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CONTROL FOR A CLOTHES WASHING MACHINE

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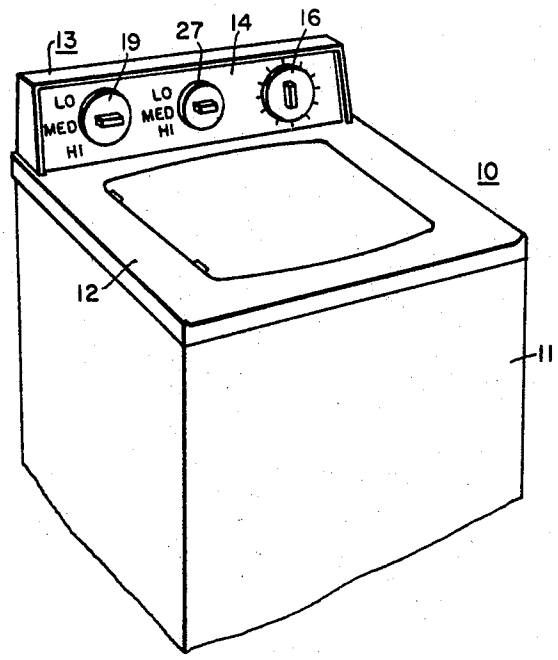
FIG. 1.



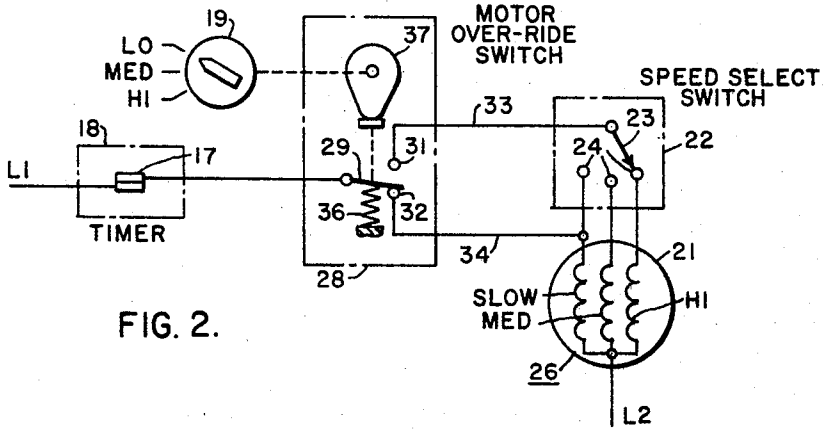


FIG. 2.

WITNESSES:

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CONTROL FOR A CLOTHES WASHING MACHINE

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U.S. Cl. 68—12 3 Claims

ABSTRACT OF THE DISCLOSURE

A control for a multi-speed, multi-water level washing machine which ensures low operation speeds when small delicate loads are to be washed in a small quantity of water. The control is characterized by the provision of a switch which is connected either in series with the low speed winding of the motor or in series with a three speed selector switch which is in series with the motor. The switch is tied into the water level control so that it is in series with the low speed coil of the motor when the lowest water level has been selected and in series with the selector switch when any other water level has been selected.

BACKGROUND OF THE INVENTION

This invention relates, in general, to agitator type washing machines and, more particularly, to a control for use therein.

To satisfactorily accommodate the wide variety of fabrics, washing machines are built to operate at various speeds. They are also provided with water level controls, the primary purpose of which is to conserve water. For example, when just a few articles of clothing are to be washed, the water level control is manually adjusted so that only a small quantity of water is introduced into the machine.

It has been found that a slow agitator speed combined with a "low" water level is suitable for washing small loads of delicate clothes, for example, lingerie. It has also been found that if a fast agitator speed is combined with a "low" water level, excessive splashing takes place resulting in excessive movement and, consequently, damage to the delicate fabrics.

Accordingly, it is the general object of this invention to provide a new and improved agitator type washing machine.

It is a more particular object of this invention to provide a new and improved control for an agitator type washing machine which insures proper motor speed and, therefore, agitator speed, when a low water level is utilized.

These and other objects and advantages of the present invention will become more apparent when considered in view of the following specification and drawings.

DESCRIPTION OF THE DRAWINGS

FIGURE 1 is a partial perspective view of a top loading washing machine incorporating the invention; and

FIGURE 2 is a diagrammatic representation of a control forming an important part of the machine illustrated in FIG. 1.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings, especially FIG. 1, reference character **10** designates generaly a top loading or agitator type washing machine comprising a body portion **11**, a top wall **12** and a rear splasher planel **13**.

The splasher panel **13** is a conventional multi-walled structure providing a cavity (not shown) in which certain controls are disposed. The panel **13** includes a wall **14** having mounted therein a plurality of control actuating knobs, for example, a timer knob **16** which serves to initiate operation of the machine **10** through closure of a pair of cam actuated contacts **17** (see FIG. 2) operatively associated with a timer **18** shown schematically in FIG. 2.

A water level control knob **19**, also carried by the wall **14**, serves to program a water level control mechanism (not shown) to effect termination of water flowing into the machine in accordance with the size clothes load to be washed. Such a control may consist of a pneumatically operated switch which works against a spring, the force of which may be varied by the knob **19** to provide for different shut-off points.

A three speed reversible motor **21** shown schematically in FIG. 2 provides power for operation of the machine **10**. The windings of the motor **21** are energized via line conductors L_1 and L_2 depending on the setting of a three position selector switch **22** comprising a movable contact arm **23** and a plurality of fixed contacts **24**. As shown, each of the contacts **24** serves to establish a circuit through a different portion of the motor windings **26** to thereby provide for Hi, Med or Lo speed operation. The selector switch **22** is operated by means of a knob **27** carried by the wall **14**.

A motor override switch **28** comprises a movable contact arm **29** and a pair of fixed contacts **31** and **32** the power of which is electrically connected to the movable contact arm **23** by means of a conductor **33** and the latter of which is connected with the motor winding designated "Lo" by means of a conductor **34**. It will be apparent that current flowing through the timer contacts **17** can be routed to the motor **21** via the selector switch **22** or across conductor **34**. The contact arm **29** is normally biased into engagement with the contact **31** by means of spring **36**.

The control knob **19** is provided with a cam **37** which effects closure of the contact arm **29** on the contact **32** when the knob **19** is set at the "Lo" position. This insures that when a "Lo" water level has been selected, the proper motor speed is also selected.

Since numerous changes may be made in the above described apparatus and different embodiments of the invention may be made without departing from the spirit thereof, it is intended that all matter contained in the foregoing description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

We claim as our invention:

1. In a washing machine having automatic means for controlling the water level therein and a variable speed motor for providing various wash cycles, the improvement comprising:

means for selecting a predetermined water level,

a selector switch for said variable speed motor,

means responsive to the actuation of said means for selecting a predetermined water level for by-passing said selector switch to render said motor operable only at its lowest speed when the lowest water level is selected.

2. Structure as specified in claim **1**, said last-mentioned means comprises a switch adapted to be alternately connected to the low speed winding of said motor and to said selector switch.

3. Structure as specified in claim **2**, wherein said means for selecting a predetermined water level comprises a cam structure having a first cam surface for controlling

the water level control and a second cam surface for establishing a circuit through said switch.

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WILLIAM I. PRICE, Primary Examiner

U.S. Cl. X.R.

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