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3,057,181

DISPENSER

Filed May 22, 1957

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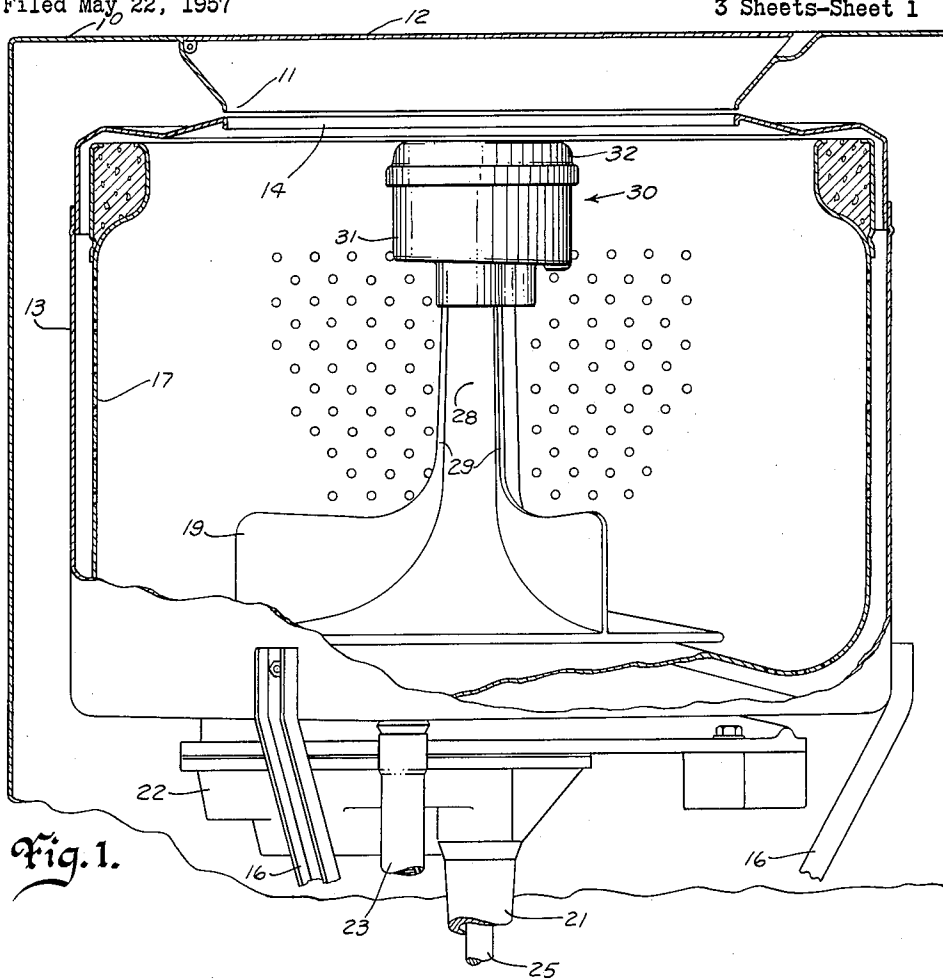


Fig. 1.

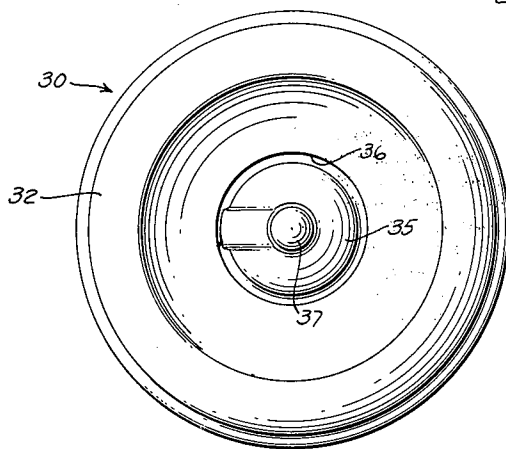


Fig. 2

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Fig. 3.

