Aug. 5, 1952 H. F. LYMAN 2,605,776

CONTROL MEANS FOR PERMITTING THE OPERATION OF THE WASHING AND RINSING APPARATUS OF A DISHWASHING MACHINE ONLY WHEN THE WASHING AND RINSING CHAMBER OF THE MACHINE IS CLOSED

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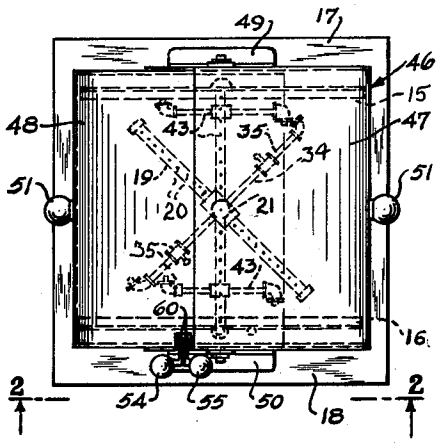


FIG. 1

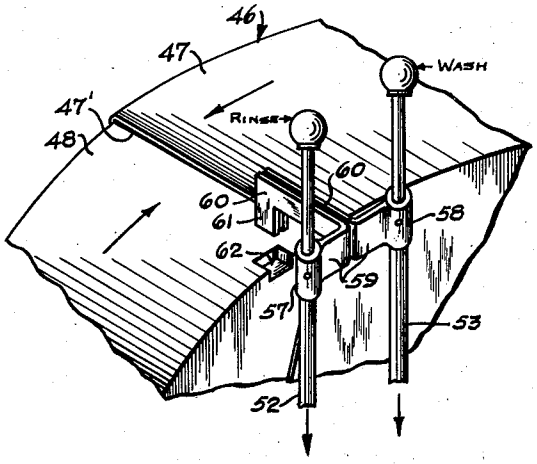


FIG. 3

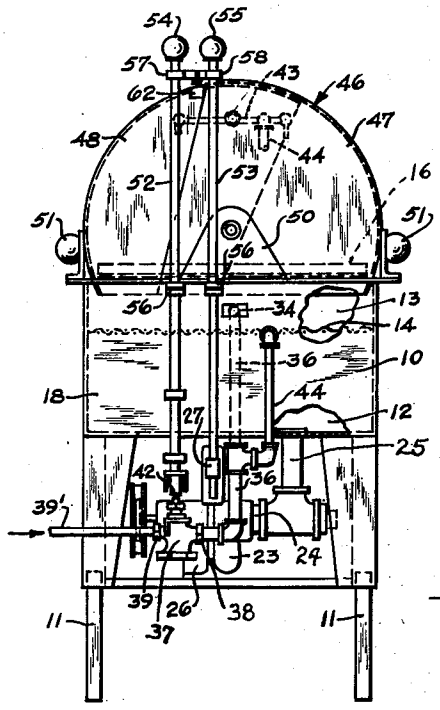


FIG. 2

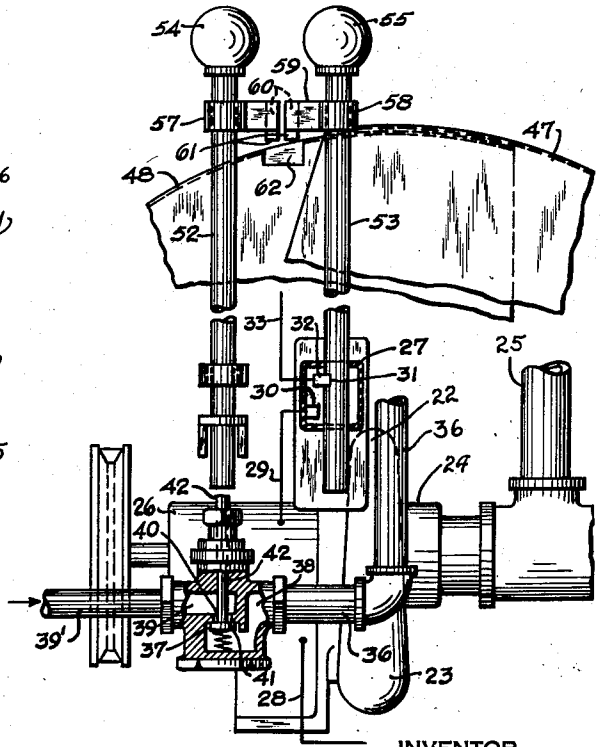


FIG. 4

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CONTROL MEANS FOR PERMITTING THE OPERATION OF THE WASHING AND RINSING APPARATUS OF A DISHWASHING MACHINE ONLY WHEN THE WASHING AND RINSING CHAMBER OF THE MACHINE IS CLOSED

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7 Claims. (Cl. 134—97)

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This invention relates to dishwashing machines and more particularly to control means for a dishwashing machine in which dishes are washed and thereafter rinsed.

