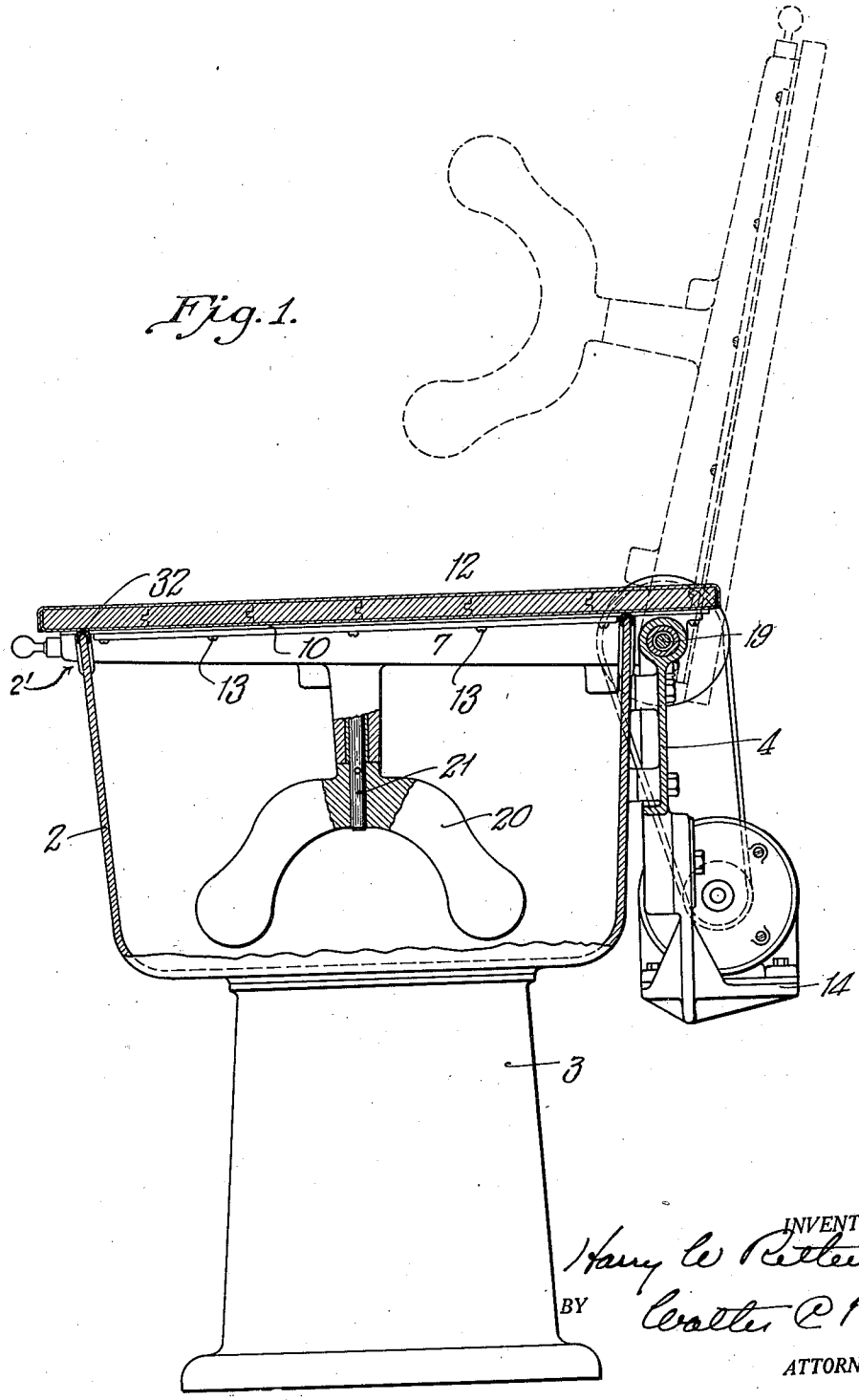
Dec. 29, 1931. H. W. RETTEW 1,839,164

WASHING MACHINE APPARATUS

Filed July 7, 1930 2 Sheets-Sheet 1

Fig. 1.



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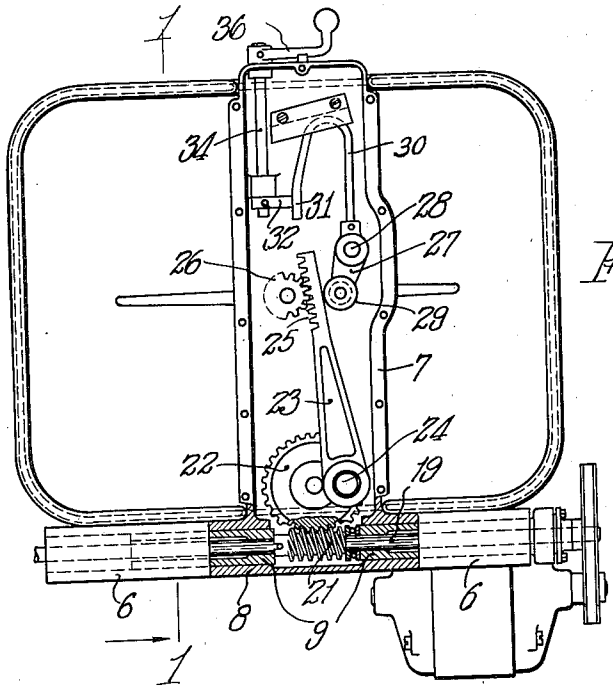


Fig. 2.

