

L. A. STEPHAN.
GEARING FOR WASHING MACHINES.
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1,022,977.

Patented Apr. 9, 1912.

Fig. 1.

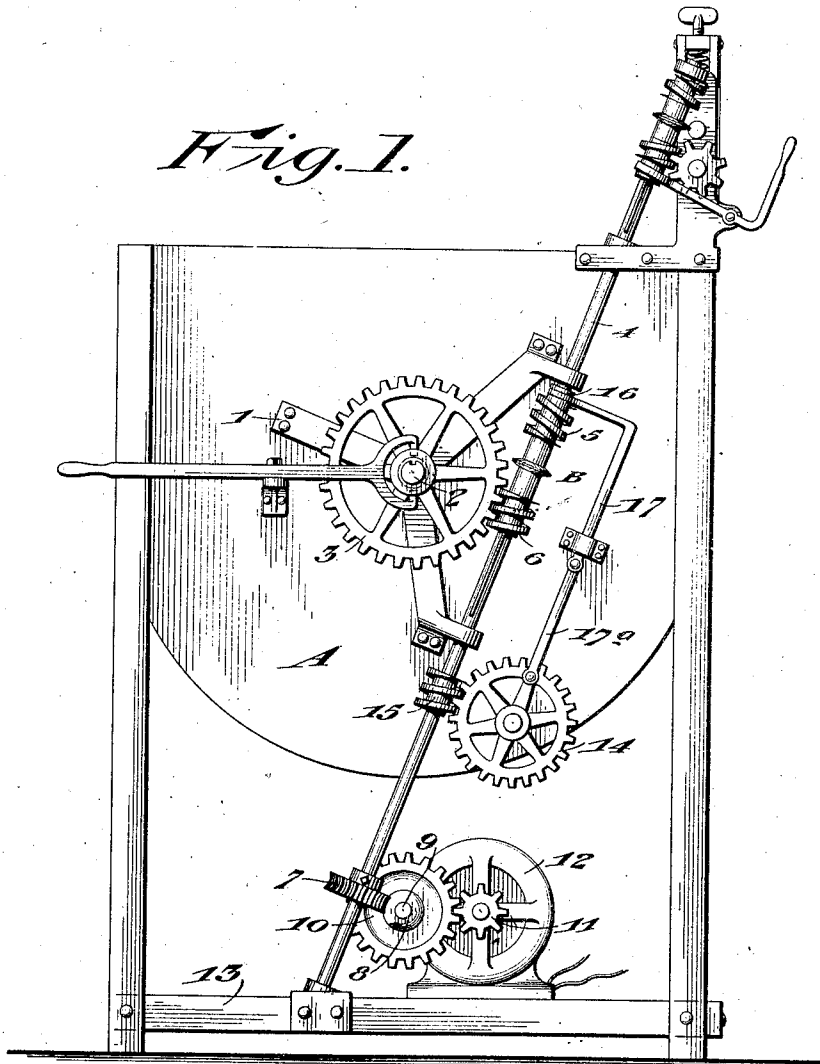
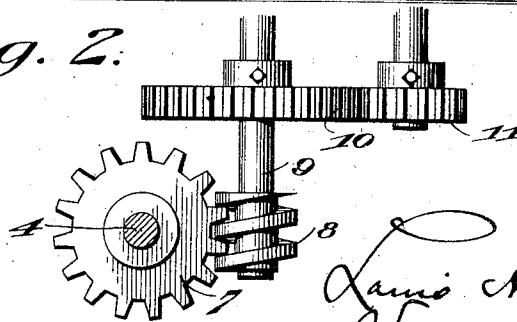


Fig. 2.



Witnesses

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LOUIS A. STEPHAN, OF ST. LOUIS, MISSOURI.

GEARING FOR WASHING-MACHINES.

1,022,977.

Specification of Letters Patent.

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Application filed August 25, 1911. Serial No. 645,946.

To all whom it may concern:

Be it known that I, LOUIS A. STEPHAN, a citizen of the United States, residing at St. Louis, State of Missouri, have invented certain new and useful Improvements in Gearing for Washing-Machines, of which the following is a specification.

