Dec. 21, 1926. 1,611,859

G. MORE

HOUSING FOR WASHING MACHINE GEARING

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Fig. 1.

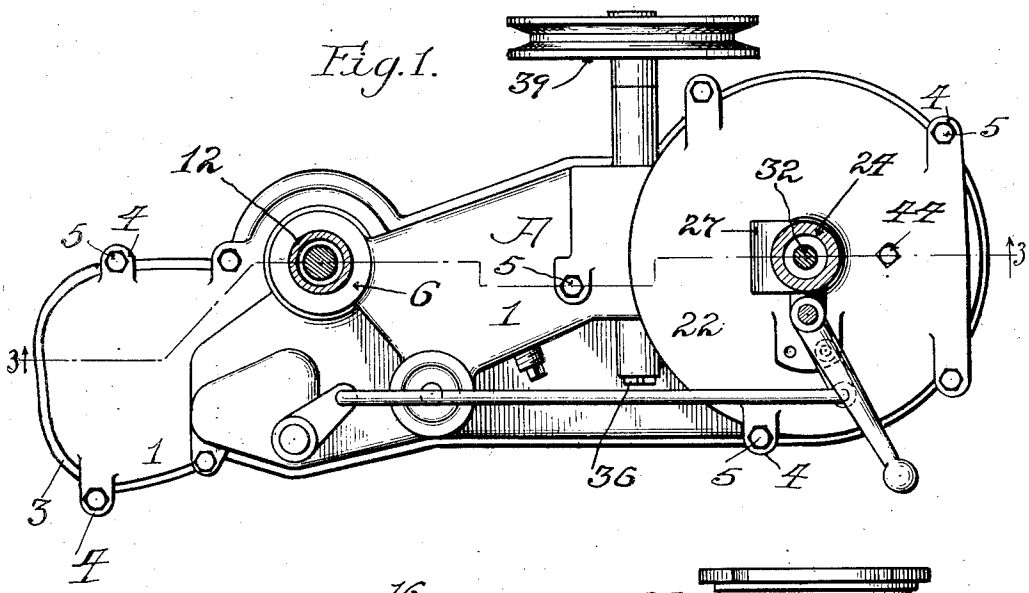
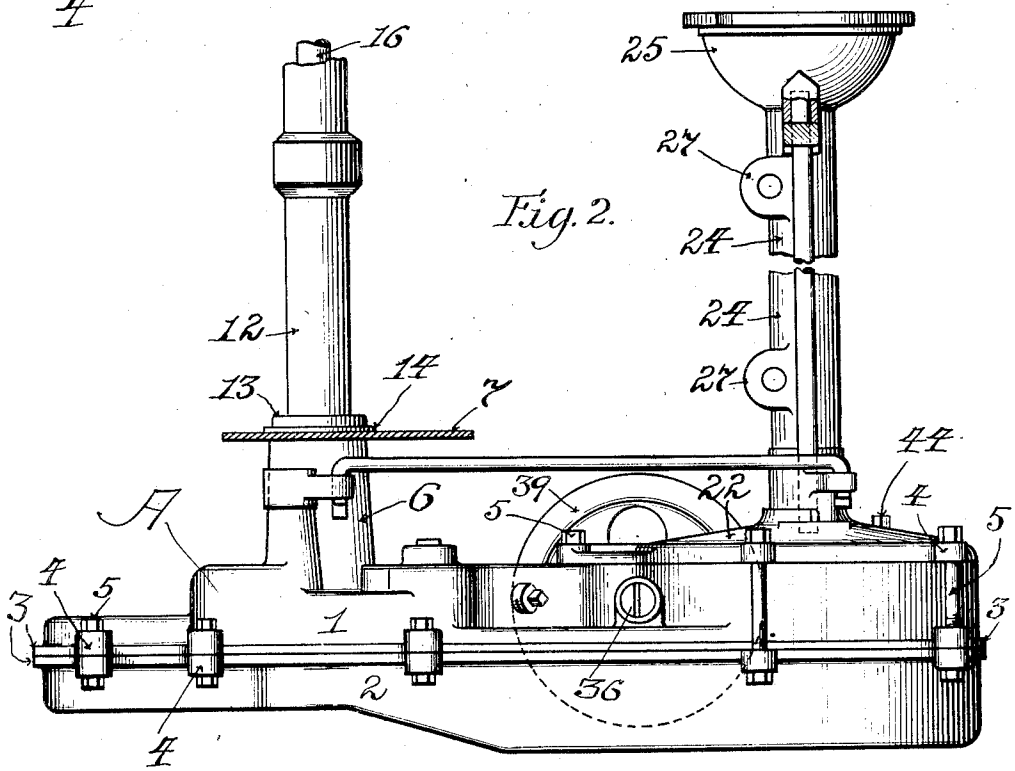


Fig. 2.



