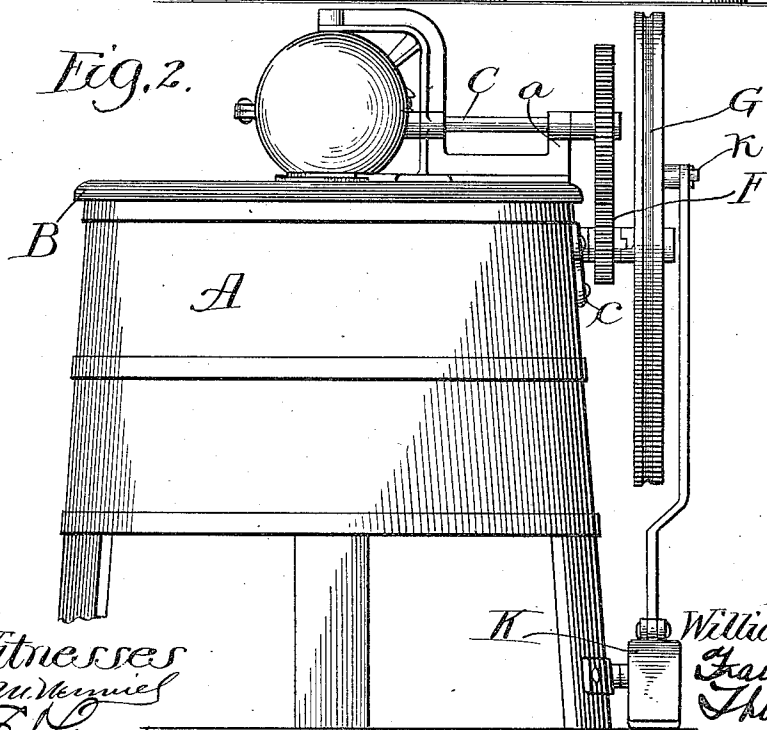
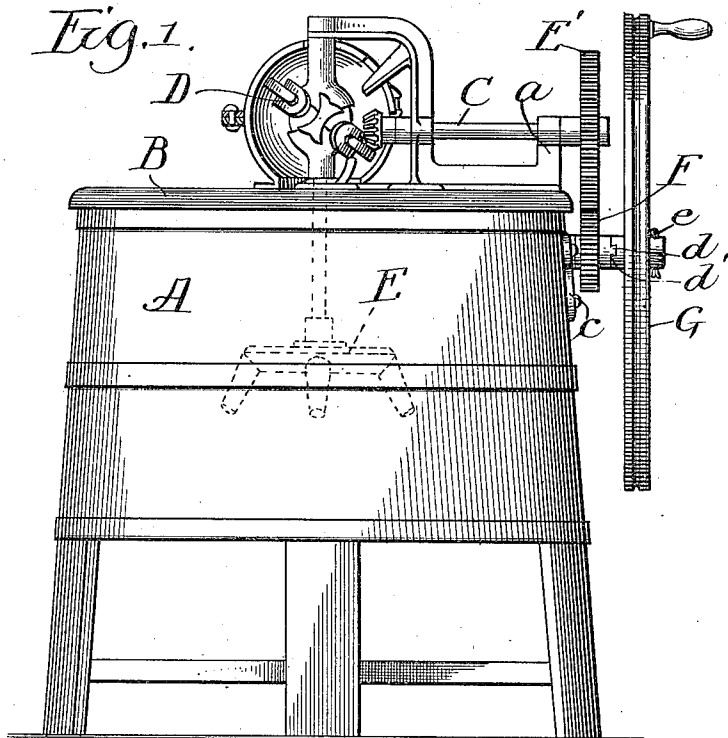


W. H. VOSS.
MECHANICAL MOVEMENT.
APPLICATION FILED DEC. 3, 1908.

1.013,629.

Patented Jan. 2, 1912.

2 SHEETS—SHEET 1.



Witnesses
C. M. K. Lundy.