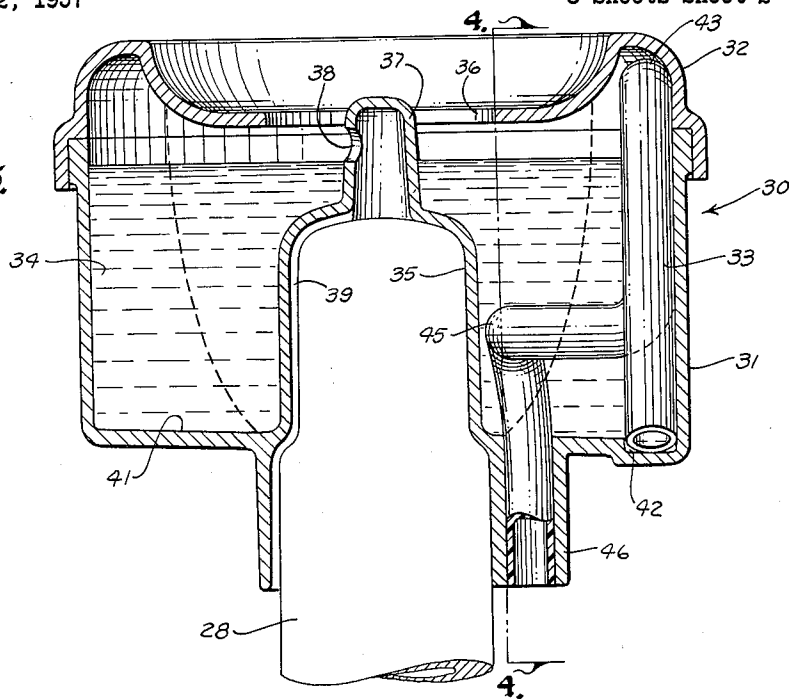
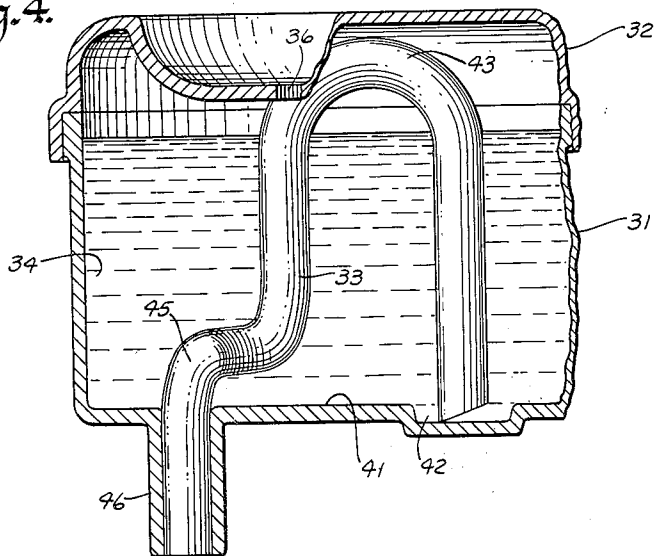


Fig. 4.



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Fig. 5.

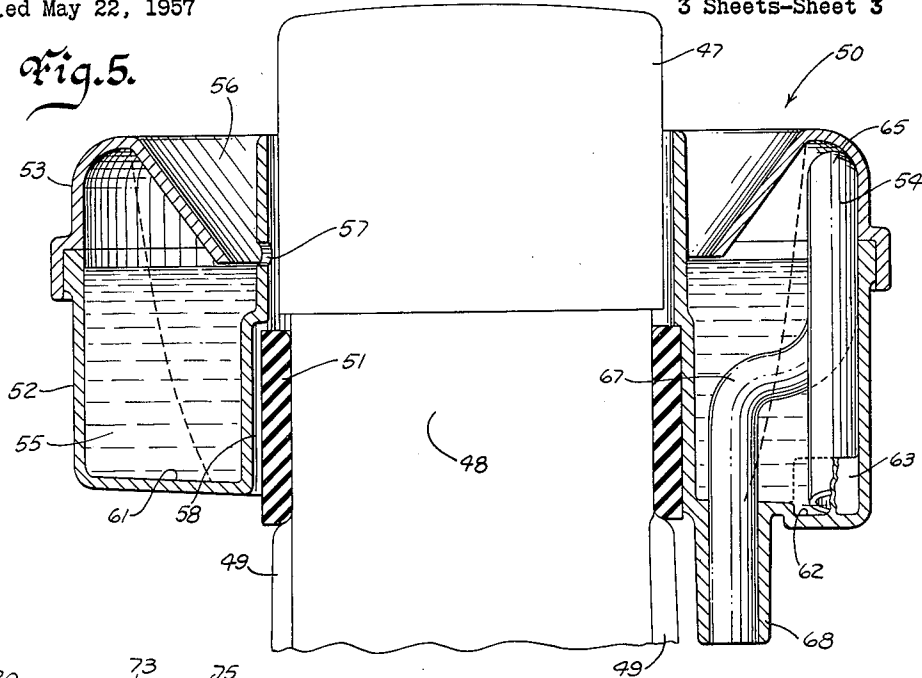


Fig. 6.

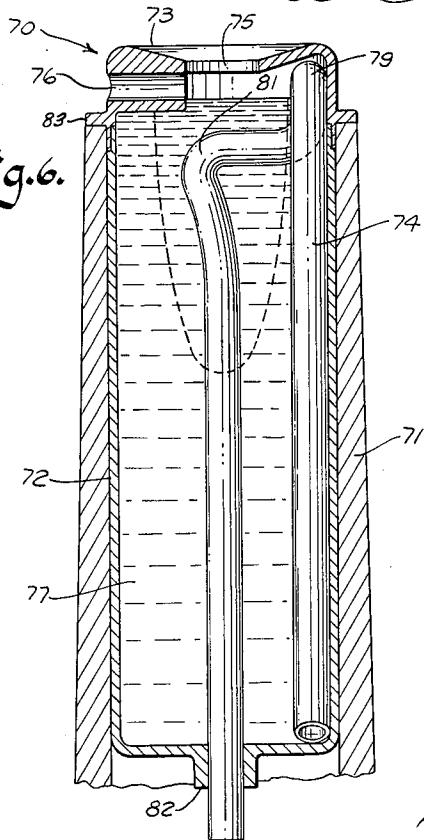
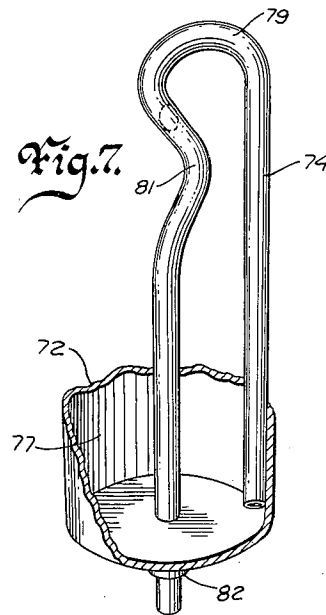


