

Feb. 20, 1945.

N. PAGE

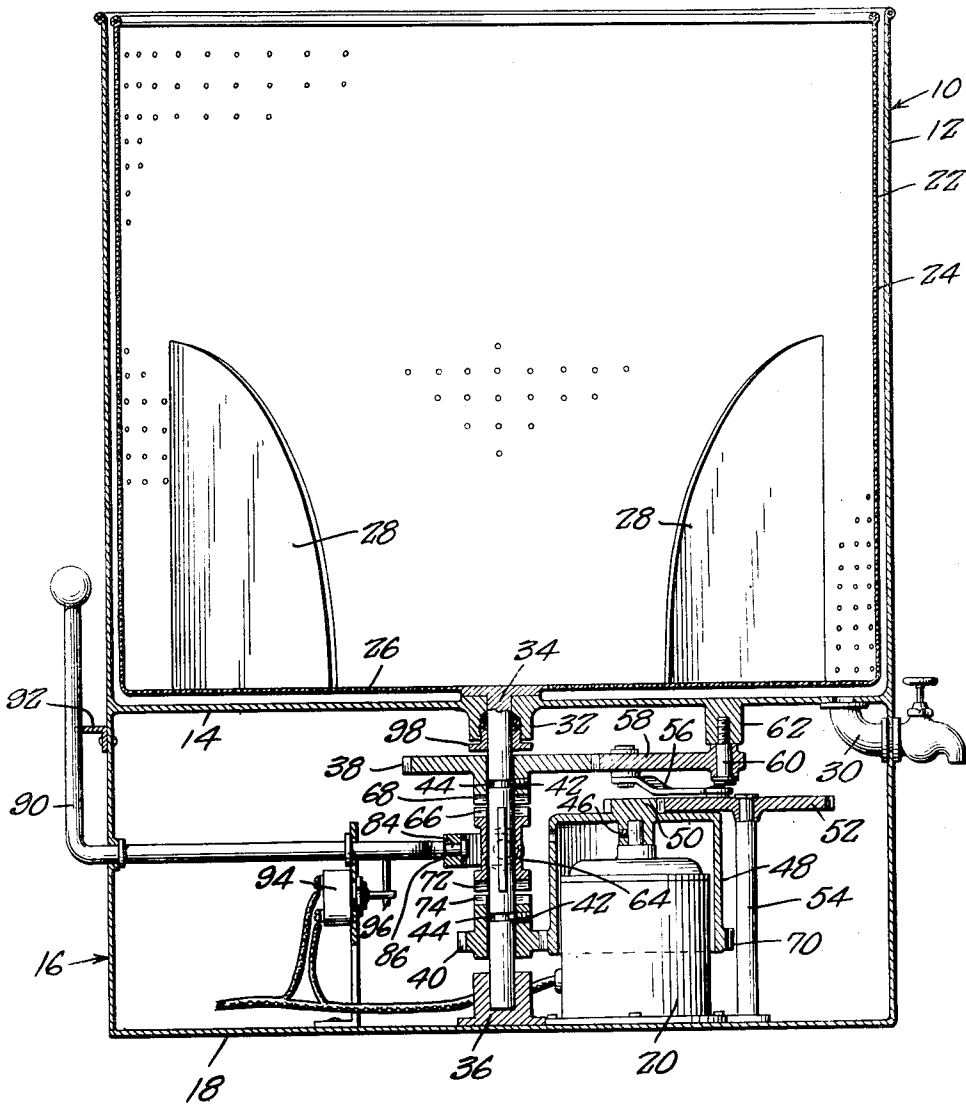
2,369,905

LAUNDRY MACHINE

Filed April 23, 1943

2 Sheets-Sheet 1

Fig. 1.



Neal Page, INVENTOR.

BY

Victor J. Evans & Co.

ATTORNEYS

Feb. 20, 1945.

N. PAGE

2,369,905

LAUNDRY MACHINE

Filed April 23, 1943

2 Sheets-Sheet 2

Fig. 2.

