

W. H. VOSS.
 MEANS FOR OPERATING WASHING MACHINES.
 APPLICATION FILED DEC. 7, 1908.

1,008,502.

Patented Nov. 14, 1911.

2 SHEETS-SHEET 1.

Fig. 1.

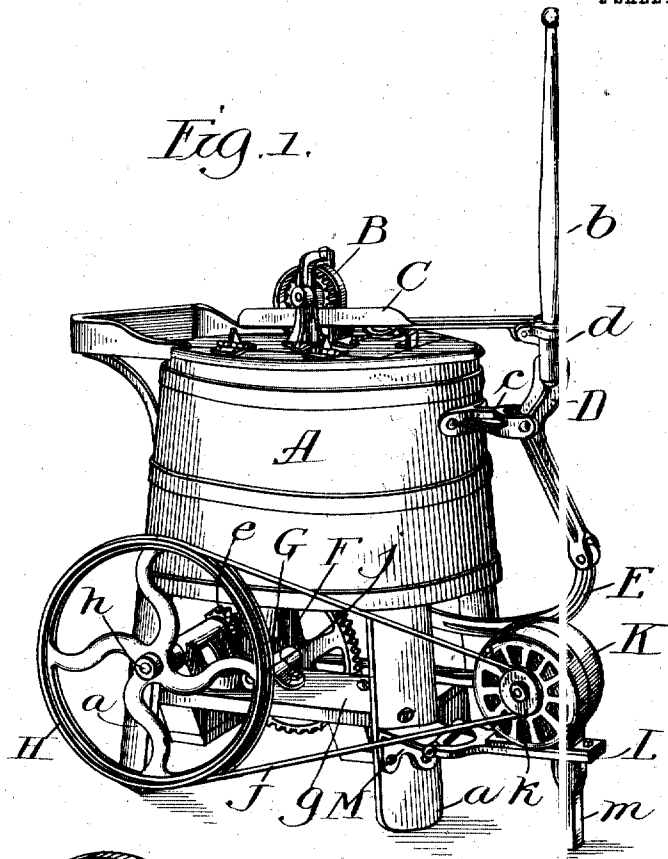
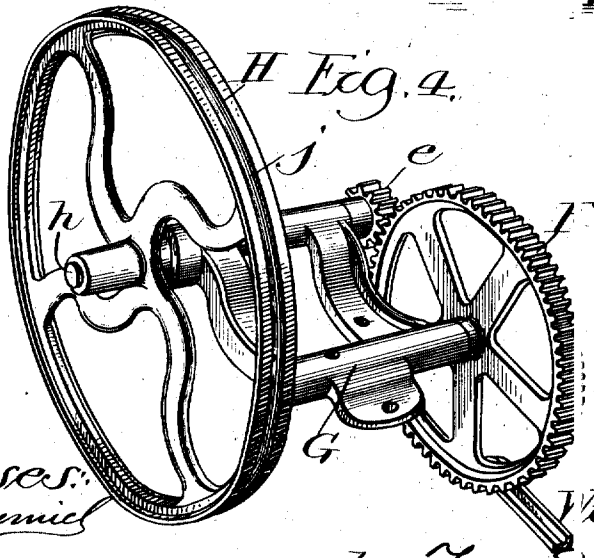


Fig. 4.



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2 SHEETS—SHEET 2.