In dishwashing machines of the type to which the present invention relates, a rack of dishes is washed and thereafter rinsed in a washing chamber the upper portion of which is formed by a hood adapted to be opened to permit a rack of dishes to be inserted in the chamber and adapted to be closed during the washing and rinsing operations. Since the dishes are washed and rinsed in extremely hot water, it is essential for the protection of an operator that the hood be maintained in a closed position during such washing and rinsing operations and that the control means controlling the flow of water to the washing and rinsing apparatus be in such position when the hood is in opened position that flow of water to said washing and rinsing apparatus is prevented.

The present invention provides a dishwashing machine having a washing and rinsing chamber the upper portion of which is enclosed by a hood adapted to be opened so that a rack of dishes may be inserted therein for washing and rinsing and which is adapted to be closed during the washing and rinsing operation. Means are provided for locking the hood in closed position during the washing and rinsing operations which means comprises latches independently associated with separate controls for controlling the washing and rinsing mechanism. The latches are operated by the controls to lock the hood in closed position during both the washing and rinsing operations and to unlock the hood only after both operations are completed and to prevent actuation of the controls to washing and rinsing positions when the hood is open.

This invention comprises a washing machine having a washing chamber in which a rack of dishes to be washed and rinsed is inserted. The upper portion of the chamber is enclosed during the washing and rinsing operations by segmentally-shaped hood members disposed to form a semicircular hood for the chamber, the members overlapping one another at the top thereof and being rotatably mounted on pivots extending in a plane axially of the hood so that one hood member is movable in a counterclockwise

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direction to open the chamber at one side of the machine and in the opposite direction to close the chamber at said one side while the other hood member is movable in directions opposite to the direction of the first-mentioned hood member to open and to close the other side of the washing chamber. The washing apparatus comprises a revoluble spray member in the chamber which receives wash water from the discharge of a pump the suction of which communicates with the wash tank of the machine. The pump is driven by an electric motor controlled by an electric switch actuated by a control rod extending above the hood of the washing machine and movable downwardly to close said switch and thereby operate the motor and the pump and movable upwardly to open the switch and stop the operation of the motor. Rinsing apparatus comprising sprays which receive hot water from a valve controlled water source is also provided which valve is operable by another control rod similar to the washing apparatus control rod. The other rod, when operated in a downwardly direction, opens the valve and permits the flow of water to the rinsing apparatus and, when operated in an upwardly direction, closes the valve to stop the flow of water to the rinsing sprays. Each of the control rods has a separate latch member associated therewith, each latch member being movable upwardly and downwardly with the rod with which it is associated. Each latch member has a portion which extends into the path of movement of the overlapping portion of one of the hood members and another portion which extends into a detent in the other hood member when the control rod with which the latch is associated is in a downward position thereby preventing movement of both hood members toward an open position. The latch members are so associated with their respective control rods and the hood members that when a control rod is moved upwardly said other portion of the latch disengages the detent and both portions of the latch member move out of the path of movement of the overlapping portion of the other hood member. The hood members may then be moved to an open position in which position the downwardly projecting portions of the latch members are prevented from entering the detent and the controls

cannot be moved downwardly. Therefore, when the control rods are so set that the electric motor and pump are inoperative and the valve controlling the flow of rinse water is closed, both the washing and rinsing apparatus thereby being inoperative, the hood members are operable toward their open position but when the hood members are in closed position either one of the control rods may be so set that either the washing apparatus or the rinsing apparatus is operative but when either one of the controls are thusly set neither of the hood members are movable toward their open position and are retained in their closed position by the latching members.