Fig. 7.



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4 Claims. (Cl. 68-207)

This invention relates to a fabric softener dispenser capable of being incorporated in an automatic washing machine so as to automatically dispense fluid solutions into the machine during a predetermined stage of the washing operations to prevent the fabrics washed within that machine from drying in a harsh, stiff condition.

Fabrics washed in a detergent solution of hard water do not normally hang dry in as soft or pliable condition as do fabrics which are washed in a soapy solution of soft water. In many households, however, soft water is not available in either the hot or cold water system so that as a result detergents are used in many types of automatically operated domestic washing machines to eliminate the formation of insoluble salts or curds which precipitate upon the fabrics whenever soaps are used with the available hard water. In addition, some automatic washing machines use a cold water rinse following the final agitation of the fabrics within those machines. Since an even smaller percentage of the households have softened supplies of both hot and cold water, this usage of cold hard water in rinsing operations also tends to restrict the users of automatic washing machines to detergents.

While detergents produce satisfactory cleansing actions, they do not soften water. They also act to remove the natural moisture and oils from the fabric fibers to a greater degree than do soaps so that fabrics washed in detergent solutions of hard water tend to dry in a stiff board-like condition and have a rather harsh touch in comparison to the degree of pliability which they may have exhibited prior to their washing.

In order to eliminate this harshness of fabrics following their washing, certain water soluble substances have been compounded for addition to the final rinsing solutions of fabrics in automatic washing machines. These substances dissolve readily in the rinsing fluid and form a film around each of the fabric fibers to act as lubricating agents between these fibers and produce soft, pliable textures even after a washing in a detergent solution of hard water. The film formed around these fabrics tends to retain a certain degree of moisture which not only decreases the harsh feel but also provides a path for dissipating static charges of electricity normally produced with certain synthetic fabrics. In addition, there is also some value in these chemical compositions are germicidal agents.

While only a small quantity of these fabric softening agents needs to be added to the fabrics in their wetted state to obtain the desired results, it is naturally important that these substances come into contact with the fabrics after they have been cleaned and that these fabric softening agents remain in the fabrics and are not flushed from them once they have been cleaned. It therefore is important that a dispenser capable of supplying these fabric softening substances to the final rinse solutions of automatic washing machines must meet certain qualifications and it is these qualifications which form the primary objects for the dispenser forming the invention of the instant application.

This invention is particularly adaptable in automatic washing machines of vertical axis type which include an operational cycle normally including, in abbreviated form, a tub filling and agitation period in which the fabrics to be cleaned are subjected to agitation within a cleaning solu-

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tion, a drain and fluid extraction period in which the washing fluid is centrifugally discharged from the fabrics to an external drain, a second tub filling and agitation period in which the fabrics are rinsed in fresh water, and a final fluid extraction period in which the majority of the rinsing fluid is spun from the fabrics and discharged to an external drain so as to leave the fabrics in a damp dry condition for line drying or automatic drying in a clothes drier unit capable of completing the drying processes.

The dispenser forming the basis of my invention is a siphon operated dispenser which relies upon the programming of this typical operational cycle for its operation in that it is automatically centrifugally primed during the first fluid extraction operation but is not allowed to discharge its contents into the washing machine until the end of that fluid extraction period which also marks the beginning of the deep rinse or final agitate-rinse operation preceding the final spin dry operation.

In each of the dispenser embodiments disclosed hereinafter, the dispenser, which is mounted upon the agitator centerpost within the washing machine, includes a revolvable fluid cavity provided with a siphon tube having an uppermost curved portion extending above the normal fluid level line of the cavity so that even a complete filling of that cavity will not result in the premature siphoning of the dispenser contents into the washing machine. Each of the disclosed dispensers, while being mounted upon the agitator centerpost, is restrained from siphoning its contents during the first agitation period because the oscillating movement of the agitator is insufficient to prime the siphon tube and produce a premature siphoning of the dispenser contents.

It is only during the first centrifugal extraction operation when the agitator is rotated together with the clothes receptacle that the siphon tube is primed over the top of its uppermost curved portion but siphoning of the dispenser cavity into the washing machine tub does not occur until the dispenser rotation ceases, or nearly ceases, since a portion of the siphon tube in each of these dispenser embodiments lies within the paraboloid of revolution created by the surface of the fabric softening fluid within the dispenser during the centrifugal operation. The siphon tube is therefore prevented from siphoning the dispenser contents into the washing machine tub by the action of the same centrifugal forces which prime that siphon tube.

