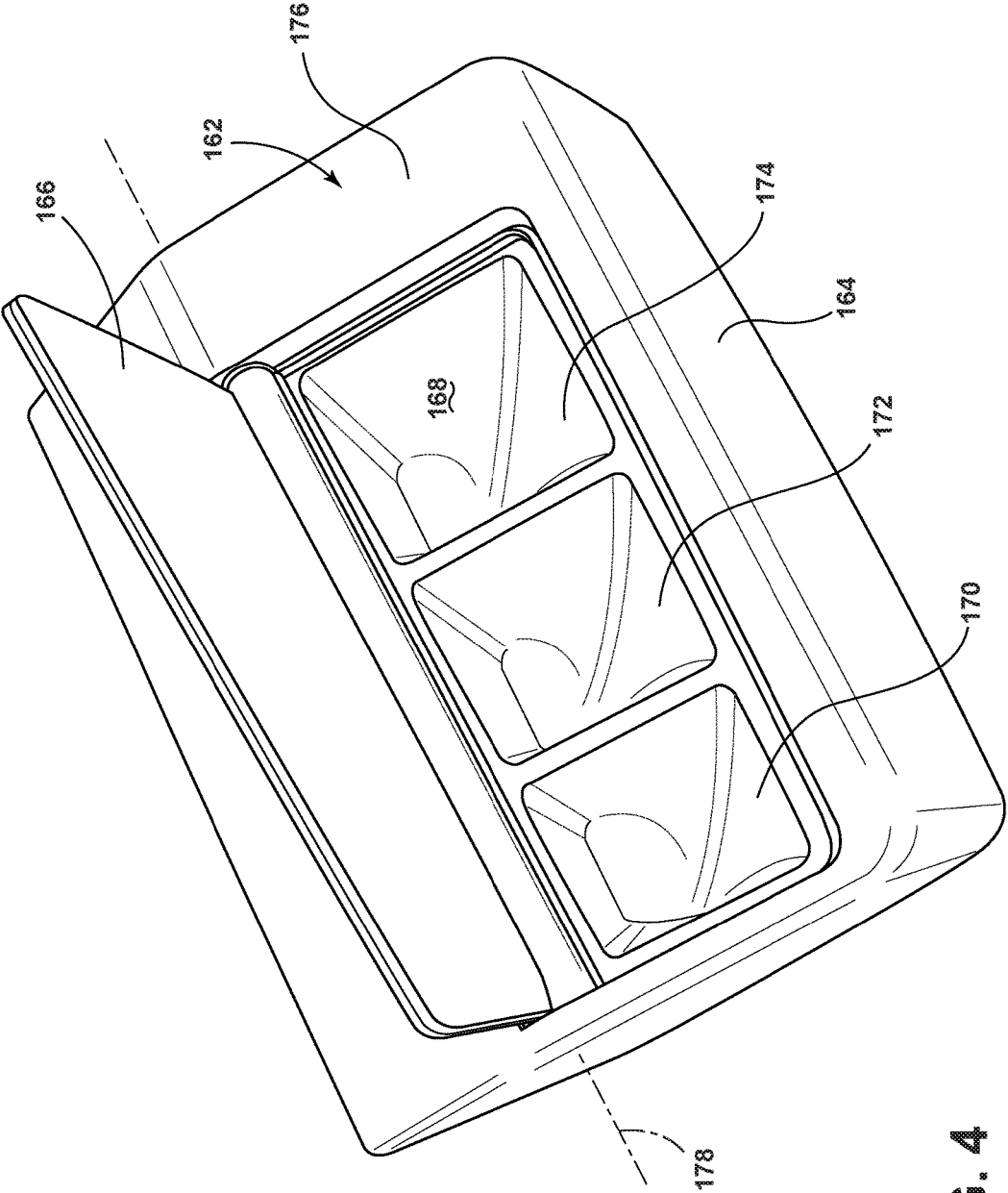


FIG. 4

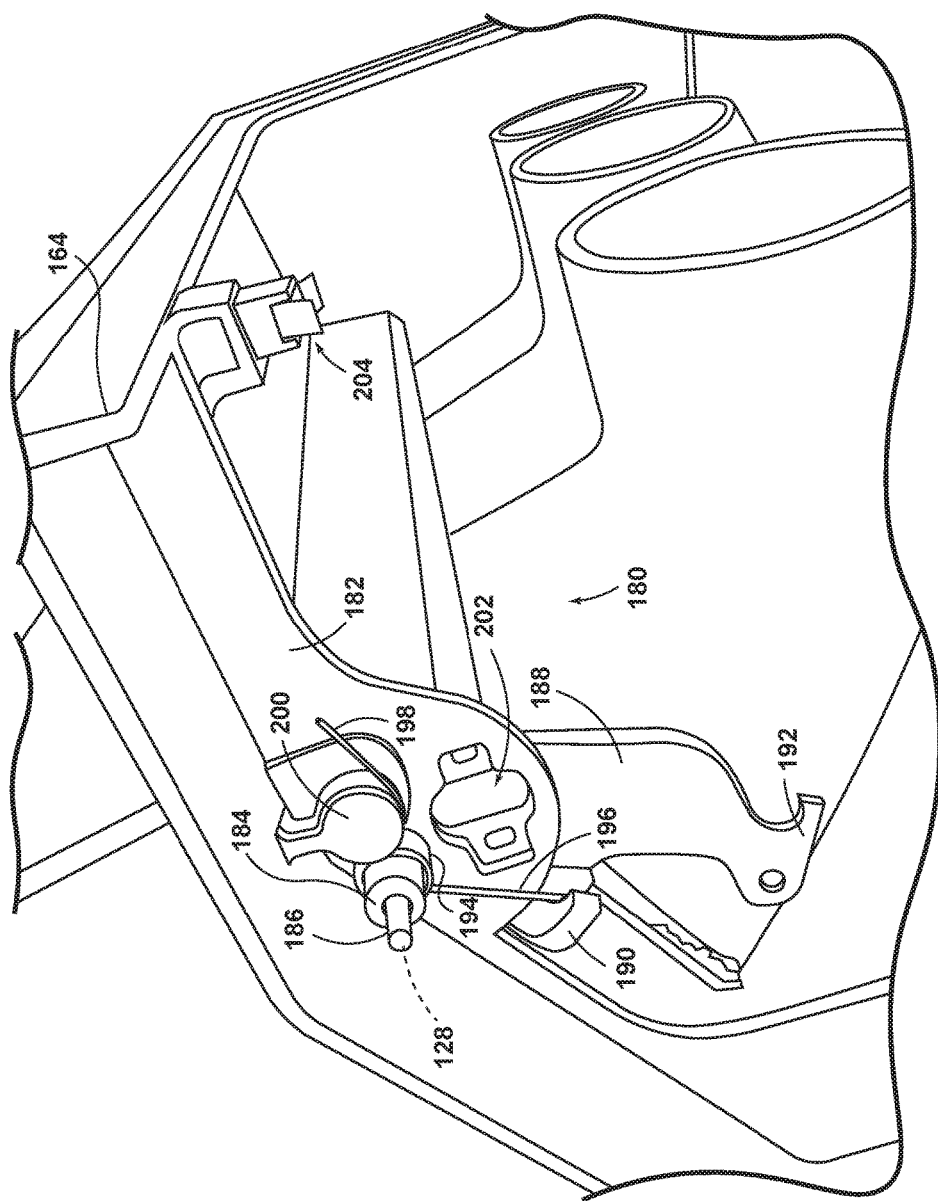


FIG. 5

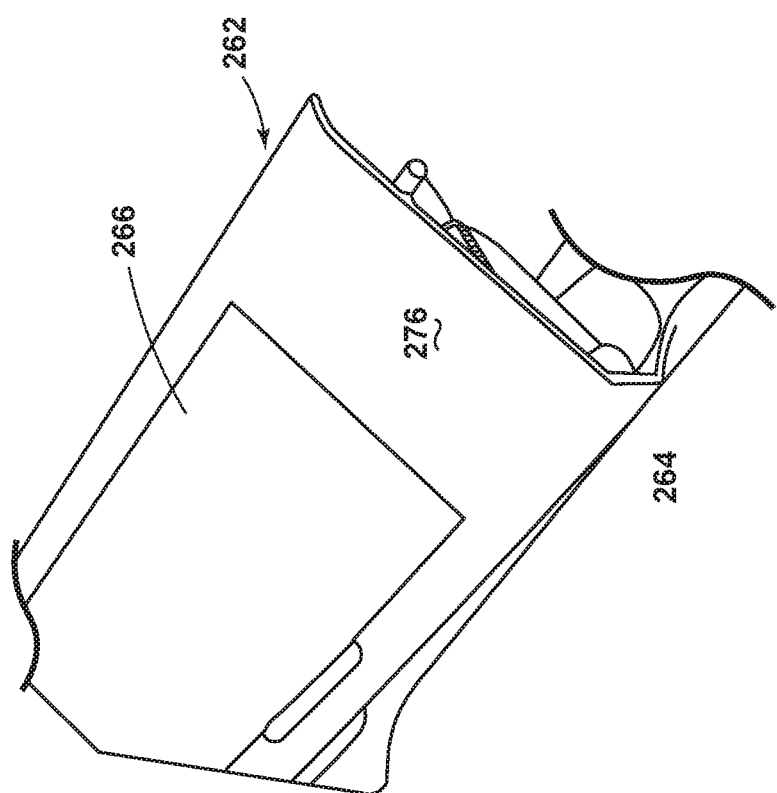


FIG. 6

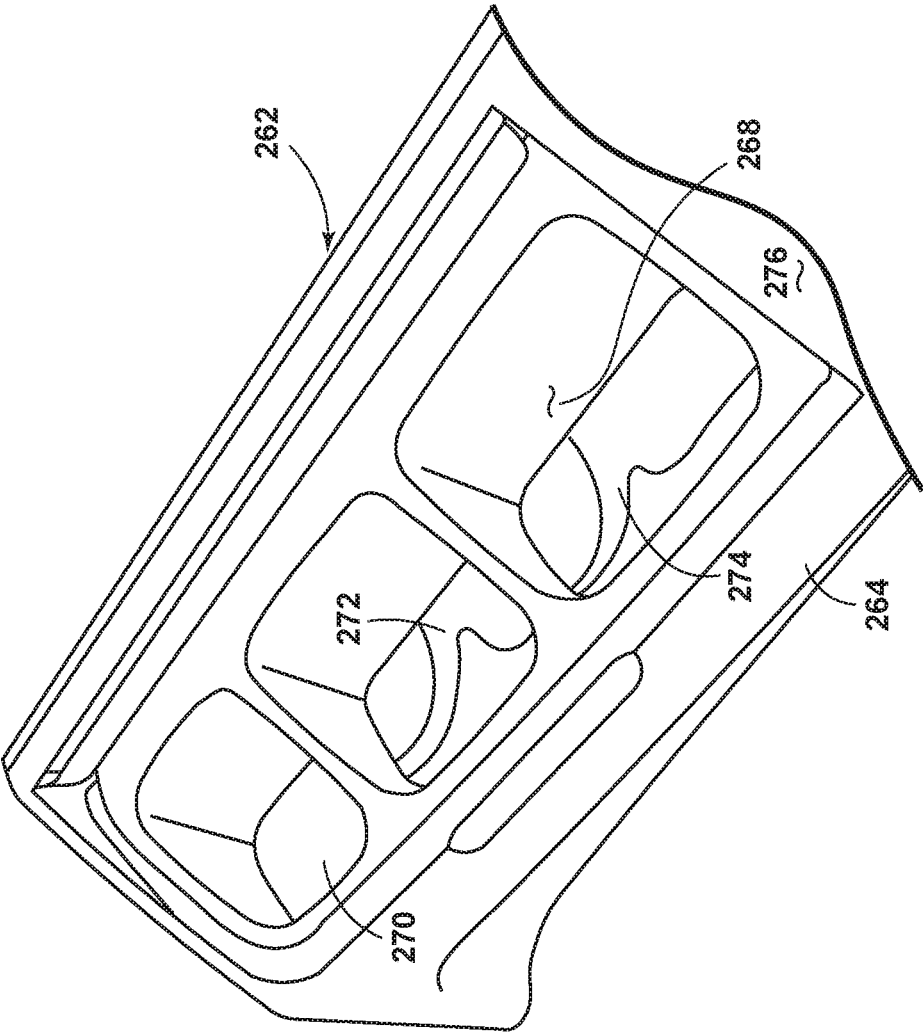


FIG. 7

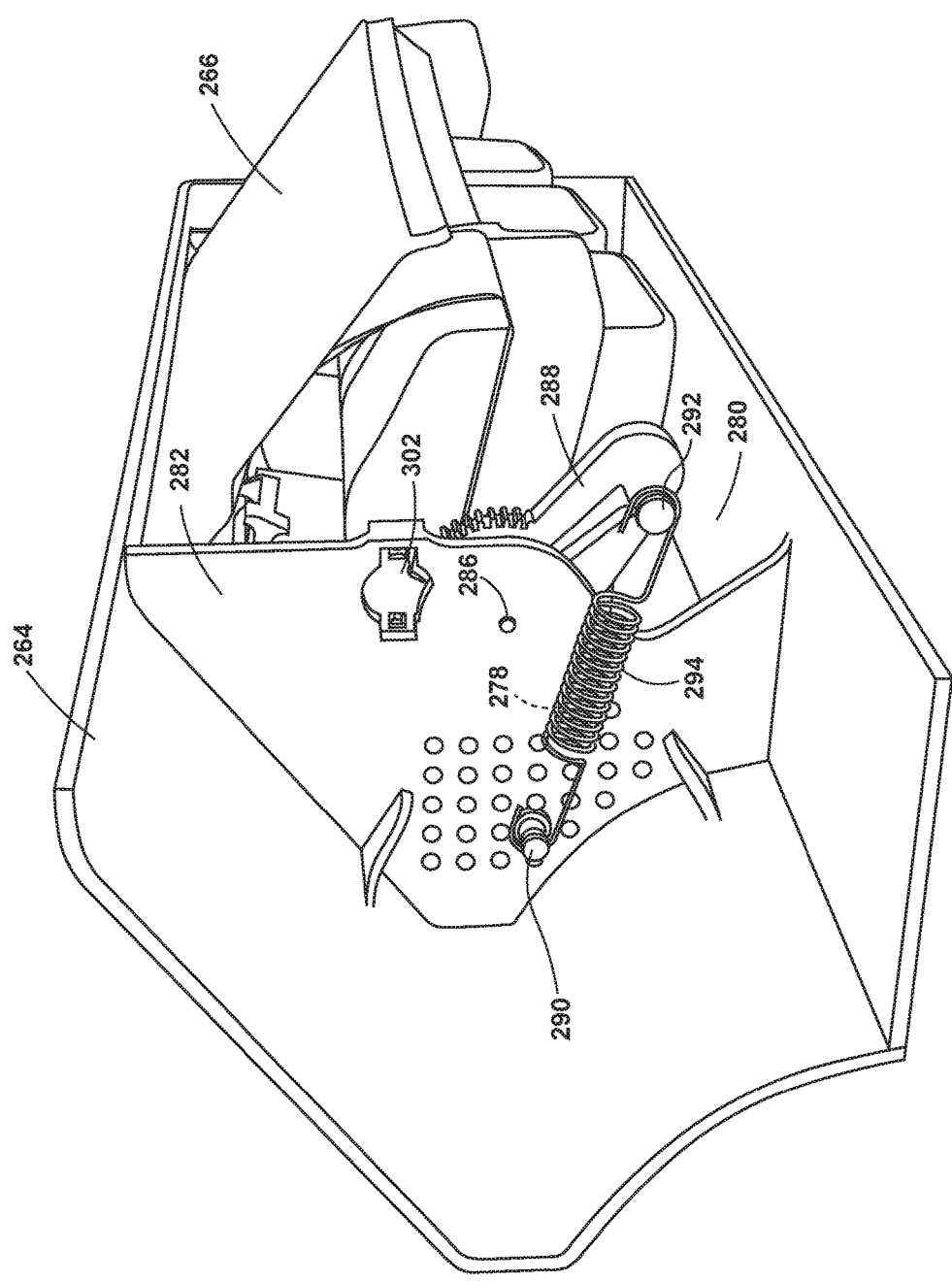


FIG. 8

DETERGENT DISPENSER FOR A LAUNDRY TREATING APPLIANCE

BACKGROUND

[0001] Laundry treating appliances, such as clothes washers, refreshers, and non-aqueous systems, may have a configuration based on a rotating drum that defines a treating chamber in which laundry items are placed for treating. The laundry treating appliance may have a controller that implements a number of pre-programmed cycles of operation having one or more operating parameters. The controller may control a motor to rotate the drum according to one of the pre-programmed cycles of operation. The controller may control the motor to rotate the drum at the same speeds for a give pre-programmed cycle of operation regardless of the characteristics of the laundry items or changes in the system.

BRIEF SUMMARY

[0002] In one aspect of the invention, a laundry treating appliance includes a cabinet, a laundry treating chamber in the cabinet, and a detergent dispenser disposed in the cabinet in fluid communication with the laundry treating chamber. A door is pivotably