March 29, 1938. F. A. PARISH 2,112,573

WATER PUMP FOR WASHING MACHINES

Filed March 11, 1935 3 Sheets-Sheet 1

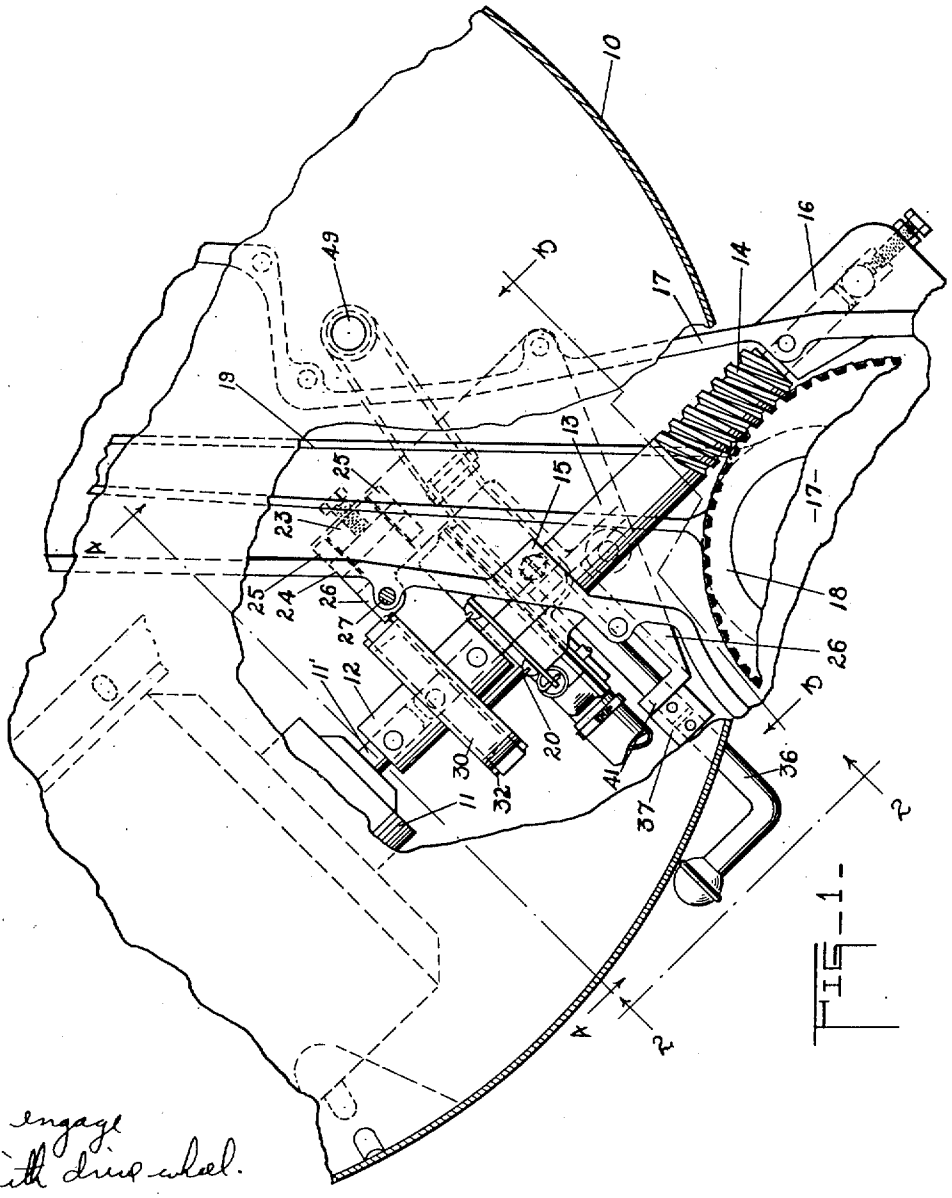


FIG. 1.

Spring acts to engage pump pulley with drive wheel. Manually disengaged.

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WATER PUMP FOR WASHING MACHINES

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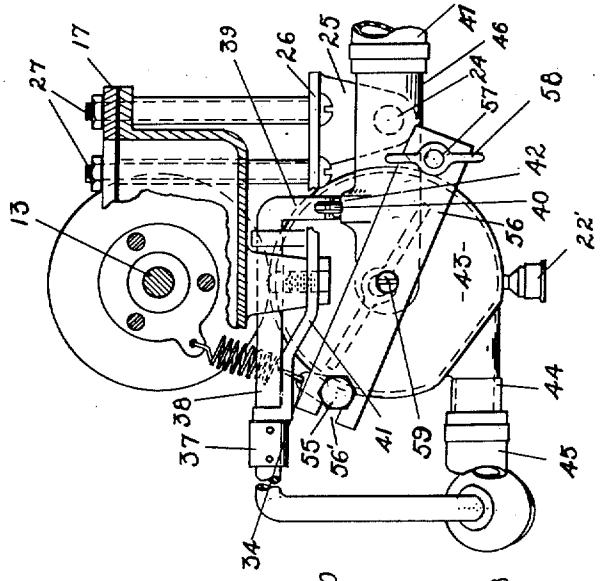