Referring now to the accompanying drawings:

FIGURE 1 is a fragmentary side elevation, partially broken away, showing a vertical axis washing machine incorporating my invention;

FIGURE 2 is an enlarged plan view of the dispenser shown in FIGURE 1;

FIGURE 3 is an enlarged elevational section of the dispenser shown in FIGURE 1;

FIGURE 4 is a fragmentary view taken on line 4-4 of FIGURE 3 showing the configuration of the siphon tube used in the dispenser shown on FIGURE 1;

FIGURE 5 is a view, similar to that of FIGURE 3, showing a second embodiment of my invention;

FIGURE 6 is an elevational section showing a third embodiment of my invention; and,

FIGURE 7 is a perspective view of the siphon tube used in the dispenser shown in FIGURE 6.

Referring now to the accompanying drawings in detail, FIGURE 1 shows an automatic washing machine of the vertical axis type housed within a cabinet 10 having an access opening 11 normally covered by the hinged access lid panel 12. Positioned within the cabinet 10 is the tub 13 which is capable of retaining the fluids used during the washing and rinsing operations and which has an

access opening 14 in its tub crown aligned with the cabinet access opening 11.

Tub 13, in this illustrative embodiment, is restrained against rotation by means of its connections to the inverted tripod support members 16 which are connected to a common nonrotatable base member (not shown) forming the tub support and capable of gyrating within cabinet 10 in response to the various forces created by the rotation of unbalanced loads within this machine.

A clothes receptacle or basket 17 having perforate side and bottom walls is mounted in spaced relationship within tub 13 so as to provide adequate clearance between members 13 and 17 for rotation of the latter member during fluid extraction operations. A conventional oscillating type agitator 19 is positioned within receptacle 17 so as to provide the agitation of fabrics placed within receptacle 17 and immersed in the fluids retained by tub 13.

The clothes receptacle 17 is rigidly connected to spin tube 21 and the gear housing 22 affixed to the latter shaft by shaft connections which are journaled in a bearing (not shown) in the bottom of tub 13 so that rotation of spin tube 21 will rotate receptacle 17. Such a rotation of receptacle 17 with wetted fabrics will centrifugally extract fluids from those fabrics and cause the extracted fluids to be caught by tub 13 and discharged through the drain hose 23 to an external drain whenever the pump and valve structure (not shown) connected to hose 23 and controlled by an external control circuit permits such a fluid flow through that hose.

The power shaft 25 journaled within spin tube 21 is connected to the motion converting unit housed within gear housing 22 and connected to the agitator 19 so that rotary movement of shaft 25 is converted into oscillatory movement for agitator 19 to produce the desired agitation within receptacle 17.

The lower ends of center shaft 25 and spin tube 21 are connected to and controlled by a drive unit (not shown) which brakes spin tube 21 and receptacle 17 against rotational movement during the agitation periods while simultaneously rotating shaft 25 to produce an oscillatory movement of agitator 19. During the centrifugal extraction operations, shaft 25 and spin tube 21 are rotated in unison so that receptacle 17 and agitator 19 are also rotated in unison with no relative movement taking place between the latter members.

In FIGURE 1, the upper end of centerpost 28 which is provided with peripheral ribs 29 supports a dispenser generally indicated by the arrow 30. Dispenser 30 includes a main body portion 31, a cover 32 and a siphon tube 33 positioned within the cavity 34 formed by the cooperation of members 31 and 32. Dispenser 30 is supported on centerpost 28 by means of the cooperation between the upper end of that centerpost and a reentrant portion 35 formed in body portion 31. Dispenser 30 is prevented from rotation relative to centerpost 28 by means of the cooperation between ribs 29 and mating grooves provided in body portion 35 to produce a splined effect between centerpost 28 and dispenser 30.

Cover 32 which is normally sealed to body portion 31, except for possible cleaning purposes, includes a centrally located fill opening 36 formed in the lower portion of the dish-shaped cover 32.

The reentrant portion 35 includes an upper extension 37 of smaller diameter which is provided with an overflow opening 38 capable of discharging excess fluid from within cavity 34 into the groove 39 which is formed in reentrant portion 35 adjacent centerpost 28 to handle this overflow from cavity 34.

The lower interior surface 41 in body 31 slopes downwardly into a small sump area 42 which receives the beveled intake end of the siphon tube 33. This arrangement allows practically all of the fluid within cavity 34 to be dispensed through tube 33. The siphon tube 33 extends from sump 42 toward the upper region of cavity

34 above the normal or full capacity liquid level line as controlled by overflow opening 38 before reversing direction in the upper curve 43. Siphon tube 33 extends downwardly from the upper curve 43 along the inner surface of cylindrical portion of body 31 before veering sharply toward centerpost 28 where it enters a lower curve 45 adjacent reentrant portion 35 before passing through a supporting sleeve member 46 which supports siphon tube 33 within cavity 34 and directs its longest or discharge end into tub 13.