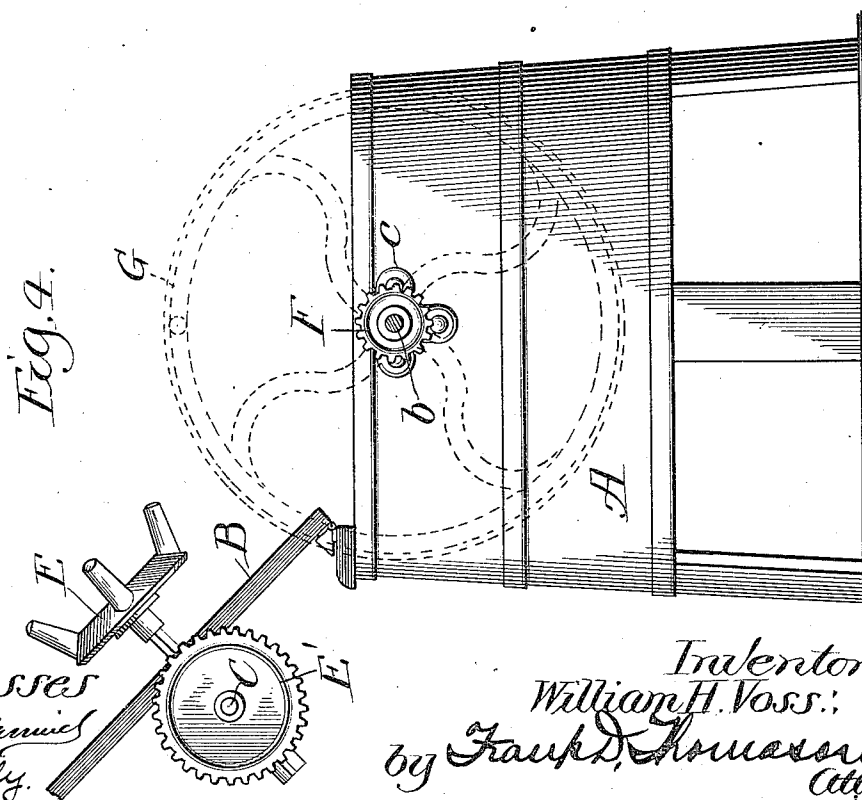
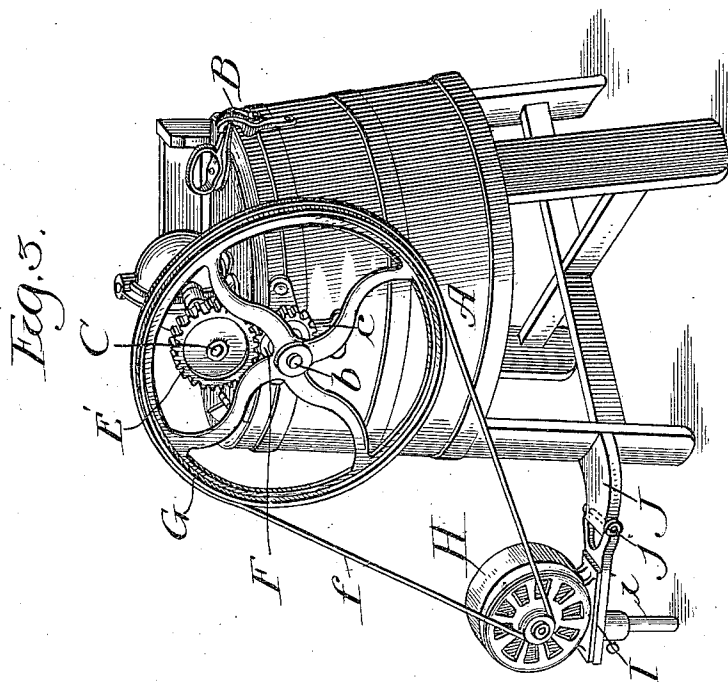
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Att'y

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UNITED STATES PATENT OFFICE.

WILLIAM H. VOSS, OF DAVENPORT, IOWA.

MECHANICAL MOVEMENT.

1,013,629.

Specification of Letters Patent.

Patented Jan. 2, 1912.

Application filed December 3, 1908. Serial No. 465,844.

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 Mechanical Movements, of which the following is a clear, full, and exact description.

My invention relates to improvements in washing machines, and particularly the type known as "rotary", in which the continuous rotation of a hand driven wheel is converted, by suitable translating mechanism, into the rotary reciprocal motion of an agitator or dolly located within the tub of the machine.

The object of my invention is to make it practicable to drive such a machine by motor power through the medium of the balance wheel, to remove the weight of said wheel from the cover when the latter is raised to permit access to the interior of the tub, to increase the power of the agitator or dolly by reducing the speed of the drive-shaft which derives motion through the medium of differential gearing from the said balance wheel, to enable the cover of the machine to be raised while the balance wheel is in motion, and to utilize the momentum of said wheel to assist in the operation of the machine. This I accomplish by the means hereinafter fully described, and as particularly pointed out in the claims.

In the drawings:—Figure 1 is a side elevation of a washing machine of the class designated having my improvements applied thereto. Fig. 2 is a similar view showing treadle mechanism in connection therewith. Fig. 3 is a perspective view of my invention. Fig. 4 is a detail view thereof showing the pinion, the balance wheel and their support.

Referring to the drawings A represents a suitable tub or receptacle for the wash, which is of a conventional design; is supported at a convenient height by legs, and has its top ordinarily closed by a hinged cover B, which is raised whenever access is desired to its interior. A drive shaft C is mounted in suitable bearings in supporting-frame *a* secured to the cover B, and this drive-shaft extends from the center of the cover (or a point near the same) where it is geared to or otherwise engages and actuates the translating mechanism, D, that converts the continuous revolutions thereof into

the rotary reciprocal movement of the agitator, E, (only shown in dotted lines in the drawings). I do not care particularly what means are employed for accomplishing this conversion, but prefer to use the mechanical movement illustrated in the drawings and for which Letters Patent of the United States were granted to me January 1st, 1901, and numbered 664,911. A more extended description of the same is, therefore, unnecessary.