FIG - 3 -

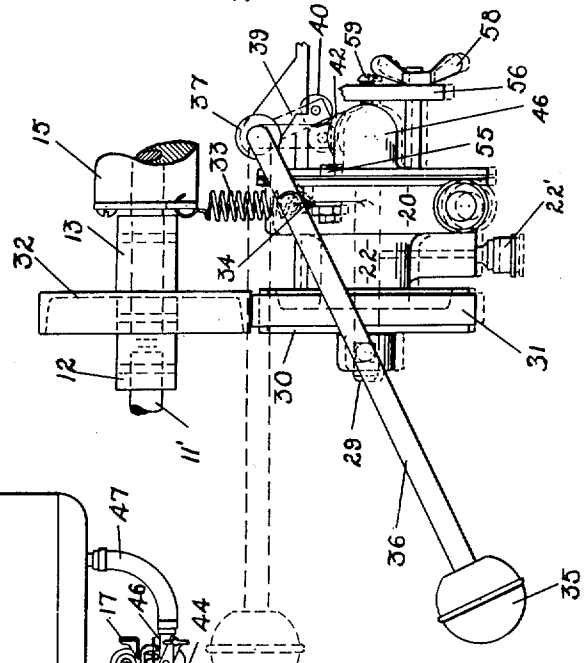


FIG - 2 -

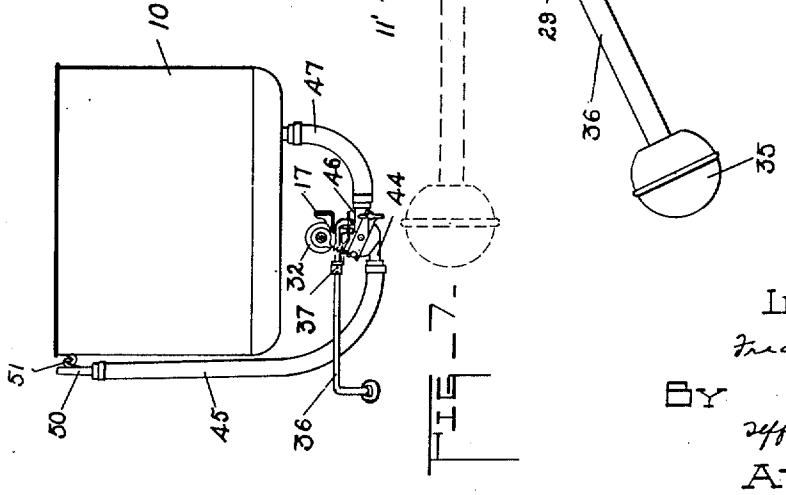


FIG - 7 -

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March 29, 1938. F. A. PARISH 2,112,573