Fig. 2

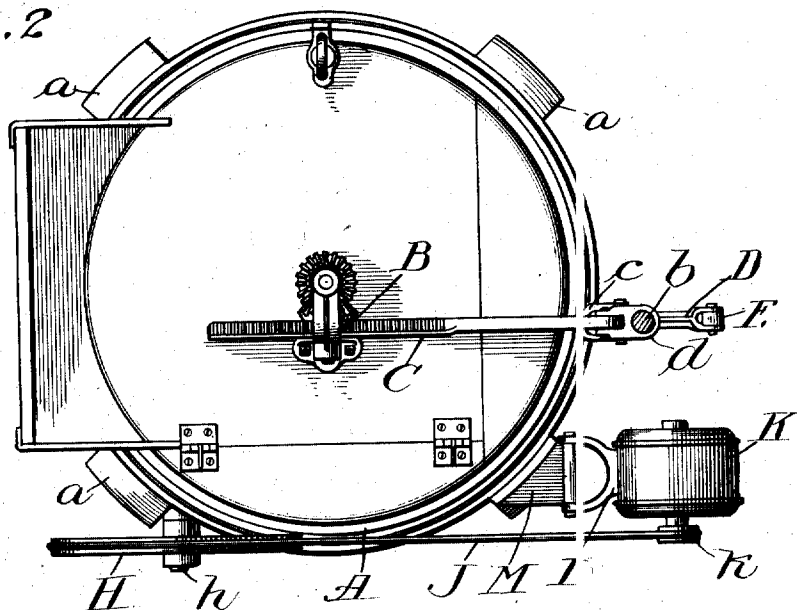
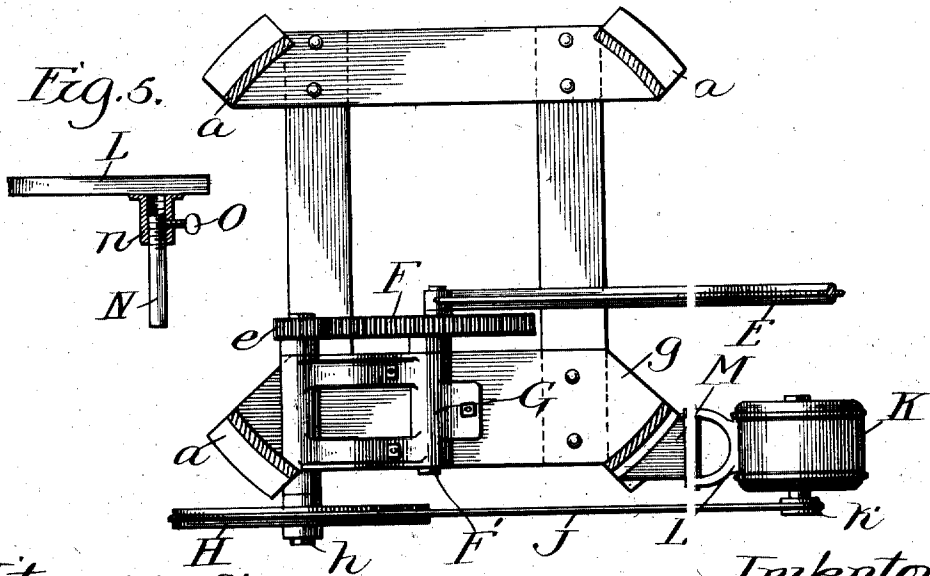


Fig. 3.



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UNITED STATES PATENT OFFICE.

WILLIAM H. VOSS, OF DAVENPORT, IOWA.

MEANS FOR OPERATING WASHING-MACHINES.

1,008,502.

Specification of Letters Patent.

Patented Nov. 14, 1911.

Application filed December 7, 1908. Serial No. 466,90.

To all whom it may concern:

Be it known that I, WILLIAM H. VOSS, a citizen of the United States, and a resident of Davenport, in the county of Scott and State of Iowa, have invented certain new and useful Improvements in Means for Operating Washing-Machines, of which the following is a clear, full, and exact description.

My invention relates to means for operating washing machines, and particularly of the type or class of washing machines having a reciprocal agitator.

The principal object of my invention is to provide a washing machine of the class above designated, that can be operated either by hand or by a motor.

A further object of my invention is to utilize the same gearing for speeding up the fly-wheel of the machine when it is operated by hand, to reduce the speed and increase the power when the said machine is driven by a small motor.

Another object of my invention is to provide a simple and effective support for the said motor by means of which a solid foundation for the motor can always be assured regardless of the unevenness of the supporting surface, and which can be folded up against the body of the machine in a compact and convenient manner for shipping.

This I accomplish by the means herein-after fully described and as particularly pointed out in the claims.

In the drawings:—Figure 1 is a perspective view of my invention. Fig. 2 is a plan view thereof. Fig. 3 is a horizontal section taken just below the bottom of the tub of the machine. Fig. 4 is a perspective view of the gearing, fly-wheel and supporting frame therefor, removed from the machine. Fig. 5 is a detail detached view in side elevation of the stand on which the motor is preferably mounted.