mounted relative to the detergent dispenser for movement between an open position where an opening in the detergent dispenser is exposed and a closed position where the opening in the detergent dispenser is covered. A damper provides controlled movement of the door between the closed and open positions.

[0003] In another aspect of the invention, a detergent dispenser is provided for fixedly mounting in a receptacle in a cabinet of a laundry treating appliance. The detergent dispenser includes a housing dimensioned to fit within a receptacle in a cabinet of a laundry treating appliance, and one or more dispensing cups mounted in the housing and adapted to fluidly connect to a laundry treating chamber in the cabinet. A door is pivotably mounted to the body for movement between an open position where the dispensing cup is exposed and a closed position where the dispensing cup is covered. A damper is mounted to the housing to provide controlled movement of the door between the closed and open positions.

BRIEF DESCRIPTION OF THE DRAWINGS

[0004] In the drawings:

[0005] FIG. 1 is a schematic view of a laundry treating appliance in the form of a washing machine according to a first embodiment of the invention.

[0006] FIG. 2 is a schematic of a control system of the laundry treating appliance of FIG. 1 according to the first embodiment of the invention.

[0007] FIG. 3 is a perspective view of a first embodiment of a detergent dispenser according to the invention.

[0008] FIG. 4 is a perspective view of the detergent dispenser of FIG. 3, with the door in the open position.

[0009] FIG. 5 is an internal view of a side of the mounting structure for the door in the detergent dispenser of FIGS. 3 and 4.

[0010] FIG. 6 is a perspective view of a second embodiment of a detergent dispenser according to the invention.

[0011] FIG. 7 is a perspective view of the detergent dispenser of FIG. 6, with the door in the open position.

[0012] FIG. 8 is an internal view of a side of the mounting structure for the door in the detergent dispenser of FIGS. 6 and 7.

DETAILED DESCRIPTION

[0013] FIG. 1 is a schematic view of a laundry treating appliance according to a first embodiment of the invention. The laundry treating appliance may be any appliance which performs a cycle of operation to clean or otherwise treat items placed therein, non-limiting examples of which include a horizontal or vertical axis clothes washer; a combination washing machine and dryer; a tumbling or stationary refreshing/revitalizing machine; an extractor; a non-aqueous washing apparatus; and a revitalizing machine.

[0014] The laundry treating appliance of FIG. 1 is illustrated as a washing machine 10, which may include a structural support system comprising a cabinet 12 which defines a housing within which a laundry holding system resides. The cabinet 12 may be a housing having a chassis and/or a frame, defining an interior enclosing components typically found in a conventional washing machine, such as motors, pumps, fluid lines, controls, sensors, transducers, and the like. Such components will not be described further herein except as necessary for a complete understanding of the invention.

[0015] The laundry holding system comprises a tub 14 supported within the cabinet 12 by a suitable suspension system and a drum 16 provided within the tub 14, the drum 16 defining at least a portion of a laundry treating chamber 18. The drum 16 may include a plurality of perforations 20 such that liquid may flow between the tub 14 and the drum 16 through the perforations 20. A plurality of baffles 22 may be disposed on an inner surface of the drum 16 to lift the laundry load received in the treating chamber 18 while the drum 16 rotates. It is also within the scope of the invention for the laundry holding system to comprise only a tub with the tub defining the laundry treating chamber.