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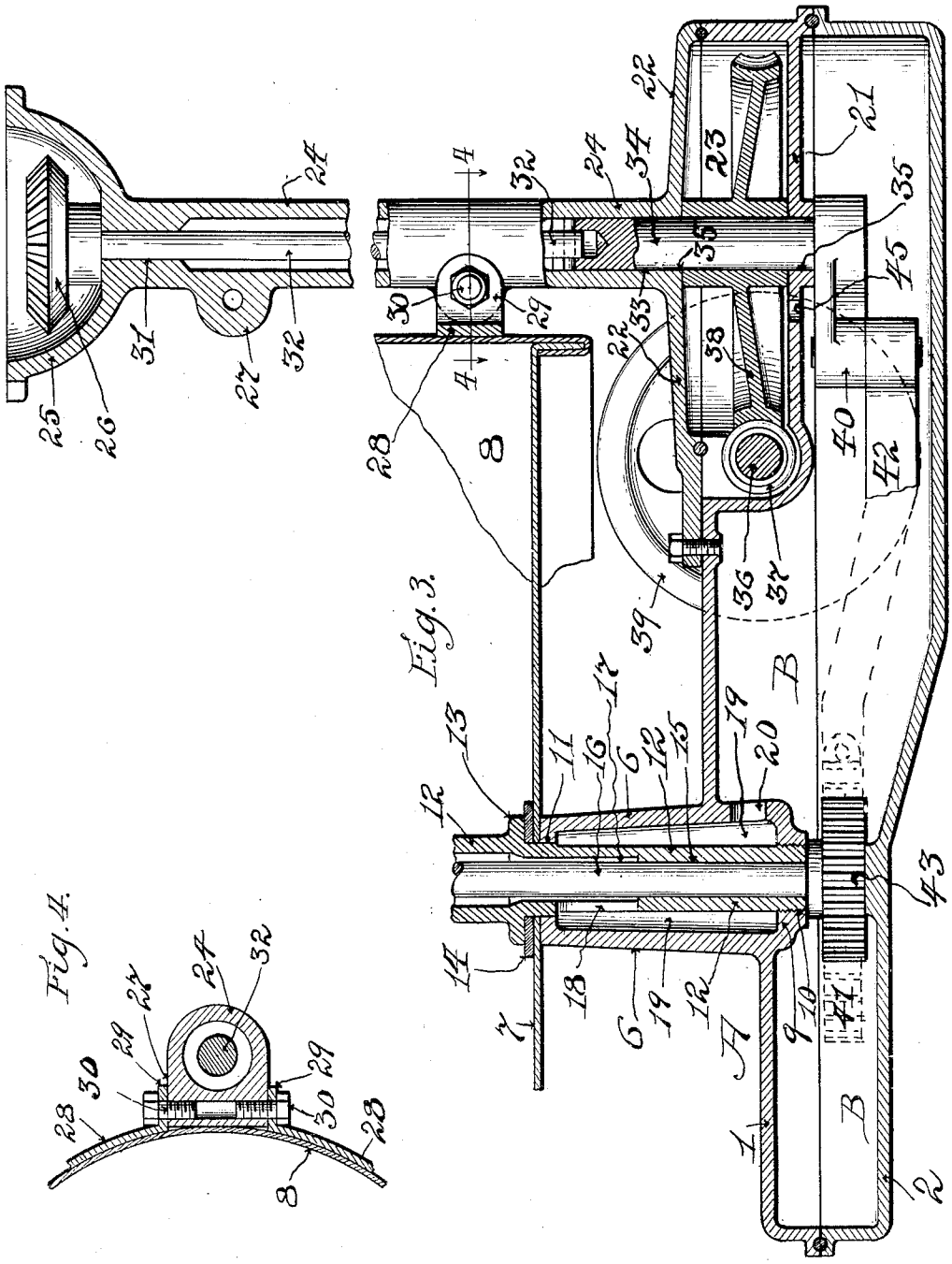


Fig. 3.