In operating a washing machine incorporating this dispenser, dispenser 30 is filled to full line with the desired fabric softening solution when soiled fabrics are placed within clothes receptacle 17 at the beginning of the washing operation. It should be noted here that while the liquid level capacity of dispenser 30 is determined by the positioning of overflow hole 38, elements 37 and 38 could be eliminated entirely and reentrant portion closed in over the top of centerpost 28 and the operating liquid level established arbitrarily by the other methods including various markings or gages. Such other methods could also include the elevational positioning of opening 36 to the full liquid level. In other words, the embodiment shown in FIGURES 1-4 may easily be modified so as to apprise the operator of the machine as to the desired fluid level to be maintained within dispenser 30.

After dispenser 30 has been filled with the fabric softening solution, the fabrics placed within receptacle 17 and the washing fluid supplied to tub 13, power shaft 25 may be rotated to effect an oscillation of agitator 19 in a conventional manner during the first agitation period. The oscillation of agitator 19 naturally produces a similar oscillation of dispenser 30 which is unaffected by this oscillation and continues to retain its contents throughout this agitation period.

However, at the conclusion of the agitation period when the washing fluid within tub 13 is permitted to drain from hose 23 and basket 17 together with dispenser 30 is rotated by the rotation of spin tube 21 and shaft 25, centrifugal forces acting on the fabrics retained within receptacle 17 also act upon the fabric softening solution contained within cavity 34 of dispenser 30. After receptacle 17 has attained a predetermined speed, which is incidentally less than its final full speed, the fluid within cavity 34 is forced outwardly against the inner walls of dispenser 30 so that the surface of this fluid tends to form an inverted paraboloid of revolution within cavity 34 as indicated by the dotted lines in FIGURE 3.

It will be apparent from the configuration assumed by the solution within cavity 34 that this solution is forced into the uppermost parts of cover 32 covering the upper bend 43 in siphon tube 33. The fabric softening solution within cavity 34 is also forced upwardly within tube 33 toward curve 43 from its normal full line position so that both sides of the upper curved portion 43 are filled and primed by the action of centrifugal forces acting on this solution.

While this fabric softening solution fills siphon tube 33 on both sides of the upper curve 43, fluid does not flow from tube 33 due to the action of the centrifugal forces which prevent any fluid from moving beyond the discharge side of upper curve 43 at the point where tube 33 intersects the described paraboloid of revolution shown in dotted lines in FIGURE 3. This means that no solution passes into the lower curve 45 since this lower curve 45 lies within the paraboloid of revolution formed by the surface of the fabric softening solution within cavity 34. Once receptacle 17 and agitator have reached full speed, under balanced load conditions, a state of equilibrium is established so that there is no further movement of the fabric solution within either cavity 34 or tube 33.

However, at the end of this first spin period when the rotation clothes receptacle 17 and agitator 19 is quickly terminated, this equilibrium condition is changed so that

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the centrifugal forces no longer act upon the solution within cavity 34. Therefore, when the centrifugal forces are removed from the fluid within cavity 34, the mass of fluid positioned on the discharge side of curve 43 below the surface of the fluid within cavity 34 causes the siphon to start in operation by its flow from tube 33 and out sleeve 46 into tub 13. This flow continues until cavity 34, except for the residual portion in sump 42, is completely emptied since the discharging extremity of tube 33 is always lower than the liquid surface within cavity 34.

It is important to note here that the curved portion 43 should be elevated above the highest liquid level normally assumed by the fluid contents within cavity 34 during the agitation operations of the machine to prevent premature siphoning. It is also important that the lower curve 45 be located within the paraboloid of revolution formed by the fabric softening solution within cavity 34 so that the tendency for gravitational fluid flow through the siphon tube following the priming operation will be opposed by centrifugal forces created by rotation of the dispenser to prevent a premature siphoning of the dispenser fluid contents into tub 13 prior to the termination of the spin cycle in which tube 33 is primed. In addition, it is also important to note that enough of the discharge side of curve 43 must be positioned between this paraboloid of revolution and the dispenser side wall to produce an adequate priming of curve 43 with a sufficient quantity of fluid so that the siphoning operation will immediately commence after dispenser 30 has ceased its rotation.

For a complete understanding of the operation of the washing machine incorporating this dispenser 30, it is helpful to note that in actual practice hose 23 is connected to a two-way pump (not shown) which in turn is connected to a drain hose having its discharge end elevated and communicating with an external drain so as to prevent accidental drainage of tub 13 whenever this two-way pump is not operating. During the agitation operations, this reversible pump pumps toward tub 13 while during the centrifugal extraction operations it pumps away from tub 13 toward the external drain. This coordination of operation between the pump and the revoluble receptacle 17 precludes any loss of liquids dispensed from dispenser 30. It should therefore be apparent that with such a drainage system, no fabric softening agents will be accidentally drained or pumped from tub 13.

However, since this invention is not necessarily concerned with a tub assembly drainage system, the placement of a valve at the junction of hose 23 and tub 13 would serve just as adequately for illustrative purposes and act in a similar manner to prevent the premature drainage of the fabric softening solution from tub 13. Such a valve would, of course, be closed during the agitation operations and open during the fluid extraction operations so that the solution within cavity 34 would not be siphoned into tub 13 until that valve was placed in its closed position.