[0016] The laundry holding system may further include a door 24 which may be movably mounted to the cabinet 12 to selectively close both the tub 14 and the drum 16. A bellows 26 may couple an open face of the tub 14 with the cabinet 12, with the door 24 sealing against the bellows 26 when the door 24 closes the tub 14.

[0017] The washing machine 10 may further include a suspension system 28 for dynamically suspending the laundry holding system within the structural support system.

[0018] The washing machine 10 may further include a liquid supply system for supplying water to the washing machine 10 for use in treating laundry during a cycle of operation. The liquid supply system may include a source of water, such as a household water supply 40, which may include separate valves 42 and 44 for controlling the flow of hot and cold water, respectively. Water may be supplied through an inlet conduit 46 directly to the tub 14 by controlling first and second diverter mechanisms 48 and 50, respectively. The diverter mechanisms 48, 50 may be a diverter valve having two outlets such that the diverter mechanisms 48, 50 may selectively direct a flow of liquid to one or both of two flow paths. Water from the household water supply 40 may flow through the inlet conduit 46 to the first diverter mechanism 48 which may direct the flow of liquid to a supply conduit 52. The second diverter mechanism 50 on the supply conduit 52 may direct the flow of liquid to a tub outlet conduit 54 which may be provided with

a spray nozzle **56** configured to spray the flow of liquid into the tub **14**. In this manner, water from the household water supply **40** may be supplied directly to the tub **14**.

[0019] The washing machine **10** may also be provided with a dispensing system for dispensing treating chemistry to the treating chamber **18** for use in treating the laundry according to a cycle of operation. The dispensing system may include a dispenser **62** which may be a single use dispenser, a bulk dispenser or a combination of a single and bulk dispenser. Non-limiting examples of suitable dispensers are disclosed in U.S. Pub. No. 2010/0000022 to Hendrickson et al., filed Jul. 1, 2008, now U.S. Pat. No. 8,196,441, issued Jun. 12, 2012, entitled "Household Cleaning Appliance with a Dispensing System Operable Between a Single Use Dispensing System and a Bulk Dispensing System," U.S. Pub. No. 2010/0000024 to Hendrickson et al., filed Jul. 1, 2008, now U.S. Pat. No. 8,388,695, issued Mar. 5, 2013, entitled "Apparatus and Method for Controlling Laundering Cycle by Sensing Wash Aid Concentration," U.S. Pub. No. 2010/0000573 to Hendrickson et al., filed Jul. 1, 2008, now U.S. Pat. No. 8,397,328, issued Mar. 19, 2013, entitled "Apparatus and Method for Controlling Concentration of Wash Aid in Wash Liquid," U.S. Pub. No. 2010/0000581 to Doyle et al., filed Jul. 1, 2008, now U.S. Pat. No. 8,813,526, issued Aug. 26, 2014, entitled "Water Flow Paths in a Household Cleaning Appliance with Single Use and Bulk Dispensing," U.S. Pub. No. 2010/0000264 to Luckman et al., filed Jul. 1, 2008, now abandoned, entitled "Method for Converting a Household Cleaning Appliance with a Non-Bulk Dispensing System to a Household Cleaning Appliance with a Bulk Dispensing System," U.S. Pub. No. 2010/0000586 to Hendrickson, filed Jun. 23, 2009, now U.S. Pat. No. 8,397,544, issued Mar. 19, 2013, entitled "Household Cleaning Appliance with a Single Water Flow Path for Both Non-Bulk and Bulk Dispensing," and application Ser. No. 13/093,132, filed Apr. 25, 2011, now U.S. Pat. No. 8,438,881, issued May 14, 2013, entitled "Method and Apparatus for Dispensing Treating Chemistry in a Laundry Treating Appliance," all of which are herein incorporated by reference in full.

[0020] Regardless of the type of dispenser used, the dispenser **62** may be configured to dispense a treating chemistry directly to the tub **14** or mixed with water from the liquid supply system through a dispensing outlet conduit **64**. The dispensing outlet conduit **64** may include a dispensing nozzle **66** configured to dispense the treating chemistry into the tub **14** in a desired pattern and under a desired amount of pressure. For example, the dispensing nozzle **66** may be configured to dispense a flow or stream of treating chemistry into the tub **14** by gravity, i.e. a non-pressurized stream. Water may be supplied to the dispenser **62** from the supply conduit **52** by directing the diverter mechanism **50** to direct the flow of water to a dispensing supply conduit **68**.

[0021] Non-limiting examples of treating chemistries that may be dispensed by the dispensing system during a cycle of operation include one or more of the following: water, enzymes, fragrances, stiffness/sizing agents, wrinkle releasers/reducers, softeners, antistatic or electrostatic agents, stain repellants, water repellants, energy reduction/extraction aids, antibacterial agents, medicinal agents, vitamins, moisturizers, shrinkage inhibitors, and color fidelity agents, and combinations thereof.