The invention will be understood from the following description when considered in connection with the accompanying drawing in which:

Fig. 1 is a plan view of a dishwashing machine embodying the present invention;

Fig. 2 is a side elevational view taken on the line 2—2 of Fig. 1;

Fig. 3 is an isometric view of the upper portion of the control apparatus shown in Figs. 1 and 2 but on an enlarged scale;

Fig. 4 is an enlarged view of both the upper and the lower portions of the control apparatus shown in Fig. 2.

Like characters of reference refer to like parts throughout the several views.

Referring to the drawing, Figs. 1 and 2, the dishwashing machine to which the present invention relates is conventional and comprises a tank 10 of rectangular-shape supported on legs 11 at the four corners thereof. The tank is partitioned into a lower portion 12, which lower portion contains wash water, and an upper portion 13 by a partition screen 14. L-shaped track members 15 and 16 are disposed parallel to one another along opposite sides 17 and 18 of tank 10, the track members extending in a horizontal plane substantially flush with the top of the tank and considerably above screen partition 14. Members 15 and 16 are adapted to receive and support a rack of dishes during the dishwashing and rinsing operations. A revolving dishwashing spray pipe 19, which is revolved by force of water flowing therethrough, is disposed below the track members and above screen 14. Spray pipe 19 has a plurality of outlet apertures 20 therein and receives wash water through a conduit 21 in communication with the discharge 22 of a pump 23, the suction 24 of which pump communicates with the lower portion 12 of tank 10 through conduit 25. Pump 23 is driven by an electric motor 26 controlled by a switch 27. As shown diagrammatically in Fig. 4, the motor receives electricity directly through lead 28 and through lead 29, fixed contact 30, movable contact 31 on rod 53 and lead 33.

The dishes, after washing, are rinsed in clear hot water from a hot water source by water issuing from outlets 35 of revolving rinse spray pipe 34, the rinse spray pipe also being revolved by the force of water flowing therethrough. The rinse spray pipe 34 receives water through conduit 36 connected to the outlet 38 of a valve 37. Hot rinse water enters inlet 39 of valve 37 through inlet pipe 39' and flows from said inlet 39 to outlet 38 through port 40 controlled by valve member 41 which is moved downwardly by stem 42 to open port 40 and permit the flow of water through the valve to the rinse spray pipe 34 and which is moved upwardly to close port 40 and prevent flow of water through the valve to spray pipe 34. An upper rinse spray pipe 43 is disposed a sufficient distance above tracks 15 and 16 to permit a rack of dishes to be positioned under said rinse spray pipe. Spray pipe 43 receives hot water through conduit 44 in communication with conduit 36.

The top of tank 10 is enclosed by a semicircular shaped hood 46 comprising two segmentally-shaped members 47 and 48 pivotally mounted in hood-holding brackets 49 and 50 located at the top of opposite sides 17 and 18 of the tank 10 to move in clockwise and in counterclockwise directions on an axis extending axially of the hood. The hood segments 47 and 48 overlap one another at the top thereof and extend below the level of the top of tank 10 and thereinto along the bottom edge of the segments. Each segment has an actuation knob 51 at the bottom which engages the top edge of tank 10. Segment 47 is operated into an open position by moving it in a counterclockwise direction and operated into a closed position by moving it in a clockwise direction while segment 48 is operated into an open position by moving it in a clockwise direction and operated into a closed position by moving it in a counterclockwise direction.

Actuation of rinse water control valve 37 is controlled by a vertically extending control rod 52 which acts on stem 42 to cause said stem to move upwardly and downwardly while switch 27 is actuated by vertically extending control rod 53. Both control rods extend to a point above hood 46 and have knobs 54 and 55 mounted respectively on the top thereof. The control rods are mounted on side 18 of tank 10 in brackets 56 which permit reciprocal movement of the rods vertically upwardly and downwardly.