Fig. 4.

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UNITED STATES PATENT OFFICE.

GLENN MORE, OF JAMESTOWN, NEW YORK, ASSIGNOR TO THE BLACKSTONE MFG. CO., OF JAMESTOWN, NEW YORK, A CORPORATION OF NEW YORK.

HOUSING FOR WASHING-MACHINE GEARING.

Application filed February 8, 1926. Serial No. 86,709.

This invention relates to housings for washing machine gearing, and consists of the novel features of construction and arrangement herein illustrated and described. The objects of the invention will appear as I proceed with the description of the accompanying drawings.

In said drawings:

Figure 1 is a top plan view of the housing, detached from a washing machine.

Figure 2 is a side elevation of the same; the relation of the housing to the washing machine tub being merely indicated.

Figure 3 is a longitudinal section through the housing, the section being taken in the vertical plane indicated by the irregular dotted line 3—3 of Figure 1.

Figure 4 is a transverse, sectional view of a detail, taken in the horizontal plane indicated by the dotted line 4—4 of Figure 3.

The housing as a whole is indicated by the letter A, and comprises two main members, an upper member 1 and a lower member 2, their meeting surfaces being in a flat plane defined by the flanges 3 carrying lugs 4 whereby the members 1 and 2 may be firmly secured together by bolts 5. When so secured together, the recessed interiors of the two members 1 and 2 form a main chamber indicated as a whole by the letter B.

Near one end of the upper member 1 is a tubular supporting standard 6, integral with and rising vertically above the top surface of the upper member 1. This standard 6 is suitably shaped at its upper end, to bear against and support the bottom of a suitable element to which it may be attached, such element being the bottom 7 of a washing machine tub indicated at 8. The lower end of the tubular standard 6 is provided with a closing wall 9, having an interiorly screw threaded central aperture 10. The upper end of the standard 6 is centrally apertured, as indicated at 11. Extending through the upper aperture 11 and secured at its lower end to the wall 9, in the screw threaded aperture 10, is a tubular sleeve 12. This sleeve, as shown, extends upwardly above the top of the standard 6 and is provided with an annular, exterior flange 13, the lower surface of which constitutes a shoulder. 14 indicates a leather, rubber or other gasket.

It will be manifest from this construction, that when the standard is placed beneath the bottom 7 of a washing machine tub, and the sleeve 12 inserted through the tub and through the standard 6, and is secured at 10 to the wall 9 of the standard, the tub bottom 7 will be firmly secured between the top of the standard and the shoulder flange 13.

The interior of the lower portion of the sleeeve 12 will be of such diameter as to form a firm bearing 15 for a rotatable element, such for example, as the operating shaft 16. The diameter of the sleeve 12 above the bearing 15 is enlarged at 17; that is, the sleeve 12 will be of greater diameter at 17 than is its bearing diameter 15.

Through the wall of the sleeve 12 is an opening 18 in the form of an elongated slot. The lower end of this slot or opening, it will be seen, is at or above the uppermost level of the bearing 15, and this opening 18 affords communication between the enlarged portion 17 of the interior of the sleeve 12, with the interior of the support 6 surrounding the said sleeve 12. Such interior surrounding portion is herein designated as the oil chamber 19. The lower part of the oil chamber 19 is in open communication with the main housing chamber B through a conduit or opening 20 formed in the lower part of the wall of the support 6.

At one end, the top member 1 of the housing is formed to provide a depressed partition wall 21, which in turn is covered by a cap 22 secured to the housing by bolts, as shown, which cap when so secured to the top member 1, forms a relatively small chamber 23.

Rising vertically above, and integral with the cap 22, is a tubular wringer support 24, preferably enlarged at its upper end 25, and suitably shaped to sustain a conventional wringer element, not shown. The enlarged portion 25 may be variously shaped to hold gearing, such as the beveled wheel 26, adapted to connect with suitable gearing on the wringer and to transmit operating power to the wringer.