The termination of the first spin period also marks the initiation of the second tub fill operation after which the fabrics contained within receptacle 17 are agitated by agitator 19 within the fluid contents contained by tub 13. These fluid contents of course include both the fresh water for rinsing the fabrics as well as the fabric softening solution dispensed into tub 13 from dispenser 30. Upon the conclusion of this agitate rinse period, water is drained from hose 23 and the receptacle 17 is once again spun at the fluid extraction speed to place the clothes or fabrics contained within receptacle 17 in a damp dry condition so that they may be dried without assuming any harsh or unpliable characteristics.

The second embodiment of my invention shown in FIGURE 5 is very similar to that illustrated in FIGURES 1-4 except for certain minor modifications. The fragmentary drawing of FIGURE 5 includes a hollow agitator

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centerpost 48 carrying a plurality of spaced peripheral ribs 49. Centerpost 48 is provided with an axially movable cap member 47 which is connected to centerpost 48 by an internal flexible bellows member (not shown) so that axial movement of cap 47 may be produced by varying the air pressure within the hollow centerpost 48 to actuate certain controls (not shown) mounted above the cap 47.

The dispenser 50 generally indicated by the numeral 50 is very similar in construction to that of the first embodiment shown in FIGURES 1 and 4. However, unlike the first embodiment, dispenser 50 is mounted on centerpost 48 by means of a squeeze fit maintained between dispenser 50 and a resilient collar carried on and encircling centerpost 48 and seated on the upper ends of the ribs 49. This arrangement prevents dispenser 50 from either rotational or axial movement relative to centerpost 48. The dispenser 50 includes a lower body portion 52, an upper cover portion 53 and the curved dispenser tube 54 which is rigidly positioned within the cavity 55 formed by elements 52 and 53.

The cover 53 is dished sharply down toward the fill opening 56 which terminates at the normal fluid operating level within cavity 55. The dispenser body portion 52 is provided with an overflow opening 57 which discharges into the groove 58 formed in body 52 between elements 51 and 52 so that the excess fluid passing through opening 57 will flow past cap 47, centerpost 48 and the resilient collar 51 into tub 13. As in the first embodiment, this overflow arrangement may be omitted and other liquid level markings or gages substituted. In this particular embodiment, for example, the edge of fill opening 56 marks the full liquid level.

Body portion 52 is provided with a sloping bottom surface 61 which flows into the sump 62 at the lowermost portion of body portion 52. Mounted adjacent to sump 62 in the baffle 63 which is designed to damp out fluid fluctuations adjacent the lower beveled intake end of the siphon tube 54 which projects into sump 62 in a manner similar to that shown in the first embodiment of my invention. Siphon tube 54 rises vertically above the normal fluid liquid level within cavity 55 and projects into the upper region of the cap portion 53 before reversing direction in the upper curve 65 along the inner walls of members 52 and 53. Siphon tube 54 is provided with a lower curve portion 67 which directs siphon tube 54 through the supporting sleeve portion 68 which opens into the tub 13 as in the first embodiment.

This second embodiment shown in FIGURE 5 functions in an identical manner to that shown in the first embodiment of FIGURES 1-4. However, due to the increased diameter of dispenser 50 over that shown in the first embodiment, the oscillatory movement of dispenser 50 during the agitation period causes a greater sloshing movement of the fabric softening solution retained within cavity 55. Unless damped in some way, there may be some tendency of the fluid retained within cavity 55 to be unintentionally forced into the upper curve 65 of siphon tube 54 resulting in a premature siphoning of the fluid into tub 13. It has been found that the use of the baffle 63 adjacent the lower end of siphon tube 54 within cavity 55 reduces this sloshing motion sufficiently to prevent such a premature dispensing during the first agitation period. While shown only in this embodiment, such a baffle may also be used on the other embodiments of this invention if desired.

During the first centrifugal extraction period, the solution within cavity 55 assumes a configuration similar to that shown for the first embodiment in that the surface of the fluid within cavity 55 tends to form a paraboloid of revolution as shown in the dotted lines of FIGURE 5. This charges or primes the uppermost curve 65 of the siphon tube 54 and a portion of the tube 54 lying on the discharge side of curved portion 65. Siphoning of the fluid contents from within cavity 55 is prevented by the

positioning of the lower curve 67 within the region bounded by the paraboloid of revolution formed by the fluid surface within cavity 55 in a manner similar to that shown in the first embodiment.

Upon the termination of rotation of dispenser 50 with clothes receptacle 17 at the conclusion of the first spin period, the equilibrium condition within dispenser 50 is changed so that the excess weight of the solution within the discharge portion of tube 54 on the discharge side of curve 65 is permitted to flow from tube 54 into tub 13 through the sleeve portion 68 to initiate the siphoning action of the fluid from within cavity 55.

Like the operation of the machine shown in the first embodiment, this fluid dispensed from cavity 55 remains in tub 13 and does not flow from tub 13 due to the fact that fluid flow from tub 13 through hose 23 is always terminated prior to the discharging of the fluid contents from dispenser 50. This fabric softening fluid discharged from cavity 55 therefore remains within tub 13 during a second tub filling operation so that the agitate-rinse operation takes place in a solution containing this dispensed material.