Each control rod 52 and 53 has a latch member associated therewith adjacent the top thereof which latch members cooperate with the hood segments 47 and 48 to lock the hood members against movement to an open position during the washing and the rinsing operations of the dishwashing machine and unlock the hood members so that they may be moved to an open position so that a rack of dishes may be inserted into or withdrawn from the washing chamber of the machine prior to or after the washing and rinsing operations. The latch members 57 and 58 are secured respectively to control rods 52 and 53 for vertical movement upwardly and downwardly therewith. Each latch member is substantially L-shaped, the short legs 59 of each latch being secured to a control rod and extending toward each other but to a point short of engagement with one another. The long legs 60 of the latches project inwardly from legs 59 parallel to one another toward and to a point past the adjacent edge of the hood segments and have a downwardly projecting lug 61 at said inner end. A detent 62 is formed in hood segment 48 in vertical alignment with lugs 61 of latches 57 and 58. The latches are so positioned in relationship to the control rods that when dishwashing control rod 53 is moved downwardly sufficiently to close switch 27 and operate the dishwashing spray pipe 19, lug 61 of latch 58 so engages aperture 62 that hood segment 48 cannot be moved out of its closed position and leg 60 of latch 58 will be in the path of movement of segment 47 so that top edge 47' will engage leg 60 and prevent movement of the segment to its open position and when rinse control rod 52 is moved downwardly sufficiently to operate rinse water control valve 37, lug 61 of latch 57 so engages aperture 62 that movement

of segments 47 and 48 to their open position is prevented in the same manner that movement thereof is prevented by latch 58, as hereinabove described. The latches are also so positioned on control rods 52 and 53 that when both rods are in their uppermost position lugs 61 are clear of aperture 62 and in spaced relationship with the outer surface of the hood segments. The hoods can then be moved in both clockwise and counterclockwise directions. When hood member 48 is opened, detent 62 passes beneath hood member 47 and is out of alignment with lug 61 of latches 57 and 58 while opening of member 47 will cover detent 62 in member 48. In either event, lugs 61 of latches 57 and 58 are prevented from entering detent 62 so that neither control rod 52 nor control rod 53 may be moved downwardly a sufficient distance to respectively operate valve 37 or switch 27 since lugs 61 will engage the other surface of a hood segment and will not, while either hood segment is in open position, be permitted to enter detent 62.

In operation, when control rods 52 and 53 are in their uppermost position, as shown in Figs. 2, 3 and 4 of the drawing, either hood segment 47 or hood segment 48 may be moved to their open position and a tray of dishes inserted in the washing machine to rest on track members 15 and 16. Thereafter, the hood member is returned to its closed position, as shown in Figs. 2, 3 and 4. Control rod 53 is then moved downwardly by an operator to wash the dishes. When lug 61 on latch 58 enters detent 62, movable contact 31 of switch 27 engages fixed contact 30 of said switch permitting electrical current to flow from lead 33 through the switch and to motor 26 through lead 29 thereby setting the motor and pump 23 in operation. Actuation of pump 23 causes wishwashing water to flow from the lower part 12 of tank 10 into spray pipe 19 thereby to wash the dishes. As hereinbefore set forth, when control rod 53 is in such position that switch 27 is closed, lug 61 of latch 58 prevents movement of segment 48 toward its open position while the leg 60 of said latch prevents movement of segment 47 toward its open position as edge 47' of the segment will engage said leg. Upon completion of the washing operation, control rod 53 will be moved upwardly disengaging contacts 30 and 31 of switch 27, thereby stopping motor 27 and pump 23, and moving lug 61 of latch 58 out of detent 62 and leg 60 of said latch out of the path of movement edge 47' of segment 47.

After the washing operation is completed, the washed dishes are rinsed by moving control rod 52 downwardly which may be done only when hood segments 47 and 48 are in their closed position. Downward movement of control rod 52 causes valve stem 42 of valve 37 to move downwardly so that when lug 61 of latch 57 is within detent 62, valve member 41 has been moved by said stem to its open position in relationship to port 40 so that rinse water passes from inlet pipe 39' through inlet 39 of the valve, through port 40 into outlet 38 thence into and through conduits 36 and 44 to spray pipes 34 and 43 respectively. When control rod 52 is in such position that valve 37 is open for flow of rinse water therethrough, lug 61 of latch 57 engages detent 62 and prevents movement of segment 48 toward its open position while leg 60 of latch 57 is in the path of movement of edge 47' of segment 47 which prevents movement of segment 47 toward its open position.

Upon completion of the rinsing operation, control rod 52 is moved upwardly by an operator which permits stem 42 of valve 37 to be moved upwardly (by a spring, as shown in Fig. 4) causing valve member 41 to close port 40 stopping the flow of rinse water from inlet 39 to outlet 38 of the valve. Lug 61 of latch 57 will then be out of engagement with detent 62 and leg 60 of said latch will be out of the path of movement of edge 47' of segment 47 so that either hood segment may be moved to its open position and the tray of washed and rinsed dishes removed from the washing machine.