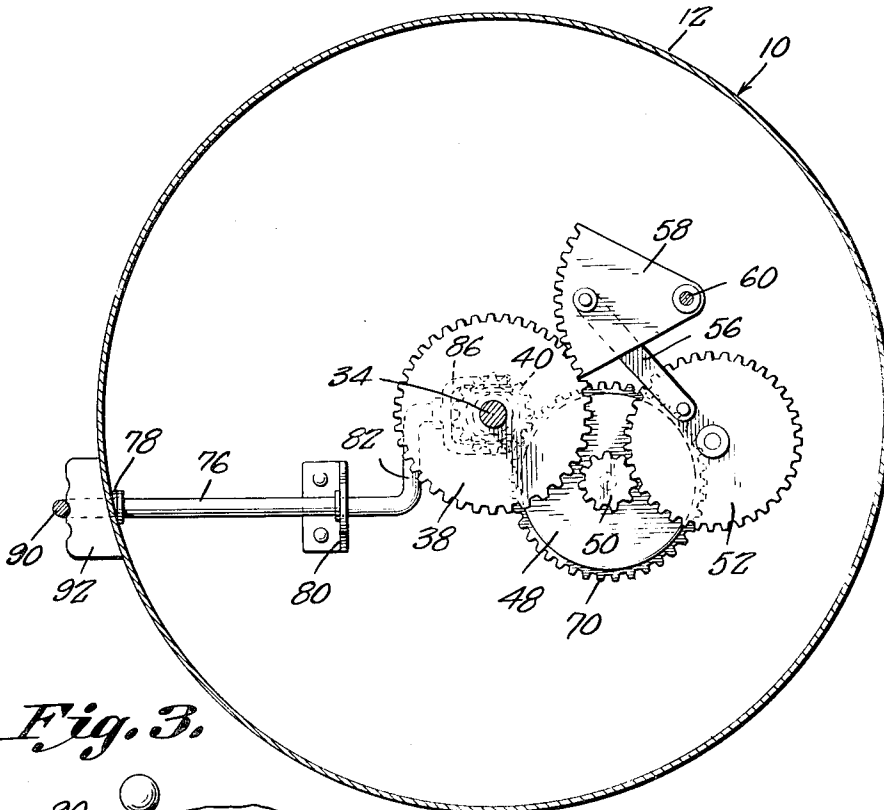
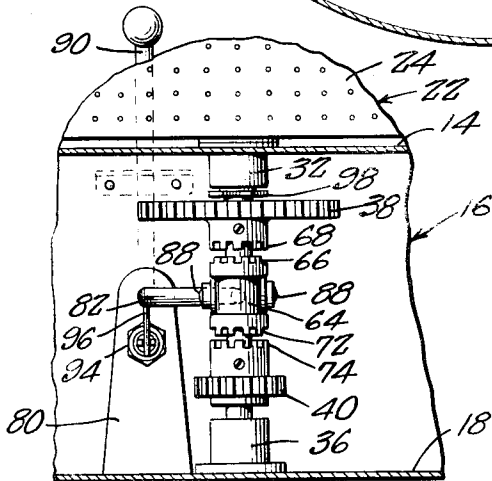


Fig. 3.



Neal Page,

INVENTOR.

BY

Victor J. Evans & Co.

ATTORNEYS

UNITED STATES PATENT OFFICE

2,369,905

LAUNDRY MACHINE

Neal Page, Cleveland, Ohio

Application April 23, 1943, Serial No. 484,253

4 Claims. (Cl. 74—81)

This invention relates to washing machines, particularly to the type employed for home use, and has among its objects and advantages the provision of an improved combination washer and centrifugal dryer.

In the accompanying drawings:

Figure 1 is a vertical sectional view of my invention.

Figure 2 is a plan view of a train of driving gears, and

Figure 3 is a detail view of a clutch mechanism.

In the embodiment of the invention selected for illustration, I make use of a tank 10 comprising an annular wall 12 provided with a bottom 14 and extended downwardly from the bottom to provide a base 16. This base includes a floor 18 upon which is mounted a motor 20 for driving the washer and the dryer.

Inside the tank 10 is mounted a combined agitator and centrifugal dryer basket 22. This basket comprises an annular and perforated wall 24 and a perforated bottom 26 fixed to the wall 24. Agitator blades 28 are fixed to the wall 24 and the bottom 26. Both the wall 24 and the bottom 26 are spaced slightly from the wall 12 and the bottom 14, respectively. The blades 28 preferably comprise four in number. A valve controlled drain pipe 30 leads into the bottom of the tank 10.

A bearing 32 is attached to the bottom 14 for supporting a vertical shaft 34 having its upper end fixed to the basket 22. The lower end of the shaft 34 is supported in a bearing 36 attached to the floor 18. A large gear 38 is rotatably mounted on the shaft 34, and a pinion 40 is also rotatably mounted on the shaft. Both the gear 38 and the pinion 40 are restrained from movement longitudinal of the shaft 34 by pins 42 extending into grooves 44 in the shaft.