The outside of the wringer support 24 is provided with one or more radially extending lugs 27 to which may be secured the side of the washing machine tub 8. A convenient method of such attachment is indicated in Figures 3 and 4, the tub 8 being provided with encircling bands 28, with outwardly turned ends 29, and the bands tight-

ened about the tub and also held to the wringer support 24 by bolts 30.

The interior of the wringer support 24 is, of course, hollow, and formed to provide bearing 31 at its upper end, for a rotatable element, such as a shaft 32. Its lower end likewise is provided with an interior bearing 33 for said rotatable element 32 or its lower connected extension 34.

The depressed partition wall 21 is likewise provided with an opening in alignment with the opening through the cap 22 and the interior of the standard 24, which aligned openings form bearings 35 for the lowermost portion of the rotatable element 34. The chamber 23 will be of such size and configuration as to admit and house suitable power mechanism to operate the rotatable element 34, while the larger chamber B will be of such conformation as to contain suitable transmitting mechanism, connecting the actuated, rotatable element 34 with the operating element 16. To make this clear, the drawings illustrate a power shaft 36 provided with a worm 37, engaging a worm gear 38, mounted upon the shaft or rotating element 34; motion being given to the operating shaft 36 from a suitable source of power indicated by a pulley wheel 39. A crank arm 40 mounted on the rotatable element 34, transmits motion to a reciprocating rack bar indicated by dotted lines at 41, through the connecting link 42, pivoted to the crank arm 40, the rack bar engaging the spur gear 43 located upon the lower end of the rotatable element or shaft 16.

44 is a screw plug closing the oil hole through the top of the cap 22, and 45 is an oil hole or passageway through the depressed wall 21, establishing communication between the chamber 23 and chamber B.

When the washing machine gearing is placed in the housing and the chambers 23 and B are filled with proper lubricant, it will inevitably follow that oil for the rotatable element 16 will rise upwardy about the rotatable element 16, and pass through the bearing which may be provided in the upper end of the sleeve 12, and, except for the construction herein provided, would enter the washing machine tub 8. This, of course, is highly objectionable in the art of clothes washing.

To overcome this very serious trouble, the enlarged portion 17 in the sleeve 12, has been provided, and the conduit or passageway 18 leading into the oil chamber 19. By this construction it is found that instead of working upwardly along the rotatable element 16, the lubricant will pass through the aperture 18 into the oil chamber 19, and out of the oil chamber 19 through the passageway 20 into the main chamber B. A construction of housing is thus formed whereby the working parts of gearing within the chamber B may be completely surrounded with grease or other lubricant, and remain in properly lubricated condition for years without replenishment, and without the slightest danger of any of the lubricant entering the washing machine tub.

Claims:

1. A housing for washing machine gearing, comprising two elongated, oppositely faced recessed members, means for removably uniting the members to form an interior chamber, a tubular supporting standard, integral with and rising upwardly from the upper housing member, a tubular sleeve within the standard, means for removably securing the lower part of the sleeve to the bottom wall of the standard, the interior of the sleeve forming a bearing for a rotatable operating element.

2. A housing for washing machine gearing, comprising two elongated, oppositely faced recessed members, means for removably uniting the members to form an interior chamber, a tubular supporting standard, integral with and rising upwardly from the upper housing member, a tubular sleeve within the standard, means for removably securing the lower part of the sleeve to the bottom wall of the standard, the interior of the sleeve forming a bearing for a rotatable operating element, a depressed partition wall in the upper housing member, a cap removably secured thereto above the partition wall to form therebetween a relatively small chamber, bearings in said cap and wall for a rotatable, actuating shaft, the smaller chamber being adapted to contain power mechanism to operate the actuating shaft and the larger chamber being adapted to contain transmitting mechanism connecting the actuating and the operating shafts.

3. A housing for washing machine gearing, comprising two elongated, oppositely faced recessed members, means for removably uniting the members to form an interior chamber, a tubular supporting standard, integral with and rising upwardly from the upper housing member, a tubular sleeve within the standard, means for removably securing the lower part of the sleeve to the bottom wall of the standard, the interior of the sleeve forming a bearing for a rotatable operating element, a depressed partition wall in the upper housing member, a cap removably secured thereto above the partition wall to form therebetween a relatively small chamber, bearings in said cap and wall for a rotatable, actuating shaft, the smaller chamber being adapted to contain power mechanism to operate the actuating shaft and the larger chamber being adapted to contain transmitting mechanism connecting the actuating and the operating shafts, a tubular wringer support integral with and rising upwardly from the cap, its lower end

constituting a portion of the bearing for the actuating shaft.