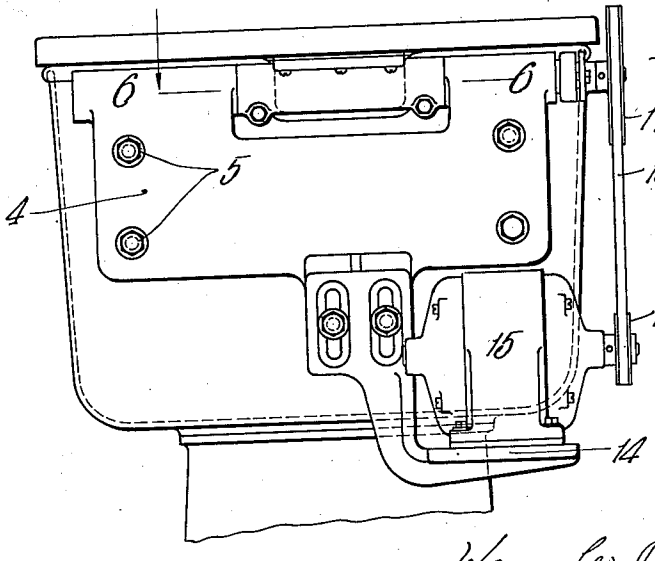


Fig. 3.

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UNITED STATES PATENT OFFICE

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WASHING MACHINE APPARATUS

Application filed July 7, 1930. Serial No. 466,138.

This invention relates to improvements in washing machine apparatus and is directed more particularly to improvements in washing machine apparatus of the stationary type.

According to one object of the invention a receptacle is provided which is in the form of a tub, similar to the well-known so-called "set tub" and is adapted to be installed permanently in place and connected to water supply and drain systems. According to another object of the invention, the tub is provided with a cover and washing machine mechanism hinged thereto so that the mechanism is movable into and out of the tub, while driving means for the mechanism is supported by the tub and operatively connected to the mechanism by means which allows of swinging movements of the cover and mechanism.

According to a further object of the invention, a driver for the washing machine mechanism is disposed on the axis of the hinged connection between the associated mechanism and cover and tub so that the cover may be swung between open and closed positions without disturbing the connections between the driver and machine mechanism. In this way the paddle of the washing machine may be in operation while the cover is in various positions or while it is being moved between certain positions. This is an important consideration as it is possible to employ a minimum of parts and therefore provide a structure which is not only simple but compact. This is to be distinguished from a structure wherein parts for driving the apparatus are engaged and disengaged in order to allow the cover to swing for moving the washing machine mechanism into and out of the tub.

Various novel features and advantages of the invention will be observed from the following description thereof and which in the form at present preferred is illustrated in the accompanying drawings.

In the drawings:

Fig. 1 is a side elevational view with parts in section showing a washing machine apparatus embodying the novel features of the invention.

Fig. 2 is a plan view of the apparatus shown in Fig. 1 with the cover removed and certain of the parts in section for clearness, and

Fig. 3 is a rear elevational view of the upper part of the apparatus shown in Fig. 1.

Referring to the drawings, the invention will now be described in detail.

A tub is represented by 2 which may be of metal and similar in form to a "set tub". This tub is supported by a pedestal 3 and the tub and pedestal for rigidity are secured together. They are of such form and so adapted that the tub may be permanently installed and connected to a water supply and to a suitable drain system for filling and emptying after the manner of a set tub.

A bracket frame 4 is secured to a side wall of the tub by bolts 5 and has spaced bearing portions 6 at opposite ends of the upper side thereof. A hollow housing member 7 is provided and has a rear end portion 8 which is pivoted on trunnions or bushings 9 projecting inwardly from the bearing portions 6 of the bracket. The housing is provided at its upper side with a cover plate 10. A cover member 12 for the tub overlies the plate 10 and both are secured in superposed relation to the housing by screws indicated at 13. In this way housing, plate and cover may swing as a unit between the closed position of the cover shown in Fig. 1 and an open dotted line position shown in said figure.

A motor bracket 14 is adjustably carried by the frame 4 and supports a motor 15 fixed thereto. The motor is operatively connected by pulleys 16 and 17 and a belt 18 to a driving shaft 19 which is journalled in the trunnions 9 of the bracket 4. A paddle 20 is fixed to the lower end of a shaft 21 journalled in the housing so as to depend from the cover. A worm 21 is fixed to the shaft 19 and is in meshing engagement with a gear 22 journalled for rotation on a shaft 22′ of the housing. A rack member 23 is pivoted to gear 22 in an eccentric relation and has a forward toothed end 25 which meshes with a pinion 26 fixed to the upper end of the paddle shaft 21. An arm 27 pivoted in the housing at 28 has a roll 29 for bearing on the rack while a spring member 30 extending rearwardly from the lever 27 has its outer end 31 in engage-

ment with a cam fixed on a shaft 34 oscillatable in the outer end of the housing.