WATER PUMP FOR WASHING MACHINES

Filed March 11, 1935 3 Sheets-Sheet 3

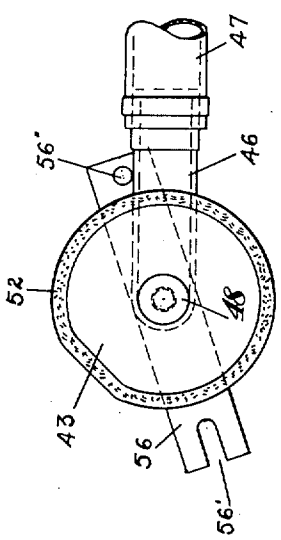


FIG - 5 -

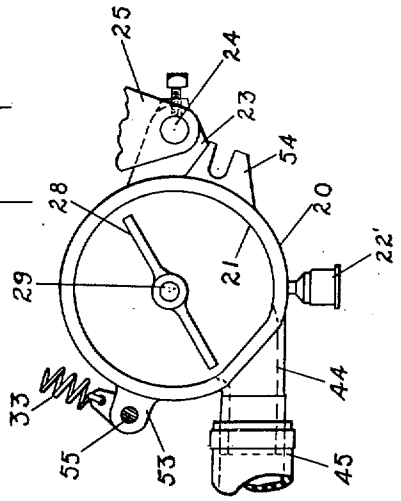


FIG 6

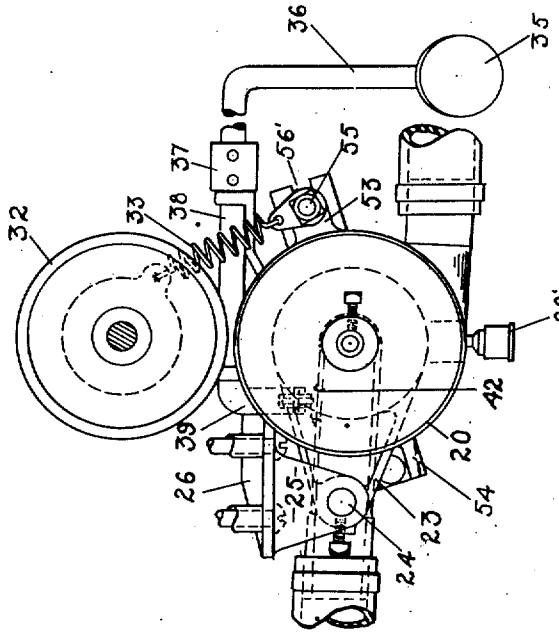


FIG - 4 -

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Patented Mar. 29, 1938 2,112,573

UNITED STATES PATENT OFFICE

2,112,573

WATER PUMP FOR WASHING MACHINES

Fred A. Parish, Newton, Iowa

Application March 11, 1935, Serial No. 10,453

1 Claim. (Cl. 103—23)

This invention is directed to water pumps for washing machines and has for its principal object the provision of a water pump adapted to be secured to the under support structure of a washing machine mechanism and having a drive means co-operative with a power driven element of the mechanism, and control means whereby the pump may be made to function at the option of an operator.

Another object is to provide a complete, self contained pump unit pivotally attached to the support means of a washing machine mechanism, the attachment being such that the pump mechanism is bodily movable to establish driving connection between the pump and power source.

An additional object is to provide a pump having a portion of its structure dismountable whereby accumulation of lint and other substances commonly present in wash water may be easily removed from the interior working parts.

Other objects will appear in the following description and accompanying drawings in which;

Fig. 1 is an enlarged fragmentary plan view showing certain elements of a washing machine mechanism together with my device as associated therewith;

Fig. 2 is an end elevational view of my device taken from the position of line 2—2 in Fig. 1.

Fig. 3 is a side elevational view of the same as viewed from the right in Fig. 2 or from line 3—3 in Fig. 1;

Fig. 4 is an elevational view showing the device as viewed from the left in Fig. 2 or from the line 4—4 in Fig. 1;

Fig. 5 is a side elevational view showing a removable portion of the device as will be described;

Fig. 6 is a fractional side elevational view of an element of the mechanism to be described; and

Fig. 7 is a diagrammatic view showing details of arrangement which will be described.

Referring to the drawings:

Fig. 1 discloses a fragmental portion 10 of the bottom of a washing machine tub, below which is shown disposed a driving mechanism including a motor 11 having driving connection, through its shaft 11' and a coupling 12, with the shaft 13 of a worm 14.

The motor 11 is supported in any suitable manner and the shaft 13 is suitably journalled in bearings 15 and 16 formed in a frame and housing structure 17.

The worm 14 is meshed with a worm gear 18, fragmentally shown. A pitman 19 conventionally driven from an eccentric connected to the worm gear, is shown in dotted lines. The function of the pitman is to drive other portions of a washing machine mechanism not shown.

The above described elements are conventionally included in a washing machine mechanism and are thought sufficiently well known as to obviate detail description, they being noted here for the purpose of illustrating the type of mechanism with which my present invention is usually associated.

My invention comprises a frame and housing structure 20 which includes an enlarged impeller chamber portion 21 integral with which is a boss 22 and a rearwardly extending bracket portion 23.

The structure is pivotally supported upon a sub-frame structure 26 by means of a pin 24 secured in bracket portion 23 and passing through downwardly extending bracket portions 25 of the sub-frame structure. The sub-frame structure is secured to structure 17 by means of bolts 27.

Fig. 6 illustrates an impeller 28 disposed in chamber 21, it being supported therein upon a shaft 29. Shaft 29 is supported in a bearing formed in boss 22 and extends beyond the boss a sufficient distance to carry an affixed wheel 30. The bearing of shaft 29 is supplied with lubricant as from a cup 22'.

The periphery of wheel 30 is provided with a tire 31 made from frictional material whereby the wheel may be driven by frictional contact with an oppositely disposed wheel 32, which latter is secured to the driving shaft 13.