My invention relates to an improvement in gearing for washing machines, and the object is to provide an electrically driven shaft having right and left worm gears thereon, which are adapted to mesh with the large gear wheel which is connected to the agitator of the washing machine, one of the worm gears engaging the wheel for causing it to move in one direction as the shaft is rotated, and the other worm gear to engage the gear wheel for causing it to move in the other direction.

The invention consists in certain novel features of construction and combinations of parts which will be hereinafter fully described and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in side elevation showing the invention as applied to a machine; and Fig. 2 is a detail view of the connection between the motor and shaft.

A, represents a washing machine, and 1 is a support mounted upon the machine in which is journaled a shaft 2, to which is connected the agitator (not shown). A gear wheel 3 is connected to the shaft, which is rotated for agitating the agitator. A rotating shaft 4 is supported by the support 1, and slidably mounted upon the shaft is a sleeve B having a left-hand worm gear 5 at one end and a right-hand worm gear 6 at the other, these gears being sufficiently spaced apart so that one can be thrown into engagement with the large gear 3 without interference from the other worm gear, whereby the large gear wheel 3 can be caused to rotate first in one direction and then in another.

A gear wheel 7 is mounted upon the shaft and is driven by a worm 8 on a shaft 9. The shaft 9 carries a gear wheel 10 which is driven by a gear 11 on the shaft of the motor 12. A frame 13 is connected to the machine for supporting the motor.

An annular groove 16 is formed at one end of the sleeve B, and loosely connected to the sleeve B and fitted in the annular groove 16 is a link 17, which is eccentrically connected to the worm wheel 14 by a link 17^a.

When the shaft 4 is caused to rotate, the worm 15 will cause the worm wheel 14 to rotate, and as the worm wheel 14 rotates, the link 17^a will be given an endwise reciprocating movement, causing the sleeve B to be reciprocated, causing one of the worms to engage the gear 3 for causing the gear to be rotated. When the wheel 14 has completed half a revolution, the worm which is in engagement with the gear wheel 3 becomes disengaged, and the other worm is brought into engagement with the gear wheel 3, for the remaining half revolution of the wheel 14, causing the gear wheel 3 to rotate in another direction; and then at the next half revolution of the wheel 14, said first-named worm will again be brought into engagement with the gear wheel 3. This operation is continued as long as the shaft 4 is rotated.

It is to be noted that the worms 5 and 6 are spaced a sufficient distance apart to insure the disengagement of one of the gears before the other worm makes a positive engagement with the gear wheel 3, causing it to rotate in an opposite direction from that taken when in mesh with the first gear.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. The combination with a main shaft and means for driving said shaft, of a secondary shaft, a gear wheel mounted on the secondary shaft, a double worm slidably mounted on the main shaft adapted to mesh with the gear wheel, a worm wheel, means on the main shaft for driving the worm wheel, and means connecting the worm wheel to the double worm, whereby first one of the worms and then the other will be thrown into engagement with the large gear wheel during the rotation of the worm wheel.

2. The combination with a main shaft and means for driving said shaft, of a secondary shaft, a gear wheel mounted on the secondary shaft, a double worm slidably mounted on the main shaft adapted to mesh with the gear wheel, a worm wheel, a worm on the main shaft meshing with the worm wheel, and means connecting the worm wheel to the double worm, whereby each of the worms will be brought into engagement with the gear wheel for rotating it in two directions during one revolution of the worm wheel.

3. The combination with a main shaft and means for driving the shaft, of a secondary

shaft, a gear wheel mounted on the secondary shaft, a double worm slidably mounted upon the main shaft, a worm wheel, means on the main shaft for driving the worm wheel, and a link connected to the double worm and eccentrically connected to the worm wheel whereby first one worm and then the other will be thrown into engage-

ment with the gear wheel during the rotation of the worm wheel.

In testimony whereof I affix my signature, in the presence of two witnesses.

LOUIS A. STEPHAN.

Witnesses:

OTTO P. KOEBEL,
CHAS. KOCH.