It will be noted that when segment 48 is in its open position detent 62 is out of alignment with lugs 61 of latches 57 and 58. Downward movement of either control rod 53 or 52 will then be stopped prior to actuation of switch 27 or valve 37 by engagement of lug 61 with the outer surface of segment 48. When hood segment 47 is in its open position, detent 62 is beneath said hood segment and downward movement of the control rods will then be stopped prior to actuation of the valve 37 or switch 27 by the control rods by engagement of lugs 61 with the outer surface of segment 47.

Changes may be made in the form, location and arrangement of the several parts of the apparatus herein disclosed without departing from the principles of the invention. Accordingly, the invention is not to be limited excepting by the scope of the appended claims.

What is claimed is:

1. Hood locking means for a washing and rinsing machine with a washing and rinsing chamber enclosed at the top thereof by a substantially semi-circular hood comprising an overlapping section and an overlapped section, each section being segmentally-shaped and rotatably mounted on an axis extending in a plane axially of the hood so that one hood section is movable in a counterclockwise direction to an opened position to thereby open the chamber at one side of the machine and in the opposite direction to a closed position to thereby close the chamber at said one side while the other hood section is movable in directions opposite respectively to the directions of the first-mentioned hood section to open and to close the side of the chamber opposite said one side, the chamber having washing means and rinsing means therein through which washing fluid and rinsing fluid is directed respectively onto articles to thereby wash and to thereby rinse said articles, a source of washing fluid, a source of rinsing fluid, control means for controlling the flow of washing fluid from the washing fluid source to the washing means, and other control means for controlling the flow of rinsing fluid from the rinsing fluid source to said rinsing means, said hood locking means comprising a latch member operatively associated with said control means, another latch member operatively associated with the other control means, the overlapped hood section having latch receiving means therein so disposed as to be covered by said overlapping section when either section of the hood is moved toward its opened position and to be uncovered when said sections are in their closed position, each latch member being constructed to engage said latch receiving means when the hood sections are in their closed position and to extend into the path of movement toward its open position of the overlapping hood section and thereby lock both the hood sections

against movement in said closed position, the latch member and the other latch member each being mounted for movement toward and away from the latch receiving means and so that in their unlocked position the latch members are away from and out of engagement with said latch receiving means and out of the path of movement toward its opened position of the overlapping hood section, said control means being responsive to the movement of the latch member so as to permit the flow of washing fluid from said washing fluid source to the washing means only when said latch member is in its locked position, said other control means being responsive to the movement of said other latch member so as to permit the flow of rinsing fluid from said rinsing fluid source to said rinsing means only when said other latch member is in its locked position.

2. Hood locking means for a washing and rinsing machine with a washing and rinsing chamber enclosed at the top thereof by a substantially semi-circular hood comprising an overlapping section and an overlapped section, each section being segmentally-shaped and rotatably mounted on an axis extending in a horizontal plane axially of the hood so that one hood section is movable in a counterclockwise direction to an opened position to thereby open the chamber at one side of the machine and in a clockwise direction to a closed position to thereby close the chamber at said one side while the other hood section is movable in directions opposite respectively to the directions of the first-mentioned hood section to open and to close the side of the chamber opposite said one side, the chamber having washing means and rinsing means therein through which washing fluid and rinsing fluid is directed respectively onto articles to thereby wash and to thereby rinse said articles, a source of washing fluid, a source of rinsing fluid, control means for controlling the flow of washing fluid from the washing fluid source to the washing means, and other control means for controlling the flow of rinsing fluid from the rinsing fluid source to said rinsing means, said hood locking means comprising a latch member operatively associated with said control means, another latch member operatively associated with the other control means, the overlapped hood section having latch receiving means therein so disposed as to be covered by said overlapping section when either section of the hood is moved toward its opened position and to be uncovered when said sections are in their closed position, each latch member being constructed to engage said latch receiving means when the hood sections are in their closed position and to extend into the path of movement toward its open position of the overlapping hood section and thereby lock both the hood sections against movement in said closed position, the latch member and the other latch member each being mounted for vertical movement toward and away from the latch receiving means and so that in their unlocked position the latch members are away from and out of engagement with the latch receiving means and out of the path of movement toward its opened position of the overlapping hood section, said control means being responsive to the movement of the latch member so as to permit the flow of washing fluid from said washing fluid source to the washing means only when said latch member is in its locked position, said other control means being responsive to the movement of said other latch member so as to permit the flow of rinsing fluid from the rinsing fluid source to said rinsing means only when said other latch member is in its locked position.