A coil spring 33, anchored upon a portion of structure 15 and hooked at 34 to a portion of structure 20, urges the structure to move pivotally on pin 24 to resiliently force the tire 31 into frictional engagement with wheel 32.

Having in mind that shaft 13, with wheel 32, is in constant rotation when motor 11 is running, it will be apparent that the pump may be placed in operation at any time by permitting spring 33 to function as described.

In practical operation of a washing machine it is obviously not desired to have the pump constantly operated, and to control operation thereof I provide a handle 35 the shaft 36 of which is connected, as by a coupling 37, with a transverse shaft 38 having a downwardly directed portion 39 which carries a roller 40.

Shaft 38 is rotatably supported in a bracket structure 41 secured to sub-frame structure 26 and roller 40 is made engageable with a cam

surface 42 fashioned integrally with a cover member 43. Cover 43 is secured to pump structure 20 by means which will be described shortly.

Figs. 2 and 3 illustrate that handle 35 is movable from the solid line position to an elevated position shown in dotted lines. This movement obviously brings about movement of roller 40 from a low to a high point on cam surface 42 with the result that the mechanism is forced downwardly in opposition to spring 33 to move wheel 30 away from contact with wheel 32, thus rendering the pump inoperative.

The pump impeller chamber 21 is provided with a tubular outlet portion 44 adapted to receive a hose 45 and the cover member 43 is provided with an extending tubular portion 46 adapted to receive a hose 47 and has a duct 48 communicating with the interior of chamber 21 when affixed thereto.

Fig. 7 indicates that inlet hose 47 is connected with a duct 49, Fig. 1, in the bottom of tub 10, and that outlet hose 47 is of sufficient length to reach to a point well above the normal level of water in the tub. At its free end the hose is fitted with a nozzle 50 having a hook portion 51 by means of which the end of the hose is supported in non-discharge position.

Under conditions of practical use it is usual for a certain amount of lint, soap and other extraneous substances to accumulate in devices of the class here described and in order to maintain them in good working order it is necessary that they be frequently cleaned.

To facilitate cleaning of my pump I provide a means for detaching cover 43 from the body of the pump.

Fig. 6 indicates that the body portion of the pump is fashioned to have one side of the impeller chamber open and in Fig. 5 it is shown that the inner side of cover 43 is provided with a gasket 52 adapted to rest in contact with the rim of chamber 21 to form a water tight cover for the chamber.

To hold the cover in place I provide a mechanism including dual brackets disposed upon opposite sides of chamber 21. Bracket 54 is forked as shown and bracket 53 carries a stud 55 having an enlarged head adapted to receive and retain a forked end 56' of a buck-stay member 56. Member 56 rests at its center upon an elevated central portion of cover 43 and its opposite end extends over bracket 54. A screw 57, retained in a hole 56'' in the end of the buck-stay, is adapted to have its head confined behind the prongs of bracket 54 and on the opposite side of the buck-stay a wing nut 58 is disposed.

The buck-stay is confined in proper position upon cover 43 by means of a screw 59 so adjusted that the buck-stay is loosely held in association with the cover.

Hole 56'', fork 56', stud 55 and forked bracket 54 are so disposed that when brought into alignment the cover 43 is automatically properly positioned with respect to the pump body, and with the parts in this position, tightening of the wing nut 58 results in closing cover 43 upon the pump body with suitable pressure to form a water-tight seal.

Numerous modifications of structure of the above described device are obviously possible without alteration of the principle involved. I do not wish to be limited in structure or function except within the scope of the appended claim.

What I claim is:

A washing machine drain pump mechanism comprising, a pump including an impeller and an impeller shaft, a casing about said impeller and a portion of said shaft, a support, means pivoting said casing upon said support on an axle substantially parallel and offset with respect to the axis of said impeller shaft, a disc on said shaft, a driving wheel having a peripheral driving surface portion, said driving wheel being mounted on an axis disposed above the axis of said shaft, said disc having a peripheral portion for frictional engagement with the peripheral driving portion of said driving wheel, spring means normally tending to lift and urge said disc toward said wheel to bring said disc an wheel portions into driven-driving engagement, and manually operable means including a cam and a cam follower for moving said casing downwardly about said pivot against said urging means to break said driven-driving engagement of said disc and wheel.

FRED A. PARISH.

9

CERTIFICATE OF CORRECTION.

Patent No. 2,112,573. March 29, 1938. 103-23

FRED A. PARISH.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Page 2, second column, line 31, in the claim, for "axle" read axis; and line 41, in the claim, for "an" read and; and that the said Letters Patent should be read with these corrections therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 24th day of May, A. D. 1938.

Henry Van Arsdale,
Acting Commissioner of Patents.

(Seal)

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