The motor shaft 46 is keyed to a hood 48 extending downwardly of the motor 20. A pinion 50 is fixed to the top end of the hood and meshes with a large gear 52 rotatably mounted on a post 54 secured to the floor 18. A link 56 is pivotally connected at one end with the gear 52 and at its other end with a segmental gear 58 pivotally connected with a pin 60 threaded into a post 62 fixed to and depending from the bottom 14. The gear 58 meshes with the gear 38. Rotation of the gear 52 imparts an oscillatory motion to the gear 58 through the medium of the link 56, so that the gear 38 on the shaft 34 is also caused to oscillate.

A clutch member 64 is splined to the shaft 34 for movement longitudinally thereon. This member is provided with dogs 66 engageable with dogs 68 fixed to the hub of the gear 38. Figure 1 shows the member 64 in its neutral position, but the member may be shifted upwardly to engage the dogs 66 with the dogs 68 to key the gear 38 to the shaft 34 for oscillating the basket 22 with the shaft 34.

The lower end of the hood 48 is provided with a gear 70 which meshes with the pinion 40. The gear 70 is of relatively large diameter with respect to the pinion 40, so that the pinion is rotated at a relatively high speed. Second dogs 72 are provided on the member 64 for engagement with dogs 74 fixed to the hub of the pinion 40, as when the member 64 is shifted downwardly on the shaft 34 for keying the pinion 40 to the shaft 34. Thus a driving connection between the member 64 and the gear 38 imparts an oscillatory motion to the basket 22 for washing purposes. A driving connection between the member 64 and the pinion 40 imparts a continuous high speed rotary motion to the basket 22 for drying purposes. When drying, all water is drained from the tank and the pipe 30 is left open to provide an escape for water flowing into the tank from the basket.

Means for operating the clutch member 64 comprise a shaft 76 rotatably supported in a bearing 78 on the base 16 and in a bracket 80 fixed to the floor 18. This shaft has a crank arm 82 provided with a pin 84 rotatably journaled in a yoke 86 attached to the member 64, as at 88 in Figure 3. The shaft 76 is provided with a lever 90 bearing against a notched plate 92 which latches the lever and the shaft in neutral, washing and drying positions.

The motor 20 is wired to a control switch 94 mounted on the bracket 80. This switch is operated by an arm 96 fixed to the shaft 76, the switch being opened when the lever and the shaft are turned to their neutral position, but the switch is closed whenever the lever is moved to the drying or washing position.

The basket 22 is permanently installed in the tank 10. When washing, the tank 10 and the basket 22 are supplied with water up to a level near their tops, and articles to be laundered are placed in the basket 22. The motor 20 is started by moving the lever 90 to its washing position, which causes the basket to be oscillated for imparting a washing motion to the blades 28. Upon completion of the washing operation, the drain pipe 30 is opened to drain water from the

tank 10 and the basket 22, and the lever 90 is moved to its drying position, which starts the centrifugal drying operation.

A packing nut 98 is threaded on the bearing 32 to provide a seal for the bearing.

Without further elaboration, the foregoing will so fully explain my invention, that others may, by applying current knowledge, readily adapt the same for use under various conditions of service.

I claim:

1. Means for imparting rotational and oscillating movement to a washing machine of the type having a casing partitioned to provide a compartment for the operating mechanism, comprising a vertical shaft having its lower end journaled at the bottom of the casing, a gear and a pinion rotatable on the shaft in spaced relationship and each having a clutch element, a sliding clutch keyed to the shaft and movable to engage the gear or pinion, a power plant including a drive shaft, a cylindrical hood like member on the drive shaft depending about the power plant, said hood having a pinion and a gear, a

regimental gear meshing with the gear on the shaft and having a link and gear connection with the pinion on the hood, and a gear connection between the hood gear and the pinion on the shaft.

2. The invention as defined in claim 1 wherein a vertical shaft is provided adjacent the power plant carrying a gear meshing with the pinion on the hood, and a link is connected with the gear and with the segmental gear for oscillating the same.

3. The invention as defined in claim 1 wherein the cylindrical hood has a top formed to provide the pinion, and wherein the lower peripheral edge of the hood is formed to provide the gear.

4. The invention as defined in claim 1 wherein the power plant is provided with a vertical shaft carrying the hood which extends down about the motor, and wherein the shaft, motor drive shaft, and a shaft carrying a gear meshing with the pinion on the hood are parallel.

NEAL PAGE.