3. Hood locking means for a washing and rinsing machine with a washing and rinsing chamber enclosed at the top thereof by a substantially semi-circular hood comprising an overlapping section and an overlapped section, each section being segmentally-shaped and rotatably mounted on an axis extending in a plane axially of the hood so that one hood section is movable in a counterclockwise direction to an opened position to thereby open the chamber at one side of the machine and in a clockwise direction to a closed position to thereby close the chamber at said one side while the other hood section is movable in directions opposite respectively to the directions of the first-mentioned hood section to open and to close the side of the chamber opposite said one side, the chamber having washing means and rinsing means therein through which washing fluid and rinsing fluid is directed respectively onto articles to thereby wash and to thereby rinse said articles, a source of washing fluid, a source of rinsing fluid, control means for controlling the flow of washing fluid from said washing fluid source to the washing means, and other control means for controlling the flow of rinsing fluid from said rinsing fluid source to said rinsing means, said hood locking means comprising a latch member operatively associated with said control means, another latch member operatively associated with the other control means, the overlapped hood section having latch receiving means comprising a detent therein so disposed as to be covered by said overlapping section when either section of the hood is moved toward its opened position and to be uncovered when said sections are in their closed position, each latch member being constructed to enter the detent when the hood sections are in their closed position and to extend into the path of movement toward its opened position of the overlapping hood section and thereby lock both the hood sections against movement in said closed position, the latch member and the other latch member each being mounted for movement toward and away from the detent and so that in their unlocked position the latch members are away from and out of said detent and out of the path of movement toward its opened position of the overlapping hood section, said control means being responsive to the movement of the latch member so as to permit the flow of washing fluid from the washing fluid source to the washing means only when said latch member is in its locked position, said other control means being responsive to the movement of said other latch member so as to permit the flow of rinsing fluid from the rinsing fluid source to said rinsing means only when said other latch member is in its locked position.

4. Hood locking means for a washing and rinsing machine with a washing and rinsing chamber enclosed at the top thereof by a substantially semi-circular hood comprising an overlapping section and an overlapped section, each section being segmentally-shaped and rotatably mounted on an axis extending in a horizontal plane axially of the hood so that one hood section is movable in a counterclockwise direction to an opened position to thereby open the chamber at one side of the machine and in a clockwise direction to a closed position to thereby close the chamber at said one side while the other hood section is

movable in directions opposite respectively to the directions of the first-mentioned hood section to open and to close the side of the chamber opposite said one side, the chamber having washing means and rinsing means therein through which washing fluid and rinsing fluid is directed respectively onto articles to thereby wash and thereby rinse said articles, a source of washing fluid, a source of rinsing fluid, control means for controlling the flow of washing fluid from said washing fluid source to the washing means, and other control means for controlling the flow of rinsing fluid from the rinsing fluid source to said rinsing means, said hood locking means comprising vertically extending rods mounted for reciprocal longitudinal movement upwardly and downwardly, one of said rods being operatively associated with said control means and another rod being operatively associated with said other control means so that downward movement of said rod actuates the control means to permit flow of washing fluid from said washing fluid source to the washing means and downward movement of said other rod actuates said other control means to permit flow of rinsing fluid from said rinsing fluid source to said rinsing means and so that upward movement of said rods respectively operates the control means and other control means to prevent flow of fluid from said washing fluid source and said rinsing fluid source to said washing and rinsing means respectively, a latch member mounted on said one rod, another latch member mounted on said other rod, the overlapped hood section having latch receiving means therein so disposed as to be covered by said overlapping section when either section of the hood is moved toward its opened position and to be uncovered when said sections are in their closed position, the latch members being so mounted on said rod and said other rod as to have longitudinal movement downwardly with said rods to engage said latch receiving means only when the hood sections are in their closed position and to extend into the path of movement toward its opened position of the overlapping hood section and thereby lock both the hood sections in said closed position, the latch members also being mounted for longitudinal movement upwardly with said rods and away from the hood and said latch receiving means and out of the path of movement toward its open position of the overlapping hood section, the latch member and other latch member being so positioned on the control rod and said other control rod respectively that said control rod operates the control means to permit the flow of washing fluid from said washing fluid source to the washing means only when said latch member is in its locked position and said other control rod operates said other control means to permit the flow of rinsing fluid from said rinsing fluid source to said rinsing means only when said other latch member is in its locked position.