A lever 36 fixed to the outer end of shaft 34 is provided for swinging the shaft 34 in one direction or the other so that the cam 32 will engage and disengage the end of spring 29. The parts are arranged so that when they are in the position shown in Fig. 2 the rack 23 is yieldingly held in engagement with the pinion 26. In this position as the shaft 19 rotates, the gear 22 is rotated to reciprocate the rack member 23 whereby the shaft 26 is oscillated for oscillating the paddle.

By moving handle 36 downwardly from the position shown the shaft 34 is rotated so that cam 32 will release the end of spring 29 whereby the yielding pressure on rack 23 is released and the rack may disengage the gear 26.

A recess 2′ is provided in the forward wall of the tub so that when the cover is in closed position the forward end of the housing may be received therein whereby the cover may rest upon the upper edges of the tub to provide a joint therebetween. Preferably a packing of rubber or some suitable material indicated at 32 is carried by the upper edges of the walls of the tub and against which the cover may bear.

As will be seen the housing and cover are pivoted to the frame for swinging movements relative to the tub so as to move the washing machine apparatus into and out of the tub. The pivot is on an axis which coincides with that of the driving shaft. With this arrangement the washing machine mechanism and drive therefor are at all times in operative engagement. It is therefore possible to swing the cover between its open and closed positions without the necessity of engaging or disengaging parts associated with the shaft and washing machine mechanism. In this way the parts may be of simple form and there are no relatively slidable or engageable parts to become worn by disengagement or engagement. The structure comprises a comparatively few parts and is efficient in its operation. The cover may be opened or closed at will without special attention as to whether the paddle is in operation since it is hinged on the axis of the drive shaft, while the washing machine apparatus is received in or withdrawn from the tub as may be desired.

Having described the invention in the form at present preferred, what I now desire to claim and secure by Letters Patent of the United States is:

1. The combination with a stationary set tub of washing machine apparatus comprising in combination, a bracket having a bearing at an upper edge of a wall of said tub, a housing pivoted on a certain horizontal axis in said bracket, a cover carried at the upper side of said housing for resting on the upper edges of the walls of said tub, a paddle depending from said housing, driving mechanism therefor in said housing, a drive shaft journalled in said bracket on said certain axis and driving connections between said shaft and said driving mechanism.

2. The combination with a stationary set tub of washing machine apparatus comprising in combination, a bracket carried by a wall of said tub having a bearing portion at the upper side of said wall, a housing pivoted to said bearing portion of the bracket on a certain horizontal axis, washing machine mechanism in said housing and a paddle depending therefrom, a cover on said housing for resting on the upper edges of the tub walls, a driving shaft journalled in said bracket portion on said certain axis and driving connections between said washing machine mechanism and said shaft.

3. A washing machine apparatus comprising in combination, a stationary set-tub having upwardly extending side walls, a bracket secured to one wall having spaced bearing portions at the upper edge of said wall, a housing pivoted between said bearing portions on a certain axis adapted to extend to an opposite wall when in operative position, washing machine mechanism in said housing and a paddle depending therefrom, a cover fixed to the upper side of said housing for resting on the upper edges of the walls of the tub, a drive shaft journalled in said bearing portions on said certain axis carrying a driving member for said washing machine mechanism which is disposed between said bearing portions, said driving connections being operatively associated with each other in any position occupied by said housing.

4. A washing machine apparatus comprising in combination, a stationary set-tub having upwardly extending side walls, a bracket secured to one wall having spaced bearing portions at the upper edge of said wall, a housing pivoted between said bearing portions on a certain axis adapted to extend to an opposite wall when in operative position, washing machine mechanism in said housing and a paddle depending therefrom, a cover fixed to the upper side of said housing for resting on the upper edges of the walls of the tub, a drive shaft journalled in said bearing portions on said certain axis carrying a driving member for said washing machine mechanism which is disposed between said bearing portions, said driving connections being operatively associated with each other in any position occupied by said housing, a motor carried by said bracket below said bearing portions and connections between said motor and shaft.

5. A washing machine apparatus comprising in combination, a stationary set-tub having upwardly extending side walls, a bracket fixed to one wall having spaced bearings adjacent an upper edge of said wall, a housing

having a part at one end pivoted to said bearings on a certain axis and a part at its opposite end receivable in a recess provided in the upper edge of an opposite wall, washing machine mechanism in said housing and a paddle depending therefrom, a cover at the upper side of said housing for resting on the upper edges of said walls, a drive shaft journalled in said bearings on said certain axis, a drive on said shaft between said bearings, connections between said drive and said washing machine mechanism, said connections being operatively associated with said drive shaft and washing mechanism regardless of the position occupied by said housing, a motor on said bracket below said bearings and connections between said motor and shaft.

In testimony whereof, I affix my signature.

HARRY W. RETTEW.