[0022] The washing machine **10** may also include a recirculation and drain system for recirculating liquid within the

laundry holding system and draining liquid from the washing machine **10**. Liquid supplied to the tub **14** through tub outlet conduit **54** and/or the dispensing supply conduit **68** typically enters a space between the tub **14** and the drum **16** and may flow by gravity to a sump **70** formed in part by a lower portion of the tub **14**. The sump **70** may also be formed by a sump conduit **72** that may fluidly couple the lower portion of the tub **14** to a pump **74**. The pump **74** may direct liquid to a drain conduit **76**, which may drain the liquid from the washing machine **10**, or to a recirculation conduit **78**, which may terminate at a recirculation inlet **80**. The recirculation inlet **80** may direct the liquid from the recirculation conduit **78** into the drum **16**. The recirculation inlet **80** may introduce the liquid into the drum **16** in any suitable manner, such as by spraying, dripping, or providing a steady flow of liquid. In this manner, liquid provided to the tub **14**, with or without treating chemistry may be recirculated into the treating chamber **18** for treating the laundry within.

[0023] The liquid supply and/or recirculation and drain system may be provided with a heating system which may include one or more devices for heating laundry and/or liquid supplied to the tub **14**, such as a steam generator **82** and/or a sump heater **84**. Liquid from the household water supply **40** may be provided to the steam generator **82** through the inlet conduit **46** by controlling the first diverter mechanism **48** to direct the flow of liquid to a steam supply conduit **86**. Steam generated by the steam generator **82** may be supplied to the tub **14** through a steam outlet conduit **87**. The steam generator **82** may be any suitable type of steam generator such as a flow through steam generator or a tank-type steam generator. Alternatively, the sump heater **84** may be used to generate steam in place of or in addition to the steam generator **82**. In addition or alternatively to generating steam, the steam generator **82** and/or sump heater **84** may be used to heat the laundry and/or liquid within the tub **14** as part of a cycle of operation.

[0024] Additionally, the liquid supply and recirculation and drain system may differ from the configuration shown in FIG. 1, such as by inclusion of other valves, conduits, treating chemistry dispensers, sensors, such as water level sensors and temperature sensors, and the like, to control the flow of liquid through the washing machine **10** and for the introduction of more than one type of treating chemistry.

[0025] The washing machine **10** also includes a drive system for rotating the drum **16** within the tub **14**. The drive system may include a motor **88**, which may be directly coupled with the drum **16** through a drive shaft **90** to rotate the drum **14** about a rotational axis during a cycle of operation. The motor **88** may be a brushless permanent magnet (BPM) motor having a stator **92** and a rotor **94**. Alternately, the motor **88** may be coupled to the drum **16** through a belt and a drive shaft to rotate the drum **16**, as is known in the art. Other motors, such as an induction motor or a permanent split capacitor (PSC) motor, may also be used. The motor **88** may rotate the drum **16** at various speeds in either rotational direction.

[0026] The washing machine **10** also includes a control system for controlling the operation of the washing machine **10** to implement one or more cycles of operation. The control system may include a controller **96** located within the cabinet **12** and a user interface **98** that is operably coupled with the controller **96**. The user interface **98** may include one or more knobs, dials, switches, displays, touch

screens and the like for communicating with the user, such as to receive input and provide output. The user may enter different types of information including, without limitation, cycle selection and cycle parameters, such as cycle options.

[0027] The controller 96 may include the machine controller and any additional controllers provided for controlling any of the components of the washing machine 10. For example, the controller 96 may include the machine controller and a motor controller. Many known types of controllers may be used for the controller 96. It is contemplated that the controller is a microprocessor-based controller that implements control software and sends/receives one or more electrical signals to/from each of the various working components to effect the control software. As an example, proportional control (P), proportional integral control (PI), and proportional derivative control (PD), or a combination thereof, a proportional integral derivative control (PID control), may be used to control the various components.

[0028] As illustrated in FIG. 2, the controller 96 may be provided with a memory 100 and a central processing unit (CPU) 102. The memory 100 may be used for storing the control software that is executed by the CPU 102 in completing a cycle of operation using the washing machine 10 and any additional software. Examples, without limitation, of cycles of operation include: wash, heavy duty wash, delicate wash, quick wash, pre-wash, refresh, rinse only, and timed wash. The memory 100 may also be used to store information, such as a database or table, and to store data received from one or more components of the washing machine 10 that may be communicably coupled with the controller 96. The database or table may be used to store the various operating parameters for the one or more cycles of operation, including factory default values for the operating parameters and any adjustments to them by the control system or by user input.

[0029] The controller 96 may be operably coupled with one or more components of the washing machine 10 for communicating with and controlling the operation of the component to complete a cycle of operation. For example, the controller 96 may be operably coupled with the motor 88, the pump 74, the dispenser 62, the steam generator 82 and the sump heater 84 to control the operation of these and other components to implement one or more of the cycles of operation.

[0030] The controller 96 may also be coupled with one or more sensors 104 provided in one or more of the systems of the washing machine 10 to receive input from the sensors, which are known in the art and not shown for simplicity. Non-limiting examples of sensors 104 that may be communicably coupled with the controller 96 include: a treating chamber temperature sensor, a moisture sensor, a weight sensor, a chemical sensor, a position sensor and a motor torque sensor, which may be used to determine a variety of system and laundry characteristics, such as laundry load inertia or mass.