5. Hood locking means for a washing and rinsing machine with a washing and rinsing chamber enclosed at the top thereof by a substantially semi-circular hood comprising an overlapping section and an overlapped section, each section being segmentally-shaped and rotatably mounted on an axis extending in a horizontal plane axially of the hood so that one hood section is movable in a counterclockwise direction to an opened position to thereby open the chamber at one side of the machine and in a clockwise direction to a closed position to thereby close the chamber at said one side while the other hood section is movable in directions opposite respectively to the directions of the first-mentioned hood section to open and to close the side of the chamber opposite said one side, the chamber having washing means and rinsing means therein through which washing fluid and rinsing fluid is directed respectively onto articles to thereby wash and to thereby rinse said articles, a source of washing fluid, a source of rinsing fluid, control means for controlling the flow of washing fluid from said washing fluid source to the washing means, and other control means for controlling the flow of rinsing fluid from said rinsing fluid source to said rinsing means, said hood locking means comprising vertically extending rods mounted for reciprocal longitudinal movement upwardly and downwardly, one of said rods being operatively associated with said control means and another rod being operatively associated with said other control means so that downward movement of said rod operates the control means to permit flow of washing fluid from said washing fluid source to the washing means and downward movement of said other rod operates said other control means to permit flow of rinsing fluid from said rinsing fluid source to the rinsing means and so that upward movement of said rods respectively causes operation of the control means and other control means to prevent flow of fluid from said washing and rinsing fluid sources to said washing and rinsing means respectively, a latch member mounted on said one rod for only longitudinal movement therewith, another latch member mounted on said other rod for only longitudinal movement therewith, each of the latch members comprising a portion extending substantially horizontally toward the hood and a projection extending downwardly toward the hood, the overlapped hood section having latch receiving means comprising a detent therein so disposed as to be covered by said overlapping section when either section of the hood is moved toward its opened position and to be uncovered when said sections are in their closed position, the latch members being so mounted on said rod and said other rod that the projection thereon engages the hood and prevents downward movement of the rods when a hood section is out of its closed position and so that the projections enter said detent and said horizontally extending portions of the latch members extend into the path of movement toward its opened position of the overlapping hood section preventing movement thereof when the hood sections are in their closed position, the latch members also being mounted for longitudinal movement upwardly with said rods away from the hood and said detent to thereby move said horizontal portion of the latches out of the path of movement toward its opened position of the overlapping hood section and thereby move said projection on the latch members out of the detent, the latch member and other latch member being so operatively associated with the control rod and said other control rod respectively that said control rod operates the control means to permit the flow of washing fluid from said washing fluid source to the washing means only when the projection on said latch member is in said detent and said other control rod operates said other control means to permit the flow of rinsing fluid from the rinsing fluid source to said rinsing means only when the projection on said other latch member is in said detent.