4. A housing for washing machine gearing, comprising two elongated, oppositely faced recessed members, means for removably uniting the members to form an interior chamber, a tubular supporting standard, integral with and rising upwardly from the upper housing member, a tubular sleeve within the standard, means for removably securing the lower part of the sleeve to the bottom wall of the standard, the interior of the sleeve forming a bearing for a rotatable operating element, a depressed partition wall in the upper housing member, a cap removably secured thereto above the partition wall to form therebetween a relatively small chamber, bearings in said cap and wall for a rotatable, actuating shaft, the smaller chamber being adapted to contain power mechanism to operate the actuating shaft and the larger chamber being adapted to contain transmitting mechanism connecting the actuating and the operating shafts, the partition wall being apertured to establish an open passageway or conduit from the smaller to the larger chamber.

5. A housing for washing machine gearing, comprising a housing, a chamber within the housing, a tubular supporting standard integral with and rising from the top of the housing, a tubular sleeve within and extending above the top of the standard, an exterior annular flange shoulder on the sleeve, a sufficient distance above the top of the standard, when in assembled relation, to be above the bottom member of a washing machine tub when the latter rests upon said standard, and means for securing the lower part of the sleeve to the lower part of the standard, and simultaneously drawing the shoulder towards the support to clamp therebetween the interposed element.

6. A housing for washing machine gearing, comprising a housing, a chamber within the housing, a tubular supporting standard integral with and rising from the top of the housing, a tubular sleeve within and extending above the top of the standard, an exterior annular flange shoulder on the sleeve, and means for uniting the sleeve to the standard and simultaneously engaging the top of the standard support and the flange shoulder of the sleeve with opposite sides of an interposed element, such as the bottom of a washing machine tub.

7. A housing for washing machine gearing, comprising a housing, a chamber within the housing, a tubular supporting standard integral with and rising from the top of the housing, a tubular sleeve within and extending above the top of the standard, an exterior annular flange shoulder on the sleeve, a sufficient distance above the top of the standard, when in assembled relation, to be above the bottom member of a washing machine tub when the latter rests upon said standard, and means for securing the lower part of the sleeve to the lower part of the standard, and simultaneously drawing the shoulder towards the support to clamp therebetween the interposed element, such means including screw threads on the lower part of the sleeve and an interiorly screw threaded aperture in the bottom wall of the standard.

8. A housing for washing machine gearing comprising a top and a bottom member, an interior chamber, a tubular supporting standard integral with and rising upwardly from the top member, a tubular sleeve within the standard, extending through and above its top and secured at its bottom to the bottom of the support, an oil chamber within the support surrounding the sleeve, an opening through the sleeve wall leading from the interior of the sleeve to the oil chamber, and an opening leading from the oil chamber to the housing chamber.

9. A housing for washing machine gearing, comprising a top and a bottom member, an interior chamber, a tubular supporting standard integral with and rising upwardly from the top member, a tubular sleeve within the standard, extending through and above its top and secured at its bottom to the bottom of the support, an oil chamber within the support surrounding the sleeve, an opening through the sleeve wall leading from the interior of the sleeve to the oil chamber, and an opening leading from the oil chamber to the housing chamber, the interior of the sleeve intermediate the two openings constituting a bearing for a rotatable element.

10. A housing for washing machine gearing, comprising a top and a bottom member, an interior chamber, a tubular supporting standard integral with and rising upwardly from the top member, a tubular sleeve within the standard, extending through and above its top and secured at its bottom to the bottom of the support, an oil chamber within the support surrounding the sleeve, an opening through the sleeve wall leading from the interior of the sleeve to the oil chamber, and an opening leading from the oil chamber to the housing chamber, the interior of the sleeve intermediate the two openings constituting a bearing for a rotatable element, and the sleeve above the bearing being of greater interior diameter than the diameter of the bearing.

In testimony that I claim the foregoing as my invention I affix my signature this 1st day of February, 1926.

GLENN MORE.