The end of drive-shaft C, opposite that connected to the translating mechanism, D, extends beyond the edge of the cover and has a gear E', secured thereto. The under side of this gear is engaged by a pinion, F, which is loosely mounted on a stud, *b*, whose axis is parallel to that of shaft C, and which projects from a suitable screw-plate, *c*, secured to the side of the tub next its upper edge. This pinion is driven by a large wheel G, which is also loosely mounted on stud, *b*, and has a recess, *d*, in the inner edge of its boss into which a tenon, *d'*, projecting from the adjacent edge of the boss of the pinion enters. The wheel G and pinion F are retained in this interlocked relation by a suitable cotter-pin *e*, and it can be easily removed, when desired, and other driving mechanism substituted therefor. The outer circumference of the rim of this wheel G is provided with a circumferential groove, which is engaged by a suitable belt *f*, through the medium of which latter it is connected to and driven by an electric motor H, substantially as shown. This motor is secured to a suitable stand, I, that has one end of its horizontal member hinged to the adjacent end of a curved bracket, J, secured to and projecting from the nearest leg of the tub of the machine. This bracket, J, is curved so as to bring the axis of the armature of the motor parallel with that of stud *b*, and the stand, I, is provided with but one leg so that no matter how irregular the surface upon which the tub and stand rest, the motor, in view of the stand being hinged to the bracket J, will always have a solid support. When the machine is not in use the motor stand can be raised so as to make the motor lie close to the tub, and thus greatly reduce the space occupied by the machine.

Of course it will be understood that some other kind of motor than electric can be substituted for motor H, and it will also be

understood that if desired a handle can be attached to wheel G and the latter driven by manual effort. The principal idea involved in my invention is to make it feasible to lift the cover of a "rotary" washing machine without necessitating the lifting of the balance wheel, and to actuate such a machine without making it necessary to throw off the belt, *f*, every time it is desired to lift the cover.

In Fig. 2 of the drawings I show a modification of my invention, which consists in interposing a crank *h* between pinion F and wheel G and attaching a suitable treadle K thereto. This could be done and greatly assist in the operation of the machine when manual power is used to do the work.

If desired, a fast and loose pulley (not shown) could be substituted for wheel G and the machine be driven by a suitable belt from ordinary line shafting. This, as well as all other ways of driving the large wheel by artificial motive power, I desire to consider as coming within the scope of my invention.

What I claim as new is:—

1. Actuating mechanism for washing machines comprising a suitable support provided with a hinged top, a rotary reciprocable shaft journaled in said top, a continuously revoluble shaft arranged at an angle thereto and having one end extended beyond the vertical side of said support, means actuated by the latter shaft for imparting motion to the former shaft, a gear on the outer end of said revoluble shaft in a plane beyond the vertical plane of the side of said support, a pinion journaled below and meshing with said gear, and means for actuating said pinion.

2. Actuating mechanism for washing machines comprising a suitable support provided with a hinged top, a rotary reciprocable shaft journaled in said top, a continuously revoluble shaft arranged at an angle thereto and having one end extended beyond the vertical side of said support, means actuated by the latter shaft for imparting motion to the former shaft, a gear on the outer end of said revoluble shaft in a plane beyond the vertical plane of the side of said support, a pinion journaled below and meshing with said gear, a balance wheel operatively connected and actuating said pinion.

3. Actuating mechanism for washing machines comprising a suitable support provided with a hinged top, a rotary reciprocable shaft journaled in said top, a continuously revoluble shaft arranged at an angle thereto and having one end extended beyond the vertical side of said support, means actuated by the latter shaft for imparting motion to the former shaft, a gear on the outer end of said revoluble shaft in a plane beyond the vertical plane of the side of said support, a pinion meshing with said gear, a stud projecting from the side of said support on which said pinion is mounted, and means for actuating said pinion.

4. Actuating mechanism for washing machines comprising a suitable support provided with a hinged top, a rotary reciprocable shaft journaled in said top, a continuously revoluble shaft arranged at an angle thereto and having one end extended beyond the vertical side of said support, means actuated by the latter shaft for imparting motion to the former shaft, a gear on the outer end of said revoluble shaft in a plane beyond the vertical plane of the side of said support, a pinion journaled below the horizontal plane of the top of said support and meshing with said gear, and means for actuating said pinion.

5. Actuating mechanism for washing machines comprising a suitable support provided with a hinged top, a rotary reciprocable shaft journaled in said top, a continuously revoluble shaft arranged at an angle thereto and having one end extended beyond the vertical side of said support, means actuated by the latter shaft for imparting motion to the former shaft, a gear on the outer end of said revoluble shaft in a plane beyond the vertical plane of the side of said support, a pinion meshing with said gear, a stud projecting from the side of said support on which said pinion is mounted, said stud being below the horizontal plane of the top of said support, and means for actuating said pinion.

In testimony whereof I have hereunto set my hand and seal this 23rd day of November, A. D., 1908.

WILLIAM H. VOSS. [L. S.]

Witnesses:

WILLIAM E. PULS,
ARTHUR CLIFFORD.