[0031] In one example, one or more load amount sensors 106 may also be included in the washing machine 10 and may be positioned in any suitable location for detecting the amount of laundry, either quantitative (inertia, mass, weight, etc.) or qualitative (small, medium, large, etc.) within the treating chamber 18. By way of non-limiting example, it is contemplated that the amount of laundry in the treating chamber may be determined based on the weight of the laundry and/or the volume of laundry in the treating cham-

ber. Thus, the one or more load amount sensors 106 may output a signal indicative of either the weight of the laundry load in the treating chamber 18 or the volume of the laundry load in the treating chamber 18.

[0032] The one or more load amount sensors 106 may be any suitable type of sensor capable of measuring the weight or volume of laundry in the treating chamber 18. Non-limiting examples of load amount sensors 106 for measuring the weight of the laundry may include load volume, pressure, or force transducers which may include, for example, load cells and strain gauges. It has been contemplated that the one or more such sensors 106 may be operably coupled to the suspension system 28 to sense the weight borne by the suspension system 28. The weight borne by the suspension system 28 correlates to the weight of the laundry loaded into the treating chamber 18 such that the sensor 106 may indicate the weight of the laundry loaded in the treating chamber 18. In the case of a suitable sensor 106 for determining volume it is contemplated that an IR or optical based sensor may be used to determine the volume of laundry located in the treating chamber 18.

[0033] Alternatively, it has been contemplated that the washing machine 10 may have one or more pairs of feet 108 extending from the cabinet 12 and supporting the cabinet 12 on the floor and that a weight sensor (not shown) may be operably coupled to at least one of the feet 108 to sense the weight borne by that foot 108, which correlates to the weight of the laundry loaded into the treating chamber 18. In another example, the amount of laundry within the treating chamber 18 may be determined based on motor sensor output, such as output from a motor torque sensor. The motor torque is a function of the inertia of the rotating drum and laundry. There are many known methods for determining the load inertia, and thus the load mass, based on the motor torque. It will be understood that any suitable method and sensors may be used to determine the amount of laundry.

[0034] Referring now to FIGS. 3, 4, and 5, one embodiment of a dispenser 162 is shown with a housing 164 and a door 166 enclosing an opening 168. The opening 168 exposes a plurality of dispensing cups 170, 172, 174, each of which is connected to the dispensing outlet conduit 64 in a manner well-known in the art. The dispensing cups 170, 172, 174 may be formed integrally with the housing, or may be removable therefrom. They may be disposed individually in the housing, or they may in a single, unitary structure. The opening 168 may on an angularly disposed portion 176 of the housing so as to present the dispensing cups more comfortably to a user. The dispenser 162 is preferably formed of a polymeric material, but other materials or combinations of materials are contemplated for the embodiment.

[0035] FIG. 3 shows the door 166 in closed position and FIG. 4 shows the door in an open position. The door 166 may be mounted to the housing for pivoting about an axis 178 by way of pins or an axle or a hinge or the like. FIG. 5 shows an example mounting structure 180 for the door 166. The mounting structure 180 includes a bracket 182 on the housing 164, which holds a pillow block 184 through which an axle 186 extends. The axle 186 is coincident with the axis 178. The door 166 has an arm 188 that depends into the housing so as to be hidden from view. The arm 188 has a retainer 190 extending laterally outwardly past the bracket 182 and a striker 192 at a distal end thereof. A spring 194, such as a torsion spring mounted about the pillow block 184,

has a first end **196** that bears against the retainer **190** and a second end **198** that bears against a boss **200** on the bracket **182**. The spring **194** is disposed so that it biases pivoting of the door toward the open position, as shown in FIGS. 4 and 5. A damper **202**, such as a friction gear, is disposed between the arm **188** and the bracket **182** to retard any pivoting motion caused by the spring **194**. A latch **204** is mounted to the housing, spaced from the axis **178** so that it receives the striker **192** when the door **166** is in the closed position. The latch **204** is a push-push type receptacle, where successive pushes of the striker **192** into the latch will alternately capture and release the striker from the latch.

[0036] Operation of the door **166** will be understood to include manually pushing the door **166** toward the closed position against the bias of the spring **194** until the striker **192** is pushed into the latch **204** and is captured by the latch, which then holds the striker and retains the door in the closed position. Another push against the door will cause the striker **192** to successively push against the latch **204**, releasing the striker from the latch, and allowing the spring **194** to urge the door **166** toward the open position. But instead of the door **166** springing to the open position, the damper **202** retards the pivoting motion to render a controlled movement between the closed and open positions.

[0037] Referring now to FIGS. 6, 7, and 8, a second embodiment of a dispenser **262** is shown with a housing **264** and a door **266** enclosing an opening **268**. The opening **268** exposes a plurality of dispensing cups **270**, **272**, **274**, each of which is connected to the dispensing outlet conduit **64** in a manner well-known in the art. The dispensing cups **270**, **272**, **274** may be formed integrally with the housing, or may be removable therefrom. They may be disposed individually in the housing, or they may in a single, unitary structure. The opening **168** may on an angularly disposed portion **276** of the housing so as to present the dispensing cups more comfortably to a user. The dispenser **262** is preferably formed of a polymeric material, but other materials or combinations of materials are contemplated for the embodiment.