My invention, as shown in the drawings, is applied to a washing machine comprising a body or tub, A, which is supported by legs *a*, *a*; and means, B, for converting and transmitting the reciprocal movement of rack, C, to a rotary reciprocal agitator (not shown) located within the tub. It is immaterial how the means, B, are constructed or what mechanism the same may consist of, in so far as the objects sought to be accomplished by my improvements are concerned.

I prefer, however, to use for this purpose the means that are shown in Letters Patent of the United States, granted to me December 1, 1908, and numbered 905,253, and are shown to be supported on the lid or cover closing the top of the tub, substantially as shown.

The rack, C, extends horizontally and transversely across the lid to a point beyond the side of the tub, and has its outer end removably pivoted between lugs projecting from the socket *d*, which is shown as being made integral with an upper end of a vertically disposed lever, D. This lever is fulcrumed between the bifurcations of a bracket, *e*, secured to and projecting from the side of the tub, substantially as shown, and it has a handle *b*, inserted in the socket in its upper end, and one end of a pitman, E, pivotally connected to its lower end. This pitman extends to and under the tub of the machine, and its opposite end is pivotally connected to a comparatively large gear, F, which latter engages a pinion *e*. The shaft F', on one end of which gear, F, is secured is journaled in suitable bearings in one end of bearing G, that is supported on and secured to a cross-bar, *g*, forming part of a rectangular frame connecting the legs *a* of the tub of the machine. This bearing, G, has parallel members extending from either end thereof, whose opposite ends are curved upward in a suitable manner and are made integral with a suitable bearing for a shaft *h*, which latter has its inner end provided with a pinion *e*, and its opposite end extends beyond the vertical plane of the side of the said tub where the fly-wheel, H, is securely mounted thereon. Fly-wheel, H, is provided with a circumferential groove, *j*, and is driven through the medium of a belt, J, that connects it with a small concave pulley *k* on the end of the armature-shaft of an electric motor K.

The base of motor, K, is bolted or otherwise removably secured to the platform of a stand, L, which extends in the same plane as the fly-wheel, H, and has its end nearest the machine preferably bifurcated and hinged to the adjacent end of the horizontal member of a bracket, M, secured and projecting from the adjacent leg of the tub of the machine. The opposite end of stand, L, is supported, preferably, by means of a single leg, *m*, thus assuring a solid foundation

tion for the motor K at all times—a condition which, if it were not for the hinge might not prevail under all circumstances.

The operation of my invention is substantially as follows—When it is desired to operate the machine by the motor K, the high speed of the small armature pulley *k* is imparted through belt, J, to the much larger fly-wheel, H, and reduced thereby, and this reduced motion is transmitted through the medium of the fly-wheel shaft, *h*, and pinion *e* on the opposite end thereof, to the large gear F by which said motion is further reduced. This reduction of the motion increases the effective power of the motor and by means of pitman E, the lever D is rocked back and forth and rack C reciprocated, and the agitator within the machine is thus actuated. When it is desired to operate the machine by hand, the belt J, connecting the motor and fly-wheel can be easily disconnected and removed, simply by lifting the stand, L, so as to slacken the belt. The operator then grasps the handle *b* of the lever and draws it back and forth to actuate the agitator through the medium of the rack, C, and at the same time revolves gear F, through the medium of the pitman E. The engagement of the latter with pinion *e*, imparts a very high speed to the shaft *h* and fly-wheel H, and the momentum of the highly increased motion of the latter, by virtue of the energy due to its acquired inertia, greatly assists the operator in working the machine.

Instead of making the leg that supports the outer end of the platform of the stand L of one piece, as shown in Fig. 1, I prefer to make it as shown in detail in Fig. 5. In this figure of the drawings it is shown to consist of a tubular upper portion *n* secured to the underside of the platform and a cylindrical lower portion N the upper end of which latter is screw-threaded and adapted to screw into the upper portion *n* and maintained at any position within the range of its relative movement by a set-screw O. This preferred form is not designed to afford the stand a better foundation, but for the purpose of giving the platform such increased movement on the axis of its hinge that it can take up the slack of the belt J should there be any.

What I claim as new is:—

1. In mechanism for actuating a washing machine, the combination with a support, and a platform below the same, of a lever fulcrumed to the side of said support, a fly-wheel, means connecting said lever and fly-wheel including speed increasing gearing, and an integral supporting-frame secured to said platform having parallel bearings in which the shafts of said gearing and fly-wheel are journaled.