The third embodiment of my invention shown in FIGURES 6 and 7 is similar both in construction and in function to the embodiments shown in FIGURES 1-5. The dispenser of this third embodiment, generally indicated by the reference numeral 70, is also carried by an agitator centerpost 71 so that rotation of the agitator centerpost 71 during the first centrifugal extraction period will prime a siphon tube and condition the dispenser 70 for operation at the conclusion of the first centrifugal extraction operation. The agitator supporting dispenser 70 is of slightly different construction than that of the first two embodiments in that centerpost 71 is hollow and is provided with a fluid outlet port in its lower portion (not shown) so that fluid dispensed from dispenser 70 within centerpost 71 will enter tub 13 by way of the hollow centerpost 71.

In construction, dispenser 70 includes a body portion 72, a cover 73 and a siphon tube 74. The cover 73 includes a fill opening 75 and an overflow opening 76 which regulates the maximum level to which the cavity 77 formed between elements 72 and 73 may be filled.

The siphon tube 74 rises from the bottom of body portion 72 and curves downwardly in the upper curve 79 along the contours of the inner peripheral wall formed by elements 72 and 73 before veering toward the axis of rotation of the agitator centerpost 71 to turn downwardly in lower curve 81 and pass through the supporting dependent sleeve portion 82 formed in the center of the bottom wall of body member 72.

Dispenser 70 is maintained in place within the hollow centerpost 71 by means of the horizontal flange 83 carried on cover 73. Like the other embodiments of this invention, cover 73 remains sealed to the dispenser body 72 during its normal operation so that cover 73 is capable of supporting the weight of both member 72 and its fluid contents.

While this third embodiment must also have curve 79 located above the normal operating liquid level within cavity 77 and have a portion of the siphon tube 74 on the discharge side of curve 79 adapted to retain a certain mass of fluid during the priming operation and, in addition, have the lower curve 81 located within the confines of the surface formed by the paraboloid of revolution formed by the liquid within cavity 77, the smaller diameter of dispenser 70 necessitates a slightly different configuration for siphon tube 74 in order to prevent the formation of unduly sharp curves within tube 74. While dispenser 70 is shown without a sump area similar to those of the first embodiments, such an area may be provided though it is not essential in view of the small diameter of dispenser 70.

In operation, the dispenser 70 shown in FIGURES 6

and 7 functions in identical manner to the embodiments shown in FIGURES 1-4 and FIGURE 5. It should be noted, however, that due to the decrease in diametric dimensions of dispenser 70 over that of dispenser 50 shown in FIGURE 5, for example, the oscillatory movements of centerpost 71 are not as apt to and do not prematurely siphon the contents from cavity 77 as must be considered in the second embodiment. It is therefore unnecessary to use a baffle member such as that of baffle 63 in FIGURE 5 although it is of course within the scope of this invention to use such a baffle with any of the embodiments shown in the accompanying drawings.

During the centrifugal extraction period following the first agitation period, rotation of agitator centerpost 71 causes the fluid within cavity 77 to move away from the axis of rotation and form a paraboloid of revolution within that cavity as indicated by the dotted line on FIGURE 6. This forces the fluid within cavity 77 upwardly into both sides of the curved portion 79 to prime the siphon tube 74 during this first centrifugal extraction operation as indicated by the dotted line between curves 79 and 81 in the perspective view of FIGURE 7. Upon the conclusion of rotation of centerpost 71, the mass of fluid retained within the discharge side of curve 79 is free to flow into the lower curve 81 and out the lowermost end of the siphon tube 74 which passes through the lower sleeve 82 to initiate the siphoning operation as in the previous embodiments.

While the embodiments shown in the accompanying drawings illustrate the dispenser siphon tube as being a separate tube formed separately from the dispenser body and cover portions housing it, the precise formation of the siphon conduit need not be limited to the illustrative constructions as it may also be formed as a conduit in one or both of the body and cover parts and still function in the same basic manner.

In each of the three embodiments set forth in this specification, the receptacle 17 and the various agitators mounting these dispensers are rotated in a counterclockwise direction as viewed from the top of each of the elevations shown for these embodiments so that rapid braking of receptacle 17 together with the various agitators supporting these dispensers will act as an additional means for forcing fluid up into the uppermost curves of each of the siphon tubes within these dispensers. In other words, the priming action may be supplemented by the inertia forces acting upon the fluid within the shorter leg of the dispenser tubes so that a lesser degree of centrifugal force would be necessary to prime these siphons. On the other hand, if such a braking force would tend to siphon the contents of any of these dispensers prematurely, any of these dispenser tubes could be mounted in a reverse manner with respect to the direction of rotation of the dispenser in which it is mounted so as to prevent the inertia forces from tending to prime the siphon tube if this additional priming force is not desired.