[0038] FIG. 6 shows the door **266** in a closed position and FIG. 7 shows the door in an open position. FIG. 8 shows an example mounting structure **280** for the door **266**. The door **266** may be mounted to the housing **264** for pivoting about an axis **278** by way of an arm **288** that enables the door slide into the housing, hidden from view when the door is in the open position. The mounting structure **280** includes a bracket **282** on the housing **264**. The arm **288** pivots on a pin **286** extending through the bracket **282** coincident with the axis **278**. Preferably, there is a pair of pivoting arms **288** and associated brackets **282** on opposite sides of the door **266**. The arm **288** has a boss **292** at a distal end thereof. A spring **294**, such as a coil spring, has a first end **296** that is retained on a pin **290** on the bracket **282** and a second end **298** that is retained on the boss **292** on the arm **288**. The spring **294** is disposed so that it rotates about the pin **290** as the arm **288** rotates about the axis **278** and passes over the axis as the door is moved between the open and closed positions. It can be seen that spring **294** is at its longest when the arm **288** is rotated so that spring is over the axis **278**. For the pivoting motion of the spring **294** below the axis **278**, the door **266** will be biased toward the open position. For the pivoting motion of the spring **294** above the axis **278**, the door **266** will be biased toward the closed position. Either way, a

damper **302**, such as a friction gear, is disposed between the arm **288** and the bracket **282** to retard any pivoting motion of the door **266**.

[0039] Operation of the door **266** will be understood to depend on where the pin **290** is located relative to the axis **278** and the boss **292**. If the pin **290** is positioned so that most of the movement of the spring **294** is below the axis **278**, the door **266** will be retained in the closed position by the over center action of the spring **294**. Opening the door **266** occurs by lifting the door **266** against the closing bias of the spring **294** until it reaches the axis **278** where the bias changes toward opening the door, whereupon the door **266** will continue to move toward the open position by the force of the spring **294**. But instead of the door **266** springing to the open position, the damper **302** retards the pivoting motion to render a controlled movement toward the open position as the door **266** slides into the housing away from view. It will be understood that in the closed position, some portion of the door is still exposed or available to be grasped or pushed by a user. Closing the door will then require a push against the opening bias of the spring **294** until the spring **294** reaches the axis **278** where the bias changes toward opening the door, whereupon the door **266** will continue to move toward the closed position by the force of the spring **294**. The door will be held in the closed position by the over center action of the spring **294**. It will be understood that the pin **290** can be disposed to reverse the biases so that most of the movement of the spring **294** is above the axis **278**, which reverses the above describe action so the door **266** is mostly biased to the closed position.

[0040] To the extent not already described, the different features and structures of the various embodiments may be used in combination with each other as desired. That one feature may not be illustrated in all of the embodiments is not meant to be construed that it cannot be, but is done for brevity of description. Thus, the various features of the different embodiments may be mixed and matched as desired to form new embodiments, whether or not the new embodiments are expressly described. For example, it is possible to include an over center spring structure in the first embodiment and a push-push latch mechanism in the second embodiment.

[0041] While the invention has been specifically described in connection with certain specific embodiments thereof, it is to be understood that this is by way of illustration and not of limitation. Reasonable variation and modification are possible within the scope of the forgoing disclosure and drawings without departing from the spirit of the invention which is defined in the appended claims.

What is claimed is:

1. A laundry treating appliance comprising:
 - a cabinet;
 - a laundry treating chamber in the cabinet;
 - a detergent dispenser disposed in the cabinet in fluid communication with the laundry treating chamber;
 - a door pivotably mounted relative to the detergent dispenser for movement between an open position where an opening in the detergent dispenser is exposed and a closed position where the opening in the detergent dispenser is covered; and
 - a damper to provide controlled movement of the door between the closed and open positions.
2. The laundry treating appliance of claim 1 further comprising a latch to hold the door in the closed position.

3. The laundry treating appliance of claim 2 wherein the latch is a push to open latch.

4. The laundry treating appliance of claim 1 wherein the door retracts into a housing when the door is lifted from the closed position.

5. The laundry treating appliance of claim 1 wherein the damper is a spring.

6. The laundry treating appliance of claim 1 further comprising at least one removable cup.

7. The laundry treating appliance of claim 1 further comprising an over center spring structure to hold the door in the closed position.

8. A detergent dispenser for fixedly mounting in a receptacle in a cabinet of a laundry treating appliance, the detergent dispenser comprising:

a housing dimensioned to fit within a receptacle in a cabinet of a laundry treating appliance;

at least one dispensing cup mounted in the housing and adapted to fluidly connect to a laundry treating chamber in the cabinet;

a door pivotably mounted to the body for movement between an open position where the at least one dis-

pensing cup is exposed and a closed position where the at least one dispensing cup is covered; and

a damper mounted to the housing to provide controlled movement of the door between the closed and open positions.

9. The detergent dispenser of claim 8 further comprising a latch to hold the door in the closed position.

10. The detergent dispenser of claim 9 wherein the latch is a push to open latch.

11. The detergent dispenser of claim 8 wherein the door retracts into the housing when the door is lifted from the closed position.

12. The detergent dispenser of claim 8 wherein the damper is a spring.

13. The detergent dispenser of claim 8 wherein the at least one cup is removable.

14. The detergent dispenser of claim 8 further comprising an over center spring structure to hold the door in the closed position.

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