2. In mechanism for actuating a washing

machine, the combination with a support, and a platform below the same, of a lever fulcrumed to the side of said support, a fly-wheel, means connecting said lever and fly-wheel including speed increasing gearing, and an integral supporting-frame secured to said platform having a bearing for a gear-shaft, and a parallel bearing in a higher plane for the shaft on which the fly-wheel is mounted.

3. In mechanism for actuating a washing machine, the combination with a support and a platform below the same, a lever fulcrumed to the side of said support, a fly-wheel, means connecting said lever and fly-wheel including speed increasing gearing, and an integral supporting-frame secured to said platform consisting of two parallel bearings one of which is in a higher plane than the other and which has parallel members connecting the ends of said bearings.

4. Means for operating washing machines comprising a suitable support, and a platform below the same, a vertically disposed lever fulcrumed to the said support, a driven shaft mechanism connecting said lever to the driven shaft, a fly-wheel journaled on said platform, means connecting said lever and fly-wheel including a pitman, a large gear and a pinion on the adjacent end of the fly-wheel shaft, and a suitable motor for revolving said fly-wheel.

5. The combination, in a washing machine with a support and a platform below the same, a driven shaft, mechanism for operating the driven shaft and a fly-wheel actuated by said mechanism and journaled on said platform, of a suitable motor, and stand for supporting said motor secured to a portion of said support.

6. The combination, in a washing machine, with a support and a platform below the same, a driven shaft, mechanism for operating the driven shaft, and a fly-wheel actuated by said mechanism and journaled on said platform, of a suitable motor, and stand for supporting said motor consisting of a platform one end of which has a hinged connection with a portion of said support, and has a leg of its own supporting its outer end.

7. The combination, in a washing machine, with a support and a platform below the same, a driven shaft, mechanism for operating the driven shaft, and a fly-wheel actuated by said mechanism and journaled on said platform, of a suitable motor, and a stand for supporting said motor consisting of a bracket secured to and projecting from a portion of the support, and a platform hinged to the outer edge of said bracket, and having a leg depending from and supporting its outer end.

8. The combination, in a washing machine, with a support and a platform below

the same, a driven shaft, mechanism for operating the driven shaft, and a fly-wheel actuated by said mechanism and journaled on said platform, of a suitable motor, and a stand for supporting said motor consisting of a bracket secured to and projecting from a portion of the support, and a platform hinged to the outer edge of said bracket, and having a longitudinally adjustable leg depending from and supporting its outer end.

9. The combination, in a washing machine, with a support and a platform below the same, a driven shaft, mechanism for operating the driven shaft and a fly-wheel actuated by said mechanism and journaled on said platform, of a suitable motor, and stand for supporting said motor consisting of a platform one end of which has hinged connection with a portion of said support, and has a longitudinally adjustable leg of its own supporting its outer end.

10. The combination, in a washing machine, with a support and a platform below the same, a driven shaft, mechanism for operating the driven shaft and a fly-wheel actuated by said mechanism and journaled on said platform, of a suitable motor, and stand for supporting said motor consisting of a platform one end of which has a hinged connection with a portion of said support,

and has a leg of its own supporting its outer end which consists of an inferiorly threaded tubular upper portion and a lower portion having its upper end threaded and adapted to be screwed into the same, and a set-nut for clamping the lower portion in its adjusted position.

11. Means for operating washing machines comprising a suitable support, and a platform below the same, a lever, a driven shaft, means connecting said lever to the driven shaft, a fly-wheel actuated by said lever and journaled on said platform, and a suitable detachable driving mechanism for revolving said fly-wheel.

12. Means for operating washing machines comprising a suitable support, and a platform below the same, a lever, a driven shaft, means connecting said lever to the driven shaft, a fly-wheel actuated by said lever and journaled on said platform, and a suitable detachable driving mechanism for revolving said fly-wheel.

In testimony whereof I have hereunto set my hand and seal this 1st day of December, A. D., 1908.

WILLIAM H. VOSS. [L. s.]

Witnesses:

WILLIAM E. PULS,
ARTHUR CLIFFORD.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."