6. A washing and rinsing machine having a washing and rinsing chamber, a substantially

semi-circular hood enclosing the top of said chamber, the hood comprising an overlapping section and an overlapped section, each section being segmentally-shaped and rotatably mounted on an axis extending in a horizontal plane axially of the hood so that one hood section is movable in a counterclockwise direction to an opened position to thereby open the chamber at one side of the machine and in a clockwise direction to a closed position to thereby close the chamber at said one side while the other hood section is movable in directions opposite respectively to the directions of the first-mentioned hood section to open and to close the side of the chamber opposite said one side, washing means and rinsing means in the chamber through which washing and rinsing fluid is directed respectively onto articles to thereby wash and to thereby rinse said articles, a source of washing fluid, a source of rinsing fluid, control means for controlling the flow of washing fluid from said washing fluid source to the washing means, other control means for controlling the flow of rinsing fluid from said rinsing fluid source to said rinsing means, hood locking means comprising vertically extending rods mounted on said machine for reciprocal longitudinal movement upwardly and downwardly only, one of said rods being operatively associated with said control means and another rod being operatively associated with said other control means so that downward movement of said rod operates the control means to permit flow of washing fluid from said washing fluid source to the washing means and downward movement of said other rod operates said other control means to permit flow of rinsing fluid from said rinsing fluid source to the rinsing means and so that upward movement of said rods respectively causes operation of the control means and other control means to prevent flow of fluid from said washing and rinsing fluid sources to said washing and rinsing means respectively, a latch member mounted on said one rod, another latch member mounted on said other rod, the overlapped hood section having latch receiving means therein so disposed as to be covered by said overlapping section when either section of the hood is moved toward its opened position and to be uncovered when said sections are in their closed position, the latch members being so mounted on said rod and said other rod as to have only longitudinal movement downwardly with said rods to engage said latch receiving means when the hood sections are in their closed position and to extend into the path of movement toward its opened position of the overlapping hood section and thereby lock both the hood sections in said closed position, the latch members also being mounted for only longitudinal movement upwardly with said rods and away from the hood and said latch receiving means and out of the path of movement toward its opened position of the overlapping hood section, the latch member and other latch member being so operatively associated with the control rod and said other control rod respectively that said control rod operates the control means to permit the flow of washing fluid from the washing fluid source to the washing means only when said latch member is in its locked position and said other control rod operates said other control means to permit the flow of rinsing fluid from said rinsing fluid source to said rinsing means only when said other latch member is in its locked position.

7. A washing and rinsing machine having a

washing and rinsing chamber, a substantially semi-circular hood enclosing the top of said chamber, the hood comprising an overlapping section and an overlapped section, each section being segmentally-shaped and rotatably mounted on an axis extending in a horizontal plane axially of the hood so that one hood section is movable in a counterclockwise direction to an opened position to thereby open the chamber at one side of the machine and in a clockwise direction to a closed position to thereby close the chamber at said one side while the other hood section is movable in directions respectively opposite to the directions of the first-mentioned hood section to open and to close the side of the chamber opposite said one side, washing and rinsing means in the chamber through which washing fluid and rinsing fluid is directed respectively onto articles to thereby wash and thereby rinse said articles, a source of washing fluid, a source of rinsing fluid, control means for controlling the flow of washing fluid from the washing fluid source to the washing means, other control means for controlling the flow of rinsing fluid from the rinsing fluid source to said rinsing means, hood locking means comprising vertically extending rods mounted on said machine for reciprocal longitudinal movement upwardly and downwardly only, one of said rods being operatively associated with said control means and another rod being operatively associated with said other control means so that downward movement of said rod operates the control means to permit flow of washing fluid from the washing fluid source to the washing means and downward movement of said other rod operates said other control means to permit flow of rinsing fluid from the rinsing fluid source to the rinsing means and so that upward movement of said rods respectively causes operation of the control means and other control means to prevent flow of fluid from said washing and rinsing fluid sources to said washing and rinsing means respectively, a latch member mounted on said one rod for only longitudinal movement therewith, another latch member mounted on said other rod for only longitudinal movement therewith, each of the latch members comprising a portion extending substantially horizontally toward the hood and a projection extending downwardly toward the hood, the overlapped hood section having latch receiving means comprising a detent therein so disposed as to be covered by said overlapping section when either section of the hood is moved toward its opened position and to be uncovered when said sections are in their closed position, the latch members being so mounted on said rod and said other rod that the projection thereon engages the hood and prevents downward movement of the rods when a hood section is out of its closed position and so that the projections enter said detent and said horizontally extending portions of the latch members extend into the path of movement toward its opened position of the overlapping hood section preventing movement thereof when the hood sections are in their closed position, the latch members also being mounted for longitudinal movement upwardly with said rods away from the hood and said detent to thereby move said horizontal portion of the latches out of the path of movement toward its opened position of the overlapping hood section and thereby move said projection on the latch members out of the detent, the latch member and other latch member being so opera-

tively associated with the control rod and said other control rod respectively that said control rod operates the control means to permit the flow of washing fluid from said washing fluid source to the washing means only when the projection on said latch member is in said detent and said other control rod operates said other control means to permit the flow of rinsing fluid from the rinsing fluid source to said rinsing means only when the projection on said other latch member is in said detent.

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