It should be noted that while each of the three dispenser modifications shown in the accompanying drawings is mounted upon the agitator of a vertical axis washing machine, the operation of the dispenser per se is not dependent upon the oscillatory movements of the agitator but rather upon the rotation imparted to that member when it is rotated in unison with the clothes receptacle during the first centrifugal extraction operation. It should therefore be evident that this principle of operation would be just as applicable to a similar dispenser mounted upon the revealable receptacle 17 since the rotation of that receptacle could also be used to prime a siphon tube within a partially filled cavity containing the fabric softening solution. Since the axis of rotation would not pass through such a receptacle-supported dispenser, the surface pattern of the fluid within that dispenser would vary from those surface patterns shown in the accompanying figures. Such a modified surface pattern would, however, slope downwardly toward the axis of rotation making it neces-

sary to have the uppermost siphon tube curve located near the periphery of the dispenser to assure its adequate priming during rotation of the clothes receptacle. Such a receptacle mounted dispenser would have the advantage that its fluid level would be unaffected by oscillatory agitator movements and hence would not require any baffles similar to baffle 63 in FIGURE 5.

I claim:

1. A fluid dispenser comprising, a revoluble container including bottom, outer side and top cover wall members defining a cavity for retention of fluid to be dispensed from said container, a siphon tube communicating with said cavity and including an elevated portion radially spaced from the axis of rotation of said container and positioned above the static liquid level and below the dynamic liquid level of the fluid retained within said cavity and an inlet portion below the dynamic liquid level, said siphon tube further including a second portion within said cavity positioned closer than said elevated portion to the rotational axis of said container and a discharge portion having egress to the outside of said container, said second portion being disposed between said elevated portion and said discharge portion and bent toward the axis of rotation a distance sufficient to project inside the dynamic fluid level retained within said cavity whereby the egress of fluids from the cavity is prevented during rotation at speeds forming a vortex level above the discharge portion, and revoluble means for rotating said container to create centrifugal forces acting on said fluid to cause the surface of said fluid to form a vortex covering said elevated portion and exposing said second portion to thereby prime said siphon tube without siphoning the fluid contents from said cavity during the rotation of said container.

2. In a washing machine for receiving fabrics and having a programmed sequence of fabric processing operations including a centrifugal extraction operation followed by an agitate-rinse operation, an agitator including a centerpost positioned within said machine for agitating said fabrics during said agitate-rinse operation, a dispenser mounted on said centerpost and movable with said agitator, said dispenser including a cavity defined by bottom, side and cover wall members for the retention of fluid for treating said fabrics during said agitate-rinse operation, siphon conduit means carried within said dispenser and communicating with said cavity for siphoning the fluid contents of said dispenser into said machine, said siphon conduit means extending from an inlet portion adjacent the lowermost part of said cavity upwardly to an elevated curved portion positioned above the operating fluid level within said cavity, said siphon conduit means further including a lower portion positioned closer to the rotational axis of said dispenser than said elevated curved portion a distance sufficient to project inside the dynamic fluid level within said cavity whereby the egress of fluids from the cavity is prevented during rotation

at speeds forming a vortex level above the effluent outlet, said siphon conduit means terminating in an effluent outlet for the discharge of fluid from said dispenser into said machine, said lower portion being disposed between said elevated portion and said effluent outlet, and means for rotating said agitator during said centrifugal extraction operation to produce centrifugal forces to force fluid from within said dispenser cavity into said elevated curved portion while precluding fluid flow through said lower portion during the rotation of said agitator, said siphon conduit means being primed by the presence of fluid within said elevated curved portion and discharging the fluid contents of said dispenser into said machine upon cessation of rotation of said agitator.

3. The invention of claim 2 in which said inlet portion of said conduit means is positioned ahead of said elevated portion with respect to the direction of rotation of said agitator to allow inertia forces acting on said fluid to aid in priming said tube during the cessation of rotation of said agitator.

4. A fluid dispenser comprising, a revoluble container including bottom, outer side and top cover wall members defining a cavity for retention of fluid to be dispensed from said container; a siphon tube within said cavity including an elevated portion spaced radially outwardly from the axis of rotation of said container and positioned above the static liquid level and below the dynamic liquid level of the fluid retained within said cavity and further including an inlet portion adjacent the bottom of said cavity below the dynamic liquid level, said siphon tube further including an outlet portion below said inlet for discharging fluids from said container and a second portion between said elevated portion and said outlet above said inlet bent toward the axis of rotation a distance sufficient to project inside the dynamic fluid level retained within said cavity whereby egress of fluids from said cavity is prevented during rotation at speeds forming a vortex level above the outlet portion; and revoluble means for rotating said container to create centrifugal forces acting on said fluid to cause the surface of said fluid to form a vortex covering said elevated portion and exposing said second portion to thereby prime said siphon tube without siphoning the fluid contents from said cavity during the rotation of said container.

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2,312,950	Zimarik	Mar. 2, 1943
2,522,242	Wagner	Sept. 12, 1950
2,792,701	Bochan	May 21, 1957
2,868,006	Tingley	Jan. 13, 1959
2,912,842	Tingley	Nov. 17, 1959
2,953,006	Bruckner	Sept. 20, 1960
2,975,627	Platt	Mar. 21, 1961